

IMS/ESA



Operator's Reference

Version 6

IMS/ESA



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Version 6

Note

Before using this information and the product it supports, be sure to read the general information under "Notices" on page xxi.

Sixth Edition (July 2000) (Softcopy Only)

This edition replaces and makes obsolete the previous edition, SC26-8742-04. This edition is available in softcopy only. The technical changes for this edition are summarized under "Summary of Changes" on page xxvii and are indicated by a vertical bar to the left of a change.

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Contents

Notices	xxi
Programming Interface Information	xxi
Trademarks	xxii
Product Names	xxii
Preface	xxiii
Summary of Contents	xxiii
Prerequisite Knowledge	xxiii
Change Indicators	xxiv
Syntax Diagrams	xxiv
Summary of Changes	xxvii
Changes to the Current Edition of This Book for Version 6	xxvii
Changes to This Book for Version 6	xxvii
Library Changes for Version 6	xxviii

Part 1. Introduction 1

Chapter 1. IMS Command Language	3
Introduction	3
How to Enter an IMS Command	3
Command Responses	10
Responses to LU 6.2 Devices	10
Sending Messages to the MVS System Console	11
Sending Messages to the IMS Master Terminal	11
How Command Examples Are Shown	11
IMS Command Format	12
Command Characteristics	16
Terminal Security Defaults	16
Commands Recovered during Emergency Restart	18
Commands Logged to the Secondary Master Terminal	19
Commands Supported from an AO Application	20
Commands Mirrored on an XRF Alternate	24
Commands Supported on the XRF Alternate	25
Commands and Keywords Supported on an RSR Tracking Subsystem	26
BTAM Terminals in an RSR Environment	29
Commands Supported from LU 6.2 Devices and OTMA	29
Terminal Security Defaults for LU 6.2 Devices and OTMA	30
Chapter 2. Keyword Table and Definitions	31

Part 2. IMS Commands 61

Chapter 3. /ACTIVATE	75
Format	75
Environments and Keywords	75
Usage	75
Examples	75
Example 1 for /ACTIVATE Command	75
Example 2 for /ACTIVATE Command	75
Chapter 4. /ALLOCATE	77

Format	77
Environments and Keywords	77
Usage	77
Chapter 5. /ASSIGN	79
Format	79
Environments and Keywords	80
Usage	81
Examples	88
Example 1 for /ASSIGN Command	88
Example 2 for /ASSIGN Command	88
Example 3 for /ASSIGN Command	89
Example 4 for /ASSIGN Command	89
Example 5 for /ASSIGN Command	89
Example 6 for /ASSIGN Command	89
Example 7 for /ASSIGN Command	89
Example 8 for /ASSIGN Command	90
Example 9 for /ASSIGN Command	90
Example 10 for /ASSIGN Command	90
Example 11 for /ASSIGN Command	90
Example 12 for /ASSIGN Command	90
Example 13 for /ASSIGN Command	91
Example 14 for /ASSIGN Command	91
Example 15 for /ASSIGN Command	91
Example 16 for /ASSIGN Command	91
Example 17 for /ASSIGN Command	91
Example 18 for /ASSIGN Command	92
Example 19 for /ASSIGN Command	92
Example 20 for /ASSIGN Command	92
Chapter 6. /BROADCAST	93
Format	93
Environments and Keywords	93
Usage	94
Examples	95
Example 1 for /BROADCAST Command	95
Example 2 for /BROADCAST Command	95
Example 3 for /BROADCAST Command	96
Example 4 for /BROADCAST Command	96
Example 5 for /BROADCAST Command	96
Example 6 for /BROADCAST Command	97
Example 7 for /BROADCAST Command	97
Chapter 7. /CANCEL	99
Format	99
Environments	99
Usage	99
Example for /CANCEL Command	99
Chapter 8. /CHANGE	101
Format	101
Environments and Keywords	102
Usage.	103
Examples for /CHANGE Command	109
Example 1 for /CHANGE Command	109
Example 2 for /CHANGE Command	109

Example 3 for /CHANGE Command	110
Example 4 for /CHANGE Command	110
Example 5 for /CHANGE Command	111
Example 6 for /CHANGE Command	111
Example 7 for /CHANGE Command	111
Example 8 for /CHANGE Command	111
Example 9 for /CHANGE Command	111
Example 10 for /CHANGE Command	112
Example 11 for /CHANGE Command	113
Chapter 9. /CHECKPOINT	115
Format	115
Shutdown Checkpoint	115
Simple Checkpoint	115
Statistics Checkpoint	115
Environments and Keywords	115
Usage.	116
Examples	119
Example 1 for /CHECKPOINT Command	119
Example 2 for /CHECKPOINT Command	119
Example 3 for /CHECKPOINT Command	119
Example 4 for /CHECKPOINT Command	119
Example 5 for /CHECKPOINT Command	120
Example 6 for /CHECKPOINT Command	120
Chapter 10. /CLSDST.	121
Format	121
Environments and Keywords	121
Usage.	121
Example for /CLSDST Command.	122
Chapter 11. /COMPT	123
Format	123
Environments and Keywords	123
Usage.	124
Examples	124
Example 1 for /COMPT Command	124
Example 2 for /COMPT Command	125
Chapter 12. /CQCHKPT	127
Format	127
Environments and Keywords	127
Usage.	127
Examples	128
Example 1 for /CQCHKPT Command	128
Example 2 for /CQCHKPT Command	128
Chapter 13. /CQQUERY	129
Format	129
Environments and Keywords	129
Usage.	129
Example 1 for /CQQUERY Command	130
Example 2 for /CQQUERY Command	130
Chapter 14. /CQSET	131
Format	131

Environments and Keywords	131
Usage.	131
Example for /CQSET Command	132
Chapter 15. /DBDUMP	133
Format	133
Environments and Keywords	133
Usage.	133
Examples	135
Example 1 for /DBDUMP Command	135
Example 2 for /DBDUMP Command	135
Chapter 16. /DBRECOVERY	137
Format	137
Environments and Keywords	137
Usage.	137
Examples	140
Example 1 for /DBRECOVERY Command	140
Example 2 for /DBRECOVERY Command	140
Example 3 for /DBRECOVERY Command	140
Chapter 17. /DELETE.	143
Format	143
Environments and Keywords	143
Usage.	144
Examples	144
Example 1 for /DELETE Command	144
Example 2 for /DELETE Command	144
Chapter 18. /DEQUEUE	145
Format	145
Environments and Keywords	145
Usage.	146
Examples	149
Example 1 for /DEQUEUE Command	149
Example 2 for /DEQUEUE Command	150
Example 3 for /DEQUEUE Command	150
Example 4 for /DEQUEUE Command	150
Example 5 for /DEQUEUE Command	150
Example 6 for /DEQUEUE Command	150
Chapter 19. /DISPLAY	151
Format	151
Environments and Keywords	161
Usage.	163
/DISPLAY ACTIVE	163
/DISPLAY AFFINITY	167
/DISPLAY AOITOKEN	167
/DISPLAY APPC	168
/DISPLAY AREA	169
/DISPLAY ASSIGNMENT.	171
/DISPLAY CCTL	172
/DISPLAY CONVERSATION	173
/DISPLAY CQS	174
/DISPLAY DATABASE	174
/DISPLAY DATABASE with BKERR	175

/DISPLAY DBD	176
/DISPLAY DESCRIPTOR.	176
/DISPLAY FDR	177
/DISPLAY FPVIRTUAL	177
/DISPLAY HSB	178
/DISPLAY HSSP	180
/DISPLAY LINE	180
/DISPLAY LINK	181
/DISPLAY LTERM	182
/DISPLAY LUNAME	182
/DISPLAY LUNAME INPUT	183
/DISPLAY LUNAME OUTPUT	183
/DISPLAY LUNAME TPNAME	183
/DISPLAY MASTER	184
/DISPLAY MODIFY	184
/DISPLAY MSNAME	187
/DISPLAY NODE.	187
/DISPLAY OASN SUBSYS	189
/DISPLAY OLDS	189
/DISPLAY OTMA.	191
/DISPLAY OVERFLOWQ.	192
/DISPLAY POOL.	193
Abbreviations Used in the /DISPLAY POOL Command	195
/DISPLAY PROGRAM.	201
/DISPLAY PSB	201
/DISPLAY PTERM	202
/DISPLAY Q	202
/DISPLAY QCNT.	203
/DISPLAY RTCODE	204
/DISPLAY SHUTDOWN STATUS.	204
/DISPLAY STATUS (With No Keywords)	206
/DISPLAY STRUCTURE	208
/DISPLAY SUBSYS.	208
Subsystem Status Terms.	209
Dependent Region Status Terms	210
/DISPLAY SYSID TRANSACTION	210
/DISPLAY TIMEOVER.	210
/DISPLAY TMEMBER	210
/DISPLAY TRACE	212
/DISPLAY TRACKING STATUS	213
/DISPLAY TRACKING STATUS on an Active Subsystem	213
/DISPLAY TRACKING STATUS on a Tracking Subsystem	215
/DISPLAY TRANSACTION	220
/DISPLAY UOR	221
/DISPLAY USER.	222
/DISPLAY Examples	224
Example 1 for /DISPLAY ACTIVE Command	224
Example 2 for /DISPLAY ACTIVE Command	224
Example 3 for /DISPLAY ACTIVE Command	224
Example 4 for /DISPLAY ACTIVE Command	225
Example 5 for /DISPLAY ACTIVE Command	225
Example 6 for /DISPLAY ACTIVE Command	225
Example 7 for /DISPLAY ACTIVE Command	226
Example 8 for /DISPLAY ACTIVE Command	226
Example 9 for /DISPLAY ACTIVE Command	226
Example 10 for /DISPLAY ACTIVE Command	227

Example 11 for /DISPLAY ACTIVE Command	227
Example 12 for /DISPLAY ACTIVE Command	227
Example for /DISPLAY AFFINITY Command	227
Example for /DISPLAY AOITOKEN Command	228
Example for /DISPLAY APPC Command	228
Example 1 for /DISPLAY AREA Command	228
Example 2 for /DISPLAY AREA Command	229
Example 1 for /DISPLAY ASSIGNMENT Command	229
Example 2 for /DISPLAY ASSIGNMENT Command	234
Example 1 for /DISPLAY CCTL Command	235
Example 2 for /DISPLAY CCTL Command	235
Example 3 for /DISPLAY CCTL Command	235
Example 4 for /DISPLAY CCTL Command	235
Example 5 for /DISPLAY CCTL Command	235
Example for /DISPLAY CONVERSATION Command	236
Example for /DISPLAY CQS Command	237
Example 1 for /DISPLAY DATABASE Command	238
Example 2 for /DISPLAY DATABASE Command	238
Example 3 for /DISPLAY DATABASE Command	239
Example 4 for /DISPLAY DATABASE Command	239
Example 5 for /DISPLAY DATABASE Command	239
Example for /DISPLAY DBD Command	239
Example for /DISPLAY DESCRIPTOR Command	240
Example for /DISPLAY FDR Command	240
Example for /DISPLAY FPVIRTUAL Command	240
Example for /DISPLAY HSB Command	241
Example for /DISPLAY HSSP Command	241
Example for /DISPLAY LINE Command	242
Example 1 for /DISPLAY LINK Command	243
Example 2 for /DISPLAY LINK Command	243
Example 1 for /DISPLAY LTERM Command	243
Example 2 for /DISPLAY LTERM Command	244
Example 3 for /DISPLAY LTERM Command	244
Example for /DISPLAY LUNAME Command	244
Example for /DISPLAY MASTER Command	246
Example for /DISPLAY MODIFY Command	247
Example for /DISPLAY MSNAME Command	248
Example 1 for /DISPLAY NODE Command	249
Example 2 for /DISPLAY NODE Command	249
Example 3 for /DISPLAY NODE Command	251
Example 4 for /DISPLAY NODE Command	252
Example 5 for /DISPLAY NODE Command	252
Example for /DISPLAY OASN Command	252
Example for /DISPLAY OLDS Command	253
Example 1 for /DISPLAY OTMA Command	253
Example 2 for /DISPLAY OTMA Command	253
Example for /DISPLAY OVERFLOWQ Command	253
Example 1 for /DISPLAY POOL Command	254
Example 2 for /DISPLAY POOL Command	257
Example 3 for /DISPLAY POOL Command	257
Example 4 for /DISPLAY POOL Command	258
Example 5 for /DISPLAY POOL Command	259
Example 6 for /DISPLAY POOL Command	260
Example 7 for /DISPLAY POOL Command	260
Example 8 for /DISPLAY POOL Command	260
Example 9 for /DISPLAY POOL Command	260

Example 10 for /DISPLAY POOL Command	261
Example 11 for /DISPLAY POOL Command	261
Example 12 for /DISPLAY POOL Command	261
Example 13 for /DISPLAY POOL Command	261
Example 14 for /DISPLAY POOL Command	262
Example for /DISPLAY PROGRAM Command	262
Example for /DISPLAY PSB Command	263
Example for /DISPLAY PTERM Command	263
Example 1 for /DISPLAY Q Command	264
Example 2 for /DISPLAY Q Command	266
Example for /DISPLAY QCNT Command	266
Example for /DISPLAY RTCODE Command	266
Example 1 for /DISPLAY SHUTDOWN STATUS Command	267
Example 2 for /DISPLAY SHUTDOWN STATUS Command	267
Example 3 for /DISPLAY SHUTDOWN STATUS Command	268
Example 1 for /DISPLAY STATUS Command	268
Example 2 for /DISPLAY STATUS Command	269
Example 3 for /DISPLAY STATUS Command	270
Example 4 for /DISPLAY STATUS Command	270
Example 5 for /DISPLAY STATUS Command	271
Example 6 for /DISPLAY STATUS Command	271
Example for /DISPLAY STRUCTURE Command	271
Example 1 for /DISPLAY SUBSYS Command	271
Example 2 for /DISPLAY SUBSYS Command	272
Example for /DISPLAY SYSID Command	272
Example for /DISPLAY TIMEOVER Command	272
Example 1 for /DISPLAY TMEMBER Command	272
Example 2 for /DISPLAY TMEMBER Command	273
Example 1 for /DISPLAY TRACE Command	273
Example 2 for /DISPLAY TRACE Command	274
Example 3 for /DISPLAY TRACE Command	274
Example 4 for /DISPLAY TRACE Command	275
Example 5 for /DISPLAY TRACE Command	275
Example 6 for /DISPLAY TRACE Command	276
Example 7 for /DISPLAY TRACE Command	276
Example 8 for /DISPLAY TRACE Command	276
Example 9 for /DISPLAY TRACE Command	276
Example 10 for /DISPLAY TRACE Command	276
Example 11 for /DISPLAY TRACE Command	277
Example 12 for /DISPLAY TRACE Command	277
Example 1 for /DISPLAY TRACKING STATUS Command	277
Example 2 for /DISPLAY TRACKING STATUS Command	278
Example 1 for /DISPLAY TRANSACTION Command	278
Example 2 for /DISPLAY TRANSACTION Command	279
Example 3 for /DISPLAY TRANSACTION Command	279
Example for /DISPLAY UOR Command	279
Example for /DISPLAY USER Command	280
Chapter 20. /END	283
Format	283
Environments and Keywords	283
Usage.	283
Example for /END Command	283
Chapter 21. /ERESTART	285
Format	285

Manual Restart of an XRF Alternate System	285
Restart of IMS Following Loss of Virtual Storage Only	285
Restart of IMS Following Loss of Virtual Storage and Message Queue Data Set Integrity.	285
Restart of IMS Following /ERESTART Failure of the Database Component	285
Restart of IMS Following /ERESTART Failure of Communication Component	286
Restart of IMS Following /ERESTART Failure of Both the Database and Communication Components	286
Environments and Keywords	286
Usage.	287
Examples	293
Example 1 for /ERESTART Command	293
Example 2 for /ERESTART Command	293
Example 3 for /ERESTART Command	294
Example 4 for /ERESTART Command	294
Example 5 for /ERESTART Command	294
Chapter 22. /EXCLUSIVE	297
Format	297
Environments and Keywords	297
Usage.	297
Examples	298
Example 1 for /EXCLUSIVE Command	298
Example 2 for /EXCLUSIVE Command	298
Chapter 23. /EXIT	299
Format	299
Environments and Keywords	299
Usage.	299
Examples	300
Example 1 for /EXIT Command	300
Example 2 for /EXIT Command	300
Example 3 for /EXIT Command	300
Example 4 for /EXIT Command	301
Example 5 for /EXIT Command	301
Chapter 24. /FORMAT	303
Format	303
Environments and Keywords	303
Usage.	303
Example for /FORMAT Command	304
Chapter 25. /HOLD.	305
Format	305
Environments	305
Usage.	305
Example for /HOLD Command	305
Chapter 26. /IAM	307
Format	307
Environments and Keywords	307
Usage.	307
Examples	308
Example 1 for /IAM Command.	308
Example 2 for /IAM Command.	308
Example 3 for /IAM Command.	308

Chapter 27. /IDLE	309
Format	309
Environments and Keywords	309
Usage.	309
Examples	311
Example 1 for /IDLE Command	311
Example 2 for /IDLE Command	311
Example 3 for /IDLE Command	311
Example 4 for /IDLE Command	312
Chapter 28. /LOCK	313
Format	313
Environments and Keywords	313
Usage.	313
Examples	315
Example 1 for /LOCK Command	315
Example 2 for /LOCK Command	315
Example 3 for /LOCK Command	315
Example 4 for /LOCK Command	315
Example 5 for /LOCK Command	316
Chapter 29. /LOG	317
Format	317
Environments	317
Usage.	317
Example for /LOG Command	317
Chapter 30. /LOOPTEST	319
Format	319
Environments and Keywords	319
Usage.	319
Example for /LOOPTEST Command	319
Chapter 31. /MODIFY	321
Format	321
Environments and Keywords	321
Usage.	321
Examples	325
Example 1 for /MODIFY Command	325
Example 2 for /MODIFY Command	325
Example 3 for /MODIFY Command	326
Chapter 32. /MONITOR	329
Format	329
Environments and Keywords	329
Usage.	329
Example for /MONITOR Command	329
Chapter 33. /MSASSIGN	331
Format	331
Environments and Keywords	331
Usage.	331
Examples	332
Example 1 for /MSASSIGN Command	332
Example 2 for /MSASSIGN Command	333
Example 3 for /MSASSIGN Command	333

Example 4 for /MSASSIGN Command	333
Chapter 34. /MSVERIFY	335
Format	335
Environments and Keywords	335
Usage.	335
Examples	335
Example 1 for /MSVERIFY Command	335
Example 2 for /MSVERIFY Command	336
Chapter 35. /NRESTART	339
Format	339
Environments and Keywords	341
Usage.	341
Examples	346
Example 1 for /NRESTART Command	346
Example 2 for /NRESTART Command	346
Example 3 for /NRESTART Command	346
Example 4 for /NRESTART Command	347
Example 5 for /NRESTART Command	347
Example 6 for /NRESTART Command	347
Example 7 for /NRESTART Command	348
Example 8 for /NRESTART Command	348
Example 9 for /NRESTART Command	348
Chapter 36. /OPNDST	349
Format	349
Environments and Keywords	349
Usage.	350
Examples	352
Example 1 for /OPNDST Command	352
Example 2 for /OPNDST Command	352
Example 3 for /OPNDST Command	353
Example 4 for /OPNDST Command	353
Example 5 for /OPNDST Command	353
Chapter 37. /PSTOP	355
Format	355
Environments and Keywords	355
Usage.	356
Examples	358
Example 1 for /PSTOP Command	358
Example 2 for /PSTOP Command	359
Example 3 for /PSTOP Command	359
Example 4 for /PSTOP Command	359
Example 5 for /PSTOP Command	360
Example 6 for /PSTOP Command	360
Example 7 for /PSTOP Command	360
Example 8 for /PSTOP Command	360
Example 9 for /PSTOP Command	360
Example 10 for /PSTOP Command	361
Example 11 for /PSTOP Command	361
Example 12 for /PSTOP Command	361
Example 13 for /PSTOP Command	361
Example 14 for /PSTOP Command	362

Chapter 38. /PURGE	363
Format	363
Environments and Keywords	363
Usage.	364
Examples	365
Example 1 for /PURGE Command	365
Example 2 for /PURGE Command	365
Example 3 for /PURGE Command	365
Example 4 for /PURGE Command	366
Example 5 for /PURGE Command	366
Example 6 for /PURGE Command	366
Example 7 for /PURGE Command	366
 Chapter 39. /QUIESCE	 367
Format	367
Environments and Keywords	367
Usage.	367
Example for /QUIESCE Command	367
 Chapter 40. /RCLSDST	 369
Format	369
Environments	369
Usage.	369
Example for /RCLSDST Command	369
 Chapter 41. /RCOMPT	 371
Format	371
Environments and Keywords	371
Usage.	371
Example for /RCOMPT Command	372
 Chapter 42. /RDISPLAY	 373
Format	373
Environments	373
Usage.	373
Examples	373
Example 1 for /RDISPLAY Command	373
Example 2 for /RDISPLAY Command	373
 Chapter 43. /RELEASE	 375
Format	375
Environments and Keywords	375
Usage.	375
Example for /RELEASE Command	375
 Chapter 44. /RESET	 377
Format	377
Environments	377
Usage.	377
Example for /RESET Command	377
 Chapter 45. /RMxxxxxx	 379
Format	379
Environments and Keywords	379
Usage.	379
Examples	381

Example for /RMCHANGE Command	381
Example for /RMDELETE Command	381
Example for /RMGENJCL Command	382
Example for /RMINIT Command	382
Example for /RMLIST Command	383
Example for /RMNOTIFY Command	385
Chapter 46. /RSTART	387
Format	387
Environments and Keywords	387
Usage.	388
Examples	389
Example 1 for /RSTART Command	389
Example 2 for /RSTART Command	390
Example 3 for /RSTART Command	390
Example 4 for /RSTART Command	390
Example 5 for /RSTART Command	390
Example 6 for /RSTART Command	391
Example 7 for /RSTART Command	391
Example 8 for /RSTART Command	391
Chapter 47. /RTAKEOVER	393
Format	393
/RTAKEOVER for an Active Subsystem	393
/RTAKEOVER for a Tracking Subsystem	393
Environments and Keywords	393
Usage.	393
/RTAKEOVER for an Active Subsystem	393
/RTAKEOVER for a Tracking Subsystem	394
Examples	394
Example for /RTAKEOVER Command at Active Site.	394
Example for /RTAKEOVER DUMPQ at Active Site	395
Example for /RTAKEOVER UNPLAN at Remote Site	395
Chapter 48. /SECURE	397
Format	397
Environments and Keywords	397
Usage.	397
Examples	398
Example 1 for /SECURE Command.	398
Example 2 for /SECURE Command.	398
Chapter 49. /SET	401
Format	401
Environments and Keywords	401
Usage.	401
Examples	402
Example 1 for /SET Command	402
Example 2 for /SET Command	402
Example 3 for /SET Command	402
Chapter 50. /SIGN	405
Format	405
Environments	405
Usage.	405
Examples	407

Example 1 for /SIGN Command	407
Example 2 for /SIGN Command	407
Example 3 for /SIGN Command	408
Chapter 51. /SMCOPY	409
Format	409
Environments and Keywords	409
Usage.	409
Example for /SMCOPY Command	410
Chapter 52. /SSR	411
Format	411
Environments	411
Usage.	411
Example for /SSR Command	411
Chapter 53. /START	413
Format	413
Environments and Keywords	416
Usage.	417
Examples	429
Example 1 for /START Command	429
Example 2 for /START Command	429
Example 3 for /START Command	430
Example 4 for /START Command	430
Example 5 for /START Command	430
Example 6 for /START Command	430
Example 7 for /START Command	430
Example 8 for /START Command	431
Example 9 for /START Command	431
Example 10 for /START Command	431
Example 11 for /START Command	431
Example 12 for /START Command	431
Example 13 for /START Command	432
Example 14 for /START Command	432
Example 15 for /START Command	432
Example 16 for /START Command	432
Example 17 for /START Command	432
Example 18 for /START Command	433
Example 19 for /START Command	433
Example 20 for /START Command	433
Example 21 for /START Command	434
Example 22 for /START Command	434
Example 23 for /START Command	434
Example 24 for /START Command	434
Example 25 for /START Command	435
Chapter 54. /STOP	437
Format	437
Environments and Keywords	440
Usage.	441
Examples	450
Example 1 for /STOP Command	450
Example 2 for /STOP Command	450
Example 3 for /STOP Command	450
Example 4 for /STOP Command	451

Example 5 for /STOP Command	451
Example 6 for /STOP Command	451
Example 7 for /STOP Command	451
Example 8 for /STOP Command	452
Example 9 for /STOP Command	452
Example 10 for /STOP Command	452
Example 11 for /STOP Command	452
Example 12 for /STOP Command	452
Example 13 for /STOP Command	453
Example 14 for /STOP Command	453
Example 15 for /STOP Command	453
Example 16 for /STOP Command	454
Example 17 for /STOP Command	455
Example 18 for /STOP Command	456
Example 19 for /STOP Command	456
Example 20 for /STOP Command	457
Example 21 for /STOP Command	458
Example 22 for /STOP Command	458
Example 23 for /STOP Command	459
Example 24 for /STOP Command	459
Example 25 for /STOP Command	459
Example 26 for /STOP Command	459
Example 27 for /STOP Command	460
Example 28 for /STOP Command	460
Chapter 55. /SWITCH	461
Format	461
/SWITCH for an Active XRF Subsystem	461
/SWITCH for an Alternate XRF Subsystem	461
Environments and Keywords	461
Usage.	461
Examples	462
Example 1 for /SWITCH Command	462
Example 2 for /SWITCH Command	463
Chapter 56. /TEST	465
Format	465
Environments and Keywords	465
Usage.	465
Examples	466
Example 1 for /TEST Command	466
Example 2 for /TEST Command	466
Chapter 57. /TRACE	467
Format	467
Environments and Keywords	469
Usage.	470
Examples	481
Example 1 for /TRACE Command	481
Example 2 for /TRACE Command	481
Example 3 for /TRACE Command	481
Example 4 for /TRACE Command	482
Example 5 for /TRACE Command	482
Example 6 for /TRACE Command	482
Example 7 for /TRACE Command	483
Example 8 for /TRACE Command	483

Example 9 for /TRACE Command	483
Example 10 for /TRACE Command	483
Example 11 for /TRACE Command	484
Example 12 for /TRACE Command	484
Example 13 for /TRACE Command	484
Example 14 for /TRACE Command	484
Example 15 for /TRACE Command	484
Chapter 58. /UNLOCK	487
Format	487
Environments and Keywords	487
Usage.	487
Examples	489
Example 1 for /UNLOCK Command.	489
Example 2 for /UNLOCK Command.	489
Example 3 for /UNLOCK Command.	489
Example 4 for /UNLOCK Command.	489
Example 5 for /UNLOCK Command.	489
Chapter 59. /UNLOAD	493
Format	493
Environments and Keywords	493
Usage.	493

Part 3. OS/390 (MVS/ESA) Commands Used for IMS 495

Chapter 60. Introduction	499
Chapter 61. START FDBRPROC	501
Format	501
Usage.	501
Chapter 62. START IRLMPROC	503
Format	503
Usage.	503
Chapter 63. MODIFY IMS	507
F jobname,DUMP	507
Format	507
Usage.	507
Example	507
F jobname,DUMPxxxx.	507
Format	507
Usage.	507
Examples	508
F jobname,FORCExxxx	508
Format	508
Usage.	508
Examples	509
F jobname,RECONNECT	509
Format	509
Usage.	509
Example	509
F jobname,RECONNSTR	510
Format	510
Usage.	510

Example	510
F jobname,STOP	511
Format	511
Usage.	511
Example	511
F jobname,STOPxxxx	511
Format	511
Usage.	511
Examples	512
Chapter 64. MODIFY FDBRPROC	513
F fdbrproc,DUMP	513
Format	513
Usage.	513
F fdbrproc,RECOVER	513
Format	513
Usage.	513
F fdbrproc,STATUS	513
Format	513
Usage.	513
F fdbrproc,STOP	514
Format	514
Usage.	514
F fdbrproc,TERM	514
Format	514
Usage.	514
Chapter 65. MODIFY IRLMPROC	517
F irlmproc,ABEND	517
Format	517
Usage.	517
Examples	517
F irlmproc,DIAG,DELAY	518
Format	518
Usage.	518
F irlmproc,PURGE,imsname	519
Format	519
Usage.	519
Example	519
F irlmproc,SET	520
Format	520
Usage.	520
Examples	521
F irlmproc,STATUS	521
Format	521
Usage.	521
Examples	522
Chapter 66. STOP CQSJOB	527
Format	527
Usage.	527
Chapter 67. STOP IRLMPROC	529
Format	529
Usage.	529
Example	529

Chapter 68. TRACE CT	531
Format	531
Usage.	531
Ensure IRLM Load Module Is in MVS Link List.	533
Sample External Writer Procedure	533
Displaying a Trace	533
Examples	533
Example 1 for TRACE CT	533
Example 2 for TRACE CT	533

Part 4. IMS Transport Manager Subsystem Commands 535

Chapter 69. Introduction	537
Chapter 70. DEFINE	539
Format	539
Usage.	539
Chapter 71. DISPLAY	541
Format	541
Usage.	541
Examples of the DISPLAY Command	545
Example 1 for DISPLAY Command	545
Example 2 for DISPLAY Command	545
Example 3 for DISPLAY Command	545
Example 4 for DISPLAY Command	546
Example 5 for DISPLAY Command	546
Example 6 for DISPLAY Command	546
Chapter 72. SET	547
Format	547
Usage.	547
Chapter 73. START	549
Format	549
Usage.	549
Chapter 74. STOP	551
Format	551
Usage.	551

Part 5. Appendixes 553

Appendix A. DBCTL Commands	555
Appendix B. DCCTL Commands	557
Appendix C. List of Reserved Words	561
Appendix D. Shared Secondary Index Database Commands	565
Appendix E. Commands with the NODE USER Keyword Combination	567
Appendix F. Commands That Are Valid in ETO.	569

Appendix G. Status and Attributes for the /DISPLAY Command	571
Bibliography	583
IMS/ESA Version 6 Library	583
Index	585

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Programming Interface Information

This book is intended to help terminal operators use the IMS/ESA commands and the MVS commands used for the Internal Resource Lock Manager. This book primarily documents General-use Programming Interface and Associated Guidance Information provided by IMS/ESA.

General-use programming interfaces allow the customer to write programs that obtain the services of IMS/ESA.

However, this book also documents Product-sensitive Programming Interface and Associated Guidance Information provided by IMS/ESA.

Product-sensitive programming interfaces allow the customer installation to perform tasks such as diagnosing, modifying, monitoring, repairing, tailoring, or tuning of IMS/ESA. Use of such interfaces creates dependencies on the detailed design or implementation of the IBM software product. Product-sensitive programming interfaces should be used only for these specialized purposes. Because of their dependencies on detailed design and implementation, it is to be expected that

programs written to such interfaces may need to be changed in order to run with new product releases or versions, or as a result of service.

┌ **Product-sensitive programming interface** _____

Product-sensitive Programming Interface and Associated Guidance Information is identified where it occurs, either by an introductory statement to a chapter or section or by the markup that surrounds this paragraph.

└ **End of Product-sensitive programming interface** _____

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Product Names

In this book, the licensed program “DB2 for MVS/ESA” is referred to as “DB2.”

Preface

This book provides terminal operators with the information needed to use IMS/ESA commands and the MVS commands used for the Internal Resource Lock Manager (IRLM) as well as the Transport Manager Subsystem (TMS) commands.

Because each user's IMS system is tailored to a specific operating configuration, this book is not intended to serve each installation's operational needs. It is recommended that each installation prepare an operator's guide to meet the needs of its IMS terminal operators. Use the contents of this manual to create or supplement the guide your installation prepares.

Summary of Contents

This book contains:

- "Part 1. Introduction" on page 1, introduces the IMS command language, including the format, keywords, parameters, syntax notation, and examples for the IMS commands.
- "Part 2. IMS Commands" on page 61, describes the IMS commands, in alphabetical order, and includes syntax diagrams.
- "Part 3. OS/390 (MVS/ESA) Commands Used for IMS" on page 495, describes the MVS commands used with the Internal Resource Lock Manager (IRLM) and includes the syntax diagrams.
- "Part 4. IMS Transport Manager Subsystem Commands" on page 535, describes the IMS Transport Manager Subsystem commands and includes the syntax diagrams.
- A set of appendixes, starting with "Appendix A. DBCTL Commands" on page 555, contain the following information:
 - Commands and keywords that you can use in a DBCTL environment.
 - Commands and keywords that you can use in a DCCTL environment.
 - Reserved words for IMS.
 - How various commands operate for a shared secondary index database.
 - Commands that can use the NODE USER keyword combination.
 - Changed commands and keywords for IMS/ESA Version 6.
 - Commands that are valid for ETO.
 - Status and attributes of the /DISPLAY command.

For quick reference to the commands, see *IMS/ESA Summary of Operator Commands*, which contains syntax diagrams of all the commands described in this publication.

Prerequisite Knowledge

Before using this book, you should understand basic IMS concepts and your installation's IMS system. IMS can run in the following environments: DB batch, TM batch, DB/DC, DBCTL, and DCCTL. You should understand the environments that apply to your installation. For a complete list of courses, see the IMS home page on the World Wide Web at <http://www.software.ibm.com/data/ims>

Recommendation: Before using this book, you should be familiar with the following other IBM books:

Preface

- *IMS/ESA Operations Guide*
- *IMS/ESA Sample Operating Procedures*
- *OS/390 JES2 Commands*
- *OS/390 JES3 Commands*
- *OS/390 MVS System Commands*

Change Indicators

Technical changes are indicated in this publication by a vertical bar (|) to the left of the changed text. If a figure has changed, a vertical bar appears to the left of the figure caption.

Syntax Diagrams

The following rules apply to the syntax diagrams used in this book:

Arrow symbols

Read the syntax diagrams from left to right, from top to bottom, following the path of the line.

- ▶▶— Indicates the beginning of a statement.
- ▶ Indicates that the statement syntax is continued on the next line.
- ▶— Indicates that a statement is continued from the previous line.
- ▶◀ Indicates the end of a statement.

Diagrams of syntactical units other than complete statements start with the ▶— symbol and end with the —▶ symbol.

Conventions

- Keywords, their allowable synonyms, and reserved parameters, appear in uppercase for MVS and OS/2 operating systems, and lowercase for UNIX operating systems. These items must be entered exactly as shown.
- Variables appear in lowercase italics (for example, *column-name*). They represent user-defined parameters or suboptions.
- When entering commands, separate parameters and keywords by at least one blank if there is no intervening punctuation.
- Enter punctuation marks (slashes, commas, periods, parentheses, quotation marks, equal signs) and numbers exactly as given.
- Footnotes are shown by a number in parentheses, for example, (1).
- A `␣` symbol indicates one blank position.

Required items

Required items appear on the horizontal line (the main path).

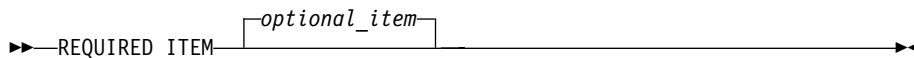
▶▶—REQUIRED_ITEM—▶▶

Optional Items

Optional items appear below the main path.

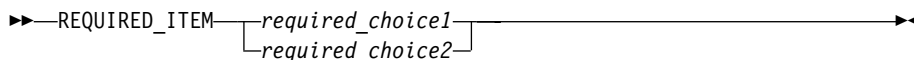
▶▶—REQUIRED_ITEM—optional_item—▶▶

If an optional item appears above the main path, that item has no effect on the execution of the statement and is used only for readability.

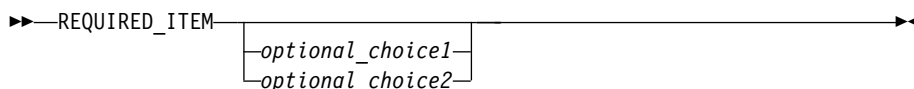


Multiple required or optional items

If you can choose from two or more items, they appear vertically in a stack. If you *must* choose one of the items, one item of the stack appears on the main path.

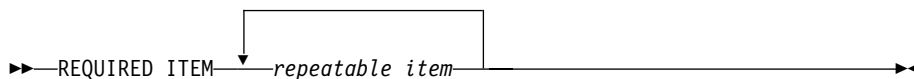


If choosing one of the items is optional, the entire stack appears below the main path.

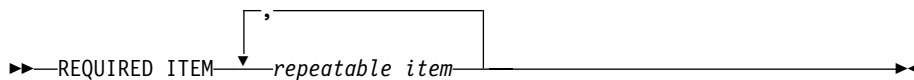


Repeatable items

An arrow returning to the left above the main line indicates that an item can be repeated.



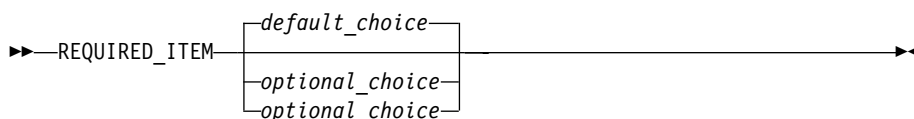
If the repeat arrow contains a comma, you must separate repeated items with a comma.



A repeat arrow above a stack indicates that you can specify more than one of the choices in the stack.

Default keywords

IBM-supplied default keywords appear above the main path, and the remaining choices are shown below the main path. In the parameter list following the syntax diagram, the default choices are underlined.



Preface

IMS-specific syntax information

Fragments

Sometimes a diagram must be split into fragments. The fragments are represented by a letter or fragment name, set off like this: | A |. The fragment follows the end of the main diagram. The following example shows the use of a fragment.

▶▶—STATEMENT—*item 1*—*item 2*—| A |————▶▶

A:

|——*item 3*——KEYWORD——|——*item 5*——|
|——*item 4*——|
|——*item 6*——|

Substitution-block

Sometimes a set of several parameters is represented by a substitution-block such as <A>. For example, in the imaginary /VERB command you could enter /VERB LINE 1, /VERB EITHER LINE 1, or /VERB OR LINE 1.

▶▶—/VERB——|——<A>——|——LINE——*line#*——▶▶

where <A> is:

▶▶——|——EITHER——|
|——OR——|

Parameter endings

Parameters with number values end with the symbol '#', parameters that are names end with 'name', and parameters that can be generic end with '*'.

▶▶—/MSVERIFY——|——MSNAME——*msname*——|
|——SYSID——*sysid#*——|

The MSNAME keyword in the example supports a name value and the SYSID keyword supports a number value.

Summary of Changes

Changes to the Current Edition of This Book for Version 6

This edition, which is in softcopy only, includes technical and editorial changes.

Changes to This Book for Version 6

The following changes were made to this book for Version 6:

- All information about IRLM 1.5 has been removed; see the Version 5 edition of this book for the old information.
- Appendix F was moved to this section and Appendix I was merged into Chapter 1.
- We added information about using MCS and E-MCS consoles with IMS. We also added information about sending messages to the MVS console and IMS MTO.
- Table 1 shows the new and changed commands and keywords for Version 6.

Table 1. Command and Keyword Changes for Version 6

Command	Keyword	Description of Change
/CHANGE	FDR	New keyword
	UOR	New keyword
/CHECKPOINT	LEAVEGR	New keyword
	DUMPQ	Added NOCQSSHUT parameter
	FREEZE	Added NOCQSSHUT parameter
	PURGE	Added NOCQSSHUT parameter
/CQCHKPT ¹		New command
/CQQUERY ¹		New command
/CQSET ¹		New command
/DBDUMP	NOPFA	New keyword
/DBRECOVERY	NOPFA	New keyword
/DEQUEUE	TRANSACTION ¹	New keyword
/DISPLAY	AFFINITY ²	New keyword
	CQS ¹	New keyword
	FDR ³	New keyword
	LINE LINK LTERM LUNAME MSNAME NODE	Added keyword QCNT ¹
	OVERFLOWQ ¹	New keyword.
	Q	Added keyword QCNT ¹
	QCNT ¹	New keyword
	STRUCTURE ¹	New keyword
	TMEMBER TRANSACTION	Added keyword QCNT ¹
	UOR	New keyword

Table 1. Command and Keyword Changes for Version 6 (continued)

Command	Keyword	Description of Change
	USER	Added keyword QCNT ¹
/ERESTART	CHECKPOINT	Changed so you can only specify CHECKPOINT 0
/PSTOP	REGION	Added keyword JOBNAME
/RTAKEOVER ⁴	NOREVERSE	New keyword
/SIGN	VERIFY <i>nuserpw</i>	Added keywords
/START	REGION	Added keyword JOBNAME
	VGRS	New keyword
/STOP	AREA	Added keyword NOPFA
	DATABASE	Added keyword NOPFA
	REGION	Added keyword JOBNAME
	VGRS	New keyword
/SWITCH	WADS	New keyword
/TRACE SET ON OFF	TABLE	Added table types QMGR and SQTT

Notes:

¹ Only valid in a shared-queues environment.

² Only valid if you use VTAM generic resources.

³ Only valid in a Fast DB Recovery environment.

⁴ Only valid for Remote Site Recovery (RSR) if the subsystem is RSR-capable.

Table 2 shows the OS/390 commands added for Version 6.

Table 2. OS/390 Commands for Version 6

Command	Procedure Name,Keyword	Description of Change
START	fdbproc	New command
START	irlmproc	Added TRACE keyword
MODIFY	fdbproc	New command
MODIFY	irlmproc	Added SET keyword
MODIFY	irlmproc	Added STOR and TRACE parameters to STATUS keyword
MODIFY	IMSjobname,RECONNSTR	New keyword
STOP	CQSjobname	New command

Library Changes for Version 6

The IMS/ESA Version 6 library differs from the IMS/ESA Version 5 library in these major respects:

- *IMS/ESA Common Queue Server Guide and Reference*
This new book describes the IMS Common Queue Server (CQS).
- *IMS/ESA DBRC Guide and Reference*

This new book describes all the functions of IMS Database Recovery Control (DBRC).

- The IMS Application Programming summary books (*IMS/ESA Application Programming: Database Manager Summary*, *IMS/ESA Application Programming: Transaction Manager Summary*, and *IMS/ESA Application Programming: EXEC DLI Commands for CICS and IMS Summary*) are no longer included with the IMS library.
- The Softcopy Master Index is not included.
- All information about IRLM 1.5 and data sharing using IRLM 1.5 has been removed from the IMS V6 books. If you use IRLM 1.5, and want to migrate to using IRLM 2.1 and Sysplex data sharing, see *IMS/ESA Release Planning Guide*.
- The chapter that was titled "Database Control (DBCTL) Interface" in the *IMS/ESA Customization Guide* has been revised for Open Database Access (ODBA) and moved to "Appendix A, Using the Database Resource Adapter (DRA)" in the *IMS/ESA Application Programming: Database Manager*.

Part 1. Introduction

Chapter 1. IMS Command Language	3
Introduction	3
How to Enter an IMS Command	3
IMS MFS 3270 Master Terminal Format	3
Using Multiple Console Support (MCS) Consoles	6
Outstanding Reply Numbers on MVS Consoles	6
Multisegment Command Input	6
Commands in a DBCTL Environment	8
Commands from an LU 6.2 Device	8
Qualifying Network LU Names and Commands	9
Command Responses	10
Responses to LU 6.2 Devices	10
Sending Messages to the MVS System Console	11
Sending Messages to the IMS Master Terminal	11
How Command Examples Are Shown	11
IMS Command Format	12
Command Recognition Character	12
Verb	12
Keywords	13
Parameters	13
Null Keywords	16
Comments	16
Command Characteristics	16
Terminal Security Defaults	16
Commands Recovered during Emergency Restart	18
Commands Logged to the Secondary Master Terminal	19
Commands Supported from an AO Application	20
Using CMD Call	20
Using ICMD Call	22
Commands Mirrored on an XRF Alternate	24
Commands Supported on the XRF Alternate	25
Commands and Keywords Supported on an RSR Tracking Subsystem	26
BTAM Terminals in an RSR Environment	29
Commands Supported from LU 6.2 Devices and OTMA	29
Terminal Security Defaults for LU 6.2 Devices and OTMA	30
Chapter 2. Keyword Table and Definitions	31

Introduction

Chapter 1. IMS Command Language

Introduction

This chapter describes how to use the IMS master terminal for messages, commands, and responses; how to input IMS commands; and how to read the command syntax diagrams, command characteristics, and command keyword definitions. The commands are described in alphabetic order in “Part 2. IMS Commands” on page 61.

Most of the commands can be entered from the master terminal. Certain commands can be entered from remote terminals, from the master terminal, or both. The criteria used for determining which commands can be entered from which terminals are established differently for statically defined terminals and for dynamically created terminals. IMS system definition and the Security Maintenance utility establish the criteria for statically defined terminals. RACF or equivalent security product establishes the criteria for dynamically created terminals.

The standard terminal command defaults created by system definition can be modified by the Security Maintenance utility. Table 4 on page 17 shows the terminal security defaults for IMS commands established by IMS system definition.

MVS/ESA commands can be entered only at the MVS/ESA system console and not from the IMS master terminal.

How to Enter an IMS Command

This section describes how to input an IMS command on a master terminal or system console, how to input a multisegment command, and how to input a command in a DBCTL environment or from an LU 6.2 device.

IMS MFS 3270 Master Terminal Format

This section describes how to use the IMS master terminal for messages, commands, and responses. The IMS master terminal consists of two components of the IBM 3270 Information Display System:

- A 3270 display screen with 24 lines by 80 columns; a screen size of 1920 characters
- A 3270 printer

All IMS system messages for the master terminal are sent to the display screen. Most system messages, commands and responses are also sent to the printer to provide a hard copy record.

The format of the display screen is normally divided into five areas:

- System status area (line 1)
- Message area (lines 2-10)
- Display area (lines 12-21)
- Warning message area (line 22)
- User input area (lines 23 and 24)

Figure 1 shows the format of the master terminal display screen.

How to Enter an IMS Command

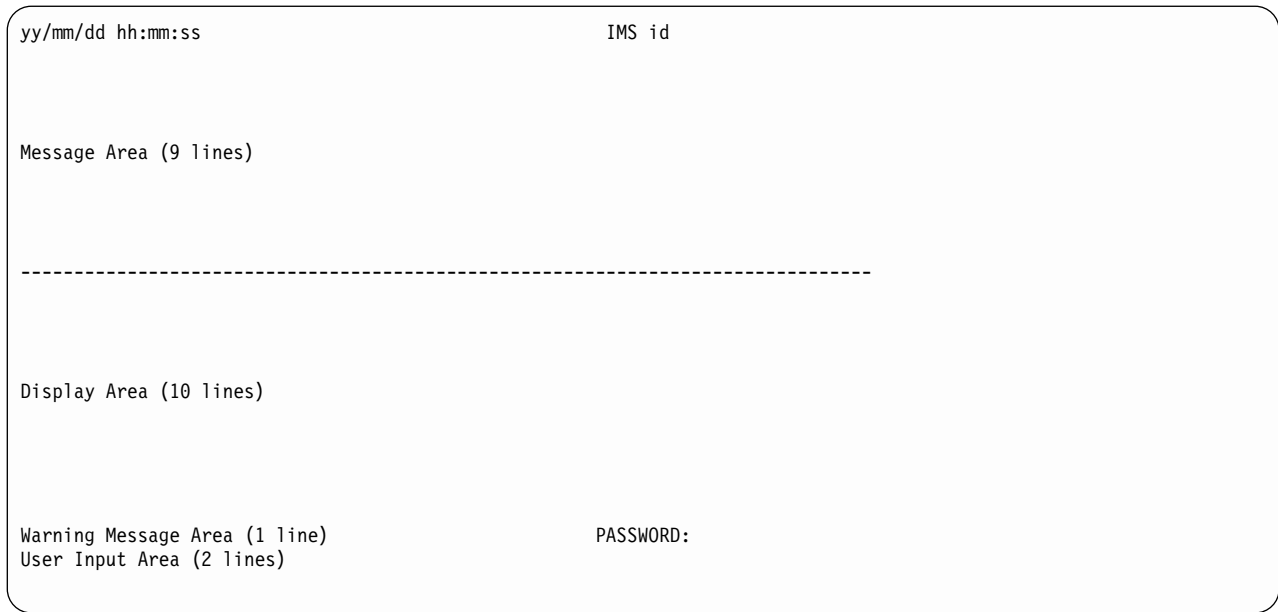


Figure 1. Master Terminal Format

Figure 2 shows the format of the master terminal display screen in an extended recovery facility (XRF) environment.

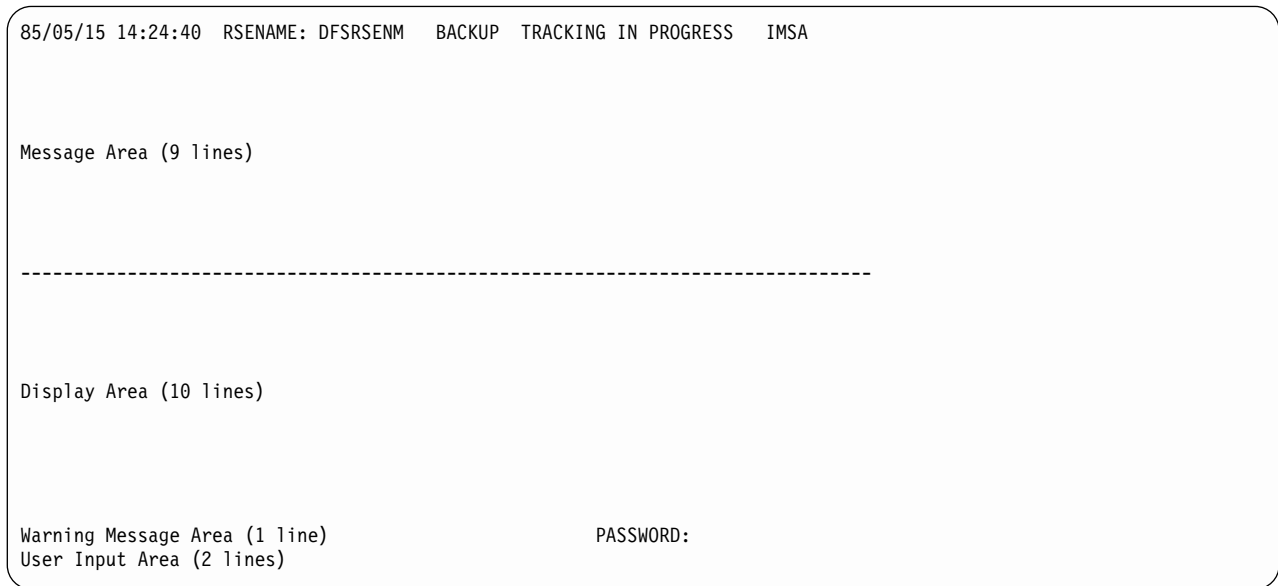


Figure 2. Master Terminal Format in XRF Environment

System Status Area: This area (line 1) displays the date, time, and IMS identifier:

Date Current date

Time Current time

IMS Identifier
IMS system ID

How to Enter an IMS Command

If the system is XRF capable, the following information is also displayed on the status line:

RSEname	Recoverable service element name
System	ACTIVE or BACKUP (field is completed following the initialization phase)
Phase	Blank or one of the following: Initialization Active or alternate system is in initialization phase Synchronization Alternate system processing SNAPQ checkpoint Tracking in progress Alternate system synchronized with active system and in the process of tracking active system Takeover in progress Alternate system in the process of taking over from active system Awaiting I/O prevention New active system is in I/O toleration mode and is awaiting completion of I/O prevention on the failing system prior to becoming a true active system

Message Area: This area (lines 2 through 10) displays IMS system messages, messages from other terminals and programs, and responses to IMS commands, except responses to a /DISPLAY command. If the message area is full and more output needs to be displayed, a warning message is sent. Press the PA1 key to receive more output. New data is displayed on the top line followed by a blank line to separate new data from old messages.

Display Area: This area (lines 12 through 21) displays the output from a /DISPLAY command. If the response to the command exceeds the size of the area, a warning message is sent.

Warning Message Area: This area (line 22) can contain one of the following warning messages:

MASTER LINES WAITING

A message being displayed in the message area has exceeded the available space and is only partially displayed.

MASTER MESSAGE WAITING

The message area is full, and a message from another terminal or program is waiting to be displayed.

DISPLAY LINES WAITING

The output of a /DISPLAY command exceeds the size of the display area.

USER MESSAGE WAITING

A message requiring the screen to be formatted differently is waiting to be displayed.

In all cases, press the PA1 key to receive the waiting output.

The literal PASSWORD is followed by an unprotected field with the nondisplay attribute at the end of line 22.

How to Enter an IMS Command

User Input Area: This area (lines 23 and 24) is used to enter IMS commands. It consists of two 79-character segments, so you can enter multisegment commands such as /BROADCAST, /CHANGE, /RMxxxxxx, and /SSR. For example, to send a message to all active terminals, enter /BROADCAST ACTIVE on line 23 and enter the message text on line 24. The cursor is initially positioned by IMS to line 23, your first input line.

Sometimes the screen can lose this special format (for example, if you have pressed PA1 and received a user message, or if you have pressed the Clear key). To restore the format, enter /FORMAT DFSM02. If the screen is currently formatted with an application display, this command can be entered on the command input line at the bottom of the screen and must be terminated with a period.

Using Multiple Console Support (MCS) Consoles

You can enter IMS commands from Multiple Console Support (MCS) or Extended Multiple Console Support (E-MCS) consoles. Use the CMDMCS keyword for the IMS, DBC, or DCC procedures during IMS system definition to allow commands to be entered from MCS or E-MCS consoles. See *IMS/ESA Installation Volume 2: System Definition and Tailoring* for more information on the CMDMCS keyword.

Each segment of an IMS command must begin with one of the following:

- The command-recognition character for the IMS subsystem
- The IMS ID of the IMS subsystem

For multisegment commands, each segment, except the last, must end with the command recognition character or IMS ID followed by the ENTER key. The last segment must end with only the EOM (end-of-message, or ENTER) character.

From an MCS or E-MCS console, you can issue the MVS ROUTE *ALL command, which allows you to send a command to all IMS subsystems in a Sysplex. See *OS/390 MVS System Commands* for more information on this command.

Outstanding Reply Numbers on MVS Consoles

Outstanding reply numbers are used only on MVS system consoles. They are used to pass input directly to IMS. Terminals defined to IMS do not use outstanding reply numbers.

As an example, IMS might display the following on the MVS console:

```
*48 DFS996I *IMS READY*
```

In order to communicate with IMS via the MVS system console, you must reply with the outstanding reply number (in the above example, the number is 48). A reply might look like this:

```
R 48,/START DC
```

After IMS responds to the command, the next outstanding reply number is displayed with the DFS996I message, as follows:

```
DFS058I START COMMAND COMPLETED  
*49 DFS996I *IMS READY*
```

Multisegment Command Input

Multisegment commands require an EOS (end-of-segment) indicator for all segments preceding the last segment, and an EOM (end-of-message) indicator for the last segment. EOS and EOM will vary depending on the type of terminal entering the command. For example, on the system console, EOS is indicated by

the ENTER key and EOM is indicated by entering a period followed by the ENTER key. Refer to the *IMS/ESA Operations Guide* for a discussion of multisegment input for various device types.

The following are multisegment commands:

- /ALLOCATE
- /BROADCAST
- /CHANGE
- /ERESTART
- /LOOPTEST
- /OPNDST
- /RMxxxxxx
- /SSR

The period is used both as a delimiter for comments on IMS commands and as an EOM indicator for some terminal types. The following examples illustrate the use of the period in both contexts. “Example 4 for Multisegment Commands” on page 8 shows this.

Example 1 for Multisegment Commands: System console entry:

```
24,/BRO MASTER. END OF DAY MESSAGE
25,I AM GOING HOME. PLEASE TAKE OVER.
```

Response on master terminal:

```
I AM GOING HOME. PLEASE TAKE OVER.
```

Explanation: The first input segment (reply 24) contains only the command and consists of a comment (END OF DAY MESSAGE) separated from the command itself (BRO MASTER) by a period. The second input segment (reply 25) consists of the data to be broadcast. The first period in segment 2 is part of the data and the second period in segment 2 is the EOM indicator for the system console.

Example 2 for Multisegment Commands: System console entry:

```
26,/CHANGE DIRECT
27,ORY MFS. MODIFICATION.
```

Explanation: MODIFICATION in segment 2 is a comment and is separated from the command by the first period. The second period in segment 2 is the EOM indicator for the system console.

The above 2 segments are combined and the following is input to the command processor:

```
/CHANGE DIRECTORY MFS. MODIFICATION
```

Example 3 for Multisegment Commands: System console entry:

```
28,/CHANGE LINK 1
29,2 3 FORCSESS.
```

Explanation: Certain forms of reply to the system console “outstanding reply” can compress out leading blanks from input segments. In the above example, the command processed by the /CHANGE command processor would be: /CHANGE LINK 12 3 FORCSESS. To obtain the desired command, /CHANGE LINK 1 2 3 FORCSESS, one of the following forms of reply could be used:

Multisegment Input

```
R 29, '/CHANGE LINK 1'  
R 30, ' 2 3 FORCSESS.'
```

or

```
29, /CHANGE LINK 1  
30, 2 3 FORCSESS
```

Example 4 for Multisegment Commands: LU2 or 3270 Display Terminal entry:

```
/FORMAT DFSM04  
/BRO LTERM WTOR (eos)  
this is segment 1 (eos)  
this is segment 2 (eos)  
this is segment 3 (eom)
```

Explanation: The remote terminal is first formatted via the /FORMAT command, where default format DFSM04 supports the input of 4 segments.

For LU2 and 3270 display terminals, enter a /FORMAT DFSM04 command before entering the multisegment command.

Commands in a DBCTL Environment

In a DBCTL environment, there are no outstanding reply numbers for MVS consoles, and therefore none should be entered. For a command, just enter the command recognition character (slash or other character preceding the verb) or IMS ID, followed by the command. DBCTL does not respond with the DFS996I outstanding reply number.

Examples for DBCTL Commands: System console entry for single-segment command:

```
¢DIS DB PAYROLL
```

Explanation: ¢ is the command-recognition character for the DBCTL subsystem.

```
IMS1DIS DB PAYROLL
```

Explanation: IMS1 is the IMS ID for the DBCTL subsystem.

System console entry for multisegment command:

```
/RMI DBRC='IC DBD(DED BDD01) AREA (DD01AR0) ICDSN(FVT31.DED BDD01.DD01  
AR0.IC.DUMMY1) ICDSN2/  
/(FVT31.DED BDD01.DD01AR0.IC2.DUMMY1) HSSP'
```

Explanation: The first segment of the /RMI command has the command recognition character at the beginning of the segment and at the end of the segment, to indicate another segment follows. The last segment has the command recognition character at the beginning of the segment only.

Commands from an LU 6.2 Device

To enter a command from an LU 6.2 device, allocate a conversation using an IMS command verb as the TPNAME. The “/” must be included in the command word. The password option is not valid. (The password must be supplied as a part of the LU 6.2 ALLOCATE from the partner.) The normal LU 6.2 security provisions apply for this transaction.

Restriction: The APPC synchronization level of CONFIRM is ignored for commands from LU 6.2 devices.

LU 6.2 Commands

Following are examples of the sequence of steps used to issue commands by allocating a synchronous conversation on an LU 6.2 device:

Example 1 for Commands from an LU 6.2 Device:

```
ALLOCATE
  -LUNAME=luname of IMS
  -TPNAME=/DISPLAY                (Single segment command)
SEND
  -DATA=LTERM VA01 VA02.comments  (Data after period treated as comments)
PREPARE_TO_RECEIVE
RECEIVE                          (Get header)
RECEIVE                          (Get output for LTERM VA01)
RECEIVE                          (Get output for LTERM VA02)
RECEIVE                          (Get timestamp)
RC=DEALLOCATE
```

Example 2 for Commands from an LU 6.2 Device:

```
ALLOCATE
  -LUNAME=luname of IMS
  -TPNAME=/CHANGE                (Multisegment command)
SEND
  -DATA=NODE                    (Can spread over several SENDs)
SEND
  -DATA=VAT02 ASR OFF.comments  (Data after period treated as comments)
PREPARE_TO_RECEIVE
RECEIVE                          (Get DFS058 CHANGE COMMAND COMPLETED)
RC=DEALLOCATE
```

Example 3 for Commands from an LU 6.2 Device:

```
ALLOCATE
  -LUNAME=luname of IMS
  -TPNAME=/BROADCAST
SEND
  -DATA=NODE VAT0*              (1st SEND: the destination)
SEND
  -DATA=HELLO, HOW ARE YOU ALL? (Subsequent SENDs: message to broadcast)
PREPARE_TO_RECEIVE
RECEIVE                          (Get DFS058 BROADCAST COMMAND COMPLETED)
RC=DEALLOCATE
```

Qualifying Network LU Names and Commands

Qualifying LU names gives the system administrator the liberty of using the same name for LUs on different systems by adding the network identifier. This eliminates the necessity to have unique names for every LU on every system in your complex.

A network-qualified LU name consists of a network identifier of the originating system that is 1 to 8 characters long, a period, and then the LU name, which is 1 to 8 characters long. IMS commands that include network-qualified LU names must be enclosed in single quotes, for example 'NETID001.LUAPPC02'. No blanks are allowed in a network-qualified LU name.

The parameter ALL for either the network identifier or the LU name cannot be substituted in a command for a network-qualified LU name. ALL cannot represent all of the LU names or all of the networks.

The LU name in the LU 6.2 descriptors can be network-qualified.

The network-qualified LU name is optional on commands that support the LUNAME keyword.

Command Responses

Command Responses

With the exception of commands such as /DISPLAY and /FORMAT, responses to IMS commands are prefixed by the letters DFSnnn; nnn identifies the message. For information about the messages, see *IMS/ESA Messages and Codes*. A response to an IMS command is an acknowledgment from IMS to the originating terminal that the command has been received. Responses that go to the system console have an IMS ID identifying the IMS system that issued the message. For example, the response to /DBDUMP DATABASE MSDB would be:

```
DFS058I (time stamp) DBDUMP COMMAND IN PROGRESS (IMS id)
```

At system definition, the `TIMESTAMP/NOTIMESTP` parameter of the `COMM` macro determines whether the time stamp is present or absent. If the time stamp feature is included, the date and time of the response appear between the response prefix and the text.

The `DFS058 COMMAND COMPLETED/IN PROGRESS` response indicates whether IMS accepted the command. If some parameters of the command are not accepted, the response includes the `EXCEPT` phrase and indicates the parameters that were not accepted. If IMS does not have the space for all of the not-accepted parameters, it truncates the `EXCEPT` phrase and terminates it with `...etc..`. Commands that specify the `ALL` parameter are most likely to be truncated. Truncated `EXCEPT` phrases on commands are normally caused by:

- Misspelling a parameter
- Specifying an invalid parameter for the command
- Specifying the `ALL` parameter for resources when some of them are already in the requested state

Responses to LU 6.2 Devices

The response to a command from an LU 6.2 device is sent synchronously if the initiating conversation is not deallocated by the remote device. If the conversation is deallocated, the command response is sent asynchronously using the `LUNAME` of the device and a `TPN` of `DFSCMD`. The remote device must allocate separate `DFSCMD` conversations to receive each asynchronous message.

When the following commands are entered from LU 6.2 devices:

- /DBDUMP DATABASE
- /DBRECOVERY AREA
- /DBRECOVERY DATABASE
- /START AREA
- /START DATABASE
- /START REGION
- /STOP AREA
- /STOP DATABASE
- /STOP REGION

the `DFS058 COMMAND COMPLETED` message is generated instead of the `DFS058 COMMAND IN PROGRESS` message. If the LU 6.2 conversation is synchronous (the conversation still exists), the `DFS058 COMMAND COMPLETED` message is the last message the operator receives. If the LU 6.2 conversation is asynchronous (the conversation is deallocated), the order of delivery of the `DFS058` message cannot be guaranteed.

Sending Messages to the MVS System Console

Each MVS system console in the Sysplex has a unique LTERM name. In an XRF environment, the real MVS system console name is the RSE name specified in the HSB member. For a non-XRF subsystem, the real system console name is the IMS ID. The generic MVS system console name is always "WTOR". The generic name is translated to the real LTERM name when a message is sent to the MVS system console.

Because each MVS system console has a unique LTERM name, a message can be sent to any MVS system console in the Sysplex if the real LTERM name (not the generic name) is used.

Sending Messages to the IMS Master Terminal

Each IMS master terminal (MTO) in the Sysplex has a unique LTERM name, and if they are VTAM terminals they also have unique node names. Each IMS assigns its primary MTO the default LTERM name "DFSPMTO" as a generic name. Each secondary MTO is assigned "DFSSMTO" as the default generic name. You can override either of these default generic names during IMS system definition by using the DFSDCxxx member of IMS.PROCLIB. The generic name is translated to the real LTERM name when a message is sent to the MTO.

Restrictions: If you use the DFSDCxxx member to override a default generic name, you must not specify a statically-defined node name. Also, the node name you specify must have the same physical characteristics as the default node you are overriding. If you change the DFSDCxxx member, you must perform a cold start of IMS. See *IMS/ESA Installation Volume 2: System Definition and Tailoring* for more information on this member.

In a shared-queues environment, because each MTO has a unique LTERM name, a message can be sent to any MTO in the Sysplex if you use the real LTERM name (not the generic name).

How Command Examples Are Shown

One or more examples are given for each command. The examples show:

Entry ET:

How the command looks as entered from the entering terminal (ET).

Response ET:

The IMS response transmitted to the entering terminal (ET).

Entry MT:

How the command looks as entered from the master terminal (MT).

Many IMS commands reference other terminals. Examples of these commands include:

Response RT:

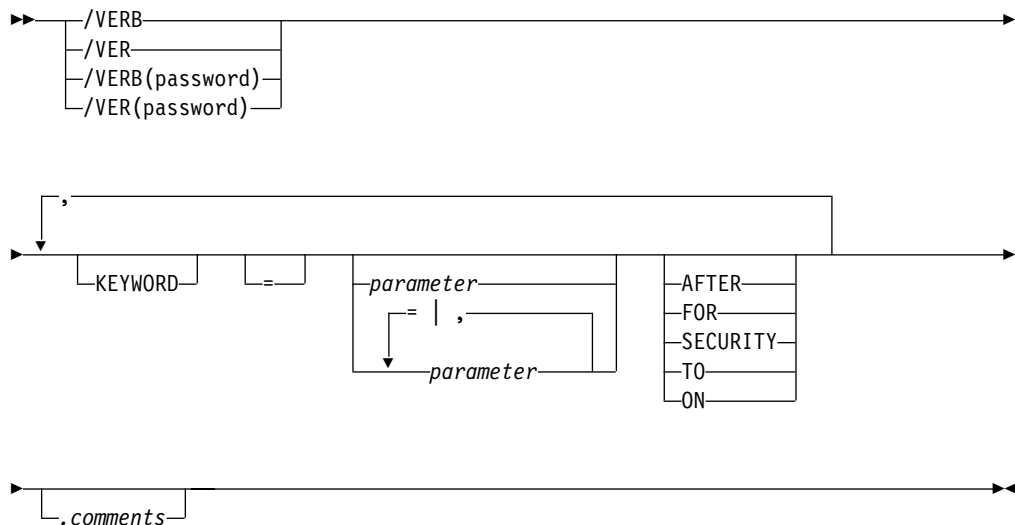
The IMS response transmitted to the referenced terminal or terminals (RT).

Command Examples

The ET and RT responses might or might not print or display, depending on what type terminal is referenced and whether the MSGDEL (message delete) option was specified for the terminal at system definition time.

IMS Command Format

The general format of an IMS command is shown below.



Command Recognition Character

The slash (/) is the command recognition character for IMS commands. In a DBCTL environment, another character can be defined as the command recognition character and would replace the slash.

Verb

The /VERB (such as /STOP) is the first command element and identifies the action to be taken. To abbreviate a verb, use only the slash and the first three characters. Enter the characters using either uppercase or lowercase letters.

Depending on the password security arrangement of the defined IMS system and the terminal where the command is entered, a password can be required after the command verb, or after a parameter or a keyword of certain commands.

If a command is issued from a static terminal, you must use the Security Maintenance utility to require a command verb password. If a command is issued from a dynamic terminal, you must use RACF or an equivalent security product to require a command verb password associated with the user ID signed on to the dynamic terminal.

If a command password is required, it must be entered immediately after /VERB and is normally enclosed in parentheses. No spaces or intervening characters are allowed between the /VERB and the left parenthesis.

When using MFS, if a command password is required, the installation-defined MFS format must contain a defined password field. The password must be entered into the password field defined by the format displayed. If command entry field of the format is defined to accept the command verb only, message DFS1051 is issued when an attempt is made to enter /VERB(password).

None of the IMS-supplied default formats (exception for the master terminal format) have a password field defined.

The /IAM, /LOCK, and /UNLOCK command keywords and parameters support passwords. Keyword and parameter passwords are defined via the security maintenance utility and only apply to static terminals. Keyword and parameter passwords entered with a command on a dynamic terminal are ignored.

The use of passwords is not shown in the examples.

Keywords

IMS keywords are reserved words identifying IMS resources that relate to transaction management, databases, or the IMS system. Many commands require one or more keywords.

Table 14 on page 31 is a list of available keywords and their synonyms. The alphabetical list of keywords after Table 14 on page 31 explains the use of the keyword for each IMS command it affects.

Attention: Keywords and their synonyms are reserved words. Do not use reserved words to name system resources such as transactions, programs, logical terminals, databases, and MFS block names.

Keywords are shown in uppercase. The keyword or an allowable synonym can be entered in uppercase or lowercase.

Parameters

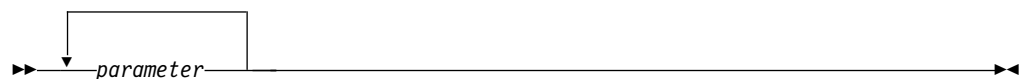
Parameters refer to installation defined or created resources, such as nodes, databases, or pterms, or IMS reserved parameters. Parameters in IMS commands must be replaced with parameter values. Reserved parameters have a unique meaning to IMS and refer to system resources or functions.

The format of the parameters that can be entered is determined by the command and keyword with which they are associated. Use the syntax example provided at the beginning of each command description in "Part 2. IMS Commands" on page 61 to determine the valid parameter formats for that command.

When commands are entered, parameters are separated from a keyword by a space or an equal sign (=). Multiple parameters are separated by a comma, a blank, or a comma followed by a blank. The last parameter of one keyword is separated from the next keyword either by a space, a comma, or an equal sign.

Default parameters appear above the syntax line. Optional parameters appear below the syntax line.

In the syntax examples, a repeat-line is shown as follows:



The repeat-line indicates that multiple parameters can be entered. To save time while entering multiple parameters for the LINE, PTERM, NODE, and LINK keywords, inclusive parameters can be specified in some commands.

IMS Command Format

Attention: Use of the ALL parameter, generic parameters, or excessive use of multiple or inclusive parameters in the large terminal network can cause some of the following problems:

- “Lock out” of the operator for the duration of the command processing
- Creation of large multisegment output messages
- Command action for only part of the terminal resources intended
- Temporary storage shortages
- Artificially high storage pools within IMS and/or VTAM

Reserved Words: The resources you define, such as nodes, pterms, and databases, may be referenced as parameter values in IMS commands. Do not use reserved words to name these resources, or IMS may not interpret the command as expected. For example, if you define a node called TKOTRA and issue a /DISPLAY NODE TKOTRA command, IMS will list all the nodes that have an attribute of TKOTRA, instead of the specific node named TKOTRA. “Appendix C. List of Reserved Words” on page 561 contains a table of the reserved words for IMS commands. These include all keywords, null words, attributes for various forms of the /DISPLAY command, and IMS reserved parameters OFF, MSDB, PRIMARY, NONE and ALL.

ALL Parameter: Entering the reserved parameter ALL specifies all defined resources related to that keyword. ALL cannot be used with every command.

ALL=NO or ALL=DIS can be specified on the KEYWD macro to prevent use of the ALL parameter. ALL=NO and ALL=DIS can be specified for all keywords. ALL=NO indicates that the ALL parameter is invalid on all the commands for the keyword. ALL=DIS indicates the ALL parameter is invalid on all the /DISPLAY commands for the keyword. For more information on the KEYWD macro, see *IMS/ESA Customization Guide*.

Inclusive Parameters: Inclusive parameters are used to specify a group of parameters by entering only the first and last parameters of the group. Inclusive parameters can be used for the following resources:

- Line
- Link
- Static node
- PTERM

To use inclusive parameters, enter the first parameter, a hyphen, then the last parameter (parameter1-parameter2).

For the LINE, PTERM, and LINK keywords, the group of parameters specified is assumed to be based on numeric sequence; that is, entering 3-6 specifies parameters 3, 4, 5, and 6. Inclusive parameters are limited to the PTERM keyword when it appears with the LINE keyword in a command. For the NODE keyword, the group of parameters must be static and based on the IMS definition sequence, not numeric or alphabetic sequence.

Generic Parameters: Generic parameters allow easy specification of a group of resources, whose names match the mask supplied by the generic parameter.

A generic parameter is a 1- to 8-character alphanumeric name that includes one or more special characters and an asterisk or a percent sign. An asterisk can be

replaced by zero or one or more characters to create a valid resource name. A percent sign can be replaced by exactly one character to create a valid resource name.

The generic parameter is * = ALL. However, depending on the installation, other generic parameters can mean ALL. For example, the generic parameter %%%% means ALL to an installation whose resource names are all four characters long.

When a generic parameter is used, IMS uses a serial search of all resources to match the generic name. Using a serial search of all resources can have performance implications in larger systems.

Restriction: If you specify ALL=NO on the KEYWD macro, you cannot use *. However, if you specify ALL=NO on the KEYWD macro, you can use other generic parameters that are equivalent to ALL. If you are using BASIC EDIT, and you enter a command with a generic parameter containing two asterisks in a row at the end of the command, the command is discarded.

The commands listed in Table 3 support generic parameters for LTERM, MSNAME, NODE, TRANSACTION, and USER keywords.

Table 3. Commands That Support Generic Parameters for LTERM, MSNAME, NODE, TRANSACTION, and USER Keywords

Command	Keyword Supported
/BROADCAST	LTERM, NODE, USER
/CHANGE	NODE
/CLSDST	NODE
/DISPLAY	LTERM, MSNAME, NODE, TRANSACTION, USER
/DISPLAY ASMT	LTERM, MSNAME, NODE, USER
/DISPLAY CONV	NODE, USER
/IDLE	NODE
/OPNDST	NODE
/PSTOP	LTERM, TRANSACTION
/PURGE	LTERM, MSNAME, TRANSACTION
/RSTART	NODE, USER
/START	LTERM, MSNAME, NODE, TRANSACTION, USER
/STOP	LTERM, MSNAME, NODE, TRANSACTION, USER
/TRACE	NODE

Note:

- Attention:** Generic parameters are not supported in NODE USER or TRANSACTION CLASS combinations.

Group Parameters: A group parameter allows easy specification of a group of resources, where the resources in the group are defined and managed by the installation. Group parameters are supported with the DATAGROUP keyword for the /DBRECOVERY, /START, and /STOP commands. A group name is 1 to 8 characters long. It is associated with a list of databases, DEDB areas, or database data sets.

IMS Command Format

A database group name and its associated databases or DEDB areas is defined in the DBRC RECON data set using the DBRC INIT.DBDSGRP command with parameters GRPNAME and DBGRP.

A database data set (DBDS) group name and its associated DBDSs is defined in the DBRC RECON data set using the DBRC INIT.DBDSGRP command with parameters GRPNAME and MEMBERS.

- Adding resources to a group
Use the CHANGE.DBDSGRP command with the GRPNAME and ADDDB parameters to add databases or areas to a database group.
Use the CHANGE.DBDSGRP command with the GRPNAME and ADDMEM parameters to add DBDSs to a DBDS group.
- Deleting resources from a group
Use the CHANGE.DBDSGRP command with the GRPNAME and DELDB parameters to delete databases or areas from a database group.
Use the CHANGE.DBDSGRP command with the GRPNAME and DELMEM parameters to delete DBDSs from a DBDS group.
- Displaying resources in a group
Use the LIST.DBDSGRP command or the online /RMLIST command to display the databases or areas in a database group, or the DBDSs in a DBDS group.

Groups defined for commands should contain only databases and areas for use with the DATAGROUP keyword.

Null Keywords

Null keywords are used to help clarify the syntax of the command being entered but have no effect on the command. Null keywords can be used within IMS commands at any time. Null keywords are reserved words. Do not use them to name system resources. The following are IMS null keywords:

- AFTER
- FOR
- ON
- SECURITY
- TO

Comments

You can add comments or notes to the end of a command. When you add comments, identify the end of the command by entering a period after the last parameter. If you do not enter a period, residual data from a 3270 affects command processing.

Command Characteristics

Command characteristics and operations (the way commands actually work) are affected by terminal security defaults; command recoverability; and whether commands are logged to the secondary master terminal, supported from an AOI application, mirrored on the XRF alternate, supported from the XRF alternate, and supported from LU 6.2 devices.

Terminal Security Defaults

Table 4 on page 17 shows the master terminal and remote terminal security defaults for IMS commands.

Terminal Security Defaults

Table 4. Terminal Security Defaults for IMS Commands

Master Terminal	Remote Terminal
/ACTIVATE	
/ALLOCATE	
/ASSIGN	
/BROADCAST	/BROADCAST
/CANCEL	/CANCEL
/CHANGE	
/CHECKPOINT	
/CLSDST	
/COMPT	
/CQCHKPT	
/CQQUERY	
/CQSET	
/DBDUMP	
/DBRECOVERY	
/DELETE	
/DEQUEUE	
/DISPLAY	
/END	/END
/ERESTART	
/EXCLUSIVE	/EXCLUSIVE
/EXIT	/EXIT
/FORMAT	/FORMAT
/HOLD	/HOLD
	/IAM
/IDLE	
/LOCK	/LOCK
/LOG	/LOG
/LOOPTEST	/LOOPTEST
/MODIFY	
/MONITOR	
/MSASSIGN	
/MSVERIFY	
/NRESTART	
/OPNDST	
/PSTOP	
/PURGE	
/QUIESCE	
/RCLSDST	/RCLSDST
	/RCOMPT
/RDISPLAY	/RDISPLAY

Terminal Security Defaults

Table 4. Terminal Security Defaults for IMS Commands (continued)

Master Terminal	Remote Terminal
/RELEASE	/RELEASE
/RESET	/RESET
/RMxxxxxx	/RMLIST
/RSTART	
/RTAKEOVER	
/SECURE	
/SET	/SET
/SIGN	/SIGN
/SMCOPY	
/SSR	
/START	
/STOP	
/SWITCH	
/TEST	/TEST
/TRACE	
/UNLOCK	/UNLOCK
/UNLOAD	

Commands Recovered during Emergency Restart

Certain commands that successfully alter IMS resources are written to the system log as X'02' records and are reprocessed during emergency restart. These commands, along with exceptions, are listed in Table 5.

Table 5. Commands Recovered during Emergency Restart

Command	Exceptions
/ASSIGN	
/CHANGE	/CHANGE DESCRIPTOR
/DELETE	
/END	
/EXCLUSIVE	
/EXIT	
/HOLD	
/LOCK	
/LOG	
/MONITOR	
/MSASSIGN	
/PSTOP	
/PURGE	/PURGE APPC
/RELEASE	
/RESET	
/RSTART	

Commands Recovered at Emergency Restart

Table 5. Commands Recovered during Emergency Restart (continued)

Command	Exceptions
/SET	
/SMCOPY	
/START	/START APPC, /START ISOLOG, /START TRKAUTOARCH
/STOP	/STOP APPC
/UNLOCK	/UNLOCK SYSTEM

Note: If an IMS outage (abend, modify, or cancel of IMS) occurs immediately after a command is entered, the command status might not be carried across an emergency restart or XRF takeover.

The command log records are logged asynchronously (no check write or wait write). If there is no other IMS activity that forces the log buffer to be written out to the OLDS or WADS data set, then the status set by the command, for restart purposes, did not occur.

There are many events in IMS where log records are check written to the log. Any one of these events would cause the command log record to be written out.

Commands Logged to the Secondary Master Terminal

The secondary master terminal provides a hardcopy log of system activity, including checkpoint information and error messages. If the hardcopy logging facility has been selected and not disabled (using the /SMCOPY command), certain IMS commands and responses are logged on the secondary master terminal.

You can select whether only commands issued from the master terminal are logged, or only commands entered from other terminals are logged, or both are logged. Only the commands listed in Table 6 are logged.

For more information on logging to the secondary master terminal, see *IMS/ESA Operations Guide*.

Table 6. Commands Logged to the Secondary Master Terminal

/ACTIVATE	/PURGE
/ALLOCATE	/QUIESCE
/ASSIGN	/RCLSDST
/CHECKPOINT	/RCOMPT
/CLSDST	/RMCHANGE
/COMPT	/RMDELETE
/CQCHKPT	/RMGENJCL
/CQQUERY	/RMINIT
/CQSET	/RMLIST
/DBDUMP	/RMNOTIFY
/DBRECOVERY	/RSTART
/DELETE	/RTAKEOVER
/DEQUEUE	/SECURE
/DISPLAY	/START
/IDLE	/STOP
/MODIFY	/SWITCH
/MONITOR	/TRACE
/MSASSIGN	/UNLOCK SYSTEM

Commands on the Secondary Master Terminal

Table 6. Commands Logged to the Secondary Master Terminal (continued)

/OPNDST	/UNLOAD
/PSTOP	

Commands Supported from an AO Application

Automated operator (AO) applications are application programs that issue IMS operator commands using DL/I calls. AO applications can use two different DL/I calls to issue commands: CMD and ICMD. This section lists which IMS commands can be issued using each of these calls and describes command security for AO applications.

AO applications using the CMD call use the Security Maintenance utility for security. AO applications using the ICMD call use RACF (or the equivalent) and/or the Command Authorization user exit DFSCCMD0 for security.

For an overview of AO applications, see *IMS/ESA Operations Guide*. For more detailed information about securing AO applications, see *IMS/ESA Administration Guide: System*.

Using CMD Call

If you are using the CMD call to issue IMS commands, transactions can be defined as AO applications by the Security Maintenance utility. AO transactions are invoked in the same way any IMS transaction is invoked. AO transactions run as IMS applications with the authority to issue a planned series of IMS commands. For example, an AO application can be called in by an AO transaction after a normal restart of IMS to start IMS resources. The AO application would consist of those commands regularly used by the master terminal operator (MTO) after IMS is active. Fast Path exclusive transactions cannot be defined as AO transactions.

The Security Maintenance utility defines which transactions can issue commands, and which commands are allowed for each authorized transaction. Table 7 shows the IMS commands that can be issued in an AO application using the CMD call.

Table 7. Commands Supported from an AO Application Using CMD

IMS Command	Restrictions	Application Environment	
		MPP or BMP Running Under DB/DC	MPP or BMP Running Under DCCTL
/ACTIVATE		Yes	Yes
/ALLOCATE		Yes	Yes
/ASSIGN		Yes	Yes
/BROADCAST		Yes	Yes
/CHANGE		Yes	Yes
/CHECKPOINT	simple form (no keywords), SNAPQ, or STATISTICS	Yes	Yes
/CLSDST		Yes	Yes
/COMPT		Yes	Yes
/CQCHKPT		Yes	Yes
/CQQUERY		Yes	Yes

AOI Application Commands

Table 7. Commands Supported from an AO Application Using CMD (continued)

IMS Command	Restrictions	Application Environment	
		MPP or BMP Running Under DB/DC	MPP or BMP Running Under DCCTL
/CQSET		Yes	Yes
/DBDUMP		Yes	Yes
/DBRECOVERY		Yes	Yes
/DELETE		Yes	Yes
/DEQUEUE		Yes	Yes
/DISPLAY		Yes	Yes
/END	with keywords	Yes	Yes
/EXCLUSIVE	with keywords	Yes	Yes
/EXIT	with LINE and NODE keywords	Yes	Yes
/FORMAT	with LTERM keyword	Yes	Yes
/IDLE		Yes	Yes
/LOCK	without LTERM, NODE, or PTERM keywords	Yes	Yes
/LOG		Yes	Yes
/LOOPTEST		Yes	Yes
/MONITOR		Yes	Yes
/MSASSIGN		Yes	Yes
/OPNDST		Yes	Yes
/PSTOP		Yes	Yes
/PURGE		Yes	Yes
/QUIESCE		Yes	Yes
/RDISPLAY		Yes	Yes
/RMCHANGE		Yes	Yes
/RMDELETE		Yes	Yes
/RMGENJCL		Yes	Yes
/RMINIT		Yes	Yes
/RMLIST		Yes	Yes
/RMNOTIFY		Yes	Yes
/RSTART		Yes	Yes
/SECURE		Yes	Yes
/SMCOPY		Yes	Yes
/SSR		Yes	Yes
/START		Yes	Yes
/STOP		Yes	Yes
/SWITCH		Yes	Yes
/TEST	with LINE/NODE keywords	Yes	Yes

AOI Application Commands

Table 7. Commands Supported from an AO Application Using CMD (continued)

IMS Command	Restrictions	Application Environment	
		MPP or BMP Running Under DB/DC	MPP or BMP Running Under DCCTL
/TRACE		Yes	Yes
/UNLOCK	without LTERM, NODE, PTERM, or SYSTEM keywords	Yes	Yes
/UNLOAD		Yes	No

If the 3270 message facility service (MFS) bypass option is selected, the output message specified is MODNAME=DFSEDTN, and the terminal is in preset mode, then the only command recognized by IMS is the /RESET command issued from an unformatted screen. All other commands are passed to the application program.

Using ICMD Call

Table 8 shows by application program type the commands that can be issued in an AO application using the ICMD call. Commands that cause the IMS control region to terminate, such as /CHE FREEZE, cannot be issued.

You can secure the commands issued by an ICMD call using RACF (or the equivalent) and/or the Command Authorization user exit DFSCCMD0. RACF lets you specify which applications can issue operator commands and which commands they can issue. DFSCCMD0 and RACF let you do authorization checking during ICMD processing.

Table 8. Commands Supported from an AO Application Using ICMD

IMS Command	Application Environment			
	DRA Thread Running Under DBCTL or DB/DC	BMP Running Under DBCTL	MPP, BMP, or IFP Running Under DB/DC	MPP, BMP, or IFP Running Under DCCTL
/ACTIVATE	N/A	N/A	Yes	Yes
/ALLOCATE	N/A	N/A	Yes	Yes
/ASSIGN	N/A	N/A	Yes	Yes
/BROADCAST	N/A	N/A	Yes	Yes
/CANCEL	N/A	N/A	No	No
/CHANGE	Yes	Yes	Yes	Yes
/CHECKPOINT (simple form)	Yes	Yes	Yes	Yes
/CHECKPOINT SNAPQ	N/A	N/A	Yes	Yes
/CHECKPOINT STATISTICS	Yes	Yes	Yes	Yes
/CLSDST	N/A	N/A	Yes	Yes
/COMPT	N/A	N/A	Yes	Yes
/CQCHKPT	N/A	N/A	Yes	Yes
/CQQUERY	N/A	N/A	Yes	Yes

AOI Application Commands

Table 8. Commands Supported from an AO Application Using ICMD (continued)

IMS Command	Application Environment			
	DRA Thread Running Under DBCTL or DB/DC	BMP Running Under DBCTL	MPP, BMP, or IFP Running Under DB/DC	MPP, BMP, or IFP Running Under DCCTL
/CQSET	N/A	N/A	Yes	Yes
/DBDUMP	Yes	Yes	Yes	N/A
/DBRECOVERY	Yes	Yes	Yes	N/A
/DELETE	Yes	Yes	Yes	Yes
/DEQUEUE	Yes	Yes	Yes	Yes
/DISPLAY	Yes	Yes	Yes	Yes
/END	N/A	N/A	Yes	Yes
/ERESTART	No	No	No	No
/EXCLUSIVE	N/A	N/A	Yes	Yes
/EXIT	N/A	N/A	Yes	Yes
/FORMAT	N/A	N/A	Yes	Yes
/HOLD	N/A	N/A	No	No
/IAM	N/A	N/A	No	No
/IDLE	N/A	N/A	Yes	Yes
/LOCK DATABASE	Yes	Yes	Yes	N/A
/LOCK PROGRAM	Yes	Yes	Yes	Yes
/LOCK TRANSACTION	N/A	N/A	Yes	Yes
/LOG	Yes	Yes	Yes	Yes
/LOOPTEST	N/A	N/A	Yes	Yes
/MODIFY	No	No	No	No
/MONITOR	N/A	N/A	Yes	Yes
/MSASSIGN	N/A	N/A	Yes	Yes
/MSVERIFY	N/A	N/A	No	No
/NRESTART	No	No	No	No
/OPNDST	N/A	N/A	Yes	Yes
/PSTOP	Yes	Yes	Yes	Yes
/PURGE	N/A	N/A	Yes	Yes
/QUIESCE	N/A	N/A	Yes	Yes
/RCLSDST	N/A	N/A	No	No
/RCOMPT	N/A	N/A	No	No
/RDISPLAY	N/A	N/A	Yes	Yes
/RELEASE	N/A	N/A	No	No
/RESET	N/A	N/A	No	No
/RMCHANGE	Yes	Yes	Yes	Yes
/RMDELETE	Yes	Yes	Yes	Yes

AOI Application Commands

Table 8. Commands Supported from an AO Application Using ICMD (continued)

IMS Command	Application Environment			
	DRA Thread Running Under DBCTL or DB/DC	BMP Running Under DBCTL	MPP, BMP, or IFP Running Under DB/DC	MPP, BMP, or IFP Running Under DCCTL
/RMGENJCL	Yes	Yes	Yes	Yes
/RMINIT	Yes	Yes	Yes	Yes
/RMLIST	Yes	Yes	Yes	Yes
/RMNOTIFY	Yes	Yes	Yes	Yes
/RSTART	N/A	N/A	Yes	Yes
/RTAKEOVER	No	No	No	No
/SET	N/A	N/A	No	No
/SECURE	N/A	N/A	Yes	Yes
/SIGN	N/A	N/A	No	No
/SMCOPY	N/A	N/A	Yes	Yes
/SSR	No	Yes	Yes	Yes
/START	Yes	Yes	Yes	Yes
/STOP	Yes	Yes	Yes	Yes
/SWITCH	Yes	Yes	Yes	Yes
/TEST LINE or NODE or USER	N/A	N/A	Yes	Yes
/TRACE	Yes	Yes	Yes	Yes
/UNLOCK DATABASE	Yes	Yes	Yes	N/A
/UNLOCK PROGRAM	Yes	Yes	Yes	Yes
/UNLOCK TRANSACTION	N/A	N/A	Yes	Yes
/UNLOAD	Yes	Yes	Yes	N/A

The following commands and keywords are not permitted:

- /CHECKPOINT keywords ABDUMP, DUMPQ, FREEZE, PURGE, and QUIESCE
- The commands /END, /EXIT, and /EXCLUSIVE if they have no keywords
- /LOCK keywords LTERM, NODE, and PTERM
- /UNLOCK keywords LTERM, NODE, PTERM, and SYSTEM

Commands Mirrored on an XRF Alternate

Certain commands that successfully alter IMS resources are written to the system log as X'02' records. In an XRF environment, the X'02' log records are read and processed by the alternate system as it tracks the active system. The effect of these commands is mirrored on the alternate system when it takes over and becomes the active system. These commands, along with exceptions, are listed in Table 9 on page 25.

Table 9. List of IMS Commands Mirrored on an XRF Alternate

Command	Exceptions
/ASSIGN	/ASSIGN is mirrored only if the assignment does not involve the master terminal.
/CHANGE	
/DELETE	
/END	
/EXCLUSIVE	
/EXIT	
/HOLD	
/LOCK	
/LOG	
/MONITOR	
/MSASSIGN	
/PSTOP	/PSTOP REGION
/PURGE	/PURGE APPC
/RELEASE	
/RESET	
/RSTART	
/SECURE	/SECURE APPC
/SET	
/SMCOPY	
/START	/START APPC, /START REGION
/STOP	/STOP APPC, /STOP REGION
/TEST	/TEST is usually not mirrored on an XRF alternate system. However, /TEST MFS is mirrored if the alternate system is tracking the state of the terminal that entered the /TEST MFS command.
/TRACE	/TRACE is usually not mirrored on an XRF alternate system. However, /TRACE SET LINE and /TRACE SET LINK are mirrored for lines and links that can be restarted. /TRACE SET NODE is mirrored for all node types.
/UNLOCK	/UNLOCK SYSTEM

Commands Supported on the XRF Alternate

The commands that are valid on the XRF alternate are shown in Table 10.

Table 10. List of Commands Supported on the XRF Alternate

Command	Exceptions
/ACTIVATE	
/CANCEL	
/CHANGE	
/CLSDST	
/COMPT	

XRF Alternate Commands

Table 10. List of Commands Supported on the XRF Alternate (continued)

Command	Exceptions
/DEQUEUE	/DEQUEUE LUNAME
/DISPLAY	/DISPLAY QCNT
/END	
/ERESTART	
/FORMAT	
/IDLE	
/NRESTART	
/OPNDST	
/PSTOP REGION	
/RCLSDST	
/RCOMPT	
/RDISPLAY	
/RMLIST	
/SECURE	
/SMCOPY	
/START DC	
/START LUNAME	
/START REGION	
/START RTCODE	
/START SURVEILLANCE	
/STOP	
/STOP BACKUP	
/STOP DC	
/STOP LUNAME	
/STOP REGION	
/STOP RTCODE	
/STOP SURVEILLANCE	
/SWITCH	
/TEST	
/TRACE	

Commands and Keywords Supported on an RSR Tracking Subsystem

Only commands and keywords required to manage RSR tracking are supported on an RSR tracking subsystem. For example, commands and keywords relating to transactions are not supported, because transactions are not allowed on a tracking subsystem. See Table 11 on page 27 for the commands and keywords supported on an IMS DB/DC tracking subsystem. The subset of commands and keywords relating to databases are the only ones allowable on a DBCTL tracking subsystem.

Commands entered on an IMS tracking subsystem that are not supported on a tracking subsystem result in message

```
DFS136I  COMMAND xxxxxxxxxx INVALID FOR TRACKER
```

RSR Tracker Commands

Commands entered on a DCCTL tracking subsystem that are not supported on the tracking subsystem or on DCCTL result in message

```
DFS136I COMMAND xxxxxxxxxx INVALID FOR DCCTL
```

Keywords entered on an IMS tracking subsystem that are not supported on a tracking subsystem result in message

```
DFS110 COMMAND KEYWORD yyyyyyyyyyy INVALID FOR TRACKER
```

Keywords entered on a DBCTL or DCCTL tracking subsystem that are not supported on a tracking subsystem or with DBCTL or DCCTL result in message

```
DFS110 KEYWORD yyyyyyyyyyy INVALID FOR DBCTL|DCCTL
```

Table 11. Commands and Keywords Allowable on an IMS DB/DC RSR Tracking Subsystem

Commands	Keywords	Comments
/ACTIVATE	NODE	
/ASSIGN	COMPONENT, ICOMPONENT, LINE, LTERM, NODE, PTERM, USER	
/BROADCAST	ACTIVE, LINE, LTERM, NODE, PTERM, USER	BTAM lines are not supported.
/CANCEL		
/CHECKPOINT	ABDUMP, DUMPQ, FREEZE, SNAPQ, STATISTICS	Simple checkpoint (that is, with no keywords) is also supported.
/CLSDST	NODE, USER	
/COMPT	CNS, CRD, NODE, NOTRDY, PCH, PDS, PRT, RDR, READY, TDS, UDS, USER, VID, WPM1, WPM2, WPM3	
/DBRECOVERY	AREA, DATABASE, DATAGROUP, LOCAL, NOFEOV	Command only valid for a DATABASE level tracking system. Keywords only valid for areas and databases tracked at the DATABASE level.
/DEQUEUE	LINE, LTERM, NODE, PTERM, PURGE, PURGE1, USER	
/DISPLAY	ACTIVE, AREA, ASSIGNMENT, DATABASE, DBD, DC, LINE, LTERM, MODE, MODIFY, MONITOR, NODE, OLDS, POOL, PTERM, SHUTDOWN STATUS, TRACE, TRACKING STATUS, USER, XTRC	<ul style="list-style-type: none"> For /DISPLAY P00L ALL, only pools needed on the tracking subsystem are displayed. For /DISPLAY P00L pool, some parameters are not supported. For /DISPLAY STATUS with no keywords, only resources needed on a tracking subsystem are displayed. For /DISPLAY TRACE ALL, only resources needed on a tracking subsystem are displayed.
/END	LINE, NODE, PTERM, USER	

RSR Tracker Commands

Table 11. Commands and Keywords Allowable on an IMS DB/DC RSR Tracking Subsystem (continued)

Commands	Keywords	Comments
/ERESTART	BUILDQ, CHECKPOINT, COLDBASE, COLDCOMM, COLDSYS, FORMAT, NOPASSWORD, NOTERMINAL, NOUSER, OVERRIDE, PASSWORD, TERMINAL, USER	
/FORMAT	LTERM	
/IDLE	LINE, NODE, NOSHUT	
/LOG		
/MODIFY	ABORT, COMMIT, LTERM, PASSWORD, PREPARE, TERMINAL	The following parameters are supported: ACBLIB, BLDL, FMTLIB, MODBLKS, and RACF.
/NRESTART	BUILDQ, CHECKPOINT, FORMAT, NOBUILDQ, NOPASSWORD, NOTERMINAL, NOUSER, PASSWORD, TERMINAL, USER	
/OPNDST	ID, LOGOND, MODE, NODE, Q, UDATA, USER, USERD	
/PSTOP	LINE, LTERM, PTERM	BTAM lines are not supported.
/PURGE	LINE, LTERM, PTERM	BTAM lines are not supported.
/RCLSDST		
/RCOMPT	CNS, CRD, NODE, NOTRDY, PCH, PDS, PRT, RDR, READY, TDS, UDS, USER, VID, WPM1, WPM2, WPM3	
/RDISPLAY		
/RMxxxxxx	LTERM	Only applies to tracking subsystem RECON data set.
/RSTART	LINE, LOPEN, NODE, PTERM, USER	BTAM lines are not supported.
/RTAKEOVER	UNPLAN, NOREVERSE	
/SIGN	ON, USERD	
/SMCOPY	ON, TERMINAL	
/START	AREA, AUTOARCH, DATABASE, DATAGROUP, DC, ISOLOG, LINE, LOCAL, LTERM, NODE, OLDS, PTERM, SERVGRP, USER, WADS	/START AREA, /START DATABASE, and /START DATAGROUP are only valid on a DATABASE level tracking subsystem. BTAM lines are not supported.
/STOP	ADS, AUTOARCH, DC, LINE, LTERM, NODE, OLDS, PTERM, SERVGRP, TRKAUTOARCH, USER, WADS	BTAM lines are not supported.
/SWITCH	CHECHPOINT, OLDS	

Table 11. Commands and Keywords Allowable on an IMS DB/DC RSR Tracking Subsystem (continued)

Commands	Keywords	Comments
/TEST	LINE, NODE, PTERM, USER	
/TRACE	LEVEL, LINE, MODULE, MONITOR, NODE, ON, OPTION, SET, TABLE, UNITYPE, USER, VOLUME	No LUMI, RETR, SCHD, or SUBS TABLE tracing is allowed on a tracking subsystem.

BTAM Terminals in an RSR Environment

Since BTAM terminals are not supported for an RSR tracking subsystem, the following commands are not supported on an RSR tracking subsystem (that is, they will cause a DFS058 COMMAND COMPLETED EXCEPT ... message to be issued):

- /BROADCAST LINE
- /BROADCAST PTERM
- /PSTOP LINE [PTERM]
- /PURGE LINE [PTERM]
- /RSTART LINE [PTERM]
- /START LINE [PTERM]
- /STOP LINE [PTERM]

If the parameter ALL is used with one of these commands, the BTAM terminals affected are simply skipped.

Commands Supported from LU 6.2 Devices and OTMA

Only certain commands are valid from LU 6.2 devices and OTMA, as shown in Table 12.

Table 12. Commands Supported from LU 6.2 Devices and OTMA

/ALLOCATE	/OPNDST
/ASSIGN	/PSTOP
/BROADCAST	/PURGE
/CHANGE	/QUIESCE
/CHECKPOINT	/RDISPLAY
/CLSDST	/RMCHANGE
/COMPT	/RMDELETE
/DBDUMP	/RMGENJCL
/DBRECOVERY	/RMINIT
/DELETE	/RMLIST
/DEQUEUE	/RMNOTIFY
/DISPLAY	/RSTART
/ERESTART	/SECURE
/IDLE	/SMCOPY
/LOG	/SSR
/MODIFY	/START
/MONITOR	/STOP

LU 6.2 Supported Commands

Table 12. Commands Supported from LU 6.2 Devices and OTMA (continued)

/MSASSIGN	/SWITCH
/MSVERIFY	/TRACE
/NRESTART	

Terminal Security Defaults for LU 6.2 Devices and OTMA

Table 13 shows the terminal security defaults for IMS commands from LU 6.2 devices and OTMA when RACF is not used (RACF=NONE) and the command security exit (DFSCCMD0) is also not used. Only the commands shown will be authorized in these environments.

Table 13. Terminal Security Defaults for IMS Commands from LU 6.2 Devices and OTMA

LU 6.2 Devices	OTMA
/BROADCAST	/BROADCAST
/LOG	/LOG
/RDISPLAY	/RDISPLAY
/RMLIST	/LOC
	/UNL

Chapter 2. Keyword Table and Definitions

All IMS keywords are listed in Table 14 and described in more detail following the figure. IMS ignores misspelled keywords; IMS issues an error message when it encounters an invalid keyword.

ALL=NO or ALL=DIS can be specified on the KEYWD macro to prevent use of the ALL parameter. ALL=NO and ALL=DIS can be specified for all keywords. ALL=NO indicates that the ALL parameter is invalid on all the commands for the keyword. ALL=DIS indicates the ALL parameter is invalid on all /DISPLAY commands for the keyword. For more information on the KEYWD macro, see *IMS/ESA Customization Guide*. If no synonyms are listed, none are permitted.

Table 14. Keywords, Synonyms, and Their Environments

Keyword	Synonym	DB/DC	DBCTL	DCCTL
ABDUMP		X	X	X
ABORT		X	X	X
ACCESS		X	X	
ACTIVE	A, ACT	X	X	X
ADS		X	X	
AFFINITY	AFFIN, AFF	X		X
AOITOKEN	AOITKN	X	X	X
APPC		X		X
AREA		X	X	
ASR		X		X
ASSIGNMENT	ASMT	X		X
AUTO		X		X
AUTOARCH	ARCHIVE, AUTOARC	X	X	X
BACKUP	BU	X		X
BALGRP	BALG	X		X
BKERR		X	X	
BUILDQ	BLDQ, BLDQS, BUILDQS	X		X
CANCEL		X	X	X
CCTL	CC	X	X	
CHECKPOINT	CHECKPT, CHKPOINT, CHKPT	X	X	X
CLASS	CLS	X		X
CMDAUTH		X		X
CMDAUTHE		X		X
CNS		X		X
COLDBASE	COLDB	X	X	
COLDCOMM	COLDC	X		X
COLDSESS		X		X
COLDSYS	COLDS	X	X	X
COMMIT		X	X	X

Keyword Summary

Table 14. Keywords, Synonyms, and Their Environments (continued)

Keyword	Synonym	DB/DC	DBCTL	DCCTL
COMP		X	X	
COMPONENT	COMPT	X		X
CONTINUOUS	CONT	X		X
CONVERSATION	CONV	X		X
CPRI		X		X
CQS		X		X
CRD		X		X
DATABASE	DATABASES, DB, DBS	X	X	
DATAGROUP	DATAGRP	X	X	
DBALLOC		X	X	
DBD		X	X	
DC		X		X
DESCRIPTOR	DESC	X		X
DIRECTORY	DIR	X		X
DONE		X		X
DUMPQ	DUMPQS	X		X
FDR		X	X	
FORCE		X		X
FORCSESS	FORC	X		X
FORMAT	FMT	X	X	X
FPPROG		X		X
FPREGION	FPRGN	X		X
FPVIRTUAL	FPV	X	X	
FREEZE		X	X	X
GLOBAL		X	X	
GRSNAME	GRSN, GRS	X		X
HSB	HOTSTANDBY	X		X
HSSP		X	X	
ICOMPONENT	ICOMPT	X		X
ID		X		X
INDOUBT	IND	X	X	
INPUT		X		X
INTERVAL	INT, INTV	X		X
ISOLOG ¹		X	X	X
JOBNAME	JBN, JOB	X	X	X
LEVEL		X		X
LEAVEGR		X		X
LINE	LINES	X		X
LINK		X		X
LMCT	LCT	X		X

Keyword Summary

Table 14. Keywords, Synonyms, and Their Environments (continued)

Keyword	Synonym	DB/DC	DBCTL	DCCTL
LOCAL		X	X	
LOGOND	LGND	X		X
LOPEN		X		X
LPRI		X		X
LTERM	LTERMS	X		X
LUNAME	LU, LUN	X		X
MASTER		X		X
MAXRGN		X		X
MODE	MODETABLE, MODETBL	X		X
MODIFY		X	X	X
MODULE		X		X
MONITOR	MON	X	X	X
MSDBLOAD		X		
MSG	MESSAGE	X		X
MSGAGE		X		X
MSNAME		X		X
MSPLINK		X		X
MULTSIGN		X		X
NOBACKOUT	NOBKO	X	X	
NOBMP		X	X	X
NOBUILDQ	NBLDQ, NOBLDQ	X		X
NOCMDAUTH		X		X
NOCMDAUTHE		X		X
NOCOMP		X	X	
NOCQSSHUT			X	
NODBALLOC		X	X	
NODE		X		X
NOFEOV		X	X	
NOPASSWORD	NPSWD	X	X	X
NOPFA		X	X	
NOREVERSE		X	X	X
NOSHUT	NOS	X		X
NOTERMINAL	NOTER, NOTERM	X		X
NOTRANAUTH		X		X
NOTRANCMD		X		X
NOTRDY		X		X
NOUSER		X		X
NPRI		X		X
OASN		X	X	X
OLDS		X	X	X

Keyword Summary

Table 14. Keywords, Synonyms, and Their Environments (continued)

Keyword	Synonym	DB/DC	DBCTL	DCCTL
OPTION		X	X	X
OSAMGTF		X	X	
OTMA		X		X
OUTPUT		X		X
OVERFLOWQ	OFLWQ	X		X
OVERRIDE	OVER	X	X	X
PARLIM		X		X
PASSWORD	PASSWORDS, PSWD, PSWDS	X	X	X
PCH		X		X
PDS		X		X
PI		X	X	
PLMCT	PLCT	X		X
POOL		X	X	X
PREPARE		X	X	X
PRIORITY	PRTY	X		X
PROGRAM	PGM, PGMS, PROG, PROGRAMS, PROGS	X	X	X
PRT		X		X
PRTKN	PRK	X	X	
PSB		X	X	X
PTERM	PTERMS	X		X
PURGE		X	X	X
PURGE1	FIRST, SINGLE, SNGL	X		X
Q	QS, QUEUE, QUEUES	X		X
QCNT		X		X
QMGR		X		X
QUIESCE		X		X
RDR		X		X
READY		X		X
REGION	REGIONS, REG, REGS, MSGREG, MSGREGS, MSGREGION, MSREGIONS, THREAD	X	X	X
REMOTE		X		X
RESET		X	X	X
RTCODE	RTC, RCS	X		X
SB		X	X	
SEGNO		X		X
SEGSIZE	SEGSZ	X		X
SERVGRP	SG	X	X	X
SET		X	X	X

Keyword Summary

Table 14. Keywords, Synonyms, and Their Environments (continued)

Keyword	Synonym	DB/DC	DBCTL	DCCTL
SHAREDQ	SHRQ	X		X
SHUTDOWN		X	X	X
SIDE		X		X
SNAPQ		X		X
SNGLSIGN		X		X
SQTT		X		X
SSM	SUBSYSTEMEMBER	X	X	X
STATISTICS		X	X	X
STATUS		X	X	X
STRUCTURE	STRUC	X		X
SUBSYS	SUBSYSTEM, SUBSYSTEMS	X	X	X
SURVEILLANCE	SUR, SURV, SURVEIL	X		X
SUSPEND		X		X
SYNCLEVEL	SYNCLV	X		X
SYNCSESS	SYNC	X		X
SYSID		X		X
SYSTEM		X		X
TABLE		X	X	X
TAKEOVER	TKO, TKOVR	X		X
TCO		X		X
TDS		X		X
TERMINAL	TER, TERM, TERMINALS, TERMS, TERS	X		X
THREAD		X	X	
TIMEOUT	TIMO	X		X
TIMEOVER		X		X
TMEMBER	TMEM	X		X
TPIPE	TPI	X		X
TPNAME	TP, TPN	X		X
TRACE		X	X	X
TRACKING		X	X	X
TRANAUTH		X		X
TRANCMD5		X		X
TRANSACTION	TRANS, TRAN, TRANSACTIONS, TRANCODE, TRANCOD5S, TRS	X		X
TRAP		X		X
TRKAUTOARCH ¹	TRKARCH	X	X	X
TYPE		X		X
UDATA		X		X
UDS		X		X

Keyword Summary

Table 14. Keywords, Synonyms, and Their Environments (continued)

Keyword	Synonym	DB/DC	DBCTL	DCCTL
UNITYPE		X		X
UNPLAN		X	X	X
UOR		X	X	
USER	SUBPOOL	X		X
USERD	USRD	X		X
VGRS	VGR	X		X
VID		X		X
VOLUME		X	X	X
VTAMPOOL	VPL	X		X
WADS		X	X	X
WPM1		X		X
WPM2		X		X
WPM3		X		X
XTRC	XTRACE, EXTRACE	X	X	X

Notes:

¹ ISOLOG and TRKAUTOARCH are valid only for an RSR tracking subsystem.

ABDUMP

Requests abnormal termination and a dump of the following:

Application program executing in a region specified in the /STOP REGION command. The parameter stated with ABDUMP must be the name of a transaction currently scheduled for the specified region.

IMS control region when used with the /CHECKPOINT FREEZE, PURGE, or DUMPQ command.

Active control region in an XRF environment when used with either of the following commands:

- The /SWITCH command in the active system
- The /SWITCH command in the alternate system, when it is on the same processor as the active system

ABDUMP is also valid with /STOP BACKUP, when it is used to request abnormal termination and a dump of the backup system.

ABORT

Is used with the /MODIFY command to terminate an online change process. This keyword prevents the libraries from being switched and resets the QSTOP status for transactions. ABORT is also used with /CHANGE CCTL or /CHANGE UOR to back out changes for a unit of recovery.

ACCESS

Is used with the /START DATABASE command to indicate the type of access intended for the named database. This keyword overrides the database access specified at system definition.

ACTIVE

Refers to IMS resources currently in use with the following commands:

/BROADCAST, to refer to any terminal that:

- Is not stopped
 - Is not locked (VTAM)
 - Is not being polled (BTAM BSC)
 - Has not had the /PSTOP command issued and completed against it
- /DISPLAY, to refer to transaction codes, programs, regions, classes, terminals, the VTAM ACB, and subsystems. It is also used with /DISPLAY CCTL to show the active threads associated with the coordinator controller.
- /SWITCH, to indicate that the command is being entered on the active system in an XRF environment.

ADS

Is used with the /STOP command to refer to an area data set.

AFFINITY

Is used with the /DISPLAY command to display VTAM affinities the IMS subsystem has with specific nodes.

AOITOKEN

Is used with the following commands:

- /DEQUEUE, to dequeue and discard messages associated with the specified AOI token name.
- /DISPLAY, to show all the AOI tokens in the system.
- /PSTOP REGION, to post an application program waiting for messages associated with an AOI token.

APPC

Is used with the following commands:

- /DISPLAY, to show LU 6.2 related activities.
- /PURGE, to purge transaction schedule requests from APPC/MVS.
- /SECURE, to control the RACF security level from LU 6.2 application programs.
- /START, to start transaction schedule requests from APPC/MVS.
- /STOP, to stop transaction schedule requests from APPC/MVS.

AREA

Refers to the areas of a data entry database (DEDB). Areas are data sets that contain entire physical records. AREA is used with the following commands:

- /DBRECOVERY, to allow recovery by DEDB area.
- /DISPLAY, to show the DEDB areas being processed.
- /START, to make DEDB areas available for processing.
- /STOP, to stop the processing of DEDB areas.

ASR

Is used with the /CHANGE LINK and /CHANGE NODE commands to change the automatic session restart designation of a link or node.

ASSIGNMENT

Is used with the /DISPLAY command to refer to resource assignments.

AUTO

Is used with the /TRACE SET ON TIMEOUT command to support the IMS VTAM I/O Timeout facility. The AUTO keyword automatically issues a message along with VTAM INACT and VTAM ACT commands to attempt activation of a node, if I/O has exceeded the timeout value specified in the /TRACE command.

Keyword Summary

AUTOARCH

Is used with the /START and /STOP commands to start and stop automatic archiving of online log data sets.

BACKUP

Is used with the following commands:

/ERESTART, to indicate that the control region is an alternate system in an XRF environment.

/STOP, to terminate an alternate system.

/SWITCH, to indicate the command is being entered on the alternate system.

BALGRP

Is used with the /DISPLAY QUEUE and /DISPLAY QCNT commands to display statistical information about the Fast Path balancing group queues.

BKERR

Is used with the /DISPLAY DATABASE command to display error queue elements associated with a DL/I or DEDB database. It also displays incomplete backouts preventing the use of a DL/I database.

BUILDQ

Is used with the /NRESTART and /ERESTART commands to request reconstruction of the message queue data sets.

CANCEL

Is used with the /STOP REGION command to cancel a message region, and it is only valid after a /STOP REGION ABDUMP command. It is also used with the /STOP APPC command to cause APPC/MVS to initiate a shutdown sequence.

CCTL

Is used in /DISPLAY CCTL or /CHANGE CCTL to represent a CICS subsystem that is connected to a DBCTL or IMS subsystem.

CHECKPOINT

Is used with the following commands:

/ERESTART, to identify the desired shutdown/restart sequence. Valid parameters are 0 or the checkpoint number provided by IMS when the system was shut down.

/NRESTART, to identify the desired shutdown/restart sequence. The only valid parameter for /NRESTART is 0.

/SWITCH OLDS, to take a simple checkpoint after switching OLDS.

CLASS

Is used with the /ASSIGN, /START, and /STOP commands to indicate that the specified command will affect the class-scheduling capability of IMS. /DISPLAY STATUS CLASS displays the status of classes. Valid parameters are one or more decimal numbers from 1 through 255 that represent class numbers assigned during IMS system definition.

This keyword is also used with /DISPLAY QUEUE, /PSTOP TRANSACTION and /PURGE TRANSACTION.

CMDAUTH

Is used with the /ERESTART and /NRESTART commands to specify that both signon (user identification verification) and command authorization for static and ETO terminals are in effect at the end of the emergency restart.

CMDAUTHE

Is used with the /ERESTART and /NRESTART commands to specify that command

Keyword Summary

authorization for ETO terminals (same as RCF=S on the startup parameter) is in effect at the end of the emergency restart. CMDAUTHE also resets command authorization for static terminals, if it was set.

CNS

Is used with the /COMPT and /RCOMPT commands to notify IMS that the console component is either operable or inoperable.

COLDBASE

Is used with the /ERESTART command to cold start the database component of IMS.

COLDCOMM

Is used with the /ERESTART command to indicate a data communication cold start.

COLDSESS

Is used with the /CHANGE LINK command to reset the specified link or links. Use this keyword only after the /PSTOP command has been issued and completed against the link or links.

COLDSYS

Is used with /ERESTART to cold start both the database component and data communications components of IMS.

COMMIT

Is used to make the changes indicated by the /MODIFY PREPARE command. This keyword is also used with /CHANGE CCTLor /CHANGE UOR to commit changes for a unit of recovery.

COMP

Is used with the /TRACE SET PSB command to generate program communication block (PCB) and data compare statement images.

COMPONENT

Is used with the /ASSIGN command to refer to an output component member of a physical terminal complex. Valid parameters are numeric values from 1 through 4.

CONTINUOUS

Is used with the /RSTART LINK command to keep the link running by sending dummy data blocks when there is no data to be sent.

CONVERSATION

Is used only in IMS systems using conversational processing with the following commands:

/DISPLAY, to identify the status of conversations.

/EXIT, to terminate an active or held conversation; a valid parameter when terminating a held conversation is the identification of the conversation provided by IMS when the /HOLD command was used to suspend the conversation.

/RELEASE, to resume a previously held conversation; a valid parameter is the identification of the conversation provided by IMS when the /HOLD command was used to suspend the conversation.

/SET, to establish the destination of the next message entered on a terminal that is in a conversation.

CPRI

Is used with the /ASSIGN command to refer to the current priority of a

Keyword Summary

transaction code. The current priority of a transaction code is the current priority at which the transaction is scheduled. Valid parameters are 1- or 2-character numeric priorities, from 0 through 14.

CQS

Is used with the /DISPLAY command to display information about the IMS Common Queue Server subsystem which manages the IMS shared queues.

CRD

Is used with the /COMPT and /RCOMPT commands to notify IMS that the card component is operative or inoperative.

DATABASE

Refers to a database. Valid parameters are database names consisting of 1 to 8 alphanumeric characters. DATABASE is used with the following commands:

- /DBDUMP
- /DBRECOVERY
- /DELETE
- /DISPLAY
- /LOCK
- /START
- /STOP
- /UNLOCK

DATAGROUP

Refers to groups of DL/I databases and Fast Path DEDBs to be processed. Data groups are logical groupings of databases and areas; they allow simplified command processing for the databases and areas. DATAGROUP is used with the following commands:

- /DBRECOVERY, to allow recovery by data group
- /START, to make data groups available for processing
- /STOP, to stop the processing of data groups

DATAGROUP is valid on active and RSR tracking subsystems.

DBALLOC

Is used with the /START DATABASE and /START DATAGROUP commands to indicate that databases are to be allocated. If not specified, DBALLOC is the default for /START DATABASE 'dbname' commands only. For /START DATABASE ALL and /START DATAGROUP commands, the default is NODBALLOC. This keyword is not allowed on the RSR tracking system.

DBD

Is used with the /DISPLAY command, if Fast Path is installed, to display Fast Path and IMS databases, the PSBs that access them, and the type of access.

DBS

Is used with the /DISPLAY MODIFY command to display databases or areas with work in progress that could prevent an online change from succeeding.

DC

Is used with the /START command to initiate IMS data communication processing, including processing VTAM logons. DC is used with the /STOP command to prohibit logging on to VTAM. DC is also used with /DISPLAY ACTIVE to show VTAM ACB status, as well as line and node activity.

DESCRIPTOR

Is used with the /CHANGE and /DISPLAY commands to alter or show the LU 6.2 descriptor values. Valid parameters are from 1 to 8 alphanumeric characters long.

DIRECTORY

Is used with the /CHANGE command to restore the MFS Dynamic Directory back to its status after initialization.

DONE

Is used with the /IAM command to disconnect a terminal on a switched line from IMS.

DUMPQ

Is used with the /CHECKPOINT command to request that termination of IMS include DUMPQ functions.

DUMPQ is also used with the /RTAKEOVER command on an active subsystem for a planned RSR takeover. /RTAKEOVER DUMPQ indicates that a /CHECKPOINT DUMPQ type of shutdown is performed before the planned takeover occurs.

FDR

Is used with the /CHANGE and /DISPLAY commands to change or display information for IMS Fast Database Recovery regions.

FORCE

Is used with the /SWITCH command to cause immediate termination of the active system in an XRF environment.

FORCE is used with the /PSTOP command for VTAM links and is intended to be used when an MSC VTAM link will not cleanup and idle during normal PSTOP processing, even though VTAM has terminated the session.

FORCE also can be used in conjunction with some VTAM commands to idle and cleanup the VTAM link within IMS, so that a /RSTART LINK can be issued to restart the link again.

FORCE is also used with the /CLSDST command to re-initialize a hung node with I/O in progress.

FORCSESS

Is used with the /CHANGE command to allow session though message resynchronization was not successful. This change remains in effect until the next /CHANGE command or IMS cold start and overrides the FORCSESS/SYNCSESS specification on the TERMINAL or MSLINK macro. FORCSESS is valid for multiple system coupling (MSC) VTAM or Intersystem Communication (ISC).

FORMAT

Is used with /NRESTART and /ERESTART commands to request reformatting of one or more system data sets. Valid parameters are 2-character data set identifications.

FPPROG

Is used with the /PURGE command to terminate Fast Path message-driven programs by PSB name.

FPREGION

Is used with the /PURGE command to specify the region identifier of the message-driven programs to be terminated.

Keyword Summary

FPVIRTUAL

Is used with the /DISPLAY command to show DEDB areas loaded into MVS data spaces for the Fast Path Virtual Storage Option (VSO). FPVIRTUAL is only valid on active DB/TM and DBCTL subsystems.

FREEZE

Is used with the /CHECKPOINT command to request termination of IMS.

FREEZE is also used with the /RTAKEOVER command on an active subsystem for a planned RSR takeover. /RTAKEOVER FREEZE indicates that a /CHECKPOINT FREEZE type of shutdown is performed before the planned takeover occurs.

GLOBAL

Is used with the /DBDUMP, /DBRECOVERY, /START, and /STOP commands to specify that the command applies to all subsystems sharing a database.

GRSNAME

Is used with the /START VGRS command to specify a VTAM generic resource name for an IMS subsystem when it joins a generic resource group.

HSB

Is used with the /DISPLAY command to show XRF related information.

HSSP

Is used with the /DISPLAY command to display high speed sequential processing (HSSP) information.

ICOMPONENT

Is used with the /ASSIGN command to refer to an input component number of a physical terminal complex. Valid parameters are numbers 1 through 4.

ID

Is used with the /OPNDST NODE USER command to identify the other system half-session qualifier.

INDOUBT

Is used with the /DISPLAY CCTL command to show in-doubt threads.

INPUT

Is used with the following commands:

/ASSIGN, to change a logical terminal input assignment without changing the output assignment.

/DISPLAY LUNAME, to display information about LU 6.2 application programs.

/START LUNAME, to make the luname available for inbound and synchronous outbound activities.

/STOP LUNAME, to stop the luname for inbound and synchronous outbound activities.

/TRACE LUNAME, to trace the luname for inbound and synchronous outbound activities.

INTERVAL

Is used with the /CHANGE SURVEILLANCE command to change the interval value of a particular surveillance mechanism in an XRF environment. The interval value controls how often the alternate system surveys the state of the active system.

ISOLOG

Is used with the /START command on an RSR tracking subsystem to request isolated log data (a gap in the log data) from the isolated log sender at the active site.

The ISOLOG keyword is valid only on an RSR tracking subsystem.

JOBNAME

Is used with the following commands to specify the job name on the JOB statement of a region's JCL member:

- /PSTOP REGION
- /START REGION
- /STOP REGION

LEAVEGR

Is used with the /CHECKPOINT command to delete all affinities from the VTAM affinities table for an IMS subsystem during IMS shutdown. This keyword also causes IMS to leave the VTAM generic resources group.

LEVEL

Is used with the /TRACE command to indicate the extent of desired trace information. Valid parameters are numeric values from 1 through 4.

LINE

Refers to a communication line. Valid parameters are line numbers that are 1 to 4 characters long.

LINE is used with the following commands:

/ASSIGN	/LOOPTEST
/BROADCAST	/MONITOR
/DELETE PASSWORD	/PSTOP
/DEQUEUE	/PURGE
/DISPLAY	/RSTART
/END	/START
/EXCLUSIVE	/STOP
/EXIT	/TEST
/IDLE	/TRACE

LINK

Refers to a logical link in a multiple systems configuration. Valid parameters are numbers 1 through 255.

LINK is used with the following commands:

/ACTIVATE	/MSASSIGN
/CHANGE	/PSTOP
/DISPLAY	/RSTART
/IDLE	/TRACE

LMCT

Is used with the /ASSIGN command to refer to the limit count of a transaction code. The limit count is the queue count number for which the current priority is changed to the limit priority. Valid parameters are numeric values from 1 through 65535.

LOCAL

Is used with the /DBDUMP, /DBRECOVERY, /MSASSIGN TRANSACTION, /START, and /STOP commands to specify that the command only applies to the subsystem in which the command is issued.

LOGOND

Is used with the /OPNDST command to indicate the logon descriptor used for session establishment for dynamic terminals.

LOPEN

Is used with the /RSTART LINE command to enable communication lines again when the next I/O operation occurs.

Keyword Summary

LPRI

Is used with the /ASSIGN command to refer to the limit priority of a transaction code. The LPRI is the priority to which this transaction is raised if the queue count is equal to, or exceeds, the limit count. Valid parameters are 1- or 2-character numeric priorities, from 0 through 14.

LTERM

Refers to a logical terminal. Valid parameters are logical terminal names consisting of 1 to 8 alphanumeric characters. The LTERM can be defined to IMS in the system definition or it can be dynamically introduced if ETO is enabled.

This keyword is used with the following commands:

/ASSIGN	/MODIFY
/BROADCAST	/PSTOP
/DELETE	/PURGE
/DEQUEUE	/RMxxxxxx
/DISPLAY	/SET
/FORMAT	/START
/IAM	/STOP
/LOCK	/UNLOCK

LUNAME

Refers to the logical unit name of an LU 6.2 application program or destination. A network-qualified LU name is optional on the LUNAME keyword. A network-qualified LU name is 1 to 8 alphanumeric characters long (the network identifier of the originating system), followed by a period, and then followed by the LU name that is also 1 to 8 alphanumeric characters long. IMS commands that include network-qualified LU names must enclose the network-qualified LU name in single quotes; for example, 'NETID001.LUAPPC02'. No blanks are allowed in a network-qualified LU name.

An LU name that is not network-qualified consists of 1 to 8 alphanumeric characters.

This keyword can be used with the following commands:

/ALLOCATE	/START
/CHANGE DESCRIPTOR	/STOP
/DEQUEUE	/TRACE
/DISPLAY	

MASTER

Is used with the /BROADCAST, /DISPLAY, /RDISPLAY, and /SMCOPY commands to issue commands to or receive information from the IMS master terminal.

MAXRGN

Is used with the /CHANGE TRANSACTION command to change the maximum number of regions that can be simultaneously scheduled for a given transaction.

MODE

Is used with the /ALLOCATE, /CHANGE DESCRIPTOR, /DISPLAY, /OPNDST and /RSTART LINK commands to refer to the various modes in which VTAM terminals can operate. The mode parameter causes selection of the corresponding entry in the VTAM LOGON MODE table.

MODIFY

Is used with the /DISPLAY command to indicate the status of the resources to be deleted or changed.

MODULE

Is used with the /TRACE command to indicate the calls to trace. Valid parameters are DDM, MFS, and ALL.

MONITOR

Is used with the /TRACE command to activate the IMS Monitor. Valid parameters are LA, SCHED, APMQ, APDB, and ALL. MONITOR is also used with the /DISPLAY TRACE command.

MSDBLOAD

Is used with the /NRESTART command during warm starts to load MSDBs from the MVS/ESA sequential data set MSDBINIT.

MSG

Is used with /TRACE SET ON TIMEOUT to support the IMS VTAM I/O Timeout facility. The MSG keyword is used with /TRACE SET ON TIMEOUT to issue a message when I/O has exceeded the timeout value specified in the /TRACE command.

MSGAGE

Is used with /DISPLAY QCNT command to display a count of messages in a shared queue in which the oldest message exceeds the specified message age (in days).

MSNAME

Is used with the following commands to refer to a logical link path in a multiple systems configuration:

- /BROADCAST MASTER
- /DEQUEUE
- /DISPLAY
- /MSASSIGN
- /MSVERIFY
- /PURGE
- /START
- /STOP

MSPLINK

Is used with the following commands to refer to a physical link in a multiple systems configuration:

- /DISPLAY ASSIGNMENT
- /MSASSIGN LINK
- /PSTOP
- /RSTART

MULTSIGN

Is used with the /ERESTART and /NRESTART commands to permit multiple signons for each non-SPQB user ID. It also indicates user identification verification is in effect at the end of emergency restart.

NOBACKOUT

Is used with the /START DATABASE command to suppress backout restart for a database not registered in DBRC.

NOBMP

Is used with the /ERESTART command to prevent backout of updates made by batch message processing programs active when the system failure occurred.

Keyword Summary

NOBUILDQ

Is used with the /NRESTART command to allow IMS to come up quickly when queues are reformatted.

NOCMDAUTH

Is used with the /ERESTART and /NRESTART commands to reset command authorization on static and ETO terminals.

NOCMDAUTHE

Is used with the /ERESTART and /NRESTART commands to reset command authorization for static and ETO terminals. The command authorization is reset for static terminals because the command authorization for static terminals cannot exist without the command authorization for ETO terminals.

NOCQSSHUT

Is used with the /CHE DUMPQ, /CHE FREEZE, or /CHE PURGE commands to **not** shut down the CQS address space when the IMS control region terminates. The CQS address space remains active and connected to the message queue structures. NOCQSSHUT is only applicable when IMS is running in a shared-queues environment. The default is to shut down the CQS address space when the IMS control region terminates.

NOCOMP

Is used with the /TRACE SET PSB command to suppress PCB and data compare statement images.

NODBALLOC

Is used with the /START DATABASE and /START DATAGROUP commands to indicate that databases are not to be allocated. This is the default for /START DATABASE ALL and /START DATAGROUP commands. For /START DATABASE 'dbname' commands, the default is DBALLOC, and NODBALLOC must be specified if the database is not to be allocated. If not allocated, the database will be allocated when it is scheduled. This keyword is not allowed on the RSR tracking system.

NODBALLOC is valid only on an active subsystem.

NOPFA

Is used with the following commands to specify that DBRC is not to be notified of a change in status for a database or area:

- /DBDUMP
- /DBRECOVERY
- /STOP DATABASE | AREA

By using this keyword, DBRC does not prevent further authorizations for the database or area.

NODE

Refers to a valid VTAM node. The node can be defined to IMS via system definition or dynamically introduced if ETO is enabled. If the NODE parameter is associated with ISC parallel sessions, the USER keyword should be used to specify the proper half-session. When the USER keyword is omitted, all half-sessions of the specified node are affected by the command.

When the NODE and USER keywords are both used, the USER keyword must follow the NODE keyword. For restrictions on the use of NODE USER keyword combinations, see "Appendix E. Commands with the NODE USER Keyword Combination" on page 567.

NODE is used with the following commands:

/ACTIVATE	/EXIT
/ASSIGN	/IDLE
/BROADCAST	/LOCK
/CHANGE	/OPNDST
/CLSDST	/QUIESCE
/COMPT	/RSTART
/DELETE PASSWORD	/START
/DEQUEUE	/STOP
/DISPLAY	/TEST
/END	/TRACE
/EXCLUSIVE	/UNLOCK

Several commands that affect NODEs are valid only for static terminals. These commands are valid only for static nodes:

- /END NODE
- /EXCLUSIVE NODE
- /TEST (MFS) NODE

The following commands are valid for static nodes with ISC parallel sessions:

- /END NODE USER p1 USER p2
- /EXCLUSIVE NODE p1 USER p2
- /TEST (MFS) NODE p1 USER p2

NOFEOV

Is used with the /DBDUMP and /DBRECOVERY commands to allow the commands to execute without forcing end-of-volume on the system log.

NOPASSWORD

Is used with the /NRESTART command to negate the password security specifications of the IMS Security Maintenance utility.

NOREVERSE

Is used with the /RTAKEOVER UNPLAN command to specify that an unplanned remote takeover cannot be reversed. The primary effect of this keyword is that the IMS tracking subsystem saves and processes all data it has received from an active site, regardless of whether that data was committed.

NOSHUT

Is used with the /IDLE LINE command to stop input and output activities on 3270 remote BTAM lines without having to initiate a checkpoint shutdown. NOSHUT is not valid with the /IDLE NODE command.

NOTERMINAL

Is used with the /NRESTART command to negate the terminal security specifications of the IMS Security Maintenance utility.

NOTRANAUTH

Is used with the /ERESTART and /NRESTART commands to turn off transaction authorization. NOTRANAUTH is not the opposite of TRANAUTH. TRANAUTH sets transaction authorization and also turns on signon (user identification verification).

NOTRANCMDS

Is used with the /ERESTART and /NRESTART commands to negate transaction command security.

NOTRDY

Is used with the /COMPT and /RCOMPT commands to make a terminal component not ready.

Keyword Summary

NOUSER

Is used with the /NRESTART command to request that neither security authorization nor transaction authorization be in effect at the end of the normal restart.

NPRI

Is used with the /ASSIGN command to refer to the normal priority of a transaction code. The normal priority is assigned to the transaction as the current priority when the transaction queue count is less than the limit count. Valid parameters are 1- or 2-character numeric priorities from 0 through 14.

OASN

Is used with the /CHANGE and /DISPLAY commands to specify a specific outstanding recovery element related to an external subsystem being deleted from IMS. The origin application schedule number (OASN) is used by IMS to identify recovery information.

OLDS

Is used with the /DISPLAY, /START, /STOP and /SWITCH commands to refer to online log data sets.

OPTION

Is used with the /TRACE command. When used with the PI keyword, OPTION indicates a request for a specific program isolation trace option. Valid parameters are LOG, TIME, and ALL. When used with the TABLE keyword, OPTION indicates whether or not the trace tables are to be logged.

OSAMGTF

Is used with the /TRACE command to activate or deactivate tracing of GTF trace records for every OSAM buffer request of LOCATE or CREATE.

OSAMGTF keyword is also used with the /DISPLAY TRACE command to display whether the OSAM Buffer Trace facility is active or inactive.

OTMA

Is used with the /DISPLAY, /START, and /STOP commands to display, start, or stop IMS Open Transaction Manager Access (OTMA). OTMA is also used with the /SECURE command to control the RACF security level for OTMA.

OUTPUT

Is used with the /ASSIGN command to change a logical terminal output assignment without changing the input assignment.

OUTPUT is also used with the following commands:

/DISPLAY LUNAME, to display LU 6.2 application programs.

/START LUNAME, to make the LU name available for asynchronous outbound activities.

/STOP LUNAME, to stop the LU name for asynchronous outbound activities.

/TRACE SET LUNAME, to trace the LU name for asynchronous outbound activities.

OVERFLOWQ

Is used with the /DISPLAY command to display queues on an overflow list structure in a shared-queues environment.

OVERRIDE

Is used with the /ERESTART command to restart the system after failure of power, machine, MVS/ESA, or DBRC.

PARLIM

Is used with the /ASSIGN command when message regions are parallel processing a transaction. PARLIM is the maximum number of messages that can be enqueued, but not yet processed, by each active message region currently scheduled for this transaction. An additional message region is scheduled whenever the transaction queue count exceeds the PARLIM value multiplied by the number of regions currently scheduled for this transaction. Valid parameters are numeric values from 0 through 32767, and 65535, where 65535 disables transaction load balancing.

PASSWORD

Refers to the password security specifications of the IMS Security Maintenance utility. PASSWORD is used with the following commands:

/CHANGE, to replace a password known to the password security specifications of the IMS Security Maintenance utility with a new password.

/DELETE, to eliminate password security of the IMS Security Maintenance utility for a currently password-protected resource.

/MODIFY PREPARE, to add a password security definition.

/NRESTART, to request that the password security specifications of the IMS Security Maintenance utility be in effect at completion of the restart process.

PCH

Is used with the /COMPT and /RCOMPT commands to notify IMS that a punch component is either operable or inoperable.

PDS

Is used with the /COMPT and /RCOMPT commands to notify IMS that a print data set is operable or inoperable.

PI

Is used with the /TRACE command to request that program isolation be traced along with all calls to ENQ/DEQ and the DL/I buffer handler. PI is also used with the /DISPLAY TRACE command to display the status of the program isolation trace.

PLMCT

Is used with the /ASSIGN command to refer to the processing limit count of a transaction code. The processing limit count is the number of messages of this transaction code that a program can process in a single scheduling. Valid parameters are values from 0 through 65535.

POOL

Is used with the /DISPLAY command to refer to a buffer pool within the IMS system. Valid parameters are 3- and 4-character pool names.

PREPARE

Is used with the /MODIFY command to indicate which changes are made online.

PRIORITY

Is used with the /DISPLAY Q command to request transaction scheduling information, such as queue count, class, and current priority.

PROGRAM

PROGRAM refers to an IMS application program. PROGRAM is used with the following commands:

/DELETE
/DISPLAY
/LOCK

Keyword Summary

/START
/STOP
/TRACE
/UNLOCK

Valid parameters are program names that are 1 to 8 alphanumeric characters long.

Use of the ALL parameter for /DISPLAY PROGRAM can be prevented by specifying ALL=NO on the KEYWD macro. For more information on the KEYWD macro, see *IMS/ESA Customization Guide*.

PRT

Is used with the /COMPT and /RCOMPT commands to notify IMS that a printer component is either operable or inoperable.

PRTKN

Indicates the pseudo recovery token to be used with the /CHANGE CCTL command.

PSB

Is used with the /DISPLAY command if Fast Path is installed, to display Fast Path and IMS PSBs, the transactions they are processing, the databases they are accessing, and any Fast Path routing codes associated with the transactions.

This keyword is also used with the /TRACE command to record all DL/I calls issued for a specified PSB.

PTERM

Is used with the commands listed below to refer to a relative physical terminal:

/ASSIGN	/LOOPTEST LINE
/BROADCAST	/MONITOR LINE
/DELETE PASSWORD	/PSTOP LINE
/DEQUEUE	/PURGE LINE
/DISPLAY	/RSTART LINE
/END LINE	/START LINE
/EXCLUSIVE LINE	/STOP LINE
/EXIT LINE	/TEST LINE
/IAM	/UNLOCK
/LOCK	

Valid parameters are numbers corresponding to the relative position of the terminal on the line. When used without the LINE keyword on the /DISPLAY command, valid parameters are physical terminal attributes.

PURGE

Is used with the following commands:

CHECKPOINT, to request termination of IMS.

/DEQUEUE, to cancel all output messages enqueued on a logical terminal or destined to a physical terminal.

/PSTOP, to stop a channel-to-channel partner link that is not idle after a system failure.

PURGE1

Is used with the /DEQUEUE command to delete only the first message currently queued to an LTERM.

Q Is used with the /DISPLAY command to request message queue information. The keyword is also valid with /OPNDST NODE to request VTAM to queue SIMLOGON requests for VTAM/SNA-supported terminals.

QCNT

Is used with the following commands to display the global count of messages in a shared-queues environment:

- /DISPLAY
- /DISPLAY LINE
- /DISPLAY LINK
- /DISPLAY LTERM
- /DISPLAY LUNAME
- /DISPLAY MSNAME
- /DISPLAY NODE
- /DISPLAY Q
- /DISPLAY TMEMBER
- /DISPLAY TRANSACTION
- /DISPLAY USER

With this keyword, local queue counts are not displayed; any numbers displayed for local queue counts should be ignored.

QUIESCE

Is used with the /CHECKPOINT command to shut down the network only after normal processing is complete on all VTAM nodes.

RCS

Is used with the /DISPLAY MODIFY command to display routing codes with work in progress that could prevent an online change from succeeding.

RDR

Is used with the /COMPT and /RCOMPT commands to notify IMS that a reader component is either operable or inoperable.

READY

Is used with the /COMPT and /RCOMPT commands to make a terminal component ready.

REGION

Requests an action be taken with respect to a message processing region, batch message processing region, or Fast Path region.

REGION is used with the /ASSIGN, /DISPLAY ACTIVE, /PSTOP, /START, and STOP commands.

Valid REGION parameters used with /ASSIGN, /PSTOP, and /STOP are the decimal numbers from 1 through the number of regions defined during system definition.

When used with /PSTOP, REGION returns a QC status code to an application program active in the specified region.

Valid REGION parameters used with /START are names of IMS.JOBS members.

When used with /DISPLAY ACTIVE, REGION shows the status of active regions.

REMOTE

Is used with the /DISPLAY QCNT command to display remote LTERMs and remote transactions on shared queues.

Keyword Summary

RESET

Is used with the /CHANGE command to indicate that an incomplete unit of work, identified via OASN and assigned to an external subsystem, will be deleted.

RTCODE

Refers to Fast Path routing codes and is used with the following commands:

/DISPLAY, to display the status of programs with specified routing codes.

/DISPLAY STATUS, to display routing codes that are not active.

/START, to activate routing codes and allow transactions associated with the routing codes to process.

/STOP, to prevent transactions associated with the routing code from being processed.

SB

Is used with the /START and /STOP commands to dynamically enable and disable the usage of sequential buffering.

SEGNO

Is used with the /ASSIGN command to specify the maximum number of application program output segments allowed into the message queues per Get-Unique (GU). Valid parameters are numbers 0 through 65535. The default value is 0.

SEGSIZE

Is used with the /ASSIGN command to specify the maximum number of bytes allowed for one output segment. Valid values are 0, 5, or greater than 5 to the maximum of 65535. The default value is 0.

SERVGRP

Is used with the /START or /STOP command to start or stop an RSR service group.

SERVGRP is valid on active and RSR tracking subsystems.

SET

Is used with the /TRACE command to indicate whether tracing of internal IMS events should be turned on or off. It is also used to start or stop the IMS Monitor.

SHAREDQ

Is used with the /CQCHKPT and /CQSET commands to specify the IMS shared queues.

SHUTDOWN

Is used with the /DISPLAY STATUS command to request the status of a shutdown-in-progress. Is also used with the /CQSET command to initiate a structure checkpoint when the IMS Common Queue Server shuts down.

SIDE

Is used with the /CHANGE DESCRIPTOR command to refer to the APPC/MVS side information table entry name. The side information table entry contains default values for APPC conversation attributes such as LUNAME, TPNAME, or MODE.

Valid parameters are from 1 to 8 alphanumeric characters long.

SNAPQ

Is used with the /CHECKPOINT command to dump the contents of the message queues to the system log tape without causing a shutdown of IMS.

SNGLSIGN

Is used with the /ERESTART and /NRESTART commands to permit a single signon for each non-SPQD user ID. It also indicates that user identification verification is in effect at the end of emergency restart.

SSM

Is used with the /START SUBSYSTEM command to allow external subsystem connection processing to be started if the SSM= parameter is not specified on the IMS startup JCL.

SSM can have one parameter associated with it. The subsystem member name can have a maximum of four characters.

STATISTICS

Is used with the /CHECKPOINT command to generate statistics records that are used for performance measurements and tuning an IMS system. Is also used with the /CQUERY command to display statistics for coupling facility list structures.

STATUS

Is used with the /DISPLAY command to request the status of one or more system resources that are in exceptional states. STATUS also can be used with the SHUTDOWN keyword to request status of a shutdown-in-progress, and with the TRACKING keyword to get the status of the tracking system in an RSR complex.

STRUCTURE

Is used with the following commands to refer to a primary coupling facility list structure used by IMS for shared queues:

- /CQCHKPT
- /CQUERY
- /CQSET
- /DISPLAY

SUBSYS

Is used with the /CHANGE, /DISPLAY, /START, and /STOP commands to identify the subsystem name that the command action will affect.

SURVEILLANCE

Is used with the /CHANGE, /START, and /STOP commands to refer to the XRF surveillance function. During XRF surveillance, the active XRF IMS subsystem sends signals to the alternate system. From these signals, the alternate system learns that the active system is running satisfactorily. If these signals stop, then the alternate system knows that there might be a problem in the active system. The parameters used with the SURVEILLANCE keyword describe a particular surveillance mechanism:

LNK

ISC Link

RDS

Restart Data Set

LOG

System Log

SUSPEND

Is used with the /DEQUEUE command to reschedule all transactions that have been suspended.

Keyword Summary

SYNCLEVEL

Is used with the /CHANGE DESCRIPTOR command to refer to the APPC synchronous level. This level is either NONE or CONFIRM.

SYNCSESS

Is used with the /CHANGE command to force a message resynchronization when the session is initiated. This remains in effect until the next /CHANGE command or IMS cold start.

SYNCSESS, which overrides the FORCSESS/SYNCSESS specification on the TERMINAL macro or the MSPLINK macro, is valid for MSC VTAM links or ISC nodes.

SYSID

Is used with the /BROADCAST MASTER, /DISPLAY ASSIGNMENT, /MSASSIGN, and /MSVERIFY commands to refer to the system identification of a system in a multiple systems configuration.

SYSID is also used with the /DISPLAY TRANSACTION command to refer to the local or remote systems associated with the transaction. Valid values are from 1 through 255.

Each SYSID has an MSNAME. The MSNAME keyword can be used in place of the SYSID keyword.

SYSID TRANSACTION is used with the /DISPLAY command to refer to the IDs of the local and remote systems associated with the transaction.

SYSTEM

Is used with the /UNLOCK and /SWITCH commands to refer to an XRF capable IMS system. Is also used with the /CQCHKPT command to refer to an IMS Common Queue Server subsystem.

TABLE

Is used with the /TRACE command to start online tracing, which allows a given trace table to be started or stopped, and specifies which components should be traced in a common trace table. This keyword is also valid with /DISPLAY TRACE, which shows the status of table traces.

TAKEOVER

Is used with /TRACE LINK, /TRACE LINE, and /TRACE NODE to trace terminals during XRF takeover.

TCO

Is used with the /TRACE command to activate or deactivate tracing for the Time-Controlled Operation (TCO). TCO is also used with the /DISPLAY TRACE command to show whether the tracing for the TCO is active or inactive.

TDS

Is used with the /COMPT and /RCOMPT commands to notify IMS that a transmit data set is operable or inoperable.

TERMINAL

Refers to the terminal security specifications of the IMS Security Maintenance utility. TERMINAL is used with the following commands:

/DELETE, to eliminate terminal security for a specified transaction.

/MODIFY PREPARE, to add terminal security.

/NRESTART, to request that the terminal security specifications of the IMS Security Maintenance Utility be in effect at completion of the restart process.

Keyword Summary

`/SMCOPY`, to control the printing of command output to the secondary master terminal when commands are issued from terminals other than the master terminal.

THREAD

Is used with the `/STOP` command to stop a CCTL thread.

TIMEOUT

Is used with the `/CHANGE SURVEILLANCE` command to change a timeout value of a particular surveillance mechanism in an XRF environment. The timeout value controls the length of time the alternate system allows to elapse without a positive signal from the active system before requesting takeover or informing the operator of the potential failure.

`TIMEOUT` is also used with the `/TRACE SET` command to start or stop the IMS VTAM I/O Timeout facility. `/DISPLAY TRACE TIMEOUT` displays the status of the Timeout facility.

TIMEOVER

Supports the IMS VTAM I/O Timeout facility. The `TIMEOVER` keyword is used with the `/DISPLAY` command to display the VTAM nodes that have been waiting for a VTAM response for a longer time than your installation has specified with the `/TRACE SET ON TIMEOUT` command.

TMEMBER

Is used with the `/DISPLAY` command to display IMS Open Transaction Manager Access (OTMA) client status. It is also used with the `/DISPLAY STATUS` command to display all OTMA transaction pipes that are stopped.

It is used with the `/DEQUEUE` command to dequeue messages associated with an OTMA transaction pipe.

It is used with the `/START` and `/STOP` commands to cause IMS to resume or suspend sending of output to OTMA clients.

It is used with the `/TRACE SET` and `/DISPLAY TRACE` commands to set and display traces for OTMA transaction pipes.

TIPE

Is used with the `/DISPLAY` command to display IMS Open Transaction Manager Access (OTMA) client status.

It is used with the `/DEQUEUE` command to dequeue messages associated with an OTMA transaction pipe.

It is used with the `/START` and `/STOP` commands to cause IMS to resume or suspend sending of output to OTMA clients.

It is used with the `/TRACE` command to trace transaction pipe activity for OTMA clients.

TPNAME

Refers to the `TPNAME` of an LU 6.2 application program or destination. When used with the `LUNAME` keyword, `TPNAME` must follow `LUNAME`.

With any command other than `/CHANGE DESCRIPTOR`, a `TPNAME` parameter of `DFSSIDE` can be used to indicate that the specified `LUNAME` parameter represents the APPC/MVS side information entry name.

Keyword Summary

The TPNAME parameter can be up to 64 alphanumeric characters long.

This keyword can be used with the following commands:

/ALLOCATE	/START
/CHANGE DESCRIPTOR	/STOP
/DEQUEUE	/TRACE
/DISPLAY	

TRACE

Is used with the /DISPLAY command to examine the status and options of the current IMS traces.

TRACKING

Is used with the /DISPLAY command to display the RSR tracking status on either the active or RSR tracking subsystem.

TRACKING is valid on active or RSR tracking subsystems.

TRANAUTH

Is used with the /ERESTART and /NRESTART commands to specify both the transaction authorization and user identification, with or without RACF, that will be in effect at the end of the restart.

TRANCMD5

Is used with the /ERESTART and /NRESTART commands to request that transaction command security be in effect at the end of the restart.

TRANCMD5 is also used with the /MODIFY PREPARE command to add transaction command security.

TRANSACTION

Refers to a transaction code. Valid parameters are from 1 to 8 alphanumeric characters long.

This keyword is used with the following commands:

/ASSIGN	/PSTOP
/CHANGE	/PURGE
/DELETE	/SET
/DEQUEUE	/START
/DISPLAY	/STOP
/LOCK	/TRACE
/MSASSIGN	/UNLOCK

TRAP

Is used with the /TRACE command to enable certain MFS serviceability enhancements. TRAP is also used with /DISPLAY TRACE to show the status of the trap trace.

TRKAUTOARCH

Is used to indicate that the RSR tracking system is to initiate a request to start the automatic archiving of the tracking log data sets. TRKAUTOARCH allows the user to start automatic archive after automatic archive has been terminated following archive data set full conditions.

TRS

Is used with the /DISPLAY MODIFY command to display transactions with work in progress that could prevent an online change from succeeding.

TYPE

Is used with the /CHANGE DESCRIPTOR command to refer to the APPC conversation type, which is either BASIC or MAPPED.

UDATA

Is used with the /OPNDST command to indicate the user data used with the logon. (The format of keyword and data: UDATA user data). The user data can include a logon descriptor name, a signon descriptor name, resource access control facility (RACF) access and authorization data, and user information used by a user exit.

UDS

Is used with the /COMPT and /RCOMPT commands to notify IMS that a user data set is operable or inoperable.

UNITYPE

Is used with the /TRACE command to trace all terminals of a specific type.

UNPLAN

Is used with the /RTAKEOVER command to specify an unplanned remote takeover. UNPLAN is valid only on the RSR tracking subsystem.

UOR

Is used with the /DISPLAY and /CHANGE commands to determine and specify units of recovery involved in protected conversations using RRS/MVS.

USER

A *user* can be a person signed onto a terminal or an ISC subpool. The USER keyword is used with:

- The /NRESTART command to request that user identification verification be in effect at the end of the normal restart.
- Commands that support ISC nodes, in which case the user can be either:
 - A dynamically created ISC user.
 - An ISC static user, which is an ISC user. defined by the SUBPOOL macro in a system definition

In this case, the USER keyword refers to a collection of logical terminals that can be allocated to an ISC node and used with parallel sessions. It is valid only for ISC nodes defined with a dynamically allocated set of logical terminals.

When the USER keyword is specified with the NODE keyword, the USER keyword must follow the NODE specification. When the NODE is statically defined, the NODE USER combination can only be used with a command related to an ISC parallel session on that terminal.

- Commands that support dynamic terminals and users, in which case the user is created dynamically and can be ISC or non-ISC. If the term “dynamic user” is used in reference to signing on to a node, the user is a non-ISC user.

In this case, the USER keyword refers to a collection of logical terminals associated with a user ID that can be signed on to an ACF/VTAM node. When specified with the NODE keyword, USER must follow the NODE specification. If the NODE USER descriptor is used to sign on, the USER keyword parameter must be the node name.

- The /DISPLAY command, in which case the user is signed onto a static terminal and is a non-ISC static user.

The USER keyword refers to a user ID that is defined to an enhanced security product such as RACF. A user ID signed on to a statically defined terminal can only be used as a parameter with the /DISPLAY USER command.

Keyword Summary

Table 15 shows the commands that support the USER keyword. Some commands support the USER keyword for dynamic users only.

Table 15. Commands That Support the USER Keyword

Commands	Commands for Dynamic Users Only
/ASSIGN	
/BROADCAST	/BROADCAST USER
/CHANGE	
/CLSDST	
/COMPT	
/DEQUEUE	
/DISPLAY	
/END	/END USER
/EXCLUSIVE	/EXCLUSIVE USER
/EXIT	/EXIT CONVERSATION USER
/NRESTART	
/OPNDST	
/QUIESCE	
/RSTART	/RSTART USER
/START	
/STOP	
/TEST	/TEST(MFS) USER
/TRACE	

USERD

Is used with the /OPNDST command to indicate the user descriptor used with the signon.

VGRS

Is used with the /START and /STOP commands to cause IMS to join or leave a VTAM generic resources group. For the /START command, this keyword also allows you to specify the generic resource name if IMS does not already have one.

VID

Is used with the /COMPT and /RCOMPT commands to notify IMS that a display component is either operable or inoperable.

VOLUME

Is used with the /TRACE SET ON|OFF TABLE|PI command to specify the volume of tracing to be done: low, medium, or high.

The VOLUME keyword is valid on active and RSR tracking subsystems.

VTAMPOOL

Is used with the /ASSIGN USER command to deallocate an entire string of LTERMs defined for a user.

WADS

Is used with the /START, /STOP, and /SWITCH commands to add a write-ahead data set (WADS) to the pool of available WADS, to remove one from the pool, or to switch to a new one.

WPM1

Is used with the /COMPT and /RCOMPT commands to notify IMS that the word-processing component is either operable or inoperable.

WPM2

Is used with the /COMPT and /RCOMPT commands to notify IMS that the word-processing component is either operable or inoperable.

WPM3

Is used with the /COMPT and /RCOMPT commands to notify IMS that the word-processing component is either operable or inoperable.

XTRC

Is used with /DISPLAY TRACE to show the XTRC status in order to determine which external trace data set is active, whether the OLDS is used for trace logging, whether XTRC is usable, and the status of the XTRC data sets.

Keyword Summary

Part 2. IMS Commands

Chapter 3. /ACTIVATE	75
Format	75
Environments and Keywords	75
Usage	75
Examples	75
Example 1 for /ACTIVATE Command.	75
Example 2 for /ACTIVATE Command.	75
Chapter 4. /ALLOCATE	77
Format	77
Environments and Keywords	77
Usage	77
Chapter 5. /ASSIGN	79
Format	79
Environments and Keywords	80
Usage	81
Examples	88
Example 1 for /ASSIGN Command	88
Example 2 for /ASSIGN Command	88
Example 3 for /ASSIGN Command	89
Example 4 for /ASSIGN Command	89
Example 5 for /ASSIGN Command	89
Example 6 for /ASSIGN Command	89
Example 7 for /ASSIGN Command	89
Example 8 for /ASSIGN Command	90
Example 9 for /ASSIGN Command	90
Example 10 for /ASSIGN Command	90
Example 11 for /ASSIGN Command	90
Example 12 for /ASSIGN Command	90
Example 13 for /ASSIGN Command	91
Example 14 for /ASSIGN Command	91
Example 15 for /ASSIGN Command	91
Example 16 for /ASSIGN Command	91
Example 17 for /ASSIGN Command	91
Example 18 for /ASSIGN Command	92
Example 19 for /ASSIGN Command	92
Example 20 for /ASSIGN Command	92
Chapter 6. /BROADCAST	93
Format	93
Environments and Keywords	93
Usage	94
Examples	95
Example 1 for /BROADCAST Command	95
Example 2 for /BROADCAST Command	95
Example 3 for /BROADCAST Command	96
Example 4 for /BROADCAST Command	96
Example 5 for /BROADCAST Command	96
Example 6 for /BROADCAST Command	97
Example 7 for /BROADCAST Command	97
Chapter 7. /CANCEL	99

IMS Commands

Format	99
Environments	99
Usage	99
Example for /CANCEL Command	99
Chapter 8. /CHANGE	101
Format	101
Environments and Keywords	102
Usage.	103
Examples for /CHANGE Command	109
Example 1 for /CHANGE Command	109
Example 2 for /CHANGE Command	109
Example 3 for /CHANGE Command.	110
Example 4 for /CHANGE Command.	110
Example 5 for /CHANGE Command.	111
Example 6 for /CHANGE Command.	111
Example 7 for /CHANGE Command.	111
Example 8 for /CHANGE Command.	111
Example 9 for /CHANGE Command.	111
Example 10 for /CHANGE Command	112
Example 11 for /CHANGE Command	113
Chapter 9. /CHECKPOINT	115
Format	115
Shutdown Checkpoint	115
Simple Checkpoint	115
Statistics Checkpoint	115
Environments and Keywords	115
Usage.	116
Examples	119
Example 1 for /CHECKPOINT Command	119
Example 2 for /CHECKPOINT Command	119
Example 3 for /CHECKPOINT Command	119
Example 4 for /CHECKPOINT Command	119
Example 5 for /CHECKPOINT Command.	120
Example 6 for /CHECKPOINT Command.	120
Chapter 10. /CLSDST.	121
Format	121
Environments and Keywords	121
Usage.	121
Example for /CLSDST Command.	122
Chapter 11. /COMPT	123
Format	123
Environments and Keywords	123
Usage.	124
Examples	124
Example 1 for /COMPT Command	124
Example 2 for /COMPT Command	125
Chapter 12. /CQCHKPT	127
Format	127
Environments and Keywords	127
Usage.	127
Examples	128

Example 1 for /CQCHKPT Command	128
Example 2 for /CQCHKPT Command	128
Chapter 13. /CQQUERY	129
Format	129
Environments and Keywords	129
Usage.	129
Example 1 for /CQQUERY Command	130
Example 2 for /CQQUERY Command	130
Chapter 14. /CQSET	131
Format	131
Environments and Keywords	131
Usage.	131
Example for /CQSET Command	132
Chapter 15. /DBDUMP	133
Format	133
Environments and Keywords	133
Usage.	133
Examples	135
Example 1 for /DBDUMP Command	135
Example 2 for /DBDUMP Command	135
Chapter 16. /DBRECOVERY	137
Format	137
Environments and Keywords	137
Usage.	137
Examples	140
Example 1 for /DBRECOVERY Command	140
Example 2 for /DBRECOVERY Command	140
Example 3 for /DBRECOVERY Command	140
Chapter 17. /DELETE.	143
Format	143
Environments and Keywords	143
Usage.	144
Examples	144
Example 1 for /DELETE Command	144
Example 2 for /DELETE Command	144
Chapter 18. /DEQUEUE	145
Format	145
Environments and Keywords	145
Usage.	146
Examples	149
Example 1 for /DEQUEUE Command	149
Example 2 for /DEQUEUE Command	150
Example 3 for /DEQUEUE Command	150
Example 4 for /DEQUEUE Command	150
Example 5 for /DEQUEUE Command	150
Example 6 for /DEQUEUE Command	150
Chapter 19. /DISPLAY	151
Format	151
Environments and Keywords	161

IMS Commands

Usage.	163
/DISPLAY ACTIVE	163
/DISPLAY AFFINITY	167
/DISPLAY AOITOKEN	167
/DISPLAY APPC	168
/DISPLAY AREA	169
/DISPLAY ASSIGNMENT	171
/DISPLAY CCTL	172
/DISPLAY CONVERSATION	173
/DISPLAY CQS	174
/DISPLAY DATABASE	174
/DISPLAY DATABASE with BKERR	175
/DISPLAY DBD	176
/DISPLAY DESCRIPTOR	176
/DISPLAY FDR	177
/DISPLAY FPVIRTUAL	177
/DISPLAY HSB	178
/DISPLAY HSSP	180
/DISPLAY LINE	180
/DISPLAY LINK	181
/DISPLAY LTERM	182
/DISPLAY LUNAME	182
/DISPLAY LUNAME INPUT	183
/DISPLAY LUNAME OUTPUT	183
/DISPLAY LUNAME TPNAME	183
/DISPLAY MASTER	184
/DISPLAY MODIFY	184
/DISPLAY MSNAME	187
/DISPLAY NODE	187
/DISPLAY OASN SUBSYS	189
/DISPLAY OLDS	189
/DISPLAY OTMA	191
/DISPLAY OVERFLOWQ	192
/DISPLAY POOL	193
Abbreviations Used in the /DISPLAY POOL Command	195
CBT Pool Display	195
Message Queue Pool	196
Message Format Pool	196
Database Buffer Pools	196
OSAM Buffer Subpool	196
VSAM Buffer Subpool	197
Enhanced OSAM Buffer Subpool	198
Enhanced VSAM Buffer Subpool	199
Fast Path Database Buffer Pool	200
PSBP, DMBP, PSBW, DBWP, EPCB, and MAIN Buffer Pools	201
AOIP, CIOP, HIOP, CESS, FPWP, EMHB, LUMP, and LUMC Buffer Pools	201
/DISPLAY PROGRAM	201
/DISPLAY PSB	201
/DISPLAY PTERM	202
/DISPLAY Q	202
/DISPLAY QCNT	203
/DISPLAY RTCODE	204
/DISPLAY SHUTDOWN STATUS	204
/DISPLAY STATUS (With No Keywords)	206
/DISPLAY STRUCTURE	208
/DISPLAY SUBSYS	208

Subsystem Status Terms	209
Dependent Region Status Terms	210
/DISPLAY SYSID TRANSACTION	210
/DISPLAY TIMEOVER	210
/DISPLAY TMEMBER	210
/DISPLAY TRACE	212
/DISPLAY TRACKING STATUS	213
/DISPLAY TRACKING STATUS on an Active Subsystem	213
/DISPLAY TRACKING STATUS on a Tracking Subsystem	215
/DISPLAY TRANSACTION	220
/DISPLAY UOR	221
/DISPLAY USER	222
/DISPLAY Examples	224
Example 1 for /DISPLAY ACTIVE Command	224
Example 2 for /DISPLAY ACTIVE Command	224
Example 3 for /DISPLAY ACTIVE Command	224
Example 4 for /DISPLAY ACTIVE Command	225
Example 5 for /DISPLAY ACTIVE Command	225
Example 6 for /DISPLAY ACTIVE Command	225
Example 7 for /DISPLAY ACTIVE Command	226
Example 8 for /DISPLAY ACTIVE Command	226
Example 9 for /DISPLAY ACTIVE Command	226
Example 10 for /DISPLAY ACTIVE Command	227
Example 11 for /DISPLAY ACTIVE Command	227
Example 12 for /DISPLAY ACTIVE Command	227
Example for /DISPLAY AFFINITY Command	227
Example for /DISPLAY AOITOKEN Command	228
Example for /DISPLAY APPC Command	228
Example 1 for /DISPLAY AREA Command	228
Example 2 for /DISPLAY AREA Command	229
Example 1 for /DISPLAY ASSIGNMENT Command	229
Example 2 for /DISPLAY ASSIGNMENT Command	234
Example 1 for /DISPLAY CCTL Command	235
Example 2 for /DISPLAY CCTL Command	235
Example 3 for /DISPLAY CCTL Command	235
Example 4 for /DISPLAY CCTL Command	235
Example 5 for /DISPLAY CCTL Command	235
Example for /DISPLAY CONVERSATION Command	236
Example for /DISPLAY CQS Command	237
Example 1 for /DISPLAY DATABASE Command	238
Example 2 for /DISPLAY DATABASE Command	238
Example 3 for /DISPLAY DATABASE Command	239
Example 4 for /DISPLAY DATABASE Command	239
Example 5 for /DISPLAY DATABASE Command	239
Example for /DISPLAY DBD Command	239
Example for /DISPLAY DESCRIPTOR Command	240
Example for /DISPLAY FDR Command	240
Example for /DISPLAY FPVIRTUAL Command	240
Example for /DISPLAY HSB Command	241
Example for /DISPLAY HSSP Command	241
Example for /DISPLAY LINE Command	242
Example 1 for /DISPLAY LINK Command	243
Example 2 for /DISPLAY LINK Command	243
Example 1 for /DISPLAY LTERM Command	243
Example 2 for /DISPLAY LTERM Command	244
Example 3 for /DISPLAY LTERM Command	244

IMS Commands

Example for /DISPLAY LUNAME Command	244
Example for /DISPLAY MASTER Command	246
Example for /DISPLAY MODIFY Command	247
Example for /DISPLAY MSNAME Command	248
Example 1 for /DISPLAY NODE Command	249
Example 2 for /DISPLAY NODE Command	249
Example 3 for /DISPLAY NODE Command	251
Example 4 for /DISPLAY NODE Command	252
Example 5 for /DISPLAY NODE Command	252
Example for /DISPLAY OASN Command	252
Example for /DISPLAY OLDS Command	253
Example 1 for /DISPLAY OTMA Command	253
Example 2 for /DISPLAY OTMA Command	253
Example for /DISPLAY OVERFLOWQ Command	253
Example 1 for /DISPLAY POOL Command	254
Example 2 for /DISPLAY POOL Command	257
Example 3 for /DISPLAY POOL Command	257
Example 4 for /DISPLAY POOL Command	258
Example 5 for /DISPLAY POOL Command	259
Example 6 for /DISPLAY POOL Command	260
Example 7 for /DISPLAY POOL Command	260
Example 8 for /DISPLAY POOL Command	260
Example 9 for /DISPLAY POOL Command	260
Example 10 for /DISPLAY POOL Command	261
Example 11 for /DISPLAY POOL Command	261
Example 12 for /DISPLAY POOL Command	261
Example 13 for /DISPLAY POOL Command	261
Example 14 for /DISPLAY POOL Command	262
Example for /DISPLAY PROGRAM Command	262
Example for /DISPLAY PSB Command	263
Example for /DISPLAY PTERM Command	263
Example 1 for /DISPLAY Q Command	264
Example 2 for /DISPLAY Q Command	266
Example for /DISPLAY QCNT Command	266
Example for /DISPLAY RTCODE Command	266
Example 1 for /DISPLAY SHUTDOWN STATUS Command	267
Example 2 for /DISPLAY SHUTDOWN STATUS Command	267
Example 3 for /DISPLAY SHUTDOWN STATUS Command	268
Example 1 for /DISPLAY STATUS Command	268
Example 2 for /DISPLAY STATUS Command	269
Example 3 for /DISPLAY STATUS Command	270
Example 4 for /DISPLAY STATUS Command	270
Example 5 for /DISPLAY STATUS Command	271
Example 6 for /DISPLAY STATUS Command	271
Example for /DISPLAY STRUCTURE Command	271
Example 1 for /DISPLAY SUBSYS Command	271
Example 2 for /DISPLAY SUBSYS Command	272
Example for /DISPLAY SYSID Command	272
Example for /DISPLAY TIMEOVER Command	272
Example 1 for /DISPLAY TMEMBER Command	272
Example 2 for /DISPLAY TMEMBER Command	273
Example 1 for /DISPLAY TRACE Command	273
Example 2 for /DISPLAY TRACE Command	274
Example 3 for /DISPLAY TRACE Command	274
Example 4 for /DISPLAY TRACE Command	275
Example 5 for /DISPLAY TRACE Command	275

Example 6 for /DISPLAY TRACE Command	276
Example 7 for /DISPLAY TRACE Command	276
Example 8 for /DISPLAY TRACE Command	276
Example 9 for /DISPLAY TRACE Command	276
Example 10 for /DISPLAY TRACE Command	276
Example 11 for /DISPLAY TRACE Command	277
Example 12 for /DISPLAY TRACE Command	277
Example 1 for /DISPLAY TRACKING STATUS Command	277
Example 2 for /DISPLAY TRACKING STATUS Command	278
Example 1 for /DISPLAY TRANSACTION Command	278
Example 2 for /DISPLAY TRANSACTION Command	279
Example 3 for /DISPLAY TRANSACTION Command	279
Example for /DISPLAY UOR Command	279
Example for /DISPLAY USER Command	280
Chapter 20. /END	283
Format	283
Environments and Keywords	283
Usage.	283
Example for /END Command	283
Chapter 21. /ERESTART	285
Format	285
Manual Restart of an XRF Alternate System	285
Restart of IMS Following Loss of Virtual Storage Only	285
Restart of IMS Following Loss of Virtual Storage and Message Queue Data Set Integrity.	285
Restart of IMS Following /ERESTART Failure of the Database Component	285
Restart of IMS Following /ERESTART Failure of Communication Component	286
Restart of IMS Following /ERESTART Failure of Both the Database and Communication Components	286
Environments and Keywords	286
Usage.	287
Examples	293
Example 1 for /ERESTART Command	293
Example 2 for /ERESTART Command	293
Example 3 for /ERESTART Command	294
Example 4 for /ERESTART Command	294
Example 5 for /ERESTART Command	294
Chapter 22. /EXCLUSIVE	297
Format	297
Environments and Keywords	297
Usage.	297
Examples	298
Example 1 for /EXCLUSIVE Command	298
Example 2 for /EXCLUSIVE Command	298
Chapter 23. /EXIT	299
Format	299
Environments and Keywords	299
Usage.	299
Examples	300
Example 1 for /EXIT Command	300
Example 2 for /EXIT Command	300
Example 3 for /EXIT Command	300

IMS Commands

Example 4 for /EXIT Command	301
Example 5 for /EXIT Command	301
Chapter 24. /FORMAT	303
Format	303
Environments and Keywords	303
Usage.	303
Example for /FORMAT Command	304
Chapter 25. /HOLD.	305
Format	305
Environments	305
Usage.	305
Example for /HOLD Command	305
Chapter 26. /IAM	307
Format	307
Environments and Keywords	307
Usage.	307
Examples	308
Example 1 for /IAM Command.	308
Example 2 for /IAM Command.	308
Example 3 for /IAM Command.	308
Chapter 27. /IDLE	309
Format	309
Environments and Keywords	309
Usage.	309
Examples	311
Example 1 for /IDLE Command	311
Example 2 for /IDLE Command	311
Example 3 for /IDLE Command	311
Example 4 for /IDLE Command	312
Chapter 28. /LOCK.	313
Format	313
Environments and Keywords	313
Usage.	313
Examples	315
Example 1 for /LOCK Command	315
Example 2 for /LOCK Command	315
Example 3 for /LOCK Command	315
Example 4 for /LOCK Command	315
Example 5 for /LOCK Command	316
Chapter 29. /LOG	317
Format	317
Environments	317
Usage.	317
Example for /LOG Command	317
Chapter 30. /LOOPTEST	319
Format	319
Environments and Keywords	319
Usage.	319
Example for /LOOPTEST Command	319

Chapter 31. /MODIFY	321
Format	321
Environments and Keywords	321
Usage.	321
Examples	325
Example 1 for /MODIFY Command	325
Example 2 for /MODIFY Command	325
Example 3 for /MODIFY Command	326
Chapter 32. /MONITOR	329
Format	329
Environments and Keywords	329
Usage.	329
Example for /MONITOR Command	329
Chapter 33. /MSASSIGN	331
Format	331
Environments and Keywords	331
Usage.	331
Examples	332
Example 1 for /MSASSIGN Command	332
Example 2 for /MSASSIGN Command	333
Example 3 for /MSASSIGN Command	333
Example 4 for /MSASSIGN Command	333
Chapter 34. /MSVERIFY	335
Format	335
Environments and Keywords	335
Usage.	335
Examples	335
Example 1 for /MSVERIFY Command	335
Example 2 for /MSVERIFY Command	336
Chapter 35. /NRESTART	339
Format	339
Environments and Keywords	341
Usage.	341
Examples	346
Example 1 for /NRESTART Command	346
Example 2 for /NRESTART Command	346
Example 3 for /NRESTART Command	346
Example 4 for /NRESTART Command	347
Example 5 for /NRESTART Command	347
Example 6 for /NRESTART Command	347
Example 7 for /NRESTART Command	348
Example 8 for /NRESTART Command	348
Example 9 for /NRESTART Command	348
Chapter 36. /OPNDST	349
Format	349
Environments and Keywords	349
Usage.	350
Examples	352
Example 1 for /OPNDST Command	352
Example 2 for /OPNDST Command	352
Example 3 for /OPNDST Command	353

IMS Commands

Example 4 for /OPNDST Command	353
Example 5 for /OPNDST Command	353
Chapter 37. /PSTOP	355
Format	355
Environments and Keywords	355
Usage.	356
Examples	358
Example 1 for /PSTOP Command	358
Example 2 for /PSTOP Command	359
Example 3 for /PSTOP Command	359
Example 4 for /PSTOP Command	359
Example 5 for /PSTOP Command	360
Example 6 for /PSTOP Command	360
Example 7 for /PSTOP Command	360
Example 8 for /PSTOP Command	360
Example 9 for /PSTOP Command	360
Example 10 for /PSTOP Command	361
Example 11 for /PSTOP Command	361
Example 12 for /PSTOP Command	361
Example 13 for /PSTOP Command	361
Example 14 for /PSTOP Command	362
Chapter 38. /PURGE	363
Format	363
Environments and Keywords	363
Usage.	364
Examples	365
Example 1 for /PURGE Command	365
Example 2 for /PURGE Command	365
Example 3 for /PURGE Command	365
Example 4 for /PURGE Command	366
Example 5 for /PURGE Command	366
Example 6 for /PURGE Command	366
Example 7 for /PURGE Command	366
Chapter 39. /QUIESCE	367
Format	367
Environments and Keywords	367
Usage.	367
Example for /QUIESCE Command	367
Chapter 40. /RCLSDST	369
Format	369
Environments	369
Usage.	369
Example for /RCLSDST Command	369
Chapter 41. /RCOMPT	371
Format	371
Environments and Keywords	371
Usage.	371
Example for /RCOMPT Command	372
Chapter 42. /RDISPLAY	373
Format	373

Environments	373
Usage.	373
Examples	373
Example 1 for /RDISPLAY Command	373
Example 2 for /RDISPLAY Command	373
Chapter 43. /RELEASE	375
Format	375
Environments and Keywords	375
Usage.	375
Example for /RELEASE Command	375
Chapter 44. /RESET	377
Format	377
Environments	377
Usage.	377
Example for /RESET Command	377
Chapter 45. /RMxxxxxx	379
Format	379
Environments and Keywords	379
Usage.	379
Examples	381
Example for /RMCHANGE Command	381
Example for /RMDELETE Command	381
Example for /RMGENJCL Command	382
Example for /RMINIT Command	382
Example for /RMLIST Command	383
Example for /RMNOTIFY Command	385
Chapter 46. /RSTART.	387
Format	387
Environments and Keywords	387
Usage.	388
Examples	389
Example 1 for /RSTART Command	389
Example 2 for /RSTART Command	390
Example 3 for /RSTART Command	390
Example 4 for /RSTART Command	390
Example 5 for /RSTART Command	390
Example 6 for /RSTART Command	391
Example 7 for /RSTART Command	391
Example 8 for /RSTART Command	391
Chapter 47. /RTAKEOVER	393
Format	393
/RTAKEOVER for an Active Subsystem	393
/RTAKEOVER for a Tracking Subsystem	393
Environments and Keywords	393
Usage.	393
/RTAKEOVER for an Active Subsystem	393
/RTAKEOVER for a Tracking Subsystem	394
Examples	394
Example for /RTAKEOVER Command at Active Site.	394
Example for /RTAKEOVER DUMPQ at Active Site	395
Example for /RTAKEOVER UNPLAN at Remote Site	395

IMS Commands

Chapter 48. /SECURE	397
Format	397
Environments and Keywords	397
Usage.	397
Examples	398
Example 1 for /SECURE Command.	398
Example 2 for /SECURE Command.	398
Chapter 49. /SET	401
Format	401
Environments and Keywords	401
Usage.	401
Examples	402
Example 1 for /SET Command	402
Example 2 for /SET Command	402
Example 3 for /SET Command	402
Chapter 50. /SIGN	405
Format	405
Environments	405
Usage.	405
Examples	407
Example 1 for /SIGN Command	407
Example 2 for /SIGN Command	407
Example 3 for /SIGN Command	408
Chapter 51. /SMCOPY	409
Format	409
Environments and Keywords	409
Usage.	409
Example for /SMCOPY Command	410
Chapter 52. /SSR	411
Format	411
Environments	411
Usage.	411
Example for /SSR Command	411
Chapter 53. /START	413
Format	413
Environments and Keywords	416
Usage.	417
Examples	429
Example 1 for /START Command	429
Example 2 for /START Command	429
Example 3 for /START Command	430
Example 4 for /START Command	430
Example 5 for /START Command	430
Example 6 for /START Command	430
Example 7 for /START Command	430
Example 8 for /START Command	431
Example 9 for /START Command	431
Example 10 for /START Command	431
Example 11 for /START Command	431
Example 12 for /START Command	431
Example 13 for /START Command	432

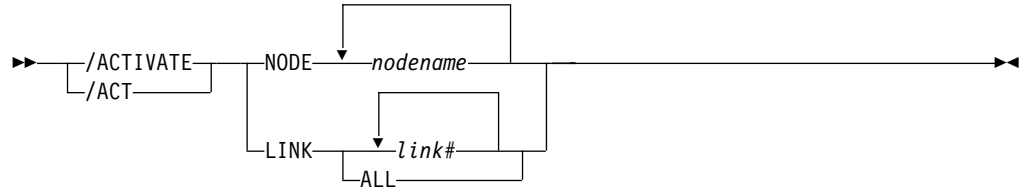
Example 14 for /START Command	432
Example 15 for /START Command	432
Example 16 for /START Command	432
Example 17 for /START Command	432
Example 18 for /START Command	433
Example 19 for /START Command	433
Example 20 for /START Command	433
Example 21 for /START Command	434
Example 22 for /START Command	434
Example 23 for /START Command	434
Example 24 for /START Command	434
Example 25 for /START Command	435
Chapter 54. /STOP	437
Format	437
Environments and Keywords	440
Usage.	441
Examples	450
Example 1 for /STOP Command	450
Example 2 for /STOP Command	450
Example 3 for /STOP Command	450
Example 4 for /STOP Command	451
Example 5 for /STOP Command	451
Example 6 for /STOP Command	451
Example 7 for /STOP Command	451
Example 8 for /STOP Command	452
Example 9 for /STOP Command	452
Example 10 for /STOP Command	452
Example 11 for /STOP Command	452
Example 12 for /STOP Command	452
Example 13 for /STOP Command	453
Example 14 for /STOP Command	453
Example 15 for /STOP Command	453
Example 16 for /STOP Command	454
Example 17 for /STOP Command	455
Example 18 for /STOP Command	456
Example 19 for /STOP Command	456
Example 20 for /STOP Command	457
Example 21 for /STOP Command	458
Example 22 for /STOP Command	458
Example 23 for /STOP Command	459
Example 24 for /STOP Command	459
Example 25 for /STOP Command	459
Example 26 for /STOP Command	459
Example 27 for /STOP Command	460
Example 28 for /STOP Command	460
Chapter 55. /SWITCH	461
Format	461
/SWITCH for an Active XRF Subsystem	461
/SWITCH for an Alternate XRF Subsystem	461
Environments and Keywords	461
Usage.	461
Examples	462
Example 1 for /SWITCH Command	462
Example 2 for /SWITCH Command	463

IMS Commands

Chapter 56. /TEST	465
Format	465
Environments and Keywords	465
Usage.	465
Examples	466
Example 1 for /TEST Command	466
Example 2 for /TEST Command	466
Chapter 57. /TRACE	467
Format	467
Environments and Keywords	469
Usage.	470
Examples	481
Example 1 for /TRACE Command	481
Example 2 for /TRACE Command	481
Example 3 for /TRACE Command	481
Example 4 for /TRACE Command	482
Example 5 for /TRACE Command	482
Example 6 for /TRACE Command	482
Example 7 for /TRACE Command	483
Example 8 for /TRACE Command	483
Example 9 for /TRACE Command	483
Example 10 for /TRACE Command	483
Example 11 for /TRACE Command	484
Example 12 for /TRACE Command	484
Example 13 for /TRACE Command	484
Example 14 for /TRACE Command	484
Example 15 for /TRACE Command	484
Chapter 58. /UNLOCK	487
Format	487
Environments and Keywords	487
Usage.	487
Examples	489
Example 1 for /UNLOCK Command.	489
Example 2 for /UNLOCK Command.	489
Example 3 for /UNLOCK Command.	489
Example 4 for /UNLOCK Command.	489
Example 5 for /UNLOCK Command.	489
Chapter 59. /UNLOAD	493
Format	493
Environments and Keywords	493
Usage.	493

Chapter 3. /ACTIVATE

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/ACTIVATE	X		X
LINK	X		X
NODE	X		X

Usage

/ACTIVATE is used to activate VTAM nodes or MSC links with a /VTAM "VARY NET, ACTIVE" command. /ACTIVATE can also be used to undo the conditions set by the /IDLE command. /ACTIVATE is used with the IMS VTAM I/O Timeout Detection Facility.

LINK

Specifies the MSC links to be activated.

NODE

Specifies the VTAM nodes to be activated.

Examples

Example 1 for /ACTIVATE Command

Entry ET:

```
/ACTIVATE LINK 1
```

Response ET:

```
DFS058I  ACTIVATE COMMAND COMPLETED
```

Explanation: Link 1 has been activated.

Example 2 for /ACTIVATE Command

Entry ET:

```
/ACTIVATE NODE ABC
```

Response ET:

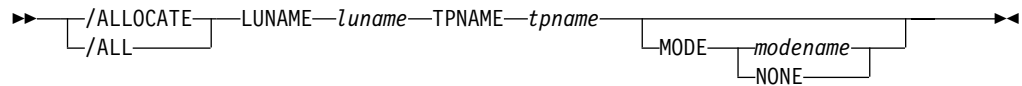
```
DFS058I  ACTIVATE COMMAND COMPLETED
```

IMS Commands

Explanation: Node ABC has been activated.

Chapter 4. /ALLOCATE

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/ALLOCATE	X		X
LUNAME	X		X
MODE	X		X
TPNAME	X		X

Usage

/ALLOCATE is a multisegment command similar to the /OPNDST command for VTAM terminals. It causes IMS to allocate a conversation to the specified LUNAME and TPNAME if any output is queued in IMS for that destination. If no such output exists, the command has no effect and (in a nonshared-queues environment) an error message is issued.

The /ALLOCATE command is used for delivering asynchronous output when the LU 6.2 device is available. The command can be originated by the remote LU 6.2 device for this purpose.

/ALLOCATE requires an end-of-message (EOM) indicator. An end-of-segment (EOS) indicator must be included for all segments preceding the last segment. For more information, see “Multisegment Command Input” on page 6.

After the syntax checking of the /ALLOCATE command is successfully completed, the DFS058 ALLOCATE COMMAND COMPLETED message is issued and processing of the command continues asynchronously.

LUNAME

Specifies the LU name of the LU 6.2 application program that is to be allocated. A network-qualified LU name is optional for the LUNAME keyword

TPNAME

Specifies the TP name of the LU 6.2 application program that is to be allocated.

MODE

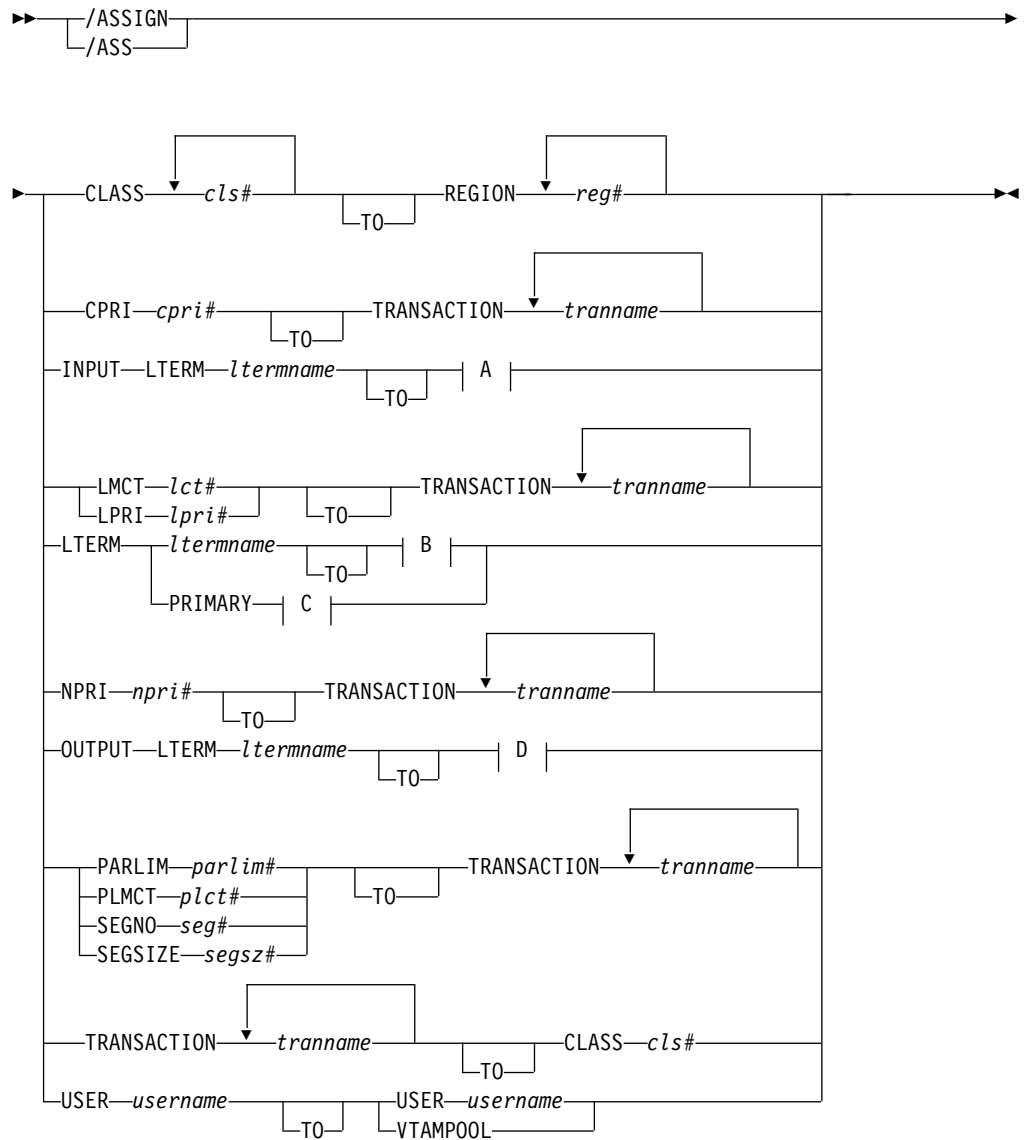
identifies the LOGON MODE table entry that VTAM uses to determine the session operating characteristics. NONE, which can be used as a MODE keyword parameter, resets the MODE field to its null state.

For more information on the MODE value, see *IMS/ESA Administration Guide: Transaction Manager*.

/ALLOCATE

Chapter 5. /ASSIGN

Format

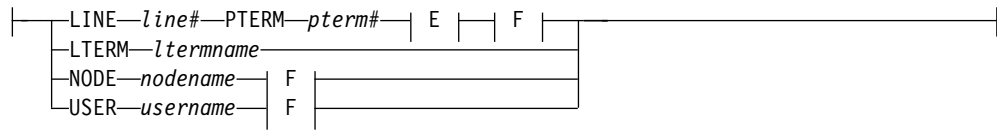


A:



B:

/ASSIGN



C:



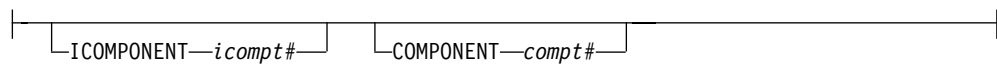
D:



E:



F:



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/ASSIGN	X		X
CLASS	X		X
COMPONENT	X		X
CPRI	X		X
ICOMPONENT	X		X
INPUT	X		X
LINE	X		X
LMCT	X		X
LPRI	X		X
LTERM	X		X
NODE	X		X
NPRI	X		X
OUTPUT	X		X

Command / Keywords	DB/DC	DBCTL	DCCTL
PARLIM	X		X
PLMCT	X		X
PTERM	X		X
REGION	X		X
SEGNO	X		X
SEGSIZE	X		X
TRANSACTION	X		X
USER	X		X
VTAMPOOL	X		X

Usage

/ASSIGN alters the relationships between various IMS resources and resets certain values specified during IMS system definition.

All changes made by the /ASSIGN command remain in effect until changed with another /ASSIGN command, or an IMS cold start (/NRESTART CHECKPOINT 0) is performed. Changes that affect regions, such as CLASS, are only in effect until the region terminates. For information on changing multiple systems assignments, see "Chapter 33. /MSASSIGN" on page 331.

Recommendation: Use the /ASSIGN command consistently on all IMS subsystems that are members of a VTAM generic resources group or share IMS queues. For example, assign an LTERM to a specific node for all IMS subsystems; assigning one LTERM to different nodes on different IMS subsystems could cause unpredictable results.

The /ASSIGN command is mirrored on an XRF alternate environment unless the assignment involves the primary or secondary master terminal, or the assignment of a CLASS to a REGION.

/ASSIGN commands attempting to assign LTERMs or users between static and dynamic terminals receive a unique error message. An error message is issued if /ASSIGN attempts any of the following

- To assign a dynamic LTERM to a static USER.
- To assign a static USER to a dynamic USER.
- To assign a dynamic USER to a static USER.
- To assign a dynamic LTERM to a LINE or NODE.

Note: You cannot use the /ASSIGN command to assign a user structure to a node that does not exist. Use the /OPN NODE nodename USER username command instead.

CLASS

Specifies either the classes of transactions that a message processing region can schedule or the message processing class of a transaction.

The /ASSIGN CLASS cls# (T0) REGION reg# command can include up to four class parameters and replaces the class values that existed previously. Valid class parameters are numeric values from 1 to 255.

/ASSIGN

For static transactions, the CLASS parameter (cls#) is initially set by system definition using the TRANSACT macro statement. For CPI communications driven transactions, the initial value is obtained from the TP profile. For more information on the CPI Communications interface transactions, see *IMS/ESA Administration Guide: Transaction Manager*.

COMPONENT

Allows output for a logical terminal to be directed to a specific component of a physical terminal. The COMPONENT parameter, which can have values 1, 2, 3 or 4, indicates the terminal component that should receive the output. Parameter values other than 1 are valid for the 3275 and SLU 1 terminals, as well as type 1 and type P secondary logical units. When assigning a COMPONENT value from a terminal with components to a terminal without components, give the compt# a value of 1.

Table 16 shows the relationships between COMPONENT values and terminals.

Table 16. Relationships Between COMPONENT/ICOMPONENT Values and Terminals

Terminal	1	2/3/4
3275	Video	Printer
3770	Console/Printer	Defined in TERMINAL macro on logon descriptor during system definition.
SLU 1	Defined in TERMINAL macro on logon descriptor during system definition.	
SLU P terminal	Defined in TERMINAL macro on logon descriptor during system definition.	
SLU 4	Defined in TERMINAL macro during system definition.	

CPRI

Specifies a new value for the current priority of a transaction. The CPRI keyword is not allowed for BMP transactions, since BMP transactions should always have a priority of 0. The new CPRI value takes effect the next time the transaction is scheduled. Valid CPRI parameters are numeric values from 0 to 14.

ICOMPONENT

Specifies the input component of a logical terminal to be directed to a specific component of a physical terminal. The ICOMPONENT parameter, which can have values 1, 2, 3, or 4, indicates the terminal component that should receive the input. Parameter values other than 1 are valid for the 3275 and SLU 1 terminals, as well as type 1 and type P secondary logical units. When assigning from a terminal with components to a terminal without components, give icompt# a value of 1. See Table 16 for relationships between ICOMPONENT values and terminal components.

INPUT

Specifies that the input capability of a logical terminal is to be assigned to a given nonswitched physical terminal without affecting the output assignment. More than one physical terminal can be assigned as input for a logical terminal, but the logical terminal used must be the first logical terminal in a "chain."

LINE

Specifies the BTAM line to which the input or output capabilities (or both) of a logical terminal are to be assigned. The physical terminal must not be on a switched line, in conversational, response, or preset destination modes.

LMCT

Specifies a new value for the limit count of a transaction. The new LMCT value takes effect during execution of the transaction. Valid LMCT parameters are numeric values from 1 to 65535.

LPRI

Specifies a new value for the limit priority of a transaction. The LPRI keyword is not allowed for BMP transactions, since BMP transactions should always have a priority of 0. The new LPRI value takes effect the next time the transaction is scheduled. Valid LPRI parameters are numeric values from 0 to 14.

LTERM

LTERM assigns the input and output capabilities of a logical terminal to the given nonswitched physical terminal or terminals.

If you specify `/ASSIGN LTERM` with `LINE/PTERM` selected, the first physical terminal (`LINE/PTERM` specification) is the input assignment. The second physical terminal (`LINE/PTERM` specification) is the output assignment. If there is no second physical terminal specification, then the first physical terminal specification is also the output assignment.

If you specify `/ASSIGN LTERM [T0] NODE`, the node specification is the input and output assignment.

No response is sent to a terminal referenced in an `/ASSIGN` command. The logical terminal must not be an inquiry logical terminal and must not have queuing or dequeuing of messages in progress.

LTERMs created dynamically can be assigned to dynamically created users. Static logical terminals can be assigned to other static terminals. Dynamic logical terminals cannot be assigned to lines, static nodes, dynamic nodes, or static users. Static logical terminals cannot be assigned to dynamic nodes or users. `/ASSIGN` commands that split the logical terminal so that the input LTERM is associated with one node and the output is associated with another node are not allowed for any ACF/VTAM terminals.

Physical Terminal Considerations

The physical terminal named in the command or indirectly referred to by being associated with a logical terminal in the command must not be on a switched line, in conversational, response, or preset destination modes. If a user logical terminal is specified, no logical terminal in the subpool can be currently signed on, and the line and physical terminal for input and output must be the same. If message processing programs are dependent upon a particular LTERM-to-component assignment, this relationship must be maintained by the operator.

MSGDEL processing for an LTERM is based on how the MSGDEL option was defined:

- For static LTERMs defined during system definition as part of the VTAMPOOL for ISC support and for dynamic LTERMs, the MSGDEL options of the users must match when moving LTERMs between the users.
- For all other static LTERMs, the MSGDEL option is defined in the TERMINAL macro for the associated physical terminal.
- If a terminal's MSGDEL capabilities are defined in the TERMINAL macro as `MSGDEL=NONIOPCB`, assignment of an LTERM can take place only if the LTERM's message queues are empty, except when the LTERM is assigned to a terminal also defined as `MSGDEL=NONIOPCB`.

/ASSIGN

- If a terminal's MSGDEL capabilities are defined as MSGDEL=SYSINFO or NOTERM, assignment of an LTERM can take place only if the LTERM's system message queue is empty, except when the LTERM is assigned to a terminal defined as MSGDEL=SYSINFO or NOTERM, or MSGDEL=NONIOPCB.

Master Terminal Considerations

The primary and secondary master terminals cannot be assigned to a user, an input-only or output-only device, a terminal in response mode, an unattended type 1 secondary logical unit terminal, an ISC node, or NTO terminal, or dynamic node. The LINE/PTERM or NODE to which the master terminal is to be assigned must be started and in an operable state. The line and physical terminal for input and output must be the same.

When a 3270 is designated as the master terminal during IMS system definition, two master logical terminals are generated. One, referred to as the primary master terminal, must be assigned to a 3270 display (3275/3276/3278/3279) for all input and output messages. The other, referred to as the secondary master terminal, must be assigned to a 3270 printer (3284/3286/3287/3288/3289) for certain IMS-selected output messages.

To move a single master logical terminal from one physical terminal to another physical terminal (for example, the secondary master from one 3284 to another 3284, or the primary master from one 3277 to another 3277) without moving the other, use the formats of /ASSIGN LTERM command with one LINE/PTERM or NODE, and specify the LTERM name of the master terminal.

You can use either of the following commands:

- /ASSIGN LTERM ltermname (TO) NODE nodename
- /ASSIGN LTERM ltermname (TO). LINE line# PTERM pterm#

PRIMARY Parameter

The reserved parameter PRIMARY can be used with the LTERM keyword to change both the primary and secondary master terminals assignments to other physical terminals concurrently. The command formats used with the PRIMARY parameter are:

- /ASSIGN LTERM PRIMARY (TO) LINE line#1 PTERM pterm#1/NODE nodename#1

This command format assigns both the input and output of the primary master terminal to LINE line#1 PTERM pterm#1, and both the input and output of the secondary master terminal to NODE nodename.

- /ASSIGN LTERM PRIMARY (TO) (LINE line#1 PTERM pterm#1/NODE nodename1)(LINE line#2 PTERM pterm#2/NODE nodename2)

This command format assigns the input and output of the primary master terminal to the LINE line#1 PTERM pterm#1/NODE nodename #1 and assigns the input and output of the secondary terminal to LINE line#2 PTERM#2/NODE nodename#2.

These two formats can reassign:

- The 3270 primary and 3270 secondary master terminals to different 3270 physical terminals, where pterm#1 or nodename1 is a 3270 display and pterm#2 or nodename2 is a 3270 printer.

- A 3270 master terminal complex to a non-3270 master terminal, where pterm#1 or nodename1 is a 2740.
- A non-3270 master terminal to a 3270 display and 3270 printer, where pterm#1 or nodename1 is a 3270 display and pterm#2 or nodename2 is a 3270 printer.

The first LINE/PTERM or NODE specifies the display device to which the primary master logical terminal is to be assigned. The second LINE/PTERM or NODE specifies the printer device to which both the input and output capabilities of the secondary are to be assigned. If only one LINE/PTERM or NODE is specified, then the input and output capabilities of the primary master logical terminal and the secondary master logical terminal are assigned to the same LINE/PTERM or NODE.

Data Considerations

IMS does not edit data destined for a logical terminal when an /ASSIGN LTERM or /ASSIGN USER command is executed that affects physical terminal to logical terminal relationships. Ensure that data that is to be sent to a given physical terminal is suitable for transmission to a different physical terminal. For example, a print line (segment) 144 characters long destined for a 2780 terminal with a terminal 144-character printer will not print correctly if the logical terminal is assigned to a 2740 terminal with a maximum line size of 130 characters. If the Message Format Service (MFS) is used and the FMT definition included the second device, the change of physical terminal from one MFS-supported device to another MFS-supported device will produce correct output.

For a description of logical terminals (LTERMs), see *IMS/ESA Administration Guide: System*. The command formats used with the /ASSIGN LTERM ltermname command are:

- /ASSIGN LTERM ltermname [T0] LINE line#1 PTERM pterm#1

This command format assigns the input and output capabilities of the logical terminal to LINE line#1 PTERM pterm#1. This command is not valid if the LTERM is dynamic.

```
/ASSIGN LTERM ltermname [T0] LINE line#1
PTERM pterm#1 LINE line#2
PTERM pterm#2
```

This command format assigns the input capability of the logical terminal to the first LINE/PTERM pair and assigns the output capability of the logical terminal to the second LINE/PTERM pair. This command is not valid if the LTERM is dynamic.

- /ASSIGN LTERM ltermname [T0] LINE line#1 PTERM pterm#1 PTERM pterm#2

This command format assigns the input capability of the logical terminal to LINE line#1 PTERM pterm#1 and assigns the output capability of the logical terminal to the same LINE, line#1, but to a different PTERM, pterm#2. This command is not valid if the LTERM is dynamic.

- /ASSIGN LTERM ltermname [T0] NODE nodenamez

This command format assigns the input and output capabilities of the logical terminal to NODE nodename. This command is not valid if the LTERM or NODE is dynamic.

/ASSIGN

- `/ASSIGN LTERM ltermname1 [TO] LTERM ltermname2`

This command format allows an input chain to be moved to a symbolic location, rather than to a specific line and physical terminal. The [TO] line and terminal are determined by the current assignment of the specified [TO] logical terminal. With this format, the output assignment is not affected. This form of the /ASSIGN command is invalid for ISC nodes defined for parallel sessions, and it is not supported for LTERMs associated with VTAM terminals.

- `/ASSIGN LTERM ltermname [TO] USER username`

This command format assigns the logical terminal to the given user. When moving logical terminals between users, the MSGDEL options of the users as defined during system definition or on user descriptor must match. The user related to LTERM ltermname must not be signed on in conversation, in response mode, or in preset mode. For 3600/FINANCE, SLU P, and ISC, the user (username) can remain allocated due to terminal message resynchronization requirements. However, the user cannot be signed on because the associated terminal session must be stopped and idle. The user can be allocated, but, if allocated, must be associated with a session that is stopped and idle. This command will turn off the DEADQ status for the user associated with LTERM ltermname.

NODE

Specifies the VTAM terminal to which the input and output capabilities of a logical terminal are to be assigned. The node must not be dynamic, or in conversational, response, or preset destination modes. If a session with a VTAM terminal is terminated after a message is sent but before the response has been received, message resynchronization is necessary for this terminal. The output message for which no response was received must remain associated with this terminal until message resynchronization determines when the terminal received the message. If you use the /ASSIGN command to move the message to a different terminal, message resynchronization is no longer possible.

NPRI

Specifies a new value for the normal priority of a transaction. The NPRI keyword is not allowed for BMP transactions, because BMP transactions should always have a priority of 0. The new NPRI value takes effect the next time the transaction is scheduled. Valid NPRI parameters are numeric values from 0 to 14.

OUTPUT

Specifies that the output capability of a logical terminal is to be assigned to a given nonswitched physical terminal, without affecting the input assignment. OUTPUT is invalid for ISC nodes defined for parallel sessions.

PARLIM

Specifies a new value for the parallel processing limit count of a transaction. parlim# is the maximum number of messages that can currently be queued, but not yet processed, by each active message region currently scheduled for this transaction. An additional region will be scheduled whenever the transaction queue count exceeds the PARLIM value multiplied by the number of regions currently scheduled for this transaction. Valid PARLIM parameters are numeric values from 0 to 32767 and 65535, where 65535 disables transaction load balancing.

/ASSIGN PARLIM is not valid for CPI Communications driven transactions.

PLMCT

Specifies a new value for the processing limit count of a transaction. The PLMCT is the number of messages of this transaction code that a program can process in a single scheduling. The new PLMCT values take effect the next time the transaction is scheduled. Valid PLMCT parameters are numeric values from 0 to 65535.

/ASSIGN PLMCT is not valid for CPI Communications driven transaction programs.

PTERM

Specifies the BTAM physical terminal to which the input or output capabilities (or both) of a logical terminal are to be assigned.

REGION

Specifies the message processing region being assigned new classes of transactions that the region can schedule.

SEGNO

Creates or changes the limit on the number of application program output segments allowed in message queues for each GU call. Segment limits will be established by transaction code, thereby allowing specification of more than one value for each application program. The new SEGNO value takes effect during execution of the transaction. Valid SEGNO parameters are numeric values from 0 to 65535.

/ASSIGN SEGNO is not valid for CPI Communications driven transaction programs.

SEGSIZE

Creates or changes the limit on the size of application program output segments allowed in message queues for each GU call. The new SEGSIZE value takes effect during execution of the transaction. Valid SEGSIZE parameters are numeric values from 0 to 65535.

/ASSIGN SEGSIZE is not valid for CPI Communications driven transaction programs.

TRANSACTION

Specifies the transaction being assigned to a message processing class or being assigned a value. The new class takes effect the next time the transaction is scheduled.

USER

Assigns logical terminals to ISC half-sessions or to dynamic users. When moving logical terminals between users, the MSGDEL options of the users must match. The MSGDEL option for the static ISC users is defined in the SUBPOOL macro during system definition. The MSGDEL option for dynamic terminals is defined in the OPTIONS keyword of the ETO USER descriptor. /ASSIGN USER to VTAMP00L is not valid if USER is not ISC.

/ASSIGN LTERM ltermname (T0) USER username assigns the logical terminal to another USER. The user associated with LTERM ltermname must not be allocated. The USER username can be allocated, but it must be associated with a session that is stopped and idle, if allocated.

Note: Assigning an LTERM is not a permanent action. When the destination structure is deleted (for example, with /SIGN OFF) IMS discards information about the assignment. When the original

/ASSIGN

dynamic user who owned that dynamic LTERM signs on again or gets a message switch, the dynamic LTERM is recreated for the original dynamic user.

/ASSIGN USER username1 (T0) USER username2 assigns a string of logical terminals to another USER. The first user (username1) in the command must contain at least one logical terminal and must not be signed on, in conversation, in response mode, or in preset mode. For 3600/FINANCE, SLU P, and ISC, the second user (username2) can remain allocated due to terminal message resynchronization requirements. However, the user cannot be signed on and associated terminal sessions must be stopped and idle. This command turns off the DEADQ status for USER username1.

In addition to the ISC rules and restrictions, following dynamic terminal restrictions also apply. The /ASSIGN USER to USER and /ASSIGN LTERM to USER commands are rejected if the source or destination dynamic user is in conversation mode, response mode, or preset mode. The second USER can be allocated, but it must be associated with a session that is stopped and idle, if allocated.

VTAMPOOL

Is valid only for VTAM ISC sessions. It is used to force a cold start of an ISC session that cannot perform a successful restart.

/ASSIGN VTAMPOOL deallocates an entire string of logical terminals allocated to a given USER. The user must not be signed on, in conversation mode, response mode, or preset mode, and the terminal must be stopped and idle. This command is valid for static and dynamic ISC users.

Examples

Example 1 for /ASSIGN Command

Entry ET:

```
/ASSIGN CLASS 5 TO REGION 3
```

Response ET:

```
DFS058I ASSIGN COMMAND COMPLETED
```

Explanation: Class 5 is assigned to region 3. Class 5 transactions are scheduled into region 3. This command resets any previous class assignments to this region.

Example 2 for /ASSIGN Command

Entry ET:

```
/ASSIGN CLASS 4 6 2A TO REGION 5
```

Response ET:

```
DFS058I ASSIGN COMMAND COMPLETED EXCEPT CLASS 2A
```

Explanation: The requested assignment is complete except for 2A, which is an invalid class number.

Example 3 for /ASSIGN Command

Entry ET:

```
/ASSIGN CPRI 8 TO TRANSACTION PIT, SEED
```

Response ET:

```
DFS058I ASSIGN COMMAND COMPLETED
```

Explanation: A current priority of 8 is set for the transactions named PIT and SEED.

Example 4 for /ASSIGN Command

Entry ET:

```
/ASSIGN INPUT LTERM JONES TO LINE 4 PTERM 3
```

Response ET:

```
DFS058I ASSIGN COMMAND COMPLETED
```

Explanation: Logical terminal JONES is assigned to LINE 4 PTERM 3 for input identification and security. It associates the chain of logical terminals, of which LTERM JONES will be chained in first, with LINE 4 PTERM 3 for input. LTERM JONES must not be in the interior of an input chain (no other logical terminal can point to it). A physical terminal can point (for input only) to the first logical terminal of any chain. The output physical terminal for LTERM JONES is not changed.

Example 5 for /ASSIGN Command

Entry ET:

```
/ASSIGN LTERM APPLE TO LINE 5 PTERM 1
```

Response ET:

```
DFS058I ASSIGN COMMAND COMPLETED
```

Explanation: Logical terminal APPLE has both its input and output capabilities assigned to LINE 5 PTERM 1. The components present on LINE 5 PTERM 1 must be compatible with the physical terminal previously related to logical terminal APPLE.

Example 6 for /ASSIGN Command

Entry ET:

```
/ASSIGN LTERM APPLE TO NODE JONES
```

Response ET:

```
DFS058I ASSIGN COMMAND COMPLETED
```

Explanation: Logical terminal APPLE has both its input and output capabilities assigned to node JONES. The components present on node JONES must be compatible with the physical terminal previously related to logical terminal APPLE.

Example 7 for /ASSIGN Command

Entry ET:

```
/ASSIGN LTERM SMITH TO LINE 4 PTERM 6 PTERM 7 COMPONENT 2
```

Response ET:

```
DFS058I ASSIGN COMMAND COMPLETED
```

/ASSIGN

Explanation: Logical terminal SMITH is assigned to LINE 4 PTERM 6 for input and LINE 4 PTERM 7 for output. Output for LINE 4 PTERM 7 is directed to COMPONENT 2.

Example 8 for /ASSIGN Command

Entry ET:

```
/ASSIGN LTERM X TO LINE 5 PTERM 7 PTERM 6 COMPONENT 4  
ICOMPONENT 3
```

Response ET:

```
DFS058I ASSIGN COMMAND COMPLETED
```

Explanation: Logical terminal X is assigned to LINE 5 PTERM 7 for input and to LINE 5 PTERM 6 for output. Input is only received from input component 3, while output is directed to component 4.

Example 9 for /ASSIGN Command

Entry ET:

```
/ASSIGN LTERM JONES TO LINE 4 PTERM 6 LINE 9 PTERM 1
```

Response ET:

```
DFS058I ASSIGN COMMAND COMPLETED
```

Explanation: Logical terminal JONES is assigned to LINE 4 PTERM 6 for input capability and LINE 9 PTERM 1 for output capability. The component assignment is unaffected.

Example 10 for /ASSIGN Command

Entry ET:

```
/ASSIGN LTERM SMITH NODE JONES
```

Response ET:

```
DFS058I ASSIGN COMMAND COMPLETED
```

Explanation: Logical terminal SMITH is assigned to node JONES for both input and output.

Example 11 for /ASSIGN Command

Entry ET:

```
/ASSIGN LTERM BROWN TO LTERM WHITE
```

Response ET:

```
DFS058I ASSIGN COMMAND COMPLETED
```

Explanation: Logical terminal BROWN is removed from its present input chain (if one exists) of logical terminals and added to the end of the input chain (if one exists) of logical terminal WHITE. The output physical terminal for LTERM BROWN is not changed.

Example 12 for /ASSIGN Command

Entry ET:

```
/ASSIGN LTERM LAX USER ILL ICOMPONENT 1 COMPONENT 2
```

Response ET:

```
DFS058I  ASSIGN COMMAND COMPLETED
```

Explanation: Logical terminal LAX is reassigned from its existing user to the user ILL. The user associated with LAX cannot be allocated to an active session.

Example 13 for /ASSIGN Command

Entry ET:

```
/ASSIGN LTERM PRIMARY TO LINE 4 PTERM 3
```

Response ET:

```
DFS058I  ASSIGN COMMAND COMPLETED
```

Explanation: PTERM 3 on LINE 4 becomes the master terminal. PTERM 3 must be a 3270 display.

Example 14 for /ASSIGN Command

Entry ET:

```
/ASSIGN LTERM PRIMARY TO NODE BOSS
```

Response ET:

```
DFS058I  ASSIGN COMMAND COMPLETED
```

Explanation: The node, BOSS, becomes the primary master terminal and the secondary master terminal.

Example 15 for /ASSIGN Command

Entry ET:

```
/ASSIGN LTERM PRIMARY TO LINE 1 PTERM 2 LINE 2 PTERM 4
```

Response ET:

```
DFS058I  ASSIGN COMMAND COMPLETED
```

Explanation: PTERM 2 on LINE 1 becomes the primary master terminal and PTERM 4 on LINE 2 becomes the secondary master terminal. PTERM 2 is a 3270 display station and PTERM 4 is a 3270 printer.

Example 16 for /ASSIGN Command

Entry ET:

```
/ASSIGN SEGNO 50 TO TRANSACTION APPLE
```

Response ET:

```
DFS058I  ASSIGN COMMAND COMPLETED
```

Explanation: A limit of 50 output segments is set for the transaction APPLE.

Example 17 for /ASSIGN Command

Entry ET:

```
/ASSIGN SEGSIZE 1000 TO TRANSACTION APPLE
```

Response ET:

```
DFS058I  ASSIGN COMMAND COMPLETED
```

/ASSIGN

Explanation: A maximum size of 1000 bytes is set for any one output segment of transaction APPLE.

Example 18 for /ASSIGN Command

Entry ET:

```
/ASSIGN USER ILL TO USER CAL
```

Response ET:

```
DFS058I ASSIGN COMMAND COMPLETED
```

Explanation: All the logical terminals of user ILL are appended to the existing LTERM string of user CAL. Use of this form of the /ASSIGN command leaves ILL with no LTERMS and therefore unavailable for allocation to a session. Both user ILL and CAL cannot be allocated to a session.

Example 19 for /ASSIGN Command

Entry ET:

```
/ASSIGN USER CAL TO VTAMPOOL
```

Response ET:

```
DFS058I ASSIGN COMMAND COMPLETED
```

Explanation: The entire allocated LTERM string defined for user CAL is reassigned to the VTAM pool. The node to which user CAL is allocated must not be in session and must be stopped and idle. User CAL is then available for allocation to any ISC session.

Example 20 for /ASSIGN Command

Entry ET:

```
/ASSIGN TRANSACTION APPLE TO CLASS 5
```

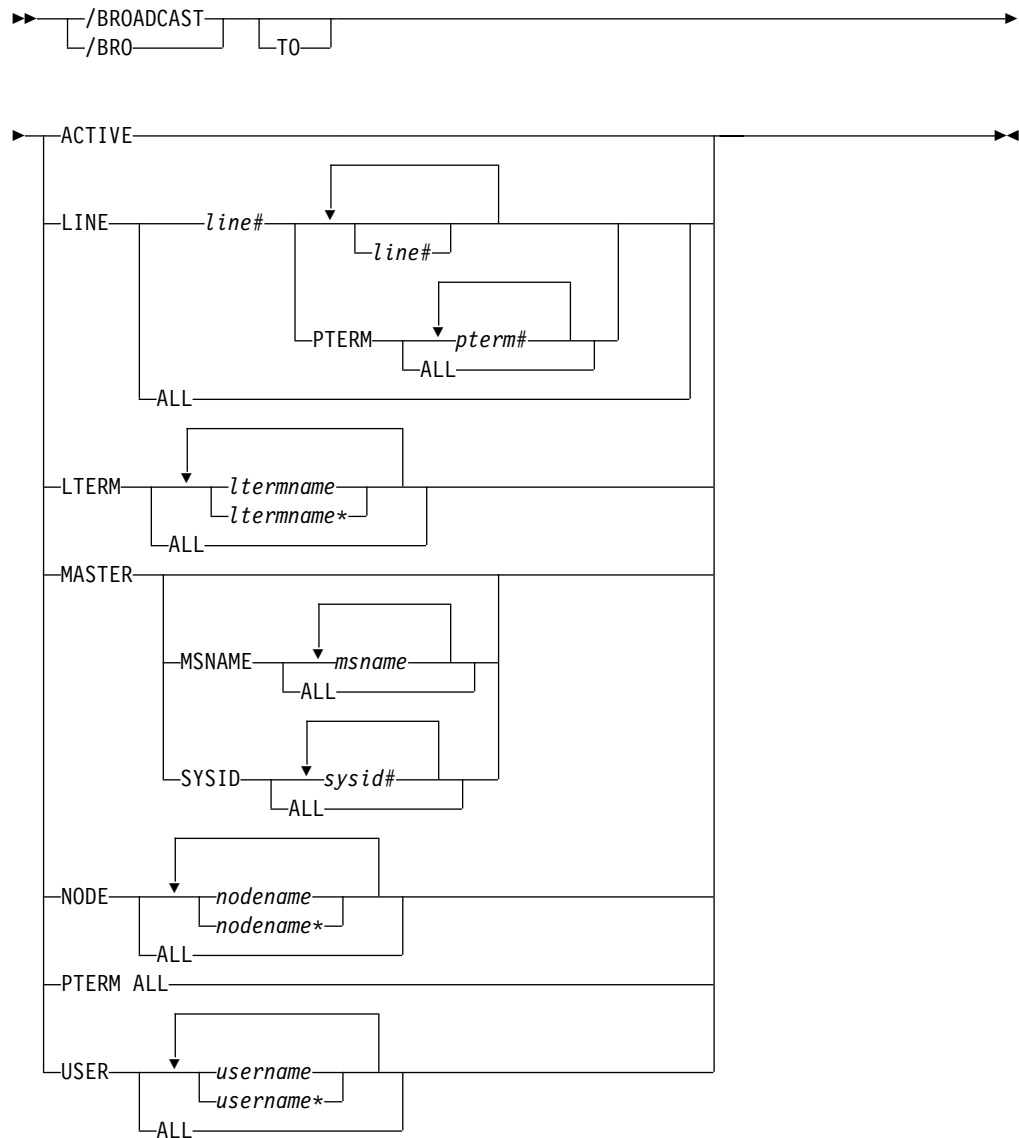
Response ET:

```
DFS058I ASSIGN COMMAND COMPLETED
```

Explanation: The transaction named APPLE is assigned to class 5.

Chapter 6. /BROADCAST

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/BROADCAST	X		X
ACTIVE	X		X
LINE	X		X
LTERM	X		X
MASTER	X		X
MSNAME	X		X

/BROADCAST

Command / Keywords	DB/DC	DBCTL	DCCTL
NODE	X		X
PTERM	X		X
SYSID	X		X
USER	X		X

Usage

/BROADCAST is a multisegment command used to send a message to terminals in one or more IMS systems. For /BROADCAST commands entered by the master terminal operator, the multisegment input from this command is combined into 79-character segments for output transmission. The first input segment contains only the broadcast destination. The second and subsequent input segments must contain the data to be broadcast. Messages that are broadcast are sent even if the line, terminal, or both, are stopped at the time the broadcast is issued.

All /BROADCAST formats require an EOM indication to denote end-of-message; an EOS indication must be included for all segments that precede the last segment. See "Multisegment Command Input" on page 6 for more detail on using EOM and EOS.

Unlike message switches, broadcast messages are sent to a terminal even when the terminal, associated line, or both, are not available (stopped, process stopped, or locked). However, broadcast messages are never sent to terminals if the MSGDEL parameter of the TERMINAL macro is specified MSGDEL=NONIOPCB.

Broadcast messages are always queued for logical terminals. When the ACTIVE, LINE, NODE, PTERM, or USER keywords are used, IMS queues the message for the first logical terminal found that is associated for output purposes with the specified line or physical terminal.

ACTIVE

Specifies that the supplied message is queued to the first LTERM allocated to each active node.

When operating on a dynamic terminal, the /BROADCAST ACTIVE command only succeeds if a signed on user exists. A signed on user must exist, otherwise there is no destination to which to send the message.

LINE

Specifies that a message is to be sent to all terminals associated with the specified line. PTERM specifies that the message is to be sent to specific terminals on the associated line.

LTERM

Specifies that a message is queued to each named LTERM in the local system or any remote system. The remote logical terminal must be defined in the input system.

Where a LTERM does not exist, IMS attempts to create the LTERM and associated user structure if ETO is active. LTERM parameters can be generic, where the generic parameter specifies logical terminals that already exist.

When /BROADCAST LTERM ALL is specified, one copy of the message is queued for each logical terminal in the local system. In a multiple systems

/BROADCAST

configuration, the message is not sent to remote systems when the ALL parameter is used. When more than one logical terminal is assigned to a physical terminal for output purposes, multiple copies of the message will result.

When the LTERM keyword specifies a logical terminal assigned to the VTAM pool, broadcast messages are queued for the first logical terminal in a subpool.

MASTER

Specifies that a message is to be sent to the IMS master terminal and to any specified secondary master terminal. Keywords SYSID and MSNAME can be used to further qualify the reserved parameter MASTER.

MSNAME

Specifies the logical link path in a multiple systems configuration.

NODE

Specifies that the supplied message is queued to the first output LTERM allocated to a terminal. If a terminal has no signed on user, no message can be queued. NODE parameters can be generic, where the generic parameter specifies nodes that already exist.

When operating on a dynamic terminal, the /BROADCAST NODE command only succeeds if a signed on user exists. A signed on user must exist, otherwise there is no destination to which to send the message.

PTERM

Specifies the physical terminal to which a message is to be sent.

SYSID

Specifies the system identification of a system in a multiple system configuration.

USER

Specifies the supplied message is queued to the first LTERM associated with an existing USER parameter can be generic. The /BROADCAST USER command applies only to existing dynamic users.

Examples

Example 1 for /BROADCAST Command

Entry ET:

```
/BROADCAST ACTIVE (EOS)
SYSTEM WILL BE SHUTDOWN FOR PM (EOS)
IN 5 MINUTES (EOM)
```

Response ET:

```
DFS058I BROADCAST COMMAND COMPLETED
```

Response RT:

```
SYSTEM WILL BE SHUTDOWN FOR PM IN 5 MINUTES
```

Explanation: The entered message is transmitted to all active terminals.

Example 2 for /BROADCAST Command

Entry ET:

/BROADCAST

```
/BROADCAST TO LTERM APPLE, TREE (EOS)
DON'T USE TRANSACTION GREENTRE UNTIL FURTHER (EOS)
NOTICE. (EOM)
```

Response ET:

```
DFS058I BROADCAST COMMAND COMPLETED
```

Response RT:

```
DON'T USE TRANSACTION GREENTRE UNTIL FURTHER
NOTICE.
```

Explanation: The entered message is transmitted to the logical terminals named APPLE and TREE.

Example 3 for /BROADCAST Command

Entry ET:

```
/BROADCAST TO LINE ALL (EOS)
SYSTEM WILL SHUTDOWN AT 5PM (EOM)
```

Response ET:

```
DFS058I BROADCAST COMMAND COMPLETED
```

Response RT:

```
SYSTEM WILL SHUTDOWN AT 5PM
```

Explanation: The entered message is transmitted to all physical terminals.

Example 4 for /BROADCAST Command

Entry ET:

```
/BROADCAST TO LINE 13 PTERM ALL (EOS)
EXPECT DEMO YOUR LINE AT 9PM (EOM)
```

Response ET:

```
DFS058I BROADCAST COMMAND COMPLETED
```

Response RT:

```
EXPECT DEMO YOUR LINE AT 9PM
```

Explanation: The entered message is transmitted to all physical terminals on line 13.

Example 5 for /BROADCAST Command

Entry ET:

```
/BROADCAST MASTER SYSID 2 (EOS)
SYSTEM WILL SHUTDOWN AT 5:00 PM (EOM)
```

Response ET:

```
DFS058I BROADCAST COMMAND COMPLETED
```

Response RT:

```
SYSTEM WILL SHUTDOWN AT 5:00 PM
```

Explanation: The message is transmitted to the master terminal of the system specified by the SYSID 2.

Example 6 for /BROADCAST Command

Entry ET:

```
/BROADCAST MASTER MSNAME BOSTON, CHICAGO (EOS)
SYSTEM WILL SHUTDOWN AT 5:00 PM (EOM)
```

Response ET:

```
DFS058I BROADCAST COMMAND COMPLETED
```

Response RT:

```
SYSTEM WILL SHUTDOWN AT 5:00 PM
```

Explanation: The message is transmitted to the master terminals. of the remote systems specified by the MSNAMEs BOSTON and CHICAGO.

Example 7 for /BROADCAST Command

Remote Terminal entry:

```
/FORMAT DFSMO4
/BRO LTERM WTOR (eos)
this is segment 1 (eos)
this is segment 2 (eos)
this is segment 3 (eom)
```

Response ET:

```
DFS058I BROADCAST COMMAND COMPLETED
```

Response RT:

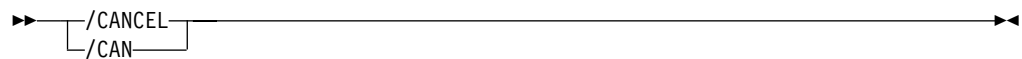
```
THIS IS SEGMENT 1
THIS IS SEGMENT 2
THIS IS SEGMENT 3
```

Explanation: The remote terminal is first formatted via the /FORMAT command, where default format DFSMO4 supports the input of four segments. This is followed by /BROADCAST with four segments.

IMS Commands

Chapter 7. /CANCEL

Format



Environments

Command	DB/DC	DBCTL	DCCTL
/CANCEL	X		X

Usage

/CANCEL cancels all segments of a multisegment input message. It must be entered prior to the end-of-message (EOM) indicator from the terminal that was entering the message. Because a /CANCEL command must comprise a segment, it cannot be used to cancel a single-segment message.

On a non-3270 device, you can cancel a single-segment message by entering two asterisks (**), followed immediately by an end-of-segment (EOS) indicator. When MFS is used, you can define delete characters other than (**) to cancel other segments besides the first.

/CANCEL command has no meaning on display terminals where it is not possible to have some segments of a message already received by IMS while receiving subsequent segments.

Example for /CANCEL Command

Entry ET:

```
/BROADCAST TO ACTIVE (EOS)  
SYSTEM WILL BE AVAILABLE (EOS)
```

Entry ET:

```
/CANCEL
```

Response ET:

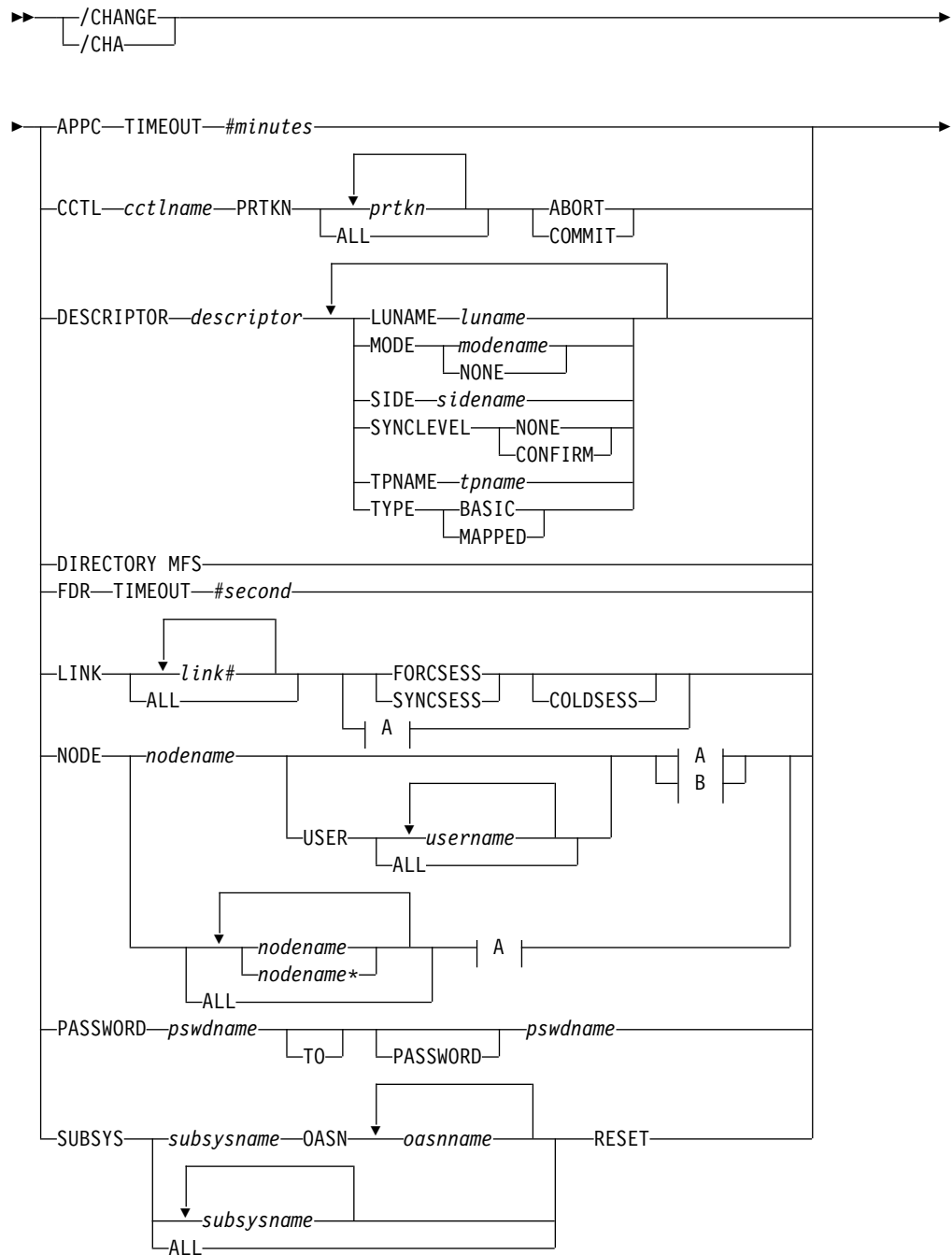
```
DFS058I  CANCEL COMMAND COMPLETED
```

Explanation: All previously entered segments of the current message are discarded.

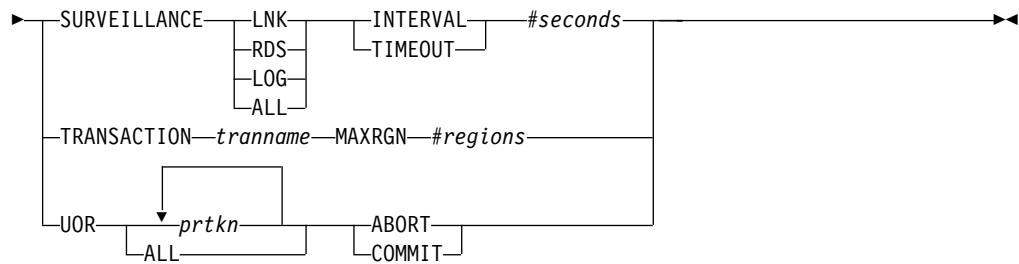
IMS Commands

Chapter 8. /CHANGE

Format



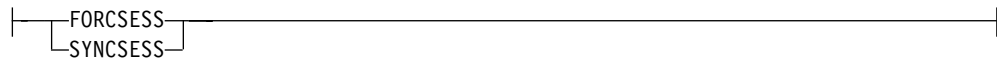
/CHANGE



A:



B:



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/CHANGE	X	X	X
ABORT	X	X	
APPC	X		X
ASR	X		X
CCTL	X	X	
COLDSESS	X		X
COMMIT	X	X	
DESCRIPTOR	X		X
DIRECTORY	X		X
FDR	X	X	
FORCESESS	X		X
INTERVAL	X		X
LINK	X		X
LUNAME	X		X
MAXRGN	X		X
MODE	X		X
NODE	X		X
OASN	X	X	X
PASSWORD	X	X	X

Command / Keywords	DB/DC	DBCTL	DCCTL
RESET	X	X	X
SIDE	X		X
SUBSYS	X	X	X
SURVEILLANCE	X		X
SYNLEVEL	X		X
SYNCESS	X		X
TIMEOUT	X	X	X
TPNAME	X		X
TRANSACTION	X		X
TYPE	X		X
UOR	X		X
USER	X		X

Usage

/CHANGE is a multisegment command used to change or delete internal resources within IMS.

All /CHANGE formats require an EOM indication to denote end-of-message; an EOS indication must be included for all segments that precede the last segment. See "Multisegment Command Input" on page 6 for more detail on using EOS and EOM.

APPC

Specifies a change to the timeout value for APPC/IMS. This value is set in the DFSDCxxx member of IMS.PROCLIB. IMS will pass this value to APPC/MVS for every implicit APPC/IMS conversation.

A DFS3490I or DFS3491I message will be issued after the /CHANGE APPC TIMEOUT command to inform the operator about the new timeout value.

TIMEOUT #minutes

Specifies when (in number of minutes) that an APPC/IMS conversation will time out. This value, if specified, must be between zero and 1440. If the timeout value is zero, APPC/IMS will be deactivated.

CCTL

Specifies the coordinator control subsystem that DBCTL recovery elements will alter. cctlname is the CCTL subsystem ID.

prtkn

Specifies the pseudo recovery token, which designates the unit of recovery to be aborted or committed. Use the /DISPLAY CCTL command to determine the pseudo recovery token name.

ABORT

Backs out changes for a unit of recovery. After completion of backout, the recoverable indoubt structure (RIS) is removed.

COMMIT

Commits changes for a unit of recovery. After the process is complete, the RIS is removed.

/CHANGE

DESCRIPTOR

Specifies the name of an LU 6.2 descriptor that will be updated with new values. An error message is issued if the specified descriptor is not found.

Note: The /CHANGE DESCRIPTOR command changes the destination for future messages only. It does not change the destination for existing messages. The existing output messages are delivered only to the luname and tpname that had been previously specified for that message. This restriction is required by security requirements so message delivery to the intended destination only occurs at the time the messages are created.

LUNAME

Specifies the LU name that is updated in the LU 6.2 descriptor.

The luname value in the descriptor is set to blanks unless the LUNAME keyword is also specified. A network-qualified LU name is optional for the LUNAME keyword.

MODE

Specifies the VTAM mode table entry name that is updated in the LU 6.2 descriptor. The NONE parameter resets the mode field to its null state.

The MODE value in the descriptor is set to blanks unless the MODE keyword is also specified.

SIDE

Specifies the APPC/MVS side information that is set in the LU 6.2 descriptor. The side information contains default values for APPC conversation attributes such as LUNAME, TPNAME, and MODE.

SYNCLEVEL

Specifies the APPC sync level that is updated in the LU 6.2 descriptor. One of the following must be specified:

CONFIRM

IMS sync point processing continues.

NONE

IMS sync processing continues despite a session failure.

TPNAME

Specifies the tpname that is updated in the LU 6.2 descriptor. Message DFS182 is issued if the TPNAME parameter specified is DFSSIDE.

The TPNAME value in the descriptor is set to blanks unless the TPNAME keyword is also specified.

TYPE

Specifies the APPC conversation type that is updated in the LU 6.2 descriptor.

The conversation types are:

BASIC

Specifies that the data is to be formatted by the transaction programs, using the pattern "LL,data,LL,data".

MAPPED

Specifies that the data is to be formatted by APPC.

DIRECTORY

Specifies that the entries in the MFS dynamic directory are to be deleted. This restores the dynamic directory to the original state that it was in just after IMS was initialized.

When IMS is initialized, IMS creates an MFS block primary directory based on the contents of all the \$\$IMSDIR members found. At the same time, IMS issues GETMAINS to acquire additional storage that is large enough to hold approximately 10% of the members in the active format library. While IMS is running, entries are only added to the dynamic directory, they are not deleted. Therefore, the dynamic directory continues to get larger until it runs out of space. When this happens, IMS can extend the amount of space in the dynamic directory to hold another 10%. IMS can extend the size of the dynamic directory a maximum of 9 times.

If you want to delete the in-storage (or index) entries from the dynamic directory without restarting IMS or performing an online change for the format library, use the /CHANGE DIRECTORY MFS command.

FDR

Specifies a change to the timeout value for IMS Fast Database Recovery surveillance. This value is set in the DFSFDRxx member of IMS.PROCLIB. IMS uses this value to determine how long to wait before initiating a Fast Database Recovery takeover.

The timeout value (*#seconds*) must be at least 3 but no greater than 999.

IMS rejects this command if the active IMS subsystem is not connected to a Fast Database Recovery region.

LINK

Applies only to IMS systems linked by MSC using VTAM.

Use the LINK keyword with FORCSESS, SYNCSESS, COLDSESS to override the system definition option defined for forcing resynchronization until the next /CHANGE LINK command or IMS cold start.

FORCSESS

Forces a session to come up, whether or not the message sequence numbers agree. When FORCSESS is used with COLDSESS, the session is set up so that cold start can occur, and, when it is cold started, it is forced to come up, whether or not the message sequence numbers agree. The use of FORCSESS could cause messages to be lost, so it should be used if a session could not be brought up, and loss of messages is of little importance while a session is being brought up.

SYNCSESS

Is used to complete session initiation, only if the message sequence numbers and the restart modes agree. When this keyword is used with COLDSESS, the session is set up so that it can be cold started, and, after cold start, it can be initiated only if the sequence numbers and the restart modes agree.

COLDSESS

Is used to set up a session so that it can be cold started. If this keyword is used with FORCSESS or SYNCSESS, the COLDSESS keyword is always acted upon first. Use of this keyword could cause messages to be lost. This

/CHANGE

keyword should be used if one of the systems associated with an MSC link goes down, and the only way to bring the session up is to cold start it.

The COLDSESS keyword can be specified to clear out control blocks associated with the specified link or links and reset the link's status to COLD. COLDSESS should be used only after the /PSTOP command has been issued and completed against the link or links and the links appear to be hung. If COLDSESS is specified, it should be used on both sides of the link or links, and documentation should be gathered to try to determine why the link or links did not come down normally.

ASR

Changes the automatic session restart designation of a link. The default parameter for ASR is ON.

Automatic session restart is not necessarily activated for a link just because a status of ASR is displayed for that link. You must also have coded SONSCIP=YES on the APPL definition statement for VTAM when defining the network for the VTAM.

MODE

Changes the default mode table name of a link. This default is usually established by system definition. Parameter NONE resets this field to its null state (as if no mode table name was specified at system definition).

Changing ASR or mode table name for non-VTAM MSC links is invalid. If non-VTAM MSC links are referred to specifically in the /CHANGE LINK ASR or /CHANGE LINK MODE commands, they will be marked in error.

NODE

Specifies a VTAM node to be changed. The NODE parameter can be generic if the USER keyword is not present. The generic parameter specifies nodes that already exist.

ASR

The ASR keyword allows you to change the automatic session restart designation of a node. The default parameter for ASR is ON.

Automatic session restart is not necessarily activated for a node just because a status of ASR is displayed for that node. You must also have coded SONCSIP=YES on the APPL definition statement for VTAM when defining your network.

FORCSESS, SYNCSESS

The FORCSESS and SYNCSESS keywords are only valid for ISC nodes. Specify FORCSESS and SYNCSESS to override the system definition or logon descriptor option defined to force or not force synchronization of sessions. This override is effective until the next /CHANGE command is issued or an IMS cold start is effected.

MODE

Changes the default mode table name of a node. This default is usually established by system definition or logon descriptor. MODE resets this field to its null state (as if no mode table name had been specified at system definition).

Changing ASR or the mode table name for VTAM 3270 nodes is invalid. If nodes of this type are referred to specifically in the /CHANGE ASR or /CHANGE MODE commands, they are marked in error.

USER

Indicates the ISC user that is allocated to the node or the dynamic user that is signed on to the node.

PASSWORD

Password security is created by the IMS Security Maintenance utility and invoked at IMS restart time through the presence of the PASSWORD operand. PASSWORD pswdname must be defined prior to the entry of this command. Passwords are defined by use of the Security Maintenance utility or by a previous /CHANGE command. Command execution results in a direct password replacement. If the password operand pswdname does not exist in the user's IMS system, the /CHANGE command is rejected. Because duplicate passwords are not acceptable, PASSWORD pswdname (where this password name is the second name given in the command) must not have been previously defined when /CHANGE PASSWORD is entered or the password will be rejected.

SUBSYS

Specifies the subsystem name from which IMS recovery elements are to be deleted. OASN specifies the outstanding recovery element to be deleted. RESET causes an incomplete unit of work assigned to an external subsystem (not a CCTL subsystem) to be deleted.

SURVEILLANCE

Specifies that the interval or timeout value on the active or alternate system in an XRF environment is changed. The following keyword parameters identify the surveillance mechanism:

LNK	IMS ISC link
LOG	IMS system log
RDS	IMS restart data set
ALL	Same as specifying LNK, LOG, and RDS

The INTERVAL or TIMEOUT keyword identifies the new value in seconds and must be in the range 1 through 99. When /CHANGE SURVEILLANCE is entered on the active system, it becomes effective on both the active and alternate systems, if the alternate system is up. If entered on the alternate system, only the alternate system is changed.

It is recommended that surveillance be changed on the active system and allowed to take affect on the alternate system.

Additional considerations when changing the TIMEOUT values are shown in Table 17.

Table 17. Changing the TIMEOUT Value

System the Command Is Entered on	Requirement	Action Taken for Exceptions
Active	New timeout value must be \geq twice the active interval value.	DFS3832 issued. Active timeout value forced to twice the active interval value.
Alternate	Alternate interval value must be \geq active interval value.	DFS3812 issued. Alternate interval value forced to active interval value.
Alternate	New timeout value must be \geq twice the alternate interval value.	DFS3832 issued. Alternate timeout value forced to twice the alternate interval value.

/CHANGE

Additional considerations when changing the INTERVAL values are shown in Table 18.

Table 18. Changing the INTERVAL Value

System the Command Is Entered on	Requirement	Action Taken for Exceptions
Active	Twice the new interval value must be \leq active timeout value.	DFS3832 issued. Active timeout value forced to twice the new interval value.
Alternate	Alternate interval value must be \geq active interval value.	DFS3812 issued. Alternate interval value forced to active interval value.
Alternate	New alternate interval value must be \geq alternate LOG interval value (LNK and RDS).	DFS3833 issued. Alternate interval value forced to alternate log interval value.
Alternate	New alternate interval value \leq alternate RDS and LNK interval value (LOG only).	DFS3833 issued. Alternate interval value forced to alternate RDS then LNK interval value.
Alternate	Twice the new interval value must be \leq alternate timeout value.	DFS3832 issued. Alternate timeout value forced to twice the new interval value.

TRANSACTION, MAXRGN

The MAXRGN keyword is used with the TRANSACTION keyword to change the maximum number of regions that can be simultaneously scheduled for a given transaction. The transaction must be eligible for parallel scheduling (load balancing). For static transactions, the MAXRGN parameter (#regions) is initially set by system definition using the TRANSACT macro statement. For CPI Communications driven transactions, the initial value is obtained from the TP profile. The value of #regions can be in the range of 0 to the number specified on the MAXPST= control region parameter. If MAXPST is not specified, the default is 255. The maximum that can be specified for MAXPST is 999. For more information on the TP profile, see *IMS/ESA Administration Guide: Transaction Manager*.

The /DISPLAY TRANSACTION command indicates whether a transaction is eligible for load balancing with a status of BAL, followed (in parentheses) by the current maximum number of regions that can be simultaneously scheduled.

UOR

Specifies that IMS should resolve units of recovery (UORs) for protected resources on the RRS/MVS recovery platform.

Recommendation: Use /CHANGE UOR only when you are certain that no other resource managers would be adversely affected after IMS resolves the UOR.

prtkn

Specifies the six-byte pseudotoken for the unit of work ID of the protected UOR. Use the /DISPLAY UOR command to obtain the UOR ID.

If you specify ALL, the /CHANGE UOR command affects all units of recovery.

ABORT

Specifies that IMS back out changes for the protected resources.

COMMIT

Specifies that IMS make changes permanent for the protected resources.

Examples for /CHANGE Command

Example 1 for /CHANGE Command

This set of examples shows that an INDOUBT unit of recovery can be aborted if the INDOUBT status cannot be resolved. The /CHANGE ... PRTKN command backs out changes made to the database.

Entry ET:

```
/DISPLAY CCTL CICS1 IND
```

Response ET:

CCTL	PSEUDO-RTKN	RECOVERY-TOKEN	REGID	PSBNAME	STATUS
CICS1					ATTACHED
	000100C0	9FFA956B7AE24E00		BMP255	INDOUBT
	00010040	9FFA9568FF594301		BMP255	INDOUBT
90067/113446					

Entry ET:

```
/CHANGE CCTL CICS1 PRTKN 000100C0 ABORT (EOM)
```

Response ET:

```
DFS058I CHANGE COMMAND COMPLETED
```

Explanation: The INDOUBT unit of recovery whose pseudo recovery token (PRTKN) is 000100C0 has been aborted.

Example 2 for /CHANGE Command

This set of commands illustrate how the ASR setting of a link can be modified by the /CHANGE command:

Entry ET:

```
/DISPLAY LINK 6
```

Response ET:

LINK	PARTNER	RECD	ENQCT	DEQCT	QCT	SENT	
6	AL	0	0	0	0	0	ASR PSTOPPED IDLE COLD
90179/102004 IMSA							

Explanation: Automatic Session Restart was defined for link 6 by system definition.

Entry ET:

```
/CHANGE LINK 6 ASR OFF (EOM)
```

Response ET:

```
DFS058I CHANGE COMMAND COMPLETED
```

Entry ET:

```
/DISPLAY LINK 6
```

Response ET:

/CHANGE

```
LINK PARTNER  RECD  ENQCT  DEQCT  QCT  SENT
   6 AL        0      0      0      0      0 PSTOPPED IDLE COLD
*90179/102126*
```

Explanation: Automatic Session Restart is not available for link 6

Entry ET:

```
/CHANGE LINK 6 ASR (EOM)
```

Response ET:

```
DFS058I  CHANGE COMMAND COMPLETED
```

Explanation: The ASR parameter will default to ON.

Entry ET:

```
/DISPLAY LINK 6
```

Response ET:

```
LINK PARTNER  RECD  ENQCT  DEQCT  QCT  SENT
   6 AL        0      0      0      0      0 ASR PSTOPPED IDLE COLD
*90179/102300*
```

Explanation: Automatic Session Restart is in effect again as a result of the second /CHANGE command.

Example 3 for /CHANGE Command

Changing ASR for NODE or NODE/USER is similar to changing ASR for LINK. See the previous example for the commands used to change ASR.

Example 4 for /CHANGE Command

Entry ET:

```
/DISPLAY NODE LUTYPEP1 MODE
```

Response ET:

```
NODE-USR  TYPE  DEF MODETBL  ACT MODETBL
LUTYPEP1  SLUP  DEFRESP
*90179/100630*
```

Explanation: DEFRESP is the mode table name defined for node LUTYPEP1 at system definition or logon descriptor or resource creation. The session is not active so the active mode table field (ACT MODETBL) is blank.

Entry ET:

```
/CHANGE NODE LUTYPEP1 MODE XXXXXXXX (EOM)
```

Response ET:

```
DFS058I  CHANGE COMMAND COMPLETED
```

Explanation: /CHANGE is a multisegment command and must be terminated by an end-of-message indicator.

Entry ET:

```
/DISPLAY NODE LUTYPEP1 MODE
```

Response ET:

```
NODE-USR TYPE   DEF MODETABL ACT  MODETABL
LUTYPEP1 SLUP   XXXXXXXXX
*84179/100733*
```

Explanation: The default mode table name has been changed to XXXXXXXXX by the previous /CHANGE command. The session is still not active so the active mode table field (ACT MODETABL) is blank.

Example 5 for /CHANGE Command

Entry ET:

```
/CHANGE PASSWORD 1234 TO WXYZ (EOM)
```

Response ET:

```
DFS058I  CHANGE COMMAND COMPLETED
```

Explanation: Password 1234 is changed to password WXYZ.

Example 6 for /CHANGE Command

Entry ET:

```
/CHANGE SUBSYS DSN RESET (EOM)
```

Response ET:

```
DFS058I  CHANGE COMMAND COMPLETED
```

Explanation: Reset all IN-DOUBT recovery units for subsystem DSN.

Example 7 for /CHANGE Command

Entry ET:

```
/CHANGE SUBSYS ALL RESET (EOM)
```

Response ET:

```
DFS058I  CHANGE COMMAND COMPLETED
```

Explanation: Reset all IN-DOUBT recovery units for all subsystems.

Example 8 for /CHANGE Command

Entry ET:

```
/CHANGE SUBSYS ABCD OASN 99 685 2920 RESET (EOM)
```

Response ET:

```
DFS058I  CHANGE COMMAND COMPLETED
```

Explanation: Reset IN-DOUBT recovery units identified by OASN numbers 99, 685, 2920 for subsystem ABCD.

Example 9 for /CHANGE Command

This set of commands illustrates how SURVEILLANCE can be modified by the /CHANGE command.

Entry ET (Alternate system):

```
/DISPLAY HSB
```

/CHANGE

Response ET (Alternate system):

```
RSENAME      STATUS    PHASE    IMS-ID    VTAM UVAR  ACT-ID    LOG-TIME
DFSRSENM     BACKUP   TRK      IMSB      USERVAR  IMSA     10:35:17
              BACKUP SYSTEM
              ACTIVE SYSTEM
SURVEILLANCE INTERVAL TIMEOUT STATUS  INTERVAL TIMEOUT STATUS
LOG           2         99  INACTIVE      2         99  INACTIVE
LNK           4         99  INACTIVE      4         99  INACTIVE
RDS           3         99  INACTIVE      3         99  INACTIVE
TAKEOVER CONDITIONS - ALARM AUTO
RDS LINK LOG                *RDS LINK
VTAM                        *IRLM
*91226/103517*
```

Entry ET (Alternate system):

```
/CHANGE SURVEILLANCE LNK INTERVAL 3 (EOM)
```

Response ET (Alternate system):

```
DFS058I CHANGE COMMAND COMPLETED
DFS3812I BACKUP LNK INTERVAL VALUE OF 3 HAS BEEN FORCED TO ACTIVE VALUE OF 4
DFS3811I LNK SURVEILLANCE INACTIVE: INTERVAL VALUE CHANGED FROM 4 TO 4
```

Explanation: An attempt to change the interval value was made by entering /CHANGE on the alternate system. The new alternate interval value was not \geq the active interval value so IMS forced the interval to the active value and issued asynchronous message DFS3812. Asynchronous message DFS3811 indicates the status of the change following the above action by IMS.

Example 10 for /CHANGE Command

The following commands illustrate how to change the maximum number of regions that can be simultaneously scheduled for a given transaction.

Entry ET:

```
/DISPLAY TRANSACTION SKS7
```

Response ET:

```
TRAN  CLS  ENQCT  QCT  LCT  PLCT  CP  NP  LP  SEGSZ  SEGNO  PARLM  RC
SKS7   7    0    0  65535  65535  8  8  8    0    0    1  0
      PSBNAME: DFSDDL7
      STATUS: BAL( 2)
*90226/134816*
```

Explanation: The status of transaction SKS7 indicates it is eligible for load balancing (BAL) and that two regions can be simultaneously scheduled.

Entry ET:

```
/CHANGE TRANSACTION SKS7 MAXRGN 4 (EOM)
```

Response ET:

```
DFS058I CHANGE COMMAND COMPLETED
```

Entry ET:

```
/DISPLAY TRANSACTION SKS7
```

Response ET:


```

TRAN  CLS ENQCT  QCT  LCT  PLCT CP NP LP SEGSZ  SEGNO PARLM RC
SKS7   7   0    0 65535 65535 8 8 8    0    0    1  0
      PSBNAME: DFSDDL7
      STATUS: BAL( 4)
*90226/134845*

```

Explanation: The maximum number of regions that can be simultaneously scheduled for transaction SKS7 has been changed from 2 to 4.

Example 11 for /CHANGE Command

The following commands illustrate the changing of a unit of recovery.

Entry ET:

```
/CHANGE UOR 010040 ABORT
```

Response ET:

```

DFS058I CHANGE COMMAND COMPLETED
DFS0699I RESYNC ABORT COMPLETE FOR PSB STLDDTL1, PRTKN=00010040,
      TOKEN IMS2  0000000100000000 IMS2
*97226/134816*

```

Explanation: IMS backs out changes for pseudo recovery token 010040.

Entry ET:

```
/CHANGE UOR 010040 COMMIT
```

Response ET:

```

DFS058I CHANGE COMMAND COMPLETED
DFS0699I RESYNC COMMIT COMPLETE FOR PSB STLDDTL1, PRTKN=00010040,
      TOKEN IMS2  0000000100000000 IMS2
*97226/134816*

```

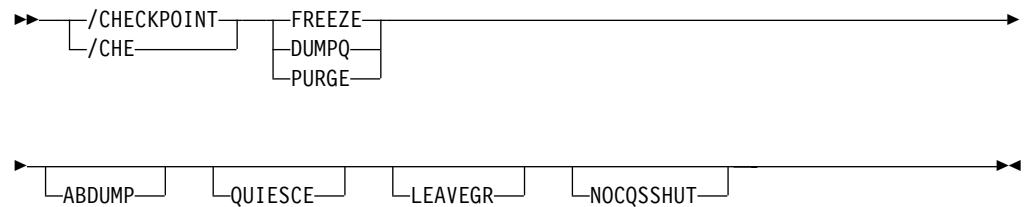
Explanation: IMS makes changes for pseudo recovery token 010040 permanent.

IMS Commands

Chapter 9. /CHECKPOINT

Format

Shutdown Checkpoint

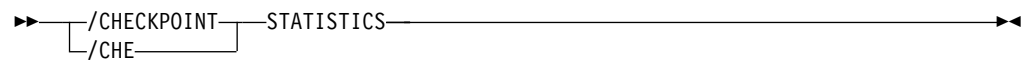


Attention: This command shuts down your IMS system. Be sure you understand the consequences of shutting down the system before you issue this command.

Simple Checkpoint



Statistics Checkpoint



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/CHECKPOINT	X	X	X
ABDUMP	X	X	X
DUMPQ	X		X
FREEZE	X	X	X
NOCQSSHUT			X
PURGE	X	X	X
QUIESCE	X		X
SNAPQ	X		X
STATISTICS	X	X	X

Usage

The /CHECKPOINT command records control and status information on the system log. /CHECKPOINT can be used to take a simple checkpoint of IMS, with the option of also dumping the contents of the message queue data sets to the system log or to shut down IMS normally. When IMS is shut down by the /CHECKPOINT command, it can be restarted with the /NRESTART command.

There are two conditions under which IMS cannot complete a shutdown normally. The most frequent is when there are multiple-page messages on a master terminal BTAM line, paging is not complete, and the master terminal is sharing a communication line with other physical terminals. It might be necessary to use the /ASSIGN command to reassign the master terminal to a line by itself so that the /IDLE command can be issued to terminate the multiple page output. If the master terminal cannot be reassigned to another line, assign it to the system console line.

The second condition occurs when a number of IMS-generated system messages are awaiting delivery to the master terminal. All system messages destined for the master terminal will be delivered, because they can impact the way the system is restarted. The master terminal operator should acknowledge delivery of a message by causing an I/O interrupt; that is, pressing PA2, which in turn causes another message to be sent, if one exists. Another option is to assign the master terminal to the system console.

When the /CHECKPOINT command is used to shut down IMS, the /BROADCAST command can be helpful in notifying the remote terminal operators that IMS is shutting down.

(blank)

Requests a simple checkpoint. Simple checkpoints are also invoked by IMS based on the number of entries to the system log. The number of log entries between simple checkpoints is specified during system definition. In an ETO environment, any dynamic nodes, LTERMs or users with no messages queued or status are deleted.

ABDUMP

Requests an abnormal termination dump of the IMS control region in addition to the shutdown option selected.

In a DBCTL environment, when /CHECKPOINT FREEZE ABDUMP is entered, all of the DBCTL address spaces are dumped.

FREEZE | DUMPQ | PURGE

Requests a shutdown of IMS. These variations of shutdown are provided for control over the method of stopping programs and lines, and to control the method of disposing of queues. The effects of these variations are shown in Table 19 on page 117. The request for a checkpoint shutdown might not be responded to immediately if any dependent regions are active. IMS will wait until these regions complete their current processing before continuing with the checkpoint shutdown. Message resynchronization for a specified transaction pipe does not affect IMS shutdown.

Restriction: A shutdown checkpoint is not allowed in a shared-queues environment if the CQS is not available.

Connections to external subsystems (not CCTL subsystems) will be quiesced. Connection attempts originating from dependent regions will be prohibited. After all dependent region connections have terminated, the control region will terminate its connection.

The DUMPQ and SNAPQ keywords designate starting points from which the message queue data sets can be rebuilt. However, the SNAPQ option dumps the message queues online while IMS is running without causing a shutdown of IMS.

The PURGE keyword attempts to empty all the queues, so that no outstanding work remains. For DBCTL, active CCTL threads are allowed to complete before this keyword takes effect. This is also true when ABDUMP is used with this keyword.

The FREEZE keyword shuts down IMS pending actions shown in Table 19. For DBCTL, active CCTL threads are allowed to complete before this keyword takes effect. This is also true when ABDUMP is used with this keyword.

In a DBCTL environment, when /CHECKPOINT FREEZE ABDUMP is entered, all of the DBCTL address spaces are dumped.

In a shared-queues environment, the DUMPQ and PURGE keywords cause IMS to shut down (as if you entered a /CHECKPOINT FREEZE command), but the message queues are not dumped or purged because the local IMS subsystem has no local queues. To dump the shared message queues when CQS terminates, use the /CQSET command before issuing the IMS shutdown checkpoint command.

Table 19. IMS Shutdown Options and Their Effect on IMS Resources

Resource Status	FREEZE Keyword	DUMPQ Keyword	PURGE Keyword
Message processing regions stopped	At program completion	At program completion	When transaction queues are empty
Batch message processing regions stopped	At checkpoint, SYNC call, or program completion	At checkpoint, SYNC call, or program completion	At program completion
Line input stopped	At message completion	At message completion	At message completion
Line output stopped	At message completion	At message completion	When all messages complete
Transaction and message queues	Retained in queue data sets	Dumped to system log	Emptied normally
Message-driven regions stopped	At message completion	At program completion	When transaction queues are empty
Fast Path output messages queued	Dumped to system log	Dumped to system log	Emptied normally
Fast Path input messages queued	Discarded	Emptied normally	Emptied normally
Fast Path DEDB online utility region	At program completion	At program completion	At program completion
Fast Path DEDBs	Closed	Closed	Closed
MSDBs	Dumped to MSDB checkpoint data set	Dumped to MSDB checkpoint data set	Dumped to MSDB checkpoint data set

/CHECKPOINT

Table 19. IMS Shutdown Options and Their Effect on IMS Resources (continued)

Resource Status	FREEZE Keyword	DUMPQ Keyword	PURGE Keyword
CCTL Regions	See <i>IMS/ESA Customization Guide</i> for discussion of DRA threads.		

LEAVEGR

Deletes all affinities from the VTAM affinity table for the IMS subsystem on which this command is issued. Using this keyword removes the IMS subsystem from the generic resource group.

Recommendation: Cold start the DC component of an IMS subsystem that has been shut down with the LEAVEGR keyword to ensure that all affinities in IMS control blocks are also deleted. The IMS subsystem rejoins the generic resource group during startup.

If the VTAM ACB is closed (usually because of a /STOP DC command), a shutdown checkpoint command with the LEAVEGR keyword is rejected.

NOCQSSHUT

Is used with the /CHE DUMPQ, /CHE FREEZE, or /CHE PURGE commands to **not** shut down the CQS address space when the IMS control region terminates. The CQS address space remains active and connected to the message queue structures. NOCQSSHUT is only applicable when IMS is running in a shared-queues environment. The default is to shut down the CQS address space when the IMS control region terminates.

QUIESCE

Halts processing of all VTAM terminals. When QUIESCE is specified, IMS sends the VTAM shutdown indicator to all VTAM terminals and waits until these nodes have completed processing before performing the normal checkpoint shutdown. During the processing of a quiesce shutdown, the master terminal operator might want to terminate the VTAM network without waiting for the orderly termination to complete. This can be done by entering the /CHECKPOINT command again, either with FREEZE, DUMPQ, or PURGE but without QUIESCE.

SNAPQ

Requests a simple checkpoint and dumps the contents of the message queues to the system log.

In a shared-queues environment, /CHECKPOINT SNAPQ does not snap the queues because the local IMS subsystem has no local queues. Use the /CQCHKPT command to initiate a CQS structure checkpoint.

In an XRF environment, /CHECKPOINT SNAPQ synchronizes the active and alternate IMS subsystems.

STATISTICS

Requests that IMS performance records be created and written to the system log. No other checkpoint processing occurs.

The /CHECKPOINT STATISTICS command does not create a system checkpoint on the log.

Examples

Example 1 for /CHECKPOINT Command

Entry ET:

```
/CHECKPOINT
```

Response ET:

```
DFS058I (time stamp) CHECKPOINT COMMAND IN PROGRESS  
DFS994I *CHKPT 82102/110247**SIMPLE*
```

Explanation: A simple checkpoint of IMS is written to the system log at 110247 (time) on 82102 (Julian date). The checkpoint number is 82102/110247.

Example 2 for /CHECKPOINT Command

Entry ET:

```
/CHECKPOINT FREEZE
```

Response ET:

```
DFS058I (time stamp) CHECKPOINT COMMAND IN PROGRESS  
DFS994I *CHKPT 82206/120118**FREEZE*
```

Explanation: IMS is terminated after all checkpoint freeze functions complete. The checkpoint is written to the system log at 120118 (time) on 82206 (Julian date). The checkpoint number is 82206/120118.

Example 3 for /CHECKPOINT Command

Entry ET:

```
/CHECKPOINT FREEZE QUIESCE
```

Response ET:

```
DFS058I (time stamp) CHECKPOINT COMMAND IN PROGRESS  
DFS994I *CHKPT 82102/110247**FREEZE*
```

Explanation: IMS is terminated after all VTAM nodes have returned a shutdown-complete indicator to IMS and IMS has completed all checkpoint freeze functions. The checkpoint is written to the system log at 110247 (time) on 82102 (Julian date). The checkpoint number is 82102/110247.

Example 4 for /CHECKPOINT Command

Entry ET:

```
/CHECKPOINT PURGE ABDUMP
```

Response ET:

```
DFS058I (time stamp) CHECKPOINT COMMAND IN PROGRESS  
DFS994I *CHKPT 82128/101112**PURGE*
```

Explanation: IMS is terminated after all checkpoint purge functions complete. The checkpoint is written to the system log at 101112 (time) on 82128 (Julian date). The checkpoint number is 82128/101112.

An MVS/ESA ABEND message is issued when the dump of the IMS control region completes.

/CHECKPOINT

Example 5 for /CHECKPOINT Command

Entry ET:

```
/CHECKPOINT PURGE
```

Response ET:

```
DFS058I (time stamp) CHECKPOINT COMMAND IN PROGRESS  
DFS994I *CHKPT 82103/131415**PURGE*
```

Explanation: IMS is terminated after all checkpoint purge functions complete. The checkpoint is written to the system log at 131415 (time) on 82103 (Julian date). The checkpoint number is 82103/131415.

Example 6 for /CHECKPOINT Command

Entry ET:

```
/CHECKPOINT STATISTICS
```

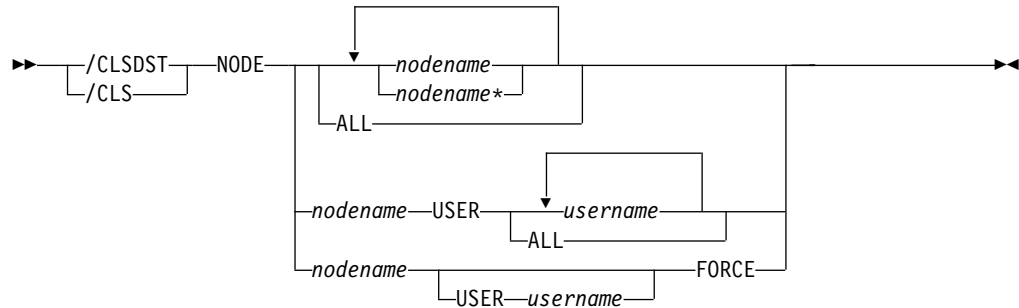
Response ET:

```
/DFS058I (timestamp) CHECKPOINT COMMAND IN PROGRESS  
/DFS994I STATISTICS CHECKPOINT COMMAND COMPLETED
```

Explanation: IMS performance statistics records are written to the system log. No other information is saved. This checkpoint cannot be used for a system restart.

Chapter 10. /CLSDST

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/CLSDST	X		X
FORCE	X		X
NODE	X		X
USER	X		X

Usage

/CLSDST causes IMS to disconnect a VTAM terminal.

FORCE

Allows IMS to reinitialize a hung node with I/O in progress. FORCE reinitializes one session and is valid only on an active IMS system. To activate FORCE, use the command /CLSDST NODE P1 FORCE. For ISC nodes with parallel sessions, the NODE and USER keywords must be specified and only one USER parameter is allowed.

FORCE operates under the following conditions:

- A display from VTAM indicates that no session exists. If a session does exist, or is in process, you must issue the VTAM command VARY NET,INACT,FORCE to terminate the session, and the command must successfully complete. This command terminates all parallel sessions.
If VARY NET,INACT,FORCE is not issued or does not successfully complete before you issue the FORCE command, and the terminal is in the process of creation or termination, the results might be unpredictable.
- The session is connected to IMS and output is in progress. A /DISPLAY on the node indicates that a CID exists, that the node is connected (a status of CON is displayed), and that the node is not idle (a status of IDLE is not displayed).

NODE

Specifies the node to be disconnected by IMS. The specified node must be

/CLSDST

connected before a command is issued to disconnect it, as indicated by CON on the /DISPLAY NODE command referring to that terminal.

If the USER keyword is omitted for ISC nodes, all half-sessions of a session type 6 node are terminated. If the USER keyword is omitted, generic parameters are allowed for the NODE keyword.

The timing of the disconnection depends on the type of terminal:

- For keyboards or printers, console components and interactive terminals, the disconnection occurs at the next message boundary.
- For component types that group messages (such as a SLU 1 statement reader, printer, or disk), the disconnection occurs at the end of any group where processing is in progress.
- For 3270 displays, the disconnection occurs at the completion of the current (if any) I/O operation.

USER

Must be specified with the NODE keyword. NODE USER specifies the ISC user allocated to the ISC node or the dynamic user signed on to the dynamic node. When a /CLSDST NODE nodename USER username command is issued, it only affects the NODE if the USER is still associated with the node.

For non-ISC dynamic nodes, this command is valid only if the user is still signed on to the node. For ISC nodes, the half-sessions of the ISC node allocated to the specific users are terminated and the users are not deallocated from the session. On restart, the /OPNDST command must specify the same users and ID pairs.

Example for /CLSDST Command

Entry ET:

```
/CLSDST NODE WEST
```

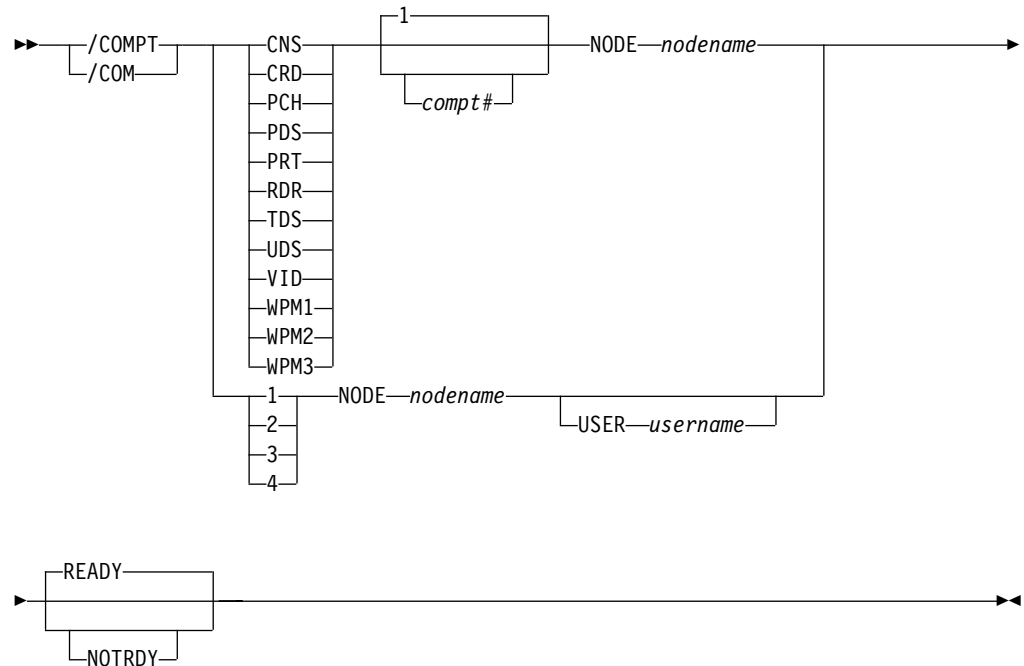
Response ET:

```
DFS058I CLSDST COMMAND COMPLETED
```

Explanation: The node, WEST, is disconnected from IMS.

Chapter 11. /COMPT

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/COMPT	X		X
CNS	X		X
CRD	X		X
NODE	X		X
NOTRDY	X		X
PCH	X		X
PDS	X		X
PRT	X		X
RDR	X		X
READY	X		X
TDS	X		X
UDS	X		X
USER	X		X
VID	X		X
WPM1	X		X
WPM2	X		X
WPM3	X		X

Usage

/COMPT sets a particular terminal component to a ready/not ready state. Output messages queued for a particular component will not be sent unless the component is ready. Depending on terminal type and the availability of messages queued for other components, output operations for other components can continue.

The ready/not ready state set by the /COMPT command can be altered by the following:

- Another /COMPT command
- A /START, /RSTART, or /RCOMPT command
- An I/O error on the terminal component

/COMPT can only refer to a VTAM-attached terminal component.

Restriction: When the /COMPT command contains the keyword CRD, it cannot also contain any of the following keywords: WPM1, WPM2, or WPM3.

The command format takes two forms. That is, a component can be referenced by using a keyword, such as VID, or by using a number, such as 2.

When a keyword is used, a search is made of the components (as defined in the TERMINAL macro during IMS system definition) for the component type defined that corresponds to the specified keyword.

When a match is found, that component is made ready/not ready as specified by the command. If a number other than 1 follows the keyword, the corresponding occurrence of that component type is made ready/not ready.

/COMPT supports up to 4 components. When a number from 1 through 4 is used instead of a keyword, the component affected is the one defined in that position during system definition, independent of component type. The USER keyword is required when nodename is an ISC node with users.

For more information about component support, see “Chapter 5. /ASSIGN” on page 79.

Examples

Example 1 for /COMPT Command

Entry ET:

```
/COMPT 4 NODE ABC READY
```

Response ET:

```
DFS058I COMPT COMMAND COMPLETED
```

Explanation: The fourth component defined in the TERMINAL macro on node ABC is made ready to IMS.

Example 2 for /COMPT Command

Entry ET:

```
/COMPT VID 2 NODE ABC READY
```

Response ET:

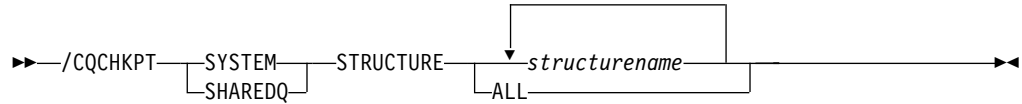
```
DFS058I  COMPT COMMAND COMPLETED
```

Explanation: The second display component on node ABC is declared operable to IMS.

IMS Commands

Chapter 12. /CQCHKPT

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/CQCHKPT	X		X
SHAREDQ	X		X
STRUCTURE	X		X
SYSTEM	X		X

Usage

/CQCHKPT initiates a CQS checkpoint for a specific coupling facility list structure or all the coupling facility list structures to which the IMS subsystem is connected.

This command sends the DFS058 CQCHKPT COMMAND IN PROGRESS message to the inputting terminal, and sends an asynchronous response to the system console and master terminal when the CQS checkpoint is complete.

This command is:

- Allowed only from the MTO with default security
- Valid only in a shared-queues environment
- Allowed from an AOI program
- Passed to the AOI exit
- Logged to the secondary master
- Nonrecoverable

SHAREDQ

Specifies that the entire queue structure is to be checkpointed to the structure recovery data set. While the checkpoint is in progress for the structure, no CQS can access the structure.

During a structure checkpoint, every CQS connected to that structure also takes a system checkpoint.

Recommendation: When possible, issue this command when it will have the least performance impact to your online IMS subsystems.

STRUCTURE

Specifies a specific structure name (or all) for which a CQS checkpoint is to be taken. If an overflow structure exists for a structure, a checkpoint is taken for both the primary and overflow structure.

/CQCHKPT

SYSTEM

Specifies that a system checkpoint is to be taken; the CQS internal tables are checkpointed and written to the CQS log. Only the CQS for which you enter the command takes a system checkpoint.

Examples

Example 1 for /CQCHKPT Command

Entry ET:

```
/CQCHKPT SYSTEM STRUCTURE IMSMSGQ01
```

Response ET:

```
DFS058I CQCHKPT COMMAND IN PROGRESS  
CQS0030I SYSTEM CHECKPOINT COMPLETE, STRUCTURE IMSMSGQ01 ,  
LOGTOKEN 0000000001687D3F CQS1CQS  
DFS1972I CQCHKPT SYSTEM COMMAND COMPLETE FOR STRUCTURE=IMSMSGQ01
```

Explanation: A CQS system checkpoint completes successfully.

Recommendation: Record the log token displayed in the CQS0030I message because you might need it for a CQS restart.

Example 2 for /CQCHKPT Command

Entry ET:

```
/CQCHKPT SHAREDQ STRUCTURE IMSMSGQ01
```

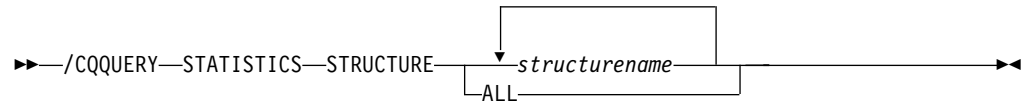
Response ET:

```
DFS058I CQCHKPT COMMAND IN PROGRESS  
CQS0220I CQS CQS1CQS STARTED STRUCTURE CHECKPOINT FOR  
STRUCTURE IMSMSGQ01 CQS1CQS  
CQS0200I STRUCTURE IMSMSGQ01 QUIESCED FOR  
STRUCTURE CHECKPOINT CQS1CQS  
CQS0201I STRUCTURE IMSMSGQ01 RESUMED AFTER  
STRUCTURE CHECKPOINT CQS1CQS  
CQS0030I SYSTEM CHECKPOINT COMPLETE, STRUCTURE IMSMSGQ01 ,  
LOGTOKEN 0000000001688652 CQS1CQS  
CQS0221I CQS CQS1CQS COMPLETED STRUCTURE CHECKPOINT  
FOR STRUCTURE IMSMSGQ01 CQS1CQS  
DFS1972I CQCHKPT SHAREDQ COMMAND COMPLETE FOR STRUCTURE=IMSMSGQ01
```

Explanation: A CQS structure checkpoint for a specific structure completes successfully.

Chapter 13. /CQQUERY

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/CQQUERY	X		X
STATISTICS	X		X
STRUCTURE	X		X

Usage

The /CQQUERY command displays information regarding a specific coupling facility list structure or all the coupling facility list structures holding IMS messages. The /CQQUERY STATISTICS command displays the statistics and status information for the coupling facility list structures specified by the STRUCTURE keyword. The following statistics information is displayed:

- Number of data elements that can be allocated in the structure
- Number of list entries that can be allocated in the structure
- Number of data elements in use in the structure
- Number of list entries in use in the structure
- Entry to element ratio

This command is:

- Allowed only from the MTO with default security
- Valid only in a shared-queues environment
- Allowed from an AOI program
- Passed to the AOI exit
- Logged to the secondary master
- Nonrecoverable

STATISTICS

Specifies that statistics should be gathered and displayed.

STRUCTURE

Specifies that one or more structure names follow.

Only primary, coupling facility list-structure names used by IMS for shared queues are valid.

Example 1 for /CQQUERY Command

Entry ET:

```
/CQQUERY STATISTICS STRUCTURE ALL
```

Response ET:

STRUCTURE NAME	LEALLOC	LEINUSE	ELMALLOC	ELMINUSE	LE/EL
IMSMGQ01	272	4	541	4	0001/0002
IMSMGQ010FLW	N/A	N/A	N/A	N/A	N/A
IMSEMHQ01	272	3	541	3	0001/0002
IMSEMHQ010FLW	N/A	N/A	N/A	N/A	N/A
97211/120123					

Explanation: This command displays the structure statistics of the message queue and Fast Path EMH queue structures used by IMS. The list entries allocated (LEALLOC), the list entries in use (LEINUSE), the elements allocated (ELMALLOC) and the elements in use (ELMINUSE) show the usage of the structures. When CQS allocates a structure, it allocates a certain number of list entries and elements to manage data on the structure. A structure is full if all list entries are in use or if all elements are in use.

Example 2 for /CQQUERY Command

Entry ET:

```
/CQS STATISTICS STRUCTURE IMSMSGQ01
```

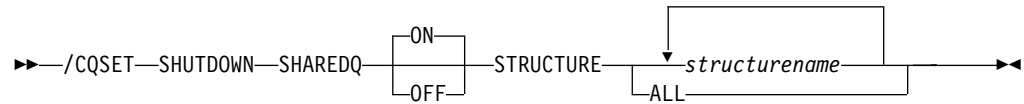
Response ET:

STRUCTURE NAME	LEALLOC	LEINUSE	ELMALLOC	ELMINUSE	LE/EL
IMSMG101	9132	9027	9130	9071	0001/0001
IMSMGQ010FLW	1915	1866	1912	1866	0001/0001
00039/180909					

Explanation: This command displays the structure statistics of the message queue structure used by IMS and its associated overflow queue.

Chapter 14. /CQSET

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/CQSET	X		X
SHAREDQ	X		X
SHUTDOWN	X		X
STRUCTURE	X		X

Usage

Use a /CQSET SHUTDOWN SHAREDQ ON|OFF command to tell CQS whether to take a structure checkpoint during normal shutdown. You can specify a structure checkpoint for a specific coupling facility or for all coupling facility list structures used by IMS.

IMS initiates a normal CQS shutdown during a normal IMS shutdown.

This command results in a DFS058 CQSET COMMAND COMPLETED message.

This command is:

- Allowed only from the MTO with default security
- Valid only in a shared-queues environment
- Allowed from an AOI program
- Passed to the AOI exit
- Logged to the secondary master
- Nonrecoverable

SHAREDQ

Specifies that the entire queue structure is to be checkpointed to the structure recovery data set. While the checkpoint is in progress for the structure, no CQS can access the structure.

During a structure checkpoint, every CQS connected to that structure also takes a system checkpoint.

SHUTDOWN

Specifies that CQS should take a structure checkpoint during normal CQS shutdown.

/CQSET

STRUCTURE

Specifies a specific structure name (or all) for which a CQS checkpoint is to be taken. If an overflow structure exists for a structure, a checkpoint is taken for both the primary and overflow structure.

Example for /CQSET Command

Entry ET:

```
/CQSET SHUTDOWN SHAREDQ ON STRUCTURE ALL
```

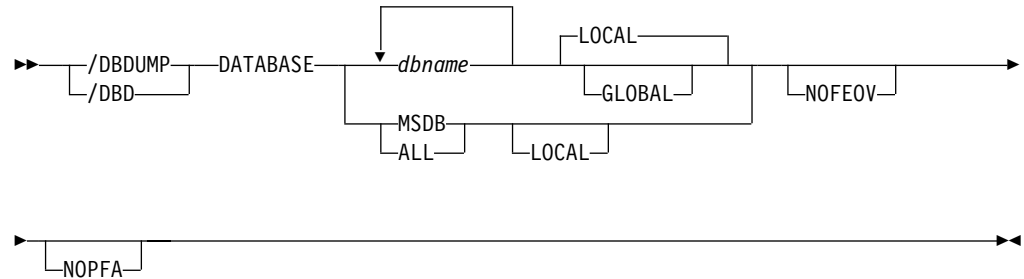
Response ET:

```
DFS058I CQSET COMMAND COMPLETE
```

Explanation: CQS will take a structure checkpoint when it shuts down.

Chapter 15. /DBDUMP

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/DBDUMP	X	X	
DATABASE	X	X	
GLOBAL	X	X	
LOCAL	X	X	
NOFEOV	X	X	
NOPFA	X	X	

Usage

/DBDUMP is used to prevent transactions or programs from updating DL/I databases. It also can be used to dump all MSDBs to the MSDB dump data set. /DBDUMP does not apply to DEDBs.

For the results of issuing this command on a shared secondary index, see "Appendix D. Shared Secondary Index Database Commands" on page 565.

DATABASE

Specifies the databases to which the /DBDUMP command applies. When the /DBDUMP command is entered, the message processing regions using the specified databases are terminated at the conclusion of processing their current transactions, in preparation to close the database and allow it to be opened for input only.

If a DL/I database specified in the command is being used by a batch message processing region, an error message is returned to the master terminal. When this message is issued, the command is ignored for the database named in the message; processing continues for the other databases specified in the command. The master terminal operator must wait until the batch message processing concludes processing before reentering the command.

As the message processing regions terminate programs, the data sets of the named databases in the command are closed. The IMS log switches to the next

/DBDUMP

OLDS. This switch to the next OLDS is marked as a recovery point for log archiving purposes. IMS issues a simple checkpoint. The scheduling of transactions is then resumed, although no transactions will be allowed to update the specified databases. Programs with update intent will be scheduled, but update calls to the database will result in a 3303 pseudoabend or a BA status if the INIT call was issued.

/DBDUMP can be used to dump all the MSDBs to the MSDB dump data set by specifying the reserved parameter MSDB with the DATABASE keyword when entering the /DBDUMP DATABASE command or by entering the /DBDUMP DATABASE ALL command. The MSDBs dumped to the MSDB dump data set can be used as input to the MSDB dump recovery utility. A specific MSDB cannot be a parameter of the DATABASE keyword.

The /START DATABASE command resets the effect of the /DBDUMP command. The /START command is not required for MSDBs, because the data for these databases resides in processor storage, and the databases are never closed.

For DBCTL, when CCTL schedules a PSB, the DBCTL thread SCHED request defines the thread as LONG or SHORT. If the database is currently scheduled to a LONG thread, the command is rejected; otherwise, the thread is allowed to "complete" before the database is acted upon. This results in either a commit point or transaction termination.

GLOBAL

Applies when an IRLM is active and specifies that the command applies to all online subsystems sharing the database. The /DBDUMP command with the GLOBAL keyword puts the database in read status and prevents transactions from updating the database in all online subsystems that share the database.

The GLOBAL keyword is mutually exclusive with the ALL parameter or the MSDB parameter and causes the command to be rejected if both parameters are specified. The GLOBAL keyword requires that IRLM be active and will cause the command to be rejected if IRLM is not active.

LOCAL

Specifies that the command only applies to the subsystem in which the command is entered. This command does not affect any other subsystem sharing the database. The LOCAL keyword can be used to restrict concurrent updates. LOCAL is the default.

NOPFA

Specifies that DBRC is not notified that the database or area has changed status. You can use this keyword when you need to authorize the database for use after it is offline, for example, for offline utilities. By using this keyword, DBRC does not prevent further authorizations for the database or area.

Recommendation: Before starting the database or area, reissue this command **without** the NOPFA keyword to inform DBRC of the change in status for the database or area.

NOFEOV

Specifies that there is no forced end of volume, so that the IMS log does not switch to the next OLDS. If NOFEOV is specified without the MSDB keyword, a simple checkpoint is not taken.

Examples

Example 1 for /DBDUMP Command

Entry ET:

```
/DBDUMP DATABASE PAYROLL
```

Response ET:

```
DFS058I (time stamp) DBDUMP COMMAND IN PROGRESS
```

Explanation: Currently executing application programs are being terminated. When the termination completes, the databases are stopped for update and the output log is switched to the next OLDS.

Response ET:

```
DFS0488I DBD COMMAND COMPLETED.  
          DBN=PAYROLL RC=0  
DFS3257I ONLINE LOG NOW SWITCHED FROM DFSOLP( ) TO DFSOLP( )  
DFS994I *CHKPT 82080/111213**SIMPLE*
```

Explanation: The new OLDS is used to record a simple checkpoint at 111213 (time) on 82080 (Julian date). The checkpoint number is 82080/111213. All /DBDUMP command functions are complete. The /START DATABASE command must be used to start the database after the dump job completes.

Example 2 for /DBDUMP Command

Entry ET:

```
/DBDUMP DATABASE MSDB
```

Response ET:

```
DFS058I (time stamp) DBDUMP COMMAND IN PROGRESS
```

Explanation: All MSDBs are dumped to the MSDB dump data set because MSDB was specified as the parameter of the database keyword.

Response ET:

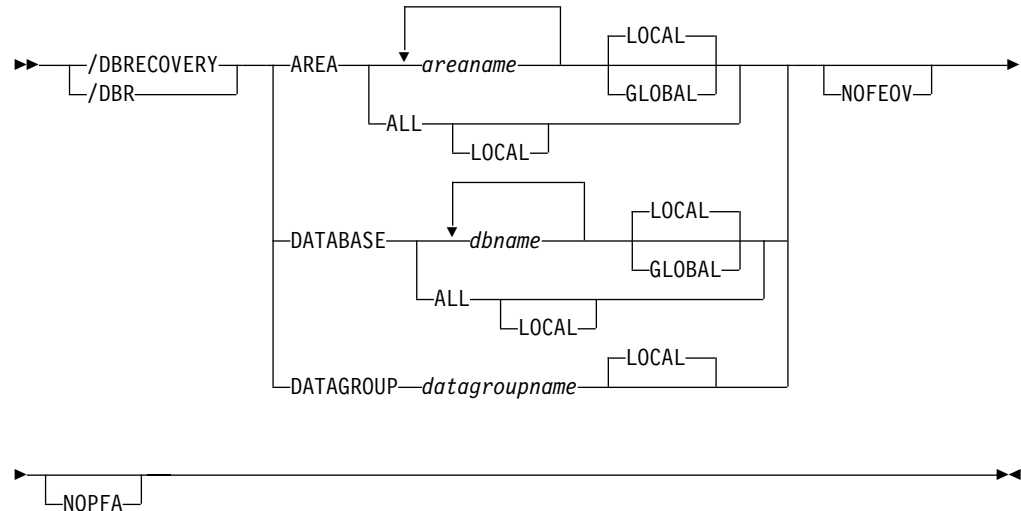
```
DFS994I CHKPT 82069/123624**SIMPLE*
```

Explanation: A simple checkpoint is recorded on the new system log at 123624 (time) on 82069 (Julian date). The checkpoint number is 82069/123624. All MSDBs are dumped.

IMS Commands

Chapter 16. /DBRECOVERY

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/DBRECOVERY	X	X	
AREA	X	X	
DATABASE	X	X	
DATAGROUP	X	X	
GLOBAL	X	X	
LOCAL	X	X	
NOPFA	X	X	
NOFEOV	X	X	

Usage

/DBRECOVERY is used to prevent transactions or programs from accessing DL/I databases, DEDBs, or DEDB areas.

Use of the ALL parameter indicates that the command applies to all databases, even those not opened.

/DBRECOVERY closes and deallocates the databases, and unauthorizes them with DBRC. Once the database or area referenced by /DBRECOVERY is closed, the IMS log switches to the next OLDS (unless you specify the NOFEOV keyword). This switch to the next OLDS is marked as a recovery point for log archiving purposes. IMS issues a simple checkpoint.

/DBRECOVERY

/DBRECOVERY is supported on an RSR tracking subsystem, but only for a database readiness level (DLT) subsystem. /DBRECOVERY is used on an RSR tracking subsystem to take shadow areas and databases offline for image copy and recovery. The /DBRECOVERY command also stops online forward recovery (OFR) if it is in progress for the specified database or area.

IMS databases, DEDBs, and DEDB areas closed by the master terminal operator with the /DBRECOVERY command can be used as input to the offline IMS Database Recovery utility. The Database Recovery utility runs in a batch region.

For the results of issuing this command on a shared secondary index, see "Appendix D. Shared Secondary Index Database Commands" on page 565.

The /DBRECOVERY command will not deallocate a data set if a VSAM data set hardware error occurred. Use VARY nnn,OFFLINE,FORCE to deallocate the data set (where nnn is the is the number of the device). For information on recovering VSAM data sets, see *DFSMS/MVS Managing Catalogs* (SC26-4914).

AREA

Specifies the DEDB areas (but not DEDBs) to be processed by the /DBRECOVERY command. /DBRECOVERY AREA stops the accessing and updating of specified DEDB areas and closes them.

/START AREA can be used to reopen and reallocate the areas closed by /DBRECOVERY AREA command.

The /DBRECOVERY command for Fast Path Virtual Storage Option (VSO) areas in an MVS data space removes the areas from the data space and forces updates to be written back to DASD.

DATABASE

Specifies the DL/I databases and Fast Path DEDBs (and inclusive areas) to be processed by the /DBRECOVERY command. MSDBs cannot be specified with /DBRECOVERY. /DBRECOVERY DATABASE on a Fast Path DEDB does not prevent scheduling of transactions or programs that use the database. A call against the DEDB does result in a FH status code. Transactions are scheduled against DL/I and DEDB databases after /DBRECOVERY, but are not allowed access to the databases. A call made against a DL/I database results in a 3303 pseudoabend, or in a BA status code if an INIT call was issued.

When /DBRECOVERY DATABASE is entered, the data sets of the databases named in the command are closed. The /DBRECOVERY DATABASE command dynamically deallocates the IMS databases. For DEDBs, the randomizer is unloaded and removed from storage.

If a database specified in the command is being used by a batch message processing region, an error message is returned to the master terminal, the command is ignored for the database named in the message, and processing continues for the other databases specified in the command. The master terminal operator must wait until the batch message processing concludes processing before reentering /DBRECOVERY to close these databases.

/START DATABASE is used to reopen and reallocate the databases closed by the /DBRECOVERY DATABASE command. For DEDBs, a /START DATABASE command also causes a reload of the randomizer.

For DBCTL, when CCTL schedules a PSB, the DBCTL thread SCHED request defines the thread as LONG or SHORT. If the database is currently scheduled to a LONG thread, the command is rejected; otherwise, the thread is allowed to “complete” before the database is acted upon. This results in either a commit point or transaction termination.

On an RSR tracking subsystem, /DBR DATABASE for a DEDB is not permitted.

DATAGROUP

Specifies a **group** of DL/I databases and Fast Path DEDBs to be processed by the /DBRECOVERY command. Use the INIT.DBDSGRP command with the GRPNAME and DBGRP keywords to define the data group in the RECON data set.

Related Reading: See “Group Parameters” on page 15 for more information on defining data groups.

Recommendation: Although you can use DBDS groups as well as database groups for this command, you should use database groups whenever possible to eliminate the overhead of converting the DBDS group to a database group.

GLOBAL

Applies when the database is registered to DBRC and specifies that the command applies to all sharing online subsystems. /DBRECOVERY GLOBAL can be used to close the database so that it can be taken offline when this command successfully completes in all online subsystems. DBRC will prevent further authorization.

The GLOBAL keyword and the ALL parameter are mutually exclusive. The /DBRECOVERY command will be rejected if both GLOBAL and ALL are specified. The IRLM must be active when the GLOBAL keyword is used. If IRLM is not active, the command is rejected.

Restriction When the GLOBAL keyword is specified, the command is performed for the named database only. If the command is to be performed for a HIDAM database and its index, both must be named.

The GLOBAL keyword is not supported for an RSR tracking subsystem. The GLOBAL keyword cannot be combined with the DATAGROUP keyword.

LOCAL

Specifies that the command only applies to the subsystem in which the command is entered. This command does not affect any other subsystem sharing the database or area. Use the LOCAL keyword to increase usability for the other system sharing the database or area. LOCAL is the default.

NOPFA

Specifies that DBRC is not notified that the database or area has changed status. You can use this keyword when you need to authorize the database for use after it is offline, for example, for offline utilities. By using this keyword, DBRC does not prevent further authorizations for the database or area.

Recommendation: Before starting the database or area, reissue this command **without** the NOPFA keyword to inform DBRC of the change in status for the database or area.

NOFEOV

Specifies that there is no forced end of volume, so that the log does not switch

/DBRECOVERY

to the next OLDS and simple checkpoint is not taken. The NOFE0V keyword is the default for an RSR tracking subsystem so that the OLDS is not switched, nor is a simple checkpoint taken.

Examples

Example 1 for /DBRECOVERY Command

Entry ET:

```
/DBRECOVERY AREA ALL
```

Response ET:

```
DFS058I DBRECOVERY COMMAND IN PROGRESS
DFS0488I DBRECOVERY COMMAND COMPLETED. AREA=DBAREA0
DFS0488I DBRECOVERY COMMAND COMPLETED. AREA=DBAREA1
```

Explanation: DEDB areas are being stopped for inquiry and update, closed, and deallocated; the output log is switched to the next OLDS.

Example 2 for /DBRECOVERY Command

Entry ET:

```
/DBRECOVERY DATABASE SKILL
```

Response ET:

```
DFS058I DBRECOVERY COMMAND IN PROGRESS
DFS2500I DATABASE SKILL SUCCESSFULLY DEALLOCATED
DFS0488I DBRECOVERY COMMAND COMPLETED. DBN=SKILL RC=0
DFS3257I ONLINE LOG NOW SWITCHED FROM DFSOLP( ) TO DFSOLP( )
DFS944I *CHKPT 82123/121314**SIMPLE**
```

Explanation: The new OLDS is used to record a simple checkpoint at 121314 (time) on 82123 (Julian date). The checkpoint number is 82123/121314. All /DBRECOVERY command functions are complete. The Database Recovery utility can be executed after archiving. Currently executing application programs are being terminated. When the termination completes, the SKILL database is stopped for inquiry and update, closed, and deallocated; the output log is switched to the next OLDS. /START DATABASE must be used to start the database after the recovery job completes.

Example 3 for /DBRECOVERY Command

This example shows how to stop an online forward recovery (OFR) at the RSR tracking site with a /DBRECOVERY command.

Entry ET (on tracking subsystem):

```
/DISPLAY DATABASE OFR
```

Response ET (to tracking subsystem):

DATABASE	TYPE	TOTAL UNUSED	TOTAL UNUSED	ACC	CONDITIONS
BE2PCUST	DL/I			EX	ALLOCS OFR
BE3ORDER	DL/I			EX	ALLOCS OFR
BE3ORDRX	DL/I			EX	ALLOCS OFR
BE3PARTS	DL/I			EX	ALLOCS OFR
BE3PSID1	DL/I			EX	ALLOCS OFR
91240/132406		SYS3			

Entry ET (on tracking subsystem):

/DBRECOVERY DATABASE BE3ORDER BE3PSID1

Response ET (to tracking subsystem):

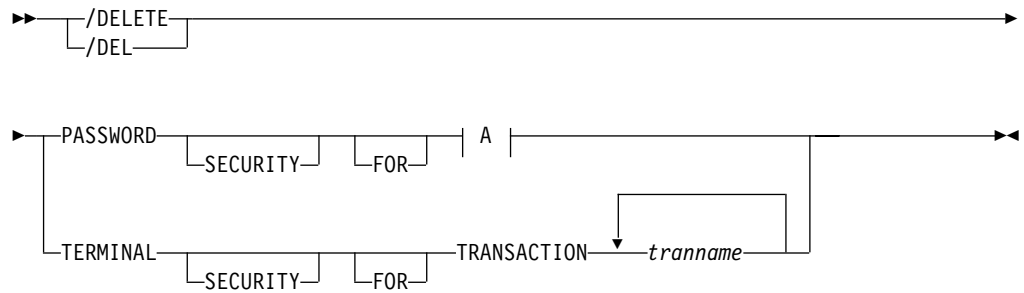
```
DFS058I DBRECOVERY COMMAND IN PROGRESS
DFS0488I DBR COMMAND COMPLETED. DBN=BE3ORDER. RC=0
DFS0488I DBR COMMAND COMPLETED. DBN=BE3PSID1. RC=0
```

Explanation: Databases BE3ORDER and BE3PSID1 are closed, unallocated, and unauthorized with DBRC. Online forward recovery for the databases is also stopped.

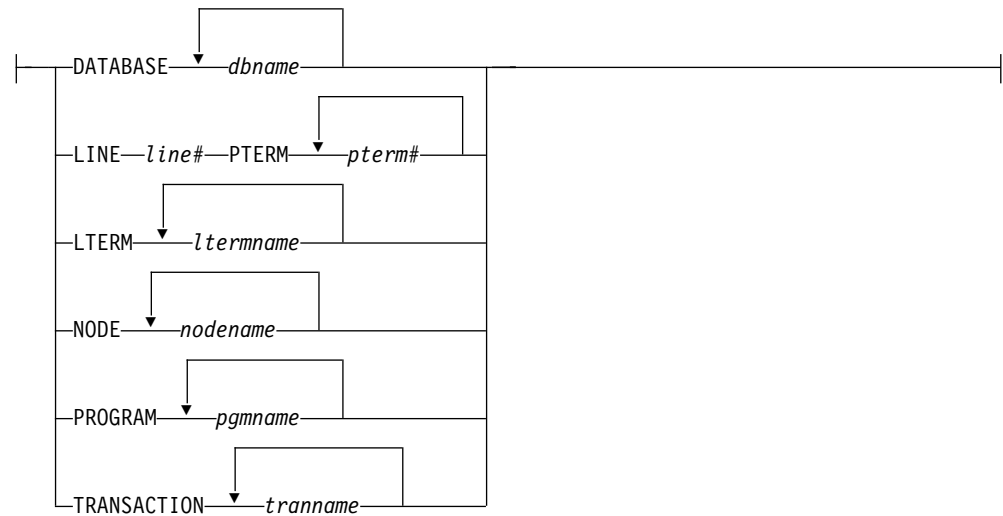
IMS Commands

Chapter 17. /DELETE

Format



A:



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/DELETE	X	X	X
DATABASE	X	X	
LINE	X		X
LTERM	X		X
NODE	X		X
PASSWORD	X	X	X
PROGRAM	X	X	X
PTERM	X		X
TERMINAL	X		X

/DELETE

Command / Keywords	DB/DC	DBCTL	DCCTL
TRANSACTION	X		X

Usage

/DELETE deletes password security authorizations for a given transaction code, logical terminal, relative physical terminal, database, node, or program. It can also be used to delete terminal and logical link security for a given transaction code.

Once deleted, password or terminal security is not reestablished until either a cold start or a warm start is performed using the TERMINAL or PASSWORD keyword.

PASSWORD

Specifies the password security authorization to be deleted.

For the /DELETE PASSWORD NODE command, if the specified node is an ISC parallel-session node, password protection is deleted for all the half-sessions of the specified node.

In a dynamic terminal environment, /DELETE PASSWORD is ignored for dynamic ACF-VTAM nodes. This command uses the Security Maintenance utility, which is not supported for dynamic VTAM nodes in a dynamic terminal environment.

TERMINAL

Specifies the terminal and logical link security to be deleted.

Examples

Example 1 for /DELETE Command

Entry ET:

```
/DELETE PASSWORD FOR DATABASE TREEFARM
```

Response ET:

```
DFS058I  DELETE COMMAND COMPLETED
```

Explanation: Password security is deleted for the database named TREEFARM.

Example 2 for /DELETE Command

Entry ET:

```
/DELETE TERMINAL SECURITY FOR TRANSACTION PIT, SEED
```

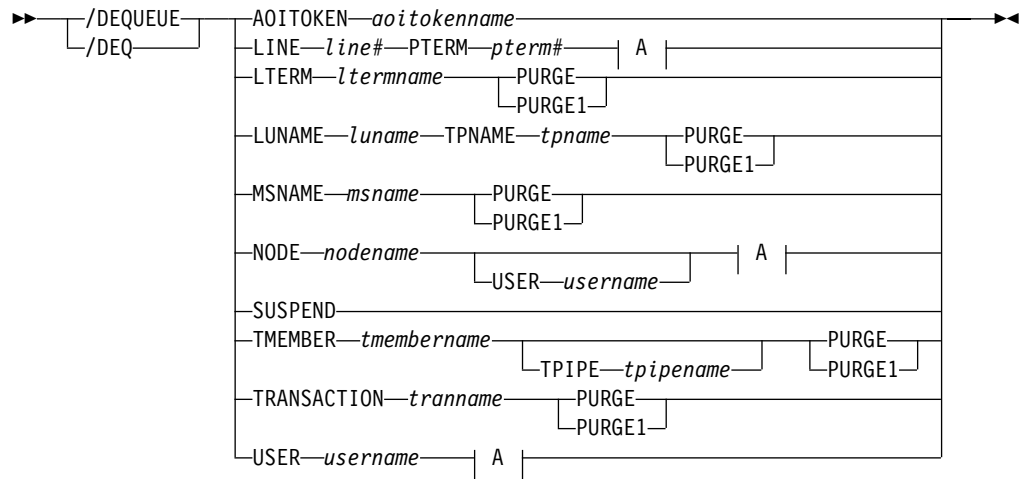
Response ET:

```
DFS058I  DELETE COMMAND COMPLETED
```

Explanation: Terminal and logical link security is deleted for the transaction codes named PIT and SEED.

Chapter 18. /DEQUEUE

Format



A:



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/DEQUEUE	X	X	X
AOITOKEN	X	X	X
LINE	X		X
LTERM	X		X
LUNAME	X		X
MSNAME	X		X
NODE	X		X
PTERM	X		X
PURGE	X		X
PURGE1	X		X
SUSPEND	X		X
TMEMBER	X		X
TPIPE	X		X
TPNAME	X		X

/DEQUEUE

Command / Keywords	DB/DC	DBCTL	DCCTL
TRANSACTION	X		X
USER	X		X

Usage

The /DEQUEUE command with any of the following keywords is used to cancel a message that is being processed: LINE, LTERM, LUNAME, MSNAME, NODE, TRANSACTION, or USER. Also, a /DEQUEUE command dequeues messages from either the local queues, or in a shared-queues environment, the shared queues. An output message displays the total count of all messages dequeued.

/DEQUEUE AOITOKEN is used to dequeue and discard messages associated with the specified AOI token name.

A /DEQUEUE command with any of the following keywords activates the Message Control Error exit routine, DFSCMUX0, before processing each message: LTERM, LUNAME TPNAME, NODE, or MSNAME. The user exit routine can request IMS to:

- Proceed with the command and purge the message. This is the default action for the Message Control Error exit routine. For more information, see *IMS/ESA Customization Guide*.
- Suppress the command.
- Suppress the command and send an informational message to the entering terminal.
- Route the message to a different destination.

/DEQUEUE SUSPEND schedules transactions that have been suspended by IMS.

/DEQUEUE TMEMBER TPIPE dequeues messages associated with an IMS Open Transaction Manager Access (OTMA) transaction pipe.

AOITOKEN

Dequeues and discards all messages associated with the specified AOI token name.

LINE PTERM

Cancels the output message currently being sent to the specified physical terminal on the specified communication line.

LTERM

Cancels the output message currently being sent to the specified logical terminal.

/DEQUEUE NODE nodename LTERM is not valid for nodes with users. The user that contains the LTERM must be allocated and the session must be active.

If the PURGE or PURGE1 keyword is specified and the LTERM is associated with a user with DEADQ status, the DEADQ status will be reset.

If the DEADQ status is on, the following command turns it off for the user associated with LTERM ltermname:

```
/DEQUEUE LTERM ltermname (PURGE/PURGE1)
```

The DEADQ status is removed by signing the user on or by issuing /DEQUEUE to dequeue one or more messages.

LUNAME TPNAME

Specifies the LU name and TP name of the LU 6.2 destination from which to discard messages. A normal (non-qualified) or fully network qualified LUNAME is required for the LUNAME keyword.

Either PURGE or PURGE1 must be specified, and the LU 6.2 destination must be stopped and not active; if this is not done, error messages are issued.

MSNAME

Cancels the output message currently being sent to the specified MSC link. Either PURGE or PURGE1 is required for this link. The MSC link must be stopped by the /PSTOP LINK command before issuing the /DEQUEUE MSNAME command.

NODE

Cancels the output message currently being sent to the specified VTAM node.

The following command is not valid for nodes with users:

```
/DEQUEUE NODE nodename
/DEQUEUE NODE nodename LTERM ltermname
```

The following command cancels the output message currently being sent to the specified ISC session, and the user must be allocated to the node and the session must be active:

```
/DEQUEUE NODE nodename USER username
```

If the PURGE keyword is specified, and the NODE is associated with a user with DEADQ status, the DEADQ status will be reset.

PURGE

Cancels all output messages enqueued to the specified LINE, LTERM, LUNAME, MSNAME, NODE, TMEMBER, TPIPE, or USER. PURGE allows cancellation of all output messages enqueued to an LTERM, or to a PTERM without regard to the LTERM. A /DEQUEUE command without PURGE cancels an in-progress output message on the specified terminal and, optionally, LTERM. If the NODE and LTERM keywords have both been supplied, the LTERM must be a valid LTERM of the user currently associated with the node.

Messages cannot be canceled with PURGE if they are destined for the MTO or for terminals or users in response mode, Fast Path, or conversation mode. /DEQUEUE PURGE does not cancel messages destined for the master terminal operator because the master terminal cannot be stopped, disconnected, or idled. /EXIT should be used for a terminal in conversation mode.

If the terminal is a dynamic 3600/FINANCE, SLU P, or ISC terminal, the NODE keyword is only valid if the session is stopped and idle, and the LTERMs are still allocated to the terminal pending message resynchronization. For example,

```
/DEQUEUE NODE nodename USER username (LTERM ltermname) PURGE
```

is valid for the allocated user only if the specified ISC session is stopped and idled.

Messages queued to LTERMs associated with users that are not signed on can be purged by specifying the LTERM keyword without the NODE keyword.

/DEQUEUE

NODE with the USER keyword applies to ISC sessions and dynamic terminals and is only valid if the user is still allocated to the node. However, the line or node must be stopped and idled.

If USER is specified and the user had DEADQ status, the DEADQ status is removed. If LTERM or NODE is specified and the LTERM or node is associated with a user with DEADQ status, the DEADQ status is removed.

PURGE1

Cancels the first message queued to the specified LTERM. The PURGE1 and PURGE keywords are mutually exclusive.

/DEQUEUE LTERM PURGE1 removes the first message from the queue. The order of search for messages to be removed is:

1. Fast Path
2. Response mode
3. Exclusive mode messages
4. System messages
5. All other messages

Using a synonym for PURGE1 avoids the potential danger of omitting the trailing digit on PURGE1 and canceling all the messages enqueued. Synonyms for PURGE1 are SINGLE, SNGL, and FIRST.

When PURGE1 is specified, the terminal must be stopped and idle and not in conversation mode. If the message is in the process of being actively sent, /DEQUEUE without PURGE1 cancels the message.

SUSPEND

Reschedules transactions that have been suspended by IMS. SUSPEND applies to IMS systems sharing data at the block level and to connected external subsystems (not CTL subsystems). /DEQUEUE SUSPEND causes all message-driven transactions that have been suspended to be rescheduled. When a failed IMS system is restarted, /DEQUEUE SUSPEND informs the currently running IMS system to reschedule any message-driven transactions on its SUSPEND queue. However, when the failed subsystem has global locks retained and cannot communicate the release of those locks to the other subsystems, /DEQUEUE SUSPEND is used to reschedule these message-driven transactions in the other subsystems. This can occur when:

- The still-running IMS has transactions on its SUSPEND queue and the failed IMS has been restarted using the /ERESTART COLDSYS command.
- The still-running IMS terminates before the failed IMS is restarted. Thus, when the failed system is restarted, the other system, which has now terminated, is unable to receive the message to reschedule the transactions on its SUSPEND queue. The operator must issue /DEQUEUE SUSPEND to reschedule them.

Another use for /DEQUEUE SUSPEND is to release those transactions queued because the installation specified the requeue region error option in the external subsystem PROCLIB member for a particular subsystem. Transactions will be queued if the subsystem connection terminates in an abnormal fashion (for example, dependent region abend, subsystem abnormal termination).

In a shared-queues environment, a /DEQUEUE SUSPEND command moves all transactions on the Transaction Suspend queue to the Transaction Ready

queue and makes them eligible for rescheduling. The “suspend” status for the transactions is also reset locally (on the IMS subsystem that entered the command), but is not reset across the Sysplex. To reset the “suspend” status across a Sysplex, use the /START TRANSACTION command on each IMS subsystem.

You can also use the /START TRANSACTION command to reschedule a specific transaction that has been suspended.

/DISPLAY TRANSACTION and /DISPLAY STATUS can be used to determine whether a transaction has messages on its suspend queue.

TMEMBER

Dequeues messages from the OTMA transaction pipe structure specified as *tpipename*. Using the /DEQ command can make OTMA message resynchronization impossible. And if resynchronization is in progress for the specified transaction pipe, IMS rejects the command and issues message DFS2392I.

TPIPE

Is used with the /DEQUEUE command to dequeue messages associated with an OTMA transaction pipe.

TRANSACTION

Dequeues one or more messages from the transaction specified. The transaction name is a 1- to 8-byte name. The transaction must be stopped for messages to be dequeued.

Restriction: This keyword is valid only in a shared-queues environment.

Recommendation: Stop the transaction on all IMS subsystems in the shared queues group before issuing the /DEQUEUE TRANSACTION command. If you do not, the IMS subsystem that processes the /DEQUEUE could dequeue a message it does not own and that another IMS subsystem might need.

A /DEQUEUE TRANSACTION command does not dequeue messages enqueued for suspended transactions.

USER (LTERM)

Dequeues all messages associated with all LTERMs (or a specific) LTERM assigned to that USER. The user must be stopped and not in conversation in order to enter /DEQUEUE USER with PURGE and PURGE1. If a user is signed on, /DEQUEUE USER (LTERM) can be used to cancel an output message that is currently being processed. When the purge options are used, messages destined for the MTO and users in response mode, Fast Path, and conversation cannot be canceled. If the USER and LTERM keywords have both been supplied, the LTERM must be a valid LTERM of the specified USER.

If the user has DEADQ status, the DEADQ status is removed.

Examples

Example 1 for /DEQUEUE Command

Entry ET:

```
/DEQUEUE AOITOKEN ABCDE
```

Response ET:

/DEQUEUE

DFS058I DEQUEUE COMMAND COMPLETED

Explanation: The messages on AOITOKEN ABCDE are dequeued and discarded.

Example 2 for /DEQUEUE Command

Entry ET:

/DEQUEUE LINE 5 PTERM 2

Response ET:

DFS058I DEQUEUE COMMAND COMPLETED

Explanation: The message is terminated on successful completion of the current transmission.

Example 3 for /DEQUEUE Command

Entry ET:

/DEQUEUE LTERM ABCDE PURGE

Response ET:

DFS976I 2 MESSAGE(S) PURGED

Explanation: Two messages are dequeued for LTERM ABCDE (the line is stopped and idle as required).

Example 4 for /DEQUEUE Command

Entry ET:

/DEQUEUE LTERM ABCDE PURGE1

Response ET:

DFS058I DEQUEUE COMMAND COMPLETED

Explanation: The message is dequeued for LTERM ABCDE.

Example 5 for /DEQUEUE Command

Entry ET:

/DEQ LUNAME 'NETWORK1.LUNAME1' TPNAME TPNAME1 PURGE

Response ET:

DFS1952 10:51:35 DESTINATION NOT FOUND

Explanation: An invalid APPC destination was entered.

Example 6 for /DEQUEUE Command

Entry ET:

/DEQ LUNAME 'CICSNET.SERVER1' TPNAME DFSASYNC PURGE1

Response ET:

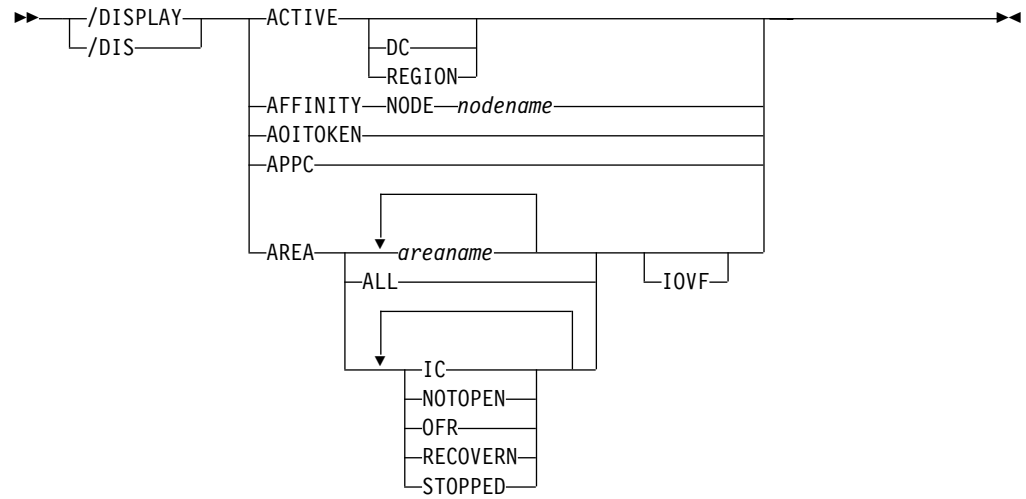
DFS976I 14:10:25 1 MESSAGE(S) PURGED

Explanation: The message was dequeued from the APPC destination LUNAME CICSNET.SERVER, TPNAME DFSASYNC.

Chapter 19. /DISPLAY

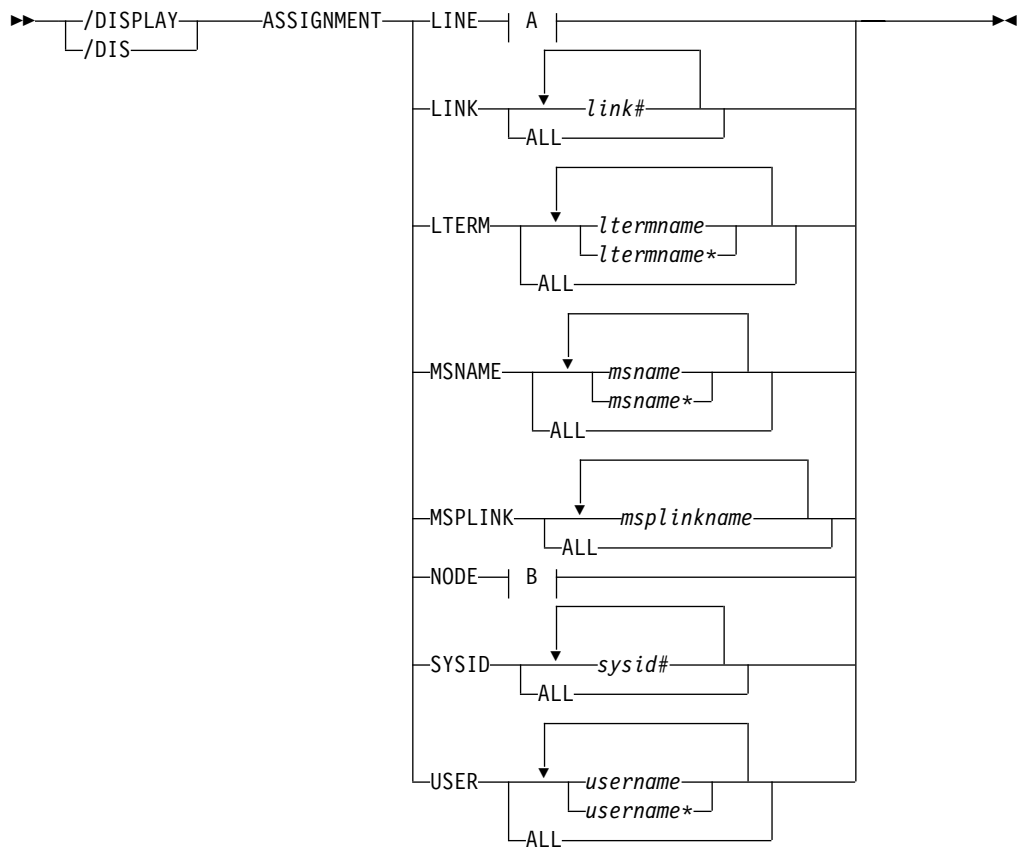
Format

/DISPLAY Command: ACTIVE through AREA

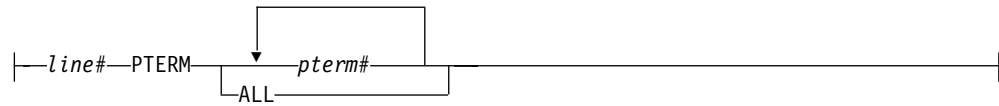


/DISPLAY

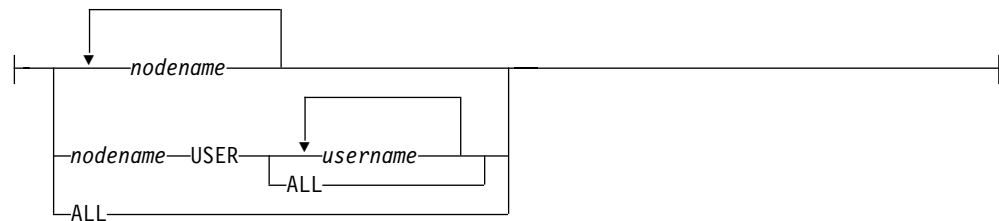
/DISPLAY Command: ASSIGNMENT



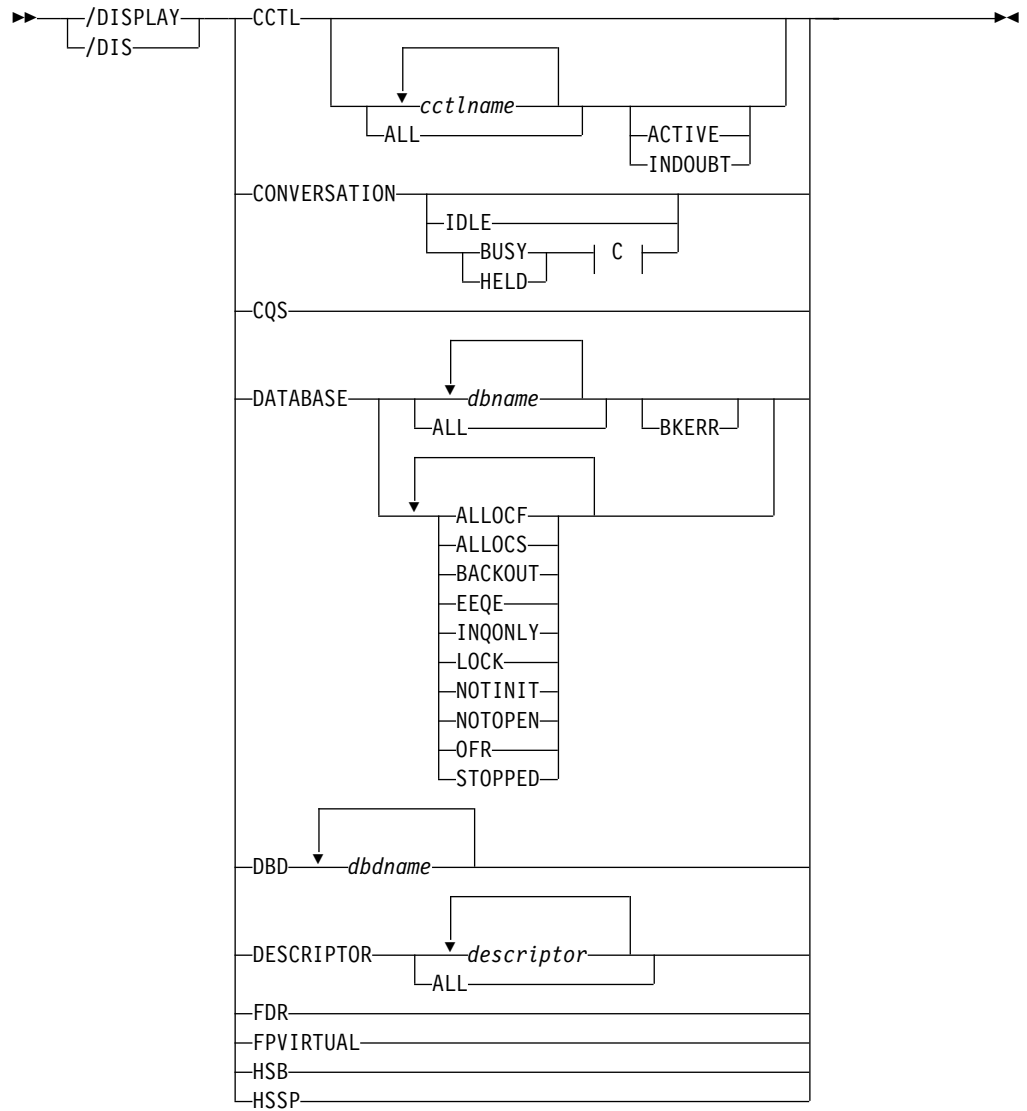
A:



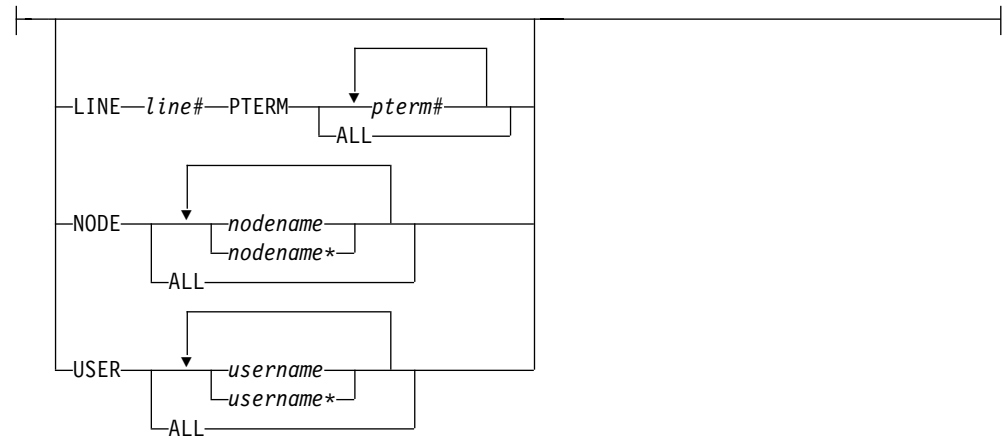
B:



/DISPLAY Command: CCTL Through HSSP

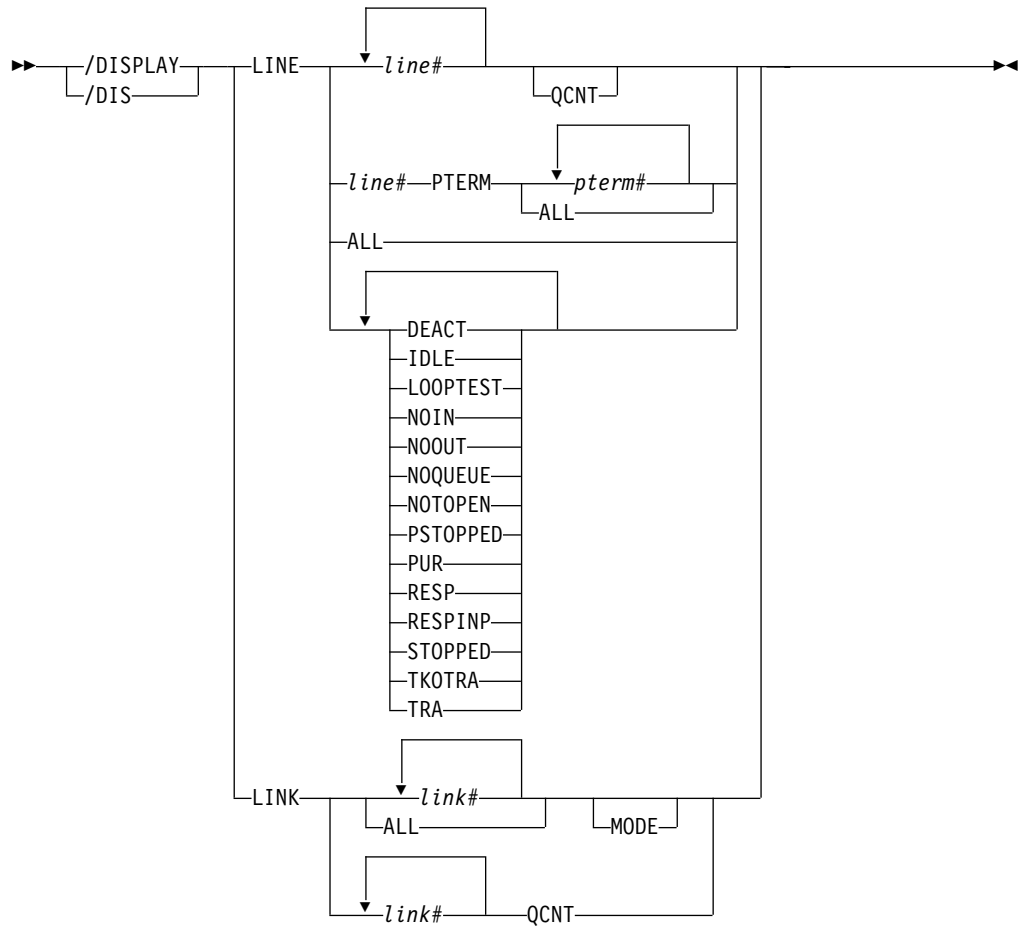


C:

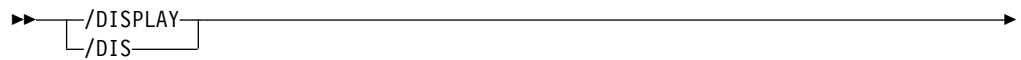


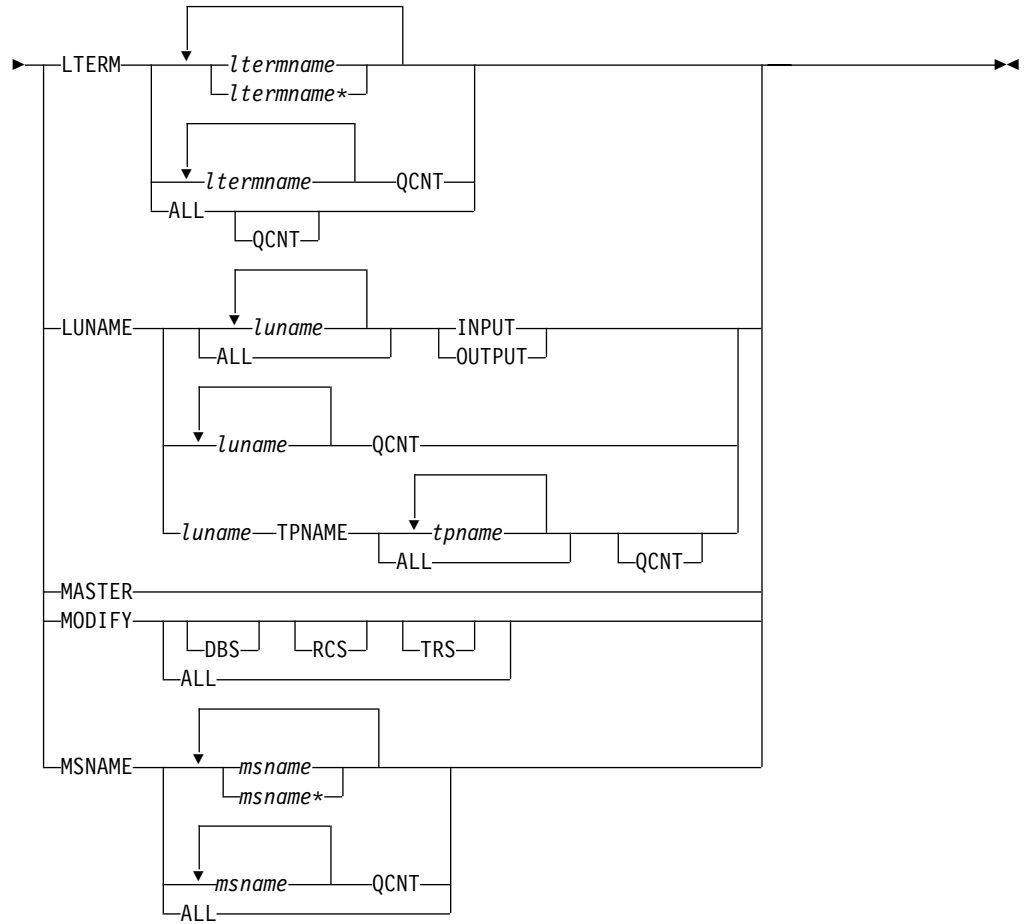
/DISPLAY

/DISPLAY Command: LINE through LINK



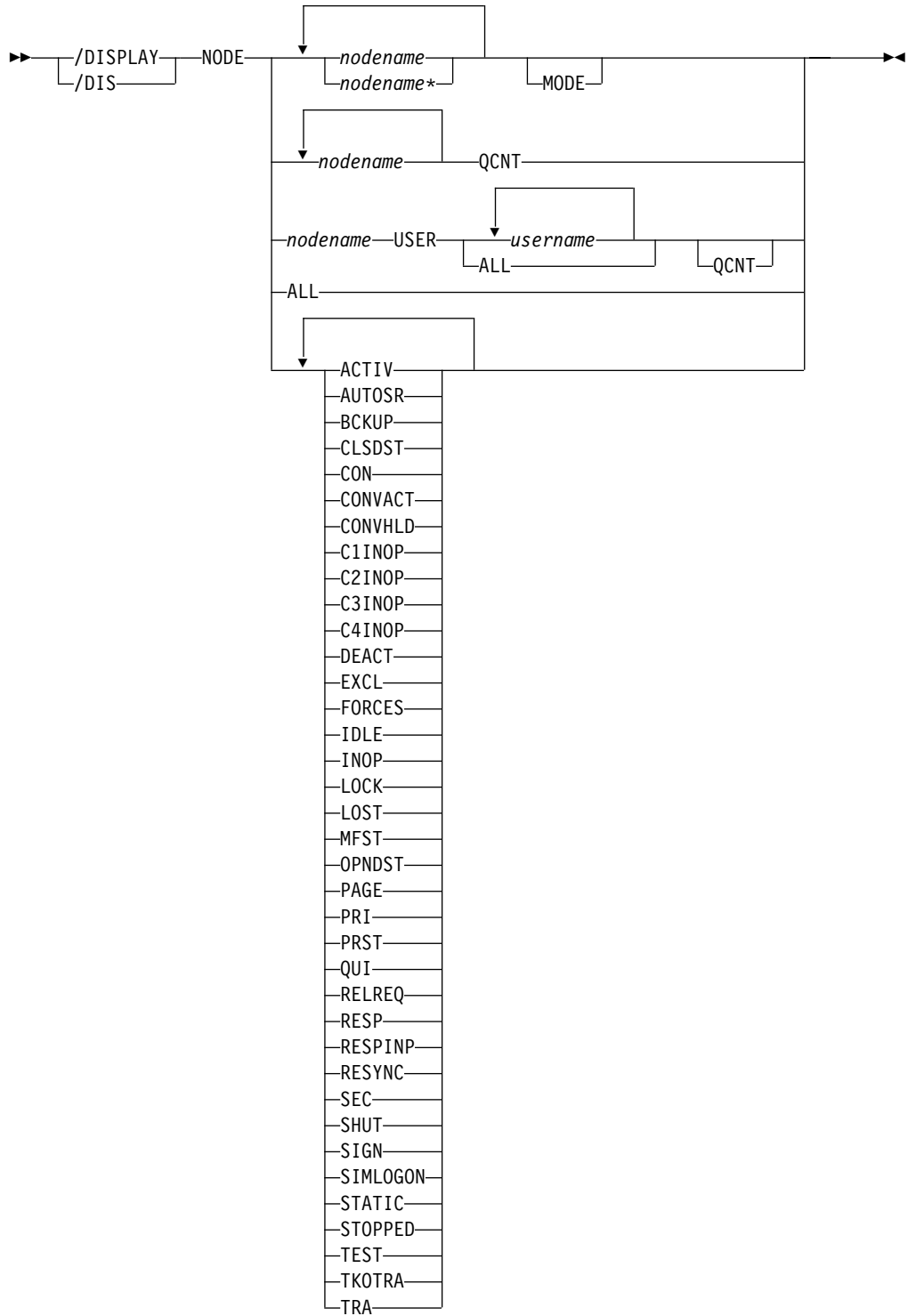
/DISPLAY Command: LTERM through MSNAME



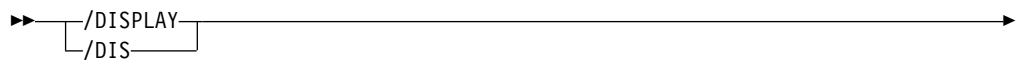


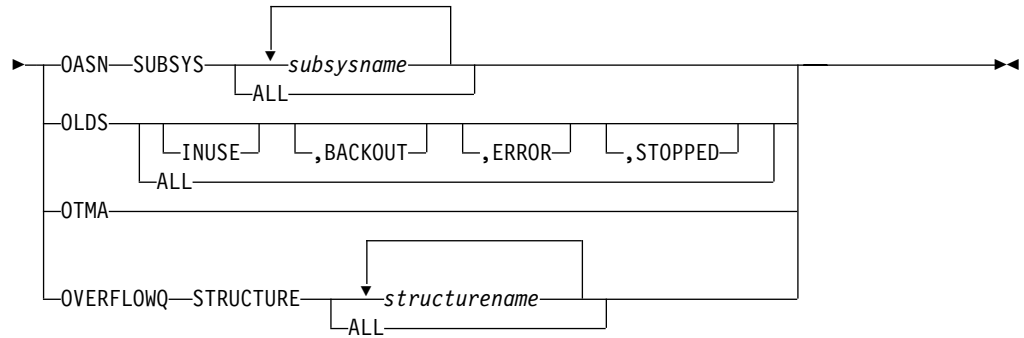
/DISPLAY Command: NODE

/DISPLAY

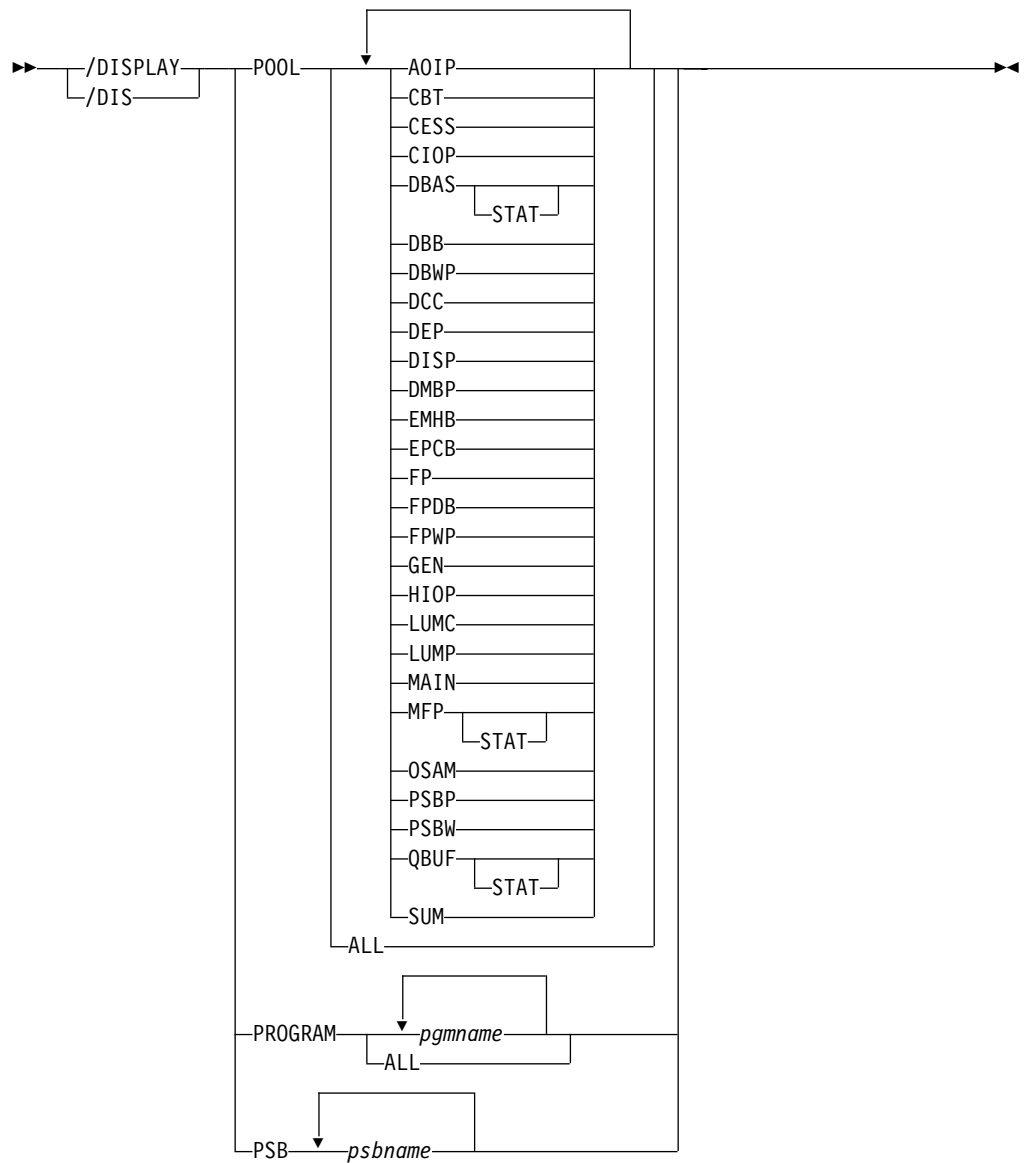


/DISPLAY Command: OASN through OVERFLOWQ



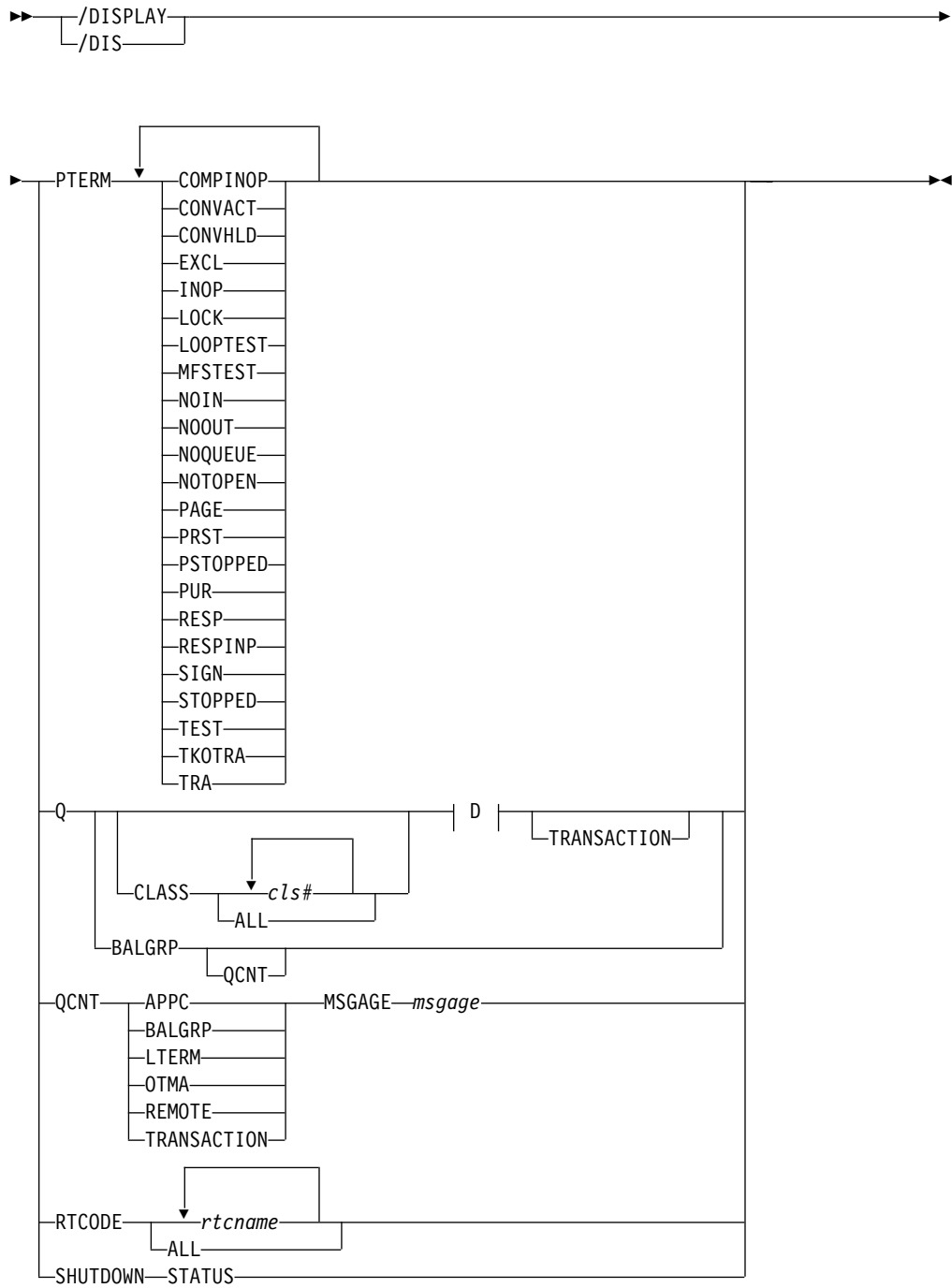


/DISPLAY Command: POOL through PSB



/DISPLAY

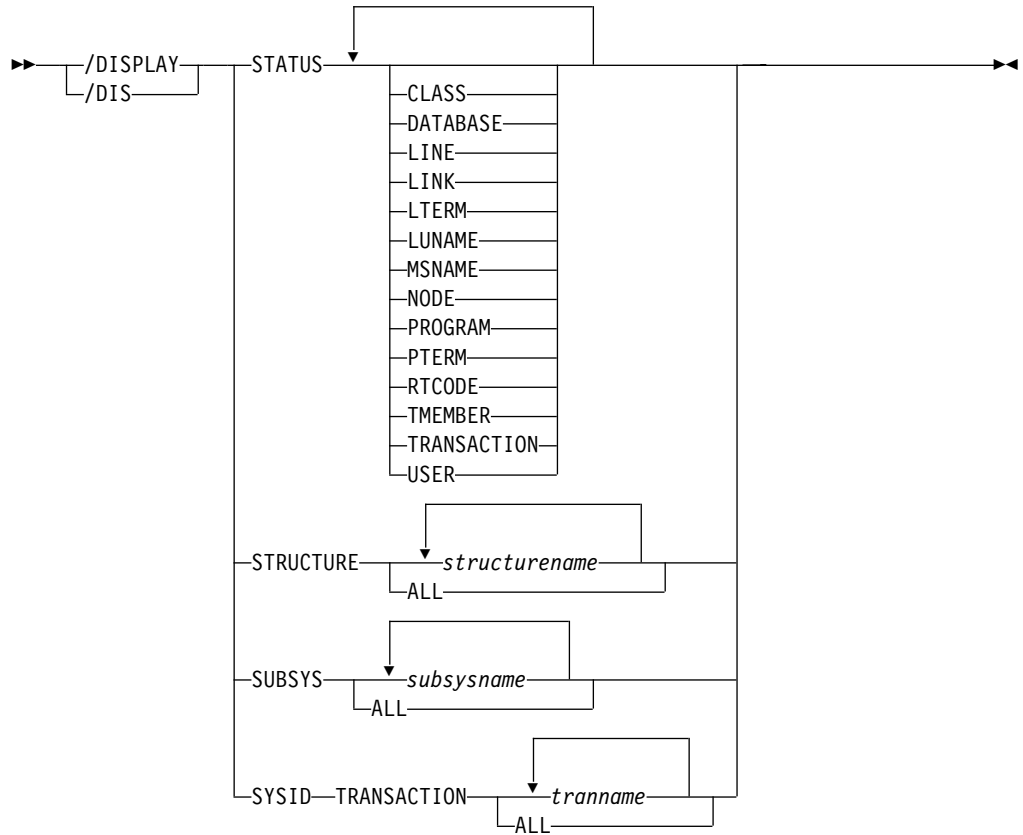
/DISPLAY Command: PTERM through SHUTDOWN STATUS



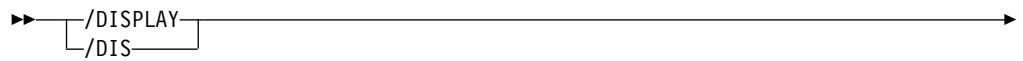
D:



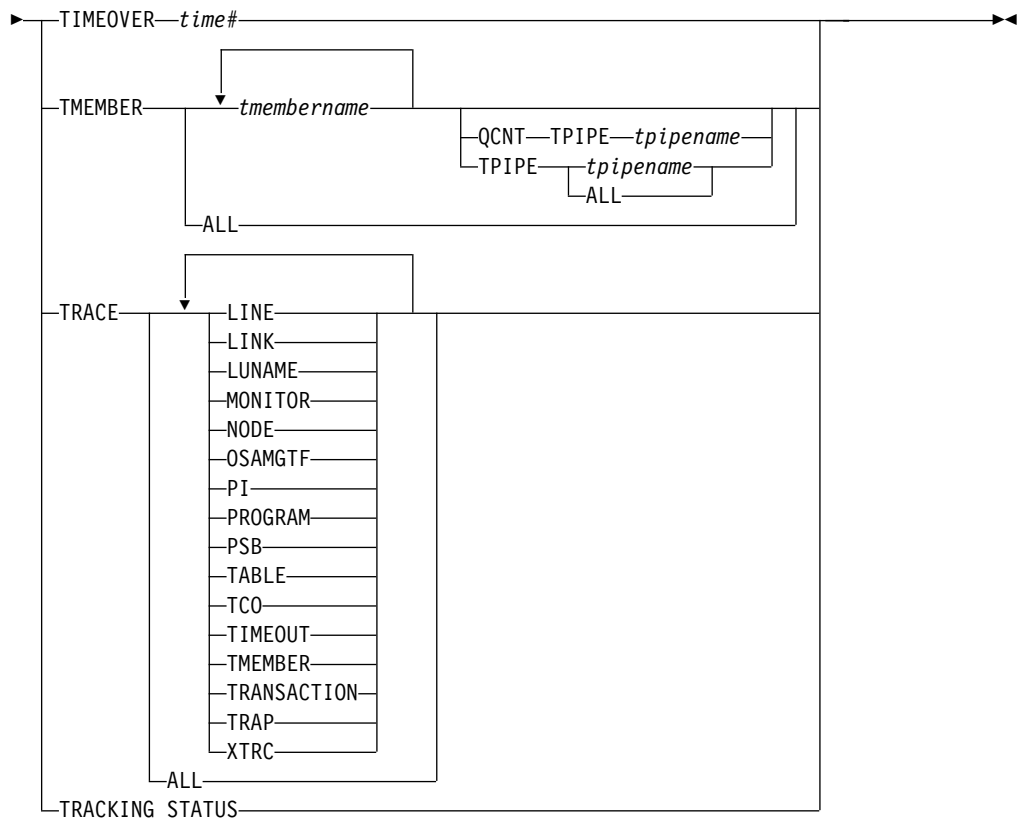
/DISPLAY Command: STATUS through SYSID



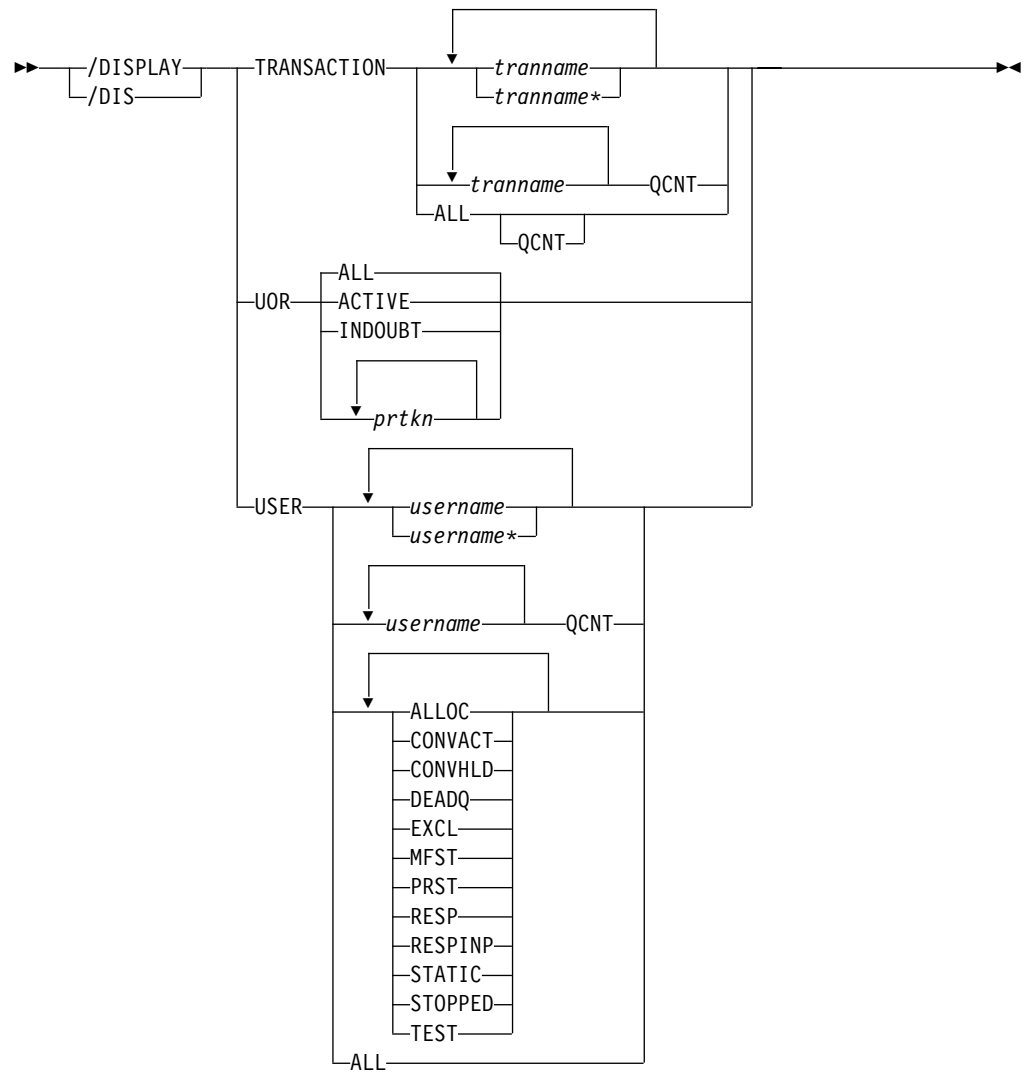
/DISPLAY Command: TIMEOVER through TRACKING STATUS



/DISPLAY



/DISPLAY Command: TRANSACTION through USER



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/DISPLAY	X	X	X
ACTIVE	X	X	X
AFFINITY	X		X
AOITOKEN	X	X	X
APPC	X		X
AREA	X	X	
ASSIGNMENT	X		X
BALGRP	X		X
BKERR	X	X	
CCTL	X	X	
CLASS	X		X

/DISPLAY

Command / Keywords	DB/DC	DBCTL	DCCTL
CONVERSATION	X		X
CQS	X		X
DATABASE	X	X	
DBD	X	X	
DC	X		X
DESCRIPTOR	X		X
FDR	X	X	
FPVIRTUAL	X	X	
HSB	X		X
HSSP	X	X	
INDOUBT	X	X	
INPUT	X		X
LINE	X		X
LINK	X		X
LTERM	X		X
LUNAME	X		X
MASTER	X		X
MODE	X		X
MODIFY	X	X	X
MONITOR	X	X	X
MSGAGE	X		X
MSNAME	X		X
MSPLINK	X		X
NODE	X		X
OASN	X	X	X
OLDS	X	X	X
OSAMGTF	X	X	
OTMA	X		X
OUTPUT	X		X
OVERFLOWQ	X		X
PI	X	X	
POOL	X	X	X
PRIORITY	X		X
PROGRAM	X	X	X
PSB	X	X	X
PTERM	X		X
Q	X		X
QCNT	X		X
REGION	X	X	X
REMOTE	X		X
RTCODE	X		X

/DISPLAY

Command / Keywords	DB/DC	DBCTL	DCCTL
SHUTDOWN	X	X	X
STATUS	X	X	X
STRUCTURE	X		X
SUBSYS	X	X	X
SYSID	X		X
TABLE	X	X	X
TCO	X	X	X
TIMEOUT	X		X
TIMEOVER	X		X
TMEMBER	X		X
TPIPE	X		X
TPNAME	X		X
TRACE	X	X	X
TRACKING STATUS	X	X	X
TRANSACTION	X		X
TRAP	X		X
UOR	X		X
USER	X		X
XTRC	X	X	X

Usage

`/DISPLAY` displays the processing status of IMS message queues and processing resources. `/DISPLAY` can provide helpful information for controlling IMS operations.

The output from a `/DISPLAY` command consists of headings that describe the display, the information requested, and a time stamp showing Julian date and time, in one of the following two formats:

```
yyddd/hhmmss
yyyddd/hhmmss
```

You control the timestamp format by specifying the `YEAR4=` execution parameter. See *IMS/ESA Installation Volume 2: System Definition and Tailoring* for information on this parameter.

If the command includes a generic parameter that does not match any existing resource, an error message results.

See “Appendix G. Status and Attributes for the `/DISPLAY` Command” on page 571 for a list of attributes and status in the `/DISPLAY` command.

/DISPLAY ACTIVE

The `/DISPLAY ACTIVE` command displays region and DC information associated with an IMS system. The region is scheduled to an application program and the IMS resources are assigned.

/DISPLAY ACTIVE

When you issue /DISPLAY ACTIVE from a specific environment, such as DCCTL, only the information that is valid for that environment is displayed.

Examples of using the /DISPLAY ACTIVE command are shown in

- “Example 1 for /DISPLAY ACTIVE Command” on page 224
- “Example 2 for /DISPLAY ACTIVE Command” on page 224
- “Example 3 for /DISPLAY ACTIVE Command” on page 224
- “Example 4 for /DISPLAY ACTIVE Command” on page 225
- “Example 5 for /DISPLAY ACTIVE Command” on page 225
- “Example 6 for /DISPLAY ACTIVE Command” on page 225
- “Example 7 for /DISPLAY ACTIVE Command” on page 226
- “Example 10 for /DISPLAY ACTIVE Command” on page 227
- “Example 12 for /DISPLAY ACTIVE Command” on page 227

Output for the /DISPLAY ACTIVE command is listed below:

DC Displays only the DC subset of the output. The DC portion of the display can include:

- The status of the VTAM ACB
- The IMS luname and the APPC connection status
- The IMS generic LU name and its current status
- The number of active LINES (BTAM terminals) receiving input or sending output
- The number of active NODES receiving input or sending output
- The number of active LINKS (half sessions) receiving input or sending output

REGION

Displays only the REGION subset of the output. The display consists of active regions.

REGID

Region identifier. For DBCTL, the thread number is displayed.

JOBNAME

The name of the job processing in the region.

If no regions of that type exist, the job name is set to MSGRGN, FPRGN, BATCHRGN, or DBTRGN, depending on the region type. DBTRGN is only displayed for systems that support DBT threads.

DBTRGN, BATCHRGN, or FPRGN is displayed for DBCTL.

TYPE Type of application program processing in the region, or type of region. BMH, BMP, DBRC, DBT, DLS, and FPU are displayed for DBCTL.

The following region/program types can be displayed:

BMH	HSSP processing
BMP	Batch message processing
BMPE	Batch message processing for an external subsystem thread
DBRC	DBRC address space
DBT	DBCTL thread

DLS	DL/I address space
FP	Fast Path
FPE	Fast Path processing for an external subsystem
FPM	Fast Path message-drive program
FPME	Fast Path message-drive program for an external subsystem thread
FPU	Fast Path utility program
FPUE	Fast Path utility program for an external subsystem thread
TP	Teleprocessing
TPE	Message-driven program for an external subsystem thread
TPI	Transaction Program Instance. A CPI Communications driven transaction is running in the region.

TRANSACTION/STEP

Transaction code being processed by region, or NONE, if there are no regions of that type.

PROGRAM

Name of the program processing in the region.

DFSCPIC is displayed for CPI Communications driven transaction programs that have not issued a DL/I APSB call to allocate a PSB.

For DBCTL, SB name is displayed.

OTMA GROUP

Status of the IMS Open Transaction Manager Access (OTMA) group. The status can be either ACTIVE or NOTACTIVE.

There can be only one OTMA group active at one time.

STATUS

Status of the region, which can be one of the following:

ACTIVE-DBCMD

A /DBD or a /DBR command is in progress and waiting for the region to terminate before the /DBD or /DBR can complete.

AVAILABLE

The availability of active threads. The region is available to schedule an application.

SCHEDULED

The application program is being scheduled.

TERMINATING

The application program is being terminated.

UNAVAILABLE

An active DBT thread is unavailable. An application is using the region, even though the application is not currently scheduled. This region is therefore not available to any other application.

WAITING

The MPP region is waiting for work.

/DISPLAY ACTIVE

WAIT-AOI

An AO application issued a GMSG call with the WAITAOI subfunction specified, but there are no messages for the AO application to retrieve.

WAIT-BLOCKMOVER

An application control block cannot be loaded because the ACB block mover is busy.

WAIT-CMD/PENDING

A /DBDUMP, /DBRECOVERY, or /START command is in progress.

WAIT-INPUT

The application program is in WAIT-FOR-INPUT (WFI) mode.

WAIT-INTENT

The application program's intent for a database conflicts with the use of the database by a scheduled program.

WAIT-INTENT/POOL

Indicates either the application program's intent for a database conflicts with the use of the database by a scheduled program, or a temporary shortage of DMB, PSB, or PSB work area pool space exists.

WAIT-I/O PREVEN

A BMP region which accesses a GSAM database cannot schedule until I/O prevention has completed.

WAIT-MESSAGE

The application program is in a pseudo WAIT-FOR-INPUT (WFI) mode. The application is scheduled and is waiting for a message.

WAIT-POOLSPACE

A temporary shortage of DMB, PSB, or PSB work area pool space exists.

WAIT-SWITCHOVER

The alternate system is tracking the active system.

WAIT-SYNCPOINT

The application in the region is now in SYNC POINT.

WAIT-EPCB POOL

A temporary shortage of EPCB pool space exists.

WAIT-RRS/OTMA PC

The application program has a protected conversation with an OTMA client that is processing a sync point. Sync point can continue after the OTMA client issues either an SRRCMIT or SRRBACK call.

CLASS

One of the classes associated with the region. The region can have from 1 to 4 classes, whose values range from 1 to 255.

VTAM ACB

The status of the VTAM ACB, which can be OPEN, CLOSE PENDING, or CLOSED. The status of LOGONS can be ENABLED or DISABLED. The base IMS LU name and the current APPC connection status are shown if IMS is running with an APPC/MVS-capable operating system.

The following are displayed for the VTAM ACB:

APPLID=

The application identification name for IMS.

USERVAR=

The user name for IMS. Only applicable for XRF-capable or RSR-capable systems.

GRSNAME=

The VTAM generic resource name. Displayed as blanks if no generic resource name exists.

Restriction: IMS displays either the USERVAR or the GRSNAME. For non-XRF or non-RSR subsystems (no USERVAR specified), IMS displays the GRSNAME, which can be blank.

If the IMS system is XRF, the following fields are appended to the date/time stamp:

RSEname	Recoverable service element name
System	ACTIVE or BACKUP

STATUS

One of the following:

AWAITING SNAPQ

Alternate system awaiting SNAPQ checkpoint from active

SYNCHRONIZING

Alternate system processing SNAPQ checkpoint

TRACKING

Alternate system is in process of tracking active system

TAKEOVER REQUESTED

Alternate system requests a takeover

TAKEOVER IN PROGRESS

Alternate system in process of taking over workload from active

I/O TOLERATION

New active system in I/O toleration phase of processing prior to becoming a true active system.

/DISPLAY AFFINITY

The /DISPLAY AFFINITY command displays current affinities the IMS subsystem has with specific nodes.

This command is only valid when you use VTAM generic resources.

An example of using the /DISPLAY AFFINITY command is shown in “Example for /DISPLAY AFFINITY Command” on page 227.

/DISPLAY AOITOKEN

/DISPLAY AOITOKEN displays all AOI tokens in the system. An example using /DISPLAY AOITOKEN is shown in “Example for /DISPLAY AOITOKEN Command” on page 228.

The following information is displayed for each AOI token:

/DISPLAY AOITOKEN

AOITOKEN

AOI token name.

ENQCT

Total number of messages enqueued. In a shared-queues environment, only shows messages enqueued for the local subsystem.

QCT Number of messages currently queued to the token and not yet retrieved by the AO application. In a shared-queues environment, only shows messages enqueued for the local subsystem.

SEGS Number of segments in messages queued (QCT) to the AOI token.

W-REGID

The region IDs of AO applications that issued a GMSG call with the WAITAOI subfunction specified. This AO application is in a wait state, since there are currently no messages for it to retrieve.

If QCT=0 and W-REGID=NONE, then the AOI token is deleted at the next checkpoint.

/DISPLAY APPC

APPC displays inquiries about LU 6.2 related activities.

The output for /DISPLAY APPC is as follows:

IMSLU

The IMSLU is a base IMS LU name. This LU is always a network-qualified LU name. It is displayed as N/A.N/A if IMS is not connected to APPC/MVS. For example, if status is DISABLED, FAILED, or STARTING, N/A.N/A applies. For the CANCEL status, the field can contain either the LU name or N/A.N/A.

#APPC-CONV

LU 6.2 inbound and outbound conversation count.

SECURITY

RACF security level, which is one of the following:

- CHECK
- FULL
- NONE
- PROFILE

STATUS

Current APPC connection status. The possible values for APPC connection status are:

CANCEL

Shown after the /STOP APPC CANCEL command.

DISABLED

Shown when APPC/IMS is not identified or connected to APPC/MVS.

ENABLED

Shown after successful /START APPC command completion.

FAILED

Shown after unsuccessful /START APPC command.

OUTBOUND

Shown on the XRF alternate system as it tracks the active. It is also shown on the active if IMS is unable to initiate normal APPC processing. For example, the /START APPC command can be reissued to attempt APPC enablement.

PURGING

Shown after the /PURGE APPC command.

STARTING

Shown after the /START APPC is issued and before the status is set to ENABLED or FAILED.

STOPPED

Shown after the /STOP APPC command.

DESIRED

Desired APPC connection status. This status is changed by the /PURGE, /START and /STOP APPC (CANCEL) commands. The possible values for desired APPC connection status are:

CANCEL

Shown after /STOP APPC CANCEL

DISABLED

Shown when APPC/IMS is not identified or connected to the APPC/MVS

ENABLED

Shown after /START APPC

OUTBOUND

Shown on the XRF alternate system as it tracks the active

PURGING

Shown after /PURGE APPC

STOPPED

Shown after /STOP APPC

GRNAME

The IMS/APPC generic LU name (if VTAM Generic Resources is activated).

/DISPLAY AREA

/DISPLAY AREA displays data sets, status conditions, control intervals, and databases associated with an area.

Examples of using the /DISPLAY AREA command are shown in:

- "Example 1 for /DISPLAY AREA Command" on page 228
- "Example 2 for /DISPLAY AREA Command" on page 229

The output for /DISPLAY AREA includes:

AREANAME

Name of the Fast Path DEDB area.

DDNAME

Names of the data sets that contain that area.

CONDITIONS

Status conditions associated with the area or ADS.

/DISPLAY AREA

Status conditions associated with the area include:

IC HSSP image copy is currently active on the area.

NOT-OPEN

The area has yet to be opened. This will be done when first call is issued to the area.

RECALL

Area is in recall.

RECOVERY-NEEDED

The area has been marked RECOVERY-NEEDED. The database recovery utility needs to be run to restore this area.

STOPPED

The area is in STOPPED status. All access to it is prohibited. This can be changed with the /START command.

Status conditions associated with the ADS include the following:

COPY-PHASE

The CREATE utility is currently in the COPY phase on this ADS. The CREATE utility must complete before anything can be done with this ADS.

FORMAT-PHASE

The CREATE utility is currently in the FORMAT phase on this ADS. The CREATE utility must complete before anything can be done with this ADS.

PRE-OPEN FAILED

XRF PREOPEN was not successful for this ADS.

RECALL

Area is in Recall.

SEVERE-ERROR

This ADS has had a severe I/O error (write error to second CI, in which Fast Path keeps its control information).

UNAVAILABLE

This ADS has been marked unavailable, probably due to I/O errors. (EQE REMAIN = 0).

EQECT

Count of I/O errors for the area.

TOTAL SEQ DEPENDENT

Total control intervals defined for sequential dependent space.

UNUSED SEQ DEPENDENT

Unused control intervals for sequential dependent space.

TOTAL DIRECT ADDRESSABLE

Total control intervals defined for direct addressable space.

UNUSED DIRECT ADDRESSABLE

Unused control intervals for direct addressable space.

DBNAME

Database name.

IOVF Independent overflow area statistics.

/DISPLAY AREA

These statistics are only displayed if IOVF is specified on the /DIS AREA command (/DIS AREA ALL IOVF or /DIS AREA areaname IOVF). If the IOVF parameter is not specified on the /DIS AREA command, N/A appears in the display output.

If the /DIS AREA IOVF command is entered on an RSR tracking subsystem, the IOVF statistics might be incorrect.

"Attribute" is a reserved parameter. Attributes listed with Table 20 can be used with the AREA keyword. Areas are selected for display based on the attribute or attributes specified. For example, /DISPLAY AREA STOPPED will only display areas that are currently stopped. The attribute display format is the same as the standard AREA display. Attributes usually correspond to the conditions displayed for areas. Any exceptions are flagged in Table 20.

The attributes are reserved parameters for the /DISPLAY AREA command and cannot be used to name areas.

When using the ALL parameter with the IOVF keyword (for example, /DIS AREA ALL IOVF), performance can be affected depending on the number and size of the areas involved. If large areas and/or large numbers of areas are involved, the control region can appear to be stopped while processing this command.

Table 20. /DISPLAY AREA Command Attributes

IC	NOTOPEN ¹
OFR	RECOVERN ²
RECALL	STOPPED

Note:

1. Corresponds to AREA condition NOT OPEN.
 2. Corresponds to AREA condition RECOVERY NEEDED.
-

/DISPLAY ASSIGNMENT

/DISPLAY ASSIGNMENT displays resource assignments.

Examples of using the /DISPLAY ASSIGNMENT command are shown in:

- "Example 1 for /DISPLAY ASSIGNMENT Command" on page 229
- "Example 2 for /DISPLAY ASSIGNMENT Command" on page 234

The following information is displayed when this command is used:

LINE PTERM

The logical terminal names associated with the specified line and physical terminal.

LINK The physical link, SYSIDs, and logical link paths assigned to the specified logical link.

LTERM

The communication line and physical terminal or node and component associated with the specified logical terminal name. When using ISC or a dynamic terminal, the displayed output for a logical terminal assigned to the VTAM pool shows the assigned node, if any, and the user name. The LTERM parameter can be generic.

/DISPLAY ASSIGNMENT

MSNAME

The physical link and logical link assigned to the specified logical link path.

MSPLINK

The type, address, and logical link associated with the specified physical link. For MSC with VTAM, MSPLINK also displays the maximum number of allowed sessions and VTAM node name.

NODE The logical terminal names associated with the specified node. When using ISC, the displayed output shows at least one line of information for each half-session of the node, shows whether the half-session is active, and shows whether LTERMs are assigned. If the half-session is active, the user identifier is displayed. If no LTERMs are assigned, NONE is indicated. The USER keyword is valid for ISC nodes and non-ISC nodes with signed-on users. The NODE parameter can be generic.

SYSID The physical link, logical link, and logical link path assignments associated with the specified system identification.

USER All the USER structures and USERIDs that match the parameter specified. These are the following:

- The USER field shows the USER structure name. N/A appears for all static USERIDs signed on to static nodes.
- The USERID field displays the RACF USERID that was used to sign on to the node. N/A appears if a USER structure is not associated with a node. In this case, the USER structure exists to hold status or has messages inserted to it. If no messages or status exist, the USER structure is deleted at the next checkpoint.
- The node name and logical terminal names are displayed if the user is allocated to a node or signed on to a node.

The USER parameter can be generic.

/DISPLAY CCTL

/DISPLAY CCTL displays all coordinator controllers connected to DBCTL along with the pseudo-recovery token, recovery token, region ID, psbname, and status. Coordinator controllers that are attached to IMS show a status of ATTACHED.

Restriction The /DISPLAY CCTL command does not support the ODBA interface to IMS DB. Use the /DISPLAY UOR command for displaying status information about units of work for protected resources that are managed by RRS/MVS.

Examples of using the /DISPLAY CCTL command are shown in:

- "Example 1 for /DISPLAY CCTL Command" on page 235
- "Example 2 for /DISPLAY CCTL Command" on page 235
- "Example 3 for /DISPLAY CCTL Command" on page 235
- "Example 4 for /DISPLAY CCTL Command" on page 235
- "Example 5 for /DISPLAY CCTL Command" on page 235

The status of active threads can be any of the following:

ACTIVE

The region is available for scheduling an application program. ACTIVE displays all active threads.

ACTIVE-DBCMD

A /DBD or a /DBR command is in progress and waiting for the region to terminate before the /DBD or /DBR can complete.

AVAILABLE

Active threads are available. The region is available to schedule an application.

TERM The thread is terminating. The application program is being terminated.

UNAVAIL

Active threads are unavailable. An application is using the region, even though the application is not currently scheduled. This region is therefore not available to any other application.

W-BLKMVR

The thread is waiting for a block mover. An application control block cannot be loaded because the ACB block mover is busy.

W-INTENT

The thread is waiting for intent. The application program's intent for a database conflicts with the use of the database by a scheduled program.

W-POOLSP

The thread is waiting for pool space. A temporary shortage of DMB, PSB, or PSB work area pool space exists.

W-SWITCH

The thread is waiting for switchover. The alternate system is tracing the active system.

INDOUBT displays all in-doubt threads. The status of all in-doubt threads is always displayed as INDOUBT.

/DISPLAY CONVERSATION

/DISPLAY CONVERSATION displays all BUSY and HELD conversations in the IMS system if no other keywords or parameters are specified. The command displays a 4-byte conversation ID.

An example of using the /DISPLAY CONVERSATION command is shown in "Example for /DISPLAY CONVERSATION Command" on page 236.

The following information is displayed when this command is used:

BUSY The conversations currently active for the system or active for a specific node, line and physical terminal, or user.

HELD The conversations currently held in the system or held from a specific node, line and physical terminal, or user.

IDLE Displays the count of conversations that can still be initiated. This count is equal to 65535 minus the sum of the active and held conversations. The count is listed after this head: NUMBER OF IDLE CONVERSATIONS.

When ISC is used with parallel sessions, one line of information for each session in a conversation is displayed. The user name is also displayed.

/DISPLAY CONVERSATION

When the **NODE** keyword is used and the node is an ISC node, information for all applicable sessions of the parallel session node is displayed. For dynamic terminals, the conversations of the currently associated user are displayed. The **NODE** parameter can be generic.

When the **USER** keyword is specified, all conversations that apply to that user are displayed. The **USER** parameter can be generic.

For an IMS conversational transaction issued from an LU 6.2 application program, **/DISPLAY CONVERSATION** shows the LU name and user ID (if available) of the LU 6.2 conversation along with the IMS conversation ID and status.

/DISPLAY CQS

/DISPLAY CQS displays information about the Common Queue Server (CQS), including the CQS job name, version number, and current status. Valid status conditions are **CONNECTED** and **DISCONNECTED**.

This command is only valid in a shared-queues environment.

An example of using the **/DISPLAY CQS** command is shown in “Example for **/DISPLAY CQS** Command” on page 237.

/DISPLAY DATABASE

/DISPLAY DATABASE displays the status of specified databases. If a specified database is a **DEDB**, the associated **DEDB** areas are also displayed.

An example of using the **/DISPLAY DATABASE** command is shown in “Example 1 for **/DISPLAY DATABASE** Command” on page 238.

The following information is displayed:

DATABASE

Name of the database.

TYPE Type of database, which can be **DL/I**, **DEDB**, **MSNR**, **MSRD**, **MSRF**, or blank (if the database status is **NOTINIT**). **MSNR** refers to **MSDB** non-related databases, **MSRD** refers to **MSDB** related dynamic databases, and **MSRF** refers to **MSDB** related fixed databases.

TOTAL SEQ DEPEND

Total control intervals defined for sequential dependent space, which applies to areas associated with **DEDBs**. This column only appears if **Fast Path** is installed.

UNUSED SEQ DEPEND

Unused control intervals for sequential dependent space. This column only appears if **Fast Path** is installed.

TOTAL DIRECT ADDRESS

Total control intervals for independent overflow part of direct addressable space, which applies to areas associated with **DEDBs**. This column only appears if **Fast Path** is installed.

UNUSED DIRECT ADDRESS

Total unused control intervals for independent overflow part of direct addressable space, which applies to areas associated with **DEDBs**. This column only appears if **Fast Path** is installed.

ACC Type of access to the database, which can be one of the following:

- RO** Read only
- RD** Read
- UP** Update
- EX** Exclusive

CONDITIONS

Status conditions of the database, which can be one or more of the following:

- ALLOCF
- ALLOCS
- BACKOUT
- EEQE
- INQONLY
- NOTINIT
- NOTOPEN
- OFR
- RECALL
- STOPPED
- LOCK

Note: The OFR parameter is only valid when issued from an RSR tracking subsystem.

Table 21. /DISPLAY DATABASE Command Attributes

ALLOCF	ALLOCS
BACKOUT	EEQE
INQONLY	LOCK
NOTINIT	NOTOPEN
OFR	RECALL
STOPPED	

"Attribute" is a reserved parameter. Attributes listed with Table 21 can be used with the DATABASE keyword. Databases are selected for display based on the attribute or attributes specified. For example, /DISPLAY DATABASE OFR will only display those databases that are currently being recovered by online forward recovery (OFR). The attribute display format is the same as the standard DATABASE display. Attributes usually correspond to the conditions displayed for databases.

Attributes are reserved parameters for the /DISPLAY DATABASE command and cannot be used to name databases.

/DISPLAY DATABASE with BKERR

/DISPLAY DATABASE with BKERR displays error queue elements associated with a DL/I database and displays incomplete backouts.

The output includes:

/DISPLAY DATABASE with BKERR

DATABASE

Name of the database with error queue elements and/or backout pending data.

ERROR DD

DDNAME of the data set with the error queue element

TYPE Type of error queue element, which is one of the following:

BACK PSB	PSB needing backout
BLOCK	OSAM block number or VSAM CI RBA
DATE	Date
IDT	In-doubt
IDT+WRT	In-doubt and write error
IDT+IOT	In-doubt and I/O toleration
IOT	I/O toleration
IOT/VSO	I/O toleration for VSO areas
PRM	DBRC permanent
RD	Read error
TIME	Time
USE	DBRC user created
WRT	Write error

The EEQE information might not be current if the database is registered with DBRC and is not open, because IMS updates EEQE information from DBRC when the database is opened.

The /DIS DB command with BKERR does not display individual RBAs for I/O tolerated non-SDEP CIs of a DEDB area defined with the Virtual Storage Option (VSO). Instead, a single entry with a value of 00000001 is displayed; the EEQE type is set to IOT/VSO. I/O tolerated SDEP CIs for the area are displayed individually by RBA. See "Example 4 for /DISPLAY DATABASE Command" on page 239.

/DISPLAY DBD

/DISPLAY DBD displays, for databases that are being accessed, their type, the PSBs accessing them, and the type of access. /DISPLAY DBD can be used only if Fast Path is installed.

An example of using /DISPLAY DBD is shown in "Example for /DISPLAY DBD Command" on page 239.

/DISPLAY DESCRIPTOR

/DISPLAY DESCRIPTOR displays LU 6.2 descriptors. All specified values are displayed, as are defaults/blanks for values not specified in the descriptor.

An example of using /DISPLAY DESCRIPTOR is shown in "Example for /DISPLAY DESCRIPTOR Command" on page 240.

The output for /DISPLAY DESCRIPTOR is as follows:

DESC Name of the descriptor.

LUNAME

LU name value in the descriptor. The network-qualified LU name is optional for the LUNAME keyword.

MODE VTAM LOGON mode table entry value in the descriptor.

SIDE APPC/MVS side table entry value in the descriptor.

SYNCLEVEL

APPC synchronous level in the descriptor; either NONE or CONFIRM.

TPNAME

TP name value in the descriptor. If the tpname is too long, a + is appended at the end, and the rest is continued on a second line.

TYPE APPC conversation type value in the descriptor; it is either BASIC or MAPPED.

/DISPLAY FDR

/DISPLAY FDR displays the current status for IMS Fast Database Recovery regions.

IMS rejects this command if the active IMS subsystem is not connected to a Fast Database Recovery region.

An example of using /DISPLAY FDR is shown in “Example for /DISPLAY FDR Command” on page 240.

FDR-REGION

Status of the Fast Database Recovery region to which the IMS subsystem is connected. The status can be ACTIVE or NO_ACTIVE.

GROUPNAME

The XCF group name specified in the DFSFDRxx member of IMS.PROCLIB.

TIMEOUT

The failure-detection timeout value specified in the DFSFDRxx member or set by a /CHANGE FDR command.

/DISPLAY FPVIRTUAL

/DISPLAY FPVIRTUAL displays the areas loaded into an MVS data space or coupling facility. That is, those areas that have been specified with the virtual storage option (VSO) are displayed with this command.

An example of using /DISPLAY FPVIRTUAL is shown in “Example for /DISPLAY FPVIRTUAL Command” on page 240.

Each data space is displayed, along with each of the areas that reside in the data space. All numbers shown are hexadecimal values.

DATASPACE

Data space number.

MAXSIZE(4K)

Maximum available size, in 4 KB blocks. This is the amount of space available in the data space for user data.

/DISPLAY FPVIRTUAL

AREANAME

Name of the area located in the data space or in the coupling facility.

AREASIZE(4K)

Actual storage available for a particular area, in 4KB blocks.

The actual space usage can be significantly less than what is reserved if a VSO dataspace is not preloaded.

OPTION

A data space option (which can be DREF) or an area option (which can be PREL or PRE0). Area options are defined to DBRC with the INIT.DBDS or CHANGE.DBDS command.

STRUCTURE

Name of the coupling facility structure allocated for this area.

ENTRIES

Number of area CIs in the structure.

CHANGED

Number of area CIs in the structure that have been updated. IMS writes these updated CIs to DASD (and resets this value) when you enter any of the following commands:

- /CHECKPOINT
- /STOP AREA
- /VUNLOAD

POOLNAME

Name of the private buffer pool used by the area.

/DISPLAY HSB

/DISPLAY HSB displays the system-related information in an XRF environment. If the command is entered on the active system, information about the active system is displayed. If the command is entered on the alternate system, information about both systems is displayed.

An example of using the /DISPLAY HSB command is shown in "Example for /DISPLAY HSB Command" on page 241.

The output for /DISPLAY HSB includes:

RSENAME

Recoverable service element name.

STATUS

System entering command (ACTIVE or BACKUP).

MODETBL

Indication of whether (IOT) or not (blank) the system is in I/O toleration mode. This field is displayed only if the command is entered on the active system.

PHASE

Displays only if the command is entered on the alternate system; indicates the phase of the alternate system. The following phases can be displayed:

INIT	Initialization phase
SYN	Processing SNAPQ checkpoint

TRK Tracking active system
TKO Taking over workload from active

IMS-ID
IMS identifier of system entering command.

VTAM UVAR
VTAM generic name.

ACT-ID
IMS identifier of active system; field is displayed only if the command is entered on the alternate system.

LOG-TIME
Time associated with the log record currently being read by the alternate system in the process of tracking the active system. The length of time the alternate system lags behind the active system in reading the log is the difference between the current time, as shown by the timestamp, and the log time. Some of this time difference might be due to differences in the synchronization of the clocks of the processors.

SURVEILLANCE
Indicates one of the following surveillance mechanisms:

LNK IMS ISC link
LOG IMS system log
RDS IMS restart data set

INTERVAL
The surveillance interval, in seconds, for the specific surveillance mechanism

TIMEOUT
The surveillance timeout value, in seconds, for the specific surveillance mechanism

STATUS
The status of the specific surveillance mechanism (ACTIVE or INACTIVE).

TAKEOVER CONDITIONS
The following takeover conditions may apply:

ALARM
The alarm on the alternate processor will be sounded when takeover is requested.

AUTO Automatic takeover is in effect.

Following the display line of ALARM, AUTO, or both, the takeover conditions specified on the SWITCH control statement of the DFSHSBxx proc1ib member are shown. (xx is the SUF= parameter of the IMS procedure.) There are two groups per line and each group is separated by an asterisk. Each group can include one or more of the following:

VTAM VTAM TPEND exit
LNK IMS ISC link
LOG IMS system log
RDS IMS restart data set

/DISPLAY HSSP

/DISPLAY HSSP

/DISPLAY HSSP displays information about the current HSSP (high-speed sequential processing) activities.

An example of using the /DISPLAY HSSP command is shown in “Example for /DISPLAY HSSP Command” on page 241.

The output for /DISPLAY HSSP includes:

RGN Region ID as displayed in the /DISPLAY ACTIVE command (three digit PST number)

TYP Region type (BMP only)

JOBNAME

Job name

PSB Program Specification Block name

DB Database name

AREAS-OPTIONS

Information on the SETO statement:

AREA Area name

PCB Information on whether the named area has updated intent.

PROCOPT

Whether PROCOPT H is specified.

IC Image Copy in process.

UPD Information on whether the area is updated, which is one of the following:

N The PCB has no update intent on the named area.

Y The PCB has update intent on the named area.

OPTION

Information on the execution

IC Image Copy in process

/DISPLAY LINE

/DISPLAY LINE, when followed by a valid line number or ALL, displays the status and queue counts for the specified communication line or line and physical terminal. The queue count for /DISPLAY LINE is reset to zero after an IMS cold start.

Lines are selected for display based on the attributes specified. Attributes that can be specified are shown in Table 22. The attribute display format is the same as the standard LINE display. The attributes correspond to the conditions displayed for lines. For example, /DISPLAY LINE LOOPTEST displays all lines that are currently in looptest mode.

Table 22. Specify These Attributes with the LINE Keyword

DEACT	NOQUEUE	RESPINP
IDLE	NOTOPEN	STOPPED
LOOPTEST	PSTOPPED	TKOTRA
NOIN	PUR	TRA

Table 22. Specify These Attributes with the LINE Keyword (continued)

NOOUT	RESP
-------	------

An example of using the /DISPLAY LINE command is shown in “Example for /DISPLAY LINE Command” on page 242.

QCNT

Specifies that global queue count information is to be displayed. If QCNT is not specified, local queue counts are displayed; when it is specified, no local queue counts are displayed.

This keyword is only valid in a shared-queues environment.

/DISPLAY LINK

/DISPLAY LINK, when followed by a valid link number or ALL, displays the status and queue counts for the specified logical link. The queue count for /DISPLAY LINK is reset to zero after an IMS cold start.

In addition, /DISPLAY LINK shows if the logical link is assigned to a physical link and the partner identification that is assigned to it during system definition.

The /DISPLAY LINK link# MODE command, when entered from the primary IMS system, displays in the ACT MODETBL field the mode table name from the /RESTART command or LOGON exit. The same field does not display on the secondary IMS system.

Note: N/A is displayed by /DISPLAY LINK ALL MODE for non-VTAM MSC links.

Examples for using the /DISPLAY LINK command are shown in:

- “Example 1 for /DISPLAY LINK Command” on page 243
- “Example 2 for /DISPLAY LINK Command” on page 243

MODE Displays the mode table names associated with the links specified. The output includes:

LINK Logical link number.

PARTNER

The identification specified during IMS system definition for this multiple system partnership.

DEF MODETBL

Default mode table name set via system definition or /CHANGE command. This name can be overridden with the /RSTART command or, for non-IMS session initiations, the LOGON exit.

ACT MODETBL

Mode table name actually used to initiate the session. This name is only displayed while the session is active. The field is blank at normal session termination.

QCNT

Specifies that global queue count information is to be displayed. If QCNT is not specified, local queue counts are displayed; when it is specified, no local queue counts are displayed.

/DISPLAY LINK

This keyword is only valid in a shared-queues environment.

/DISPLAY LTERM

/DISPLAY LTERM displays status and queue counts for the specified logical terminal name. The status displayed can be one of the following:

- LOCK
- PSTOP
- PUR
- QERR
- QLOCK
- STATIC
- STOP

The LTERM parameter can be generic where the generic parameter specifies lterms that already exist.

/DISPLAY LTERM ALL does not display lterms in alphabetical order.

Examples of using the /DISPLAY LTERM command are shown in:

- “Example 1 for /DISPLAY LTERM Command” on page 243
- “Example 2 for /DISPLAY LTERM Command” on page 244

QCNT

Specifies that global queue count information is to be displayed. If QCNT is not specified, local queue counts are displayed; when it is specified, no local queue counts are displayed.

IMS does not check that the specified name is a valid LTERM in the IMS subsystem on which the command is entered.

The /DISPLAY LTERM ALL QCNT command displays all of the LTERMs on the shared queues with a global queue count.

This command does not display queue counts for Fast Path output messages for the LTERM.

This keyword is only valid in a shared-queues environment.

In a shared queues environment, there are certain situations that cause an LTERM message to be retrieved from the global queue and moved to the local queue, but the message has not been delivered. If this occurs, the global queue count is zero and you need to display the local queue to see the output message.

/DISPLAY LUNAME

/DISPLAY LUNAME displays information about a specific LU 6.2 application program. After restart and any checkpoint, only LU 6.2 resources with status or messages queued are displayed.

QCNT

Specifies that global queue count information is to be displayed. If QCNT is not specified, local queue counts are displayed; when it is specified, no local queue counts are displayed.

This keyword is only valid in a shared-queues environment.

/DISPLAY LUNAME INPUT

`/DISPLAY LUNAME INPUT` displays the count of LU 6.2 inbound conversations and synchronous outbound activities for the specified LU names and their status. The status displayed can be none, stopped (STO), traced (TRA), or both stopped and traced.

`/DISPLAY LUNAME INPUT` can indicate that a command such as `/STO LUNAME ALL INPUT` or `/TRACE SET ON LUNAME ALL INPUT` was entered before the display that applies to all future LU 6.2 inbound conversations. The `/DISPLAY LUNAME INPUT` command includes:

LUNAME

LU name of the LU 6.2 application program

#APPC-CONV

The number of LU 6.2 inbound conversations

Status can be stopped (STO), traced (TRA), or stopped and traced.

/DISPLAY LUNAME OUTPUT

`/DISPLAY LUNAME OUTPUT` displays the count of asynchronous output messages that are being enqueued and dequeued for the LU name and the count of LU 6.2 asynchronous outbound conversations for that LU name.

`/DISPLAY LUNAME OUTPUT` can indicate that a command such as `/STO LUNAME ALL OUTPUT` or `/TRACE SET ON LUNAME ALL OUTPUT` was entered that applies to all future LU 6.2 outbound conversations. The status displayed can be none, stopped (STO), traced (TRA), or both stopped and traced. `/DISPLAY LUNAME OUTPUT` includes:

LUNAME

LU name of the LU 6.2 application program.

ENQCT

Total number of messages enqueued on this LU name. In a shared-queues environment, only shows messages enqueued for the local subsystem.

DEQCT

Total number of messages dequeued from this LU name. In a shared-queues environment, only shows messages dequeued for the local subsystem.

QCT

Total number of messages still in the queue. In a shared-queues environment, only shows messages enqueued for the local subsystem.

CONVCT

Number of LU 6.2 asynchronous outbound conversations.

Status can be stopped (STO), traced (TRA), or stopped and traced.

/DISPLAY LUNAME TPNAME

`/DISPLAY LUNAME TPNAME` displays the number of asynchronous output messages being enqueued and dequeued and their status. The status displayed can be none, stopped (STO), traced (TRA), or both stopped and traced.

/DISPLAY LUNAME

If the LU name includes a network identifier, you must specify the network-qualified LU name when using the TPNAM keyword. A network-qualified LU name refers to a different resource than a non-qualified LU name.

/DISPLAY LUNAME TPNAM includes the following:

LUNAME TPNAM

LU name and TP name of the LU 6.2 program. The first line displays the LU name and the second line displays the TP name, which is preceded by a dash. If the TP name is too long, a + sign is appended at the end, and the remainder is continued on the next line.

ENQCT

The total number of messages enqueued to this particular LU 6.2 application program. In a shared-queues environment, only shows messages enqueued for the local subsystem. If the ENQCT and DEQCT are the same and there are no messages enqueued or dequeued from that point on, these counts will be set to zero after restart or takeover.

DEQCT

The total number of messages dequeued from this particular LU 6.2 application program. In a shared-queues environment, only shows messages dequeued for the local subsystem. If the ENQCT and DEQCT are the same and there are no messages enqueued or dequeued from that point on, these counts will be set to zero after restart or takeover.

QCT

The total number of messages still in the queue. Status of stopped (STO), traced (TRA), or stopped and traced. In a shared-queues environment, only shows messages enqueued for the local subsystem.

/DISPLAY MASTER

/DISPLAY MASTER displays the logical terminal name and the line and physical terminal number associated with the master terminal.

If the 3270 master terminal capability was generated during IMS system definition, the logical terminal name, line, and physical terminal number of the secondary master terminal are also displayed.

MASTER is not valid for use in a DBCTL environment.

An example of using the /DISPLAY MASTER command is shown in "Example for /DISPLAY MASTER Command" on page 246.

/DISPLAY MODIFY

/DISPLAY MODIFY displays status of:

- local online change libraries
- local work in progress for resources to be deleted or changed by a /MODIFY COMMIT command

The status displayed for each library can be either A (active) or I (inactive), and is followed by a list of the DD names and data sets that make up the library. Status information is displayed for the following libraries:

- IMSACBA and IMSACBB
- FORMATA and FORMATB
- MODBLKSA and MODBLKSB

- MATRIXA and MATRIXB

Work in progress for resources to be changed or deleted will cause the /MODIFY COMMIT command to fail. You must wait for work in progress to complete, or force it to complete (for example, by issuing a command), before issuing the /MODIFY COMMIT command. The following information is displayed for work in progress; any of these items could prevent a /MODIFY COMMIT command from completing successfully:

Resource Type	Resource Name	Status
DATABASE	dbname	/DBD ACTIVE
		/DBR ACTIVE
		PSB SCHEDULED
		/STA ACTIVE
AREA	areaname	OPEN
PROGRAM	pgmname	SCHEDULED
		QUEUING nn
		GLOBAL QUEUE COUNT INTERNAL ERROR
		GLOBAL QUEUE COUNT STORAGE ERROR
RTCODE	rtcode	ACTIVE
TRAN	tranname	IN USE
		QUEUING nn
		SCHEDULED
		SUSPENDED
		CONVERSATION TERM/USER
		nodename ID= nnnn
		nodename username ID= nnnn
		username ID= nnnn
		lin#-pte# ID= nnnn
		1- SC ID= nnnn
GLOBAL QUEUE COUNT INTERNAL ERROR		
GLOBAL QUEUE COUNT STORAGE ERROR		

In a shared-queues environment, /DISPLAY MODIFY only shows local work in progress, except for the TRAN QUEUING status and the PROGRAM QUEUING status, for which this command shows the sum of local and global queue counts. That is, /DISPLAY MODIFY does not show whether there is work in progress for other IMS subsystems sharing the message queues. If the /DISPLAY MODIFY command shows no work in progress for the IMS subsystem on the command was issued, a /MODIFY COMMIT command can be issued for that IMS subsystem.

If IMS cannot access the global queue counts, IMS displays the GLOBAL QUEUE COUNT INTERNAL ERROR status. If IMS cannot obtain sufficient storage to query global queue counts, IMS displays the GLOBAL QUEUE COUNT STORAGE ERROR status. In either case, online change will fail if there are global queue counts for resources being changed or deleted.

In a DBCTL environment, the RCS and TRS parameters are not supported. /DISPLAY MODIFY ALL displays only DBS and PDS information.

In a DCCTL environment, the DBS parameter is not supported. /DISPLAY MODIFY ALL displays only PDS, RCS, and TRS information.

Examples of using the /DISPLAY MODIFY command are shown in “Example for /DISPLAY MODIFY Command” on page 247.

/DISPLAY MODIFY

/DISPLAY MODIFY with one or more parameters (not including ALL) is only valid if IMS is in the MODIFY PREPARE state, that is, if a /MODIFY PREPARE command completed successfully.

Use /DISPLAY MODIFY with no parameters to display status of online change libraries.

The following information is displayed:

- ALL** Displays status of online change libraries and any work in progress for database, program, routing code, or transaction resources to be deleted or changed by the /MODIFY COMMIT command.
For DBCTL, transaction resources do not apply. For DCCTL, database resources do not apply.
- DBS** Displays databases or areas with work in progress that would prevent commit from succeeding.
- PDS** Displays program resources with work in progress that would prevent commit from succeeding.
- RCS** Displays routing codes to be changed or deleted with work in progress that would prevent commit from succeeding.
- TRS** Displays transactions to be changed or deleted with work in progress that would prevent commit from succeeding.

/DISPLAY MODIFY displays these status terms:

/DBD ACTIVE

A /DBDUMP command is in progress for a database to be changed or deleted.

/DBR ACTIVE

A /DBRECOVERY command is in progress for a database to be changed or deleted.

PSB SCHEDULED

A program referencing a database to be changed or deleted is scheduled to be changed or deleted.

SCHEDULED

The named resource (a transaction or program to be changed or deleted, or a program referencing a database to be changed or deleted) is scheduled.

ACTIVE

The routing code rcode is active.

IN USE

Queuing is in progress for this transaction (either terminal input or program-to-program switch).

QUEUING nn

Messages are queued to the transaction or program; nn is the number of messages queued. Global queue counts represent the number of messages on the coupling facility list structure for the transaction or program.

SUSPENDED

The transaction to be changed or deleted is on the suspend queue.

CONVERSATION TERM/USER

The transaction to be changed or deleted or the transaction referencing a

program or database to be changed or deleted is in conversation. The terminal originating the conversational transaction and the conversation ID are also displayed.

The terminal information displayed is:

- nodename for VTAM terminals
- nodename and username if an ETO user is signed on to the node
- username for ETO users that signed off while in conversation
- lin#-pte# (line and pterm number) for BTAM terminals
- 1-SC for the system console

/DISPLAY MSNAME

`/DISPLAY MSNAME` displays the queue counts for the specified logical link path. Generic parameters are supported for the `MSNAME` keyword.

An example of using the `/DISPLAY MSNAME` command is shown in “Example for `/DISPLAY MSNAME` Command” on page 248.

QCNT

Specifies that global queue count information is to be displayed. If `QCNT` is not specified, local queue counts are displayed; when it is specified, no local queue counts are displayed.

This keyword is only valid in a shared-queues environment.

/DISPLAY NODE

`/DISPLAY NODE`, when followed by a valid node name or `ALL`, displays status, queue counts, and number of messages sent to and received from the specified node. When using `ISC`, the output for a parallel-session node shows one line of information for each session of the node whether the node is active or not and whether logical terminals are assigned or not. If a session is active, the user identifier (preceded by a dash) and the status and queue counts are displayed on a subsequent line. `/DISPLAY NODE` displays queue counts up to a maximum of 32 KB. The queue count for `/DISPLAY NODE` is reset to zero when sessions are not active, or when a signed-on user issues `/SIGN OFF`.

The `USER` keyword is valid for `ISC` nodes with users or dynamic nodes with signed on users. The `NODE` parameter can be generic where the `USER` keyword is not present. The generic parameter specifies nodes that already exist. A status of `STATIC` is displayed for nodes defined to IMS via system definition. `STATIC` is also supported as an attribute parameter. Static nodes are used with the `/DISPLAY NODE` command in the same way that dynamic nodes are used.

`/DISPLAY NODE` shows signed on users, where the user ID follows the status `SIGN` in parentheses.

Examples of using the `/DISPLAY NODE` command are shown in

- “Example 1 for `/DISPLAY NODE` Command” on page 249
- “Example 2 for `/DISPLAY NODE` Command” on page 249
- “Example 3 for `/DISPLAY NODE` Command” on page 251
- “Example 4 for `/DISPLAY NODE` Command” on page 252

/DISPLAY NODE

MODE The MODE keyword allows you to display the mode table names associated with the nodes specified. The output includes:

NODE-USR

node name and user identifier

TYPE type of node

DEF MODETBL

default mode table name set via system definition or logon descriptor or /CHANGE command. This name can be overridden using the /OPNDST command or the LOGON exit for non-IMS session initiations.

ACT MODETBL

mode table name actually used to initiate the session. This name is only displayed while the session is active. The field is blank at normal session termination.

QCNT

Specifies that global queue count information is to be displayed. If QCNT is not specified, local queue counts are displayed; when it is specified, no local queue counts are displayed.

This keyword is only valid in a shared-queues environment.

N/A is displayed by /DISPLAY NODE ALL MODE for VTAM 3270 nodes.

“Attribute” is a reserved parameter. Attributes listed in Table 23 can be used with the NODE keyword. Nodes are selected for display based on the attribute or attributes specified. The attribute display format is the same as the standard NODE display. Attributes usually correspond to the conditions displayed for nodes. Any exceptions are flagged in the following list.

The attributes are reserved parameters for the /DISPLAY NODE command and cannot be used to name nodes.

The attributes that can be specified with the NODE keyword are listed in Table 23. For example, /DISPLAY NODE TRACE displays all nodes that are currently being traced.

Table 23. /DISPLAY NODE Command Attributes

ACTIV	AUTOSR ¹
BCKUP	CLSDST
CON	CONVACT ²
CONVHLD ³	C1INOP
C2INOP	C3INOP
C4INOP	DEACT
EXCL	FORCES ⁴
IDLE	INOP
LOCK	LOST
MFST	OPNDST
PAGE	PRI
PRST	QUI
RELREQ	RESP
RESPINP	RESYNC
SEC	SHUT
SIGN	SIMLOGON

Table 23. /DISPLAY NODE Command Attributes (continued)

STATIC	STOPPED
TEST	TKOTRA
TRA	

Notes:

1. Corresponds to the NODE conditions ASR.
 2. Corresponds to the NODE condition CONV-ACT.
 3. Corresponds to the NODE condition CONV-HLD.
 4. Corresponds to the NODE condition FORCE.
-

Explanations of the attributes can be found in “Appendix G. Status and Attributes for the /DISPLAY Command” on page 571.

/DISPLAY OASN SUBSYS

The /DISPLAY OASN SUBSYS command displays the outstanding recovery units (Origin Application Schedule Numbers) associated with the external subsystem (not CCTL subsystem) specified by the SUBSYS keyword.

The OASN is assigned by IMS when it schedules an application into a dependent region. The OASN, coupled with the IMS ID, becomes the recovery token for units of work distributed to other subsystems.

An example of using the /DISPLAY OASN SUBSYS command is shown in “Example for /DISPLAY OASN Command” on page 252.

/DISPLAY OLDS

/DISPLAY OLDS displays the system logging status. The ddnames for the online log data sets that are currently online are listed in the sequence used. That is, the one currently being used is listed first, with the one most recently used listed next, and so on. OLDS status information is displayed with each ddname. The meanings of these status messages are given below. In the case of dual logging, two lines of status output are displayed per OLDS ID; the first for the primary OLDS and the second for the secondary OLDS.

/DISPLAY OLDS shows the percentage of the OLDS used (shown under % FULL in the output) and the rate at which it is being filled (shown under RATE in the output). The RATE is the average number of blocks written to the current OLDS since the last /DISPLAY OLDS was issued. If no blocks were written, the RATE is 0, or, if elapsed time is 0, the previous RATE will be displayed.

An example of using the /DISPLAY OLDS command is shown in “Example for /DISPLAY OLDS Command” on page 253.

/DISPLAY OLDS shows one of the following as the archive status of each OLDS:

NEEDED

This OLDS needs to be archived. It cannot be reused for output logging until it has been archived.

SCHEDULED

An archive job has been generated for this OLDS.

/DISPLAY OLDS

STARTED

A job to archive this OLDS has started execution.

AVAILABLE

Either this OLDS is empty or it has been archived. It can be reused for output logging.

When the archive status of an OLDS is scheduled or started and DBRC has generated the JCL for the archive job, the archive jobname will be included in the output.

/DISPLAY OLDS also shows the following status information for OLDS:

IN USE This is the current output log OLDS. The display line for this OLDS also has an asterisk (*) in the left margin.

STOPPED /STOP command entered for this OLDS or the OLDS is being internally stopped because of write errors.

WRT-ERR A write I/O error occurred on this OLDS data set.

CLSE An error occurred when closing this data set. The Log Recovery utility can be used to correct this condition.

PREV CLSER The previous OLDS could not be closed because of an I/O error and this OLDS is required by the Log Recovery utility to correct the condition.

NOT USABLE This data set is not being used for logging. When operating in "Degraded Dual" state, the other data set in this OLDS pair was used for output but this data set was not used because of a previous data set error.

BACKOUT This OLDS is potentially required for backout.

When the backout of at least one dependent region would require an SLDS because all of its log records are not available from OLDS, the following line will be appended to the OLDS STATUS display:

SLDS REQUIRED FOR BACKOUT

When this message is displayed, use batch backout because dynamic backout does not support SLDSs. An OLDS that is stopped or had an I/O error will be dynamically deallocated after it is no longer needed for backout.

Following the detailed OLDS data set information, the dual OLDS state (DUAL, DEGRADED DUAL, or SINGLE) and the WADS recording state (DUAL, SINGLE, or NO) are displayed. Also, the DDNAMEs of all available WADS are displayed. The DDNAMEs of the current WADS are preceded by an asterisk (*).

Restriction: Under the dual logging environment, the number of primary OLDS and secondary OLDS must be the same; otherwise, the status of the OLDS is incorrect.

The following parameters, when used with the /DISPLAY OLDS command, specify selection criteria used to select which OLDS are to be included in the display output. All these parameters are optional. If none are specified, ALL is the default action. When multiple parameters are specified, an OLDS satisfying any one of the specified criteria is included in the output.

ALL Display status of each online OLDS.

INUSE

Display current output OLDS.

BACKOUT

Display OLDS containing dynamic backout data for currently active PSTs.

ERROR

Display OLDS that have encountered error conditions.

STOPPED

Display stopped OLDS.

/DISPLAY OTMA

/DISPLAY OTMA displays the current status for IMS Open Transaction Manager Access (OTMA) clients and servers. This command displays the following:

- Each member in each XCF group
 - The server is always the first member displayed.
- The XCF status for each member
 - The status can be one of the following:
 - ACTIVE
 - CREATED
 - FAILED
 - NOT DEFINED
 - QUIESCED
 - UNKNOWN

If the server leaves the XCF group (for example, because of a /STOP OTMA command), then the XCF status is displayed as NOT DEFINED.

- The user status for each member
 - The status can be one of the following:
 - ACCEPT TRAFFIC
 - DISCONNECTED
 - IN SLOWDOWN
 - SERVER
 - WAIT BID
 - WAIT RESPONSE
- The security status for each server
 - The security status can be one of the following:
 - NONE
 - CHECK
 - FULL
 - PROFILE

See “Chapter 48. /SECURE” on page 397 for more information on the security status.

This command is functionally equivalent to the /DISPLAY TMEMBER ALL command.

Examples of using the /DISPLAY OTMA command are shown in:

- “Example 1 for /DISPLAY OTMA Command” on page 253

/DISPLAY OTMA

- “Example 2 for /DISPLAY OTMA Command” on page 253

/DISPLAY OVERFLOWQ

/DISPLAY OVERFLOWQ displays a list of queue names that are in overflow mode for those coupling facility list structures specified (for the STRUCTURE keyword) that are in overflow mode. It also displays the queue type of the resource for each queue. If a specified structure is not defined, the overflow structure name is displayed as NOT-DEFINED.

Queue names displayed might not be defined to the IMS subsystem on which this command is issued. If a queue type is not defined, the type is displayed as UNKNOWN, and the queue name is displayed as the 16-byte queue name (with the queue type as the first byte).

This command is only valid in a shared-queues environment.

STRUCTURE

Specifies the primary coupling facility list structures to be displayed.

This command displays the following information:

- | | |
|--------------------|--|
| APPC | The resource type on the overflow structure is an APPC outbound queue. The first eight bytes of the resource name displayed is the unique constant TMSTMP-. The next four bytes are the IMS ID of the IMS subsystem that has the LUNAME and TPNAME defined. If you issue the /DISPLAY OVERFLOWQ command on the system on which the LUNAME and TPNAME are defined, then the LUNAME and TPNAME are also displayed. |
| BALGRP | The resource type on the overflow structure is a Fast Path PSB name. The resource name displayed is the Fast Path PSB name. |
| LTERM | The resource type on the overflow structure is an LTERM. The resource name displayed is the LTERM name. |
| OTMA | The resource type on the overflow structure is an OTMA outbound queue. The first eight bytes of the resource name displayed is the unique constant TMSTMP-. The next four bytes are the IMS ID of the IMS subsystem that has the TMEMBER and TPIPE defined. If you issue the /DISPLAY OVERFLOWQ command on the system on which the TMEMBER and TPIPE are defined, then the TMEMBER and TPIPE are also displayed. |
| REMOTE | The resource type on the overflow structure is a remote LTERM, remote transaction, or an MSNAME. The resource name displayed is the remote LTERM name, remote transaction name, or the msname. |
| SUSPENDTRAN | The resource type on the overflow queue is a suspended transaction and the messages are on the suspend queue. The resource name displayed is the transaction name. If the transaction that is suspended is a serial transaction, the first eight bytes displayed are the transaction name and the last seven bytes represent the IMS ID of the subsystem that enqueued the message. |
| SERIALTRAN | The resource type on the overflow queue is a serial transaction. The first eight bytes of the resource name are the transaction name |

/DISPLAY OVERFLOWQ

and the last seven bytes represent the IMS ID of the IMS subsystem that inserted the message for the transaction.

TRANSACTION

The resource type on the overflow queue is a transaction. The resource name displayed is the transaction name.

UNKNOWN

The resource type of the resource on the overflow queue is not known to this IMS subsystem. The 16 byte resource name is displayed.

An example of using the /DISPLAY OVERFLOWQ command is shown in “Example for /DISPLAY OVERFLOWQ Command” on page 253.

/DISPLAY POOL

/DISPLAY POOL displays processor storage utilization statistics for the various IMS storage pools.

When the /DISPLAY POOL command is issued from a specific environment (such as DBCTL), only the information that is valid for that environment is displayed.

Certain storage utilization statistics can be obtained with the DL/I STAT call.

Control block table (CBT) pools are defined in DFSCBT00 and are grouped into classes for the purposes of the /DISPLAY POOL command. All CBT pools are valid in all environments.

Examples of using the /DISPLAY POOL command are shown in:

- “Example 1 for /DISPLAY POOL Command” on page 254
- “Example 3 for /DISPLAY POOL Command” on page 257
- “Example 4 for /DISPLAY POOL Command” on page 258
- “Example 5 for /DISPLAY POOL Command” on page 259
- “Example 6 for /DISPLAY POOL Command” on page 260
- “Example 7 for /DISPLAY POOL Command” on page 260
- “Example 8 for /DISPLAY POOL Command” on page 260
- “Example 9 for /DISPLAY POOL Command” on page 260
- “Example 10 for /DISPLAY POOL Command” on page 261
- “Example 11 for /DISPLAY POOL Command” on page 261
- “Example 12 for /DISPLAY POOL Command” on page 261
- “Example 13 for /DISPLAY POOL Command” on page 261
- “Example 14 for /DISPLAY POOL Command” on page 262

The classes and corresponding parameters are:

- CBT** This displays storage for all CBT pools. Use of this operand will generate a large amount of display output.
- DBB** This displays database related storage.
- DCC** This displays storage associated with DC.
- DEP** This displays storage associated with the dependent region structure. This parameter is not supported for an RSR tracking subsystem.
- DISP** This displays dispatcher related storage.

/DISPLAY POOL

- FP** This displays Fast Path related storage.
- GEN** This displays storage that has no particular functional association.
- OSAM** This displays OSAM related storage.
- SUM** This displays summary statistics for each of the above storage classes.

A CBT class display shows information for each pool in that class. The amount of storage displayed for these pools might change because the storage is obtained as needed and can be freed when not in use. In addition, a summary of the total current global and local storage in the class and in all CBT pools is displayed.

If SUM is specified, a summary of the total current local and global storage for each CBT class is displayed.

For the following storage pools, the amount of storage obtained is specified during system definition or via EXEC statement overrides in the IMS procedure JCL.

DBAS Database buffer pools (includes VSAM buffer pools if VSAM is in the system, also includes buffer space used by sequential buffering)

Statistics for VSAM local shared resource pools are displayed in the order in which the pools are defined. For each local shared resource pool, each subpool's statistics are displayed in ascending order by buffer size. The smallest buffers are listed first and the largest buffers are listed last. If an index subpool exists in the shared resource pool, its statistics follow the data subpool statistics. Index statistics are also displayed in ascending order by buffer size.

Headings for VSAM subpools include the pool ID of the local shared resource pool. They also indicate whether the subpool is a data subpool (type D) or an index subpool (type I).

DBWP

Database working pool

DMBP Data management block pool

EPCB Fast Path PCB extension pool for MPPs

FPDB Fast Path database buffer pool

MAIN Working storage pool

MFP Message format block pool

PSBP Program specification block pool This parameter is not supported for an RSR tracking subsystem.

PSBW Program specification block work area. This parameter is not supported for an RSR tracking subsystem.

QBUF Message queue buffer pool. Parameter QBUF can also be used to indicate how close the system is to automatic shutdown due to message queue buildup. The statistics displayed for each data set are:

- The maximum number of records available before initiation of automatic shutdown. This value is defined by the SHUTDWN parameter of the MSGQUEUE macro. This value is not the total number of records available in the data set.
- The number of records currently in use.
- The percentage of records currently in use to records available before initiation of automatic shutdown. When the value described in this item

/DISPLAY POOL

reaches 100%, an internal checkpoint dumpq will automatically be initiated. The number of records in the queue data set might continue to increase during the checkpoint dumpq, resulting in percentages greater than 100 being displayed.

Table 24 shows the environments in which each storage pool is valid. If a pool is not valid in an environment, it will not appear when /DISPLAY POOL ALL is issued.

Table 24. Storage Pools and Their Environments

Storage Pools	DB/DC	DBCTL	DCCTL
AOIP	X	X	X
CESS	X	X	X
CIOP	X	X	X
DBAS	X	X	
DBWP	X	X	
DMBP	X	X	
EMHB	X	X	X
EPCB	X	X	X
FPDB	X	X	
FPWP	X	X	
HIOP	X		X
LUMC	X		X
LUMP	X		X
MAIN	X	X	X
MFP	X		X
PSBP	X	X	X
PSBW	X	X	X
QBUF	X		X

Note:

When /DISPLAY POOL ALL is specified for an RSR tracking subsystem, the following pools are not included: DEP, PSBP, PSBW, LUMP, LUMC.

Abbreviations Used in the /DISPLAY POOL Command

The following lists indicate the abbreviations used in the /DISPLAY POOL command for each pool and subpool.

CBT Pool Display

NAME	Storage pool name
SP	Associated MVS/ESA user number
CURR	Current bytes allocated to the pool
MAX	Maximum size in bytes that the pool ever reached
GETS	Number of GETMAINS issued
FREES	Number of FREEMAINS issued

/DISPLAY POOL

Message Queue Pool

BFRS	Number of processor storage queue buffers
SIZE	Usable size of one queue buffer, excluding the buffer prefix
ENQ	Number of message enqueues
DEQ	Number of message dequeues
CAN	Number of canceled messages
WAIT	Number of I/O waits issued
I/O	Number of I/O operations
ERR	Number of I/O errors

Message Format Pool

SIZE	Pool size
SPACE	Maximum amount of free space
DIRS	Space used by MFS Dynamic Directory
REQ1	Number of block requests from pool
I/O	Number of fetch I/O operations
DIR	Number of directory I/O operations
WAIT	Number of immediate fetch I/O operations
FREE	Amount of free space currently in the pool
ERR	Number of I/O errors

Database Buffer Pools

The database buffer pool display consists of the OSAM buffer pool and, if VSAM is in the system, the VSAM buffer subpool. The display also includes information about the buffer space used by sequential buffering within the online IMS subsystem. The information about the sequential buffering buffer space includes:

MAX	Maximum amount of space available for sequential buffering
FREE	Amount of currently free space for sequential buffering
CUR	Current bytes allocated to the pools for sequential buffering
HIGH	Highest amount of space ever used in this run for sequential buffering

OSAM Buffer Subpool

Product-sensitive programming interface

Statistics for each OSAM subpool are displayed separately. The final display provides the statistical summation for all the OSAM subpools in all the shared resource pools.

SIZE	Buffer pool size
REQ1	Number of block requests

/DISPLAY POOL

REQ2	Number of requests satisfied in the pool plus new blocks created
READ	Number of read requests issued
BISAM	Number of BISAM reads issued plus QISAM SETLs
WRITES	Number of OSAM writes issued
KEYC	Number of retrieve by key calls number
LCYL	Number of OSAM format logical cylinder requests
PURG	Number of synchronization calls received
OWNRR	Number of release ownership requests
ERRORS	Number of permanent errors now in the pool and largest number of permanent errors during this run

└─ **End of Product-sensitive programming interface** _____

VSAM Buffer Subpool

└─ **Product-sensitive programming interface** _____

Statistics for each VSAM subpool are displayed separately. The final display provides the statistical summation for all the VSAM subpools in all the shared resource pools.

BSIZE	The size of the buffers in this VSAM subpool
POOLID	Local shared resource pool ID
TYPE	The subpool type: I (Index) or D (Data)
RRBA	Number of retrieval requests by RBA
RKEY	Number of retrieval requests by key
BFALT	Number of logical records altered
NREC	Number of new VSAM logical records created
SYNPTS	Number of system checkpoint requests
NMBUFS	Number of buffers in this VSAM subpool
VRDS	Number of VSAM control interval reads
FOUND	Number of control intervals VSAM found in the subpool through lookaside
VWTS	Number of VSAM control interval writes
ERRORS	Total number of permanent errors now in the pool and total number of permanent errors in this run

The BSIZE value in the final display is ALL.

└─ **End of Product-sensitive programming interface** _____

Enhanced OSAM Buffer Subpool

Product-sensitive programming interface

Each OSAM subpool is displayed separately. The final display provides the statistical summation for all the OSAM subpools.

ID	The 4-character POOLID provided at subpool definition time
BSIZE	The size of the buffers in this OSAM subpool
NBUF	Number of buffers for this subpool
FX=	The fix options for this subpool Y/N indicates whether or not the DATA BUFFER PREFIX/DATA BUFFERS are fixed.
LCTREQ	Number of LOCATE-type calls for this subpool
ALTREQ	Number of buffer alter calls for this subpool. This count includes NEW BLOCK and BYTALT calls.
PURGRQ	Number of PURGE calls for this subpool
FNDIPL	Number of LOCATE-type calls, for this subpool, where data is already in the OSAM pool
BFSRCH	Number of buffers searched by all LOCATE-type calls for this subpool
RDREQ	Number of READ I/O requests for this subpool
BFSTLW	Number of single block writes initiated by buffer steal routine for this subpool
PURGWR	Number of buffer written by purge
WBSYID	Number of LOCATE calls, for this subpool, that waited due to busy ID
WBSYWR	Number of LOCATE-type calls, for this subpool, that waited due to busy writing
WBSYRD	Number of LOCATE-type calls, for this subpool, that waited due to busy buffer reading
WRLSEO	Number of buffer steal or purge requests, for this subpool, that waited for ownership to be released.
WNOBFR	Number of buffer steal requests, for this subpool, that waited because no buffers were available to be stolen
ERRORS	Total number of I/O errors for this subpool, or number of buffers locked in the pool due to write errors for this subpool
CF-READS	Number of blocks read from CF.
EXPCTD-NF	Number of blocks expected but not read.
CFWRT-PRI	Number of blocks written to CF (prime).
CFWRT-CHG	Number of blocks written to CF (changed).
STGGLS-FULL	Number of blocks not written (STG CLS full).

XI-CNTL	Number of XI buffer-invalidate calls.
VECTR-XI	Number of buffers found invalidated by XI on VECTOR call.
SB-SEQRD	Number of immediate (SYNC) sequential reads (SB stat).
SB-ANTICIP	Number of anticipatory reads (SB stat).

For the summary totals, the POOLID is not shown. BSIZE is set to ALL. NBUF indicates the total number of buffers in the pool. The FX= field is replaced by OSM=, which shows the total size of the OSAM buffer pool.

└─ **End of Product-sensitive programming interface** _____

Enhanced VSAM Buffer Subpool

└─ **Product-sensitive programming interface** _____

Each VSAM subpool is displayed separately. The final display provides the statistical summation for all the VSAM subpools.

ID	The 4-character POOLID provided at subpool definition time
BSIZE	The size of the buffers in this VSAM subpool
TYPE	identifies the subpool as containing INDEX or DATA buffer
FX=	Number of options for this subpool. Y/N is used to indicate whether or not the INDEX BUFFERS/DATA BUFFER PREFIX/ DATA BUFFERS are fixed.
RRBA	Number of retrieval requests by RBA
RKEY	Number of retrieval requests by KEY
BFALT	Number of logical records altered
NREC	Number of new VSAM logical records created
SYNC PT	Number of system checkpoint (synchronization point) requests
NBUFS	Number of buffers in this VSAM subpool
VRDS	Number of VSAM control interval reads
FOUND	Number of control intervals VSAM found in the subpool through lookaside
VWTS	Number of VSAM control interval writes
HSR-S	Number of successful VSAM reads from Hiperspace buffers
HSW-S	Number of successful VSAM writes to Hiperspace buffers
HS NBUFS	Number of Hiperspace buffers defined for this subpool
HS R/W-FAIL	Number of failed VSAM reads/writes from or to Hiperspace buffers. This indicates the number of

/DISPLAY POOL

times a VSAM READ/WRITE request from or to Hiperspace resulted in DASD I/O.

ERRORS

Number of permanent write errors now in the subpool, or the largest number of errors in this execution

The BSIZE value in the final display is the total size of all the VSAM subpool buffers. BSIZE is set to ALL. For the summary totals, the POOLID is not shown. The TYPE and FX= fields are replaced by VS=, which is the total size of the VSAM subpool in virtual storage, and HS=, which is the total size of the VSAM subpool in Hiperspace.

└─ End of Product-sensitive programming interface _____

Fast Path Database Buffer Pool

AVAIL	Number of available page-fixed database buffers
WRITING	Number of page-fixed database buffers being written to disk, including the buffers being filled with sequential dependent segments
PGMUSE	Number of page-fixed buffers allocated to PSTs
UNFIXED	Number of available buffers for starting a new region
POOLNAME	Name of the private buffer pool for the area. This name is specified in the VSPEC member.
CISIZE	Control interval size of the private pool for the area.
PBUF	Size allocated for the primary pool (specified in the VSPEC member).
SBUF	Size allocated for the secondary pool (specified in the VSPEC member).
MAX	Maximum number of buffers for the private pool (specified in the VSPEC member).
CURRENT	Total number of buffers currently in the pool, including both primary and secondary allocations.
LK	Y indicates that buffer lookaside is active for the pool; N indicates that it is not.
HITS	Percentage of searches of the pool for which a buffer was found. Only displayed for lookaside pools.
VALID	Percentage of times a buffer found in the pool had valid data. An Invalid buffer is read from DASD and the pool copy is replaced. Only displayed for lookaside pools.

You use the percentages displayed for HITS and VALID together.

Example: If HITS is 40%, and VALID is 75%, a buffer was found in the pool 40% of the time, and of that 40%, 75% of the buffers found had valid

/DISPLAY POOL

data, that is, 30% of the HITS had valid data. So, IMS had to read data from DASD approximately 70% of the time.

PSBP, DMBP, PSBW, DBWP, EPCB, and MAIN Buffer Pools

SIZE	pool size
FREE	amount of currently free space
HIGH	Highest amount of space ever used in this run

AOIP, CIOP, HIOP, CESS, FPWP, EMHB, LUMP, and LUMC Buffer Pools

During the execution of IMS, the AOIP, CIOP, HIOP, CESS, FPWP, EMHB, LUMP, and LUMC buffer pools can dynamically expand and contract.

Internally, each dynamic pool has one or more blocks of storage that are not contiguous, each divided into fixed length buffers. By obtaining new blocks and releasing unused blocks, a buffer pool can expand or contract during the execution of IMS. The number of blocks needed for each pool depends on several factors such as the number of buffer requests from the pool, buffer size, and block size.

SIZE	Pool size
HIGH	Maximum size since last checkpoint
LIMIT	Upper expansion limit
OVERFLOW	Size of the oversized chain

/DISPLAY PROGRAM

`/DISPLAY PROGRAM` displays the status of programs.

The status displayed can be one of the following:

DB-STOPD
I/O PREVEN
LOCK
NOTINIT
STOPPED
TRA

For definitions of the status conditions, refer to “Appendix G. Status and Attributes for the `/DISPLAY Command`” on page 571.

For `DBCTL`, this command displays the status of BMP programs, DEDB utilities, and `CCTL` PSBs. Because `DBCTL` has no knowledge of CICS programs, their status is not displayed.

An example of using the `/DISPLAY PROGRAM` command is shown in “Example for `/DISPLAY PROGRAM Command`” on page 262.

/DISPLAY PSB

`/DISPLAY PSB` displays the status of PSBs, which transactions these PSBs are processing, any routing code associated with the transactions, the databases being accessed, and the type of access. This keyword can be used only if Fast Path is installed.

/DISPLAY PSB

For HSSP PSBs, the letter H is appended to the access intent under the ACCESS heading.

For DBCTL, the status of CCTL PSBs is displayed.

An example of using the /DISPLAY PSB command is shown in “Example for /DISPLAY PSB Command” on page 263.

/DISPLAY PTERM

/DISPLAY PTERM can be specified without an associated LINE keyword on /DISPLAY when PTERM is used with the special “attribute” parameter. Physical terminals are selected for display based on the attribute or attributes specified. The attribute display format is the same as the standard LINE/PTERM display. Attributes usually correspond to the conditions displayed for line/physical terminals.

An example of using the /DISPLAY PTERM command is shown in “Example for /DISPLAY PTERM Command” on page 263.

The attributes that can be specified with the PTERM keyword are shown in Table 25. For example, /DISPLAY PTERM TRACE displays all physical terminals that are currently being traced.

Table 25. /DISPLAY PTERM Command Attributes

COMPINOP	CONVACT ¹
CONVHLD ²	EXCL
INOP	LOCK
LOOPTEST	MFSTEST
NOIN	NOOUT
NOQUEUE	NOTOPEN
PAGE	PRST
PSTOPPED	PUR
RESP	RESPINP
SIGN	STOPPED
TEST	TKOTRA
TRA	

Notes:

1. Corresponds to the NODE condition CONV-ACT.
 2. Corresponds to the NODE condition CONV-HLD.
-

/DISPLAY Q

/DISPLAY Q displays the message queues according to classes and priority levels.

BALGRP

Displays queue counts of the Fast Path load balancing group queues.

CLASS

Displays queues for specified classes.

PRIORITY

Displays queues for specified priorities.

QCNT

Specifies that global queue count information is to be displayed for Fast Path

load balancing groups. If QCNT is not specified, only local queue counts are displayed; when it is specified, no local queue counts are displayed.

This keyword is only valid in a shared-queues environment.

TRANSACTION

Displays queues for transactions that are ready to run. DFSCPIC is displayed as psbname for CPI Communications driven transactions that have not issued a DL/I call to allocate a PSB.

Combinations of the CLASS, PRIORITY, and TRANSACTION keywords allow classes, priority levels within classes, transactions within priority levels, and message counts to be displayed on an as-needed basis.

Examples of using the /DISPLAY Q command are shown in:

- “Example 1 for /DISPLAY Q Command” on page 264
- “Example 2 for /DISPLAY Q Command” on page 266

/DISPLAY QCNT

/DISPLAY QCNT displays global queue information for the specified resource type. The resource type can be APPC, BALGRP, LTERM, OTMA, REMOTE, or TRANSACTION. This command displays all the queues for the resource type with at least one message whose message age is greater than the message age value specified.

Recommendation: When you issue this command, IMS reads every message for the resource type. To minimize the performance impact, issue this command only when necessary. If you want to display all transaction resources with a global queue count, issuing /DISPLAY TRAN ALL QCNT produces results faster than issuing /DISPLAY QCNT TRAN MSGAGE 0. If you want to display all LTERM resources with a global queue count, issuing /DISPLAY LTERM ALL QCNT produces results faster than issuing /DISPLAY QCNT LTERM MSGAGE 0.

This command is valid only in a shared-queues environment.

The following information is displayed:

QUEUENAME	1-8 byte queue name. If the queue is processed only by a local IMS, the next four bytes are that subsystem's IMSID.
QCNT-TOTAL	Total count of messages on the queue.
QCNT-AGED	Count of messages with a message age greater than or equal to the message age specified. This count does not include messages whose age is less than the message age specified.
TSTMP-OLD	The time stamp of the oldest message on the queue.
TSTMP-NEW	The time stamp of the newest message on the queue.

APPC

Specifies that global information for all APPC outbound queues is to be displayed.

DISPLAY QCNT

BALGRP

Specifies that global information for Fast Path PSBs is to be displayed.

LTERM

Specifies that global information for LTERMs and MSNAMEs is to be displayed.

MSGAGE

Specifies the message age in number of days (0-365). Only those resources with a message age greater than this value are displayed. The resource name and the time when the message was placed on the shared queues are displayed.

If you specify MSGAGE=0, all resources (queues) are displayed.

OTMA

Specifies that global information for all OTMA outbound queues is to be displayed.

REMOTE

Specifies that global information for remote transactions and remote LTERMs is to be displayed.

TRANSACTION

Specifies that global information for transactions is to be displayed, not including transactions that are suspended.

Examples of using the /DISPLAY QCNT command are shown in “Example for /DISPLAY QCNT Command” on page 266.

/DISPLAY RTCODE

/DISPLAY RTCODE displays the status of Fast Path routing codes, the PSB using the routing code, and the region, if any.

An example of using the /DISPLAY RTCODE command is shown in “Example for /DISPLAY RTCODE Command” on page 266.

/DISPLAY SHUTDOWN STATUS

/DISPLAY SHUTDOWN STATUS displays system activity during a shutdown type of checkpoint. When issuing the /DISPLAY SHUTDOWN STATUS command from a specific environment (such as DBCTL), only the information that is valid for that environment is displayed. For example, in a DBCTL environment, only the number of IMS threads is displayed.

In an LU 6.2 environment, the /DISPLAY SHUTDOWN STATUS command indicates the dependent regions that have active CPI Communications driven transaction programs. These regions must be terminated prior to shutdown completion. In addition, the command also displays LU 6.2 conversations that hang the shutdown processing.

In a shared-queues environment, the /DISPLAY SHUTDOWN STATUS command displays the CQS job name that needs to be restarted if IMS shutdown hangs because CQS is inactive.

Examples of using the /DISPLAY SHUTDOWN STATUS command are shown in

- “Example 1 for /DISPLAY SHUTDOWN STATUS Command” on page 267
- “Example 2 for /DISPLAY SHUTDOWN STATUS Command” on page 267

/DISPLAY SHUTDOWN STATUS

- “Example 3 for /DISPLAY SHUTDOWN STATUS Command” on page 268

The status displayed when the /DISPLAY SHUTDOWN STATUS command is issued can include the following:

xx MSG PROCESSING REGIONS(S) ACTIVE

Where xx is the number of BMP, TP, and FP regions that are active. If the checkpoint has already been posted, this is the only status displayed.

For DBCTL, a count of active CCTL threads is included.

SYSTEM PURGING

The checkpoint is the result of a /CHECKPOINT PURGE command.

TERMINAL USER STATUS

The header for the portion of the display that shows active terminals, whose status can be one of the following:

```
INPUT IN PROCESS
OUTPUT IN PROCESS
AWAITING RESPONSE
XX MSGS IN QUEUE
```

If there is no terminal activity, the status can be one of the following:

```
NO INPUTTING LINES
NO OUTPUTTING LINES
```

MSG-IN X MSG-OUT Y

The message totals, where X is the total number of input messages and Y is the total number of output messages.

Master Terminal Status

The following text is displayed for the primary master, secondary master, or system console:

```
PRIMARY MSTR
SECOND MSTR      ACTIVE, MESSAGES WAITING
SYS CONSOLE
```

ACTIVE indicates the terminal is in the following states:

```
OPERABLE
ALLOWING INPUT
ALLOWING OUTPUT
NOT STOPPED FOR QUEUEING
NOT LOCKED
NOT IN TEST MODE
```

MESSAGES WAITING indicates that there are system messages (Q3) waiting to be sent, thus preventing shutdown from completing.

OTMA PHASE=x

The current phase of IMS Open Transaction Manager Access (OTMA) processing. The shutdown phases are:

- 1 OTMA shutdown processing has begun.
- 2 Dependent regions have terminated. DFS1970 messages have been sent to OTMA clients for all inflight Send-then-Commit (commit mode 1) transactions.
- 3 OTMA is waiting for termination of all client-processing-related activities.
- 4 OTMA shutdown is complete.

/DISPLAY SHUTDOWN STATUS

COMMIT x TMEMBER=membername TPIPE=tpipename

The commit mode for the transaction and which OTMA client (member) and TPIPE is currently in progress and thus preventing completion of shutdown. COMMIT x can be either of the following:

- 0 Commit-Then-Send
- 1 Send-Then-Commit

XXXXXXX PROCESSING REGION(S) ACTIVE

Active regions, where XXXXXXXX is one of the following types:

BMP MSG
TP MSG
FP

If status of a line or link shows input or output in progress and immediate shutdown is desired, the /IDLE command can be used.

One of the following commands can be used to close the VTAM node:

- /CHECKPOINT(except simple checkpoint)
- /CLSDST
- /IDLE NODE(only after a /CLDST command has been tried first)
- /QUIESCE(for session type 6 nodes only)
- /STOP NODE

The /STOP DC or /CHECKPOINT(other than simple checkpoint) command can be issued to close the VTAM ACB.

If a checkpoint purge is in progress and messages are in the output queues, an orderly shutdown can be initiated by entering the /CLSDST or /STOP command. This allows termination after the next output message is sent, but might be insufficient for display terminals or terminals in input mode. If a node is hung, the following can be done:

1. A /CLSDST FORCE command can be issued.
2. If that fails, then the /IDLE command can be issued.

If any messages are queued for PTERM1 (system console) or the master terminal, they must be requested and received before the purge will complete. /STOP and /IDLE are ineffective against these terminals. When using ISC parallel sessions, one line of information is displayed for each applicable session of the node. The user name is also displayed.

/DISPLAY STATUS (With No Keywords)

/DISPLAY STATUS(with no keywords) displays the IMS resources that are in the states listed in Table 26. /DISPLAY STATUS displays only conditions that require operator intervention. Status definitions are shown in "Appendix G. Status and Attributes for the /DISPLAY Command" on page 571.

Table 26. /DISPLAY STATUS Resource States Displayed (No Keywords)

Resource	Status
CLASS	STOPPED
DATABASE	ALLOCF, BACKOUT, EEQE, INQONLY, LOCK, NOTINIT, NOTOPEN, WRTErr

Table 26. /DISPLAY STATUS Resource States Displayed (No Keywords) (continued)

Resource	Status
DATABASE ADS	PRE-OPEN FAILED, SEVERE-ERROR, UNAVAILABLE, COPY-PHASE, FORMAT-PHASE
DATABASE AREA	RECOVERY NEEDED, STOPPED
LINE	IDLE, NOIN, NOOUT, NOQUEUE, NOTOPEN, PSTOPPED, PUR, RESP, RESP-INP, STOPPED
LINK	ACTV, COLD, ERE, IDLE, NOTIDLE-A, NOTIDLE-B, NOTIDLE-Cxx, NOTOPEN, NRE, N/A, PSTOPPED
LTERM/MSNAME	LOCK, PSTOPPED, PUR, QERROR, QLOCK, STOPPED
LUNAME	STO, STO-INP, STO-OUTP
NODE	CLSDST, CONV-HLD, C1INOP, C2INOP, C3INOP, C4INOP, DEACTIVATED, DISCONNECTED, FORCE, INOP, LOCK, LOST, OPNDST, QUIESCED, RESP, RESP-INP, RESYNC, SHUT, STOPPED
PROGRAM	DB-STOPD, I/O PREVENT, LOCK, NOTINIT, STOPPED
PTERM	COMPINOP, CONV-HLD, EXCL, INOP, LOCK, LOOPTEST, NOIN, NOTOPEN, NOOUT, NOQUEUE, PSTOPPED, PUR, RESP, RESP-INP, STOPPED, TEST
RTCODE	STOPPED
TMEMBER	STO
TRAN	LOCK, PSTOPPED, PUR, QERROR, SPND, STOPPED, USTOPPED
USER	CONV-HLD, DEADQ, RESP, RESP-INP, STOPPED

Any combination of the indicated keywords can be used to display the associated resources. If no exceptional conditions are found for any of the resources specified by the individual keywords, STATUS UNRESTRICTED is displayed.

For Fast Path databases, the /DISPLAY STATUS DATABASE command shows the area and ADS exceptions as well as the database status. Each area with exceptions is displayed on a separate line after the database line. Each ADS with exceptions is displayed on a separate line after the area line.

The /DISPLAY STATUS USER command provides the status of a user. The ALLOC status is followed by the nodename to which the user is allocated or signed onto in parenthesis.

In a DBCTL environment, /DISPLAY STATUS with no keywords only displays database and program information.

In a DCCTL environment, /DISPLAY STATUS with no keywords does not display database information.

For /DISPLAY STATUS TRANSACTION, DFSCPIC is displayed as the PSB name for CPI Communications driven transactions that have not issued a DL/I APSB call to allocate a PSB.

For a DB/DC RSR tracking subsystem, /DISPLAY STATUS with no keywords only displays DATABASE, LINE, LTERM, NODE, PTERM, and USER information.

/DISPLAY STATUS

The `/DISPLAY STATUS DATABASE` and `/DISPLAY STATUS` commands show the status of online forward recovery (OFR) for those databases in an RSR tracking subsystem that have OFR in progress.

`/DISPLAY STATUS LUNAME` can indicate that a command such as `/STO LUNAME ALL INPUT` or `/STO LUNAME ALL OUTPUT` was entered before the `/DISPLAY` that applies to all future LU 6.2 inbound or outbound conversations.

`/DISPLAY STATUS TMEMBER` displays the IMS Open Transaction Manager Access (OTMA) transaction pipes that are stopped. If a transaction pipe is not stopped, its status is UNRESTRICTED. An example of using the `/DISPLAY STATUS TMEMBER` command is shown in “Example 5 for `/DISPLAY STATUS` Command” on page 271.

/DISPLAY STRUCTURE

`/DISPLAY STRUCTURE` displays the status of one or more coupling facility list structures used by IMS. This command displays the structure name, type, and status.

The status conditions that can be displayed are:

AVAILABLE

The structure is available to be used by IMS.

CONNECTED

IMS is connected to the structure.

DISCONNECTED

IMS is not connected to the structure.

IN-OVERFLOW

The structure is in overflow mode.

REBLD-INPROG

A rebuild is in progress for the structure.

SHUTDOWN-STRCHKPT

A structure checkpoint will be taken by CQS for the structure during a CQS normal shutdown.

STRCHKPT-INPROG

A structure checkpoint is in progress for the structure.

UNAVAILABLE

The structure is not available to be used by IMS.

This command is only valid in a shared-queues environment.

An example of using the `/DISPLAY STRUCTURE` command is shown in “Example for `/DISPLAY STRUCTURE` Command” on page 271.

/DISPLAY SUBSYS

`/DISPLAY SUBSYS` is used to display information about an external subsystem. (The external subsystem is **not** a CCTL subsystem.) When used without the OASN keyword, the SUBSYS keyword displays the status of the connection between IMS and the external subsystem (not CCTL), as well as all application programs communicating with the external subsystem (not CCTL). The OASN keyword is used with the SUBSYS keyword to display all OASNs associated with the specified

external subsystem. (The external subsystem is **not** a CCTL subsystem.) For more information, see “/DISPLAY OASN SUBSYS” on page 189.

Examples of using the /DISPLAY SUBSYS command are shown in:

- “Example 1 for /DISPLAY SUBSYS Command” on page 271
- “Example 2 for /DISPLAY SUBSYS Command” on page 272
- “Example for /DISPLAY OASN Command” on page 252

For status terms for the connection between IMS and the external subsystem, see “Subsystem Status Terms”. For status terms for the connection between an IMS application program and the external subsystem, see “Dependent Region Status Terms” on page 210.

Subsystem status terms can be generated by the /DISPLAY SUBSYS command. Dependent region status terms can be generated by the /DISPLAY SUBSYS or /DISPLAY ACTIVE command.

Subsystem Status Terms

CONN The IMS control region has successfully completed a host system IDENTIFY request to the external subsystem, making the two subsystems aware of each other’s existence so they can begin a normal dialog.

NOT CONN

The external subsystem is in an idle state; that is, the external subsystem has not been the object of the /STOP SUBSYS command, or the external subsystem initialization exit indicated not to issue the IDENTIFY REQUEST (connect)

CONN IN PROGRESS

The connection process for the specified subsystem is in progress

STOPPED

The specified subsystem has been successfully stopped via the /STOP SUBSYS command and all region connections to the specified external subsystem have been terminated

STOP IN PROGRESS

The /STOP SUBSYS command is in progress. Before it successfully completes, all active connections to the specified subsystem from all IMS regions must be quiesced.

TERM IN PROGRESS

An internal termination of the subsystem connection is underway. This type of termination was instigated by IMS abnormal condition processing, an external subsystem exit, or the external subsystem (the error message The exact reason). IMS shutdown will not cause this condition.

INVALID SUBSYSTEM NAME = XXXX

The specified subsystem name has not been defined in the IMS subsystem PROCLIB member

SUBSYSTEM XXXX NOT DEFINED BUT RECOVERY OUTSTANDING

The specified subsystem name has not been defined to IMS in the external subsystem PROCLIB member, but IMS still has outstanding recovery elements from a previous execution when the indicated subsystem was known

/DISPLAY SUBSYS

The command recognition character will also be displayed for the external subsystem.

Dependent Region Status Terms

CONN An IMS dependent region has successfully completed a host system IDENTIFY request to the external subsystem as a result of an application having been scheduled into the dependent region. In an MPP, the application does not have to issue an external subsystem call to cause a connection.

CONN, ACTIVE

An IMS application program has established communication with an external subsystem (for example, has issued at least one external subsystem call). At this point a thread exists between the IMS application program and the external subsystem.

The absence of a PSB name for a thread An a connection to the external subsystem exists but an application program is not currently occupying the region. The presence or absence of an LTERM name indicates whether or not a region is message driven.

/DISPLAY SYSID TRANSACTION

The /DISPLAY SYSID TRANSACTION command displays the IDs of the local and remote systems associated with the transaction. Values displayed for the local and remote IDs can range from 1 to 2036.

An example of using the /DISPLAY SYSID TRANSACTION command is shown in "Example for /DISPLAY SYSID Command" on page 272.

/DISPLAY TIMEOVER

The /DISPLAY TIMEOVER command displays all nodes that have been waiting for a VTAM response for a longer time than specified in the /TRACE SET ON TIMEOUT command.

An example of using the /DISPLAY TIMEOVER command is shown in "Example for /DISPLAY TIMEOVER Command" on page 272.

time# is the time period in minutes; it is required. The number of minutes must be between 1 and 60.

If no nodes are found that have been waiting longer than time# minutes, then the message NO NODE WITH TIMEOVER time# FOUND is displayed. An error message is displayed and the command is rejected if the timeout trace facility failed during IMS initialization. User names are displayed for ISC nodes, but non-ISC nodes show N/A.

/DISPLAY TMEMBER

The /DISPLAY TMEMBER command displays the current transaction member status for IMS Open Transaction Manager Access (OTMA) clients and servers. This command displays the following:

- Each member in each XCF group

When you issue /DISPLAY TMEMBER ALL, the server is always the first member displayed.

- The XCF status for each member
The status can be one of the following:
 - ACTIVE
 - CREATED
 - FAILED
 - NOT DEFINED
 - QUIESCED
 - UNKNOWN

If the server leaves the XCF group (for example, because of a /STOP OTMA command), then the XCF status is displayed as NOT DEFINED.

- The user status for each member
The status can be one of the following:
 - ACCEPT TRAFFIC
 - DISCONNECTED
 - IN SLOWDOWN
 - SERVER
 - WAIT BID
 - WAIT RESPONSE

either SERVER or ACCEPT TRAFFIC.

- The security status for each server
The security status can be one of the following:
 - NONE
 - CHECK
 - FULL
 - PROFILE

See “Chapter 48. /SECURE” on page 397 for more information on the security status.

This command also displays transaction pipe status for each member, including:

- Enqueue and dequeue counts
- Current queue count
- Current status

This command shows one of the following for the status of a transaction pipe:

- DQF** Dequeue request for OTMA REPresynch command failed.
- REP** IMS is waiting for an OTMA REPresynch command from the client.
- REQ** IMS is sending an OTMA REPresynch command to the client.
- RSF** Reset request failed for an OTMA REPresynch command.
- STO** The transaction pipe is stopped.
- SYN** The transaction pipe is being synchronized.
- TBR** IMS is waiting for an OTMA TBResynch command from the client.
- TMP** The transaction pipe is temporary.
- TRA** The transaction pipe is being traced.

/DISPLAY TMEMBER

Examples of using the /DISPLAY TMEMBER command are shown in:

- “Example 1 for /DISPLAY TMEMBER Command” on page 272
- “Example 2 for /DISPLAY TMEMBER Command” on page 273

QCNT

Specifies that global queue count information is to be displayed. If QCNT is not specified, local queue counts are displayed; when it is specified, no local queue counts are displayed.

This keyword is only valid in a shared-queues environment.

/DISPLAY TRACE

/DISPLAY TRACE displays the status and options of the current IMS traces. TRACE must be followed by one or more keywords or by the ALL parameter. There is no default.

Examples of using the /DISPLAY TRACE command are shown in:

- “Example 1 for /DISPLAY TRACE Command” on page 273
- “Example 2 for /DISPLAY TRACE Command” on page 274
- “Example 3 for /DISPLAY TRACE Command” on page 274
- “Example 4 for /DISPLAY TRACE Command” on page 275
- “Example 6 for /DISPLAY TRACE Command” on page 276
- “Example 7 for /DISPLAY TRACE Command” on page 276
- “Example 8 for /DISPLAY TRACE Command” on page 276
- “Example 9 for /DISPLAY TRACE Command” on page 276
- “Example 10 for /DISPLAY TRACE Command” on page 276
- “Example 11 for /DISPLAY TRACE Command” on page 277
- “Example 12 for /DISPLAY TRACE Command” on page 277

This command can display the following information:

ALL In a DBCTL system, ALL displays only DB-related traces. It does not show DC-related traces such as LINE, LUNAME, LINK, NODE, TRANSACTION, TRAP, or TIMEOUT.

In a DCCTL system, ALL displays only DC-related traces. It does not show DB-related traces such as OSAMGTF or PI.

For a DB/DC RSR tracking subsystem, ALL displays only LINE, NODE, PSB, TABLE, and TRAP information.

The display shows which external data set is active and whether the OLDS is being traced for trace logging. The command also indicates if XTRC is usable and the status of the XTRC data sets.

LINE The relative line number and line type of all traced lines.

LINK The link number and link partner for all logical links.

LUNAME

All LU 6.2 application programs that are being traced.

OSAMGTF

Whether the OSAM Buffer Trace facility is active or inactive.

MONITOR

The status of the IMS Monitor, and if active, the options specified for it.

/DISPLAY TRACE

NODE The VTAM node name and node type. If the node is defined for a parallel session, each traced user of that node is displayed. If the users are not active, an N/A will be displayed.

PI The status of the program isolation trace, and if active, the status of the options and the volume level.

PROGRAM

The traced program name.

PSB The PSB name and trace option for each traced PSB.

TABLE

The trace status, logging status, total number of entries in each trace table, and the volume level.

For a DL/I trace, the volume level is displayed in the subcategories.

For an RSR tracking subsystem, TABLE does not show information about the LUMI, QMGR, RETR, SCHD, SQTT, or SUBS table traces.

TCO displays whether or not tracing is active for the Time Controlled Operation (TCO).

TIMEOUT

The status of the IMS VTAM I/O Timeout Detection Facility, including the specifications given when the /TRACE SET ... TIMEOUT command was issued. The /DISPLAY TRACE TIMEOUT command will show active or inactive status, the timeout value in minutes, and the action to be taken when timeout occurs (AUTO, MSG, or no action). Option and Timeout values will be displayed only when the facility is active.

TMEMBER

The IMS Open Transaction Manager Access (OTMA) transaction pipes that are currently being traced for the given OTMA client.

TRANSACTION

The name of the transaction and the applicable PSB name for each trace.

TRAP The trap that is currently set, either 1 or 2; that trap is enabled for MFS serviceability aids.

XTRC External trace status. Whether XTRC is usable and the status of the XTRC data sets are also displayed.

/DISPLAY TRACKING STATUS

In an RSR complex, /DISPLAY TRACKING STATUS displays the status of a tracking subsystem. /DISPLAY TRACKING STATUS is valid on active and RSR tracking subsystems.

Examples of using the /DISPLAY TRACKING STATUS command are shown in:

- "Example 1 for /DISPLAY TRACKING STATUS Command" on page 277
- "Example 2 for /DISPLAY TRACKING STATUS Command" on page 278

/DISPLAY TRACKING STATUS on an Active Subsystem

/DISPLAY TRACKING STATUS on an active subsystem displays the following:

- Subsystem IMSID
- The global service group (GSG)
- The service group (SG)

/DISPLAY TRACKING STATUS

- The service group status
- The status of the conversation with log router

/DISPLAY TRACKING STATUS on an active subsystem shows the following information:

ACTIVE SUBSYSTEM

The IMSID, global service group, service group, and service group status of the active subsystem

IMSID The IMSID of the active subsystem.

GSG-NAME

The 1- to 8-character global service group (GSG) name. The global service group is the collection of all IMS subsystems in an RSR complex (such as online IMS, utilities, and so on) that access a particular set of databases. An active subsystem can only be defined as part of **one** global service group.

SG-NAME

The name of the service group (SG) of which the active subsystem is a part. The service group name is 1 to 8 characters long.

SG-STATUS

The service group status, which can be one of the following:

IDENTIFICATION IN PROGRESS

An the IMS logger is in the process of identifying to the Transport Manager Subsystem but has not yet completed.

IDENTIFIED

The IMS logger has identified to the Transport Manager Subsystem. A status of IDENTIFIED appears as long as the logger is connected or identified to the TMS. This status also appears after a /START SERVGRP command.

LOST The IMS logger's connection to the Transport Manager Subsystem is gone due to TMS or VTAM failure.

NO LOG ROUTER SG DEFINED

There is an error and logger has no knowledge of a log router with which to communicate. There is no Log Router Service Group defined to DBRC.

NOT IDENTIFIED

The IMS logger has never identified to the Transport Manager Subsystem (that is, is in its initial state) or the IMS logger has not been able to identify since the most recent /STOP SERVGRP command.

STOPPED

The /STOP SERVGRP command was issued. If there is an active conversation, /STOP SERVGRP causes it to be terminated.

At each OLDS switch, the logger no longer attempts to establish a conversation with the log router. Logs are no longer sent to the tracking subsystem. A /START SERVGRP command is required to undo the STOPPED condition.

ACTIVE'S CONVERSATIONS WITH LOG ROUTERS

Status of the conversations between the active and tracking subsystems.

/DISPLAY TRACKING STATUS

SG-NAME

The name of the service group (SG) of which the tracking subsystem is a part.

RECORDS-NOT-SENT

The number of log records that have not yet been sent to the tracker. The number of records is a number in the form of nnnK, where K represents 1024 records. The number is rounded off to the nearest K. If the number of records exceeds 999K, then >999K is displayed.

This field applies only if the conversation status is SENDING LOGS. Otherwise, N/A is displayed.

CONVERSATION STATUS

The conversation status, which can be one of the following:

ACCEPT IN PROGRESS

A log router is in the process of accepting a conversation request, but has not yet allocated the conversation.

ALLOCATION IN PROGRESS

Indicates a conversation is in the process of being allocated.

DEALLOCATION IN PROGRESS

A conversation is in the process of being deallocated.

NO ACTIVE CONVERSATION

Indicates there is no active conversation between the logger and the log router. Although there is no conversation, the logger does know about the log router.

At each OLDS switch, the logger will attempt to establish a conversation with the log router until it is successful. A /START SERVGRP command can be issued to cause the logger to attempt to establish a conversation with the log router before the next OLDS switch.

SENDING LOGS

The logger has an active conversation with the log router and is sending logs to the tracking site.

SUSPENDED LOGS

The logger has an active conversation with the log router but has suspended sending logs to the tracking site due to resource shortage. The conversation is still intact.

/DISPLAY TRACKING STATUS on a Tracking Subsystem

When issued on a tracking subsystem, /DISPLAY TRACKING STATUS displays the following:

- Subsystem IMSID
- Readiness level
- Global service group (GSG)
- Service group (SG)
- Service group status
- Tracking status
- Tracking activity

/DISPLAY TRACKING STATUS

- Gaps
- Isolated log sender status
- Online forward recovery (OFR) status
- Current and restart milestone indexes
- DL/I tracking status
- Fast Path tracking status

/DISPLAY TRACKING STATUS shows the same information for an IMS DB/DC tracking subsystem or a DBCTL tracking subsystem.

/DISPLAY TRACKING STATUS on a tracker shows the following information:

TRACKING SUBSYSTEM

The following tracking subsystem information is displayed:

IMSID The IMSID of the tracking subsystem. The IMSID is 1 to 4 characters long.

READINESS-LEVEL

The readiness level of the tracking subsystem, which is either RECOVERY or DATABASE.

GSG-NAME

The global service group (GSG) name. The GSG is the collection of all IMS subsystems in an RSR complex, such as online IMS, utilities, and so on, which access a particular set of databases. A tracking subsystem tracks only **one** global service group. The global service group name is 1 to 8 characters long.

SG-NAME

The 1- to 8-character service group (SG) name.

SG-STATUS

The service group status, which can be IDENTIFIED, NOT IDENTIFIED, or STOPPED.

IDENTIFIED

The tracking subsystem has identified to the Transport Manager Subsystem (TMS), and can establish conversations with active loggers and isolated log sender (ILS) instances. IDENTIFIED appears as long as the tracking subsystem is connected or identified to the TMS.

NOT IDENTIFIED

The tracking subsystem has not attempted to identify to the TMS. NOT IDENTIFIED is the initial state.

STOPPED

The tracking subsystem is not identified to the TMS. This status can be the result of any of the following: a /STOP SERVGRP command entered from the tracking subsystem, an unsuccessful attempt to identify, or termination of the TMS.

TRACKING STATUS

The status of the tracking subsystem, which can be one of the following:

INACTIVE

The tracking subsystem is idle. The tracking subsystem has completed all tracking work and has received no more log records from the active subsystems it tracks.

/DISPLAY TRACKING STATUS

For example, a status of **INACTIVE** appears if the active subsystems have shut down and the tracking subsystem has completed its tracking work.

TRACKING

The tracking subsystem is tracking one or more active subsystems and has tracking work to do.

PLANNED TAKEOVER REQUESTED

One of the active subsystems being tracked issued an **/RTAKEOVER** command, notified the tracker, and shut down. As soon as all of the active systems in the GSG have shut down, all log gaps have been filled, and log routing has completed, the tracking subsystem will shut down for the planned remote takeover.

PLANNED TAKEOVER IN PROGRESS

An **/RTAKEOVER** command was entered on the active subsystem and all of the active subsystems being tracked have successfully shut down. The tracking subsystem is in the process of shutting down for the planned remote takeover. The tracking subsystem must shut down before active subsystems can be started at the new active site.

UNPLANNED TAKEOVER IN PROGRESS

An **/RTAKEOVER** command was entered on the tracking subsystem. The tracking subsystem will shut down for the unplanned remote takeover after it has completed routing received log data.

NUMBER OF ACTIVE SUBSYSTEMS

The number of active subsystems currently being tracked. It is followed by an integer.

TRACKING ACTIVITY

Status of the conversations between the tracker and the loggers of the active subsystems being tracked. The following information is displayed for each active subsystem being tracked:

NAME The IMSID of the subsystem being tracked or the jobname for batch or batch backout being tracked. Subsystem names are 1 to 4 characters long. Job names are 1 to 8 characters long.

If the active subsystems are XRF-capable, the subsystem name displayed includes a hyphen and the one-character HSBID.

Example: The XRF alternate for IMSA would be displayed as IMSA-2.

TYPE Type of subsystem, which can be **ONLINE**, **ACTIVE**, **BATCH**, or **BBO** (batch backout), as described below:

ONLINE

An online (not batch) subsystem that has not sent data to the tracking subsystem. The subsystem might be an active subsystem that has not completed restart or it might be an XRF alternate subsystem.

ACTIVE

An online (not batch) subsystem that has sent data to the tracking subsystem.

/DISPLAY TRACKING STATUS

BATCH

A batch subsystem that has sent data to the tracking subsystem.

BBO A batch backout job that has sent data to the tracking subsystem.

RECEIVED-LOG

The universal coordinated time of the last log record received from the subsystem, BATCH job, or BBO job. The timestamp is of the format hhmmss, where hh represents hours, mm represents minutes, and ss represents seconds. RECEIVED-LOG does not apply to conversations with XRF-alternate subsystems, in which case N/A is displayed.

ROUTED-LOG

The universal coordinated time of the last log routed by the log router. The timestamp is of the format hhmmss, where hh represents hours, mm represents minutes, and ss represents seconds. ROUTED-LOG does not apply to conversations with XRF-alternate subsystems, in which case N/A is displayed.

NOT-ROUTED

The number of log records that have been received by the tracker but not yet routed by the log router. The number is in the format nnnK, where K represents 1024 log records. The number is rounded off to the nearest K. If this number exceeds 999K, then >999K is displayed. NOT-ROUTED does not apply to conversations with XRF-alternate subsystems, in which case N/A is displayed.

STATUS

The tracking status. If a conversation exists between the tracking subsystem and the active IMS, the status field contains CONV-ACT. If there is no conversation, the status field is left blank.

GAPS The status of gaps between the tracker and the active subsystems, BATCH jobs, or BBO jobs. One line is displayed for each gap associated with an active subsystem.

If the gap information is not known to the tracking subsystem, the PRILOG token associated with the gap is displayed as "MISSING LOG, PRILOG TOKEN=". The following gap information is displayed:

NAME The IMSID of the active system for which there is a gap, or the jobname of the BATCH or BBO job for which there is a gap.

In an XRF environment, the NAME is the RSENAME rather than the IMSID.

LOG-SEQ-FIRST

The log sequence number, in hexadecimal, of the first log record in the gap

IN-GAP

The number of records, in decimal, that are in the gap. The number is of the form nnnK, where K represents 1024 records. The number is rounded off to the nearest K. If this number exceeds 999K, then >999K is displayed.

RECEIVED

The number of records, in decimal, that have been received. The

/DISPLAY TRACKING STATUS

number is of the form nnnK, where K represents 1024 records. The number is rounded off to the nearest K. If this number exceeds 999K, then >999K is displayed.

NOT-ROUTED

The number of log records, in decimal, that have not been routed for the oldest gap. The number is of the form nnnK, where K represents 1024 records. If this number exceeds 999K, then >999K is displayed. This number does not apply to gaps other than the oldest one.

STATUS

The status of the gap, which is one of the following:

FILLING

The gap is currently being filled.

WAITING

The gap is not being filled yet. For example, the gap might be waiting to be filled if there are not enough conversations to send the log records, or a batch job is still running.

PERMNT ERR

There is a permanent error, such as a read error, that prevents this gap from being filled.

UNAVAIL

The log data needed to fill the gap is not available at the active site. The log or log data sets might have been deleted.

ISOLATED LOG SENDER STATUS

Status of isolated log sender conversations.

SYSTEM NAME OF TRANSPORT MANAGER SUBSYSTEM

If the tracking subsystem has a conversation with an isolated log sender, the system name of the Transport Manager to which the isolated log sender is identified is displayed.

NUMBER OF CONVERSATIONS

Number of conversations with this instance of isolated log sender.

ONLINE FORWARD RECOVERY STATUS

The following online forward recovery (OFR) status is displayed:

NUMBER OF STREAMS BEING PROCESSED

Number of OFR processes initiated. The online forward recoveries are processed one at a time.

MILESTONE INDEX STATUS

The following milestone information is displayed:

CURRENT MILESTONE INDEX

The current milestone index.

RESTART MILESTONE INDEX

The restart milestone index.

DLI TRACKING STATUS

Status of DL/I database tracking.

/DISPLAY TRACKING STATUS

TRACKING PSTs

Number of DL/I database tracking PSTs currently in use. The number can be from 0 to 255.

USAGE OF TRACKING PSTs

Average percent usage of DL/I database tracking PSTs currently in use

BACKLOG OF REDO RECORDS IN DATASPACE

The backlog number of redo records in the data space. The backlog is a measure of how well the tracker is keeping up with the workload. The backlog is a number in the form of nnnK, where K represents 1024 redo records. The number is rounded off to the nearest K. If the number of redo records exceeds 999K, then >999K is displayed.

FP TRACKING STATUS

Status of Fast Path database tracking.

TRACKING PSTs

Number of FP database tracking PSTs and the reason the PSTs are invoked. The number of tracking PSTs can be from 0 to 255. The reason the PSTs are invoked can be one of the following and only appears if there are one or more PSTs:

AREAWRITE

The PSTs are invoked by a write request for a specific area.

MILESTONE

The PSTs are invoked by milestone processing.

THRESHOLD

The PSTs are invoked by threshold write.

CURRENT LOG VOLUME IN DATASPACE

Current log volume in Fast Path tracking data space. This number can be from 0 to nnnnnnK, where K represents 1024 log records. The maximum possible number is 2000000K (two gigabytes). The number is rounded off to the nearest K.

MAX LOG VOLUME IN DATASPACE

Maximum log volume in Fast Path tracking data space. This number can be from 0 to nnnnnnK, where K represents 1024 log records. The maximum possible number is 2000000K (two gigabytes). The number is rounded off to the nearest K.

/DISPLAY TRANSACTION

The /DISPLAY TRANSACTION command displays the class, priorities, queue counts, the number and size of output segments for a specified transaction code, and the number of regions the transaction is currently scheduled in, all on the first line. The next two indented lines show the PSB name associated with the transaction and the status. DFSCPIC is displayed as PSB name for CPI Communications driven transactions that have not issued a DL/I APSB call to allocate a PSB. Fast Path exclusive transaction codes only have the transaction code and class displayed. The queue counts are not shown because Fast Path processing bypasses the IMS message queues.

/DISPLAY TRANSACTION

IMS Open Transaction Manager Access (OTMA) supports an architected format for the output from the /DISPLAY TRANSACTION command. The architected output is returned to the OTMA client, not to an IMS operator. See *IMS/ESA Open Transaction Manager Access Guide*.

The TRANSACTION keyword parameter can be generic.

The status displayed can be one of the following:

BAL
DYNAMIC
I/O PREV
LOCK
PSTOP
PUR
QERR
SPND
STOP
TRA
USTOP

See “Appendix G. Status and Attributes for the /DISPLAY Command” on page 571 for an explanation of the status.

/DISPLAY TRANSACTION also displays I/O prevention when a BMP program containing GSAM cannot complete scheduling.

Examples of using /DISPLAY TRANSACTION are shown in “Example 1 for /DISPLAY TRANSACTION Command” on page 278 and “Example 2 for /DISPLAY TRANSACTION Command” on page 279.

QCNT

Specifies that global queue count information is to be displayed. If QCNT is not specified, local queue counts are displayed; when it is specified, no local queue counts are displayed.

IMS does not check that the specified name is a valid transaction in the IMS subsystem on which the command is entered.

The command /DISPLAY TRAN ALL QCNT displays all of the transactions on the shared queues with a global queue count.

This keyword is only valid in a shared-queues environment.

/DISPLAY UOR

The /DISPLAY UOR command displays status information about IMS units of recovery (UORs) for protected resources on the RRS/MVS recovery platform.

If you specify the six-byte pseudo-token of the protected UOR (the *prtkn*), this command displays information about the requested UOR.

ACTIVE

Displays only active UORs.

ALL

Displays active and indoubt UORs. ALL is the default.

/DISPLAY UOR

INDOUBT

Displays only UORs that were indoubt when they were terminated. Indoubt UORs identify residual work that needs resolution.

prtkn

Displays the specified UOR.

Use the /DISPLAY UOR INDOUBT command to determine the IMS pseudo token for each UOR. You can use this token for /CHANGE UOR and /DISPLAY UOR commands.

The output from the /DISPLAY UOR command consists of the following:

ST Status of the UOR, which can be one of the following:

- A** Active; work is inflight.
- B** Active; work is being backed out.
- C** Active; work is being committed.
- E** Active; work is in cleanup phase.
- I** Active; work is indoubt, awaiting phase 2 action.
- RI** Residual indoubt; indoubt UOR from a prior IMS execution or a dependent-region abend.

P-TOKEN

The IMS pseudo token which can be used in subsequent commands to refer to this particular UOR. This token only displays for indoubt UORs (status RI).

PSBNAME

The IMS PSB scheduled for this UOR.

RRS-URID

The unique identifier for a protected unit of recovery (of which IMS work is part). RRS generates and maintains this data.

IMS-RECTOKN

The IMS recovery token that uniquely identifies the IMS portion of the UOR.

LUWID

The identifier of a work request across multiple distributed systems connected by LU 6.2 conversations. This data is only provided for /DIS UOR ACTIVE commands, and appears on a separate line of output.

EID The identifier of a work request across multiple connected distributed systems coordinated by the Encina toolkit. This data is only provided for /DIS UOR ACTIVE commands, and appears on a separate line of output.

/DISPLAY USER

The /DISPLAY USER command displays all the USER structures and USERIDs that match the parameter or attribute specified.

The USER parameter can be generic when the generic parameter specifies users that already exist.

The following information is displayed:

- The USER field shows the USER structure name. N/A appears for all static USERIDs signed on to static nodes.

/DISPLAY USER

- The USERID field The RACF USERID that was used to sign on to the node. N/A appears if a USER structure is not associated with a node. In that case, the USER structure exists to hold status or has messages inserted to it. If no messages or status exist, the USER structure is deleted at the next checkpoint.
- The node name appears if the user is allocated to a node or signed on to a node.
- The cumulative queue counts for enqueues, dequeues, and number of items still on the queue for the specified users is displayed. The cumulative counts include all LTERMs associated with the specified users, whether the LTERMs are allocated to a node or not.
For non-ISC static users, queue counts are displayed as N/A, since non-ISC static users are not associated with queues.
- STOPPED or ALLOC is displayed to show whether the user LTERMs are assigned to a node (ALLOC) or the user is stopped (STO).

USERIDs signed onto static nodes can only be used as parameters with the /DISPLAY USER command and the /SIGN ON command. USERIDs cannot be used as parameters with other commands that support the USER keyword.

“Attributes” are reserved parameters for the /DISPLAY USER command and cannot be used to name users. Any one attribute can be used with the USER keyword. Users are selected for display based on the attribute or attributes specified. The attribute display format is the same as the standard USER display. Attributes usually correspond to the conditions displayed for users.

Table 27 is a list of the attributes that can be specified with the USER keyword.

Table 27. /DISPLAY USER Command Attributes

ALLOC	PRST
CONVACT	RESP
CONVHLD	RESPINP
DEADQ	STATIC
EXCL	STOPPED
MFST	TEST

Explanations of the attributes can be found in “Appendix G. Status and Attributes for the /DISPLAY Command” on page 571.

The ALLOC status is followed by the nodename (in parentheses) to which the user is allocated or signed on to.

The use of DEADQ with the /DISPLAY USER command shows all users that have queues marked as dead letter queues. When all the messages are purged by the /DEQUEUE command, the DEADQ status is removed. After all the messages have been purged and the status removed, then the user structure is deleted at the next simple checkpoint.

An example of using the /DISPLAY USER command is shown in “Example for /DISPLAY USER Command” on page 280.

QCNT

Specifies that global queue count information is to be displayed. If QCNT is not specified, local queue counts are displayed; when it is specified, no local queue counts are displayed.

/DISPLAY USER

This keyword is only valid in a shared-queues environment.

/DISPLAY Examples

The following are examples of the /DISPLAY command.

Example 1 for /DISPLAY ACTIVE Command

Entry ET:

```
/DISPLAY ACTIVE
```

Response ET:

```
REGID JOBNAME  TYPE  TRAN/STEP PROGRAM  STATUS          CLASS
      MSGRGN   TP    NONE
      BATCHREG BMP   NONE
      FPRGN    FP    NONE
      DBTRGN   DBT   NONE
      1 IMSMPP0 TPE   DSN8PS   DSN8IP13       1, 3
      BATCHREG BMP   NONE
      FPRGN    FP    NONE
      DBR3CTA3 DBRC
      DLI3CTA3 DLS
VTAM ACB OPEN          -LOGONS ENABLED
LINE ACTIVE-IN - 1  ACTIV-OUT - 0
NODE ACTIVE-IN - 0  ACTIV-OUT - 4
LINK ACTIVE-IN - 0  ACTIV-OUT - 0
*89041/163619*
```

Example 2 for /DISPLAY ACTIVE Command

Entry ET:

```
/DISPLAY A
```

Response ET:

```
REGID JOBNAME  TYPE  TRAN/STEP PROGRAM  STATUS          CLASS
      1 I3YMPP  TP    NONE          WAITING        4, 1, 2, 3
      BATCHREG BMP   NONE
      FPRGN    FP    NONE
      DBRC     DBRC
VTAM ACB CLOSED
LINE ACTIVE-IN - 1  ACTIV-OUT - 0
NODE ACTIVE-IN - 0  ACTIV-OUT - 0
*89041/100117*
```

Example 3 for /DISPLAY ACTIVE Command

Entry ET:

```
/DISPLAY A
```

Response ET:

```
REGID JOBNAME  TYPE  TRAN/STEP PROGRAM  STATUS          CLASS
      2 I431MPP TP    SKS7     DFSDDL7        1, 3, 6, 7
      3 IMS1BMP  BMP   REGION   SIS04P01
      1 I431IFP  FPM   TXCDRN07 DDLTRN07
      R3        DBRC
VTAM ACB OPEN          -LOGONS ENABLED
LINE ACTIVE-IN - 2  ACTIV-OUT - 0
NODE ACTIVE-IN - 0  ACTIV-OUT - 0
LINK ACTIVE-IN - 0  ACTIV-OUT - 0
*89041/144425* DFSRSENM ACTIVE
```


Examples for /DISPLAY ACTIVE Command

Explanation: The system is XRF capable so the date time stamp includes the RSE name and system indicator.

Example 4 for /DISPLAY ACTIVE Command

Entry ET:

```
/DISPLAY A
```

Response ET:

```
REGID JOBNAME  TYPE  TRAN/STEP  PROGRAM  STATUS          CLASS
   1 I431MPP    TP    TXCDRN18  DDLTRN18  WAIT-INPUT      1, 3, 6, 7
      BATCHREG  BMP    NONE
   2 I431IFP    FPM   NO MSG.    DDLTRN07
      R3        DBRC
VTAM ACB OPEN          -LOGONS ENABLED
LINE ACTIVE-IN -    1  ACTIV-OUT -    0
NODE ACTIVE-IN -    0  ACTIV-OUT -    0
LINE ACTIVE-IN -    0  ACTIV-OUT -    0
*89041/132348* DFSRSENM  ACTIVE
```

Explanation: Transaction TXCDRN18 is waiting for an input message. Program DDLTRN07 currently has no messages to process. Region 1 is in WAIT-FOR-INPUT (WFI) mode.

Example 5 for /DISPLAY ACTIVE Command

Entry ET:

```
/DISPLAY A
```

Response ET:

```
REGID JOBNAME  TYPE  TRAN/STEP  PROGRAM  STATUS          CLASS
   2 I431MPP    TP    SKS7      DFSDDL7  WAIT-MESSAGE    1, 3, 6, 7
   3 IMS1BMP    BMP   REGION    SIS04P01
   1 I431IFP    FPM   TXCDRN07  DDLTRN07
      R3        DBRC
VTAM ACB OPEN          -LOGONS ENABLED
LINE ACTIVE-IN -    2  ACTIV-OUT -    0
NODE ACTIVE-IN -    0  ACTIV-OUT -    0
LINK ACTIVE-IN -    0  ACTIV-OUT -    0
*89041/144425* DFSRSENM  ACTIVE
```

Explanation: Transaction SKS7 is waiting for an input message. Program DFSDDL7 currently has no messages to process. Region 2 is in Pseudo Wait-For-Input (PWFI) mode.

Example 6 for /DISPLAY ACTIVE Command

Entry ET:

```
/DISPLAY A
```

Response ET:

```
** SUBSYSTEM NAME **
   SYS3
REGID JOBNAME  TYPE  TRAN/STEP  PROGRAM  STATUS          CLASS
   2 I431MPP    TP    SKS7      DFSDDL7  WAIT-MESSAGE    1,3,6,7
   3 IMS1BMP    BMP   REGION    SIS04P01
   1 I431IFP    FPM   TXCDRN07  DDLTRN07
      R3        DBRC
VTAM ACB OPEN          -LOGONS ENABLED
```

Examples for /DISPLAY ACTIVE Command

```

LINE ACTIVE-IN- 2 ACTIV-OUT- 0
NODE ACTIVE-IN- 0 ACTIV-OUT- 0
LINK ACTIVE-IN- 0 ACTIV-OUT- 0
*89041/144425* DFSRSENM ACTIVE

```

Explanation: Transaction SKS7 is waiting for an input message. Program DFSDDLT7 currently has no messages to process. Region 2 is in Pseudo Wait-For-Input (WPF) mode.

Example 7 for /DISPLAY ACTIVE Command

Entry ET:

```
/DISPLAY ACTIVE
```

Response ET:

```

REGID JOBNAME  TYPE  TRAN/STEP PROGRAM  STATUS          CLASS
  1 IMSMPPA    TPI  TPN1     DFSCPIC  WAIT-BLOCKMOVER 20, 22, 24, 26
  2 IMSMPPB    TPI  TPN2     DFSCPIC           21, 23, 25, 22
  3 IMSMPPC    TP   TPN3     SAAPSB1           28, 29, 24, 23
  4 IMSMPPD    TPI  TPN4     DFSCPIC  WAIT-SYNCPOINT  14, 15, 16, 17
  4 IMSMPPE    TP   TRAN1    LU2PGMA  WAIT-INPUT       2, 4, 6, 8
  5 IMSMPPF    TP   TRAN2    LU2PGMB           1, 3, 5, 7
VTAM ACB OPEN / APPC LUNAME=IMSLUNME ENABLED -LOGONS ENABLED
LINE ACTIVE-IN - 2 ACTIV-OUT - 0
NODE ACTIVE-IN - 0 ACTIV-OUT - 0
LINK ACTIVE-IN - 0 ACTIV-OUT - 0
*90332/114253*

```

Example 8 for /DISPLAY ACTIVE Command

Entry ET:

```
/DISPLAY ACTIVE
```

Response ET:

```

REGID JOBNAME  TYPE  TRAN/STEP PROGRAM  STATUS          CLASS
MSGRGN    TP   NONE
BATCHREG  BMP  NONE
FPRGN     FP   NONE
DBTRGN    DBT  NONE
DBRSCHA5  DBRC
DLISCHA5  DLS
VTAM ACB OPEN -LOGONS DISABLED
IMSLU=N/A.N/A APPC STATUS=DISABLED
APPLID=APPL8 USERVAR=IMS1
LINE ACTIVE-IN - 1 ACTIV-OUT - 0
NODE ACTIVE-IN - 0 ACTIV-OUT - 0
LINK ACTIVE-IN - 0 ACTIV-OUT - 0
*95080/183050* DFSRSENM ACTIVE

```

Explanation: The IMS subsystem is both XRF-capable and RSR-capable.

Example 9 for /DISPLAY ACTIVE Command

Entry ET:

```
/DISPLAY ACTIVE
```

Response ET:

```

REGID JOBNAME  TYPE  TRAN/STEP PROGRAM  STATUS          CLASS
  1 IMSMPPA    TP           WAITING         4, 1, 2
  2 IMS1BMP    BMP  REGION    SIS04P01  WAIT-AOI
  4 IMS2BMP    BMP  REGION    SIS04P02  WAIT-AOI
  3 I510MPP    TP           WAIT-EPCB POOL  8, 8, 8, 8

```

Examples for /DISPLAY ACTIVE Command

```
2 IMS3BMP  BMP                                WAIT-EPCB POOL

      FPRGN  FP  NONE
      DBRC   DBRC
VTAM ACB CLOSED
LINE ACTIVE-IN - 1 ACTIV-OUT - 0
NODE ACTIVE-IN - 0 ACTIV-OUT - 0
*96280/095345*
```

Example 10 for /DISPLAY ACTIVE Command

Entry ET:

```
/DISPLAY ACTIVE DC
```

Response ET:

```
VTAM STATUS AND ACTIVE DC COUNTS
VTAM ACB OPEN                    -LOGONS ENABLED
LINE ACTIVE-IN - 1 ACTIV-OUT - 0
NODE ACTIVE-IN - 1 ACTIV-OUT - 0
LINK ACTIVE-IN - 1 ACTIV-OUT - 0
*89041/110704*
```

Example 11 for /DISPLAY ACTIVE Command

Entry ET:

```
/DISPLAY ACTIVE DC
```

Response ET:

```
VTAM STATUS AND ACTIVE DC COUNTS
VTAM ACB OPEN                    -LOGONS ENABLED
IMSLU=SYS1.IMSLUNME             STATUS=ENABLED
APPLID=APPL8                     USERVAR=IMS1
LINE ACTIVE-IN - 2 ACTIV-OUT - 0
NODE ACTIVE-IN - 0 ACTIV-OUT - 0
LINK ACTIVE-IN - 0 ACTIV-OUT - 0
*92232/114253*
```

Example 12 for /DISPLAY ACTIVE Command

Entry ET:

```
/DISPLAY ACTIVE REGION
```

Response ET:

```
REGID JOBNAME  TYPE  TRAN/STEP PROGRAM  STATUS  CLASS
      MSGRGN   TP    NONE
      BATCHREG BMP   NONE
      FPRGN    FP    NONE
      DBRGCTAN DBRC  NONE
*89041/102934*
```

Example for /DISPLAY AFFINITY Command

Entry ET:

```
/DISPLAY AFFIN NODE NDSLUA1
```

Response ET:

```
NODE      APPLID
NDSLUA1  APPL9
*97098/162106*
```

Example for /DISPLAY AFFINITY Command

Explanation: The node has an affinity for APPL ID APPL9.

Entry ET:

```
/DISPLAY AFFIN NODE LU37722
```

Response ET:

```
NODE      APPLID  
LU37722  N/A  
*97098/162156*
```

Explanation: The node has no affinities.

Example for /DISPLAY AOITOKEN Command

Entry ET:

```
/DISPLAY AOITOKEN
```

Response ET:

```
AOITOKEN      ENQCT      QCT      SEGS W-REGID  
AOITOKN1      4          2        12    NONE  
AOITOKN2      0          0         0     2,4  
AOITOKN3      1          0         0    NONE  
AOITOKN4 1000000000 1000000000 2147483647 NONE  
*92280/095345*
```

Example for /DISPLAY APPC Command

Entry ET:

```
/DISPLAY APPC
```

Response ET:

```
IMSLU  #APPC-CONV STATUS  DESIRED  
IMSLUNME      0 ENABLED  ENABLED  
*90347/114253*
```

Entry ET:

```
/DISPLAY APPC
```

Response ET:

```
IMSLU  #APPC-CONV STATUS  DESIRED  
IMSLUNME      0 DISABLED  ENABLED  
*90347/114253*
```

Entry ET:

```
/DISPLAY APPC
```

Response ET:

```
IMSLU      #APPC-CONV SECURITY STATUS  DESIRED  
SYS1.IMSLUNME      0 FULL      STOPPED  STOPPED  
*92232/114253*
```

Example 1 for /DISPLAY AREA Command

Entry ET:

```
/DIS AREA db21ar1 db21ar3 db21ar6 IOVF
```

Response ET:

Examples for /DISPLAY AREA Command

AREANAME DDNAME	EQECT REMAIN	TOTAL UNUSED SEQ DEPENDENT	TOTAL UNUSED DIR ADDRESSABLE	DBNAME	CONDITIONS
DB21AR1	N/A	13	11	74	74-CI DEDBJN21 VIR, PREO, PREL
DB21AR1	10	N/A	N/A	N/A	N/A
DB21AR1B	10	N/A	N/A	N/A	N/A
DB21AR1C	10	N/A	N/A	N/A	N/A
DB21AR3	N/A	13	11	74	56-CI DEDBJN21 PREO
DB21AR3	10	N/A	N/A	N/A	N/A
DB21AR3B	10	N/A	N/A	N/A	N/A
DB21AR6	N/A	17	15	74	56-CI DEDBJN21
DB21AR6	10	N/A	N/A	N/A	N/A

93076/173254

Explanation: DIR ADDRESSABLE means Independent Overflow part.

Example 2 for /DISPLAY AREA Command

Entry ET:

/DIS AREA ALL

Response ET:

AREANAME DDNAME	EQECT REMAIN	TOTAL UNUSED SEQ DEPENDENT	TOTAL UNUSED DIR ADDRESSABLE	DBNAME	CONDITIONS
DB21AR0	N/A	17	15	74	N/A DEDBJN21 VIR, PREO, PREL
DB21AR0	10	N/A	N/A	N/A	N/A
DB21AR1	N/A	13	11	74	N/A DEDBJN21 VIR, PREO
DB21AR1	10	N/A	N/A	N/A	N/A
DB21AR1B	10	N/A	N/A	N/A	N/A
DB21AR1C	10	N/A	N/A	N/A	N/A
DB21AR10	N/A	17	15	74	N/A DEDBJN21 VIR, PREO, PREL
DB21AR10	10	N/A	N/A	N/A	N/A
DB21AR11	N/A	133	131	74	N/A DEDBJN21 VIR
DB21AR11	10	N/A	N/A	N/A	N/A
DB21AR2	N/A	19	17	74	0-UW DEDBJN21 VIR, PREO, PREL
UTILITY:	HSRE	PVTTOT#	45	PVTAVL#	15
DB21AR2	10	N/A	N/A	N/A	N/A
DB21AR3	N/A	13	11	74	N/A DEDBJN21 PREO
DB21AR3	10	N/A	N/A	N/A	N/A
DB21AR3B	10	N/A	N/A	N/A	N/A
DB21AR4	N/A	N/A	N/A	N/A	N/A DEDBJN21 STOPPED, NOTOPEN
DB21AR5	N/A	N/A	N/A	N/A	N/A DEDBJN21 STOPPED, NOTOPEN
DB21AR6	N/A	N/A	N/A	N/A	N/A DEDBJN21 STOPPED, NOTOPEN
DB21AR7	N/A	N/A	N/A	N/A	N/A DEDBJN21 NOTOPEN
DB21AR8	N/A	N/A	N/A	N/A	N/A DEDBJN21 NOTOPEN
DB21AR9	N/A	N/A	N/A	N/A	N/A DEDBJN21 NOTOPEN

93076/173254

Explanation: DIR ADDRESSABLE means Independent Overflow part.

Example 1 for /DISPLAY ASSIGNMENT Command

Entry ET:

/DISPLAY ASSIGNMENT LINE 2 PTERM ALL

Response ET:

TERMINAL
 2- 1 IN - L2740S2
 OUT - L2740S1, L2740S2
 90295/130910

Examples for /DISPLAY ASSIGNMENT Command

Entry ET:

```
/DISPLAY ASSIGNMENT LINE 4 PTERM 1, 2
```

Response ET:

```
TERMINAL
 4- 1 IN - L2740SM1
      OUT- L2740SM1
 4- 2 IN - L2740SM2
      OUT- L2740SM2
*90295/130328*
```

Entry ET:

```
/DISPLAY ASSIGNMENT LINK ALL
```

Response ET:

```
LINK PLINK  SIDR SIDL MSNAME
  1 BLCB1CTC  1   4 SYSTEM2A
                1   5 SYSTEM2B
                3   6 FRESNO
  2 BLCB2BSC 21  23 BOSTON
                22  24 ALBANY
  3 BLCB1MTM 19  20 TEST1
*90280/072935*
```

Entry ET:

```
/DISPLAY ASSIGNMENT LTERM DIALQ1 INQUIRY1 L2740S1 MASTER WTOR
```

Response ET:

```
LTERM  IN-TERMINAL  OUT-TERMINAL  USER
DIALQ1   11-   1    11-   1
INQUIRY1  5-   1    5-   1
L2740S1  3-   1    3-   1
MASTER   3-   1    3-   1
WTOR     1-   SC   1-   SC
*90295/130657*
```

Entry ET:

```
/DISPLAY ASMT LTERM L1 L2 L3
```

Response ET:

```
LTERM  IN-TERMINAL  OUT-TERMINAL  USER
L1     14-   1    14-   1
L2     NODEA   -1  NODEA   -1  A
L3     N/A     -1  N/A     -1  B
*90231/143059*
```

Entry ET:

```
/DISPLAY ASSIGNMENT LTERM ALL
```

Response ET:

```
LTERM  IN-TERMINAL  OUT-TERMINAL  USER
CRDPUNCH 14-   1    14-   1
DIALQ1   11-   1    11-   1
DIALQ2   12-   1    12-   1
DIALQ3   13-   1    13-   1
INQUIRY1  5-   1    5-   1
INQUIRY2  6-   1    6-   1
INQUIRY3  7-   1    7-   1
INQUIRY4  8-   1    8-   1
```

Examples for /DISPLAY ASSIGNMENT Command

```

INQUIRY5      9- 1      9- 1
INQUIRY6     10- 1     10- 1
L2740SM1      4- 1      4- 1
L2740SM2      4- 2      4- 2
L2740S1       3- 1      3- 1
L2740S2       2- 1      2- 1
MASTER        3- 1      3- 1
PTPPUNCH     14- 1     14- 1
WS12DS        WS12- 1   WS12- 1
WTOR          1-  SC    1-  SC
*90295/160953*

```

Entry ET:

```
/DISPLAY ASSIGNMENT LTERM ALL
```

Response ET:

LTERM	IN-TERMINAL	OUT-TERMINAL	USER
CRDPUNCH	14- 1	14- 1	
DIALQ1	11- 1	11- 1	
DIALQ2	12- 1	12- 1	
DIALQ3	13- 1	13- 1	
INQUIRY1	5- 1	5- 1	
INQUIRY2	6- 1	6- 1	
INQUIRY3	7- 1	7- 1	
INQUIRY4	8- 1	8- 1	
INQUIRY5	9- 1	9- 1	
INQUIRY6	10- 1	10- 1	
L2740SM1	4- 1	4- 1	
L2740SM2	4- 2	4- 2	
L2740S1	3- 1	3- 1	
L2740S2	2- 1	2- 1	
MASTER	3- 1	3- 1	
PTPPUNCH	14- 1	14- 1	
WS12DS	WS12- 1	WS12- 1	
WTOR	1- SC	1- SC	

90295/160953

Entry ET:

```
/DISPLAY ASSIGNMENT MSNAME ALL
```

Response ET:

LINK	PLINK	SIDR	SIDL	MSNAME	IMS1
	N/A	32	3	LINK23B4	IMS1
10	PLNK12V	20	10	LINK12V1	IMS1
	N/A	35	3	LINK23U2	IMS1
	N/A	28	3	ELINK211	IMS1
1	PLNK12V	31	11	LINK13B3	IMS1
10	PLNK12V	266	2036	LINK13V	IMS1
10	PLNK12V	256	1012	LINK12V	IMS1
2	PLNK12C	33	13	LINK13C2	IMS1
10	PLNK12V	80	300	LINK13X	IMS1
11	PLNK12V	40	9	LINK12V2	IMS1
3	PLNK12M	34	14	LINK13M2	IMS1
12	PLNK13V	38	18	LINK13V2	IMS1
7	N/A	43	44	ELINK124	IMS1
	N/A	36	3	LINK23V1	IMS1
1	PLNK12V	21	11	LINK12B1	IMS1
1	PLNK12V	22	12	LINK12B2	IMS1
10	PLNK12V	90	500	LINK12Y	IMS1
5	N/A	26	16	ELINK120	IMS1
1	PLNK12V	32	12	LINK13B4	IMS1
	N/A	8	3	LINK21V3	IMS1
6	N/A	51	41	ELINK1MS	IMS1
3	PLNK12M	24	14	LINK12M1	IMS1

Examples for /DISPLAY ASSIGNMENT Command

```

N/A      266   3 LINK23V   IMS1
4 N/A     35  15 LINK13U2  IMS1
N/A      31   3 LINK23B3  IMS1
N/A      43   3 ELINK224  IMS1
N/A      80   3 LINK23X   IMS1
N/A      37   3 LINK23V2  IMS1
6 N/A     27  17 ELINK121  IMS1
N/A      33   3 LINK23C2  IMS1
4 N/A     25  15 LINK12U1  IMS1
N/A      34   3 LINK23M2  IMS1
5 N/A     29  19 ELINK122  IMS1
N/A      29   3 ELINK222  IMS1
2 PLNK12C 23  13 LINK12C1  IMS1
10 PLNK12V 36  16 LINK13V1  IMS1
7 N/A     42  45 ELINK123  IMS1
16 LKV1TSTB 93  3 PTH3TSTB  IMS1
*97258/170244*

```

Entry ET:

```
/DISPLAY ASSIGNMENT MSPLINK ALCB3MTM
```

Response ET:

```

LINK PLINK  TYPE ADDR  MAXSESS  NODE
3 ALCB3MTM MTM  ****
*90280/072754*

```

Entry ET:

```
/DISPLAY ASMT NODE NLU1 NLUT6S NLUT6P
```

Response ET:

```

NODE      USER
NLU1      IN -L1      , L2
          OUT-L2     , L1
NLUT6S    IN -L3
          OUT-L3
NLUT6P    A      IN -L5      , L6
NLUT6P    N/A    IN -NONE
          OUT-NONE
NLUT6P    C      IN -L7
          OUT-L7
*90229/083059*

```

Entry ET:

```
/DISPLAY ASMT NODE NLUT6P USER C
```

Response ET:

```

NODE      USER
NLUT6P    C      IN -L7
          OUT-L7
*90229/083059*

```

Entry ET:

```
/DISPLAY ASSIGNMENT NODE ALL
```

Response ET:

```

NODE      USER
CT3275    IN -VT3275  , VT3275P
          OUT-VT3275 , VT3275P
CT3277A   IN -VT3270A
          OUT-VT3270A
CT3277B   IN -VT3270B

```


Examples for /DISPLAY ASSIGNMENT Command

```

CT3277C      OUT-VT3270B
              IN -VT3270C
              OUT-VT3270C
CT3277D      IN -VT3270P1
              OUT-VT3270P1
CT3277E      IN -VT3270P2
              OUT-VT3270P2
L3270A       IN -VT3270L1
              OUT-VT3270L1
L3270B       IN -VT3270L2
              OUT-VT3270L2
L3284A       IN -VT3270P3
              OUT-VT3270P3
W612         IN -W610JP , W610D6 , W610FP
              OUT-W610D6 , W610FP , W610JP
W613         IN -W620JP , W620D6 , W620PB , W620M6
              OUT-W620D6 , W620JP , W620M6 , W620PB
FCBOX1       IN -W6CIT
              OUT-W6CIT
*90295/091334*

```

Entry ET:

```
/DISPLAY ASMT USER A B C D
```

Response ET:

```

USER   ID      NODE
A      CICSA   NLUT6P  I/O- L1      , L2
B      CICSB   NLUT6P  I/O- L3
C      CICSB   NLUT6P  I/O- L4
D      CICSB   NLUT6P  I/O- NONE
*90229/083059*

```

Entry ET:

```
/DISPLAY ASSIGNMENT SYSID ALL
```

Response ET:

```

LINK PLINK  SIDR SIDL MSNAME
  1 BLCB1CTC  1   4 SYSTEM2A
  1 BLCB1CTC  2   5 SYSTEM2B
  1 BLCB1CTC  3   6 FRESNO
  3 BLCB1MTM 19  20 TEST1
  2 BLCB2BSC 21  23 BOSTON
  2 BLCB2BSC 22  24 ALBANY
*90280/072821*

```

Entry ET:

```
/DISPLAY ASSIGNMENT SYSID ALL
```

Response ET:

```

LINK PLINK  SIDR SIDL MSNAME  IMS1
  N/A      8   3 LINK21V3  IMS1
  N/A      28  3 ELINK211  IMS1
  5 N/A     29 19 ELINK122  IMS1
  1 PLNK12V 31 11 LINK13B3  IMS1
  1 PLNK12V 32 12 LINK13B4  IMS1
  2 PLNK12C 33 13 LINK13C2  IMS1
  3 PLNK12M 34 14 LINK13M2  IMS1
  4 N/A     35 15 LINK13U2  IMS1
 10 PLNK12V 36 16 LINK13V1  IMS1
  N/A     37  3 LINK23V2  IMS1
 12 PLNK13V 38 18 LINK13V2  IMS1
  7 N/A     43 44 ELINK124  IMS1

```

Examples for /DISPLAY ASSIGNMENT Command

```
6 N/A      51  41 ELINK1MS  IMS1
10 PLNK12V 80  300 LINK13X  IMS1
10 PLNK12V 266 2036 LINK13V  IMS1
*97258/170653*
```

Entry ET:

```
/DISPLAY ASSIGNMENT SYSID 22 23 24
```

Response ET:

```
LINK PLINK  SIDR SIDL MSNAME
  2 BLCB2BSC 22  24 ALBANY
 23      IS LOCAL
 24      IS LOCAL
*90280/072902*
```

Example 2 for /DISPLAY ASSIGNMENT Command

Entry ET:

```
/DIS ASMT USER IMSUS01 IMSUS02
```

Response ET:

```
USER  USERID  ID      NODE
IMSUS01 IMSUS01      DTSLU201 I/O- IMSUS01
N/A     IMSUS01      L3270A   I/O- T3270LA
N/A     IMSUS02      L3270B   I/O- T3270LB
DT327002 IMSUS02      DT327002 I/O- DT327002
*92350/112229*
```

Entry ET:

```
/DIS ASMT USER IMSUS01*
```

Response ET:

```
USER  USERID  ID      NODE
IMSUS01C N/A      I/O- NONE
IMSUS01D N/A      I/O- NONE
IMSUS01  IMSUS01      DTSLU201 I/O- IMSUS01
N/A     IMSUS01      L3270A   I/O- T3270LA
*92350/113904*
```

Entry ET:

```
/DIS ASMT USER ALL
```

Response ET:

```
USER  USERID  ID      NODE
CA13                                     I/O- CA1SP3T1, CA1SP3T2
IMSUS01C N/A      I/O- NONE
IMSUS01D N/A      I/O- NONE
LU6SPA  N/A      LU6NDPF I/O- LU6LTPA1
LU6SPB  N/A      I/O- LU6LTPB1, LU6LTPB2
DT327002 IMSUS02      DT327002 I/O- DT327002
IMSUS03  IMSUS03      DTSLU601 I/O- IMSUS03
IMSUS01  IMSUS01      DTSLU201 I/O- IMSUS01
IMSUS05  N/A      I/O- NONE
N/A     IMSUS02      L3270B   I/O- T3270LB
N/A     IMSUS01      L3270A   I/O- T3270LA
N/A     IMSUS04      L3270C   I/O- T3270LC
*92350/114845*
```

Example 1 for /DISPLAY CCTL Command

Entry ET:
 /DISPLAY CCTL

Response ET:
 CCTL STATUS
 CICS1
 89067/114857

Example 2 for /DISPLAY CCTL Command

Entry ET:
 /DISPLAY CCTL ALL

Response ET:

CCTL	PSEUDO-RTKN	RECOVERY-TOKEN	REGID	PSBNAME	STATUS
CICS1		0000000000000000	3		ATTACHED
		0000000000000000	2		AVAILABLE
		0000000000000000	1		AVAILABLE

89067/113236

Example 3 for /DISPLAY CCTL Command

Entry ET:
 /DISPLAY CCTL CICS1

Response ET:

CCTL	PSEUDO-RTKN	RECOVERY-TOKEN	REGID	PSBNAME	STATUS
CICS1		9FFA9568FF594301	3	BMP255	ATTACHED
		9FFA956B7AE24E00	2	BMP255	ACTIVE
		0000000000000000	1		AVAILABLE

89067/113251

Example 4 for /DISPLAY CCTL Command

Entry ET:
 /DISPLAY CCTL CICS1 ACTIVE

Response ET:

CCTL	PSEUDO-RTKN	RECOVERY-TOKEN	REGID	PSBNAME	STATUS
CICS1		9FFA967C26D69802	2	BMP255	ATTACHED
		9FFA967ACF9EB802	1	BMP255	ACTIVE

89067/114557

Example 5 for /DISPLAY CCTL Command

Entry ET:
 /DISPLAY CCTL CICS1 INDOUBT

Response ET:

CCTL	PSEUDO-RTKN	RECOVERY-TOKEN	REGID	PSBNAME	STATUS
CICS1		000100C0		BMP255	ATTACHED
		00010040		BMP255	INDOUBT
		9FFA956B7AE24E00			INDOUBT
		9FFA9568FF594301			INDOUBT

89067/113413

Example for /DISPLAY CONVERSATION Command

Example for /DISPLAY CONVERSATION Command

Entry ET:

```
/DISPLAY CONVERSATION
```

Response ET:

```
TERMINAL USER  ID STATUS  
NO CONVERSATIONS  
*91113/182917*
```

Entry ET:

```
/DISPLAY CONVERSATION
```

Response ET:

```
TERMINAL USER  ID STATUS  
11-  2          0001 HELD  
 4-  2          0002 ACTIVE, SCHEDULED  
11-  4          0010 HELD  
 2-  1          0011 HELD  
 5-  1          0012 ACTIVE  
*91115/135706*
```

Entry ET:

```
/DISPLAY CONVERSATION
```

Response ET:

```
TERMINAL USER  ID STATUS  
LUNAME1  USERID1 0001 ACTIVE  
DT327001 IMSUS01 0005 ACTIVE  
LUNAME2          0002 ACTIVE, SCHEDULED  
LUNAME3  USERID4 0003 ACTIVE, SCHEDULED  
LUNAME1  USERID4 0004 SCHEDULED  
*90332/114253*
```

Entry ET:

```
/DISPLAY CONVERSATION BUSY
```

Response ET:

```
TERMINAL USER  ID STATUS  
NO BUSY CONVERSATIONS  
*91113/182959*
```

Entry ET:

```
/DISPLAY CONVERSATION BUSY
```

Response ET:

```
TERMINAL USER  ID STATUS  
 2-  1          0001 ACTIVE, SCHEDULED  
 4-  2          0010 ACTIVE, SCHEDULED  
 4-  1          0011 ACTIVE, SCHEDULED  
*91113/192021*
```

Entry ET:

```
/DISPLAY CONVERSATION BUSY LINE 4 PTERM ALL
```

Response ET:

Example for /DISPLAY CONVERSATION Command

```
TERMINAL USER ID STATUS
4- 2 0010 ACTIVE, SCHEDULED
4- 1 0011 ACTIVE, SCHEDULED
*91113/192101*
```

Entry ET:

```
/DISPLAY CONVERSATION BUSY
```

Response ET:

```
TERMINAL USER ID STATUS
NETWORK1.LUNAME1 USERID1 0001 ACTIVE
DT327001 IMSUS01 0005 ACTIVE
NID2.LUNAME2 0002 ACTIVE,SCHEDULED
LUNAME3 USERID4 0003 ACTIVE,SCHEDULED
NETWORK1.LUNAME1 USERID4 0004 ACTIVE
*92232/114253*
```

Entry ET:

```
/DISPLAY CONVERSATION HELD
```

Response ET:

```
TERMINAL USER ID STATUS
NO HELD CONVERSATIONS
*91113/183022*
```

Entry ET:

```
/DISPLAY CONVERSATION HELD NODE NSLUTP6
```

Response ET:

```
TERMINAL USER ID STATUS
NSLUTP6 SPOOLA 0007 HELD
NSLUTP6 SPOOLC 000A HELD
*91113/183033*
```

Entry ET:

```
/DISPLAY CONVERSATION IDLE
```

Response ET:

```
NUMBER OF IDLE CONVERSATIONS
65535
*91113/183043*
```

Example for /DISPLAY CQS Command

Entry ET:

```
/DISPLAY CQS
```

Response ET:

```
JOBNAME VERS# STATUS
CQS1 1.1 CONNECTED
*95200/170817*
```

Explanation: IMS is connected to the Common Queue Server, CQS1.

Examples for /DISPLAY DATABASE Command

Example 1 for /DISPLAY DATABASE Command

Entry ET:

```
/DISPLAY DATABASE ALL
```

Response ET:

DATABASE	TYPE	TOTAL	UNUSED	TOTAL	UNUSED	ACC	CONDITIONS
DD41M702	DL/I					EX	NOTOPEN
DD41M803	DL/I					EX	NOTOPEN
DEDBJN21	DEDB	SEQ	DEPEND	DIRECT	ADDRES	EX	NOTOPEN
DB21AR0	AREA	N/A	N/A	N/A	N/A		NOTOPEN
DB21AR1	AREA	N/A	N/A	N/A	N/A		NOTOPEN
DB21AR2	AREA	N/A	N/A	N/A	N/A		NOTOPEN
DB21AR3	AREA	N/A	N/A	N/A	N/A		NOTOPEN
DB21AR4	AREA	N/A	N/A	N/A	N/A		NOTOPEN
DB21AR5	AREA	N/A	N/A	N/A	N/A		NOTOPEN
DB21AR6	AREA	N/A	N/A	N/A	N/A		NOTOPEN
DB21AR7	AREA	N/A	N/A	N/A	N/A		NOTOPEN
DB21AR8	AREA	N/A	N/A	N/A	N/A		NOTOPEN
DB21AR9	AREA	N/A	N/A	N/A	N/A		NOTOPEN
DB21AR10	AREA	N/A	N/A	N/A	N/A		NOTOPEN
DB21AR11	AREA	N/A	N/A	N/A	N/A		NOTOPEN
DEDBJN22	DEDB	SEQ	DEPEND	DIRECT	ADDRES	EX	NOTOPEN
DB22AR0	AREA	N/A	N/A	N/A	N/A		NOTOPEN
DB22AR1	AREA	N/A	N/A	N/A	N/A		NOTOPEN
DEDBJN23	DEDB	SEQ	DEPEND	DIRECT	ADDRES	EX	NOTOPEN
DB23AR0	AREA	N/A	N/A	N/A	N/A		NOTOPEN
DB23AR1	AREA	N/A	N/A	N/A	N/A		NOTOPEN
DIMSRN01	DL/I					EX	NOTOPEN
DIMSRN02	DL/I					EX	NOTOPEN
DIMSRN03	DL/I					EX	NOTOPEN

89184/142639

Entry ET:

```
/DISPLAY DB DD41M803 BKERR
```

Response ET:

```
DATABASE
DD41M803
  ERROR DD  TYPE      BLOCK
  DD41M803  IOT      0000003F
*90135/161902*
```

Explanation: An I/O toleration error queue element exists for database DD41M803 on a newly created active system in an XRF environment.

Following an /UNLOCK SYSTEM command on the above system, the /DISPLAY DB DD41M803 BKERR command would yield the following display:

```
DATABASE
DD41M803
  NO EEQE OR INCOMPLETE BACKOUT INFORMATION AVAILABLE
*90135/163500*
```

Example 2 for /DISPLAY DATABASE Command

Entry ET:

```
/DIS DB BE3ORDER BE3PARTS.
```

Response ET:

Examples for /DISPLAY DATABASE Command

```
DATABASE TYPE TOTAL UNUSED TOTAL UNUSED ACC CONDITIONS
BE3ORDER DL/I EX STOPPED, LOCK, NOTOPEN,
RECALL
BE3PARTS DL/I EX NOTOPEN, RECALL
*94277/124039*
```

Example 3 for /DISPLAY DATABASE Command

Entry ET:

```
/DIS DB RECALL.
```

Response ET:

```
DATABASE TYPE TOTAL UNUSED TOTAL UNUSED ACC CONDITIONS
BE3ORDER DL/I EX STOPPED, LOCK, NOTOPEN,
RECALL
BE3PARTS DL/I EX NOTOPEN, RECALL
IVPDB1 DL/I UP STOPPED, LOCK, NOTOPEN,
RECALL
IVPDB2 DL/I UP NOTOPEN, RECALL
*94277/124119*
```

Example 4 for /DISPLAY DATABASE Command

Entry ET:

```
/DISPLAY DATABASE DEDBJN21 BKERR
```

Response ET:

```
DATABASE
DEDBJN21
  ERROR DD TYPE BLOCK
DB21AR0 IOT 00015000
DB21AR0 IOT/VSO 00000001
DB21AR1 IOT 00054000
DB21AR1 IOT/VSO 00000001
```

Explanation: The /DIS DATABASE command with the BKERR keyword does not display individual RBAs for I/O tolerated non-SDEP CIs of a DEDB area defined with the Virtual Storage Option (VSO). Instead, a single entry with a value of 00000001 is displayed and the EEQE type is set to IOT/VSO. I/O tolerated SDEP CIs for the area are displayed individually by RBA.

Example 5 for /DISPLAY DATABASE Command

Entry ET:

```
/DISPLAY DATABASE OFR
```

Response ET:

```
DATABASE TYPE TOTAL UNUSED TOTAL UNUSED ACC CONDITIONS
BE2PCUST DL/I EX ALLOCS OFR
BE3ORDER DL/I EX ALLOCS OFR
BE3ORDRX DL/I EX ALLOCS OFR
BE3PARTS DL/I EX ALLOCS OFR
BE3PSID1 DL/I EX ALLOCS OFR
*91240/132406* SYS3
```

Example for /DISPLAY DBD Command

Entry ET:

```
/DISPLAY DBD MSDBLM01 MSDBLM02 MSDBLM03 MSDBLM04
```

Response ET:

Example for /DISPLAY DBD Command

DBD-NAME	TYPE	PSB-NAME	ACCESS
MSDBLM01	MSDB	DDLTLMO6	R/W
		DDLTLMO7	R/W
MSDBLM02	MSDB	DDLTLMO6	R/W
		DDLTLMO7	R/W
MSDBLM03	MSDB	DDLTLMO6	R/W
		DDLTLMO7	R/W
MSDBLM04	MSDB	DDLTLMO6	R/W
		DDLTLMO7	R/W

91068/110958

Example for /DISPLAY DESCRIPTOR Command

Entry ET:

/DISPLAY DESCRIPTOR ALL

Response ET:

DESC	LUNAME	TPNAME	MODE	SIDE	SYNCLEVEL	TYPE
LU62DES1	LUNAME4	ACCOUNT	ALPHA	SIDENME1	CONFIRM	MAPPED
LU62DES2	LUNAME7	APPLE67890123456+	BETHA	SIDENME2	NONE	BASIC

789END

90332/114253

Entry ET:

/DISPLAY DESCRIPTOR ALL

Response ET:

DESC	LUNAME	MODE	SIDE	SYNCLEVEL	TYPE
LU62DES1	NID2.LUNAME4	ALPHA	SIDENME1	CONFIRM	MAPPED
TPNAME: ACCOUNT					
LU62DES2	LUNAME7	BETHA	SIDENME2	NONE	BASIC
TPNAME: APPLE67890123456789012345					

92232/114253

Example for /DISPLAY FDR Command

Entry ET:

/DISPLAY FDR

Response ET:

FDR-REGION	GROUPNAME	TIMEOUT
ACTIVE	FDBRSYS3	055

96232/114253

Example for /DISPLAY FPVIRTUAL Command

Entry ET:

/DISPLAY FPVIRTUAL

Response ET:

DATASPACE	MAXSIZE(4K)	AREANAME	AREASIZE(4K)	OPTION	SYS3
001	524188	DB21AR1		76	PREO
		DB21AR11		152	
000	524188				DREF
		DB21AR0		19	PREO, PREL
		DB21AR10		19	PREO, PREL
		DB21AR2		38	PREO, PREL

93076/173254

Example for /DISPLAY FPVIRTUAL Command

Entry ET:

```
/DISPLAY FPVIRTUAL
```

Response ET:

```
DATASPACE MAXSIZE(4K) AREANAME AREASIZE(4K) OPTION
          000          524263          DREF
          DB21AR4          167 PRE0, PREL
          DB21AR2          42 PRE0, PREL
          001          524263
          DB21AR3          84 PRE0
          DB21AR1          84
CF        POOL  CACHE AREANAME AREASIZE(4K) OPTION
CF1       4K    N     AREAFR01 1000 PRE0, PREL
CF2       512  Y     AREA2     100 PRE0, PREL
*95225/173254*
```

Entry ET:

```
/DISPLAY FPVIRTUAL
```

Response ET:

```
DATASPACE MAXSIZE(4K) AREANAME AREASIZE(4K) OPTIONS
NO AREAS LOADED INTO DATA SPACES
*90254/080845*
```

Example for /DISPLAY HSB Command

Entry ET (Active System):

```
/DISPLAY HSB
```

Response ET:

```
RSENAME      STATUS      MODE      IMS-ID      VTAM UVAR
DFSRSENM     ACTIVE          IMSA      USERVAR1
SURVEILLANCE INTERVAL    TIMEOUT    STATUS
LOG           10          99        ACTIVE
LNK           3          9         ACTIVE
RDS           10          99        ACTIVE
*89340/094236*
```

Entry ET (Alternate System):

```
/DISPLAY HSB
```

Response ET:

```
RSENAME      STATUS      PHASE      IMS-ID      VTAM UVAR  ACT-ID      LOG-TIME
DFSRSENM     BACKUP    TRK        IMSB        USERVAR1  IMSA        09:42:56
              BACKUP SYSTEM
SURVEILLANCE INTERVAL    TIMEOUT    STATUS      INTERVAL    TIMEOUT    STATUS
LOG           10          99        INACTIVE    10          99        INACTIVE
LNK           3          9         INACTIVE    3           9         INACTIVE
RDS           10          99        INACTIVE    10          99        INACTIVE
TAKEOVER CONDITIONS - ALARM
VTAM                                *RDS LOG
*89340/094256*
```

Example for /DISPLAY HSSP Command

Entry ET (Active System):

```
/DISPLAY HSSP
```

Response ET:

Example for /DISPLAY HSSP Command

```
RGN TYP JOBNAME PSB DATABASE AREAS-OPTIONS SYS3
1 BMP CSSP020B BMPFPE02 DEDBJN21 IC=(1,C) SYS3
*89122/094325* SYS3
```

Example for /DISPLAY LINE Command

Entry ET:

```
/DISPLAY LINE 1, 3, 5, 10
```

Response ET:

LINE	TYPE	ADDR	RECD	ENQCT	DEQCT	QCT	SENT
1	CONSOLE	****	0	1	0	1	6
3	2740-II	****	0	0	0	0	0 STOPPED IDLE
5	3270 R	0C9	43	51	43	8	79

85098/141118

Entry ET:

```
/DISPLAY LINE ALL
```

Response ET:

LINE	TYPE	ADDR	RECD	ENQCT	DEQCT	QCT	SENT
1	CONSOLE	****	4	1	1	0	6
2	2740-I	****	0	0	0	0	0 IDLE NOTOPEN
3	2740-II	****	0	0	0	0	0 STOPPED IDLE
4	2740 NSC	****	0	0	0	0	0 STOPPED IDLE
5	3270 R	0C9	43	51	43	8	79
6	3270 L	****	0	0	0	0	0 STOPPED IDLE
7	3270 L	1234	20	22	20	2	0
8	SYSTEM/3	****	0	0	0	0	0 STOPPED IDLE
9	SYSTEM/7	****	0	0	0	0	0 STOPPED IDLE
10	2741	****	0	0	0	0	0 STOPPED IDLE
11	2741 SW	****	0	0	0	0	0 STOPPED IDLE
12	2741 SW	****	0	0	0	0	0 STOPPED IDLE
13	RDR/PTR	****	0	0	0	0	0 STOPPED IDLE
14	RDR/PTR	****	0	0	0	0	0 STOPPED IDLE
15	RDR/PTR	****	0	0	0	0	0 STOPPED IDLE
16	RDR/PTR	****	0	0	0	0	0 STOPPED IDLE
17	2740 SW	****	0	0	0	0	0 STOPPED IDLE
18	DIAL	POOL		0	0	0	0 POOL STOPPED IDLE

85098/141244

Entry ET:

```
/DISPLAY LINE 5 PTERM ALL
```

Response ET:

LIN/PTE	TYPE	ADDR	RECD	ENQCT	DEQCT	QCT	SENT
5-	1 3270 R	404081	3	6	6	0	8
5-	2 3270 R	C14081	0	6	6	0	7
5-	3 3270 R	C1C181	40	30	28	2	61
5-	4 3270 R	C1C281	0	3	0	3	0 COMPINOP
5-	5 3270 R	C1C381	0	3	0	3	0 COMPINOP
5-	6 3270 R	C1C481	0	3	3	0	3

85098/141412

Entry ET:

```
/DISPLAY LINE PSTOPPED, PUR
```

Response ET:

Example for /DISPLAY LINE Command

LINE	TYPE	ADDR	RECD	ENQCT	DEQCT	QCT	SENT			
4	3270 R	****	4	8	8	0	33	PUR	IDLE	NOTOPEN
18	3270 R	022	0	4	4	0	4	PSTOPPED	IDLE	

85098/141283

Example 1 for /DISPLAY LINK Command

Entry ET:

/DISPLAY LINK ALL

Response ET:

LINK PARTNER	RECD	ENQCT	DEQCT	QCT	SENT	
1 AB	0	0	0	0	0	PSTOPPED IDLE COLD
2 AC	8	21	12	9	12	NOTIDLE-C0C ACTV TRA
3 AD	4	6	6	0	6	IDLE ACTV TRA
4 BC	0	0	0	0	0	PSTOPPED IDLE COLD
5 AE	0	3	0	3	0	PSTOPPED IDLE

91293/171240

Entry ET:

/DISPLAY LINK 1 3

Response ET:

LINK PARTNER	RECD	ENQCT	DEQCT	QCT	SENT	
1 AB	0	1	0	1	0	IDLE
3 AD	0	0	0	0	0	PSTOPPED IDLE

90280/072548

Example 2 for /DISPLAY LINK Command

Entry ET:

/DISPLAY LINK ALL MODE

Response ET:

LINK PARTNER	DEF	MODETBL	ACT	MODETBL
1 AB	N/A		N/A	
2 AC	N/A		N/A	
3 AD	N/A		N/A	
4 AE	N/A		N/A	
5 AK	MSC12V			
6 AL	MS12V			

90179/102238

Explanation: N/A is displayed in the mode table name fields of non-VTAM MSC links. MSC12V and MS12V are mode table names defined at system definition or established using the /CHA command.

Example 1 for /DISPLAY LTERM Command

Entry ET:

/DISPLAY LTERM DIALQ1 INQUIRY1 L2740S1 L2740SM1 MASTER WTOR

Response ET:

LTERM	ENQCT	DEQCT	QCT	
DIALQ1	0	0	0	
INQUIRY1	0	0	0	
L2740S1	1	1	0	STOP
L2740SM1	1	0	1	STOP
MASTER	12	12	0	
WTOR	0	0	0	

90295/123755

Examples for /DISPLAY LTERM Command

Example 2 for /DISPLAY LTERM Command

Entry ET:

```
/DISPLAY LTERM ALL
```

Response ET:

LTERM	ENQCT	DEQCT	QCT	
DSPLY1	0	0	0	
DSPLY2	0	0	0	
DSPLY3	0	0	0	
MASTER	8	8	0	
WTOR	0	0	0	
2740AA1	0	0	0	
2740AA2	0	0	0	
2740AA3	0	0	0	
2740C1	0	0	0	
2740C2	0	0	0	
2740SM1	2	2	0	STOP
2740SM2	2	2	0	STOP
2740S1	1	1	0	
2740S2	1	1	0	QERR
LU6A	1	1	0	QLOCK

91276/125448

Example 3 for /DISPLAY LTERM Command

Entry ET:

```
/DISPLAY LTERM LTERMA LTERM123 ABCD QCNT
```

Response ET:

LTERM	GBLQCT
LTERMA	1000000000
LTERM123	25
ABCD	0

95200/170817

Example for /DISPLAY LUNAME Command

Entry ET:

```
/DISPLAY LUNAME luname1 luname2 INPUT
```

Response ET:

LUNAME	#APPC-CONV
LUNAME1	15 TRA
LUNAME2	5

90332/114253

Entry ET:

```
/DISPLAY LUNAME luname1 luname3 BADLUNME OUTPUT
```

Response ET:

LUNAME	ENQCT	DEQCT	QCT	CONVCT
LUNAME1	5	3	2	2
LUNAME3	5	4	1	1

BADLUNME IS INVALID
90332/114253

Entry ET:

```
/DISPLAY LUNAME LUNAME1 TPNAME TPNAME1 BADTPNME
```

Example for /DISPLAY LUNAME Command

Response ET:

LUNAME/TPNAME	ENQCT	DEQCT	QCT
LUNAME1			
-TPNAME1	0	0	0 STO
BADTPNME IS INVALID			
90332/114253			

Entry ET:

```
/DISPLAY LUNAME LUNAME1 TPNAME ALL OUTPUT
```

Response ET:

LUNAME/TPNAME	ENQCT	DEQCT	QCT
LUNAME1			
-TPNAME1	0	0	0 STO
-TPNAME7890123456+	5	3	2 TRA,STO
789END			
-DFSSIDE	2	2	0
90332/114253			

Entry ET:

```
/DISPLAY LUNAME LUNAME2 TPNAME ALL
```

Response ET:

LUNAME/TPNAME	ENQCT	DEQCT	QCT
NO TPNAME(S) ASSOCIATED WITH LUNAME			
90332/114253			

Entry ET:

```
/DISPLAY LUNAME 'network1.luname1' luname3 'nid2.luname4' OUTPUT
```

Response ET:

LUNAME	ENQCT	DEQCT	QCT	CONVCT
NETWORK1.LUNAME1	5	3	2	2
LUNAME3	5	4	1	1
NID2.LUNAME4	0	0	0	0
92232/114253				

Entry ET:

```
/DISPLAY LUNAME 'network1.luname1' TPNAME tpname1 badtpnme
```

Response ET:

LUNAME/TPNAME	ENQCT	DEQCT	QCT
NETWORK1.LUNAME1			
-TPNAME1	0	0	0 STO
-BADTPNME	IS INVALID		
92232/114253			

Entry ET:

```
/DISPLAY LUNAME ALL INPUT
```

Response ET

LUNAME	#APPC-CONV
NET1.LU1	0 STO,TRA
NET2.LU1	0
LU3	0 STO,TRA

Example for /DISPLAY LUNAME Command

```
NET4.LU3          0 STO
NET5.LU5          0 TRA
FUTURE INPUT:  STO,TRA
*93069/114435*
```

Entry ET:

```
/DISPLAY LUNAME ALL OUTPUT
```

Response ET:

```
LUNAME          ENQCT      DEQCT      QCT      CONVCT
NET1.LU1        0          0          0          0 STO
NET2.LU1        0          0          0          0 TRA
LU3             0          0          0          0 STO,TRA
NET4.LU3        0          0          0          0 TRA
NET5.LU5        0          0          0          0 STO
FUTURE OUTPUT:  STO,TRA
*93069/114435*
```

Entry ET:

```
/DISPLAY LUNAME LUNAMEA TPNAME TPNAME1 TPNAME2 QCNT
```

Response ET:

```
LUNAME/TPNAME      GBLQCT
LUNAMEA
-TPNAME1           25
-TPNAME2           IS INVALID
*95200/170817*
```

Entry ET:

```
/DISPLAY LUNAME LUNAMEA1 LUNAMEB LUNAMEC QCNT
```

Response ET:

```
LUNAME          GBLQCT
LUNAMEA1 1000000000
LUNAMEB         25
LUNAMEC IS INVALID
*95200/170817*
```

Entry ET:

```
/DISPLAY LUNAME LUNAMEB TPNAME ALL QCNT
```

Response ET:

```
LUNAME/TPNAME      GBLQCT
LUNAMEB
-TPNAMEB1         10
-TPNAMB1234567890+ 0
12345678901234567890123456789012345678901234567890
*95200/170817*
```

Example for /DISPLAY MASTER Command

Entry ET:

```
/DISPLAY MASTER
```

Response ET:

```
LTERM MASTER
PTERM 3- 1
*89117/130245*
```

Example for /DISPLAY MODIFY Command

In the following examples for /DISPLAY MODIFY, /MODIFY PREPARE has already succeeded.

Entry ET:

```
/DISPLAY MODIFY ALL
```

Response ET:

```
LIBRARY IMSACBA (A) OLC.ACBLIB.ALL
LIBRARY FORMATA (I) IMSQA.FMT1
LIBRARY MODBLKSA (A) I41RTS42.CMODBLKS
LIBRARY MATRIXA (A) OLC1.MATRIX1
LIBRARY IMSACBB (I) OLC.ACBLIB.ALL
LIBRARY FORMATB (A) IMSQA.FMT1
LIBRARY MODBLKSB (I) I41RTS42.CMODBLK1
LIBRARY MATRIXB (I) OLC1.MATRIX2
DATABASE OLCDB088 /DBR ACTIVE
DATABASE OLCDB101 PSB SCHEDULED
PROGRAM OLCPB021 SCHEDULED
PROGRAM OLCPB109 SCHEDULED
RTCODE OLCRC056 ACTIVE
TRAN OLCTB105 QUEUING 1
TRAN CDEBTRN5 CONVERSATION TERM/USER 4- 2 ID= 0009
TRAN OLCTB109 SCHEDULED
TRAN CDEBTRN8 CONVERSATION TERM/USER L3270D ID= 0002
TRAN OLCTB111 QUEUING 5
TRAN CDEBTRN2 CONVERSATION TERM/USER DYNT0001 IMSUS01 ID= 0005
TRAN CDEBTRN3 CONVERSATION TERM/USER 12- 1 ID= 0008
TRAN CDEBTRN1 CONVERSATION TERM/USER IMSUS12 ID= 0001
DISPLAY MODIFY COMPLETE
*93336/093025*
```

Entry ET:

```
/DISPLAY MODIFY DBS
```

Response ET:

```
DATABASE CALENDER AREAS OPEN:
  AREA FEBRUARY
  AREA APRIL
  AREA JULY
  AREA AUGUST
  AREA SEPTEMBR
  AREA OCTOBER
  AREA DECEMBER
DATABASE CALENDER RANDOMIZER: RMOD3
DEDBS SHARING RANDOMIZER: RMOD3
DATABASE DEDBJN21 RANDOMIZER: RMOD3
RMOD3 NOT LOADED
DATABASE DEDBJN22 RANDOMIZER: RMOD5
RMOD5 NOT LOADED
DISPLAY MODIFY COMPLETE *95299/161529*
```

Entry ET:

```
/DISPLAY MODIFY TRS
```

Response ET:

Example for /DISPLAY MODIFY Command

```
TRAN      OLCFT112      QUEUING      2
TRAN      OLCFT115      QUEUING      23
PROGRAM   OLCFP115      QUEUING      1
TRAN      CDEBTRN8      GLOBAL QUEUE COUNT INTERNAL ERROR
TRAN      OLCFT116      QUEUING      6
DISPLAY MODIFY COMPLETE *96193/135935*
```

Explanation: Work is in progress that will cause online change to fail, because several transactions and a FP program have a global queue count on the shared queues. The global queue count for transaction CDEBTRN8 could not be determined because of an internal error.

Example for /DISPLAY MSNAME Command

Entry ET:

```
/DISPLAY MSNAME ALL
```

Response ET:

```
MSNAME    ENQCT    DEQCT    QCT
SYSTEM2A  0           0         0
SYSTEM2B  0           0         0
FRESNO    0           0         0
BOSTON    0           0         0
ALBANY    0           0         0
TEST1     0           0         0
*91350/053859*
```

Entry ET:

```
/DISPLAY MSNAME ALL
```

Response ET:

```
MSNAME    ENQCT    DEQCT    QCT    IMS1
LINK23B4  0         0         0    DYNAMIC  IMS1
LINK12V1  0         0         0     IMS1
LINK23U2  0         0         0    DYNAMIC  IMS1
ELINK211  0         0         0    DYNAMIC  IMS1
LINK13B3  0         0         0     IMS1
LINK13V   0         0         0     IMS1
LINK12V   0         0         0     IMS1
LINK13C2  0         0         0     IMS1
LINK13X   0         0         0     IMS1
LINK12V2  0         0         0     IMS1
LINK13M2  0         0         0     IMS1
LINK13V2  0         0         0     IMS1
ELINK124  0         0         0     IMS1
LINK23V1  0         0         0    DYNAMIC  IMS1
LINK12B1  0         0         0     IMS1
LINK12B2  0         0         0     IMS1
LINK12Y   0         0         0     IMS1
ELINK120  0         0         0     IMS1
LINK13B4  0         0         0     IMS1
LINK21V3  0         0         0    DYNAMIC  IMS1
ELINK1MS  0         0         0     IMS1
LINK12M1  0         0         0     IMS1
LINK23V   0         0         0    DYNAMIC  IMS1
LINK13U2  0         0         0     IMS1
LINK23B3  0         0         0    DYNAMIC  IMS1
ELINK224  0         0         0    DYNAMIC  IMS1
LINK23X   0         0         0    DYNAMIC  IMS1
LINK23V2  0         0         0    DYNAMIC  IMS1
ELINK121  0         0         0     IMS1
LINK23C2  0         0         0    DYNAMIC  IMS1
LINK12U1  0         0         0     IMS1
```


Example for /DISPLAY MSNAME Command

```
LINK23M2      0      0      0 DYNAMIC  IMS1
ELINK122      0      0      0      IMS1
ELINK222      0      0      0 DYNAMIC  IMS1
LINK12C1      0      0      0      IMS1
LINK13V1      0      0      0      IMS1
ELINK123      0      0      0      IMS1
PTH3TSTB     0      0      0      IMS1
*97258/175636*
```

Example 1 for /DISPLAY NODE Command

Entry ET:

```
/DISPLAY NODE DTSLU* LUP1 ENDS01 LU6NDPA LU6NDPH
```

Response ET:

NODE-USR	TYPE	CID	RECD	ENQCT	DEQCT	QCT	SENT	SYS3
DTSLU002	SLUP	010000D3	0	0	0	0	0	SIGN(IMSUS05) IDLE CON
DTSLU202	SLU2	010000CB	0	0	0	0	1	SIGN(IMSUS02) IDLE CON
DTSLU603	LUT6							
-IMSUS04		010000C7	0	0	0	0	0	SIGN(IMSUS04) IDLE CON PRI
DTSLU205	SLU2	010000A5	2	1	1	0	3	SIGN(IMSUS14) IDLE CONV-ACT CON
DTSLU204	SLU2	010000A4	3	0	0	0	4	SIGN(IMSUS13) IDLE CON EXC
DTSLU203	SLU2	010000A3	3	0	0	0	4	SIGN(IMSUS12) PRST(WTOR) IDLE MFST CON
LUP1	SLUP	010000CD	0	0	0	0	0	IDLE CON STATIC
ENDS01	SLU2	010000A6	1	0	0	0	2	SIGN(IMSUS08) IDLE CON STATIC
LU6NDPA	LUT6							
-LU6SPG		010000BB	0	0	0	0	0	IDLE CON PRI
-CA12		010000BD	0	0	0	0	0	IDLE CON PRI
-CA11		010000BF	0	0	0	0	0	IDLE CON PRI
LU6NDPH	LUT6							
-CA14		010000C1	0	0	0	0	0	IDLE CON PRI
-N/A		00000000	0	0	0	0	0	IDLE STATIC
-N/A		00000000	0	0	0	0	0	IDLE STATIC

90240/134730

Explanation: User IMSUS05 is signed on to dynamic node DTSLU002. User IMSUS02 is signed on to dynamic node DTSLU202. User IMSUS04 is allocated to ISC node DTSLU603. User IMSUS14 is signed on to dynamic node DTSLU205 and has an active conversation. User IMSUS13 is signed on to dynamic node DTSLU204 and is in exclusive mode. User IMSUS12 is signed on to dynamic node DTSLU203 and has a preset destination of lterm WTOR and is in MFS test mode. Static node LUP1 is logged on. User IMSUS08 is signed on to static node ENDS01. Users LU6SPG, CA12, and CA11 are allocated to static ISC node LU6NDPA, which means node LU6NDPA has 3 active parallel sessions. User CA14 is allocated to static ISC node LU6NDPH, which means node LU6NDPH has one active parallel session.

Example 2 for /DISPLAY NODE Command

Entry ET:

```
/DISPLAY NODE NSLUTP1 NSLUTP6 NPLUTP6
```

Response ET:

Examples for /DISPLAY NODE Command

NODE-USR	TYPE	CID	RECD	ENQCT	DEQCT	QCT	SENT	
NSLUTP1	SLU1	00000000	0	0	0	0	0	IDLE
NSLUTP6	LUT6	00000000	5	3	2	1	5	IDLE
NPLUTP6	LUT6							
-A		00000000	1	1	1	0	1	IDLE FORCE
-B		00000000	10	25	13	12	9	IDLE
-N/A		00000000	0	0	0	0	0	IDLE
-C		00000000	0	4	4	0	4	IDLE

90229/083059

Entry ET:

/DISPLAY NODE ALL

Response ET:

NODE-USR	TYPE	CID	RECD	ENQCT	DEQCT	QCT	SENT	SYS3
WRIGHT	SLU2	00000000	0	0	0	0	0	IDLE
LUNS01	NT0	00000000	0	0	0	0	0	IDLE
WS12	FIN	00000000	0	0	0	0	0	IDLE
VR3275A1	3277	00000000	0	0	0	0	0	IDLE
VR3286A1	3286	00000000	0	0	0	0	0	IDLE
LUP1	SLUP	00000000	0	0	0	0	0	IDLE
Q3290A	SLU2	00000000	0	0	0	0	0	IDLE
LU6FP02	LUT6	00000000	0	0	0	0	0	IDLE
LU6NDPA	LUT6							
-N/A		00000000	0	0	0	0	0	IDLE
-N/A		00000000	0	0	0	0	0	IDLE
-N/A		00000000	0	0	0	0	0	IDLE
NDNTOXA1	NT0	00000000	0	0	0	0	0	ASR
ND3287A1	SLU1	00000000	0	0	0	0	0	ASR
ND3287A2	SLU1	00000000	0	0	0	0	0	IDLE
ND3287A3	SLU1	00000000	0	0	0	0	0	IDLE
ND3287A4	SLU1	00000000	0	0	0	0	0	ASR
NDSL2A1	SLU2	00000000	0	0	0	0	0	ASR
NDSL2A2	SLU2	00000000	1	1	0	1	1	ASR
NDSLUPA1	SLUP	00000000	0	0	0	0	0	ASR
NDSLUPA2	SLUP	00000000	0	0	0	0	0	IDLE
NDLU6XSG	LUT6	00000000	0	0	0	0	0	IDLE
NDLU6XPG	LUT6							
-N/A		00000000	0	0	0	0	0	ASR
-N/A		00000000	0	0	0	0	0	ASR
-N/A		00000000	0	0	0	0	0	ASR
-N/A		00000000	0	0	0	0	0	ASR

91213/100107 SYS3

Entry ET:

/DISPLAY NODE IN902D1 IN902D4

Response ET:

NODE-USR	TYPE	CID	RECD	ENQCT	QCT	SENT
IN902D1	SLU1	100121C5	125	125	0	125

91012/192544

Entry ET:

/DISPLAY NODE NLUTP6P USER C

Response ET:

NODE-USR	TYPE	CID	RECD	ENQCT	DEQCT	QCT	SENT
NLUTP6P	LUT6						
-C		00000000	0	10	8	2	8

90229/083059

Example 3 for /DISPLAY NODE Command

The following commands illustrate the use of /DISPLAY to monitor changes in the mode table values for a node.

Entry ET:

```
/DISPLAY NODE LUTYPEP1 MODE
```

Response ET:

```
NODE-USR TYPE   DEF MODETBL  ACT MODETBL
LUTYPEP1 SLUP   DEFRESP
*90179/100206*
```

Explanation: DEFRESP is the mode table name defined for node LUTYPEP1 at system definition. The session is not active so the ACT MODETBL field is blank.

Entry ET:

```
/OPN NODE LUTYPEP1
```

Response ET:

```
DFS058I OPNDST COMMAND COMPLETED
```

Entry ET:

```
/DISPLAY NODE LUTYPEP1 MODE.
```

Response ET:

```
NODE-USR TYPE   DEF MODETBL  ACT MODETBL
LUTYPEP1 SLUP   DEFRESP    DEFRESP
*90179/100508*
```

Explanation: A mode table name was not specified with the /OPNDST command so the default value defined at system definition was used to initiate the session.

Entry ET:

```
/CLS NODE LUTYPEP1
```

Response ET:

```
DFS058I CLSDST COMMAND COMPLETED
```

Entry ET:

```
/DISPLAY NODE LUTYPEP1 MODE
```

Response ET:

```
NODE-USR TYPE   DEF MODETBL  ACT MODETBL
LUTYPEP1 SLUP   DEFRESP
*90179/100630*
```

Explanation: Active mode table name displays as blank at normal session termination.

Entry ET:

```
/OPN NODE LUTYPEP1 MODE ALPHA.
```

Response ET:

```
DFS058I OPNDST COMMAND COMPLETED
```

Examples for /DISPLAY NODE Command

Entry ET:

```
/DISPLAY NODE LUTYPE1 MODE
```

Response ET:

```
NODE-USR TYPE   DEF MODETBL  ACT MODETBL
LUTYPEP1 SLUP  DEFRESP     ALPHA
*90179/100805*
```

Explanation: The mode table name specified with the /OPNDST command (ALPHA) is used to initiate the session. The default value specified at system definition (DEFRESP) is overridden by the /OPNDST command.

Example 4 for /DISPLAY NODE Command

The following example shows the display of all nodes with the automatic session restart designation.

Entry ET:

```
/DISPLAY NODE AUTOSR
```

Response ET:

```
NODE-USR TYPE   CID          RECD ENQCT DEQCT  QCT  SENT
WS12      FIN    00000000    0    0    0    0    0 ASR
NODE0005  FIN    00000000    0    0    0    0    0 ASR
NODE0006  FIN    00000000    0    0    0    0    0 ASR
NODE0007  FIN    00000000    0    0    0    0    0 ASR
NTOLUNS   NTO    00000000    0    0    0    0    0 ASR IDLE
NT02741   NTO    00000000    0    0    0    0    0 ASR IDLE
LU6NODE2  LUT6
-N/A      00000000    0    0    0    0    0 ASR IDLE
-N/A      00000000    0    0    0    0    0 ASR IDLE
-N/A      00000000    0    0    0    0    0 ASR IDLE
*90179/101609*
```

Example 5 for /DISPLAY NODE Command

Entry ET:

```
/DISPLAY NODE NODE1 NODE2 QCNT
```

Response ET:

```
NODE      GBLQCT
NODE1     100000
NODE2     25
*95200/170817*
```

Entry ET:

```
/DISPLAY NODE NODE1 USER USER1 USER2 QCNT
```

Response ET:

```
NODE/USER  GBLQCT
NODE1
-USER1     10
-USER2     0
*95200/170817*
```

Example for /DISPLAY OASN Command

Entry ET:

```
/DISPLAY OASN SUBSYS ALL
```

Example for /DISPLAY OASN Command

Response ET:

```
SUBSYS  OASN
SSTR
          0000000001
*90207/095627*
```

Example for /DISPLAY OLDS Command

Entry ET:

```
/DISPLAY OLDS
```

Response ET:

```
OLDS-DDNAME % FULL RATE ARCH-JOB   ARCH-STATUS OTHER-STATUS
*DFSOLP00      37   9                AVAILABLE
DFSOLP02                                AVAILABLE
DFSOLP01                                AVAILABLE
SINGLE OLDS LOGGING, SINGLE WADS LOGGING
AUTOMATIC ARCHIVE = SINGLE WADS LOGGING
WADS = *DFSWADS0 DFSWADS1
*89184/141407*
```

Example 1 for /DISPLAY OTMA Command

Entry ET:

```
/DISPLAY OTMA
```

Response ET:

```
GROUP/MEMBER   XCF-STATUS   USER-STATUS   SECURITY
HOANG
-APPL8         ACTIVE       SERVER        FULL
-CLIENT1      ACTIVE       ACCEPT TRAFFIC
*94165/165753*
```

Example 2 for /DISPLAY OTMA Command

Entry ET:

```
/DISPLAY OTMA
```

Response ET:

```
GROUP/MEMBER   XCF-STATUS   USER-STATUS   SECURITY
HOANG
-APPL8         NOT DEFINED  SERVER        FULL
-CLIENT1      ACTIVE       ACCEPT TRAFFIC
*94165/165753*
```

Example for /DISPLAY OVERFLOWQ Command

Entry ET:

```
/DISPLAY OVERFLOWQ STRUCTURE ALL
```

Response ET:

```
STRUC-RSCTYPE  OFLSTRUC-RSCNAME LUNAME-TMEMBER  TPNAME-TPIPE
IMMSGQ01      IMMSGQ01OFLW
TRANSACTION    TRANA
LTERM         LTERMX
SUSPENDTRAN    TRANA
APPC          TMSTMP- IMSA     LUNAME1         TPNAME1
SERIALTRAN     TRANABC IMSA
APPC          TMSTMP- IMSA
OTMA          TMSTMP- IMSA     TMEMBERA        TPIPEA
APPC          TMSTMP- IMSA     NETWORK2.LUNAME2  TPNM123456789012+
```

Example for /DISPLAY OVERFLOWQ Command

3456789012345678+
901234567890

```
OTMA          TMSTMP- IMSB
REMOTE        TRANB
REMOTE        LTERMA
UNKNOWN       ASIXTEENCHARNAME
REMOTE        MSNAMEA
IMSEMHQ01     OVERFLOW STRUCTURE IS NOT DEFINED
BALGRP        FPPSB1
LTERM         LTERMY
BALGRP        FPPSB2
*95200/170817*
```

Example 1 for /DISPLAY POOL Command

Entry ET:

```
/DISPLAY POOL ALL
```

Response ET:

NAME	SP#	CURR	MAX	GETS	FREES
IOSB	228	28K	28K	3	0
GIOB	228	0K	0K	0	0
OSWA	228	8K	8K	1	0
GOWA	228	0K	0K	0	0
PST	231	52K	56K	14	1
DPST	231	40K	44K	11	1
SAP	231	132K	132K	32	0
GQMW	231	16K	16K	4	0
LQMW	0	324K	324K	81	0
D1WA	228	8K	8K	2	0
DL2W	0	8K	8K	2	0
DG2W	231	4K	4K	1	0
QSAV	231	4K	16K	3	2
VRPL	231	16K	16K	4	0
LSAV	0	808K	808K	201	1
AWE	231	112K	112K	28	0
PDIR	231	36K	36K	1	0
DDIR	231	28K	28K	1	0
LCRE	241	4K	4K	1	0
PCIB	0	0K	0K	0	0
SIDX	241	4K	4K	1	0
RRE	241	4K	4K	1	0
SMB	231	62K	62K	1	0
BCPT	231	4K	4K	1	0
GESE	241	0K	0K	0	0
EPST	231	208K	208K	20	0
IDT	241	0K	0K	0	0
DBRC	231	0K	0K	0	0
TTAB	231	224K	224K	56	0
EZS	241	0K	0K	0	0
FNCB	231	0K	0K	0	0
TCBT	231	4K	4K	1	0
CMWU	231	12K	12K	3	0
FSRB	228	4K	4K	1	0
KLSD	0	0K	0K	0	0
IRLM	231	0K	0K	0	0
STTR	231	52K	52K	13	0
BQEL	231	0K	0K	0	0
USMU	229	0K	0K	0	0
RCTE	231	3K	3K	1	0
SLOG	231	4K	4K	1	0
ADSC	228	0K	0K	0	0
FPCP	231	0K	0K	0	0
AESL	231	0K	0K	0	0
XPST	231	16K	16K	4	0

Examples for /DISPLAY POOL Command

```

BXQE 231      16K      16K      4      0
SRBC 228      8K       8K       2      0
MSGP 241      4K       4K       1      0
LPST 251      8K       8K       2      0
CULE 231      4K       4K       1      0
RPST 241      4K       4K       1      0
VTCB 251     18K      18K       0      0
RECA  0      19K      19K       1      0
GSAV 231      0K       0K       0      0
FEIB 231      0K       0K       0      0
IEQE  0      0K       0K       0      0
L56X 231      4K       4K       1      0
X124 241      4K       4K       1      0
STAT 241      4K       4K       1      0
EQEL 241      0K       0K       0      0
TT24 231     24K      24K       6      0
LGWA 231    104K     104K     26      0
VWA  231      8K       8K       2      0
LGWX  0      0K       0K       0      0
LQB  251    104K     104K     0      0
RCNT 251      2K       2K       0      0
DDRE  0      0K       0K       0      0
CCB  0      0K       0K       0      0
LGND 251      8K       8K       2      0
USRD 251      4K       4K       1      0
LS24  0      2K       2K       1      0
GS24 231      0K       0K       0      0
CLLE 231     64K      64K     16      1
QMBA  0      8K       8K       1      0
AHDR 251      0K       0K       0      0
XMCI 241    180K     180K     45      1
DBPB 231      0K       0K       0      0
LG24  0     12K      12K       3      0
IAFP 231      0K       0K       0      0
RACW 231      0K       0K       0      0
LUB  251      0K       0K       0      0
TIB  251     28K      28K       1      0
DESC 251      0K       0K       0      0
PF62 251      0K       0K       0      0
QAB  251      0K       0K       0      0
LCLL  0     436K     436K    109      0
CBLK 251      0K       0K       0      0
SVPG 231     24K      24K       6      0
SVPL  0     148K     148K     37      0
SOPB  0      0K       0K       0      0
CBT POOLS      GLBL    1541K  LCL    2236K
MESSAGE QUEUE POOL:  BFRS/SIZE 20/2112
ENQ   6 DEQ   6 CAN   30 WAIT   0 I/O   15 ERR   0
QBLKS: MAX # RECORDS AVAIL 1332 CUR IN USE 3 = 0 %
SMSGQ: MAX # RECORDS AVAIL 5940 CUR IN USE 4 = 0 %
LMSGQ: MAX # RECORDS AVAIL 1350 CUR IN USE 4 = 0 %
MESSAGE FORMAT POOL: SIZE 49152 SPACE 48576 DIRS 9011
REQ1  2 I/O   2 DIR   4
WAIT  2 FREE 48432 ERR 0
SEQUENTIAL BUFFERING: STATUS = NOT INIT
MAX   N.A. FREE N.A. CURR   0K HIGH   0K
OSAM DB BUFFER POOL: ID 004K BSIZE 4K NBUF 1000 FX=Y/Y
LCTREQ 1765296 NEWBLK 0 ALTREQ 340800
PURGRQ 39371 FNDIPL 1370897 BFSRCH 1987604
RDREQ 378355 BFSTLW 0 PURGWR 150284
WBSYID 1431 WBSYWR 0 WBSYRD 0
WRLSEO 296 WNOBFR 0 ERRORS 00000/00000
OSAM DB BUFFER POOL: ID 008K BSIZE 8K NBUF 100 FX=Y/Y
LCTREQ 228080 NEWBLK 0 ALTREQ 0
PURGRQ 0 FNDIPL 204190 BFSRCH 316566
RDREQ 23891 BFSTLW 0 PURGWR 0
WBSYID 0 WBSYWR 0 WBSYRD 0

```

Examples for /DISPLAY POOL Command

```

WRLSEO          0      WNOBFR          0      ERRORS  00000/00000
OSAM DB BUFFER POOL: ID 012K  BSIZE  12K NBUF  100 FX=Y/Y
LCTREQ          83282  NEWBLK          0      ALTREQ          6896
PURGRQ          4384   FNDIPL          70743  BFSRCH          81395
RDREQ           7622   BFSTLW          0      PURGWR          6118
WBSYID          0      WBSYWR          0      WBSYRD          0
WRLSEO          0      WNOBFR          0      ERRORS  00000/00000
OSAM DB BUFFER POOL: BSIZE ALL NBUF  1200 OSM=   6000K
LCTREQ          2076667  NEWBLK          0      ALTREQ          347697
PURGRQ          43755   FNDIPL          1645837  BFSRCH          2385576
RDREQ           409869  BFSTLW          0      PURGWR          156402
WBSYID          1431   WBSYWR          0      WBSYRD          0
WRLSEO          296    WNOBFR          0      ERRORS  00000/00000
VSAM DB BUFFER POOL: ID VLP1  BSIZE  2K TYPE D  FX=N/Y/N
RRBA            0      RKEY            0      BFALT            0
NREC            0      SYNC PT         29446   NBUFS            500
VRDS            1253   FOUND           0      VWTS             68
HSR-S           0      HSW-S           0      HS NBUFS         0
HS R/W-FAIL 000000/000000  ERRORS 000000/000000
VSAM DB BUFFER POOL: ID VLP1  BSIZE  4K TYPE D  FX=N/Y/N
RRBA            370    RKEY            187583   BFALT            0
NREC            10750   SYNC PT         29446   NBUFS            1000
VRDS            145632  FOUND           0      VWTS             9771
HSR-S           0      HSW-S           50     HS NBUFS         50
HS R/W-FAIL 000000/000000  ERRORS 000000/000000
VSAM DB BUFFER POOL: ID VPL1  BSIZE  8K TYPE D  FX=N/Y/N
RRBA            7375   RKEY            6704    BFALT            0
NREC            0      SYNC PT         29446   NBUFS            100
VRDS            7362   FOUND           0      VWTS             0
HSR-S           0      HSW-S           0      HS NBUFS         0
HS R/W-FAIL 000000/000000  ERRORS 000000/000000
VSAM DB BUFFER POOL: BSIZE ALL  VS=   5800K HS=   200K
RRBA            7745   RKEY            194287   BFALT            0
NREC            10752   SYNC PT         29446   NBUFS            1600
VRDS            154247  FOUND           0      VWTS             9839
HSR-S           0      HSW-S           50     HS NBUFS         50
HS R/W-FAIL 000000/000000  ERRORS 000000/000000
DMPB BUFFER POOL:
SIZE  200K FREE  200K HIGH  0K
PSBP BUFFER POOL:
SIZE  80K FREE  80K HIGH  0K
DPSB BUFFER POOL:
SIZE  160K FREE  160K HIGH  0K
CIOP BUFFER POOL:
SIZE  14K HIGH  65K LIMIT  NONE OVERFLOW  0K
MAIN BUFFER POOL:
SIZE  40K FREE  39K HIGH  1K
SPAP BUFFER POOL:
SIZE  0K HIGH  0K LIMIT  9999K OVERFLOW  0K
PSBW BUFFER POOL:
SIZE  600K FREE  600K HIGH  0K
DBWP BUFFER POOL:
SIZE  80K FREE  80K HIGH  0K
HIOP BUFFER POOL:
SIZE  214K HIGH  420K LIMIT  9999K OVERFLOW  0K
FPDB BUFFER POOL:
AVAIL = 60 WRITING = 0 PGMUSE = 0 UNFIXED = 90
POOLNAME CFSIZE PBUF SBUF  MAX CURRENT LK HITS VALID
1024 01024 00064 00016 00256 00064 N NA NA
2048 02048 00064 00016 00256 00064 N NA NA

CESS BUFFER POOL:
POOL IS NOT AVAILABLE FOR STATISTICS
EMHB BUFFER POOL:
SIZE  0K HIGH  0K LIMIT  NONE OVERFLOW  0K
FPWP BUFFER POOL:
SIZE  0K HIGH  0K LIMIT  NONE OVERFLOW  0K

```


Examples for /DISPLAY POOL Command

```
EPCB BUFFER POOL:
  SIZE   300K FREE   300K HIGH   0K
LUMP BUFFER POOL:
  SIZE    68K HIGH   68K LIMIT  NONE  OVERFLOW  0K
LUMC BUFFER POOL:
  SIZE    0K  HIGH   32K LIMIT  NONE  OVERFLOW  0K
*92120/134306*
```

Example 2 for /DISPLAY POOL Command

Entry ET:

```
/DISPLAY POOL AOIP
```

Response ET:

```
AOIP BUFFER POOL:
  SIZE    32K HIGH   32K LIMIT  NONE  OVERFLOW  0K
*92280/09545*
```

Example 3 for /DISPLAY POOL Command

Entry ET:

```
/DISPLAY POOL CBT
```

Response ET:

NAME	SP#	CURR	MAX	GETS	FREES
IOSB	228	20K	20K	1	0
GIOB	228	0K	0K	0	0
OSWA	228	8K	8K	1	0
GOWA	228	0K	0K	0	0
PST	231	52K	56K	14	1
DPST	231	40K	44K	11	1
SAP	231	28K	28K	6	0
GQMW	231	12K	12K	3	0
LQMW	0	40K	40K	10	0
D1WA	228	8K	8K	2	0
DL2W	0	8K	8K	2	0
DG2W	231	4K	4K	1	0
QSAV	231	4K	12K	2	1
VRPL	231	16K	16K	4	0
LSAV	0	68K	72K	17	1
AWE	231	12K	12K	3	0
PDIR	231	36K	36K	1	0
DDIR	231	28K	28K	1	0
LCRE	241	4K	4K	1	0
PCIB	0	0K	0K	0	0
SIDX	241	4K	4K	1	0
RRE	241	4K	4K	1	0
SMB	231	61K	61K	1	0
BCPT	231	4K	4K	1	0
GESE	241	0K	0K	0	0
EPST	231	144K	144K	20	0
IDT	241	0K	0K	0	0
DBRC	231	0K	0K	0	0
TTAB	231	184K	184K	46	0
EZS	241	0K	0K	0	0
FNCB	231	0K	0K	0	0
TCBT	231	4K	4K	1	0
CMWU	231	8K	8K	2	0
FSRB	228	4K	4K	1	0
KLSD	0	0K	0K	0	0
IRLM	231	0K	0K	0	0
STTR	231	52K	52K	13	0
BQEL	231	0K	0K	0	0
USMU	229	0K	0K	0	0

Examples for /DISPLAY POOL Command

RCTE	231	3K	3K	1	0
SLOG	231	4K	4K	1	0
ADSC	228	0K	0K	0	0
FPCP	231	0K	0K	0	0
AESL	231	0K	0K	0	0
XPST	231	16K	16K	4	0
BXQE	231	16K	16K	4	0
SRBC	228	8K	8K	2	0
MSGP	241	4K	4K	1	0
LPST	251	8K	8K	2	0
CULE	231	152K	152K	1	0
RPST	241	4K	4K	1	0
VTCB	251	305K	305K	0	0
RECA	0	19K	19K	1	0
GSAV	231	0K	0K	0	0
FEIB	231	0K	0K	0	0
IEQE	0	0K	0K	0	0
L56X	231	4K	4K	1	0
X124	241	4K	4K	1	0
STAT	241	4K	4K	1	0
EQEL	241	0K	0K	0	0
TT24	231	24K	24K	6	0
LGWA	231	104K	104K	26	0
VWA	231	8K	8K	2	0
LGWX	0	0K	0K	0	0
LQB	251	104K	104K	0	0
RCNT	251	4K	4K	0	0
DDRE	0	0K	0K	0	0
CCB	0	0K	0K	0	0
LGND	251	8K	8K	2	0
USRD	251	4K	4K	1	0
LS24	0	2K	2K	1	0
GS24	231	0K	0K	0	0
CLLE	231	60K	64K	16	1
QMBA	0	8K	8K	1	0
AHDR	251	0K	0K	0	0
XMCI	241	32K	36K	9	1
DBPB	231	0K	0K	0	0
LG24	0	12K	12K	3	0
IAFP	231	0K	0K	0	0
RACW	231	0K	0K	0	0
LUB	251	0K	0K	0	0
TIB	251	28K	28K	1	0
DESC	251	4K	4K	1	0
PF62	251	0K	0K	0	0
QAB	251	0K	0K	0	0
LCLL	0	36K	36K	9	0
CBLK	251	0K	0K	0	0
CBT POOLS		GLBL	1187K	LCL	658K

91057/132506

Example 4 for /DISPLAY POOL Command

Entry ET:

/DISPLAY POOL CIOP SPAP HIOP CESS EMHB FPWP LUMP LUMC

Response ET:

CIOP BUFFER POOL:
 SIZE 16K HIGH 96K LIMIT 999K OVERFLOW 0K
 SPAP BUFFER POOL:
 SIZE 0K HIGH 0K LIMIT 9999K OVERFLOW 0K
 HIOP BUFFER POOL:
 SIZE 128K HIGH 128K LIMIT 9999K OVERFLOW 0K
 CESS BUFFER POOL:
 POOL IS NOT AVAILABLE FOR STATISTICS
 EMHB BUFFER POOL:

Examples for /DISPLAY POOL Command

```

SIZE      0K HIGH      0K LIMIT  9999K OVERFLOW  0K
FPWP BUFFER POOL:
SIZE      0K HIGH      0K LIMIT  9999K OVERFLOW  0K
LUMP BUFFER POOL:
SIZE      32K HIGH     32K LIMIT  NONE  OVERFLOW  0K
LUMC BUFFER POOL:
SIZE      0K HIGH      32K LIMIT  NONE  OVERFLOW  0K
*91051/161116*

```

Example 5 for /DISPLAY POOL Command

Entry ET:

```
/DISPLAY POOL DBAS
```

Response ET:

```

SEQUENTIAL BUFFERING:  STATUS = NOT INIT
MAX  N.A.  FREE  N.A.  CURR      0K HIGH      0K
OSAM DB BUFFER POOL:  ID  BSIZE  2K  NBUF  4  FX=N/N
LCTREQ      0      NEWBLK  0      ALTREQ  0
PURGRQ      0      FNDIPL  0      BFSRCH  0
RDREQ       0      BFSTLW  0      PURGWR  0
WBSYID      0      WBSYWR  0      WBSYRD  0
WRLSEO      0      WNOBFR  0      ERRORS  00000/00000
OSAM DB BUFFER POOL:  ID  BSIZE  6K  NBUF  4  FX=N/N
LCTREQ      0      NEWBLK  0      ALTREQ  0
PURGRQ      0      FNDIPL  0      BFSRCH  0
RDREQ       0      BFSTLW  0      PURGWR  0
WBSYID      0      WBSYWR  0      WBSYRD  0
WRLSEO      0      WNOBFR  0      ERRORS  00000/00000
OSAM DB BUFFER POOL:  ID  BSIZE  8K  NBUF  4  FX=N/N
LCTREQ      0      NEWBLK  0      ALTREQ  0
PURGRQ      0      FNDIPL  0      BFSRCH  0
RDREQ       0      BFSTLW  0      PURGWR  0
WBSYID      0      WBSYWR  0      WBSYRD  0
WRLSEO      0      WNOBFR  0      ERRORS  00000/00000
OSAM DB BUFFER POOL:  BSIZE ALL NBUF  12 OSM=  64K
LCTREQ      0      NEWBLK  0      ALTREQ  0
PURGRQ      0      FNDIPL  0      BFSRCH  0
RDREQ       0      BFSTLW  0      PURGWR  0
WBSYID      0      WBSYWR  0      WBSYRD  0
WRLSEO      0      WNOBFR  0      ERRORS  00000/00000
VSAM DB BUFFER POOL:  ID XXXX BSIZE  1K TYPE D FX=N/N/N
RRBA        0      RKEY    0      BFALT   0
NREC        0      SYNC PT  0      NBUFS   8
VRDS        0      FOUND   0      VWTS    0
HSR-S       0      HSW-S   0      HS NBUFS 0
HS R/W-FAIL 000000/000000  ERRORS 000000/000000
VSAM DB BUFFER POOL:  ID XXXX BSIZE  2K TYPE D FX=N/N/N
RRBA        0      RKEY    0      BFALT   0
NREC        0      SYNC PT  0      NBUFS   4
VRDS        0      FOUND   0      VWTS    0
HSR-S       0      HSW-S   0      HS NBUFS 0
HS R/W-FAIL 000000/000000  ERRORS 000000/000000
VSAM DB BUFFER POOL:  ID XXXX BSIZE  8K TYPE D FX=N/N/N
RRBA        0      RKEY    0      BFALT   0
NREC        0      SYNC PT  0      NBUFS   4
VRDS        0      FOUND   0      VWTS    0
HSR-S       0      HSW-S   0      HS NBUFS 0
HS R/W-FAIL 000000/000000  ERRORS 000000/000000
VSAM DB BUFFER POOL:  BSIZE ALL VS= 48K  HS= 0K
RRBA        0      RKEY    0      BFALT   0
NREC        0      SYNC PT  0      NBUFS  16

```

Examples for /DISPLAY POOL Command

```
VRDS      0      FOUND      0      VWTS      0
HSR-S     0      HSW-S     0      HS NBUFS  0
HS R/W-FAIL 000000/000000  ERRORS 000000/000000
*92120/134346*
```

Example 6 for /DISPLAY POOL Command

Entry ET:

```
/DISPLAY POOL DBB
```

Response ET:

```
NAME SP#   CURR   MAX   GETS  FREES
PDIR 231   36K   36K   1     0
DDIR 231   28K   28K   1     0
SMB  231   61K   61K   1     0
BQEL 231    0K    0K    0     0
IEQE  0     0K    0K    0     0
EQEL 241    0K    0K    0     0
DDRE  0     0K    0K    0     0
CLASS = DBB      GLBL   125K  LCL   0K
CBT POOLS      GLBL  1187K  LCL   662K
*91051/161027*
```

Example 7 for /DISPLAY POOL Command

Entry ET:

```
/DISPLAY POOL DCC
```

Response ET:

```
NAME SP#   CURR   MAX   GETS  FREES
PCIB  0     0K    0K    0     0
VTCB 251  305K  305K  0     0
RECA  0     19K   19K   1     0
LGND 251   16K   16K   4     0
AHDR 251    0K    0K    0     0
IAFP 231    0K    0K    0     0
RACW 231    0K    0K    0     0
LUB  251    0K    0K    0     0
TIB  251   28K   28K   1     0
DESC 251    0K    0K    0     0
PF62 251    0K    0K    0     0
QAB  251    0K    0K    0     0
CBLK 251    0K    0K    0     0
CLASS = DCC      GLBL    0K  LCL   368K
CBT POOLS      GLBL  1187K  LCL   662K
*91051/161038*
```

Example 8 for /DISPLAY POOL Command

Entry ET:

```
/DISPLAY POOL MFP
```

Response ET:

```
MESSAGE FORMAT POOL: SIZE      49152  SPACE      48576  DIRS      9011
REQ1           2  I/O           2  DIR           4
WAIT           2  FREE      48432  ERR           0
*91051/172502*
```

Example 9 for /DISPLAY POOL Command

Entry ET:

```
/DISPLAY POOL MFP CIOP MAIN
```

Examples for /DISPLAY POOL Command

Response ET:

```
MESSAGE FORMAT POOL:  SIZE      49152 SPACE      48576 DIRS      9011
REQ1              2  I/O              2 DIR          4
WAIT              2  FREE           48432 ERR          0
CIOP BUFFER POOL:
SIZE      96K HIGH      96K LIMIT      999K OVERFLOW      0K
MAIN BUFFER POOL:
SIZE      40K FREE      40K HIGH      5K
*91051/160913*
```

Example 10 for /DISPLAY POOL Command

Entry ET:

```
/DISPLAY POOL MFP STAT
```

Response ET:

```
MFBP BUFFER POOL:
0170 00000000 00000002 00000002 00000000 00000004 00000000 00000000 00000002
0190 00000000 00000000 00000000 00000002 00000000 00000000 00000000 00000000
01B0 00000000 00000001
*91051/172508*
```

Example 11 for /DISPLAY POOL Command

Entry ET:

```
/DISPLAY POOL PSBP
```

Response ET:

```
PSBP BUFFER POOL:
SIZE      80K FREE      80K HIGH      0K
DPSB BUFFER POOL:
SIZE     160K FREE     160K HIGH      0K
*91051/161048*
```

Example 12 for /DISPLAY POOL Command

Entry ET:

```
/DISPLAY POOL QBUF
```

Response ET:

```
MESSAGE QUEUE POOL:  BFRS/SIZE 20/2112          SYS3
ENQ   18 DEQ   18 CAN   52 WAIT    0 I/O    15 ERR   0
QBLKS: MAX # RECORDS AVAIL      5 CUR IN USE    3 = 60 %
SMSGQ: MAX # RECORDS AVAIL  262167 CUR IN USE    4 =  0 %
LMSGQ: MAX # RECORDS AVAIL  524293 CUR IN USE    2 =  0 %
*91051/172432*
```

Example 13 for /DISPLAY POOL Command

Entry ET:

```
/DISPLAY POOL QBUF STAT
```

Response ET:

```
QBUF BUFFER POOL:
0054 00000000 0000005E 00000126 00000001 00000000 00000000 00000007 00000008
0074 00000008 00000000 00000000 00000000 00000000 00000000 00000000 00000000
0094 00000000 00000000 00000000 00000019 00000323 00000000 00000013 00000013
00B4 00000035 00000003 00000004 00000002
*91051/172440*  SYS3
```

Examples for /DISPLAY POOL Command

Example 14 for /DISPLAY POOL Command

Entry ET:

```
/DISPLAY POOL SUM
```

Response ET:

```
CBT POOLS      GLBL  1187K LCL   662K
CLASS = OSAM   GLBL    28K LCL    0K
CLASS = GEN    GLBL   724K LCL   54K
CLASS = DEP    GLBL   216K LCL    0K
CLASS = DISP   GLBL    88K LCL  128K
CLASS = DBB    GLBL   125K LCL    0K
CLASS = DCC    GLBL    0K  LCL  368K
CLASS = FP     GLBL    7K  LCL    0K
*91051/161003*
```

Example for /DISPLAY PROGRAM Command

Entry ET:

```
/DISPLAY PROGRAM APOL1 DBFSAMP3 BMP255
```

Response ET:

```
PROGRAM  TRAN      TYPE
APOL1    APOL11     TP
          APOL12
          APOL13
          APOL14
          APOL15
          APOL16
          APOL17
          APOL18
DBFSAMP3  FPSAMP1    FPM
BMP255    TRAN255    BMP
          TXCD255
          TXCD255W
*90288/140450*  SYS3
```

Entry ET:

```
/DISPLAY PROGRAM ALL
```

Response ET:

```
PROGRAM  TRAN      TYPE
AD2TP    TSTAD2A     TP  NOTINIT
          TSTAD2R1
APOL1    APOL11     TP  NOTINIT
          APOL12
A3270    A3270     TP  NOTINIT
          3270S
BMAAJK41  BHE4        TP  NOTINIT
          NQE4
          SHE4
BMP255    TRAN255    BMP NOTINIT
BTAEJK01          BMP NOTINIT
BTAPJK01          BMP NOTINIT
BTAPJK11          BMP NOTINIT
BTAPJK21          BMP NOTINIT
BTGGJK01          BMP NOTINIT
BTGGJK11          BMP NOTINIT
BTGOJK01          BMP NOTINIT
BTGRJK05          BMP NOTINIT
CPGM1V0  CONV11V0   TP  NOTINIT
          CONV12V0
          CONV13V0
```

Example for /DISPLAY PROGRAM Command

```
DBF#FPU0          FPU
DBFSAMP3  FPSAMP1  FPM
DBFSAMP4  FPSAMP2  TP  NOTINIT
DBFSAM22   TP1     FPM
DBFSAM99   TP2     TP  NOTINIT
DCLECHOS   DCL     TP  NOTINIT
DDLTP04    TXCDBP04 FPM
DDLTP05    TXCDBP05 FPM
DDLTP06    TXCDBP06 FPM
DDLTP07    TXCDBP07 FPM  NOTINIT
DDLTP08    TXCDBP08 FPM  NOTINIT
DDLTP09    TXCDBP09 FPM  NOTINIT
V2MPPA02   V2MRP01 TP  NOTINIT
           V2MRP02
V2MPPC01   V2SNS01 TP
           V2SRS02
V2MPPC02   V2MRS04 TP  NOTINIT
V2MPPP01   V2SNS02 TP  NOTINIT
           V2SRS03
           V2SRS04
V2MPPPP02  V2MRP03 TP  NOTINIT
           V2SRP01
WTCPLI     TESTPLI TP  NOTINIT
*89184/142553*
```

Example for /DISPLAY PSB Command

Entry ET:

```
/DISPLAY PSB DDLTLM06 DDLTLM07
```

Response ET:

PSB-NAME	TRANCODE	RTCODE	DBD-NAME	ACCESS			
DDLTL06	TXCDLM06	TXCDLM06	MSDBLM01	R/W			
			MSDBLM02	R/W			
			MSDBLM03	R/W			
			MSDBLM01	R/W			
			MSDBLM04	R/W			
			MSDBLM04	R/W			
			MSDBLM05	R/W			
			MSDBLM05	R/W			
			MSDBLM06	R/W			
			MSDBLM06	R/W			
			MSDBLM06	R/W			
			MSDBLM06	R/O			
			DDLTL07	TXCDLM07	TXCDLM07	MSDBLM01	R/W
						MSDBLM02	R/W
MSDBLM03	R/W						
MSDBLM01	R/O						
MSDBLM04	R/W						
MSDBLM04	R/W						
MSDBLM05	R/W						
MSDBLM05	R/W						
MSDBLM06	R/W						
MSDBLM06	R/W						
			MSDBLM06	R/O			
			MSDBLM07	R/W			

91068/111601

Example for /DISPLAY PTERM Command

This example shows the display of all physical terminals that are being traced.

Entry ET:

```
/DISPLAY PTERM TRA
```

Example for /DISPLAY PTERM Command

Response ET:

LIN/PTE	TYPE	ADDR	RECD	ENQCT	DEQCT	QCT	SENT
2-	1	2740-II ***	0	0	0	0	0STOPPED INOP NOTOPEN TRA
2-	2	2740-II ***	0	0	0	0	0STOPPED INOP NOTOPEN TRA
11-	1	2740-II ***	0	0	0	0	0STOPPED INOP NOTOPEN TRA
11-	2	2740-II ***	0	0	0	0	0STOPPED INOP NOTOPEN TRA

89184/142950

Example 1 for /DISPLAY Q Command

Entry ET:

/DISPLAY Q

Response ET:

CLS CT	PTY CT	MSG CT	TRAN CT
3	5	28	8

90253/103811

Entry ET:

/DISPLAY Q BALGRP

Response ET:

BALGRP	NO.RGNS	MSG CT	ENQ COUNT	DEQ COUNT
DDLTM06	1	1	2	1
DDLTM07	1	0	0	0

91068/112000

Entry ET:

/DISPLAY Q BALGRP QCNT

Response ET:

BALGRP	GBLQCT
SMQFP1	2
SMQFP2	3

96197/174618

Entry ET:

/DISPLAY Q CLASS ALL

Response ET:

CLS	PTY CT	MSG CT	TRAN CT
1	1	2	1
2	1	2	1
3	1	4	1

90253/103855

Entry ET:

/DISPLAY Q CLASS 1 2

Response ET:

CLS	PTY CT	MSG CT	TRAN CT
1	1	2	1
2	1	2	1

90253/103913

Entry ET:

/DISPLAY Q PRIORITY ALL

Examples for /DISPLAY Q Command

Response ET:

CLS	PTY	MSG CT	TRAN CT
1	9	2	1
2	1	2	1
3	5	4	1

90253/103945

Entry ET:

/DISPLAY Q PRIORITY 10

Response ET:

CLS	PTY	MSG CT	TRAN CT
4	10	18	3

*90253/1104016

Entry ET:

/DISPLAY Q CLASS 4 PRIORITY 10

Response ET:

CLS	PTY	MSG CT	TRAN CT
4	10	18	3

90309/122418

Entry ET:

/DISPLAY Q TRANSACTION

Response ET:

CLS	PTY	MSG CT	TRAN	PSBNAME
3	10	3	CLOSE	DFSSAM05
4	10	2	ADDPART	DFSSAM04
4	10	4	PART	DFSSAM02
5	7	1	ADDINV	DFSSAM04
5	10	5	DLETINV	DFSSAM04

90243/110324

Entry ET:

/DISPLAY Q CLASS 3 5 TRANSACTION

Response ET:

CLS	PTY	MSG CT	TRAN	PSBNAME
3	10	3	CLOSE	DFSSAM05
5	7	1	ADDINV	DFSSAM04
5	10	5	DLETINV	DFSSAM04

90243/110332

Entry ET:

/DISPLAY Q CLASS 4 PRIORITY 10 11 TRANSACTION

Response ET:

CLS	PTY	MSG CT	TRAN	PSBNAME
4	10	2	ADDPART	DFSSAM04
4	10	4	PART	DFSSAM02

90243/110343

Entry ET:

/DISPLAY Q CLASS 1 2 3 PRIORITY 1

Examples for /DISPLAY Q Command

Response ET:

CLS	PTY	MSG CT	TRAN CT
1	1	2	1
2	1	2	1
3	1	4	1

90253/104321

Example 2 for /DISPLAY Q Command

Entry ET:

/DISPLAY QUEUE TRANSACTION

Response ET:

CLS	PTY	MSG CT	TRAN	PSBNAME
20	5	2	TPN1	DFSCPIC
20	2	5	TPN2	SAAPSB1
22	3	7	TPN3	SAAPSB2

90332/114253

Example for /DISPLAY QCNT Command

Entry ET:

/DISPLAY QCNT LTERM MSGAGE 5

Response ET:

QUEUENAME	QCNT-TOTAL	QCNT-AGED	TSTMP-OLD	TSTMP-NEW
TESTLTEA	1	1	95280/132006	95280/132006
LTERMABC	4	4	95274/083000	95275/091836
LTERMA	100	100	95275/080000	95281/212224

95290/132006

Entry ET:

/DISPLAY QCNT APPC MSGAGE 10

Response ET:

QUEUENAME	QCNT-TOTAL	QCNT-AGED	TSTMP-OLD	TSTMP-NEW
TMSTMP- IMSA	100	100	95250/132006	95280/132006
TMSTMP- IMSB	4	4	95274/083000	95275/091836
TMSTMP- IMSC	20	20	95275/080000	95281/212224

95295/111536

Entry ET:

/DISPLAY QCNT TRANSACTION MSGAGE 5

Response ET:

QUEUENAME	QCNT-TOTAL	QCNT-AGED	TSTMP-OLD	TSTMP-NEW
TRANA	20	20	95200/132006	95280/132006
TRANBBBB	4	4	95274/083000	95275/091836
TRANSACA	220	220	95275/080000	95281/212224
TRANSDDD	13	0	95290/101455	95290/101456
TRANSEEE	55	13	95277/152118	95290/114317

95290/132006

Example for /DISPLAY RTCODE Command

Entry ET:

/DISPLAY RTCODE ALL

Response ET:

Example for /DISPLAY RTCODE Command

```
RTCODE      PROGRAM      STATUS
DCL          EMHPSB       NOTSCHED,STOPPED
EMHCOBOL     EMHCOBOL     NOTSCHED,STOPPED
EMHPLI       EMHPLI       NOTSCHED,STOPPED
EMHTX        EMHPSB       NOTSCHED,STOPPED
TXCDLM06     DDLTLM06     STOPPED
TXCDLM07     DDLTLM07     STOPPED
*91068/114840*
```

Example 1 for /DISPLAY SHUTDOWN STATUS Command

Entry ET:

```
/DISPLAY SHUTDOWN STATUS
```

Response ET:

```
DFS134 SHUTDOWN CHECKPOINT NOT IN PROGRESS,
CANNOT PROCESS COMMAND
```

Entry ET:

```
/DISPLAY SHUTDOWN STATUS
```

Response ET:

```
SYSTEM PURGING
```

```
TERMINAL  USER  STATUS
5- 1      INPUT  IN PROCESS
5- 2      INPUT  IN PROCESS
11- 1     OUTPUT IN PROCESS
TERMINAL  USER  STATUS
LINK 10    OUTPUT IN PROCESS
MSG-IN 2   MSG-OUT 2
MASTER ACTIVE
*91111/222226*
```

Entry ET:

```
/DISPLAY SHUTDOWN STATUS
```

Response ET:

```
TERMINAL  USER  STATUS
NSLUTP6   SPOOLA  AWAITING RESPONSE
NSLUTP6   SPOOLB  5 MSGS IN QUEUE
NSLUTP6   SPOOLC  INPUT  IN PROCESS
NSLUTP6   SPOOLD  OUTPUT IN PROCESS
*91111/222226*
```

Example 2 for /DISPLAY SHUTDOWN STATUS Command

Entry ET:

```
/DISPLAY SHUTDOWN STATUS
```

Response ET:

```
TERMINAL  USER  STATUS
5- 1      INPUT  IN PROCESS
5- 2      INPUT  IN PROCESS
11- 1     OUTPUT IN PROCESS
TERMINAL  USER  STATUS
LINK 10    OUTPUT IN PROCESS
MSG-IN 2   MSG-OUT 2
MASTER ACTIVE
CPI TRAN TRNCODE1 ACTIVE IN REGID 1
CPI TRAN TRNCODE2 ACTIVE IN REGID 4
```

Examples for /DISPLAY SHUTDOWN STATUS Command

```
IMSLU=L62IMS      #APPC-CONV=      8 ENABLED
LUNAME            STATUS
LUNAME1           3 CONVERSATIONS(S) IN PROCESS
LUNAME1           1 OUTPUT IN PROCESS
LUNAME2           4 CONVERSATIONS(S) IN PROCESS
*90332/114253*
```

Entry ET:

```
/DISPLAY SHUTDOWN STATUS
```

Response ET:

```
TERMINAL  SUBPOOL STATUS
5- 1      INPUT IN PROCESS
5- 2      INPUT IN PROCESS
11- 1     OUTPUT IN PROCESS
TERMINAL  SUBPOOL STATUS
LINK 10   OUTPUT IN PROCESS
MSG-IN 2  MSG-OUT 2
MASTER ACTIVE
CPI TRAN TRNCODE1 ACTIVE IN REGID1
CPI TRAN TRNCODE2 ACTIVE IN REGID4
IMSLU=SYS1.IMSLUNME      #APPC-CONV=      8 ENABLED
LUNAME            STATUS
NETWORK1.LUNAME1       3 CONVERSATION(S) IN PROCESS
NETWORK1.LUNAME1       1 OUTPUT IN PROCESS
NID2.LUNAME2           4 CONVERSATION(S) IN PROCESS
*92232/114253*
```

Example 3 for /DISPLAY SHUTDOWN STATUS Command

Entry ET:

```
/DISPLAY SHUTDOWN STATUS
```

Response ET:

```
TERMINAL  USER      STATUS
1- 1      INPUT IN PROCESS
TERMINAL  USER      STATUS
NO OUTPUTTING LINES
MSG-IN 1  MSG-OUT 0
MASTER ACTIVE
OTMA PHASE=2
COMMIT 0  TMEMBER=CLIENT1      TPIPE=TPIPE1
*94298/174604*
```

Example 1 for /DISPLAY STATUS Command

Entry ET:

```
/DISPLAY STATUS
```

Response ET:

```
**TRAN****PSBNAME
STATUS UNRESTRICTED
**DATABASE**
BMACC1  NOTOPEN,NOTINIT,STOPPED
DEDB01
-AEA01  RECOVERY-NEEDED
DEDEB03
-AEA02
ADS01  PRE-OPEN FAILED
DEDB04  NOTOPEN,STOPPED
-AEA01  RECOVERY-NEEDED
ADS01  UNAVAILABLE
**PROGRAM***
```

Examples for /DISPLAY STATUS Command

```
HIMASN01  STOPPED
SWITCH    STOPPED
**NODE****
CT3275    DISCONNECTED
CT3277A   DISCONNECTED
CT3277B   SHUT
W612      DISCONNECTED
**LINE*****
4         STOPPED, IDLE
5         STOPPED, IDLE, NOTOPEN
8         STOPPED, IDLE
10        STOPPED, IDLE, NOTOPEN
**PTERM*****
3         1 INOP, STOPPED
3         2 INOP, STOPPED
4         2 INOP, PSTOPPED
5         1 INOP, STOPPED
5         2 INOP, STOPPED
6         1 INOP, STOPPED
**LTERM*****
LU6A     STOPPED
VA01     QLOCK
**CLASS*****
2        STOPPED
**RTCODE****
STATUS  UNRESTRICTED
**LINK*****
1        PSTOPPED, IDLE, NOTOPEN
3        PSTOPPED, IDLE, COLD
4        PSTOPPED, IDLE, N/A
5        PSTOPPED, IDLE, NOTOPEN
**MSNAME****
STATUS  UNRESTRICTED
**USER*****
STATUS  UNRESTRICTED
**LUNAME**TPNAME****
STATUS  UNRESTRICTED
*92198/132223*
```

Example 2 for /DISPLAY STATUS Command

Entry ET:

```
/DISPLAY STATUS DATABASE
```

Response ET:

```
**DATABASE**
DEDB01
-AREA01    STOPPED
DEDB02
-AREA02    NOTOPEN
-AREA03
  ADS03    PRE-OPEN FAILED
DEDB03
-AREA05    STOPPED, NOTOPEN
  ADS03    PRE-OPEN FAILED
  ADS08    UNAVAILABLE
DEDB04    STOPPED
DEDB05    NOTOPEN, NOTINIT
-AREA01    STOPPED
-AREA08    STOPPED, NOTOPEN
DEDB06    STOPPED
-AREA03
  ADS03    UNAVAILABLE
DEDB0777  NOTOPEN, LOCK
```

Examples for /DISPLAY STATUS Command

```
-AREA0555  STOPPED,NOTOPEN
ADS03333  SEVERE ERROR
ADS08888  UNAVAILABLE
*90263/092128*
```

Example 3 for /DISPLAY STATUS Command

Entry ET:

```
/DISPLAY STATUS LUNAME
```

Response ET:

```
**LUNAME/TPNAME**
LU2
-TPN2          STO
LU5
-TPNAME1234567890+ STO
1234567890
LU3           STO-INP
LU4           STO-OUTP
LU1           STO-INP, STO-OUTP
*95229/155100*
```

Entry ET:

```
/DISPLAY STATUS LUNAME
```

Response ET:

```
**LUNAME/TPNAME**
LU2           STO-INP, STO-OUTP
-TPN2          STO
LU5           STO-INP, STO-OUTP
-TPN5          STO
-TPNAME1234567890+ STO
1234567890
LU3           STO-INP, STO-OUTP
LU4           STO-INP, STO-OUTP
LU1           STO-INP, STO-OUTP
FUTURE INPUT: STO
FUTURE OUTPUT: STO
*95229/155146*
```

Example 4 for /DISPLAY STATUS Command

Entry ET:

```
/DISPLAY STATUS NODE
```

Response ET:

```
**NODE*****
NLUTP6S  DISCONNECTED
NLU1     STOPPED, DISCONNECTED
NLUTP6P
-A       HELD
-N/A     STOPPED, DISCONNECTED
-E       FORCE
-C
*90231/040059*
```

Entry ET:

```
/DISPLAY STATUS RTCODE
```

Response ET:

Examples for /DISPLAY STATUS Command

```
**RTCODE***  
DCL          STOPPED  
EMHCOBOL    STOPPED  
EMHPLI      STOPPED  
EMHTX       STOPPED  
TXCDBP04    STOPPED  
TXCDBP05    STOPPED  
TXCDBP06    STOPPED  
*91068/114900*
```

Example 5 for /DISPLAY STATUS Command

Entry ET:

```
/DISPLAY STATUS TMEMBER
```

Response ET:

```
**TMEMBER/TPIPE**  
CLIENT1  
-TPIPE1          STO  
*94168/095431*
```

Example 6 for /DISPLAY STATUS Command

Entry ET:

```
/DISPLAY STATUS TRANSACTION
```

Response ET:

```
**TRAN***PSBNAME  
TPN4          DFSCPIC  PUR  
TPN5          DFSCPIC  STOPPED  
TPN6          DFSCPIC  I/O PREVEN  
TPN7          DFSCPIC  USTOPPED  
TRAN1         LU2PGM1  PSTOPPED  
TRAN2         LU2PGM2  PSTOPPED  
*90332/114253*
```

Example for /DISPLAY STRUCTURE Command

Entry ET:

```
/DISPLAY STRUCTURE ALL
```

Response ET:

```
STRUCTURE NAME  TYPE  STATUS  
MSGQ1          MSGQ  CONNECTED, AVAILABLE, SHUTDOWN-STRCHKPT  
EMHQ1          EMHQ  CONNECTED, AVAILABLE, IN-OVERFLOW  
*95200/170817*
```

Entry ET:

```
/DISPLAY STRUCTURE MSGQ111 EMHQ1
```

Response ET:

```
STRUCTURE NAME  TYPE  STATUS  
MSGQ111 IS INVALID  
EMHQ1          EMHQ  DISCONNECTED  
*95201/121800
```

Example 1 for /DISPLAY SUBSYS Command

Entry ET:

```
/DISPLAY SUBSYS ALL
```

Examples for /DISPLAY SUBSYS Command

Response ET:

```
SUBSYS  CRC REGID PROGRAM  LTERM  STATUS
SSTR    ?                1 DDLTLM17 PTERM01 CONN, ACTIVE
                2 DDLTLM06 PTERM02 CONN
*89202/065933*
```

Example 2 for /DISPLAY SUBSYS Command

Entry ET:

```
/DISPLAY SUBSYS XXX1 XXX3
```

Response ET:

```
SUBSYS  CRC REGID PROGRAM  LTERM  STATUS
XXX1    1
XXX3    3                CONN
*90083/154241*
```

Example for /DISPLAY SYSID Command

Entry ET:

```
/DISPLAY SYSID TRANSACTION SKS1 SKS2 SKS3 SKS4
```

Response ET:

```
TRAN    PSBNAME  RID    LID
SKS1    DFSDDL1  21    11
SKS2    DFSDDL2  NA     11
SKS3    DFSDDL3  NA     11
SKS4    DFSDDL4  32    12
*89184/142436*
```

Example for /DISPLAY TIMEOVER Command

Entry ET:

```
/DISPLAY TIMEOVER 10
```

Response ET:

```
NODE    USER    TYPE  LAST OUTPUT START TIME
SLU1A   N/A      SLU1  88118/095914
LU6NDPC LU6SPC   LUT6  88118/095921
SLU1C   N/A      SLU1  88118/095929
SLU1B   N/A      SLU1  88118/095937
SLU1D   N/A      SLU1  88118/095943
LU6NDPA LU6SPA   LUT6  88118/095949
*88118/101150*
```

Example 1 for /DISPLAY TMEMBER Command

Entry ET:

```
/DISPLAY TMEMBER ALL
```

Response ET:

```
GROUP/MEMBER  XCF-STATUS  USER-STATUS  SECURITY
APPL8         ACTIVE      SERVER        FULL
CLIENT1       ACTIVE      ACCEPT TRAFFIC
*94165/170450*
```


Example 2 for /DISPLAY TMEMBER Command

Entry ET:

/DISPLAY TMEMBER CLIENT1 TPIPE ALL

Response ET:

MEMBER/TPIPE	ENQCT	DEQCT	QCT STATUS
CLIENT1			TRA
-TPIPE1	0	0	0 TRA,STO
-TPIPE2	2	2	0 TRA,STO
-TPIPE3	1	0	1 TRA,STO

94165/170756

Example 1 for /DISPLAY TRACE Command

Entry ET:

/DISPLAY TRACE ALL

Response ET:

IMS ACTIVE TRACES

LINE	TYPE
1	CONSOLE
4	3270 R

LINK	PARTNER
2	AC

NODE	TYPE	USERS		
SLUP1	SLUP			
LU6NDPA	LUT6	N/A	N/A	N/A
VAT11	3277			

NO PSB TRACES FOUND

MONITOR IS INACTIVE

TRAN CODE	PSB-NAME
ADDINV	DFSSAM04

PROGRAM NAME

APOL1
DEBS
TACP1

TABLE	TRACE	LOGGING	ENTRIES	VOLUME
RETR	ON	N/A	128/PST	N/A
DL/I		OFF	2268	
DL/I	ON			HIGH
LOCK	ON			MEDIUM
PI	ON			LOW
LATC	ON	OFF	1512	MEDIUM
DISP	ON	OFF	1260	LOW
SCHD	OFF	OFF	630	OFF
SUBS	OFF	OFF	1008	OFF
DLOG	OFF	OFF	756	OFF
FAST	OFF	OFF	252	OFF
STRG	ON	OFF	1260	HIGH
IDC0	ON	OFF	2268	HIGH
LUMI	ON	OFF	1008	LOW

PI TRACE IS ACTIVE OPTIONS: NOT LOGGED NOTIME VOLUME: MEDIUM

NO TRAP TRACES FOUND

Examples for /DISPLAY TRACE Command

```
IMS EXTERNAL TRACE IS USABLE

XTRC DDNAME   ALLOC STATUS   STATUS
DFSTRA01     DYNA   UNALLOCATED  CLOSED

DFSTRA02     DYNA   UNALLOCATED  CLOSED

DFSTRA0T     DYNA   UNALLOCATED  CLOSED

VTAM I/O TIMEOUT FACILITY IS INACTIVE
TCO IS NOT ACTIVE

LUNAME   TPNAME           TYPE
NO LUNAME TRACES FOUND

OSAMGTF TRACE IS INACTIVE
*94060/100733*
```

Example 2 for /DISPLAY TRACE Command

```
Entry ET:
/DISPLAY TRACE LINE LINK NODE

Response ET:
IMS ACTIVE TRACES

LINE      TYPE
  1  CONSOLE
 30  3270 R
 30  3270 R
LINK      PARTNER
  4      RF
NODE      TYPE      USERS
L3270A    3277
LU6NDPA   LUT6     N/A   N/A   N/A
LEVEL: 4  MODULE: ALL
*90290/143519*
```

Example 3 for /DISPLAY TRACE Command

```
Entry ET:
/DISPLAY TRACE LUNAME

Response ET:
IMS ACTIVE TRACES

LUNAME   TPNAME
LUNAME3
LUNAME3  TPNAME1           INPUT
LUNAME3  TPNAME7890123456+ OUTPUT
                          789END
LUNAME4
*90332/114253*           INPUT

Entry ET:
/DISPLAY TRACE LUNAME

Response ET:
```

Examples for /DISPLAY TRACE Command

```
IMS ACTIVE TRACES

LUNAME/TPNAME
NET1.LU1      INP
-TPN1
NET2.LU1      OUTP
-TPN2         OUTP
LU3           INP, OUTP
-TPN3         OUTP
-TPN4         OUTP
NET4.LU3      OUTP
NET5.LU5      INP
*93069/114435*
```

Example 4 for /DISPLAY TRACE Command

Entry ET:

```
/DISPLAY TRACE OSAMGTF
```

Response ET:

```
IMS ACTIVE TRACES
OSAMGTF TRACE IS INACTIVE
*92107/090819
```

Entry ET:

```
/TRACE SET ON OSAMGTF
```

Response ET:

```
DFS058I 09:08:32 TRACE COMMAND COMPLETED
```

Entry ET:

```
/DISPLAY TRACE OSAMGTF
```

Response ET:

```
IMS ACTIVE TRACES
OSAMGTF TRACE IS ACTIVE
*92107/090841*
```

Example 5 for /DISPLAY TRACE Command

Entry ET:

```
/TRACE SET ON TABLE QMGR
/TRACE SET ON TABLE SQTT
/DISPLAY TRACE TABLE
```

Response ET:

```
IMS ACTIVE TRACES
TABLE  TRACE  LOGGING  ENTRIES  VOLUME
RETR   ON     N/A     128/PST  N/A
DL/I   OFF    OFF     2268
      DL/I   ON
      LOCK  ON
      PI    OFF
LATC   ON     OFF     1512  MEDIUM
DISP   ON     OFF     1260  MEDIUM
SCHD   ON     OFF     630   MEDIUM
SUBS   OFF    OFF     1008  OFF
DLOG   ON     OFF     756   MEDIUM
FAST   OFF    OFF     252   OFF
STRG   ON     OFF     1260  MEDIUM
IDC0   OFF    OFF     2268  OFF
```

Examples for /DISPLAY TRACE Command

```
LUMI    OFF    OFF    1008  OFF
OTMT    OFF    OFF    1008  OFF
QMGR    ON     OFF    1008  MEDIUM
SQTT    ON     OFF    1008  MEDIUM
*96225/153244*
```

Example 6 for /DISPLAY TRACE Command

Entry ET:
/DISPLAY TRACE TCO

Response ET:
IMS ACTIVE TRACES

TCO IS NOT ACTIVE
89100/170509

Example 7 for /DISPLAY TRACE Command

Entry ET:
/DISPLAY TRACE TIMEOUT

Response ET:
IMS ACTIVE TRACES

VTAM I/O TIMEOUT FACILITY IS INACTIVE

89033/170200

Example 8 for /DISPLAY TRACE Command

Entry ET:
/DISPLAY TRACE TIMEOUT

Response ET:
IMS ACTIVE TRACES

VTAM I/O TIMEOUT FACILITY IS ACTIVE
OPTION = NONE TIMEOUT VALUE = 0

89110/131429

Example 9 for /DISPLAY TRACE Command

Entry ET:
/DISPLAY TRACE TIMEOUT

Response ET:
IMS ACTIVE TRACES

VTAM I/O TIMEOUT FACILITY IS ACTIVE
OPTION = AUTO TIMEOUT VALUE = 10

89033/170200

Example 10 for /DISPLAY TRACE Command

Entry ET:
/DISPLAY TRACE TIMEOUT

Response ET:

Examples for /DISPLAY TRACE Command

```
IMS ACTIVE TRACES

VTAM I/O TIMEOUT FACILITY IS ACTIVE
  OPTION = MSG      TIMEOUT VALUE = 60

*89033/131630*
```

Example 11 for /DISPLAY TRACE Command

```
Entry ET:
  /DISPLAY TRACE TMEMBER
```

```
Response ET:
IMS ACTIVE TRACES

TMEMBER/TPIPE      TYPE
CLIENT1
-TPIPE1            TRA
*94168/095325*
```

Example 12 for /DISPLAY TRACE Command

```
Entry ET:
  /DISPLAY TRACE XTRC
```

```
Response ET:
IMS ACTIVE TRACES

IMS EXTERNAL TRACE IS USABLE
  SYS3
XTRC DDNAME  ALLOC STATUS          STATUS
DFSTRA01    DYNA  UNALLOCATED     CLOSED
DFSTRA02    DYNA  UNALLOCATED     CLOSED
DFSTRA0T    DYNA  UNALLOCATED     CLOSED

*91091/124215*
```

Example 1 for /DISPLAY TRACKING STATUS Command

The following is an example of a /DISPLAY TRACKING STATUS entered from a tracking subsystem in Los Angeles. The two active systems in San Jose are named IMSA and IMSC. IMSA has an XRF alternate named IMSB. IMSC has an XRF alternate named IMSD. The Coordinated Universal Time is 23:32:09. The local Los Angeles time is 15:32:09.

```
Entry ET:
  /DIS TRACKING STATUS
```

```
Response ET:
**** TRACKING SUBSYSTEM *****
IMSID READINESS-LEVEL GSG-NAME SG-NAME SG-STATUS
IMST RECOVERY          IMSGSG1 STLSITE2 IDENTIFIED
**** TRACKING STATUS: TRACKING
NUMBER OF ACTIVE SUBSYSTEMS:                4
**** TRACKING ACTIVITY *****
NAME      TYPE      RECEIVED-LOG  ROUTED-LOG  NOT-ROUTED  STATUS
IMSD      ONLINE    N/A          N/A         N/A         CONV-ACT
IMSC      ACTIVE    15:31:00    15:29:54   2K         CONV-ACT
IMSB      ONLINE    N/A          N/A         N/A         CONV-ACT
IMSA      ACTIVE    15:31:10    15:29:47   3K         CONV-ACT
**** GAPS *****
NAME      LOG-SEQ-FIRST  IN-GAP  RECEIVED  NOT-ROUTED  STATUS
```

Examples for /DISPLAY TRACKING STATUS Command

```

IMSC      0000000000007D31      2K      0K      N/A  WAITING
**** ISOLATED LOG SENDER STATUS *****
SYSTEM NAME OF TRANSPORT MANAGER SUBSYSTEM:  TMPAR
NUMBER OF CONVERSATIONS:                      1
**** ONLINE FORWARD RECOVERY STATUS *****
NUMBER OF STREAMS BEING PROCESSED:            0
**** MILESTONE INDEX STATUS *****
CURRENT MILESTONE INDEX:                      38
RESTART MILESTONE INDEX:                     37
**** DLI TRACKING STATUS *****
TRACKING PSTS:                                0
USAGE OF TRACKING PSTS:                       0%
BACKLOG OF REDO RECORDS IN DATASPACE:        0K
**** FP TRACKING STATUS *****
TRACKING PSTS:                                0
CURRENT LOG VOLUME IN DATASPACE:             0K
MAX LOG VOLUME IN DATASPACE:                 0K
*94305/153209*

```

Example 2 for /DISPLAY TRACKING STATUS Command

The following is an example of a /DISPLAY TRACKING STATUS command entered on an active system IMSC, located in San Jose.

See "Example 1 for /DISPLAY TRACKING STATUS Command" on page 277 for a description of the sample RSR environment.

Entry ET:

```
/DIS TRACKING STATUS
```

Response ET:

```

**** ACTIVE SUBSYSTEM *****
IMSID  GSG-NAME  SG-NAME  SG-STATUS
IMSC   ACCTGRP1  SITESJ   IDENTIFIED
**** ACTIVE'S CONVERSATIONS WITH LOG ROUTERS *****
IMSID  RECORDS-NOT-SENT
IMST   1K SENDING LOGS
*91317/150416*

```

Example 1 for /DISPLAY TRANSACTION Command

Entry ET:

```
/DISPLAY TRANSACTION ALL
```

Response ET:

TRAN	CLS	ENQCT	QCT	LCT	PLCT	CP	NP	LP	SEGSZ	SEGNO	PARLM	RC
TPN1	22	14	7	5	0	8	5	8	0	0	0	5
	PSBNAME: DFSCPIC											
TPN2	23	16	0	0	0	0	0	0	0	0	0	0
	PSBNAME: DFSCPIC											
	STATUS: PUR											
TPN2	24	0	0	0	0	0	0	0	0	0	0	0
	PSBNAME: DFSCPIC											
	STATUS: STOP											
TRAN1	4	0	0	10	5	8	8	10	0	0	2	2
	PSBNAME: LU2PGM1											
TRAN2	7	0	0	65535	65535	8	8	8	0	0	0	0
	PSBNAME: LU2PGM2											
	STATUS: PSTOP											

90332/114253

Examples for /DISPLAY TRANSACTION Command

Example 2 for /DISPLAY TRANSACTION Command

Entry ET:

```
/DISPLAY TRANSACTION SKS1 SKS2 SKS3 SKS4 SKS5 SKS6 SKS7
```

Response ET:

```
TRAN  CLS  ENQCT  QCT  LCT  PLCT  CP  NP  LP  SEGSZ  SEGNO  PARLM  RC
SKS1   1    0    0  65535  65535  8  8  8    0    0    0  0
      PSBNAME: DFSDDL1
      STATUS:  TRA
SKS2   2    0    0  65535  65535  8  8  8    0    0    0  0
      PSBNAME: DFSDDL2
SKS3   3    0    0  65535  65535  8  8  8    0    0    0  0
      PSBNAME: DFSDDL3
      STATUS: STOP,TRA
SKS4   4    0    0  65535  65535  8  8  8    0    0    0  0
      PSBNAME: DFSDDL4
      STATUS: STOP
SKS5   5    0    0  65535  65535  8  8  8    0    0    0  0
      PSBNAME: DFSDDL5
SKS6   6    0    0  65535  65535  8  8  8    0    0    2  0
      PSBNAME: DFSDDL6
      STATUS: BAL( 2)
SKS7   7    0    0  65535  65535  8  8  8    0    0    1  0
      PSBNAME: DFSDDL7
      STATUS: BAL( 2)
*89184/142345*
```

Example 3 for /DISPLAY TRANSACTION Command

Entry ET:

```
/DISPLAY TRANSACTION TRANA TRANB TRANC QCNT
```

Response ET:

```
TRAN          GBLQCT
TRANA         0
TRANB         1000
TRANC         45
*95200/170817*
```

Example for /DISPLAY UOR Command

Entry ET:

```
/DISPLAY UOR
```

Response ET:

```
ST  P-TOKEN  PSBNAME  RRS-URID  IMS-TOKEN
A      DBOVLFPC  AF3499A27EC3E2980000000401010000  SYS1  0000000400000002
EID=0001812223768AC1009B5870268346
C      DBOVLPFB  AF1124A27EE1C2380000000501020000  SYS1  0000000700000002
EID=0002A35549021DA108538121766899670
RI  00010120  PLAPJK02  12345678901234567890123456789012  SYS1  0000001300000001
EID=0001C35549021DB176523121445797320
*96337/145345*
```

Entry ET:

```
/DISPLAY UOR ACTIVE
```

Response ET:

Example for /DISPLAY UOR Command

```
ST P-TOKEN PSBNAME RRS-URID IMS-TOKEN
A PLAPJK01 AF3278A27EC3E2980000000402010000 SYS1 0000000400000002
LUWID=0EIMSNET.L62IMS1999E359820810001
*96338/091642*
```

Entry ET:

```
/DISPLAY UOR INDOUBT
```

Response ET:

```
ST P-TOKEN PSBNAME RRS-URID IMS-TOKEN
RI 00010040 DBOVLFP 98768883421097867890123456789012 SYS1 0000008300000001
LUWID=0EIMSNET.L62IMS1763E358330410001
RI 00010120 PLAPJK02 AF34A6307EC4E2980000000201010000 SYS1 0000002700000001
LUWID=0EIMSNET.L62IMS1438E339103810001
*96336/113502*
```

Entry ET:

```
/DISPLAY UOR 010140
```

Response ET:

```
ST P-TOKEN PSBNAME RRS-URID IMS-TOKEN
RI 00010140 PLAPJK02 AF34A6307EC4E2980000000201010000 SYS1 0000002700000001
LUWID=0EIMSNET.L62IMS1999E359820810001
*96340/011544*
```

Example for /DISPLAY USER Command

Entry ET:

```
/DISPLAY USER IMSUS01 IMSUS02
```

Response ET:

```
USER USERID ENQCT DEQCT QCT
IMSUS01 IMSUS01 1 1 0 ALLOC(DTSLU201) CONV-HLD
N/A IMSUS01 N/A N/A N/A ALLOC(L3270A ) STATIC
N/A IMSUS02 N/A N/A N/A ALLOC(L3270B ) STATIC
DT327002 IMSUS02 0 0 0 ALLOC(DT327002)
*92350/112229*
```

Entry ET:

```
/DISPLAY USER USER1 USER2 USER3 QCNT
```

Response ET:

```
USERID USER GBLQCT
N/A USER1 25
USER2 USER2A 0
USER2 USER2B 10
USER3 IMSUSR3A 40
*95200/170817*
```

Entry ET:

```
/DISPLAY USER IMSUS01*
```

Response ET:

```
USER USERID ENQCT DEQCT QCT
IMSUS01C N/A 0 0 0 STOPPED
IMSUS01D N/A 0 0 0 STOPPED
IMSUS01 IMSUS01 1 1 0 ALLOC(DTSLU201) CONV-HLD
N/A IMSUS01 N/A N/A N/A ALLOC(L3270A ) STATIC
*92350/113904*
```


Example for /DISPLAY USER Command

Entry ET:

```
/DISPLAY USER ALL
```

Response ET:

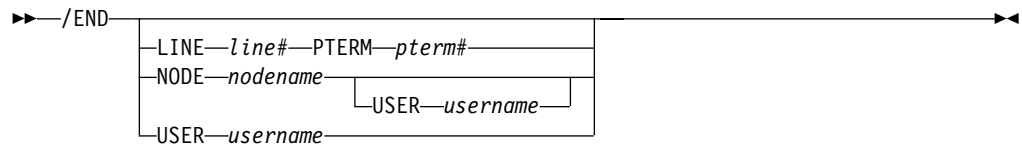
USER	USERID	ENQCT	DEQCT	QCT
CA13	N/A	0	0	0 STATIC
IMSUS01C	N/A	0	0	0 STOPPED
IMSUS01D	N/A	0	0	0 STOPPED
LU6SPA	N/A	0	0	0 ALLOC(LU6NDPF) STATIC
LU6SPB	N/A	0	0	0 STATIC
DT327002	IMSUS02	0	0	0 ALLOC(DT327002)
IMSUS03	IMSUS03	0	0	0 ALLOC(DTSLU601)
IMSUS01	IMSUS01	1	1	0 ALLOC(DTSLU201) CONV-HLD
IMSUS05	N/A	0	0	0 STOPPED
N/A	IMSUS02	N/A	N/A	N/A ALLOC(L3270B) STATIC
N/A	IMSUS01	N/A	N/A	N/A ALLOC(L3270A) STATIC
N/A	IMSUS04	N/A	N/A	N/A ALLOC(L3270C) STATIC

92350/114845

Example for /DISPLAY USER Command

Chapter 20. /END

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/END	X		X
LINE	X		X
NODE	X		X
PTERM	X		X
USER	X		X

Usage

/END terminates all special operating modes established through the prior entry of an /EXCLUSIVE, /TEST, or /LOOPTEST command.

/END with no keywords operates on the entering terminal with a signed on user.

LINE

Specifies the communication line for which special operating modes are terminated.

NODE

Specifies the VTAM node for which special operating modes are terminated.

/END NODE is not valid for ISC nodes with users or nodes that were dynamically created. /END NODE USER only applies to ISC sessions and affects the half-session allocated to username.

USER

Without the NODE keyword, USER specifies the dynamic user for which special operating modes are terminated. The named user must exist in IMS, must be dynamic, and must not be signed on to a node. When /END USER is issued against a temporary user, which was created solely to retain status that is now reset, the temporary user is deleted at the next simple checkpoint.

Example for /END Command

Entry ET:

```
/END
```

Response ET:

```
DFS058I  END COMMAND COMPLETED
```

IMS Commands

Explanation: All modes that previously existed are ended.

Chapter 21. /ERESTART

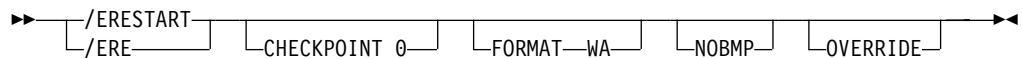
Format

Manual Restart of an XRF Alternate System

Use this command only after the active system issues message DFS3804I.

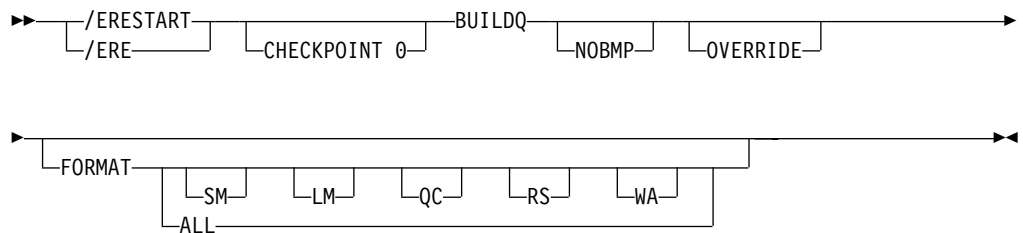


Restart of IMS Following Loss of Virtual Storage Only

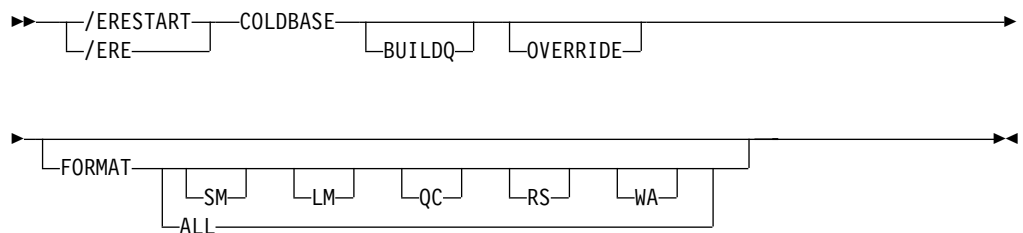


Restart of IMS Following Loss of Virtual Storage and Message Queue Data Set Integrity

The message queues have not been dumped to the system log since the most recent cold start.

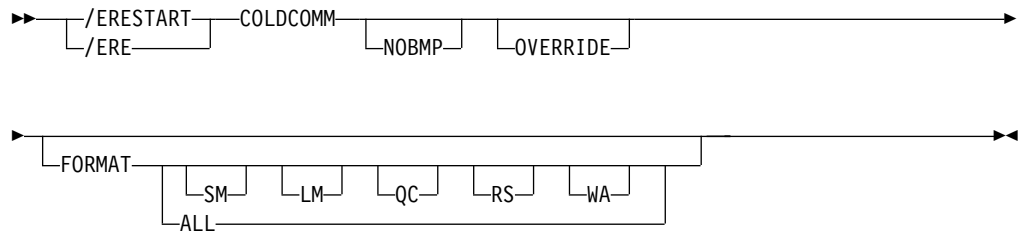


Restart of IMS Following /ERESTART Failure of the Database Component

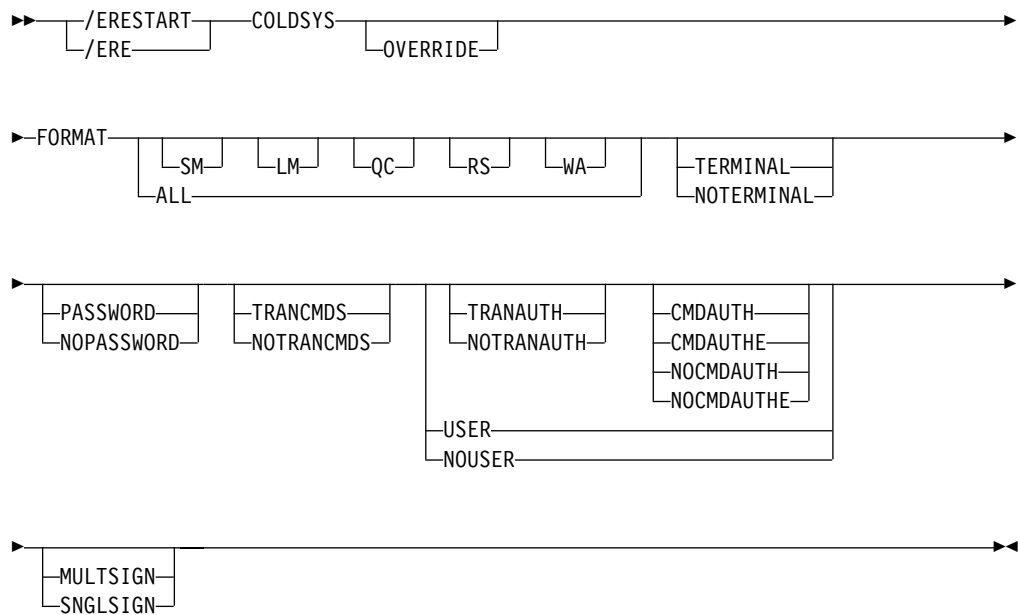


/ERESTART

Restart of IMS Following /ERESTART Failure of Communication Component



Restart of IMS Following /ERESTART Failure of Both the Database and Communication Components



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/ERESTART	X	X	X
BACKUP	X		X
BUILDQ	X		X
CHECKPOINT	X	X	X
CMDAUTH	X		X
CMDAUTHE	X		X
COLDBASE	X	X	
COLDCOMM	X		X
COLDSYS	X	X	X

Command / Keywords	DB/DC	DBCTL	DCCTL
FORMAT	X	X	X
MULTSIGN	X		X
NOBMP	X	X	X
NOCMDAUTH	X		X
NOCMDAUTHE	X		X
NOPASSWORD	X		X
NOTERMINAL	X		X
NOTRANAUTH	X		X
NOTRANCMDS	X		X
NOUSER	X		X
OVERRIDE	X	X	X
PASSWORD	X		X
SNGLSIGN	X		X
TERMINAL	X		X
TRANAUTH	X		X
TRANCMDS	X		X
USER	X		X

Usage

/ERESTART is a multisegment command used to:

- Perform a manual restart of an IMS XRF alternate system.
- Restart IMS any time the system was not terminated with an orderly /CHECKPOINT shutdown. Three conditions that result in the need for an emergency restart are:
 - Abnormal termination of IMS
 - Abnormal termination of MVS/ESA
 - Forced termination of IMS using the MVS/ESA MODIFY command

For an /ERESTART command restart, the base security definition is created:

- From the IMS system definition and the EXECUTE parameter specifications, when the COLDSYS keyword is specified.
- From the IMS checkpoint data, when the COLDSYS keyword is not specified.

To override the security definitions, specify the COLDSYS keyword and the security keywords on the COLDSYS keyword.

The format for /ERESTART depends on whether or not the IMS system is an XRF alternate system. If the system is not an alternate system, the format also depends on the type of system failure associated with the termination and whether or not the message queues have been dumped to the system log since the most recent cold start.

All /ERESTART formats require an EOM indication to denote end-of-message; an EOS indication must be included for all segments that precede the last segment. See “Multisegment Command Input” on page 6 for more details on using EOS and EOM.

/ERESTART

With Fast Path, the /ERESTART command loads the latest MSDB checkpoint data set and applies all MSDB changes up to the latest complete commit point. /ERESTART also ensures that DEDB updates created between the restart checkpoint and the latest complete commit point are applied. If the DEDB updates are not applied, they are queued for output. Output messages not acknowledged or not transmitted are also queued for output.

For a list of commands recovered, see 19.

BACKUP

Indicates that the control region is an alternate system in an XRF environment. This command is required when performing manual restart.

BUILDQ

Is required for any restart from a failure in which message queue data set integrity was lost. When a checkpoint other than checkpoint 0 is specified, the checkpoint must be one at which the message queues were dumped to the system log. Message queue data set integrity has been lost if one or more of the data sets have been reallocated or reformatted. If a checkpoint is not specified, IMS selects the appropriate checkpoint from which to start.

If an /ERESTART BUILDQ command fails, and then you issue the /ERESTART CHECKPOINT 0, /ERESTART COLDCOMM, or /ERESTART COLDSYS command, messages in local queues are lost. However, the IMS/ESA Message Requirer (MRQ) program product (5655-038) can be used to recover local message queues. For more information about MRQ, refer to the *IMS/ESA Message Requirer Program Description/Operations Manual*.

In a shared-queues environment, the BUILDQ keyword is ignored because the message queue data sets are not used.

CHECKPOINT

CHECKPOINT is an optional keyword that identifies whether the restart should use the initial system checkpoint taken during the cold start of the IMS subsystem. If you do not specify this keyword, IMS determines the correct checkpoint to use. If you do specify this keyword, you can only specify CHECKPOINT 0 to use the initial system checkpoint.

CMDAUTH

Specifies that both signon (user identification verification) and command authorization for static and ETO terminals are in effect at the end of the emergency restart. (Command authorization is same as specifying RCF=S on the startup parameter.)

To specify CMDAUTH, either:

```
SECURITY macro TYPE=RACFTERM|RACFCOM|SIGNEXIT|TRANEXIT
```

must be specified in the IMS system definition, or

```
EXEC parameters RCF=A|Y|T|C|S
```

must be specified on an EXEC parameter.

CMDAUTHE

Specifies that command authorization for ETO terminals (same as RCF=S on the startup parameter) is in effect at the end of the emergency restart. CMDAUTHE also resets command authorization for static terminals, if it was set.

To specify CMDAUTHE, either:

SECURITY macro TYPE=RACFTERM|RACFCOM|SIGNEXIT|TRANEXIT

must be specified in the IMS system definition, or

EXEC parameters RCF=A|Y|T|C|S

must be specified on an EXEC parameter.

COLDBASE

Indicates a cold start of the database component, while performing an emergency restart of the communications component.

- If this keyword is used, the recovery of the databases is the responsibility of the user. The Fast Path areas will not be redone and no backouts of inflight DL/I databases will be performed. If in-doubts exist, a batch backout run with the cold start option will backout inflight DL/I data. This will place both DL/I and Fast Path data in the aborted state.
- If this keyword is not used, the database component will be restarted.

COLDCOMM

Indicates a cold start of the data communication component, while an emergency restart of the database component is being performed. This includes recovering Fast Path DEDBs, reloading MSDBs, backing out inflight changes to DL/I databases, and maintaining all existing indoubt data. COLDCOMM is used to get the DC network reinstated as soon as possible while databases are being recovered. As a result of COLDCOMM, all of the messages on the local message queue will be lost; inflight messages in shared queues are moved to the cold queue for later recovery. If this keyword is not used, the data communication component will be restarted.

COLDSYS

Indicates a cold start of both the database and the data communication components. The /ERESTART COLDSYS command performs the same function as the /NRESTART CHECKPOINT 0 DETACH command performed in prior releases, and replaces it.

The SGN=, TRN=, and RCF= startup parameters can be overridden by the /ERESTART COLDSYS command using the keywords shown in Table 28.

Table 28. Security Keywords and Their Startup Parameter Equivalents

Keyword ¹	Description	Startup Parameter
CMDAUTH	RACF command authorization on static and ETO terminals only	RCF=S
CMDAUTHE	RACF command authorization on ETO terminals only	RCF=C
MULTSIGN	Permits multiple signons for each user ID	SGN=M
NOCMDAUTH	Resets the command authorization on static and ETO terminals	Not RCF=S
NOCMDAUTHE	Resets the command authorization on ETO terminals only	Not RCF=C
NOTRANAUTH	Resets the transaction authorization.	Not TRN=F or Y
NOUSER	Resets user identification verification, transaction authorization, and command authorization	Not SGN=F or Y (G or Z becomes M) Not TRN=F or Y Not RCF=C or S

/ERESTART

Table 28. Security Keywords and Their Startup Parameter Equivalents (continued)

Keyword ¹	Description	Startup Parameter
SNGLSIGN	Permits a single signon for each user ID	SGN=F and Y Not SGN=M (G or Z becomes F or Y)
TRANAUTH	Transaction authorization	TRN=F or Y
USER	Sets user identification verification	SGN=Y

Note:

1. Valid only with the /ERESTART COLDSYS command.

FORMAT

Specifies which queues or data sets should be formatted as part of the restart process when:

- A message queue or data set I/O error occurs.
- The size of a message queue or data set is to be changed.
- A message queue or data set is to be reallocated.
- Allocation of the WADS changes.

When queues or data sets must be formatted as part of the restart process, specify one or more of the following:

SM	Short-message queue
LM	Long-message queue
QC	Control record data set (QBLKs)
RS	Restart data set
WA	Write ahead data set
MD	MSDB dump data set (valid only for backup)
ALL	All message queues (SM and LM) and data sets (QC, WA and RS). For DBCTL, this supports RS and WA only.

Any combination of SM, LM, QC, WA, MD, and RS can be specified; for example, FORMAT LM RS. When you specify ALL, do not specify SM, LM, QC, WA, MD, or RS.

In a shared-queues environment, the LM, SM, and QC parameters are ignored because the message queue data sets are not used. If you specify ALL, IMS does not attempt to format the message queue data sets.

Table 29 shows the environments in which the parameters are valid.

Table 29. /ERESTART FORMAT Command Parameter Environments

Parameter	DB/DC	DBCTL	DCCTL
SM	X		X
LM	X		X
QC	X		X
RS	X	X	X
WA	X	X	X
MD	X		X

Table 29. /ERESTART FORMAT Command Parameter Environments (continued)

Parameter	DB/DC	DBCTL	DCCTL
ALL	X	X	X

If the WADS must be reformatted during emergency restart, the ALL parameter can be used. IMS first closes the OLDS from the WADS and then reformats the WADS. If you generally use the ALL parameter during restart, do not be concerned that the WADS will not be available to close the OLDS.

MULTSIGN

Permits multiple signons for each user ID.

NOBMP

Specifies no backout of BMP updates occurs and all affected databases and programs are stopped.

If NOBMP is not specified, all updates made subsequent to the last commit point invoked by the active BMP programs are backed out of the database as part of the restart process.

NOBMP is ignored if no BMP programs were active at the time of the system failure.

NOCMDAUTH

Resets command authorization on static and ETO terminals.

NOCMDAUTHE

Resets command authorization for static and ETO terminals. The command authorization is reset for static terminals because the command authorization for static terminals cannot exist without the command authorization for ETO terminals.

NOTERMINAL

Specifies that the terminal security specifications established by the Security Maintenance utility are not in effect at completion of this emergency restart.

IMS system definition might have precluded the authority of the master terminal operator to negate terminal security, in which case, if NOTERMINAL is specified, an error message is received.

NOTRANAUTH

Turns off transaction authorization. NOTRANAUTH is not the opposite of TRANAUTH. TRANAUTH sets transaction authorization and also turns on signon (user identification verification).

If you specify NOTRANAUTH, it will be rejected with an error message if either:

- SECLEVL=FORCTRAN was specified on the system definition SECURITY macro.
- TRN=F was specified as a JCL EXEC parameter.

NOUSER

Specifies that none of the following is in effect at the end of the emergency restart:

- Transaction authorization
- User identification verification
- Command authorization

/ERESTART

OVERRIDE

Is required only to restart the system after failure of power, machine, MVS/ESA, or DBRC where IMS abnormal termination was unable to mark the DBRC subsystem record in RECON as abnormally terminated. IMS emergency restart will abort with message DFS0618A when DBRC indicates that the subsystem is currently active and that neither the **OVERRIDE** keyword nor the **BACKUP** keyword is present on the **/ERESTART** command. If there is any doubt about the status of an IMS system at restart time, the **OVERRIDE** keyword should not be used.

Attention: Use of the **OVERRIDE** keyword on a currently executing IMS system can lead to database and system integrity problems.

PASSWORD or NOPASSWORD

Specifies whether (**PASSWORD**) or not (**NOPASSWORD**) the password security specifications established by the Security Maintenance utility will be in effect at completion of this emergency restart.

IMS system definition might have precluded the authority of the master terminal operator to negate password security, in which case, if **NOPASSWORD** is specified, an error message is received.

SNGLSIGN

Permits a single signon for each user ID.

TERMINAL

Specifies that the terminal security specifications established by the Security Maintenance utility are in effect at completion of this emergency restart. However, **TERMINAL** can only be used for transaction authorization if **RCF=S** is specified. **SMU** is not used for command terminal security if **RACF** is used.

TRANAUTH

Specifies both transaction authorization and user identification verification, with or without **RACF**.

To specify **TRANAUTH** either:

```
SECURITY macro TYPE=RACFTERM|RACFCOM|SIGNEXIT|TRANEXIT
```

must be specified in the IMS system definition, or

```
EXEC parameters RCF=A|Y|T|C|S
```

must be specified on an **EXEC** parameter.

TRANCMDs or NOTTRANCMDs

Specifies whether (**TRANCMDs**) or not (**NOTTRANCMDs**) the transaction command security established by the Security Maintenance utility is in effect at completion of this emergency restart.

TRANCMDs

Specifies that transaction command security established by the Security Maintenance utility is in effect at completion of this emergency restart.

NOTTRANCMDs

Specifies that transaction-entered commands cannot be entered. IMS system definition might have precluded the authority of the master terminal operator to not allow transaction-entered commands, in which case, if the **NOTTRANCMDs** keyword is used, an error message is returned.

USER

Specifies user identification verification. User identification verification means

that signon is required by the static terminals that are defined to SMU for signon verification. This keyword has no effect on ETO terminals because they are always required to sign on. User identification verification can be forced on by TRANAUTH or CMDAUTH.

To specify USER, either:

```
SECURITY macro TYPE=RACFTERM|RACFCOM|SIGNEXIT|TRANEXIT
```

must be specified in the IMS system definition, or

```
EXEC parameters RCF=A|Y|T|C|S
```

must be specified on an EXEC parameter.

Examples

Example 1 for /ERESTART Command

All system data sets are intact.

Entry ET:

```
/ERESTART.
```

Response ET:

```
DFS058I (time stamp) ERESTART COMMAND IN PROGRESS
DFS680I USING CHKPT 85200/123456
DFS994I *CHKPT 85201/110117**SIMPLE*
```

Explanation: The restart is being performed from checkpoint 85200/123456, which was selected by IMS. If IMS contained active BMPs when the system failed, checkpoint 85200/123456 is the checkpoint that allows backout of all updates made by each active BMP since its latest system checkpoint. A simple checkpoint is written on the system log. The checkpoint number is 85201/110117.

Example 2 for /ERESTART Command

Message queues are in error.

Entry ET:

```
/ERESTART BUILDQ.
```

Response ET:

```
DFS058I (time stamp) ERESTART COMMAND IN PROGRESS
DFS680I USING CHKPT 85119/074811
DFS994I *CHKPT *85120/192021**SIMPLE*
```

Explanation: IMS is restarted at 192021 (time) on 85120 (* * date) from the most recent DUMPQ or SNAPQ checkpoint, 85119/074811. A simple checkpoint is written on the system log. The checkpoint number is 85120/192021.

The message queues from checkpoint 85119/074811 are loaded.

If BMP programs were active when the system failed, all updates invoked by the BMP programs are backed out.

/ERESTART

Example 3 for /ERESTART Command

Small and large message queues were reallocated. The message queues have been dumped at least once since the most recent cold start.

Entry ET:

```
/ERESTART BUILDQ FORMAT SM LM.
```

Response ET:

```
DFS058I (time stamp) ERESTART COMMAND IN PROGRESS  
DFS680I USING CHKPT 85201/070348  
DFS994I *CHKPT *85204/010203**SIMPLE*
```

Explanation: IMS is restarted at 010203 (time) on 85204 (Julian date). A simple checkpoint was written on the system log. The checkpoint number is 85204/010203.

The large and small message queue data sets are reformatted.

The message queues are loaded from checkpoint 85201/070348.

If BMP programs were active when the system failed, all updates invoked by the BMP programs are backed out.

Example 4 for /ERESTART Command

Message queues in error or data sets reallocated and the message queues have not been dumped since the most recent cold start.

Entry ET:

```
/ERESTART BUILDQ FORMAT ALL NOBMP.
```

Response ET:

```
DFS058I (time stamp) ERESTART COMMAND IN PROGRESS  
DFS680I USING CHKPT 85045/112140  
DFS994I *CHKPT 85121/235959**SIMPLE*
```

Explanation: IMS is restarted at 235959 (time) on 85121 (Julian date) from the checkpoint taken during cold start 85045/112140. A simple checkpoint is written on the system log. The checkpoint number is 85121/235959.

All message queues and data sets are reformatted.

The message queues from the system log were loaded.

BMP programs that were active when the system failed are stopped, as are the databases updated by them.

Example 5 for /ERESTART Command

Figure 3 on page 295 and Figure 4 on page 295 show formatted master screens for active and backup IMS master terminals in an XRF environment.

The /ERESTART BACKUP command was entered on the master terminal of the XRF IMS system IMSB. During the synchronization phase, the alternate system requested a SNAPQ checkpoint from the active system. The /ERESTART BACKUP is currently complete and alternate system IMSB is now tracking active system IMSA.

```
85/05/15 14:28:44 RSENAME: DFSRSENM BACKUP TRACKING IN PROGRESS IMSB
DFS810A IMS READY 085135/1422535 IMS432 .IEFPROC
DFS058 14:26:10 ERESTART COMMAND IN PROGRESS
DFS3871I JOINAVM WAS SUCCESSFUL
DFS3873I JOINRSE MODE=BACKUP WAS SUCCESSFUL
DFS3857I OKTOSYNC ARRIVED FROM THE ACTIVE SYSTEM.
DFS680I USING CHKPT85135/142629
DFS2591I NO MSDB HEADERS FOUND, IMAGE COPY LOAD IGNORED
DFS3839I 14:26:46 XRF INITIAL DC PRE-OPEN COMPLETE.
DFS3838I 14:28:41 XRF INITIAL DB PRE-OPEN COMPLETE.
```

/ere backup.

PASSWORD:

Figure 3. IMS Formatted Master for the Alternate System

```
85/05/15 14:26:40 RSENAME: DFSRSENM ACTIVE IMSA
DFS3499I ACTIVE DDNAMES: MODBLKSA IMSACBA FORMATA MODSTAT ID: 11
DFS3804I LAST CHKPT ID VALID FOR RESTART: 85135/141619-BUILDQ: 85135/141619

DFS994I COLD START COMPLETED.
DFS3830 14:16:23 NO DEFERRED PAGE FIXING WAS DONE
DFS3856I REQSYNC WAS PROCESSED TO TAKE SNAPQ CHKPT.
DFS2716I NO MSDBS FOUND - NO MSDB CHECKPOINT TAKEN
DFS994I *CHKPT 85135/14269***SNAPQ**
DFS3499I ACTIVE DDNAMES: MODBLKSA IMSACBA FORMATA MODSTAT ID: 11
```

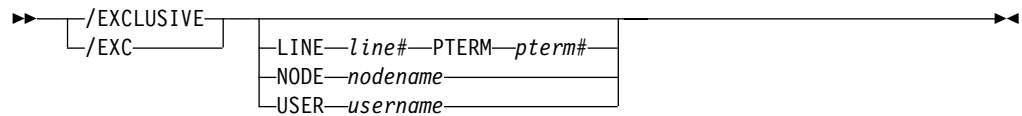
MASTER MESSAGE WAITING PASSWORD:

Figure 4. IMS Formatted Master for the Active System

IMS Commands

Chapter 22. /EXCLUSIVE

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/EXCLUSIVE	X		X
LINE	X		X
NODE	X		X
PTERM	X		X
USER	X		X

Usage

/EXCLUSIVE puts a terminal into exclusive mode. This command, without keywords, is valid from a terminal with a signed on user. The LINE PTERM and NODE keywords are only valid for output-only terminals. For a dynamically created user, the exclusive mode status is remembered across signons.

Exclusive mode restricts the output received by the terminal affected:

- A regular input/output terminal in exclusive mode only receives messages transmitted in response to transactions entered from that physical terminal.
- An output-only terminal in exclusive mode receives messages transmitted in response to transactions entered into its associated input logical terminals.

Except for an IMS system message responding to an error condition, all other output for a terminal in exclusive mode remains queued for later transmission. The queued output is transmitted after exclusive mode is reset with the /END command or a /START command.

Note: /END is used to get a terminal out of exclusive mode.

LINE PTERM

Specifies the communication line to be put into exclusive mode. The /DISPLAY LINE line# PTERM pterm# command identifies a terminal in exclusive mode.

NODE

Specifies that the static VTAM node be put into exclusive mode. This command is not valid for nodes that were dynamically created.

USER

Specifies that the dynamic user be put into exclusive mode. If the user does not

/EXCLUSIVE

exist in IMS, it and its associated LTERMs will be created to remember the exclusive status. If /EXCLUSIVE USER is issued against an existing user, the user must be dynamic.

Examples

Example 1 for /EXCLUSIVE Command

Entry ET:

```
/EXCLUSIVE
```

Response ET:

```
DFS058I EXCLUSIVE COMMAND COMPLETED
```

Explanation: No messages are sent to this terminal other than application program output resulting directly from transaction input.

Example 2 for /EXCLUSIVE Command

Entry ET:

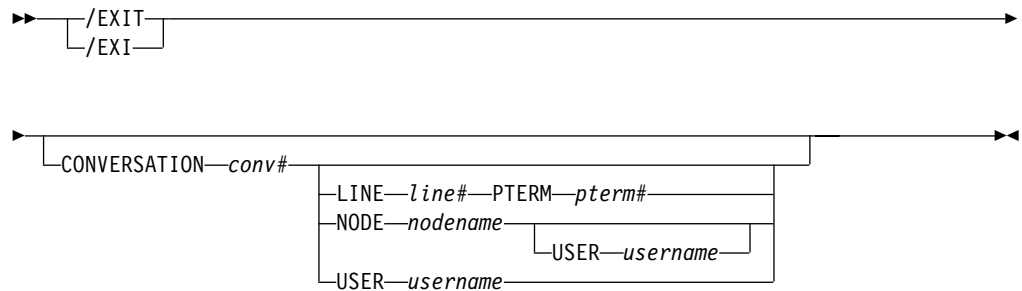
```
/EXCLUSIVE USER alpha
```

Response ET:

```
DFS058I EXCLUSIVE COMMAND COMPLETED
```

Chapter 23. /EXIT

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/EXIT	X		X
CONVERSATION	X		X
LINE	X		X
NODE	X		X
PTERM	X		X
USER	X		X

Usage

The /EXIT command terminates a conversation that currently exists between the terminal operator and an application program. The conversation can be either active or in hold status at the time /EXIT is entered. Depending upon the conversational processing options selected for the IMS system, the application program might or might not be notified of the conversation termination.

Transactions that are queued for processing when the /EXIT command is issued are discarded. If a transaction is being processed when /EXIT is issued, the command is rejected.

The /EXIT command with no keywords can only be used if the conversation is active.

/EXIT is not valid from an LU 6.2 or OTMA device. DEALLOCATE the APPC conversation after receiving all output from an iteration.

When the /EXIT command only specifies the CONVERSATION keyword (and no others), this command can only be entered from the terminal that owns the conversation.

/EXIT

CONVERSATION

Terminates the specified conversation. The conversation is terminated whether it was active or held. The conversation identifier (conv#) must be specified as a 4-digit number, including leading zeros.

LINE PTERM

Terminates the conversation on the physical terminal specified, regardless of whether the conversation was active or held. The line specified must be in stopped and idle status.

NODE

Terminates the conversation on the node specified, regardless of whether the conversation was active or held. The node specified must be stopped or idle. This form of the command does not support dynamic nodes or LU 6.2 nodes defined with users.

The NODE USER combination applies only to the specified half-session of the ISC parallel session node allocated to USER. The half-session must have been stopped and idled. The command must be issued from a terminal or node other than the one in the conversation.

USER

Terminates the conversation associated with the specified user. The user must not be signed on to a node. The user must be dynamic.

Examples

Example 1 for /EXIT Command

Entry ET:

```
/EXIT
```

Response ET:

```
DFS058I  EXIT COMMAND COMPLETED
```

Explanation: The active and not held conversation associated with the entering terminal is terminated.

Example 2 for /EXIT Command

Entry ET:

```
/EXIT
```

Response ET:

```
DFS576I  EXIT COMPLETED, TRANSACTION DISCARDED
```

Explanation: /EXIT processing found the conversational transaction enqueued for an application or transmission across an MSC link, but it has not yet been scheduled for processing. The transaction has been discarded.

Example 3 for /EXIT Command

Entry ET:

```
/EXIT
```

Response ET:

```
DFS577I  EXIT COMPLETED, TRANSACTION STILL ACTIVE
```

Explanation: /EXIT processing found the conversational transaction had been or is in the process of being transmitted across an MSC link.

Example 4 for /EXIT Command

Entry ET:

```
/EXIT CONVERSATION 0001
```

Response ET:

```
DFS058I  EXIT COMMAND COMPLETED
```

Explanation: The active or held conversation (0001) is terminated if the terminal is in conversation.

Example 5 for /EXIT Command

Entry ET:

```
/EXIT CONVERSATION 0001 LINE 10 PTERM 2
```

Response ET:

```
DFS058I  EXIT COMMAND COMPLETED
```

Explanation: Used from another PTERM or master terminal when a PTERM in conversation is "locked," waiting for a response. /EXIT CONVERSATION should be used before a /START LINE command that resets all conversations active on the line.

IMS Commands

Chapter 24. /FORMAT

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/FORMAT	X		X
LTERM	X		X

Usage

/FORMAT causes a specific format to be displayed on a physical terminal using the IMS Message Format Service (MFS). The displayed format is used by IMS in processing the next input from the formatted terminal.

Using a password with /FORMAT is not valid.

/FORMAT, where an IMS-supplied default modname is used, is not effective for a 3270 master terminal that uses the MFS master terminal formatting option.

Note: If a format is lost during a conversation, do **not** use the /FORMAT command to restore the format. Instead, enter a /HOLD command followed by a /RELEASE command to display the first physical page of the current message and restore the format.

modname

Specifies the name of the message output descriptor (MOD) to be used to format the terminal.

LTERM

Specifies the name of the logical terminal to be formatted. LTERM is required when a terminal other than the input terminal is to be formatted. If LTERM is not specified, the input physical terminal must have at least one LTERM assigned.

If the ltermname does not exist, an attempt is made to create the lterm and associated user structure. The command creates this structure by queueing the format and data, if any exists, to the terminal as if it were a message. This process is similar to a message switch, a message insert, or a /BROADCAST LTERM, all of which queue a message to an LTERM.

The format request is rejected if the specified LTERM is:

- Assigned to a physical terminal that is not supported by MFS
- In line-response mode or exclusive mode
- Involved in an active conversation
- An input-only terminal
- Not the alternate master in an XRF system

/FORMAT

- A remote LTERM

data

Is a string consisting of 1 to 8 characters to be inserted into the output message created for the terminal being formatted. Since MFS treats the data as application program output data, the data string can be used to select a logical page (LPAGE) within the requested MOD. The way the selection is performed is determined by the requested MOD's LPAGE definitions.

Example for /FORMAT Command

Remote Terminal entry:

```
/FORMAT DFSMO4  
/BROADCAST LTERM WTOR (eos)  
this is segment 1 (eos)  
this is segment 2 (eos)  
this is segment 3 (eom)
```

Response ET:

```
DFS058I BROADCAST COMMAND COMPLETED
```

Response RT:

```
THIS IS SEGMENT 1  
THIS IS SEGMENT 2  
THIS IS SEGMENT 3
```

Explanation: The remote terminal is first formatted via the /FORMAT command, where default format DFSMO4 supports the input of 4 segments. This is followed by /BROADCAST with four segments.

Chapter 25. /HOLD

Format

▶▶ `/HOLD` ◀◀
 └─┬─
 └─┬─
 `/HOL`

Environments

Command	DB/DC	DBCTL	DCCTL
<code>/HOLD</code>	X		X

Usage

The `/HOLD` command suspends and saves a currently active conversation.

The IMS response to `/HOLD` provides a conversation identification that must be used later when the held conversation is resumed (`/RELEASE` command) or terminated (`/EXIT`).

Example for /HOLD Command

Entry ET:

`/HOLD`

Response ET:

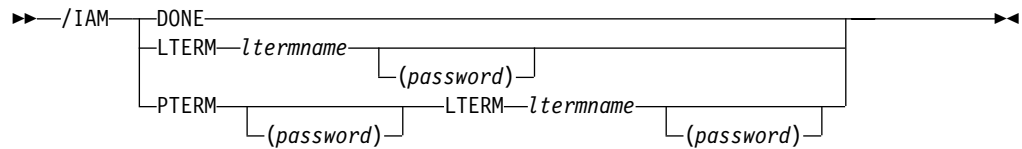
DFS999I HELD CONVERSATION ID IS 0001

Explanation: The active conversation is saved and is assigned an identification of 0001.

IMS Commands

Chapter 26. /IAM

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/IAM	X		X
DONE	X		X
LTERM	X		X
PTERM	X		X

Usage

/IAM is used to sign on to IMS from a terminal that is on a non-VTAM attached switched communication line. This command (without the DONE keyword) must be entered before any input transaction codes or terminal commands are accepted.

The terminal operator has five chances to sign on. If signon is not accomplished after five tries, IMS sends the operator a message indicating that the line is being disconnected. IMS disconnects the line and restores the line to answering status.

/IAM is not supported for Network Terminal Option devices.

DONE

Requests that IMS disconnect your terminal.

LTERM

Indicates this command automatically accomplishes the attachment of a user logical terminal named ltermname to the switched (dialup) communication line over which the call was received from the remote terminal.

If the first four characters of the ltermname parameter are INQU, the connection is completed with the inquiry logical terminal associated with the line/pterm that received the call.

PTERM [password] LTERM ltermname [password]

All logical terminals associated with the user in which logical terminal ltermname exists are signed on to the terminal entering the command. This form of /IAM is required if conversational transactions are to be entered.

Examples

Example 1 for /IAM Command

Entry ET:

```
/IAM LTERM SMITH
```

Response ET:

```
DFS058I IAM COMMAND COMPLETED
```

Explanation: Logical terminal SMITH is signed on to IMS.

Example 2 for /IAM Command

Entry ET:

```
/IAM LTERM INQU
```

Response ET:

```
DFS058I IAM COMMAND COMPLETED
```

Explanation: The inquiry logical terminal associated with the line/pterm that received the call is signed on to IMS.

Example 3 for /IAM Command

Entry ET:

```
/IAM PTERM (DOLLY) LTERM SUE (GIRL)
```

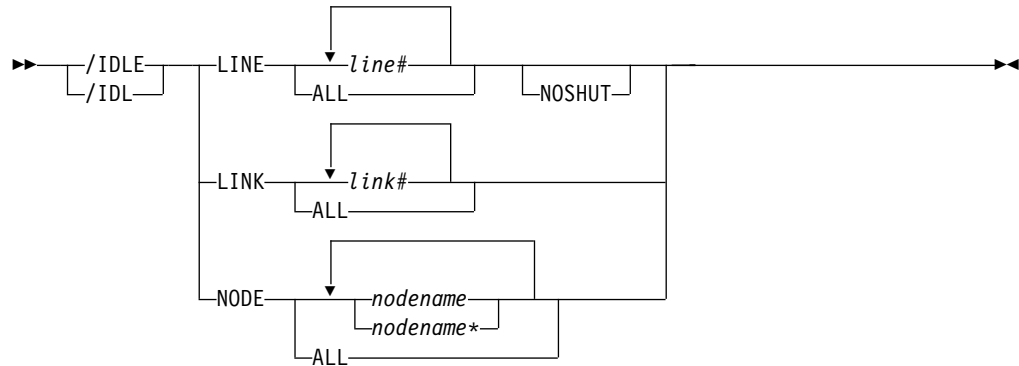
Response ET:

```
DFS058I IAM COMMAND COMPLETED
```

Explanation: All logical terminals associated with the user to which LTERM SUE belongs are signed on to IMS.

Chapter 27. /IDLE

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/IDLE	X		X
LINE	X		X
LINK	X		X
NODE	X		X
NOSHUT	X		X

Usage

/IDLE is used to immediately terminate input from, or output to, physical terminals assigned to the lines, logical links, or nodes specified in the command. Partially processed input messages on the lines specified in the command are discarded. Output messages being sent are returned to the message queues for later transmission.

LINE

Specifies the communication line to be immediately terminated.

/IDLE does not apply to the system console line, the master terminal line, or the secondary master terminal line. If these lines are specified, a DFS058 COMMAND COMPLETED EXCEPT LINE X message is returned. If the master terminal is assigned to a line that must be idle, the master terminal must be reassigned to a different line before /IDLE is specified.

NOSHUT

Immediately terminates input to and output from 3270 remote BTAM lines without a checkpoint shutdown. /IDLE cannot be entered before a checkpoint unless the NOSHUT keyword is included in the command. NOSHUT is only valid if IMS is not in the process of shutting down and is mutually exclusive with the NODE parameter. When /IDLE LINE line# NOSHUT is entered, the 3270 remote BTAM lines must be stopped or process stopped. A DFS058

/IDLE

COMMAND COMPLETED EXCEPT LINE X message is returned if the command is entered and one of the following conditions exists:

- The line is the master terminal line or system console line, including the secondary master terminal line.
- The line is not stopped or process stopped.
- The line is not a 3270 remote BTAM line.
- The line is not open.
- The line is deactivated by IMS.

If the line specified with the NOSHUT keyword belongs to a line group, the input and output for all lines within the group are immediately terminated. If the line belonging to the line group has the master terminal assigned to it, the /IDLE LINE line# NOSHUT command is rejected.

To restart the lines idled by the /IDLE LINE line# NOSHUT command, either the /START LINE or /RSTART LINE command must be entered.

LINK

Specifies the logical link from which input, or to which output, is to be terminated. (No input messages are lost with /IDLE LINK.)

If a checkpoint shutdown is not in progress, only MSC VTAM links are valid. All non-MSC VTAM links require a shutdown checkpoint in progress. IMS returns a DFS058 IDLE COMMAND COMPLETED EXCEPT LINK X message if one of the following conditions exists:

- The link is idled already.
- The link is not connected.
- The link cannot be opened.
- A shutdown checkpoint is not in progress (for non-MSC VTAM links).

An /IDLE LINK link# command internally causes issuing of the VTAM command:

```
VARY NET,TERM,TYPE=FORCE,NOTIFY=NO,SCOPE=ALL,LU1=xxxxxxxx,LU2=yyyyyyyy
```

All logical links, assigned to the same physical link, associated with the named logical link (link#) will be stopped. That is, all parallel sessions on the same physical link will be stopped. The /RSTART LINK command is used to reactivate links or sessions.

The /IDLE LINK link# command should not be used as the first attempt to stop the link. If the MSC link appears to be hung, the IMS operator should:

1. First attempt to stop the link with the IMS /PSTOP command.
2. If this fails, display the link session status via VTAM, using the VTAM command:

```
D NET,ID=xxxxxxxx
```

or the VTAM command:

```
D NET,SESSIONS,LIST=ALL
```

3. If the link session is still active (STATUS=ACTIV), terminate it with the /IDLE LINK command or the VTAM command:

```
VARY NET,TERM,TYPE=FORCE,LU1=xxxxxxxx
```

Note: All parallel sessions associated with the link will be terminated.

NODE

Specifies the VTAM node to which output is to be terminated, or from which input is to be terminated. The master terminal only can be idled when specifically named.

If an `/IDLE NODE nodename` command is entered for an ISC node defined with users, all half-sessions of the specified node are affected.

An `/IDLE NODE ALL` command causes the VTAM command `VARY NET,INACT`, to be issued to all nodes still connected to IMS, except the master terminal.

If the `/IDLE NODE` command is entered prior to IMS entering shutdown, the `/ACT` command can be entered to reactivate the node in VTAM. If the `/IDLE NODE` command is entered while in IMS shutdown, a `VARY NET,ACT` command might have to be entered directly to VTAM. However, before using the `/IDLE` command, a `/CLSDST` and then a `/CLSDST FORCE` command should be tried.

The node parameter can be generic. The generic parameter specifies nodes that already exist.

Examples

Example 1 for /IDLE Command

Entry ET:

```
/IDLE LINE 14 24
```

Response ET:

```
DFS058I IDLE COMMAND COMPLETED
```

Explanation: The I/O on lines 14 and 24 is forced to terminate.

Example 2 for /IDLE Command

Entry ET:

```
/IDLE LINE 4 NOSHUT
```

Response ET:

```
DFS058I IDLE COMMAND COMPLETED
```

Explanation: The I/O on line 4, which is a 3270 remote BTAM line, is forced to terminate.

Example 3 for /IDLE Command

Entry ET:

```
/IDLE LINK 2
```

Response ET:

```
DFS058I IDLE COMMAND COMPLETED
```

Explanation: The input/output on logical link 2 is forced to terminate.

/IDLE

Example 4 for /IDLE Command

Entry ET:

```
/IDLE NODE ABC
```

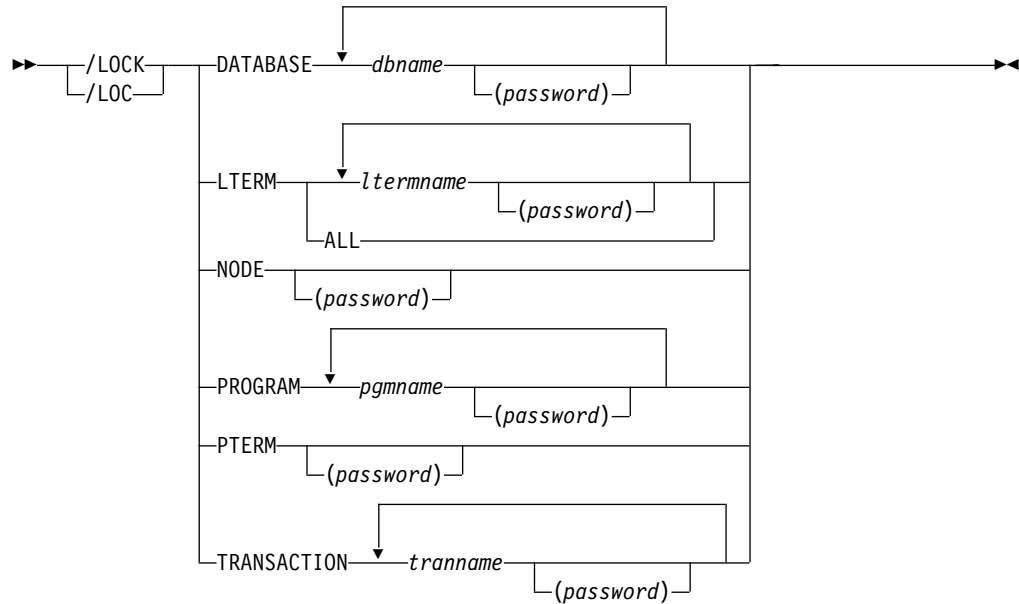
Response ET:

```
DFS058I IDLE COMMAND COMPLETED
```

Explanation: A VARY NET, INACT command is executed that will cause the IMS VTAM LOSTERM exit to be entered with an indication that the session has been terminated.

Chapter 28. /LOCK

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/LOCK	X	X	X
DATABASE	X	X	
LTERM	X		X
NODE	X		X
PROGRAM	X	X	X
PTERM	X		X
TRANSACTION	X		X

Usage

/LOCK stops the sending and receiving of messages to and from a terminal, stops the scheduling of messages containing a specific transaction code, stops the scheduling of a specific program, and stops the use of a database. Queuing of output messages for a particular communication line, terminal, or transaction code is not affected.

DATABASE

LOCK prevents subsequently scheduled programs from accessing the database. /LOCK DATABASE does not close the database or affect currently scheduled programs.

/LOCK

If the database is a DEDB or MSDB, programs using the database will not be scheduled. For other databases, the programs will still be scheduled. If the INIT call was issued, however, a call against the database will result in either a 3303 pseudo abend or a BA status code.

For DBCTL, CCTL can specify LONG or SHORT when it schedules a PSB. If the database is currently scheduled to a LONG thread, the command is rejected. If not, the thread completes before the database is acted upon. If the thread completes, a commit point or transaction termination is the result.

For the results of issuing this command on a shared secondary index, see "Appendix D. Shared Secondary Index Database Commands" on page 565.

LTERM

Specifies the logical terminal for which sending and receiving of messages is to be stopped. /LOCK LTERM applies only to logical terminals associated with the entering physical terminal.

The password specified with /LOCK LTERM is ignored for dynamic LTERMs because the Security Maintenance Utility is used for password support and is not supported for dynamic terminals. The /LOCK command itself is not ignored.

The /LOCK LTERM ALL command can only be used when none of the logical terminals associated with the entering physical terminal have passwords.

NODE

Specifies that the sending and receiving of messages for the VTAM node associated with the entering physical terminal is to be stopped.

The password specified with /LOCK NODE is ignored for dynamic ACF/VTAM nodes because the Security Maintenance Utility is used for password support and is not supported for dynamic terminals. The /LOCK command itself is not ignored.

PROGRAM

Specifies the program for which scheduling is to be stopped.

PTERM

Specifies that the sending and receiving of messages for the entering physical terminal is to be stopped.

TRANSACTION

Specifies that scheduling of messages containing this transaction code is to be stopped. The /LOCK TRANSACTION command cannot be used with Fast Path exclusive transactions but can be used with Fast Path potential transactions.

/LOCK TRANSACTION cannot be used for CPI Communications driven programs.

/LOCK LTERM, NODE, and PTERM apply only to the entering physical terminal. /LOCK DATABASE | PROGRAM | TRANSACTION is only valid if entered from the master terminal, the system console, a TCO script, or an AOI application program.

Issuing /LOCK for a physical terminal, logical terminals, or nodes prevents the sending of application program output (assuming nonresponse mode transactions) and message switches from any other terminals. Output message queuing continues for the locked physical terminal. /STOP LTERM can be used instead of /LOCK LTERM, because both stop the sending and receiving of messages to the physical terminal.

If the terminals are on a switched communication network and a physical or logical terminal disconnection occurs, an implied /UNLOCK is processed against the physical terminal and inquiry logical terminal.

The /LOCK command cannot be used with logical terminals assigned to deallocated users.

Examples

Example 1 for /LOCK Command

Entry ET:

```
/LOCK DATABASE TREEFARM
```

Response ET:

```
DFS058I LOCK COMMAND COMPLETED
```

Explanation: Application programs that use the MSDB database named TREEFARM are no longer scheduled. Transaction input can continue.

Example 2 for /LOCK Command

Entry ET:

```
/LOCK LTERM ALL
```

Response ET:

```
DFS058I LOCK COMMAND COMPLETED
```

Explanation: Output is queued but not sent to the logical terminals associated with the physical terminal from which /LOCK was entered.

Example 3 for /LOCK Command

Entry ET:

```
/LOCK PROGRAM APPLETRE
```

Response ET:

```
DFS058I LOCK COMMAND COMPLETED
```

Explanation: Program APPLETRE can no longer be scheduled.

Example 4 for /LOCK Command

Entry ET:

```
/LOCK PTERM
```

Response ET:

```
DFS058I LOCK COMMAND COMPLETED
```

Explanation: Application program output (if nonresponse mode transaction) and message switches from other terminals are not sent to the entering physical terminal. Output is queued for later transmission when the terminal is unlocked.

/LOCK

Example 5 for /LOCK Command

Entry ET:

```
/LOCK TRANSACTION SEED
```

Response ET:

```
DFS058I LOCK COMMAND COMPLETED
```

Explanation: The application program for transaction code SEED can no longer be scheduled. Transaction input can continue.

Entry ET:

```
/LOCK TRANSACTION TXCDLM06
```

Response ET:

```
DFS058I LOCK COMMAND COMPLETED EXCEPT TRANSACTION  
TXCDLM06
```

Explanation: TXCDLM06 is a Fast Path exclusive transaction. /LOCK cannot stop the scheduling of Fast Path exclusive transactions.

Chapter 29. /LOG

Format

▶▶—/LOG—*text*————▶▶

Environments

Command / Keywords	DB/DC	DBCTL	DCCTL
/LOG	X	X	X

Usage

/LOG writes a single-segment message to the IMS system log. Any text can be logged, including transaction codes or command streams. An X'02' log record is produced and contains the text. This command applies only to the currently entered message segment and does not establish a continuing operational mode.

text is the alphanumeric character message to be logged.

Example for /LOG Command

Entry ET:

```
/LOG TODAY IS MONDAY
```

Response ET:

```
DFS058I LOG COMMAND COMPLETED
```

Explanation: An X'02' log record containing the text

```
TODAY IS MONDAY
```

is written to the IMS system log.

IMS Commands

/LOOPTEST

```
/LOOPTEST LINE 5 PTERM 1 (EOS)  
DATA TEST (EOS)  
12345 (EOM)
```

Response ET:

```
DFS058I LOOPTEST COMMAND COMPLETED
```

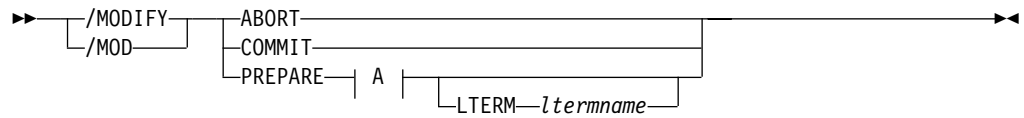
Response RT:

```
DATA TEST 12345  
DATA TEST 12345  
and so forth.
```

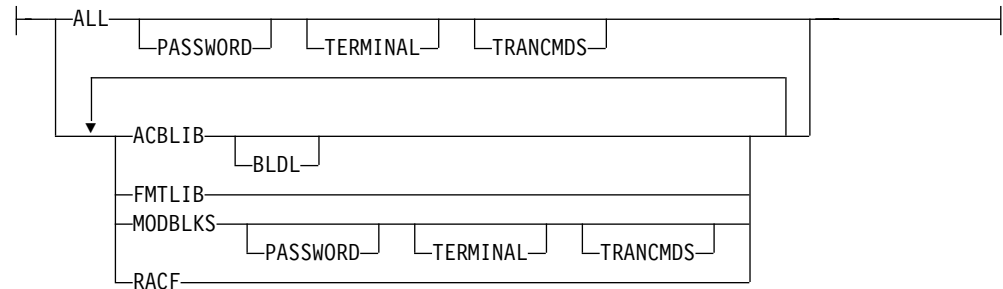
Explanation: DATA TEST 12345 is repetitively sent to PTERM 1 on LINE 5.

Chapter 31. /MODIFY

Format



A:



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/MODIFY	X	X	X
ABORT	X	X	X
COMMIT	X	X	X
LTERM	X		X
PASSWORD	X	X	X
PREPARE	X	X	X
TERMINAL	X		X
TRANCMS	X		X

Usage

/MODIFY controls the modification of IMS resources online. It switches the online environment from the active ACBLIB, FORMAT, MATRIX, and MODBLKS libraries to the inactive libraries containing the new or changed resource descriptions. See *IMS/ESA Administration Guide: System* and *IMS/ESA Installation Volume 1: Installation and Verification* on how to create the inactive libraries before using this command. See *IMS/ESA Utilities Reference: System* for information on using the Online Change utility. The descriptions of the resources and parameters are shown in Table 30 on page 322.

/MODIFY

Table 30. Resources and Parameters Available to the /MODIFY Command

Parameter	Library	Description
ACBLIB	IMS.ACBLIBx ¹	Contains database and program descriptors such as DMBs and PSBs.
FMTLIB	IMS.FORMATx ¹	Contains MFS maps produced by the MFS language utility and service utility. The FMTLIB parameter is not valid with DBCTL.
MODBLKS	IMS.MODBLKSx, ¹ IMS.MATRIXx	Contains a subset of control blocks produced by IMS system definition and security definitions.
RACF		RACF in-storage profiles. The RACF parameter is not valid with DBCTL.

Note:

1. x = A or B
2. Use the SETROPTS RACLIST(CIMS) REFRESH command to refresh RACF updates.

The correct sequence for /MODIFY commands is PREPARE followed by COMMIT. If the online change is not to be completed, the /MODIFY ABORT command is used. The /MODIFY PREPARE command specifies which resources are to be changed or deleted. Depending on the parameters entered, the system will initiate quiescing of appropriate resources. COMMIT initiates the changes entered in a preceding PREPARE. If a previously entered /MODIFY PREPARE command is to be canceled, ABORT must be entered.

An IMS automated operator program can issue the /MODIFY PREPARE and /MODIFY ABORT commands, but it cannot issue the /MODIFY COMMIT command. Thus, you can automate the preparation (or aborting) for online change.

If this command is used to delete a database, IMS closes the database and makes it unavailable to programs. Also, if the database is authorized for DBRC, /MODIFY unauthorizes it.

Fast Path DEDBs are supported by the /MODIFY command, but Fast Path MSDBs are not supported.

ABORT

Resets the status that was set by the /MODIFY PREPARE command after a /MODIFY PREPARE, or can be used if the /MODIFY COMMIT was not successful and the operator chooses not to attempt the online change at that time.

COMMIT

Brings all the newly defined resources online, updates the changed resources, and invalidates the deleted resources.

If ALL was specified on the /MODIFY PREPARE command, the ACBLIB, FMTLIB, and MODBLKS changes must be successful or the /MODIFY COMMIT will be rejected. When COMMIT is successful, the modifications will persist across all IMS restarts. If FMTLIB is entered, most new and in-progress requests will be queued for processing after the /MODIFY COMMIT command is completed.

If MODBLKS or ACBLIB is specified, work in progress in the system for changed or deleted ACBLIB and MODBLKS resources must be completed, or the /MODIFY command is rejected.

/DISPLAY MODIFY is used to display the work that was in progress prior to the entering of /MODIFY COMMIT.

IMS will prevent messages entered from terminals from being queued to transactions, but program-to-program switches from applications can still occur. Therefore, a /DISPLAY MODIFY command can indicate that no work is pending for the resources to be modified or deleted, but the /MODIFY COMMIT might be rejected. If this occurs, the new work must be allowed to complete and then the /MODIFY COMMIT command must be reentered.

/MODIFY COMMIT is rejected if:

- A /MODIFY PREPARE command was not previously entered.
- Transactions to be deleted have messages queued.
- Transactions to be changed by the following system definition keywords have messages queued:
 - MSGTYPE
 - INQUIRY
 - FPATH
 - EDIT
 - SPA
- Transactions to be changed by keywords not shown in the previous bullet have messages queued, and the transactions have not been the object of a /STOP or /PSTOP command.
- Transactions with access to programs and/or databases to be changed or deleted are prevented from updating, and the transactions have not been the object of a /STOP or /PSTOP command. When a transaction shows a status of USTOP during a /DISPLAY TRANSACTION, the /STOP command might need to be entered, because the /PSTOP command might not allow the /MODIFY command to complete the transaction.
- Programs or databases to be changed or deleted are scheduled.
- Any program (PSB) that is currently scheduled has a program, database, or transaction change or deletion. This includes Wait for Input (WFI) and Fast Path transactions. All WFI and Fast Path regions that reference changed or deleted routing codes, programs, and/or databases must be stopped before entering the /MODIFY COMMIT.
- An I/O error occurs while reading the inactive MFS FORMAT library directory or the resident index (\$\$IMSDIR) member.
- A /START DATABASE command is in progress for any database that is changed or deleted.
- A /DBDUMP or /DBRECOVERY command is in progress for any database that is changed or deleted.

Operator action might be required to prevent the preceding conditions. For example, if a program or database is scheduled, the operator should either wait until the program or database is finished before the /MODIFY COMMIT command is entered, or the operator should issue /STOP or /PSTOP for the associated transaction.

PREPARE

/MODIFY PREPARE is not recovered across an emergency restart and must be reentered after restart if the /MODIFY COMMIT did not complete prior to an IMS failure.

/MODIFY

The following parameters are valid with /MODIFY PREPARE. The environments in which the parameters are valid are shown in Table 31.

Table 31. /MODIFY PREPARE Parameters Environments

Parameter	DB/DC	DBCTL	DCCTL
ACBLIB	X	X	X
ALL	X	X ¹	X
BLDL	X	X	X
FMTLIB	X		X
LTERM	X		X
MODBLKS	X	X	X
PASSWORD	X	X	X
TERMINAL	X		X
TRANCMD5	X		X
RACF	X		X

Note:

1. Only applies to ACBLIB, MODBLKS, and BLDL.

ACBLIB

Quiesces the transactions to be changed or deleted and transactions that access databases or programs to be changed or deleted. ACBLIB members that are not found are displayed as CHANGED because a DDIR or PDIR exists in MODBLKS. Additions or deletions to ACBLIB require the MODBLKS parameter.

ALL

Indicates that /MODIFY PREPARE is to be performed for ACBLIB, FMTLIB, RACF, MODBLKS and BLDL.

BLDL

Causes information message DFS3498I to be issued for each PSB or DMB not found in ACBLIB. This message does not affect the success of the command.

FMTLIB

Indicates that there will be no restrictions on the use of MFS format blocks until the /MODIFY COMMIT command is entered.

LTERM ltermname

Specifies a logical terminal to receive lists of added, changed, or deleted resources.

MODBLKS

Causes IMS to prepare to bring the changes or deletions defined by the new system definition to IMS. Using MODBLKS also quiesces the transactions to be changed or deleted and transactions that access databases or programs to be changed or deleted.

PASSWORD

Is an optional keyword that can be specified in any combination with ALL or MODBLKS to add, but not delete, specific types of security definitions if they had not existed before. If ALL or MODBLKS is specified, the application of new security definitions will always be attempted based upon

the prevailing security options in effect from the last IMS initialization. See *IMS/ESA Administration Guide: System* for more information on security definition.

RACF

Use of the RACF data space invalidates the IMS online change support for RACF with the /MODIFY command. The IMS online change support is still valid, though, when the RACF data space is not being used.

The message DFS3432 RACF PARAMETER INVALID IF RACF DATA SPACE IS USED is issued if the RACF parameter is used on the /MODIFY PREPARE command when the RACF data space is being used. You can use the RACF command SETROPPTS RACLIST (classname) REFRESH to refresh the RACF resource profiles in the RACF data space without requiring the IMS applications to suspend work.

TERMINAL

Is an optional keyword that can be specified in any combination with ALL or MODBLKS to add, but not delete, specific types of security definitions if they had not existed before. If ALL or MODBLKS is specified, the application of new security definitions will always be attempted based upon the prevailing security options in effect from the last IMS initialization. See *IMS/ESA Administration Guide: System* for more information on security definition.

TRANCMD5

Is an optional keyword that can be specified in any combination with ALL or MODBLKS to add, but not delete, specific types of security definitions if they had not existed before. If ALL or MODBLKS is specified, the application of new security definitions will always be attempted based upon the prevailing security options in effect from the last IMS initialization. See *IMS/ESA Administration Guide: System* for more information on security definition.

Examples

Example 1 for /MODIFY Command

This is an example of a successful PREPARE, COMMIT sequence. First, the command /MODIFY PREPARE ALL is issued, as shown below:

Entry ET:

```
/MODIFY PREPARE ALL
```

Response ET:

```
DFS3499I ACTIVE DDNAMES MODBLKSA IMSACBA FORMATA MODSTAT ID: 103
```

Explanation: The modifications are brought online to IMS during a subsequent successful /MODIFY COMMIT command. The ddnames of the active data sets and the current MODSTAT identifier are shown. This message is the normal response.

Example 2 for /MODIFY Command

This is an example of a prepare/commit/abort sequence.

Entry ET:

```
/MODIFY COMMIT
```

/MODIFY

Response ET:

```
DFS3499I ACTIVE DDNAMES: MODBLKSB IMSACBB FORMATB MODSTAT ID: 104
```

Explanation: Successful COMMIT. ID is incremented and DDNAMES changed. This message is the normal response.

After the response is received from the second part of the successful PREPARE, COMMIT sequence, the command shown in the example below is issued to conclude the PREPARE, COMMIT sequence:

Entry ET:

```
/MODIFY PREPARE ACBLIB MODBLKS TERMINAL
```

Response ET:

```
DFS3499I ACTIVE DDNAMES MODBLKSB IMSACBB FORMATB MODSTAT ID: 104
```

Explanation: The modifications will be brought online to IMS during a subsequent successful /MODIFY COMMIT command. This message is the normal response.

Entry ET:

```
/MODIFY COMMIT
```

Response ET:

```
DFS3452I WORK IN PROGRESS FOR RESOURCES TO BE CHANGED/DELETED
```

Explanation: The /MODIFY COMMIT was rejected because changed/deleted resources have not been quiesced.

Entry ET:

```
/MODIFY ABORT
```

Response ET:

```
DFS058I MODIFY ABORT COMMAND COMPLETED
```

Explanation: Status set by the /MODIFY PREPARE command is reset and the online change does not occur.

Example 3 for /MODIFY Command

This example shows the use of the LTERM keyword when adding, changing, or deleting Fast Path DEDBs or areas.

Entry ET:

```
/MODIFY PREPARE ALL LTERM WTOR
```

Response ET:

```
DFS3499I ACTIVE DDNAMES: MODBLKSA IMSACBA FORMATA MODSTAT ID: 1
DFS3430I THE FOLLOWING MODIFICATIONS WILL OCCUR DURING /MODIFY ...
COMMIT:
DFS3430I DATABASE CALENDER      ADDED
DFS3430I DATABASE NEWDD01      ADDED
DFS3430I DMB      CALENDER      ADDED
DFS3430I DMB      NEWDD01      ADDED
DFS3430I DMB      DEDBJN23     CHANGED
DFS3430I AREA    DB23AR4       DELETED
DFS3430I AREA    DB23AR5       DELETED
DFS3430I AREA    DB23AR6       DELETED
```

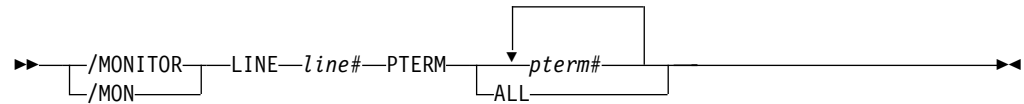
```
DFS3430I AREA DB23AR7 DELETED
DFS3430I DMB DEDBJN24 CHANGED
DFS3430I AREA DB24ANU1 ADDED
DFS3430I AREA DB24ANU2 ADDED
DFS3430I AREA DB24ANU3 ADDED
DFS3430I PSB BMP255 CHANGED
DFS3430I PSB DDLTFPE4 CHANGED
DFS3430I PSB DDLTJN21 CHANGED
DFS3430I PSB DDLTRN20 CHANGED
DFS3430I TRAN TRAN255 CHANGED
DFS3430I TRAN TXCDRN20 CHANGED
DFS3430I TRAN TXCD255 CHANGED
DFS3430I TRAN TXCD255W CHANGED
DFS3430I SECURITY PASSWORD NONE
DFS3430I SECURITY TERMINAL NONE
DFS3430I SECURITY TRANCMD5 NONE
DFS3430I SECURITY SIGNON NONE
DFS3430I SECURITY AGT NONE
DFS3430I END OF MODIFICATIONS
```

Explanation: The modifications will be brought online to IMS during a subsequent successful /MODIFY COMMIT command. These messages are the normal response.

IMS Commands

Chapter 32. /MONITOR

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/MONITOR	X		X
LINE	X		X
PTERM	X		X

Usage

/MONITOR stops output from being sent to programmable remote stations (System/3 or System/7). Input and output message queuing are allowed to continue.

/MONITOR can be used to reset conditions previously established by the /START, /RSTART, /STOP, /PSTOP, or /PURGE command.

LINE, PTERM

Specifies the communication line or physical terminal for which output is being stopped.

Example for /MONITOR Command

Entry ET:

```
/MONITOR LINE 4 PTERM 3
```

Response ET:

```
DFS058I MONITOR COMMAND COMPLETED
```

Response RT:

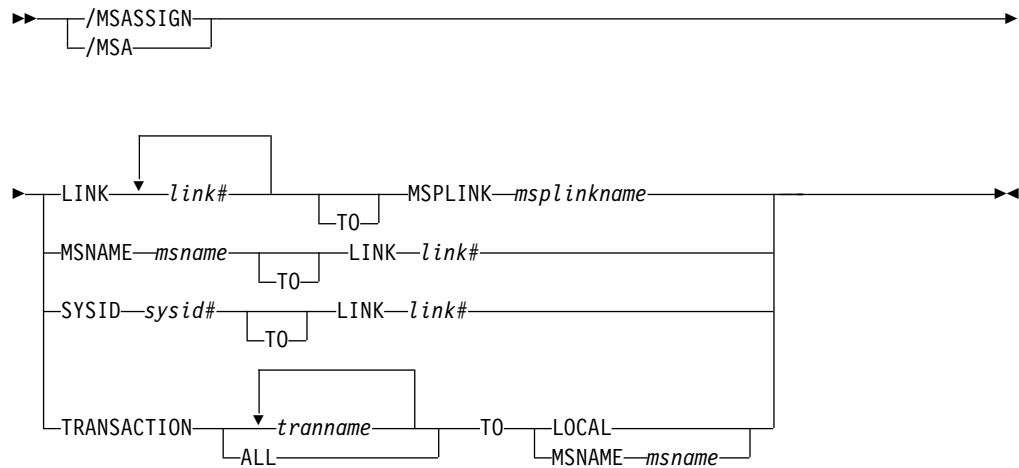
```
DFS059I TERMINAL MONITORED
```

Explanation: No further output is allowed to PTERM 3 on LINE 4.

IMS Commands

Chapter 33. /MSASSIGN

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/MSASSIGN	X		X
LINK	X		X
LOCAL	X		X
MSNAME	X		X
MSPLINK	X		X
SYSID	X		X
TRANSACTION	X		X

Usage

The /MSASSIGN command alters the assignments of the following multisystem resources: LINK, MSPLINK, MSNAME, and SYSID. These assignments include logical link to physical link, remote system identification (SYSID) to logical link, logical link path (MSNAME) to logical link, and transaction to a local or remote system.

All changes made by an /MSASSIGN command remain until changed with another /MSASSIGN command or an IMS cold start is performed. After the /MSASSIGN command is used, /MSVERIFY should be used to ensure that the assignment produced a valid configuration.

LINK

Specifies the logical link in a multiple system configuration.

Logical links can be assigned to physical links for input/output purposes. Only one logical link at a time can be assigned to a physical link (except for VTAM

/MSASSIGN

MSPLINKs, which can have multiple logical links assigned to them). The logical link must be stopped and idle for this assignment. Systems can only communicate with each other across a logical link established through specification of the same partner ID in both systems.

This type of assignment must be synchronized between the master terminal operators of the two systems. If a connection becomes inoperable while a transmission is in progress, this type of assignment allows switching to an alternate connection and proceeding with the unfinished transmission.

LOCAL

Specifies the local system, that is the subsystem in which the command is issued. The command `/MSASSIGN TRANSACTION p1 TO LOCAL` assigns transaction p1 to the local system.

MSNAME

Specifies the logical link path in a multiple systems configuration.

MSPLINK

Specifies the physical link in a multiple subsystem configuration.

The command `/MSASSIGN LINK p1 MSPLINK p2` assigns the logical link p1 to the physical link p2 for input and output purposes.

SYSID

Specifies the system identification of a remote system in a multiple system configuration. Remote SYSIDs can be assigned to logical links for output purposes. More than one SYSID (=MSNAME) can be assigned to one logical link. A remote SYSID (=MSNAME) cannot be assigned to another logical link if a message is currently transmitting on the connection corresponding to this SYSID. Therefore, the logical link must be stopped and idle for this assignment.

TRANSACTION

Specifies the transaction to be assigned to either the local or the remote system.

For successful completion of the command:

- The transactions must be stopped.
- When assigning a remote transaction to local, a local APPLCTN macro (no SYSID parameter) for the corresponding program (PSB) must have been included in the system definition. There must be a local as well as a remote PSB of the same name defined during system definition.

`/MSASSIGN TRANSACTION` cannot be used for the CPI Communications driven transaction program.

Examples

Example 1 for /MSASSIGN Command

Entry ET:

```
/MSASSIGN LINK 2 TO MSPLINK BBB
```

Response ET:

```
DFS058I MSASSIGN COMMAND COMPLETED
```

Explanation: The input system now has a logical connection to physical link BBB for all the SYSIDs assigned to link 2.

Example 2 for /MSASSIGN Command

Entry ET:

```
/MSASSIGN MSNAME BOSTON TO LINK 3
```

Response ET:

```
DFS058I MSASSIGN COMMAND COMPLETED
```

Explanation: The MSNAME BOSTON and its associated SYSID (19) have been reassigned to link 3. Link 3 can be used to associate all its SYSIDs with a main storage-to-main storage connection as opposed to a channel-to-channel or a bisynchronous connection.

Example 3 for /MSASSIGN Command

Entry ET:

```
/MSASSIGN SYSID 19 TO LINK 2
```

Response ET:

```
DFS058I MSASSIGN COMMAND COMPLETED
```

Explanation: SYSID 19 might have been originally assigned to link 1 in the remote system and known by the MSNAME of CHICAGO. The example above reassigns SYSID 19 (CHICAGO) to link 2. This assignment can be made when both link 1 and link 2 are connected to the same two IMS systems and link 1 is inoperable.

Example 4 for /MSASSIGN Command

Entry ET:

```
/MSASSIGN TRANSACTION XYZ TO MSNAME LNKY
```

Response ET:

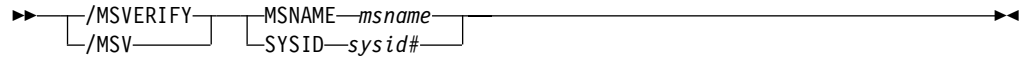
```
DFS058I MSASSIGN COMMAND COMPLETED
```

Explanation: Local and remote SYSIDs of transaction XYZ are assigned to the link associated with MSNAME LNKY.

IMS Commands

Chapter 34. /MSVERIFY

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/MSVERIFY	X		X
MSNAME	X		X
SYSID	X		X

Usage

/MSVERIFY verifies local transactions and local LTERMs for corresponding remote transactions and remote LTERMs. It also verifies the consistency of the attributes of corresponding transactions. For instance, Fast Path exclusive transactions cause an error message to be returned because the transactions can only be processed as local transactions. Defined paths that are usable between the two systems can also be verified with this command.

The IMS multiple systems verification utility is run offline following system definition. /MSVERIFY is used during online execution when verification of two systems is desired, such as after an /MSASSIGN command has been entered.

MSNAME

Specifies the logical link path in a multiple systems configuration.

SYSID

Specifies the remote system identification of a system in a multiple systems configuration.

Restriction: The /MSVERIFY command has the following restrictions:

- Only one remote system can be specified for each /MSVERIFY command.
- The /MSVERIFY command does not apply to ISC or directed routing.
- If an IMS Version 4 system is connected to a shared-queues environment, the /MSVERIFY command will only work if it is entered from the IMS system that is directly connected to the IMS Version 4 system.

Examples

Example 1 for /MSVERIFY Command

Entry ET:

```
/MSVERIFY MSNAME ABC
```

Response ET:

/MSVERIFY

```
DFS2234I MSVERIFY COMMAND IN PROGRESS FOR LOCAL  
SYSIDS 001,002,003,004 dddddd
```

Explanation: Assume SYSID numbers 001 through 004 are defined as local in the input system. dddddd is the time stamp.

Response ET:

```
DFS2243 TA11A IS NOT DEFINED AS TRANSACTION  
IN BOTH SYSTEMS.
```

Explanation: TA11A is defined as a remote transaction in one system but is not defined as a transaction in the partner system.

Response ET:

```
DFS2237I MSVERIFY COMPLETED FOR LOCAL SYSID 001  
ddddd
```

Explanation: Verification of local SYSID 001 is completed. The response message is repeated for local SYSIDs 002, 003, and 004 if all verify. dddddd is the time stamp.

Response ET:

```
DFS2235I SYSID 004 IS DEFINED AS LOCAL IN BOTH  
SYSTEMS. dddddd
```

Explanation: SYSID 004 has no corresponding remote SYSID. dddddd is the time stamp.

Remote SYSIDs are processed next.

Response ET:

```
DFS2236I MSVERIFY COMMAND IN PROGRESS FOR REMOTE  
SYSIDS 005,006,007,008 dddddd
```

Response ET:

```
DFS2237I MSVERIFY COMPLETED FOR SYSID 005  
ddddd
```

Explanation: The verification of one remote SYSID is completed. The response above is repeated for remote SYSIDs 006, 007, and 008 if all verify. dddddd is the time stamp.

Example 2 for /MSVERIFY Command

Entry ET:

```
/MSVERIFY SYSID 8
```

Explanation: The input system sends a list of its local SYSIDs to the remote system and then displays the following message on the input terminal.

Response ET:

```
DFS2234I MSVERIFY COMMAND IN PROGRESS FOR LOCAL SYSIDS  
001, 002, 003, 004 dddddd
```

Explanation: Assume SYSID numbers 001 through 004 are defined as local in the input system.

As the input system completes processing of the information returned for each of the input system's local SYSIDs, the following message is displayed on the input terminal:

Response RT:

```
DFS2237I MSVERIFY COMPLETED FOR SYSID 001  
dddddd
```

Explanation: The verification of local SYSID 001 is completed. The response message is repeated for local SYSIDs 002, 003, 004 if all verify. Verification is complete only if a DFS2237I message is received for every SYSID identified in the DFS2234I message. Definition and assignment errors can cause conditions that prevent these messages from being returned. Stopped or unassigned links can also prevent the return of the message. ddddd is the time stamp.

Remote SYSIDs are processed next. The input system sends all its pertinent information related to the remote system's local SYSIDs and displays the following message:

Response ET:

```
DFS2236I MSVERIFY COMMAND IN PROGRESS FOR REMOTE  
SYSIDs 005, 006, 007, and 008 ddddd
```

As the remote system completes processing of the information it received for each of its local SYSIDs, the following message is displayed on the input terminal. ddddd is the time stamp.

Response ET:

```
DFS2237I MSVERIFY COMPLETED FOR SYSID 005  
dddddd
```

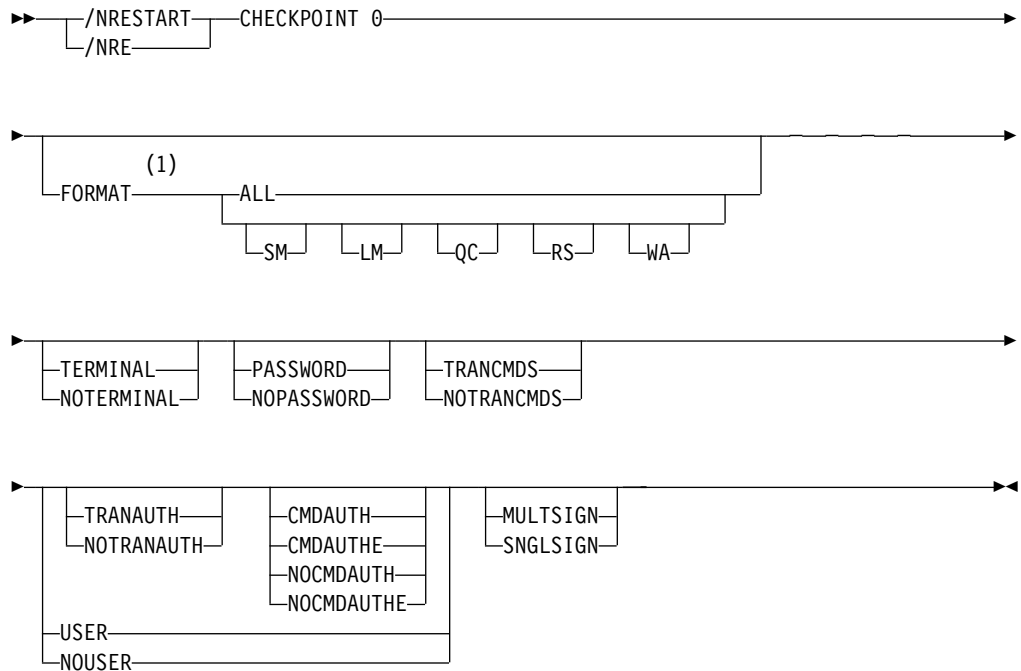
Explanation: The verification of one remote SYSID is complete. The last response message is repeated for remote SYSIDs 006, 007, 008 if all verify. ddddd is the time stamp.

IMS Commands

Chapter 35. /NRESTART

Format

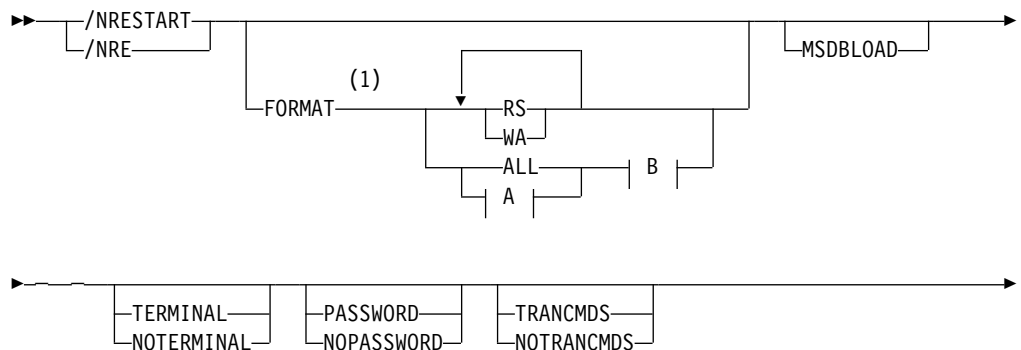
Cold Start With No Previous Shutdown



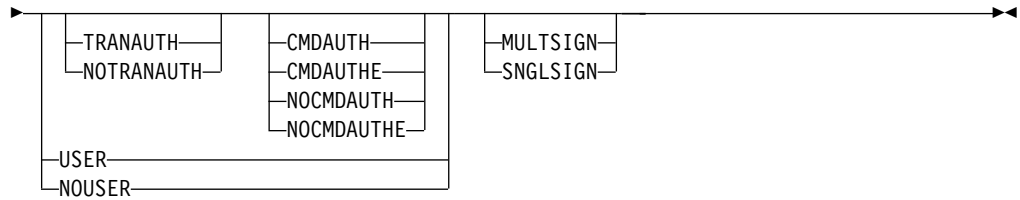
Notes:

- 1 The FORMAT keyword must be followed by at least one of the SM, LM, QC, RS, WA, or ALL parameters.

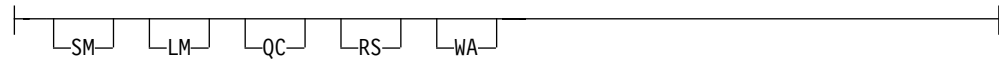
Warm Start After a /CHECKPOINT FREEZE Command



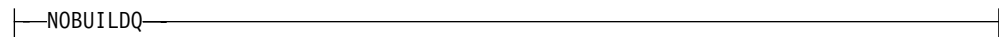
/NRESTART



A:



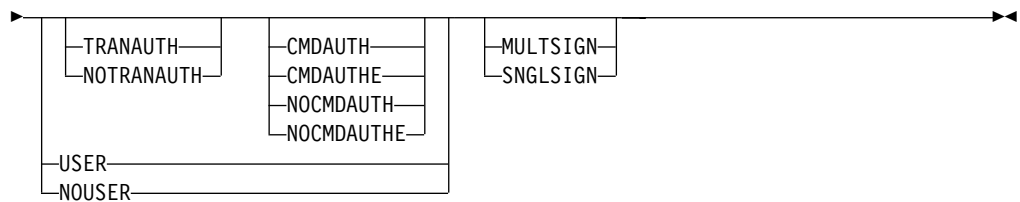
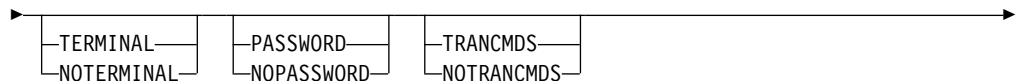
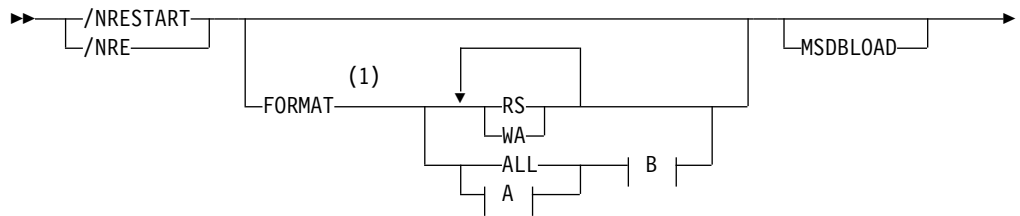
B:



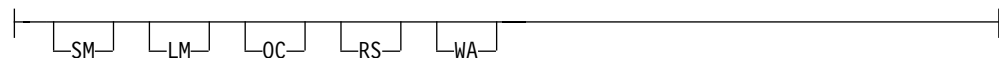
Notes:

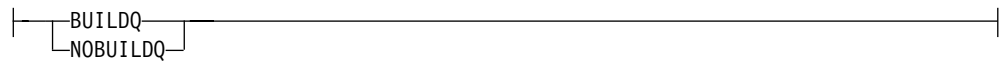
- 1 The FORMAT keyword must be followed by at least one of the SM, LM, QC, RS, WA, or ALL parameters.

Warm Start After a /CHECKPOINT PURGE or /CHECKPOINT DUMPQ Command



A:



B:**Notes:**

- 1 The FORMAT keyword must be followed by at least one of the SM, LM, QC, RS, WA, or ALL parameters.

Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/NRESTART	X	X	X
BUILDQ	X		X
CHECKPOINT	X	X	X
CMDAUTH	X		X
CMDAUTHE	X		X
FORMAT	X	X	X
MSDBLOAD	X		
MULTSIGN	X		X
NOBUILDQ	X		X
NOCMDAUTH	X		X
NOCMDAUTHE	X		X
NOPASSWORD	X		X
NOTERMINAL	X		X
NOTRANAUTH	X		X
NOTRANCMDs	X		X
NOUSER	X		X
PASSWORD	X		X
SNGLSIGN	X		X
TERMINAL	X		X
TRANAUTH	X		X
TRANCMDs	X		X
USER	X		X

Usage

The /NRESTART command has three forms. The form depends on:

- Whether a cold start or warm start is required
- In the case of warm starts, whether the previous orderly shutdown was accomplished with:
 - /CHECKPOINT FREEZE
 - /CHECKPOINT PURGE or DUMPQ

/NRESTART

/NRESTART is used to cold start IMS or warm start IMS following an orderly termination accomplished with a /CHECKPOINT shutdown command.

Attention: A cold start performed after a processing failure could cause processing against uncommitted data. To ensure data integrity, be sure necessary backout or recovery operations have been performed before restarting. For an IMS cold start, the base security definition is created from the IMS system definition and EXEC parameter specifications. For an /NRESTART warm restart, the base security definition is created from the IMS checkpoint data.

To override the base security definitions on a cold start, the security keywords of the /NRESTART command must be used.

The SGN=, TRN=, and RCF= startup parameters can be overridden by the /NRESTART command using the keywords shown in Table 32.

Table 32. Security Keywords and Their Startup Parameter Equivalents

Keyword	Description	Startup Parameter
CMDAUTH	RACF command authorization on static and ETO terminals only.	RCF=S
CMDAUTHE	RACF command authorization on ETO terminals only.	RCF=C
MULTSIGN	Permits multiple signons for each user ID.	SGN=M
NOCMDAUTH	Resets the command authorization on static and ETO terminals.	Not RCF=S
NOCMDAUTHE	Resets the command authorization on ETO terminals only.	Not RCF=C
NOTRANAUTH	Resets the transaction authorization.	Not TRN=F or Y
NOUSER	Resets user identification verification, transaction authorization, and command authorization.	Not SGN=F or Y (G or Z becomes M) Not TRN=F or Y Not RCF=C or S
SNGLSIGN	Permits a single signon for each user ID.	SGN=F and Y Not SGN=M (G or Z becomes F or Y)
TRANAUTH	Transaction authorization.	TRN=F or Y
USER	Sets user identification verification.	SGN=Y

BUILDQ or **NOBUILDQ**

BUILDQ requests that the message queues dumped on the log be loaded into the message queue data sets. BUILDQ is optional for a warm start after a /CHECKPOINT PURGE or /CHECKPOINT DUMPQ.

The BUILDQ keyword must be included if the message queues are to be restored after being formatted. If the BUILDQ keyword is specified, the log from the last /CHECKPOINT DUMPQ or /CHECKPOINT PURGE is required, slowing down the restart process.

If /NRESTART FORMAT is specified without the BUILDQ keyword, the NOBUILDQ keyword must be specified. specifying NOBUILDQ reformats the queues in question and all messages are lost.

If an /NRESTART BUILDQ command fails, and then the /ERESTART CHECKPOINT 0, /ERESTART COLDCOMM, or /ERESTART COLDSYS command is performed, the messages are lost. program product (5655-038) can be used to recover the local message queues. For more information about MRQ, refer to the *IMS/ESA Message Requeuer Program Description/Operations Manual*.

In a shared-queues environment, the BUILDQ keyword is ignored because the message queue data sets are not used.

CHECKPOINT

Identifies the shutdown/restart sequence. /CHECKPOINT 0 must be specified for a cold start.

CMDAUTH

Specifies that both signon (user identification verification) and command authorization for static and ETO terminals are in effect at the end of the emergency restart. (Command authorization is same as specifying RCF=S on the startup parameter.)

To specify CMDAUTH, either:

SECURITY macro TYPE=RACFTERM|RACFCOM|SIGNEXIT|TRANEXIT

must be specified in the IMS system definition, or

EXEC parameters RCF=A|Y|T|C|S

must be specified on an EXEC parameter.

CMDAUTHE

Specifies that command authorization for ETO terminals (same as RCF=S on the startup parameter) is in effect at the end of the emergency restart. CMDAUTHE also resets command authorization for static terminals, if it was set.

To specify CMDAUTHE, either:

SECURITY macro TYPE=RACFTERM|RACFCOM|SIGNEXIT|TRANEXIT

must be specified in the IMS system definition, or

EXEC parameters RCF=A|Y|T|C|S

must be specified on an EXEC parameter.

FORMAT

Specifies which queues or data sets should be formatted as part of the restart process when:

- A message queue or data set I/O error occurs.
- The size of a message queue or data set is to be changed.
- A message queue or data set is to be reallocated.

Specify one or more of the following or ALL:

SM Short-message queue
LM Long-message queue
QC Control record data set
RS Restart data set
WA Write-ahead data set

/NRESTART

ALL All message queues (SM and LM) and data sets (QC, WA, and RS)
When FORMAT ALL is specified, do not also specify SM, LM, QC, WA, or RS. FORMAT ALL is only required at IMS initialization (first time use of the system).

You can specify any combination of SM, LM, QC, WA, and RS; for example, FORMAT LM RS.

In a shared-queues environment, the LM, SM, and QC parameters are ignored because the message queue data sets are not used. If you specify ALL, IMS does not attempt to format the message queue data sets.

Table 33 shows the environments in which the parameters are valid.

Table 33. /NRESTART FORMAT Command Parameter Environments

Parameter	DB/DC	DBCTL	DCCTL
SM	X		X
LM	X		X
QC	X		X
RS	X	X	X
WA	X	X	X
ALL	X	X ¹	X

Note:

1. Supports only RS and WA parameters.

MSDBLOAD

Requests that the MSDBs be loaded from the MVS/ESA sequential data set MSDBINIT instead of the MSDB checkpoint data set. Use the MSDBLOAD keyword only when an MSDB initial load is required; otherwise, omit it from the /NRESTART command. After you modify an MSDB DBD, you must specify MSDBLOAD on the next warm start of IMS in order for the changes to be effective.

MSDBLOAD is not required:

- For warm starts when the MSDB checkpoint data set is used.
- For a cold start because the MSDBs are loaded from the MVS/ESA sequential data set MSDBINIT and the MSDB checkpoint data sets are formatted.

MULTSIGN

Permits multiple signons for each user ID.

NOCMDAUTH

Resets command authorization on static and ETO terminals.

NOCMDAUTHE

Resets command authorization for static and ETO terminals. The command authorization is reset for static terminals because the command authorization for static terminals cannot exist without the command authorization for ETO terminals.

NOTERMINAL

Specifies that the terminal security specifications established by the Security Maintenance utility are not in effect at completion of this emergency restart.

IMS system definition might have precluded the authority of the master terminal operator to negate terminal security, in which case, if NOTERMINAL is specified, an error message is received.

NOTRANAUTH

Turns off transaction authorization. NOTRANAUTH is not the opposite of TRANAUTH. TRANAUTH sets transaction authorization and also turns on signon (user identification verification).

If you specify NOTRANAUTH, it will be rejected with an error message if either:

- SECLEVEL=FORCTRAN was specified on the system definition SECURITY macro.
- TRN=F was specified as a JCL EXEC parameter.

NOUSER

Specifies that none of the following is in effect at the end of the emergency restart:

- Transaction authorization
- User identification verification
- Command authorization

You can use /NRESTART NOUSER for a warm start, but if transaction authorization or command authorization are set from the checkpoint data, NOUSER is ignored, and signon (user identification verification) is set on.

PASSWORD or NOPASSWORD

Specifies whether (PASSWORD) or not (NOPASSWORD) the password security specifications established by the Security Maintenance utility will be in effect at completion of this normal restart.

IMS system definition might preclude the authority of the master terminal operator to negate password security. If this is the case, and you specify NOPASSWORD, you receive an error message.

SNGLSIGN

Permits a single signon for each user ID.

TERMINAL

Specifies that the terminal security specifications established by the Security Maintenance utility are in effect at completion of this emergency restart. If RCF=S is specified. SMU is not used for command terminal security if RACF is used.

TRANAUTH

Specifies both transaction authorization and user identification verification, with or without RACF.

To specify TRANAUTH either:

```
SECURITY macro TYPE=RACFTERM|RACFCOM|SIGNEXIT|TRANEXIT
```

must be specified in the IMS system definition, or

```
EXEC parameters RCF=A|Y|T|C|S
```

must be specified on an EXEC parameter.

TRANCMDs or NOTRANCMDs

Specifies whether (TRANCMDs) or not (NOTRANCMDs) the transaction command security established by the Security Maintenance utility is in effect at

/NRESTART

completion of this normal restart. NOTRANCMDS specifies that transaction-entered commands cannot be entered.

USER

Specifies user identification verification. User identification verification means that signon is required by the static terminals that are defined to SMU for signon verification. This keyword has no effect on ETO terminals because they are always required to sign on. User identification verification can be forced on by the TRANAUTH or CMDAUTH keyword.

To specify USER either:

```
SECURITY macro TYPE=RACFTerm|RACFCOM|SIGNEXIT|TRANEXIT
```

must be specified in the IMS system definition, or

```
EXEC parameters RCF=A|Y|T|C|S
```

must be specified on an EXEC parameter.

Examples

Example 1 for /NRESTART Command

This is an example of a cold start with new message queue data sets.

Entry ET:

```
/NRESTART CHECKPOINT 0 FORMAT ALL
```

Response ET:

```
DFS058I (time stamp) NRESTART COMMAND IN PROGRESS  
DFS994I *CHKPT 82274/114447**SIMPLE*
```

Explanation: IMS is started at 114447 (time) on 82274 (Julian date). A simple checkpoint is written on the system log. All message queue data sets are formatted. 82274/114447 is the checkpoint number.

Example 2 for /NRESTART Command

This is an example of a warm start from a FREEZE checkpoint.

Entry ET:

```
/NRESTART
```

Response ET:

```
DFS058I (time stamp) NRESTART COMMAND IN PROGRESS  
DFS680I USING CHKPT 82273/180000  
DFS994I *CHKPT 82274/082217**SIMPLE*
```

Explanation: The restart is being performed from checkpoint 82273/180000, which was written at the most recent IMS shutdown. IMS is restarted at 082217 (time) on 82274 (Julian date). A simple checkpoint is written on this system log. 82274/082217 is the checkpoint number.

Example 3 for /NRESTART Command

This is an example of a warm start to format WADS.

Entry ET:

```
/NRESTART FORMAT WA
```

Response ET:

```
DFS058I (time stamp) NRESTART COMMAND IN PROGRESS
DFS680I USING CHKPT 82119/230000
DFS994I *CHKPT 82120/101318**SIMPLE*
```

Explanation: The restart is being performed from checkpoint 82119/230000, which was written at the most recent IMS shutdown. IMS is restarted at 101318 (time) on 82120 (Julian date). A simple checkpoint is written on the system log. 82120/101318 is the checkpoint number.

Example 4 for /NRESTART Command

This is an example of a warm start from a PURGE or DUMPQ checkpoint.

Entry ET:

```
/NRESTART BUILDQ
```

Response ET:

```
DFS058I (time stamp) NRESTART COMMAND IN PROGRESS
DFS680I USING CHKPT 82080/214240
DFS994I *CHKPT 82081/060000**SIMPLE*
```

Explanation: IMS is restarted at 060000 (time) on 82081 (Julian date) from checkpoint 82080/214240, which was written at the most recent IMS shutdown. 82081/060000 is the checkpoint number.

Example 5 for /NRESTART Command

This is an example of a warm start from a PURGE or DUMPQ checkpoint. The large and small message queue data sets have been reallocated.

Entry ET:

```
/NRESTART BUILDQ FORMAT SM LM
```

Response ET:

```
DFS058I (time stamp) NRESTART COMMAND IN PROGRESS
DFS680I USING CHKPT 82170/085236
DFS994I *CHKPT 82170/085820**SIMPLE*
```

Explanation: IMS is restarted at 085820 (time) on 82170 (Julian date) from checkpoint 82170/085236, which was written at the most recent IMS shutdown. The large and small message queue data sets are reformatted. 82170/085820 is the checkpoint number.

Example 6 for /NRESTART Command

This is an example of a warm start from a PURGE or DUMPQ checkpoint. An initial set of MSDBs is needed.

Entry ET:

```
/NRESTART BUILDQ MSDBLOAD
```

Response ET:

```
DFS058I (time stamp) NRESTART COMMAND IN PROGRESS
DFS680I USING CHKPT 82068/180000
DFS2554 MSDB MSDBHJ01 LOADED
```

/NRESTART

```
DFS2554 MSDB MSDBHJ02 LOADED
DFS2554 MSDB MSDBAK01 LOADED
DFS2554 MSDB MSDBAK02 LOADED
DFS2554 MSDB MSDBPS01 LOADED
DFS994I *CHKPT 82069/080000**SIMPLE*
```

Explanation: IMS is restarted at 080000 (time) on 82069 (Julian date) from checkpoint 82068/180000, which was written at the most recent IMS shutdown. A simple checkpoint is written on the system log. 82069/080000 is the checkpoint number. An initial set of MSDBs is loaded from the MVS/ESA sequential data set MSDBINIT.

Example 7 for /NRESTART Command

This is an example of a warm start from a PURGE or DUMPQ checkpoint with a request for transaction command security.

Entry ET:

```
/NRESTART TRANCMDS
```

Response ET:

```
DFS058I (time stamp) NRESTART COMMAND IN PROGRESS
DFS680I USING CHKPT 82080/214240
DFS994I *CHKPT 82274/114447**SIMPLE*
```

Explanation: The master terminal operator is warm starting IMS and requesting that transaction command security be in effect at the completion of the normal restart.

Example 8 for /NRESTART Command

This is an example of a warm start from a PURGE or DUMPQ checkpoint with a request to negate transaction command security.

Entry ET:

```
/NRESTART NOTRANCMDS
```

Response ET:

```
DFS2181I CANNOT OVERRIDE FORCED COMMAND SECURITY
```

Explanation: The master terminal operator is warm starting IMS with a request to negate transaction command security. IMS system definition precludes the authority of the master terminal operator to enter the NOTRANCMDS keyword. IMS returns the DFS2181 message.

Example 9 for /NRESTART Command

This is an example of a warm start from a PURGE or DUMPQ checkpoint. The data sets are formatted without rebuilding the message queues.

Entry ET:

```
/NRESTART FORMAT SM LM NOBUILDQ
```

Response ET:

```
DFS058 NRESTART COMMAND IN PROGRESS
```

Explanation: The master terminal operator is warm starting IMS with a request to reformat the data sets without rebuilding the message queues. IMS comes up, but all messages are lost.

/OPNDST

Command / Keywords	DB/DC	DBCTL	DCCTL
MODE	X		X
NODE	X		X
Q	X		X
UDATA	X		X
USER	X		X
USERD	X		X

Usage

/OPNDST is a multisegment command that causes IMS to initiate a session with a VTAM terminal and, if the USER keyword is specified, the user is signed on automatically to the VTAM terminal after successful session initiation. All forms of logging-on a remote VTAM terminal to IMS, including the use of /OPNDST, do not work until the /START DC command has been entered and accepted by IMS.

All /OPNDST formats require an EOM indication to denote end-of-message. An EOS indication must be included for all segments that precede the last segment. See "Multisegment Command Input" on page 6 for more detail on using EOM and EOS.

You can issue /OPNDST on the XRF alternate to restart a failed backup session for a class 1 ETO terminal. To do this, the node and the user structure must still exist and be coupled together, and an active session must exist on the active system. If the node and the user are not coupled, or an active session does not exist on the active system, the command is rejected.

ID Is applicable only if the USER keyword is specified and the node is a parallel session ISC node. ID identifies the other system half-session qualifier. ID must not be specified for a single session ISC node. ID idname must be specified to open ISC nodes defined with users. The ID idname is passed to the other half-session with the session initiation request. If the other system is another IMS system, idname is the name of an ISC user in that system.

LOGOND

Indicates the logon descriptor used for session establishment. LOGOND is supported only for dynamic non-ISC nodes. The logon descriptor can also be provided through the logon exit.

MODE

Identifies the LOGON MODE table entry that VTAM must use and can determine operating characteristics for certain VTAM terminals. If a list of node names is given, the MODE keyword is applied to each of them. The command checks whether each node has been defined to accept IMS initiated connections. If the node was defined as NOPNDST, the /OPNDST command accepts all the nodes except the node defined as NOPNDST.

NODE

Specifies the VTAM node with which IMS will initiate a session.

/OPNDST NODE ALL opens sessions for all static terminals except ISC parallel sessions. The command has considerable concurrent activity, both for IMS and for VTAM. Ensure that the system has sufficient pool sizes, buffer sizes, and number of concurrent IMS tasks defined.

If the **USER** keyword is not specified in the command, the **NODE** parameter can be generic or **ALL**, or a range of static nodes, or there can be multiple **NODE** parameters. If a generic, **ALL**, or range of node names is specified, any nodes defined with users are ignored and flagged with an error message.

The **/OPNDST NODE USER** command signs on and logs on a user at the same time, except for **ISC** terminals. On **ISC** terminals, the session is allocated.

Sample **/OPNDST NODE USER** commands are listed below:

- To sign on and log on to a static non-**ISC** terminal:

```
/OPNDST NODE nodename USER username UDATA userdata
```

This command marks a statically defined terminal as signed on by the user.

- To sign on and log on to an **ETO** non-**ISC** terminal:

```
/OPNDST NODE nodename USER username MODE modename
LOGOND logondname USERD userdname UDATA userdata
```

This command creates the terminal and user structures, and allocates the newly created user structure to the terminal structure created to indicate signed on status.

- To sign on and log on to a static **ISC** terminal:

```
/OPNDST NODE nodename USER username ID idname
```

This command finds the subpool structure and allocates the subpool (user) structure the statically defined static **ISC** terminal. user issues the **/SIGN** command.

- To sign on and log on to an **ETO** **ISC** terminal:

```
/OPNDST NODE nodename USER username ID idname MODE modename
LOGOND logondname USERD userdname UDATA userdata
```

This command creates the terminal and subpool (user) structure and allocates the newly created user structure to the terminal structure created. defined by the **SUBPOOL** name in **RACF** until the user issues a **/SIGN** command.

To restart failing **ETO** sessions (for example, **ETO** only or printer sessions), use the **/OPNDST NODE USER** command.

- Q** Causes **IMS** to request **VTAM** to queue **SIMLOGON** requests for **VTAM/SNA**-supported terminals.

The **/OPNDST NODE Q** command also allows **IMS** to request another subsystem to share a node (usually printers) with **IMS**. If the other subsystem is using the printer, **VTAM** queues the **SIMLOGON** request for **IMS** for the printer, schedules the owning subsystem's **RELREQ** **VTAM** exit, and acquires the printer for **IMS** after the current owning system releases the printer. Multiple requests for the same printer are queued by **VTAM** for processing.

The **/DISPLAY NODE** command is used to determine whether **IMS** has acquired the printer.

USER

Identifies the logical terminal user to be allocated to the half-session to be created for **ISC** node **nodename**. For dynamic non-**ISC** users, it specifies the user **ID** to be signed on to the dynamic node **nodename**.

/OPNDST

The USER keyword applies to ISC sessions when allocating a user to an ISC node, to dynamic users when signing a dynamic user on to a dynamic node, and to static user IDs when signing a user on to a static node.

USER username must be specified to open parallel session ISC nodes with users. It must not be specified for a single session ISC node.

USERD

Specifies the user descriptor to be used with the signon. It is valid only if the USER keyword and parameter are specified. USERD is only supported for dynamic users and is only valid for dynamic non-ISC nodes. The user descriptor can also be provided through the logon or signon exits.

UDATA

Indicates the user data used with the signon.

The UDATA keyword is valid only if the USER keyword and parameter are also specified. The UDATA keyword is valid for static and dynamic users. It is not valid for ISC nodes. The user data can be up to 256 bytes long.

Examples

Example 1 for /OPNDST Command

Entry ET:

```
/DIS NODE L3270*
```

Response ET:

NODE-USR	TYPE	CID	RECD	ENQCT	DEQCT	QCT	SENT
L3270A	3277	00000000	0	0	0	0	0 IDLE C1INOP STATIC
L3270B	3277	00000000	0	0	0	0	0 IDLE C1INOP STATIC
L3270C	3277	08000002	44	45	45	0	80 CON STATIC
L3270D	3277	00000000	2	0	0	0	7 IDLE STATIC

94307/145048

Entry ET:

```
/OPNDST NODE L3270*
```

Response ET:

```
DFS058I OPNDST COMMAND COMPLETED
```

Entry ET:

```
/DIS NODE L3270*
```

Response ET:

NODE-USR	TYPE	CID	RECD	ENQCT	DEQCT	QCT	SENT
L3270A	3277	06000004	0	0	0	0	1 IDLE CON STATIC
L3270B	3277	04000005	0	0	0	0	1 IDLE CON STATIC
L3270C	3277	08000002	46	46	46	0	82 CON STATIC
L3270D	3277	04000006	2	0	0	0	8 IDLE CON STATIC

94307/145750

Explanation: The nodes L3270A through L3270D are logged on to IMS.

Example 2 for /OPNDST Command

Entry ET:


```
/OPNDST NODE DT327002 USER IMSUS01 MODE LU032NT4 USERD DFSUSER
UDATA= IMSPW01.
```

Response ET:

```
DFS058I 11:07:48 OPNDST COMMAND COMPLETED
```

Explanation: A session with dynamic node DT327002 is established by using modetable LU032NT4. User IMS4501 is signed on to the node using user descriptor DFSUSER, username IMSUS01, and password IMSPW01.

Example 3 for /OPNDST Command

Entry ET:

```
/OPNDST NODE DTSLU201 USER IMSUS01 MODE SLU2MOD1 USERD DFSUSER
LOGOND DFSSLU2 UDATA=IMSPW01.
```

Response ET:

```
DFS058I 11:07:48 OPNDST COMMAND COMPLETED
```

Explanation: DTSLU201 is logged on. A session with dynamic node DTSLU201 is established by using logon descriptor DFSSLU2 (type SLU2), and modetable SLU2MOD1. Dynamic user IMSUS01 is signed on to the node using user descriptor DFSUSER and password IMSPW01.

Example 4 for /OPNDST Command

Entry ET:

```
/OPNDST NODE WEST-EAST
```

Response ET:

```
DFS058I OPNDST COMMAND COMPLETED
```

Response RT:

```
DFS3650 TERMINAL CONNECTED TO IMS XXXXXXXX
```

Explanation: The nodes, WEST through EAST, are logged on to IMS.

Example 5 for /OPNDST Command

The following set of commands illustrate the use of the MODE keyword on the /OPNDST command.

Entry ET:

```
/DIS NODE LUTYPEP1 MODE
```

Response ET:

```
NODE-USR TYPE DEF MODETBL ACT MODETBL
LUTYPEP1 SLUP DEFRESP
*90179/100206*
```

Explanation: DEFRESP is the mode table name defined for node LUTYPEP1 at system definition. The session is not active so the ACT MODETBL field is blank.

Entry ET:

```
/OPN NODE LUTYPEP1.
```

Response ET:

/OPNDST

DFS058I OPNDST COMMAND COMPLETED

Entry ET:

/DIS NODE LUTYPEP1 MODE

Response ET:

NODE-USR	TYPE	DEF MODETBL	ACT MODETBL
LUTYPEP1	SLUP	DEFRESP	DEFRESP
90179/100508			

Explanation: A mode table name was not specified with the /OPNDST command so the default value defined at system definition was used to initiate the session.

Entry ET:

/CLS NODE LUTYPEP1

Response ET:

DFS058I CLSDST COMMAND COMPLETED

Entry ET:

/DIS NODE LUTYPEP1 MODE

Response ET:

NODE-USR	TYPE	DEF MODETBL	ACT MODETBL
LUTYPEP1	SLUP	DEFRESP	
90179/100630			

Explanation: Active mode table name displays as blank at normal session termination.

Entry ET:

/OPN NODE LUTYPEP1 MODE ALPHA.

Response ET:

DFS058I OPNDST COMMAND COMPLETED

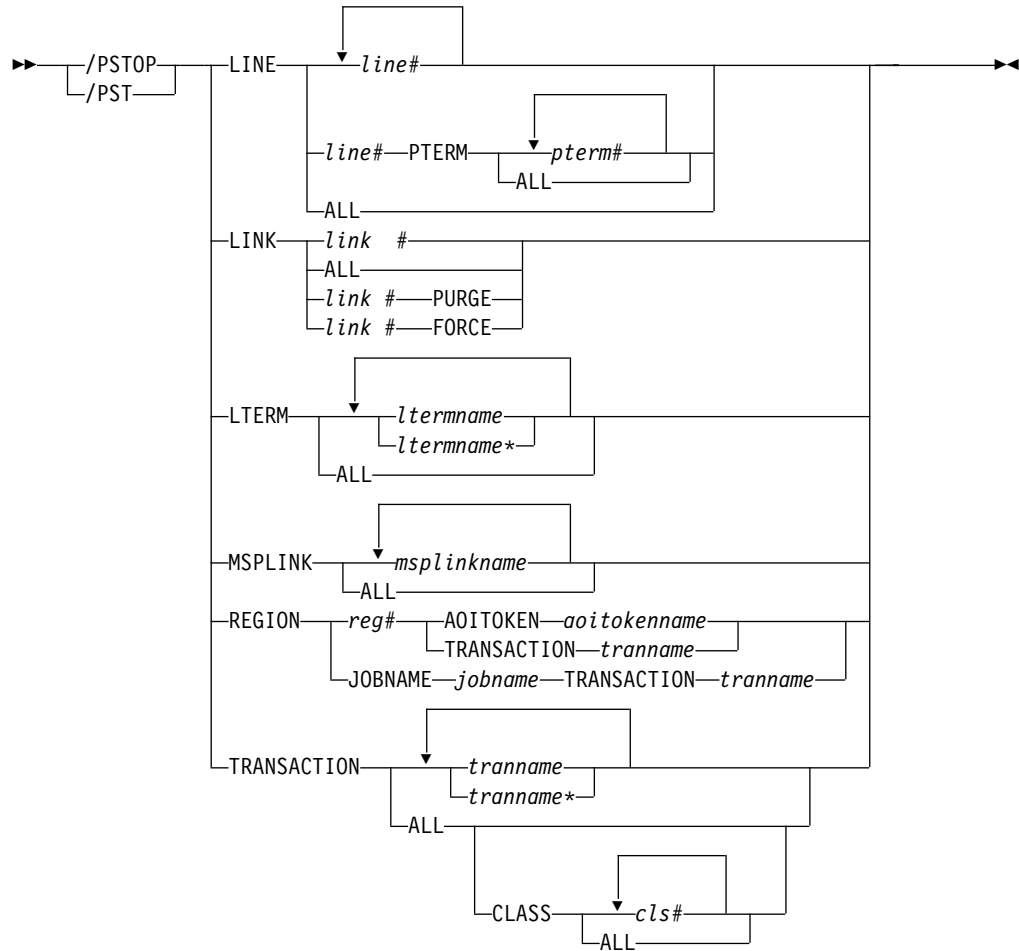
Entry ET:

NODE-USR	TYPE	DEF MODETBL	ACT MODETBL
LUTYPEP1	SLUP	DEFRESP	ALPHA
90179/100805			

Explanation: The mode table name specified with the /OPNDST command (ALPHA) is used to initiate the session. The default value specified at system definition (DEFRESP) is overridden by the /OPNDST command.

Chapter 37. /PSTOP

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/PSTOP	X	X	X
AOITOKEN	X	X	X
CLASS	X		X
FORCE	X		X
JOBNAME	X	X	X
LINE	X		X
LINK	X		X
PURGE	X		X
LTERM	X		X
MSPLINK	X		X

/PSTOP

Command / Keywords	DB/DC	DBCTL	DCCTL
PTERM	X		X
REGION	X	X	X
TRANSACTION	X		X

Usage

/PSTOP accomplishes the following:

- Stops the sending and receiving of messages to a particular communication line, terminal, or logical link
- Stops the scheduling of messages containing specific transaction codes
- Allows the queuing of output messages and input messages to continue
- Validity checks all parameters entered by the terminal operator

If an error is detected on parameters that are independent of one another, only the invalid parameters are indicated as being in error and the /PSTOP command processes the rest of the parameters.

/PSTOP can be used to reset conditions previously established with the /START, /RSTART, /PURGE, or /MONITOR command.

In a single IMS system, or in the local system in a multiple system configuration, IMS system messages such as broadcast text and terminal status messages (DFS059 TERMINAL STARTED) are not affected by /PSTOP. In a multiple system configuration, broadcast messages are queued but not sent across process stopped links. potential transactions.

LINE

Specifies the communication line that IMS will stop sending messages to and receiving messages from.

LINK

Specifies the link to be stopped; the partner link in another IMS system stops itself and notifies that system's master terminal operator.

/PSTOP LINK resets continuous mode for a BISYNC link. See /RSTART LINK CONTINUOUS on page 388 for an explanation of continuous mode.

PURGE

PURGE can only be used for one logical link whose physical link is channel-to-channel. PURGE must be used when the partner link is in a system that has failed and the link will not go idle although it has been stopped.

FORCE

The FORCE keyword is for VTAM links and is intended for use when an MSC VTAM link will not clean up and idle during normal PSTOP processing, even though VTAM has terminated the session. It can be used, in conjunction with some VTAM commands to idle and clean up the VTAM link within IMS, so that an /RSTART LINK can be issued to restart the link.

The operation of the command first determines if the link has begun PSTOP processing. (If so, the link will display as PSTOPPED NOTIDLE). Next it will test if the hang condition is due to an outstanding VTAM request that has not completed. If so, it will issue an inquire request to VTAM to determine if

the session is inactive. In that case, IMS will simulate completion of the VTAM request and allow the link to complete PSTOP processing.

To determine if the session is still active to VTAM, issue a `DISPLAY NET,SESSIONS,LU1=app1 id1,LU2=app1 id2,SCOPE=ALL,LIST=ALL`, and note the SID of the session if it is active.

If the session is not active, and it has a `PSTOPPED NOTIDLE` status to IMS, then `/PSTOP LINK x FORCE` can be issued. If the session is still active to VTAM, then `VARY NET,TERM,SID=x,NOTIFY=YES,SCOPE=ALL,TYPE=FORCE` can be issued to VTAM to terminate the session.

Under normal conditions, the VTAM `VARY NET,TERM` command should terminate the session in VTAM and cause IMS to `PSTOP` and `IDLE` the link associated with the VTAM session. If the VTAM `VARY` command does terminate the VTAM session but does not `PSTOP` and `IDLE` the link, then the IMS `/PSTOP LINK FORCE` command can be used to complete the `PSTOP` and cleanup processing within IMS.

After `PSTOP` processing is completed on one side of the link, the other side should be displayed. If the other side is not in a `PSTOP IDLE` state, the operation should be repeated for the other IMS. When both sides are in the `PSTOP IDLE` state, the `/RSTART LINK` command can be issued.

IMS replies with `DFS058 /PSTOP LINK COMPLETED EXCEPT LINK x`, if the `/PSTOP LINK x FORCE` command cannot be executed because:

- The session is still active to VTAM.
- Normal `PSTOP` processing has not begun (issue `/PSTOP` without the `FORCE` keyword in this case).
- `PSTOP` processing is not completing due to some reason other than an incomplete VTAM request.

LTERM

Specifies the logical terminal that is to be stopped from sending and receiving messages.

The `/PSTOP LTERM` command has no effect on an `LTERM` that is in `QLOCK` state, or is a remote logical terminal. The `LTERM` parameter can be generic, where the generic parameter specifies `LTERMs` that already exist.

MSPLINK

Applies to `MSC VTAM` links only; it stops logons to the physical link and enables the operator to reassign (`/MSASSIGN`) logical links to the physical link. The `/MSASSIGN` command does not affect links in sessions that have not been stopped via the `/PSTOP` command. When logical link assignments are complete, the `/RSTART` command should be issued to permit logons to the physical link.

REGION

If the `TRANSACTION` keyword is specified, the message region is not stopped. A `QC` status (no more messages) is returned to the application program currently active in the specified region. The scheduler will continue to schedule available transactions in the referenced region.

The `/PSTOP REGION` command is ignored unless both of the following occur:

- An active transaction type is specified.

/PSTOP

- The referenced message region is processing transactions with the wait-for-input option, or the region is an MPP.

If the AOITOKEN keyword is specified, the AO application in wait AOI token state is posted and receives AIB return code X'00000004' and reason code X'0000004C'.

If JOBNAME keyword is specified, the job name for the dependent region must be 1-8 alphanumeric or national (\$,#,@) characters. The first character of the job name must be either alphabetic or national.

TRANSACTION

Stops the scheduling of transactions; however, the transactions will continue to be processed until the limit count is reached. If the limit count is large, the processing interval will be long. The /DISPLAY command ascertains the status of the transaction; the /ASSIGN command alters the status of the transaction.

If a region is scheduled against a process stopped transaction and there are no more messages available for that transaction, the region does not wait for the next message (wait-for-input-mode). Instead, a QC status (no more messages) is returned to the application. If the region is scheduled and waiting for the next message when the command is entered, the region is notified and a QC status is returned to the application.

A batch message processing region (BMP) scheduled against wait-for-input (WFI) transactions returns a QC status code (no more messages) for /PSTOP REGION, /DBD, /DBR, or /STA commands only.

/PSTOP cannot stop the scheduling of Fast Path exclusive transactions but can be used to stop Fast Path potential transactions.

/PSTOP TRANSACTION cannot be used for Fast Path exclusive transactions or CPI Communications driven transaction programs.

The TRANSACTION parameter can be generic where the generic parameter specifies transactions that already exist.

Examples

Example 1 for /PSTOP Command

Entry ET:

```
/PSTOP LINE 4 PTERM 1
```

Response ET:

```
DFS058I PSTOP COMMAND COMPLETED
```

Response RT:

```
DFS059I TERMINAL PSTOPPED
```

Explanation: LINE 4 PTERM 1 is not sent application program or message switch output and is not allowed to send input. Output messages for the terminal continue to be queued.

Example 2 for /PSTOP Command

Entry ET:

```
/PSTOP LINE 4 6 200
```

Response ET:

```
DFS058I PSTOP COMMAND COMPLETED EXCEPT LINE 200
```

Explanation: LINE 4 and LINE 6 are not allowed to send or receive messages. Message queuing continues. Line 200 is an invalid line number.

Example 3 for /PSTOP Command

Entry ET:

```
/PSTOP LINK 2 3 4
```

Response ET:

```
DFS058I PSTOP COMMAND COMPLETED
```

Response ET:

```
DFS2169I DISCONNECTION COMPLETED ON LINK 2
```

Explanation: Logical link 2 is disconnected. This message is received for each logical link that is disconnected.

Response Remote MT:

```
DFS2161I LINK 2 STOPPED BY PARTNER  
DFS2161I LINK 3 STOPPED BY PARTNER  
DFS2161I LINK 4 STOPPED BY PARTNER
```

Explanation: Logical links 2, 3, and 4 stop processing messages. Output queuing continues.

Response ET:

```
DFS2169I DISCONNECTION COMPLETED ON LINK 3
```

Explanation: Logical link 3 is disconnected. This message is also received when logical link 4 disconnects.

Example 4 for /PSTOP Command

Entry ET:

```
/PSTOP LINK ALL
```

Response ET:

```
DFS058I PSTOP COMMAND COMPLETED
```

Response Remote MT:

```
A DFS2161 LINK n STOPPED BY PARTNER message  
is received for each logical link that was  
operational when /PSTOP was entered.
```

Explanation: Output to all logical links stops. Output queuing continues. Input is not allowed.

Response ET:

/PSTOP

```
DFS2169I DISCONNECTION COMPLETED ON LINK XXX
```

Explanation: As each logical link is disconnected, this message is received.

Example 5 for /PSTOP Command

Entry ET:

```
/PSTOP LINK 1 2 3 PURGE
```

Response ET:

```
DFS2272I PURGE KEYWORD INVALID, ONLY ONE  
CTC LINK ALLOWED
```

Explanation: Only one link can be specified with the PURGE keyword.

Example 6 for /PSTOP Command

Entry ET:

```
/PSTOP LINK 2 PURGE
```

Response ET:

```
DFS2273I PURGE KEYWORD REJECTED, CURRENT STATUS  
OF LINK IS NORMAL
```

Explanation: The partner system has not failed and the link appears to be working.

Example 7 for /PSTOP Command

Entry ET:

```
/PSTOP LTERM APPLE, TREE
```

Response ET:

```
DFS058I PSTOP COMMAND COMPLETED
```

Response RT:

```
DFS059I TERMINAL PSTOPPED
```

Explanation: The physical terminals associated with logical terminals APPLE and TREE are not sent output that is destined for logical terminals APPLE or TREE, or allowed to enter input. Output queuing continues.

Example 8 for /PSTOP Command

Entry ET:

```
/PSTOP MSPLINK ALL
```

Response ET:

```
DFS058I COMMAND COMPLETED
```

Explanation: All the VTAM physical links are stopped from receiving logons. Any links in session are not affected.

Example 9 for /PSTOP Command

Entry ET:

```
/PSTOP TRANSACTION SEED
```


Response ET:

```
DFS058I PSTOP COMMAND COMPLETED
```

Explanation: Transaction code SEED can no longer be scheduled. Queuing of the transaction continues.

Example 10 for /PSTOP Command

Entry ET:

```
/PSTOP TRANSACTION ALL CLASS 3
```

Response ET:

```
DFS058I PSTOP COMMAND COMPLETED
```

Explanation: All transactions associated with class 3 can no longer be scheduled. Queuing of the transactions continues.

Example 11 for /PSTOP Command

Entry ET:

```
/PSTOP REGION 1 TRANSACTION XYZ
```

Response ET:

```
DFS058I PSTOP COMMAND IN PROGRESS
```

Response ET:

```
DFS0569I PSTOP COMPLETE FOR REGION 1 TRAN XYZ
DFS0566I PSTOP NOT VALID FOR TRAN XYZ
```

Explanation: If the DFS0569I message prints, processing of the transaction type, xyz, is stopped in message region 1. If the DFS0566I message prints, the command was ignored because the two required conditions were not satisfied.

Example 12 for /PSTOP Command

Entry ET:

```
/PSTOP REGION 2 AOITOKEN AOITOK2
```

Response ET:

```
DFS058I PSTOP COMMAND IN PROGRESS
```

Response MT:

```
DFS0569I PSTOP OR STOP COMPLETE FOR REGION 2 AOIT AOITOK2.
```

Explanation: If the DFS0569I message prints, the AO application in region 2 waiting for a message for AOI token AOITOK2 is posted; the application receives AIB return code X'00000004' and reason code X'0000004C'.

Example 13 for /PSTOP Command

Entry ET:

```
/PSTOP REGION 2 AOITOKEN AOITOK2
```

Response ET:

```
DFS058I PSTOP COMMAND IN PROGRESS
```

/PSTOP

Response MTO:

```
DFS1190I REGION 2 NOT WAITING ON AOITOKEN AOITOK2
```

Explanation: If the DFS1190I message prints, the command is ignored because region 2 was not waiting on AOI token AOITOK2.

Example 14 for /PSTOP Command

Entry ET:

```
/DIS ACTIVE REG
```

Response ET:

REGID	JOBNAME	TYPE	TRAN/STEP	PROGRAM	STATUS	CLASS
1	MPP610C	TP	NQF1	PMVAPZ12	ACTIVE	1, 2, 3, 4
	BATCHREG	BMP	NONE			
	FPRGN	FP	NONE			
	DBTRGN	DBT	NONE			
	DBRECTA9	DBRC				
	DLIECTA9	DLS				
	96081/150611					

Explanation: Message processing program PMVAPZ12 is processing transaction NQF1. The job name of the region is MPP610C

Entry ET:

```
/PSTOP REGION JOBNAME MPP610C TRAN NQF1
```

Response ET:

```
DFS058I PSTOP COMMAND IN PROGRESS  
DFS0569I PSTOP OR STOP COMPLETE FOR REGION 00001 TRAN NQF1
```

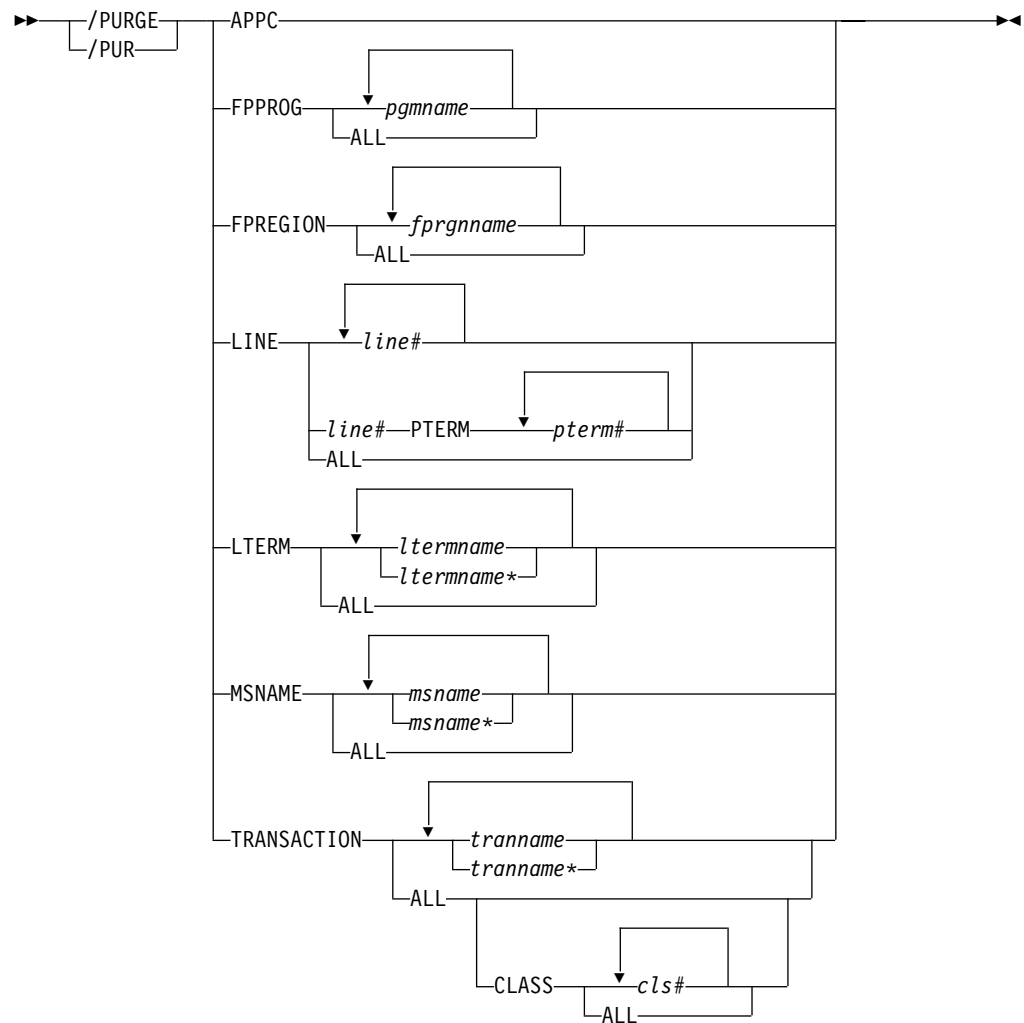
Response ET:

```
DFS058I PSTOP COMMAND IN PROGRESS  
DFS0566I PSTOP NOT VALID FOR TRAN NQF1
```

Explanation: If the DFS0569I message is displayed, processing of the transaction type, NQF1, is stopped in message region 1. If the DFS0566I message is displayed, the command was ignored because the two required conditions were not satisfied.

Chapter 38. /PURGE

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/PURGE	X		X
APPC	X		X
CLASS	X		X
FPPROG	X		X
FPREGION	X		X
LINE	X		X
LTERM	X		X
MSNAME	X		X

/PURGE

Command / Keywords	DB/DC	DBCTL	DCCTL
PTERM	X		X
TRANSACTION	X		X

Usage

/PURGE stops input for a particular communication line, terminal, or logical link path, or stops input messages destined for a particular transaction code. Messages can be sent to the specified communication line or terminal, and transactions can still be scheduled.

/PURGE validity checks all parameters entered by the terminal operator. If an error is detected on parameters that are independent of one another, only the invalid parameters are indicated as being in error and the /PURGE command processes the rest of the parameters.

/PURGE can be used to reset conditions previously set by the /START, /RSTART, /STOP, /PSTOP, or /MONITOR command.

APPC

Is used to purge incoming transactions. All new requests by APPC/MVS to schedule a transaction in IMS are rejected with TP_Not_Available_No_Retry. Transactions that IMS has already received are processed normally. Sending of output to LU 6.2 devices proceeds normally. Because /PURGE APPC does not call to APPC/MVS¹, the rejection of transaction scheduling is done by IMS's schedule exit only.

The /PURGE APPC command sets the PURGING status and resets conditions previously set by the /START APPC command. The command is rejected if the APPC is already in DISABLED, FAILED, STOPPED, or CANCEL state.

FPPROG

Specifies the PSB name of the message-driven program to be terminated.

/PURGE takes message-driven programs out of wait-for-input mode and terminates them as soon as their load balancing group message queue is empty.

Use the FPPROG keyword with caution, because all Fast Path message-driven programs that are using a PSB with the same name will be terminated.

FPREGION

Specifies the region identifier of the message-driven program to be terminated.

LINE

Specifies the communication line for which input is to be stopped.

LTERM

Specifies the logical terminal for which input is to be stopped.

The /PURGE LTERM command is rejected for LTERMs in QLOCK state. (QLOCK indicates that the LTERM is locked from sending any further output or from

1. The sense code returned to the LU 6.2 remote device for an incoming ATTACH to a purged APPC/IMS system is determined by APPC/MVS, and it might differ from release to release. In general, the remote LU 6.2 application should wait for a period of time after rejection before any attempts to reestablish a session with IMS.

receiving input that can create additional output for the same LTERM until the state is reset by a specific request received on the session.) /PURGE LTERM is also rejected for remote logical terminals. The LTERM supports generic parameters where the generic parameter specifies LTERMs that already exist.

MSNAME

Specifies the logical link path in a multiple systems configuration for which input is to be stopped. The MSNAME keyword supports generic parameters.

TRANSACTION

Specifies the transaction code for which input messages are to be stopped.

The TRANSACTION parameter can be generic where the generic parameter specifies transactions that already exist.

Examples

Example 1 for /PURGE Command

Entry ET:

```
/PURGE FPPROG ALL
```

Response ET:

```
DFS058I PURGE COMMAND COMPLETED
```

Explanation: All message-driven programs are taken out of wait-for-input mode and terminated by PSB name as soon as their load balancing group message queue is empty.

Example 2 for /PURGE Command

Entry ET:

```
/PURGE FPREGION ALL
```

Response ET:

```
DFS058I PURGE COMMAND COMPLETED
```

Explanation: All message-driven programs are taken out of wait-for-input mode and terminated by region identifier as soon as their load balancing group message queue is empty.

Example 3 for /PURGE Command

Entry ET:

```
/PURGE LINE 4
```

Response ET:

```
DFS058I PURGE COMMAND COMPLETED
```

Response RT:

```
DFS059I TERMINAL PURGING
```

Explanation: All physical terminals associated with line 4 can receive output sent to them but are not allowed to enter input.

/PURGE

Example 4 for /PURGE Command

Entry ET:

```
/PURGE LINE 5 7 400
```

Response ET:

```
DFS058I PURGE COMMAND COMPLETED EXCEPT LINE 400
```

Explanation: All physical terminals associated with line 5 and line 7 can receive output but are not allowed to enter input. Line 400 is an invalid line number.

Example 5 for /PURGE Command

Entry ET:

```
/PURGE MSNAME BOSTON
```

Response ET:

```
DFS058I PURGE COMMAND COMPLETED
```

Explanation: All messages from a terminal (primary requests), except messages continuing a conversation, will not be queued for the destinations represented by MSNAME BOSTON. This includes all messages destined for remote transactions with the SYSID of the MSNAME, and for remote logical terminals associated with this MSNAME.

Example 6 for /PURGE Command

Entry ET:

```
/PURGE TRANSACTION PIT, SEED
```

Response ET:

```
DFS058I PURGE COMMAND COMPLETED
```

Explanation: Transactions PIT and SEED can still be scheduled but input for these transactions cannot be queued unless the input originates as output from an application program.

Example 7 for /PURGE Command

Entry ET:

```
/PURGE TRANSACTION ALL CLASS 2
```

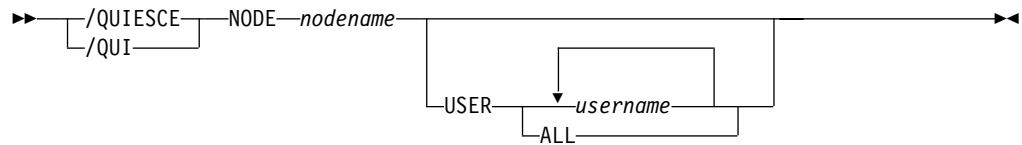
Response ET:

```
DFS058I PURGE COMMAND COMPLETED
```

Explanation: All transactions associated with class 2 are marked as purged. No further transactions are queued from terminals.

Chapter 39. /QUIESCE

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/QUIESCE	X		X
NODE	X		X
USER	X		X

Usage

/QUIESCE initiates the shutdown and deallocates the user for the specified ISC node. The /QUIESCE NODE command is valid for ISC nodes only.

NODE

Specifies the VTAM node for the user to be shut down and deallocated.

USER

If the USER keyword is omitted, all half-sessions of an ISC node are affected. The half-sessions must be connected.

Example for /QUIESCE Command

Entry ET:

```
/QUIESCE NODE CAL USER LAX
```

Response ET:

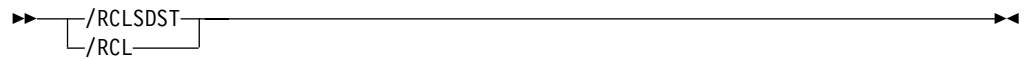
```
/DFS058I QUIESCE COMMAND COMPLETED
```

Explanation: The half-session of node CAL using user LAX is shut down.

IMS Commands

Chapter 40. /RCLSDST

Format



Environments

Command	DB/DC	DBCTL	DCCTL
/RCLSDST	X		X

Usage

/RCLSDST causes IMS to disconnect the VTAM terminal from which the command is entered. If you are in an active conversational mode, /EXIT or /HOLD must be entered before /RCLSDST is executed. If this command is issued by a signed on user, the user is signed off.

This command does not reset preset mode.

Example for /RCLSDST Command

Entry ET:

```
/RCLSDST
```

Response ET:

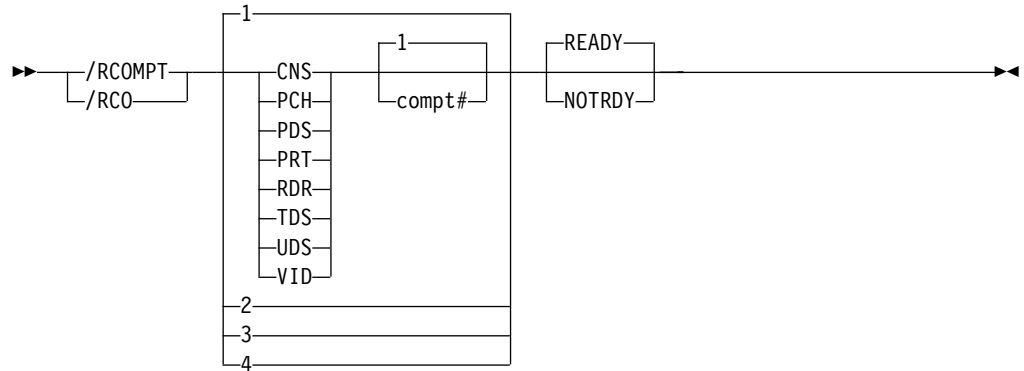
```
DFS058I RCLSDST COMMAND COMPLETED
```

Explanation: The entering terminal is logged off IMS.

IMS Commands

Chapter 41. /RCOMPT

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/RCOMPT	X		X
CNS	X		X
NOTRDY	X		X
PCH	X		X
PDS	X		X
PRT	X		X
RDR	X		X
READY	X		X
TDS	X		X
UDS	X		X
VID	X		X

Usage

/RCOMPT sets a particular VTAM terminal component to a ready/not ready state. Output messages queued for a particular component will not be sent unless the component is ready. Depending on terminal type, output operations for other components can continue.

Note: Defaults are READY and 1.

The ready/not ready state set by the /RCOMPT command can be altered by the following:

- Another /RCOMPT command
- A /COMPT, /START, or /RSTART command
- An I/O error on the terminal component

/RCOMPT

The command format takes one of the following forms:

- A keyword is used.
A search is made of the components (as defined in the TERMINAL macro during IMS system definition or logon descriptor) for the component defined that corresponds to the specified keyword. When a match is found, that component type is made ready or not ready as specified by the command.
- A keyword is used with a number other than 1 following the keyword.
The corresponding occurrence of that component type is made ready or not ready, as specified by the command.
- Number 1 through 4 is used instead of a keyword.
The component affected is the one defined in that position during system definition or logon descriptor independent of component type. For more information about component support see "Chapter 5. /ASSIGN" on page 79. For more information on the keywords, see "Keywords" on page 13.

When using ISC, only parameters 1, 2, 3, and 4 are valid.

Example for /RCOMPT Command

Entry ET:

```
/RCOMPT VID 2 READY
```

Response ET:

```
DFS058I RCOMPT COMMAND COMPLETED
```

Explanation: The second display component is declared operable to IMS.

Entry ET:

```
/RCOMPT 4 READY
```

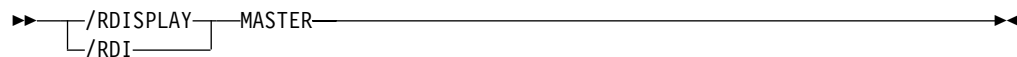
Response ET:

```
DFS058I RCOMPT COMMAND COMPLETED
```

Explanation: The fourth component defined is declared ready to IMS.

Chapter 42. /RDISPLAY

Format



Environments

Command	DB/DC	DBCTL	DCCTL
/RDISPLAY	X		X
MASTER	X		X

Usage

/RDISPLAY references the terminal assigned as the master terminal and displays either:

- The logical terminal name and the line and physical terminal numbers
- The logical terminal name and the VTAM NODE name

If the 3270 master terminal capability was generated during IMS system definition, the logical terminal name, line, and physical terminal number of the secondary master terminal are also displayed.

MASTER

Specifies the identity of the terminal designated as the master terminal.

Examples

Example 1 for /RDISPLAY Command

Entry ET:

```
/RDISPLAY MASTER
```

Response ET:

```
LTERM CNTRL  
PTERM 3-1  
*91010/123704*
```

Explanation: CNTRL is the master terminal logical terminal and is assigned to LINE 3 PTERM 1.

Example 2 for /RDISPLAY Command

Entry ET:

```
/RDISPLAY MASTER
```

Response ET:

/RDISPLAY

LTERM CTRL1
PTERM 4-2
LTERM CTRL2
PTERM 4-4
91010/12370

Explanation: CTRL1 is the primary master terminal logical terminal and is assigned to LINE 4 PTERM 2. CTRL2 is the secondary master terminal logical terminal and is assigned to LINE 4 PTERM 4.

Chapter 43. /RELEASE

Format

▶▶ `/RELEASE` `CONVERSATION` `conv#` ▶▶
 └─┬─┘
 └─┘
 `/REL`

Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
<code>/RELEASE</code>	X		X
<code>CONVERSATION</code>	X		X

Usage

`/RELEASE` resumes a conversation that was previously saved by means of the `/HOLD` command.

The last message sent to the terminal before `/HOLD` was entered is sent to the terminal again.

`/RELEASE` is not valid from an LU 6.2 device. LU 6.2 communications cannot release a conversation, whether started by itself or by another communications protocol.

CONVERSATION

Specifies the 4-digit identification (including leading zeros) of the conversation to be resumed; `CONVERSATION conv#` is the 4-digit identification `conv#` that was provided when the conversation was previously held.

Example for /RELEASE Command

Entry ET:

```
/RELEASE CONVERSATION 0001
```

Response ET:

IMS does not respond to this command except to resend the last message.

Explanation: Conversation 0001 has been released and can be resumed by the terminal operator.

IMS Commands

Chapter 44. /RESET

Format



Environments

Command	DB/DC	DBCTL	DCCTL
/RESET	X		X

Usage

/RESET eliminates the preset mode established by the /SET command.

Example for /RESET Command

Entry ET:

```
/RESET
```

Response ET:

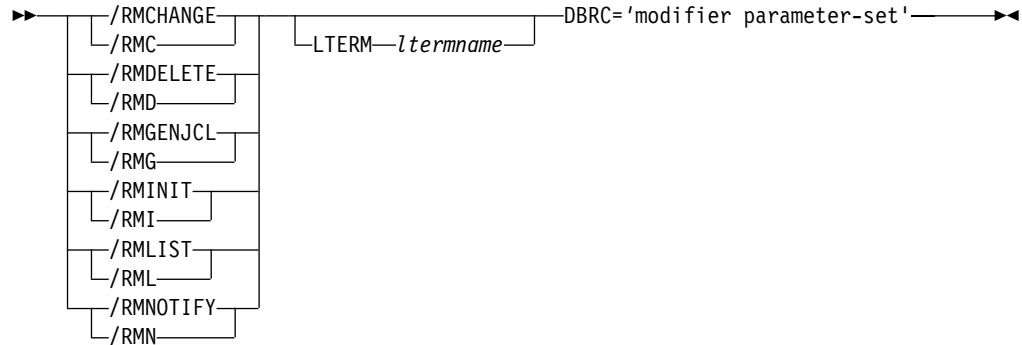
```
DFS058I  RESET COMMAND COMPLETED
```

Explanation: The preset mode is no longer in effect.

IMS Commands

Chapter 45. /RMxxxxxx

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/RMxxxxxx	X	X	X
LTERM	X		X

Usage

The /RMxxxxxx commands are multisegment commands that call functions of IMS Database Recovery Control (DBRC). These commands allow the IMS master terminal operator or an authorized terminal operator to run certain DBRC utility functions online. Output is limited to what can be put in a 4 KB buffer (8 KB for /RMLIST).

All /RMxxxxxx formats require an EOM indication to denote end-of-message. An EOS indication must be included for all segments, if any, that precede the last segment. If comments are included with the /RMxxxxxx commands, they must be enclosed in asterisks.

If a failure other than the loss of both RECON data sets occurs while DBRC is processing an online command, DBRC makes the command unavailable for the remaining time the IMS online region is running. It is the **verb**, rather than the modifier, level of the command that DBRC makes unavailable. That is, if a DBRC INIT.DB command fails, DBRC makes *all* INIT commands unavailable. DBRC sends an error message to the originating terminal when the command fails. You can still issue the failing command from other IMS online regions.

Exception: DBRC does not make GENJCL commands unavailable because the GENJCL.ARCHIVE command is needed for automatic archiving.

DBRC does not remember command failures across IMS restarts because it assumes that you will correct the error before restarting IMS.

The function of the DBRC commands supported online are listed in Table 34 .

Table 34. Functions of the DBRC Commands Supported Online

Command	Utility Function
/RMCHANGE	Changes or modifies information in the RECON data set
/RMDELETE	Deletes information in the RECON data set
/RMGENJCL	Generates JCL for: <ul style="list-style-type: none"> • IMS Change Accumulation utility • IMS Log Archive utility • IMS Log Recovery utility • IMS Database Image Copy utility • Database Image Copy 2 • IMS Online Database Image Copy utility • Database Recovery utility • User-defined output
/RMINIT	Creates records in the DBRC RECON data set
/RMLIST	Lists information contained in the RECON data set
/RMNOTIFY	Adds information to the RECON data set

LTERM

Specifies the logical terminal designated for output. If you omit the LTERM keyword, the output destination is the input terminal.

Recommendation: Because some of the DBRC commands generate a large amount of output, especially the /RMGENJCL and /RMLIST commands, direct the output to a printer.

modifier

The DBRC modifier for the function specified. Table 35 lists the modifiers and the commands with which they can be issued.

Table 35. DBRC Modifiers for the /RMxxxxxx Commands

Modifier	CHANGE	DELETE	GENJCL	INIT	LIST	NOTIFY
ADS	X	X		X		
ALLOC		X				X
ARCHIVE			X			
BKOUT	X	X			X	X
CA	X	X	X	X		X
CAGRP	X	X		X	X	
CLOSE			X			
DB	X	X		X	X	
DBDS	X	X		X	X	
DBDSGRP	X	X		X	X	
GSG		X		X	X	
HISTORY					X	
IC	X	X	X	X		X
LOG		X			X	
OIC			X			

Table 35. DBRC Modifiers for the /RMxxxxxx Commands (continued)

Modifier	CHANGE	DELETE	GENJCL	INIT	LIST	NOTIFY
PRILOG	X					X
RECON	X			X	X	
RECOV		X	X			X
REORG		X				X
SECLOG	X					X
SG	X	X		X		
SUBSYS	X	X			X	X
UIC	X	X				X
USER			X			

parameter-set

Represents the required and optional parameters that will be passed to DBRC.
For a full description of the DBRC commands, modifiers, and parameters,

Examples

Example for /RMCHANGE Command

Entry ET (with comments):

```
/RMCHANGE DBRC='DB DBD(DIVNTZ04) SHARELVL(3)'. *COMMENT*.
```

Response ET:

```
CHANGE.DB DBD(DIVNTZ04) SHARELVL(3)
DSP0203I  COMMAND COMPLETED WITH CONDITION CODE 00
DSP0220I  COMMAND COMPLETION TIME
DSP0211I  COMMAND PROCESSING COMPLETE
DSP0211I  HIGHEST CONDITION CODE = 00
DSP0058I  RMC COMMAND COMPLETED
```

Entry ET:

```
/RMCHANGE DBRC='DBDS DBD(DIVNTZ04) DDN(DBHVSAM1) ICON'.
```

Response ET:

```
CHANGE.DBDS DBD(DIVNTZ04) DDN(DIVNTZ04) ICON
DSP0203I  COMMAND COMPLETED WITH CONDITION CODE 00
DSP0220I  COMMAND COMPLETION TIME
DSP0211I  COMMAND PROCESSING COMPLETE
DSP0211I  HIGHEST CONDITION CODE = 00
DSP0058I  RMC COMMAND COMPLETED
```

Entry ET:

```
/RMC DBRC='DBDS DBD(DEDBJN21) AREA(DB21AR7) VSO PREOPEN'.
```

Response ET:

```
DFS000I  CHANGE.DBDS DBD(DEDBJN21) AREA(DB21AR7) VSO PREOPEN
DFS000I  DSP0203I  COMMAND COMPLETED WITH CONDITION CODE 00
```

Example for /RMDELETE Command

Entry ET (with comments):

```
/RMDELETE DBRC='DB DBD(DIVNTZ04)'. *COMMENT*.
```

/RMxxxxxx

Response ET:

```
DELETE.DB DBD(DIVNTZ04)
DSP0203I COMMAND COMPLETED WITH CONDITION CODE 00
DSP0220I COMMAND COMPLETION TIME
DSP0211I COMMAND PROCESSING COMPLETE
DSP0211I HIGHEST CONDITION CODE = 00
DSP0058I RMD COMMAND COMPLETED
```

Example for /RMGENJCL Command

Entry ET (with comments):

```
/RMGENJCL LTERM SMITH DBRC='IC DBD(HDAMVSAM) DDN(DD1) LIST'. *END OF DAY MESSAGE*.
```

Response ET:

```
DSP058I RMG COMMAND COMPLETED
```

Response LTERM SMITH:

```
GENJCL.IC DBD(HDAMVSAM) DDN(DD1)
//IC135607 JOB
//IC EXEC PGM=DFSRRCO0,PARM='ULU,DFSUDMPO',REGION=800K
//*
//* THIS JCL ORIGINATES FROM THE USER'S 'JCLPDS' LIBRARY.
//* %KEYWORDS ARE REPLACED BY THE GENJCL FUNCTION OF
//* THE IMS DATABASE RECOVERY CONTROL FEATURE.
//*
//* JCL FOR IMAGE COPY.
//*
//SYSPRINT DD SYSOUT=A
//RECON1 DD DSN=POCONO1,DISP=SHR
//RECON2 DD DSN=POCONO2,DISP=SHR
//IMS DD DSN=IMS.DBDLIB,DISP=SHR
//DD1 DD DSN=HDAMVASM,DCB=BUFNO=10,DISP=OLD
//DATAOUT1 DD DSN=IMS.HDAMVSAM.DD1.IC.ICDD1,UNIT=3400,
// VOL=(PRIVATE,,1,SER=(*****)),
// LABEL=(1,SL),
// DISP=(NEW,KEEP),DCB=BUFNO=10
//DFSVSAMP DD *
1024,2
4096,4
//SYSIN DD *
D1 HDAMVSAM DD1 DATAOUT1
DSP0203I COMMAND COMPLETED WITH CONDITION CODE 00
DSP0220I COMMAND COMPLETION TIME
DSP0211I COMMAND PROCESSING COMPLETE
DSP0211I HIGHEST CONDITION CODE = 00
DSP0058I RMG COMMAND COMPLETED
```

Example for /RMINIT Command

Entry ET (with comments):

```
/RMINIT DBRC='DB DBD(DIVNTZ04) SHARELVL(3)'. *COMMENT*.
```

Response ET:

```
INIT.DB DBD(DIVNTZ04) SHARELVL(3)
DSP0203I COMMAND COMPLETED WITH CONDITION CODE 00
DSP0220I COMMAND COMPLETION TIME
DSP0211I COMMAND PROCESSING COMPLETE
DSP0211I HIGHEST CONDITION CODE = 00
DSP0058I RMI COMMAND COMPLETED
```

Example for /RMLIST Command

Entry ET (with comments):

```
/RMLIST DBRC='DB DBD(DIVNTZ04)'. *LAST COMMENT*.
```

Response ET:

```
LIST.DB DBD(DIVNTZ04)
```

```
RECON1 DSN=RECONH1
```

```
-----
DB
DBD=DIVNTZ04          IRLM=*NULL      DMB#=769          TYPE=IMS
SHARE LEVEL=0
```

```

      FLAGS:                COUNTERS:
                BACKOUT NEEDED=OFF      RECOVERY NEEDED COUNT=0
                READ ONLY=OFF          IMAGE COPY NEEDED COUNT=1
      PROHIBIT AUTHORIZATION=OFF      AUTHORIZED SUBSYSTEMS=0
                RECOVERABLE=YES        HELD AUTHORIZATION STATE=0
                                         EEQE COUNT=0
```

```
DSP0180I NUMBER OF RECORDS LISTED IS 1
DSP0203I COMMAND COMPLETED WITH CONDITION CODE 00
DSP0220I COMMAND COMPLETION TIME
DSP0211I COMMAND PROCESSING COMPLETE.
DSP0211I HIGHEST CONDITION CODE = 00
DSP0058I RML COMMAND COMPLETED
```

Entry ET:

```
/RMLIST DBRC='DB DBD(DIVNTZ04) DBDS'
```

Response ET:

```
LIST.DB DBD(DIVNTZ04) DBDS
RECON1 DSN=RECONH1
```

```
-----
DB
DBD=DIVNTZ04          IRLMID=*NULL      DMB#=769          TYPE=IMS
SHARE LEVEL=0
```

```

      FLAGS:                COUNTERS:
                BACKOUT NEEDED=OFF      RECOVERY NEEDED COUNT=0
                READ ONLY=OFF          IMAGE COPY NEEDED COUNT=1
      PROHIBIT AUTHORIZATION=OFF      AUTHORIZED SUBSYSTEMS=0
                RECOVERABLE=YES        HELD AUTHORIZATION STATE=0
                                         EEQE COUNT=0
```

```
-----
DBDS  DSN      =JDSGIIZ4                      DBDS SEQ=1  IMS
      DBD=DIVNTZ04 DDN=DBHVSAM1 DSID=01 DBORG=HISAM DSORG=VSAM DSLOG SEQ=00
      CA GRPNAME=***NULL** GENMAX=3   IC AVAIL=0   IC USED=0
                IC NEEDED-ON           RECOV-OFF
      NOREUSE ICJCL=ICJCL   OICJCL=OICJCL   RECOVJCL=RECOVJCL
```

```
-----
DBDS  DSN      =JDSGIIZ4                      DBDS SEQ=2  IMS
      DBD=DIVNTZ04 DDN=DBHVSAM2 DSID=01 DBORG=HISAM DSORG=VSAM DSLOG SEQ=00
      CA GRPNAME=***NULL** GENMAX=3   IC AVAIL=0   IC USED=0
                IC NEEDED-OFF         RECOV-OFF
      NOREUSE ICJCL=ICJCL   OICJCL=OICJCL   RECOVJCL=RECOVJCL
```

```
DSP0180I NUMBER OF RECORDS LISTED IS 3
DSP0203I COMMAND COMPLETED WITH CONDITION CODE 00
DSP0220I COMMAND COMPLETION TIME
DSP0211I COMMAND PROCESSING COMPLETE.
DSP0211I HIGHEST CONDITION CODE = 00
DSP0058I RML COMMAND COMPLETED
```

Entry ET (With Comments):

/RML DBRC='DBDS DBD(DEDBJN21) AREA(DB21AR0)'. *VSO AREA*.

Response ET:

LIST.DBDS DBD(DEDBJN21) AREA(DB21AR0)

```

-----
DBDS
DBD=DEDBJN21 AREA=DB21AR0                                TYPE=FP
SHARE LEVEL=1                DSID=001 DBORG=DEDB  DSORG=VSAM
GSG NAME=***NULL**          USID=0000000002
AUTHORIZED USID=0000000002 RECEIVE USID=0000000002 MAX USID=0000000002
RECEIVE NEEDED USID=0000000000
CAGRP=***NULL** GENMAX=5    IC AVAIL=0      IC USED=0      DSSN=00000000
HSSP IC IN PROCESS=NO      AVAIL          USED          PARTIAL
                                HSSP IC=0    HSSP IC=0    HSSP IC=0
REUSE                RECOVPD=0    VSO    PREOPEN  PRELOAD
DEFLTJCL=***NULL** ICJCL=ICJCL  RECVJCL=ICRCVJCL RECOVJCL=RECOVJCL
FLAGS:                COUNTERS:
  PROHIBIT AUTHORIZATION=OFF      AUTHORIZED SUBSYSTEMS =1
                                HELD AUTHORIZATION STATE=7
  IC NEEDED                =OFF    ADS AVAIL #            =1
  RECOV NEEDED              =OFF    REGISTERED ADS #      =1
                                EEQE COUNT                    =0
  TRACKING IN PROGRESS     =NO      RECEIVE NEEDED        =OFF
  OFR REQUIRED                =NO
  TRACKING SUSPENDED       =NO
ADS LIST:
                                CREATE
  -ADS DDN--ADS DSN-          -STAT- -RUNNING-
  DB21AR0 DB21AR0             AVAIL   NO
ASSOCIATED SUBSYSTEM INFORMATION:
                                ENCODED
  -SSID-  -ACCESS INTENT-  -STATE-  -SS ROLE-
  SYS3    EXCLUSIVE        7          ACTIVE
ALLOC
  ALLOC = 93.076 13:30:35.0* START = 93.076 13:30:23.3
  LRID=0000000000000000 DSSN=0000000001 USID=0000000002
REORG
  RUN = 93.076 13:23:38.0* USID=0000000000
DSP0180I NUMBER OF RECORDS LISTED IS 3
DSP0203I COMMAND COMPLETED WITH CONDITION CODE 00
DSP0220I COMMAND COMPLETION TIME 93.076 13:37:36.7
DSP0211I COMMAND PROCESSING COMPLETE
DSP0211I HIGHEST CONDITION CODE = 00
DSP0058I RML COMMAND COMPLETED

```

Entry ET (With Comments):

/RML DBRC='DBDS DBD(DEDBJN21) AREA(DB21AR6)'. *DEDB AREA*.

Response ET:

LIST.DBDS DBD(DEDBJN21) AREA(DB21AR6)

```

-----
DBDS
DBD=DEDBJN21 AREA=DB21AR6                                TYPE=FP
SHARE LEVEL=1                DSID=007 DBORG=DEDB  DSORG=VSAM
GSG NAME=***NULL**          USID=0000000002
AUTHORIZED USID=0000000002 RECEIVE USID=0000000002 MAX USID=00000000
RECEIVE NEEDED USID=0000000000
CAGRP=***NULL** GENMAX=5    IC AVAIL=0      IC USED=0      DSSN=00000000
HSSP IC IN PROCESS=NO      AVAIL          USED          PARTIAL
                                HSSP IC=1    HSSP IC=0    HSSP IC=0
REUSE                RECOVPD=0    NOVSO NOPREOPEN NOPRELOAD
DEFLTJCL=***NULL** ICJCL=ICJCL  RECVJCL=ICRCVJCL RECOVJCL=RECOVJCL

```



```

FLAGS:                                COUNTERS:
  PROHIBIT AUTHORIZATION=OFF          AUTHORIZED SUBSYSTEMS   =0
                                       HELD AUTHORIZATION STATE=0
                                       ADS AVAIL #                =0
  IC NEEDED                           =OFF          REGISTERED ADS #        =1
  RECOV NEEDED                         =ON           EEQE COUNT             =0
                                       RECEIVE NEEDED             =OFF
  TRACKING IN PROGRESS =NO
  OFR REQUIRED                          =NO
  TRACKING SUSPENDED  =NO
ADS LIST:
      -ADS DDN--ADS DSN-              CREATE
      DB21AR6 DB21AR6                 -STAT- -RUNNING
                                       UNAVAIL NO
ALLOC
  ALLOC   = 93.076  13:32:05.0*   START   = 93.076  13:30:23.3
  LRID=000000000000000000000000    DSSN=0000000001    USID=0000000002
  DEALLOC = 93.076  13:34:21.2    DEALLOC LRID=000000000000000000
REORG
  RUN     = 93.076  13:24:12.5*   USID=0000000000
                                       AVAILABLE DATA SET
                                       DBD=DEDBJN21 DDN=DB21AR6
IMAGE
* CREATE = 93.076  13:22:52.8*   HSSP
IC1
  DSN=IC21AR6
DSP0180I NUMBER OF RECORDS LISTED IS      4
DSP0203I COMMAND COMPLETED WITH CONDITION CODE 00
DSP0220I COMMAND COMPLETION TIME 93.076  13:38:21.0
DSP0211I COMMAND PROCESSING COMPLETE
DSP0211I HIGHEST CONDITION CODE = 00
DSP0058I RML COMMAND COMPLETED

```

Example for /RMNOTIFY Command

Entry ET (with comments):

```
/RMNOTIFY DBRC='SUBSYS SSID(IMSB) IRLMID(IRLM1) NORMAL'. *END OF DAY MESSAGE*.
```

Response ET:

```

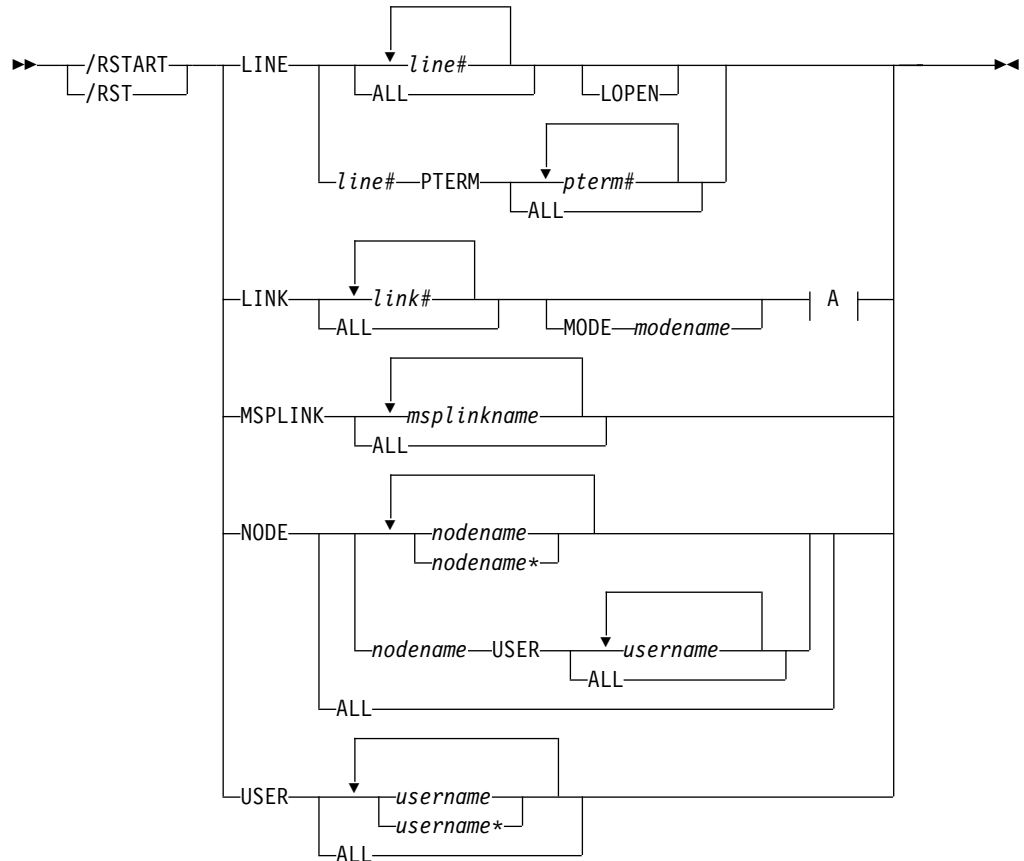
NOTIFY.SUBSYS SSID(IMSB) IRLMID(IRLM1) NORMAL
DSP0203I COMMAND COMPLETED WITH CONDITION CODE 00
DSP0220I COMMAND COMPLETION TIME
DSP0211I COMMAND PROCESSING COMPLETE.
DSP0211I HIGHEST CONDITION CODE = 00
DSP0058I RMN COMMAND COMPLETED

```

/RMxxxxxx

Chapter 46. /RSTART

Format



A:



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/RSTART	X		X
CONTINUOUS	X		X
LINE	X		X
LINK	X		X
LOPEN	X		X
MODE	X		X

/RSTART

Command / Keywords	DB/DC	DBCTL	DCCTL
MSPLINK	X		X
NODE	X		X
PTERM	X		X
USER	X		X

Usage

/RSTART starts lines, lines and physical terminals, logical links, nodes, and users when you do not want to reset all associated conditions such as a conversation or special operating mode.

/RSTART validity checks all parameters entered by the terminal operator. If an error is detected on parameters that are independent of one another, only the invalid parameters are indicated as being in error and the /RSTART command processes the rest of the parameters.

/RSTART can be used to reset conditions previously established by the /START, /STOP, /PSTOP, /PURGE, /MONITOR, /COMPT, or /RCOMPT command.

LINE

specifies the line or line/physical terminal to be started with all terminals on the line in the same mode of operation they were in when they were stopped.

/RSTART LINE allows all input, output, and queuing to start on the line and take the line out of response mode if the line was in this mode. /RSTART LINE PTERM does not reset line response mode, but does reset the BTAM-attached 3270 terminal response mode and looptest mode.

LOPEN

LOPEN enables stopped and idle remote BTAM lines. Enter the /RSTART LINE LOPEN command before any /RSTART LINE PTERM command to avoid having a line that is stopped and idle reset before it can be enabled again. If the line is not stopped or process stopped, and idle, or if enabling is not applicable, the LOPEN keyword is ignored and processing continues.

/RSTART LINE and /RSTART NODE cannot reset terminal response mode if Fast Path is active for a specified physical terminal or node. /DEQUEUE must be entered to discard Fast Path output before using /RSTART.

LINK

Specifies the logical links to be started, either individually or all at once. Communication between IMS systems does not begin until a /START LINK command is entered in both systems for BTAM, CTC, or MTM link, or in either one of the systems for a VTAM link. /RSTART LINK will be rejected unless the link is in process stopped and idled status and the assigned physical link is open, as shown in the /DISPLAY command. /RSTART LINK also reenables BTAM-attached BSC logical links.

CONTINUOUS

Keeps the link running by sending dummy data blocks when there is no data to be sent. These blocks are discarded when received. This mode of operation eliminates the need for either side to bid for the line, which can improve the traffic handling capabilities of a high usage link. The blocksize parameter is the size of the dummy data blocks to be sent.

If the size is not specified, it defaults to 2 bytes. The maximum size of the dummy data blocks to be sent is equal to the size of the link buffer minus 80 bytes.

The CONTINUOUS keyword is ignored if the link is not BTAM. If multiple links are restarted and the CONTINUOUS keyword is specified, only the BISYNC links are restarted in continuous mode.

A /PSTOP LINK command resets continuous mode. If a link is stopped because of an error while in continuous mode, a /RSTART command that does not specify the CONTINUOUS parameter will reset continuous mode.

MODE

The MODE keyword allows you to specify mode table entries to be used when activating an IMS VTAM MSC session. Use of the MODE keyword with non-VTAM links is invalid. If non-VTAM links are referred to specifically in a /RSTART LINK command with the MODE keyword, they will be marked in error.

MSPLINK

Specifies that only MSC VTAM links be reset to allow logons.

NODE

Specifies the VTAM node for which input, output, and queuing are to start. The /RSTART NODE nodename USER username command is used to restart the half-session allocated to USER username for NODE nodename for ISC. This USER keyword is only valid with the NODE keyword and restarts the specified half-session. If the USER keyword is omitted, all half-sessions of the specified node are affected.

This applies to ISC, dynamic 3600 and dynamic LUP.

The NODE parameter can be generic if the USER keyword is not specified. The generic parameter specifies nodes that already exist. If the node was created temporarily to retain status data and the status conditions have been reset, then the node is deleted at the next simple checkpoint.

USER

Specifies the USER for which input, output, and queueing are to start. This command starts the USER without resetting conditions such as conversation mode, exclusive mode, and test mode. The /RSTART USER command applies only to dynamic users.

The USER parameter can be generic where the generic parameter specifies already existing users.

If the user structure is temporary and was created solely to retain status that is now reset, the temporary user is deleted at the next simple checkpoint.

Examples

Example 1 for /RSTART Command

Entry ET:

```
/RSTART LINE 4,5,6,7,8,9,10,11
```

Response ET:

/RSTART

DFS058I RSTART COMMAND COMPLETED

Response RT:

DFS059I TERMINAL RSTARTED

Explanation: LINES 4,5,6,7,8,9,10, and 11 are started.

Example 2 for /RSTART Command

Entry ET:

/RSTART LINE 4 5 6 700

Response ET:

DFS058I RSTART COMMAND COMPLETED EXCEPT LINE 700

Example 3 for /RSTART Command

Entry ET:

/RSTART LINE 4 PTERM 1, 2

Response ET:

DFS058I RSTART COMMAND COMPLETED

Response RT:

DFS059I TERMINAL RSTARTED

Explanation: LINE 4 PTERM 1 and 2 are started.

Example 4 for /RSTART Command

Entry ET:

/RSTART LINE 4 LOPEN

Response RT:

DFS058I RSTART COMMAND COMPLETED

Response ET:

DFS059I TERMINAL RSTARTED

Explanation: If line 4 is a 3270 remote BTAM line that is idle and stopped, the line is restarted and reenabled.

Example 5 for /RSTART Command

Entry ET:

/RSTART LINK ALL

Response ET:

DFS058I RSTART COMMAND COMPLETED

Explanation: All of the logical links are started. Communication across the link will not begin until the partner in the remote system is started with the /RSTART LINK command.

Response ET:

DFS2168I CONNECTION ESTABLISHED ON LINK 2

Explanation: The connection for communication between two IMS systems is established. The partner link is started with a /RSTART LINK command. After each connection, the message DFS2168 is returned.

Example 6 for /RSTART Command

Entry ET:

```
/RSTART LINK 2
```

Response ET:

```
DFS058I RSTART COMMAND COMPLETED
```

Explanation: Logical link 2 is started.

Response ET:

```
DFS2168I CONNECTION ESTABLISHED ON LINK 2
```

Explanation: The two IMS systems are connected.

Example 7 for /RSTART Command

Entry ET:

```
/RSTART LINK 4
```

Response ET:

```
DFS058I RSTART COMMAND COMPLETED
```

Response ET at Partner System:

```
DFS2160I LINK 4 STARTED BY PARTNER AB NODE WEST
```

Explanation: Link 4 was started at the request of the primary system.

Example 8 for /RSTART Command

Entry ET:

```
/RSTART NODE EAST
```

Response ET:

```
DFS058I RSTART COMMAND COMPLETED
```

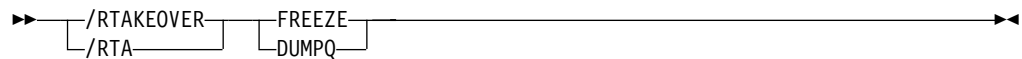
Explanation: The node named EAST is started.

IMS Commands

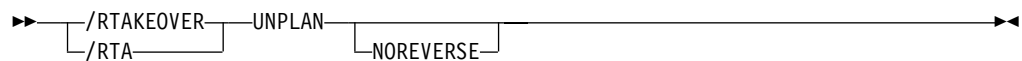
Chapter 47. /RTAKEOVER

Format

/RTAKEOVER for an Active Subsystem



/RTAKEOVER for a Tracking Subsystem



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/RTAKEOVER	X	X	X
FREEZE	X	X	X
DUMPQ	X	X	X
NOREVERSE	X	X	X
UNPLAN	X	X	X

Usage

The /RTAKEOVER command requests a remote takeover of an active IMS subsystem by a tracking subsystem at a secondary site. The remote takeover causes the tracking subsystem to finish processing and shut down.

If entered on an active subsystem, /RTAKEOVER also causes the active subsystem to shut down. Once the remote tracking subsystem has shut down and remote takeover has successfully completed, one or more subsystems may be brought up in an active role at the secondary site and started with standard IMS restart commands.

Unless you specify the NOREVERSE keyword, a remote takeover can be reversed, even after the /RTAKEOVER command has been issued. The NORTA parameter on the CHANGE.SG command can be used to reverse a remote takeover. See *IMS/ESA Operations Guide*.

/RTAKEOVER for an Active Subsystem

/RTAKEOVER is issued on the active IMS subsystem to initiate a planned remote takeover and must be specified with either the FREEZE keyword or the DUMPQ keyword.

/RTAKEOVER

/RTAKEOVER FREEZE indicates that a /CHECKPOINT FREEZE type of shutdown is performed before the planned takeover occurs.

/RTAKEOVER DUMPQ indicates that a /CHECKPOINT DUMPQ type of shutdown is performed before the planned takeover occurs. This form of takeover provides that all relevant log records reach the tracking subsystem such that no data is lost. This form of takeover allows the capability to rebuild the message queues during the new active start.

/RTAKEOVER must be entered for at least one IMS subsystem in the global service group (GSG) at the active site for which takeover is to occur. The other IMS subsystems at the active site must also be shut down, either with the /RTAKEOVER command, or some form of the /CHECKPOINT command that shuts the system down.

Once the active sends all of its log data sets, the active IMS subsystem shuts down. When all of the active subsystems in the global service group have shut down, the tracking subsystem then completes tracking work, stops online forward recovery (OFR), changes the role of the service group (tracking to active) in the RECON data set, and shuts down.

/RTAKEOVER for a Tracking Subsystem

/RTAKEOVER UNPLAN is issued on the tracking IMS subsystem to initiate an unplanned remote takeover after the active site fails unexpectedly. /RTAKEOVER UNPLAN causes the tracking subsystem to complete tracking work, stops online forward recovery (OFR), changes the role of the service group (tracking to active) in the RECON data set, and shuts down.

Recommendation: Specify the NOREVERSE keyword to allow the tracking IMS subsystem to save and process all data it has received from the active site, regardless of whether that data was committed on the active IMS subsystem.

Although you can still reverse a remote takeover even if you specify NOREVERSE, you should not reverse it; in this case, you receive message DFS4122A when you restart the tracking subsystem.

If you do not specify NOREVERSE, the tracking IMS subsystem discards any uncommitted data it has received from the active subsystem.

Examples

Example for /RTAKEOVER Command at Active Site

Entry ET:

```
/RTA FREEZE
```

Response ET:

```
DFS2939I REMOTE SITE PLANNED TAKEOVER IN PROGRESS SYS3
DFS2719I MSDB CHECKPOINT WRITTEN TO MSDBCP2  SYS3 DFS994I
          *CHKPT 94308/160026**FREEZE*  SYS3
DFS3499I ACTIVE DDNAMES: MODBLKSA IMSACBB  FORMATA  MODSTAT ID:  2 SYS3
DFS3804I LATEST RESTART CHKPT: 94308/160026, LATEST BUILDQ CHKPT: 94308/154950 SYS3
DFS4036I CONVERSATION ENDING WITH SERVICE GROUP STLSITE2 SYS3
DFS3257I ONLINE LOG CLOSED ON DFSOLP01 SYS3
DFS2484I JOBNAME=JT160031 GENERATED BY LOG AUTOMATIC ARCHIVING SYS3
DFS092I  IMS LOG TERMINATED      SYS3
DFS4036I CONVERSATION ENDED  WITH SERVICE GROUP STLSITE2 SYS3
```

```
DFS4024I STOP SERVGRP PROCESSING (INTERNAL) COMPLETE SYS3
DFS2091I IMS TIMER SERVICE SHUTDOWN COMPLETE SYS3
DFS0617I RDS BUFFERS HAVE BEEN SUCCESSFULLY PURGED SYS3
```

Response received at the Tracking system:

```
DFS2932I DATABASE UPDATES PRIOR TO SYSTEM SYS3 TAKEOVER HAVE BEEN
ROUTED SYS3
```

Example for /RTAKEOVER DUMPQ at Active Site

Entry ET:

```
/RTA DUMPQ
```

Response ET:

```
DFS2939I REMOTE SITE PLANNED TAKEOVER IN PROGRESS SYS3
DFS2719I MSDB CHECKPOINT WRITTEN TO MSDBCP2 SYS3
DFS994I *CHKPT 94308/165340**DUMPQ** SYS3
DFS3499I ACTIVE DDNAMES: MODBLKSA IMSACBB FORMATA MODSTAT ID: 2 SYS3
DFS3804I LATEST RESTART CHKPT: 94308/165340, LATEST BUILDQ CHKPT: 94308/165340 SYS3
DFS4036I CONVERSATION ENDING WITH SERVICE GROUP STLSITE2 SYS3
DFS3257I ONLINE LOG CLOSED ON DFSOLP01 SYS3
DFS2484I JOBNAME=JT165345 GENERATED BY LOG AUTOMATIC ARCHIVING SYS3
DFS092I IMS LOG TERMINATED SYS3
DFS4036I CONVERSATION ENDED WITH SERVICE GROUP STLSITE2 SYS3
DFS4024I STOP SERVGRP PROCESSING (INTERNAL) COMPLETE SYS3
DFS2091I IMS TIMER SERVICE SHUTDOWN COMPLETE SYS3
DFS0617I RDS BUFFERS HAVE BEEN SUCCESSFULLY PURGED SYS3
```

Response received at the Tracking system:

```
DFS2932I DATABASE UPDATES PRIOR TO SYSTEM SYS3 TAKEOVER HAVE BEEN
ROUTED SYS3
```

Example for /RTAKEOVER UNPLAN at Remote Site

Entry ET:

```
/RTA UNPLAN
```

Response ET:

```
DFS4123I UNPLANNED TAKEOVER IN PROGRESS
DFS2913I CONVERSATION WITH IMS SYS3 TERMINATED: TRK SYS SHUTDOWN
DFS2913I CONVERSATION WITH IMS IMS2 TERMINATED: TRK SYS SHUTDOWN
DFS2500I DATASET IMZ00007 SUCCESSFULLY DEALLOCATED
DFS2500I DATASET IMZ00015 SUCCESSFULLY DEALLOCATED
DFS2934I LOG TRUNCATION STARTED FOR IMS: IMS2
DFS2934I LOG TRUNCATION STARTED FOR IMS: SYS3
DFS2943I THERE ARE NO DATA SETS TO TRUNCATE FOR SYS3
DFS2908I DATABASE UPDATES COMPLETE FOR REMOTE TAKEOVER PROCESSING
DFS2500I DATASET IMZ00020 SUCCESSFULLY CREATED
DFS2500I DATASET IMZ00021 SUCCESSFULLY ALLOCATED
DFS4040I SHADOW LOG CREATE, DD=IMZ00020, DSN=IMSTESTL.RSR.SLDS1.N0000016
DFS2500I DATASET IMZ00021 SUCCESSFULLY DEALLOCATED
DFS2935I TRACKING LOG DATA SETS HAVE BEEN TRUNCATED AT 000000000000209C:
DFS2936I IMSTESTL.RSR.SLDS1.N0000012
DFS2500I DATASET IMZ00016 SUCCESSFULLY DEALLOCATED
DFS2500I DATASET IMZ00020 SUCCESSFULLY DELETED
DFS4126I TAKEOVER COMPLETE
DFS994I *CHKPT 94310/160240**FREEZE*
DFS3499I ACTIVE DDNAMES: MODBLKSA IMSACBA FORMATA MODSTAT ID: 3
DFS3804I LATEST RESTART CHKPT: 94310/160240, LATEST BUILDQ CHKPT: 94310/155301
DFS3257I ONLINE LOG CLOSED ON DFSOLP01
DFS2484I JOBNAME=JT160245 GENERATED BY LOG AUTOMATIC ARCHIVING
```

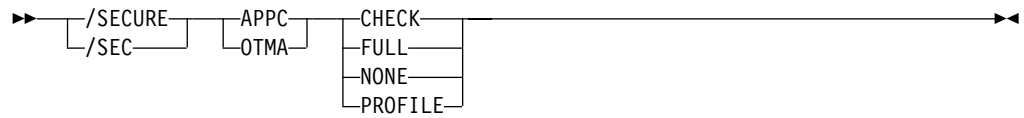
/RTAKEOVER

```
DFS092I IMS LOG TERMINATED  
DFS2091I IMS TIMER SERVICE SHUTDOWN COMPLETE  
DFS0617I RDS BUFFERS HAVE BEEN SUCCESSFULLY PURGED
```

Explanation: An unplanned takeover is successfully initiated for a tracking subsystem that was tracking 2 active subsystems (SYS3 and IMS2).

Chapter 48. /SECURE

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/SECURE	X		X
APPC	X		X
OTMA	X		X

Usage

The /SECURE command is used to control the RACF security level. It is used for administrative control of the IMS environment and as an emergency operations control command to throttle RACF activity without requiring an IMS shutdown.

APPC

When used with the CHECK, FULL, NONE, or PROFILE parameters. APPC controls the RACF security level for input from LU 6.2 devices. The /DISPLAY APPC command can be used to show the security level that is currently in effect. At IMS startup, the security default is FULL.

CHECK

Causes existing RACF calls to be made. IMS commands are checked using the RACF resource class of CIMS. IMS transactions are checked using TIMS. Disables MVS System Authorization Facility security for IMS allocate PSBs (APSBs).

FULL

Causes the same processing as the CHECK parameter but uses additional RACF calls to create the security environment for dependent regions and enables MVS System Authorization Facility security for IMS APSBs for all CPI Communications driven application programs.

NONE

Does not call RACF within IMS for security verification. RACF security verification in APPC/MVS is not affected. Disables MVS System Authorization Facility security for IMS APSBs.

PROFILE

causes the values in the TP profile for each transaction to be used. If the TP profile is not defined for a transaction, or if the TP profile does not specify a RACF security level, then the default security is CHECK.

OTMA

Is used with the CHECK, FULL, NONE, or PROFILE parameters to control the RACF security level for input from IMS Open Transaction Manager Access

/SECURE

(OTMA) clients. The /DISPLAY OTMA command can be used to show the security level that is currently in effect. After an IMS cold start, the security default is FULL. IMS retains OTMA security settings (established by a /SECURE OTMA command) after a warm start or emergency restart.

CHECK

Causes existing RACF calls to be made. IMS commands are checked using the RACF resource class of CIMS. IMS transactions are checked using TIMS.

FULL

Causes the same processing as the CHECK parameter but uses additional RACF calls to create the security environment for dependent regions.

NONE

Does not call RACF within IMS for security verification.

PROFILE

Causes the values in the Security Data section of the OTMA message prefix for each transaction to be used.

Examples

Example 1 for /SECURE Command

Entry ET:

```
/DIS APPC
```

Response ET:

```
IMSLU      #APPC-CONV SECURITY STATUS  DESIRED  
IMSLUNME   0 PROFILE  ENABLED  ENABLED  
*91242/163820*
```

Explanation: Enter /DISPLAY APPC to see which security checking option is in effect.

Entry ET:

```
/SECURE APPC FULL
```

Response ET:

```
DFS058I SECURE COMMAND COMPLETED
```

Example 2 for /SECURE Command

Entry ET:

```
/DIS OTMA
```

Response ET:

```
GROUP/MEMBER      XCF-STATUS  USER-STATUS  SECURITY  
HARRY  
-APPL8             ACTIVE      SERVER        FULL  
*95068/175730*
```

Explanation: Enter /DISPLAY OTMA to see which security checking option is in effect.

Entry ET:

```
/SECURE OTMA FULL
```

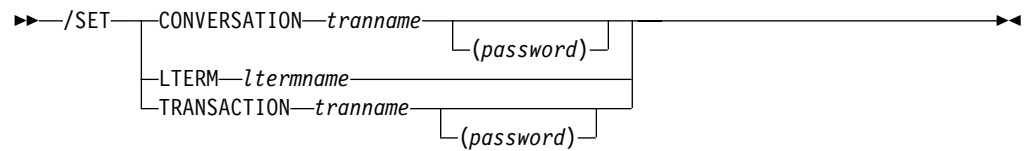
Response ET:

DFS058I SECURE COMMAND COMPLETED

/SECURE

Chapter 49. /SET

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/SET	X		X
CONVERSATION	X		X
LTERM	X		X
TRANSACTION	X		X

Usage

/SET establishes the destination of all messages entered into this terminal to another terminal or to a particular transaction code. If the terminal is in conversation, the /SET command also sets the destination of only the next message to the specified transaction.

A signed-on user who issues the /SET command places the terminal into preset mode. This mode is maintained across dynamic user signons. For example, if a dynamic user signs off, then signs back on to another terminal, the preset mode will still be in effect on the new terminal but not on the original terminal.

The status fields of /DISPLAY LINE PTERM, /DISPLAY NODE, or /DISPLAY USER indicate if a physical terminal, node, or user is in preset destination mode (PRST), and display the destination transaction code or logical terminal name.

CONVERSATION

Directs the next input message to a selected transaction. The terminal being used must be in a conversation that is waiting for an input message (for example, the must have been received).

LTERM

Specifies the logical terminal that is the destination of all messages entered into this terminal.

The mode established by /SET LTERM is called preset mode. If the preset mode is established from a 3270 and user-defined formats are not being used, input message must be entered from a cleared screen. Preset mode can be reset by:

```

/IAM
/START LINE PTERM
/START NODE command
/START USER command

```

/SET

```
/RESET  
/START NODE  
/START LINE  
/START USER
```

Once a destination is preset, the terminal operator cannot enter the destination (logical terminal name) as the first part of the message.

In a multiple systems configuration, the name of a remote logical terminal can be specified. If the preset destination is to be deleted (/RESET) or changed (/SET), the command must be entered from some other valid component.

TRANSACTION

Specifies the transaction code that is the destination of all messages entered into this terminal. The mode established by /SET TRANSACTION is called preset mode. If the preset mode is established from a 3270 and user-defined formats are not being used, input messages must be entered from a cleared screen. Preset mode can be reset by:

```
/IAM  
/START LINE PTERM  
/RESET  
/START NODE  
/START LINE  
/START USER
```

Once a destination is preset, the terminal operator cannot enter the destination (transaction code) as the first part of the message. In a multiple systems configuration, the name of a remote transaction can be specified. The terminal cannot be in conversation.

Examples

Example 1 for /SET Command

Entry ET:

```
/SET CONVERSATION CONVTRAN(password)
```

Response ET:

```
DFS058I SET COMMAND COMPLETED
```

Explanation: Any message entered from this terminal is sent to conversation CONVTRAN.

Example 2 for /SET Command

Entry ET:

```
/SET LTERM CNTRL
```

Response ET:

```
DFS058I SET COMMAND COMPLETED
```

Explanation: Any message entered from this terminal is sent to LTERM CNTRL.

Example 3 for /SET Command

Entry ET:

```
/SET TRANSACTION IMS(password)
```

Response ET:

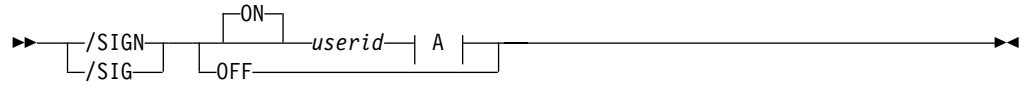
DFS058I SET COMMAND COMPLETED

Explanation: Any message entered from this terminal is sent to transaction IMS.

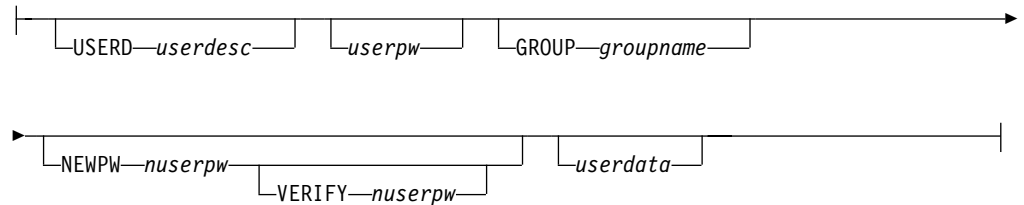
IMS Commands

Chapter 50. /SIGN

Format



A:



Environments

Command	DB/DC	DBCTL	DCCTL
/SIGN	X		X

Usage

The /SIGN command is used to sign on and sign off at terminals attached to IMS. This command enables IMS to identify who is using the terminal and to determine if you are authorized to enter the transaction or command.

When SGN=G, Z, or M is specified, the user can sign on multiple times to both STATIC and ETO terminals when the structure name is different from the user ID.

The status fields of /DISPLAY NODE and /DISPLAY LINE PTERM indicate whether a terminal is signed on with the word SIGN.

ON

/SIGN ON must be issued for any physical terminal or user ID requiring a signon, or the transaction entered is rejected.

From terminals that require signon, commands other than /SIGN or /RCLSDST are rejected if transaction authorization is requested. Static terminals requiring a signon also have enhanced command authorization with RACF or an equivalent product if RCF=S or RCF=A is specified at system startup.

At terminals not requiring signon, transactions are passed to RACF, an equivalent security product, or a user exit for authorization checking. If /SIGN ON is entered at a terminal not requiring a signon, the signon is processed as if the terminal required a signon. That is, the terminal is placed in a signed on status

/SIGN

with the user ID until a /SIGN OFF or another /SIGN ON command is entered. For switched terminals, the /IAM command must be issued before the /SIGN ON command.

After any IMS restart or terminal disconnect, the remote terminal operator is required to sign on again using the /SIGN ON command. A terminal can be disconnected by:

- A switched line disconnect
- A VTAM CLSDST
- A line shutdown
- The /IDLE command
- Auto logoff

Signon status is also reset by the /START LINE, /START LINE PTERM, and /START NODE commands and auto signoff.

The remote terminal operator must wait at a static physical terminal for confidential responses, because responses queued for a given physical terminal are sent even if the physical terminal is signed off. If the remote terminal operator must be absent, the /LOCK command can be used to prevent output from being received. Confidential output sent to a dynamic user is queued to the user instead of to the physical terminal when the user has signed off. A successful signon of an existing user turns off the DEADQ status for the user, if that status exists.

userid

Is a user identification of 8 characters or fewer.

USERD

Is a user descriptor name. This user descriptor name is used in the sign on. The userdesc parameter must be a user ID, nodename or DFSUSER.

userdata

Is user identification information that has been defined to IMS with the (RACF), equivalent security product or the user exit routine, DFSCSGN0. For RACF, this information consists of the following:

```
userpw  GROUP groupname  NEWPW nuserpw
```

userpw

Is a password of 8 characters or fewer that is associated with the user identification.

nuserpw

Is a new password of 8 characters or fewer that is associated with the user identification.

GROUP

Is an optional keyword indicating a group name of 8 characters or fewer that is associated with the user ID.

NEWPW

Is an optional keyword indicating a new user password of 8 characters or fewer that replaces the current user password specified in *userpw*.

VERIFY

Is an optional keyword that requests IMS to verify the new password entered. IMS verifies the new password before passing it to RACF or to the IMS signon exit routines. This keyword can also be used as an alternative to re-entering the password on the DFS3656 panel.

Restriction: You can use this keyword only when responding to an IMS DFS3656A message and as an alternative to re-entering the password on the DFS3656 panel.

For the user exit routine DFSCSGN0, the user ID and userdata parameter values are defined by the installation.

OFF

The /SIGN OFF command is used to complete a session on a terminal that required a signon. Static terminals in conversational mode cannot be signed off without first issuing an /EXIT or /HOLD command.

Another method of signing off a terminal is to reenter the /SIGN ON command. This method initiates a new signon at the terminal without having to enter the /SIGN OFF command.

Examples**Example 1 for /SIGN Command**

Entry ET:

DFS3649A /SIGN COMMAND REQUIRED FOR IMS

DATE: 11/03/92 TIME: 14:39:33

NODE NAME: DT327001

USERID: IMSUS01

PASSWORD: IMSPW01

USER DESCRIPTOR:

GROUP NAME:

NEW PASSWORD:

OUTPUT SECURITY AVAILABLE

Response ET:

DFS3650I SESSION STATUS FOR IMS

DATE: 11/03/92 TIME: 14:41:48

NODE NAME: DT327001

USERID: IMSUS01

PRESET DESTINATION:

CURRENT SESSION STATUS:

OUTPUT SECURITY AVAILABLE

Explanation: The user with user ID IMSUS01 and password IMSPW01 has successfully signed on to a dynamic terminal. The signon is done with the panel (DFS3649A).

Example 2 for /SIGN Command

Entry ET:

/SIGN IMSUS02 IMSPW02

Response ET:

/SIGN

```
DFS3650I SESSION STATUS FOR IMS

DATE: 11/03/92      TIME: 14:41:48
NODE NAME:          DT327001
USERID:             IMSUS02
PRESET DESTINATION:

CURRENT SESSION STATUS:

      OUTPUT SECURITY AVAILABLE
```

Explanation: The user with user ID IMSUS02 and password IMSPW02 has successfully signed on to a dynamic terminal. The signon is done with the /SIGN command.

Example 3 for /SIGN Command

Entry ET:

```
/SIGN IMSUS03 IMSPW03
```

Response ET:

```
DFS3650I SESSION STATUS FOR IMS

DATE: 11/03/92      TIME: 14:45:53
NODE NAME:          L3270A
USERID:             IMSUS03
PRESET DESTINATION:

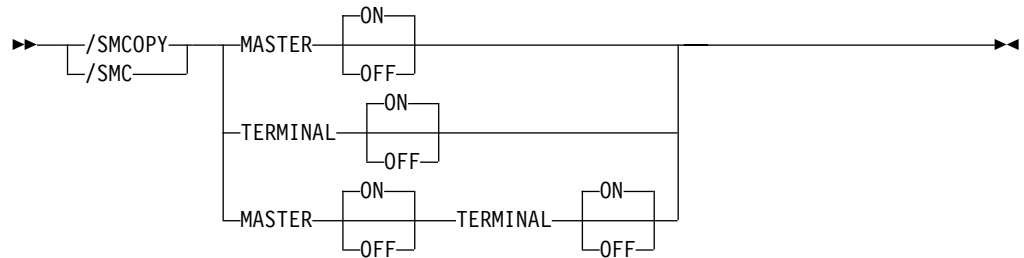
CURRENT SESSION STATUS:

      NO OUTPUT SECURITY AVAILABLE
```

Explanation: The user with user ID IMSUS03 and password IMSPW03 has successfully signed on to a static terminal.

Chapter 51. /SMCOPY

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/SMCOPY	X		X
MASTER	X		X
TERMINAL	X		X

Usage

The /SMCOPY command is used by the master terminal operator to control the printing of certain output to the secondary master terminal.

Table 36 shows the IMS commands and the command responses that can be printed on the secondary master terminal.

Table 36. Commands that Are Logged to the Secondary Master Terminal

/ACTIVATE	/ALLOCATE
/ASSIGN	/CHECKPOINT
/CLSDST	/COMPT
/DBDUMP	/DBRECOVERY
/DELETE	/DEQUEUE
/DISPLAY	/IDLE
/MODIFY	/MONITOR
/MSASSIGN	/OPNDST
/PSTOP	/PURGE
/QUIESCE	/RCLSDST
/RCOMPT	/RMCHANGE
/RMDELETE	/RMGENJCL
/RMINIT	/RMLIST
/RMNOTIFY	/RSTART
/SECURE	/START
/STOP	/SWITCH
/TRACE	/UNLOCK SYSTEM

/SMCOPY

System definition establishes whether the commands and their responses will be printed on the secondary master and the origin of the printed command (master terminal, remote terminal, or both). /SMCOPY provides online control of the printing established by system definition.

MASTER

Turns ON or OFF the printing of the above subset of IMS commands and command responses when issued from the master terminal.

TERMINAL

Turns ON or OFF the printing of the above subset of IMS commands and command responses when issued from terminals other than the master terminal.

Example for /SMCOPY Command

A system definition has established that copies of the above subset of commands and command responses, when issued from any terminal, will be printed on the secondary master terminal (operand COPYLOG=ALL was specified on the COMM macro).

Entry ET:

```
/SMCOPY TERMINAL OFF
```

Response ET:

```
DFS058I SMCOPY COMMAND COMPLETED
```

Explanation: The secondary master terminal does not receive copies of IMS commands and command responses issued from remote terminals. Commands and responses issued from the master terminal are still received.

Chapter 52. /SSR

Format

▶▶—/SSR—*text*————▶▶

Environments

Command	DB/DC	DBCTL	DCCTL
/SSR	X	X	X

Usage

/SSR is a multisegment command that allows the IMS operator to enter an external subsystem command as part of the command input. (The external system is not a CCTL subsystem.) Routing is the only function IMS performs. The command is processed by the external subsystem and the response (from the external subsystem, not CCTL) is routed back to the entering terminal.

All /SSR formats require an EOM indication to denote end-of-message. An EOS indication must be included for all segments that precede the last segment.

text is the alphanumeric external subsystem command.

Example for /SSR Command

Entry ET:

```
/SSR ;START DATABASE (DSN8D22P)
```

Response ET:

```
DFS058I  SSR COMMAND COMPLETED
```

```
DSN9022I ; DSNTDDIS 'START DATABASE' NORMAL COMPLETION
```

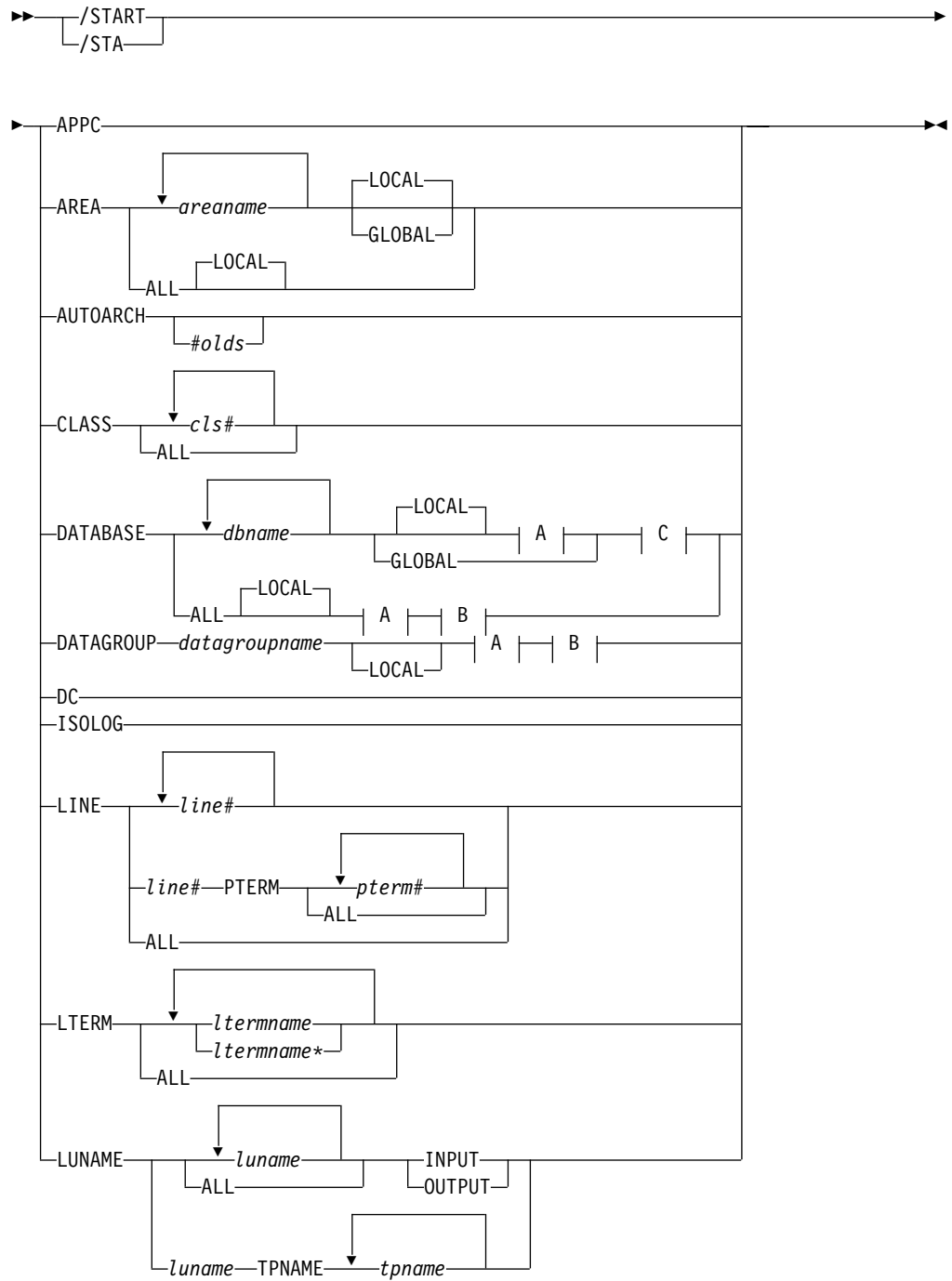
Explanation: The START DATABASE command is successfully routed to the DB2 subsystem for processing.

/SSR

Chapter 53. /START

Format

/START Command: APPC through LUNAME



/START

A:



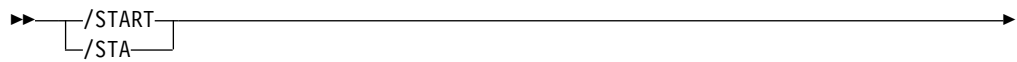
B:

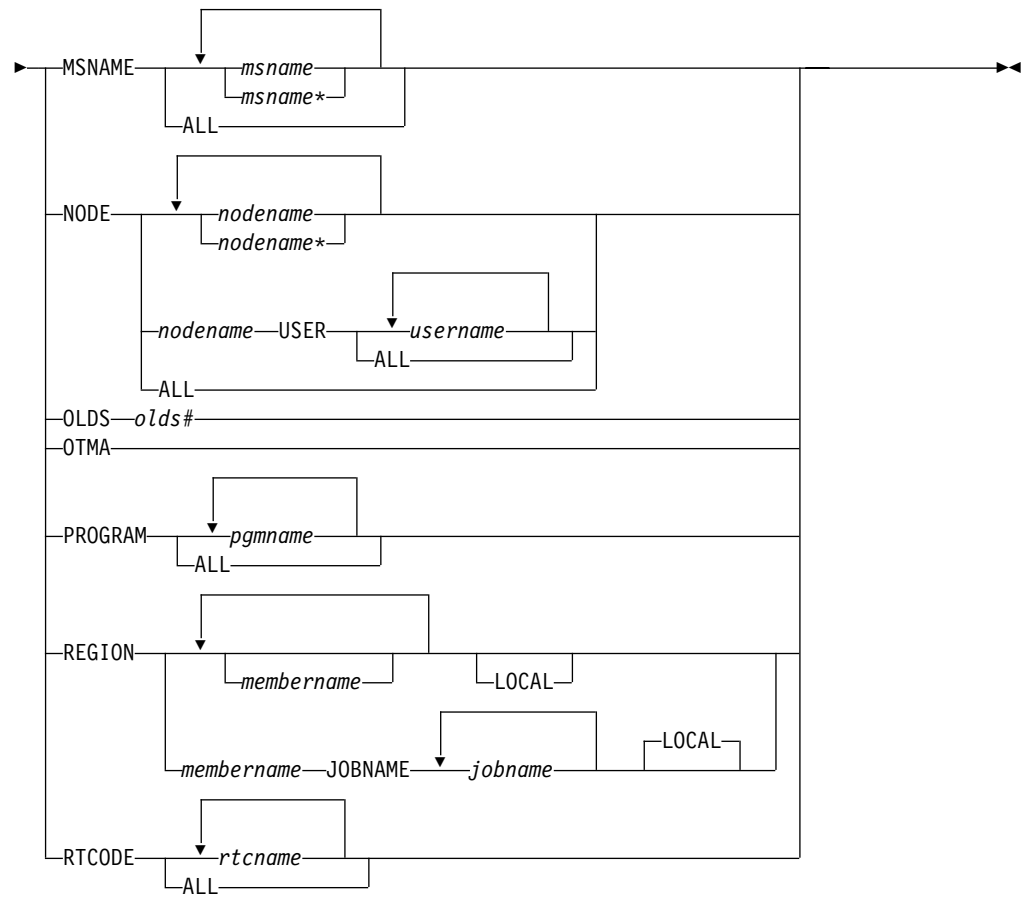


C:



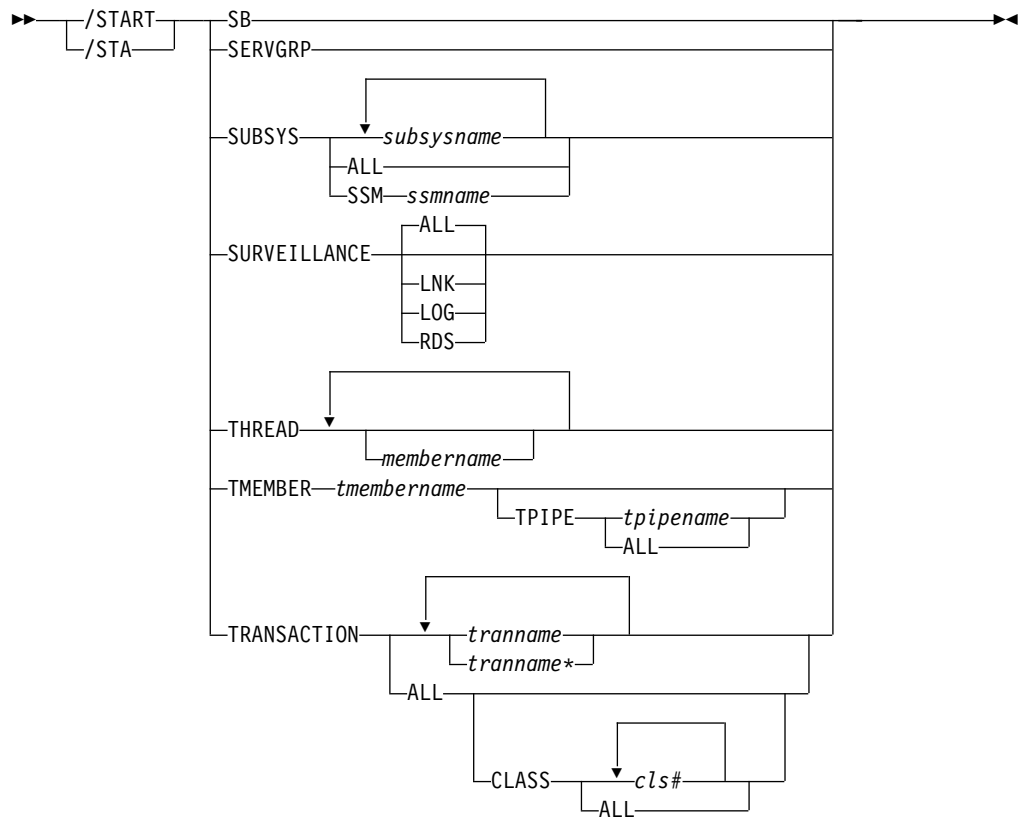
/START Command: MSNAME through RTCODE



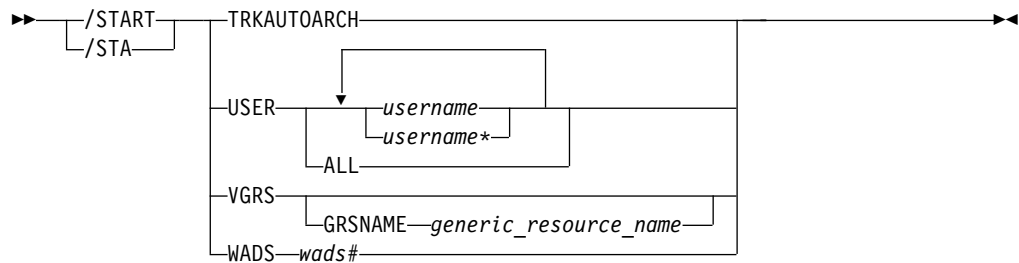


/START Command: SB through TRANSACTION

/START



/START Command: TRKAUTOARCH through WADS



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/START	X	X	X
ACCESS	X	X	
APPC	X		X
AREA	X	X	
AUTOARCH	X	X	X
CLASS	X		X
DATABASE	X	X	
DATAGROUP	X	X	

Command / Keywords	DB/DC	DBCTL	DCCTL
DBALLOC	X	X	
DC	X		X
GLOBAL	X	X	
GRSNAME	X		X
INPUT	X		X
ISOLOG	X	X	X
JOBNAME	X	X	X
LINE	X		X
LOCAL	X	X	
LTERM	X		X
LUNAME	X		X
MSNAME	X		X
NOBACKOUT	X	X	
NODBALLOC	X	X	
NODE	X		X
OLDS	X	X	X
OTMA	X		X
OUTPUT	X		X
PROGRAM	X	X	X
PTERM	X		X
REGION	X	X	X
RTCODE	X		X
SB	X	X	
SERVGRP	X	X	X
SSM	X	X	X
SUBSYS	X	X	X
SURVEILLANCE	X		X
THREAD	X	X	
TMEMBER	X		X
TPIPE	X		X
TPNAME	X		X
TRANSACTION	X		X
TRKAUTOARCH	X	X	X
USER	X		X
VGRS	X		X
WADS	X	X	X

Usage

/START makes IMS resources available for reference and use.

/START

/START validity checks all parameters entered by the terminal operator. If an error is detected on parameters that are independent of one another, only the invalid parameters are indicated as being in error and the /START command processes the rest of the parameters. For example,

```
/START LINE 4 6 200  
DFS058 START COMMAND COMPLETED EXCEPT LINE 200
```

signifies parameter value 200 is not a valid line number.

APPC

Instructs IMS to activate the connection to APPC/MVS and to start accepting transaction schedule requests from APPC/MVS. This command reverses the effect of a /PURGE APPC command or a /STOP APPC(CANCEL) command.

The /START APPC command sets the desired status to ENABLED. The current status is initially set to STARTING. When APPC/MVS responds to the start request, the status changes to either ENABLED or FAILED.

AREA

Specifies the specific areas of DEDBs to be allocated. For MVS/ESA, /START AREA can be used to reallocate DEDB areas.

For areas on an RSR tracking subsystem, /START AREA is used to resume tracking for those areas that were stopped by a previous /DBRECOVERY command or by errors found during tracking subsystem processing. /START AREA also starts online forward recovery (OFR) for those areas that are not current with mainline tracking.

For virtual storage option (VSO) areas that have been defined with the PREOPEN option, /START AREA causes the areas to be preopened. If the VSO area is defined with the PRELOAD option, /START AREA causes the area to be opened and loaded into the MVS data space.

Restriction: This command only applies to the IMS subsystem on which it is entered; it does not preload or preopen areas on other IMS subsystems in the Sysplex that share the area.

The /START AREA command has no effect on VSO areas that are in virtual storage when the command is issued.

GLOBAL

The GLOBAL keyword applies when an IRLM is active. GLOBAL specifies that the command applies to all subsystems sharing the area. The GLOBAL keyword and the ALL parameter are mutually exclusive. The /START command is rejected if both ALL and GLOBAL are specified. The GLOBAL keyword requires that IRLM be active. The command will be rejected if IRLM is not active.

The GLOBAL keyword is not supported on an RSR tracking subsystem.

LOCAL

Specifies that the command only applies to the IMS subsystem in which the command is entered. This command does not affect any other subsystem sharing the area.

LOCAL is the default.

/START

/START AREA ALL causes message DFS0488 to be issued for every area that is not started successfully, but you do not see a DFS0488 message for every area that does start successfully. You do see a final DFS0488 message which indicates the end of command processing.

AUTOARCH

Is used to set the value to change the automatic archiving option selected at system initialization or to set the value to start automatic archiving after a previous /STOP AUTOARCH command. #olds is the number of OLDS that are to be filled before the /DBRC GENJCL ARCHIVE command is to be generated. It is optional and defaults to either the value specified at system initialization or to one. If /DBR NOFE0V or /DBD NOFE0V is issued before nn OLDS are filled, the number of OLDS currently filled will be archived.

/START AUTOARCH will not be carried over a warm start if a checkpoint has occurred after the command has been successfully completed, and before a warm start has been issued.

CLASS

Specifies transaction class, allowing scheduling of application programs to begin. Message regions must have appropriate classes assigned to them before scheduling will proceed.

DATABASE

Specifies the DBD name. The /START DATABASE command permits access from transactions that read or update databases. /START DATABASE can be used to allocate or reallocate all databases other than DEDBs. An AREA command must be entered to allocate or deallocate DEDB AREAs.

For a DEDB, the /START DATABASE command also causes any unloaded randomizer, specified in the DBD source, to be reloaded.

When a /START DATABASE command is issued for all transactions whose processing program has access to a successfully started database, the USTOPPED attribute will be reset and any messages on the suspend queue for that transaction will be transferred to the normal queue.

If one or more of the named databases requires backout or recovery, and the database is registered in DBRC, the database requiring backout or recovery is dropped from the command and the remainder of the databases continue processing. If the database is not registered in DBRC, specify the NOBACKOUT keyword to inform IMS that it does not have to attempt to execute the failed backout again.

If a HIDAM database is to be started, both the index and the data area DBD names must be specified. backout failure for this database, then a start command will cause the backout to be attempted again.

If the database specified in the command is being used by a batch message processing region, an error message is returned to the master terminal, and the command is ignored for the database named in the message. Processing continues for the other databases specified in the command. The master terminal operator must wait until the batch message processing concludes before reentering the command.

For databases on an RSR tracking subsystem, /START DATABASE is used to resume tracking for those databases that were stopped by a tracking subsystem

/START

processing. /START DATABASE also starts online forward recovery (OFR) for those databases that are not current with mainline tracking.

/START DATABASE ALL causes in message DFS0488 to start successfully. You do see a final DFS0488 message which indicates the end of command processing.

For the results of issuing this command on a shared secondary index, see "Appendix D. Shared Secondary Index Database Commands" on page 565.

ACCESS

Specifies the type of access intended for the named database. This keyword overrides the database access specified at system definition. Changing the ACCESS parameter of a DEDB is allowed only when all the AREAS in the DEDB are not authorized by the subsystem.

Changing the access intent of a database with the /START DB ACCESS= command causes any VSO areas of the database to be removed from virtual storage. Because the access intent of a DEDB cannot be changed while any of its areas are authorized to an IMS subsystem, IMS closes any open areas before processing the command. If a VSO area is closed as a result of the command, it is also removed from the data space.

The /START AREA command must be used to reactivate the VSO options (VSO and PREOPEN) and PRELOAD option for the area. If an area is opened as a result of an access request rather than by the /START AREA command, it is opened as a non-VSO area.

Non-VSO areas with the PREOPEN option are closed as a result of the /START DB ACCESS= command. These areas are reopened either at the next access request for the area or by the /START AREA command.

The GLOBAL and ACCESS keywords are mutually exclusive. The /START command is rejected if both keywords are specified.

The meanings of the ACCESS parameter values are:

- RO** specifies that the named database is available for read-only processing on this IMS subsystem. The only programs that can use the database on this subsystem are those that have a PCB processing option of GO (PROCOPT=GO). Programs that access the data using the GO processing option might see uncommitted data, since a sharing IMS subsystem could be updating the database, which is opened for input only.
- RD** specifies that the named database is available for read-only processing in this IMS subsystem. Programs with update intent can be scheduled, but cannot update the database. ACCESS of RD differs from ACCESS of RO in that the data is read with integrity (locking is performed) and all programs can access the data, not just those with a processing option of GO. The database is opened for read only.
- UP** specifies that the named database is for update as well as read processing in the IMS subsystem.
- EX** specifies that the named database is to be used exclusively by this IMS subsystem. This exclusive access is guaranteed only when the database is registered to DBRC.

DBALLOC

Indicates that the databases within the data group are to be allocated. DBALLOC is the default except for /START DATABASE ALL commands.

NODBALLOC

Indicates that the databases within the data group are not to be allocated. This is the default for /START DATAGROUP. The databases will be allocated when they are scheduled. NODBALLOC is the default for /START DATABASE ALL commands.

GLOBAL

Specifies that the command applies to all subsystems sharing the database. GLOBAL requires that IRLM be active. The command will be rejected if IRLM is not active. The GLOBAL keyword and the ALL parameter are mutually exclusive. The /START command is rejected if both ALL and GLOBAL are specified.

The GLOBAL keyword is not supported on an RSR tracking subsystem.

LOCAL

Specifies that the command only applies to the IMS subsystem in which the command is entered. This command does not affect any other subsystem sharing the database.

LOCAL is the default.

NOBACKOUT

Suppresses backout restart for a database not registered in DBRC. If there was a prior dynamic backout or emergency restart backout failure, then a /START, command will attempt to perform the backout again. However, if the log data required to perform the backout has been archived, the backout must be performed by executing the batch backout utility.

If the database is registered in DBRC and is using share control, then DBRC is informed when batch backout is successfully executed, and the failing backout will not be attempted again when the /START command is issued.

If the database is registered in DBRC and is using recovery control, DBRC is not informed when batch backout is successfully executed. You must specify the NOBACKOUT keyword to inform IMS that it does not have to attempt to execute the failed backout again.

NOBACKOUT is not valid with the ALL parameter.

DATAGROUP

Specifies groups of DL/I databases and Fast Path DEDBs to be allocated. *Data groups* are logical groupings of databases and areas; they allow simplified command processing for databases. You define a data group in the RECON data set using the INIT.DBDSGRP command with parameters GRPNAME and DBGRP.

Related Reading: See “Group Parameters” on page 15 for more information on defining data groups.

For databases and areas on an RSR tracking subsystem, /START DATAGROUP is used to resume tracking for those areas that were stopped by a previous /DBRECOVERY command or by errors found during tracking subsystem

/START

processing. /START DATAGROUP also starts online forward recovery (OFR) for those databases and areas that are not current with mainline tracking.

After processing for a /START DATAGROUP completes, a DFS0488 message is issued indicating the end of processing. A DFS0488 message is also issued for every database or area that does not start successfully.

If the datagroup contains both full function and Fast Path databases, a DFS0488 message might be issued indicating the /START DATAGROUP command completed successfully before any messages are issued that indicate a Fast Path area did not start successfully. This is due to the asynchronous processing of Fast Path databases.

For virtual storage option (VSO) areas that have been defined with the PREOPEN option, /START AREA causes the areas to be preopened. If the VSO area is defined with the PRELOAD option, /START AREA causes the area to be opened and loaded into the MVS data space.

Recommendation: Although you can use DBDS groups as well as database groups for this command, you should use database groups whenever possible to eliminate the overhead of converting the DBDS group to a database group.

ACCESS

Overrides the access intent for a database. The original database access is specified during IMS system definition.

Changing the access intent for a DEDB is allowed only when no PSBs are scheduled that access any areas in the DEDB. You might have to stop PSBs and regions that have wait-for-input (WFI) transactions scheduled before you can change a DEDB's access intent.

Changing the access intent of a database with the /START DB ACCESS= command causes any VSO areas of the database to be removed from virtual storage. Because the access intent of a DEDB cannot be changed while any of its areas are authorized to an IMS subsystem, IMS closes any open areas before processing the command. If a VSO area is closed as a result of the command, it is also removed from the data space.

The /START AREA command must be used to reactivate the VSO options (VSO and PREOPEN) and PRELOAD option for the area. If an area is opened as a result of an access request rather than by the /START AREA command, it is opened as a non-VSO area.

Non-VSO areas with the PREOPEN option are closed as a result of the /START DB ACCESS= command. These areas are reopened either at the next access request for the area or by the /START AREA command.

The GLOBAL and ACCESS keywords are mutually exclusive. The /START command is rejected if both keywords are specified.

The meanings of the ACCESS parameter values are:

RO specifies that the named database is available for read-only processing on this IMS subsystem.

The only programs which can use the database on this subsystem are those which have a PCB processing option of GO (PROCOPT=GO).

Programs which access the data using the GO processing option might see uncommitted data, since a sharing IMS subsystem could be updating the database, which is opened for input only.

RD specifies that the named database is available for read-only processing on this IMS subsystem.

Programs with update intent can be scheduled, but cannot update the database. ACCESS=RD differs from ACCESS=RO in that the data is read with integrity (locking is performed) and all programs can access the data, not just those with a processing option of GO. The database is opened for read only.

UP specifies that the named database is for update as well as read processing in the IMS subsystem.

EX specifies that the named database is to be used exclusively by this IMS subsystem.

This exclusive access is guaranteed only when the database is registered to DBRC.

DBALLOC

Indicates that the databases within the data group are to be allocated. NODBALLOC is the default for a /START DATAGROUP command.

LOCAL

Specifies that the /START command only applies to the IMS subsystem in which the command is entered.

NODBALLOC

Indicates that the databases within the data group are not to be allocated. This is the default for START DATAGROUP. The databases will be allocated when they are scheduled. This command does not affect any other subsystem sharing the database.

LOCAL is the default.

DC

Opens the VTAM ACB and enables logons to VTAM.

ISOLOG

Indicates that the RSR tracking subsystem is to initiate a request for isolated log data from the isolated log sender at the active site. /START ISOLOG can only be entered on an RSR tracking subsystem. /START ISOLOG may be needed when:

- The active system failed and was not restarted, and the OLDS at the time of failure was closed using the log recovery utility.
- Batch jobs or utilities running at the active were unable to send logs.
- Permanent error status is shown for gaps in the output of a /DISPLAY TRACKING STATUS command. If the log problem at the active has been corrected, use /START ISOLOG to initiate retry.

Successful completion of syntax checking of the /START ISOLOG command results in the DFS058 START COMMAND COMPLETED message, although processing of the command continues asynchronously.

LINE

Makes communication lines that are idle and in a stopped or process stopped state available for use. It also terminates any conversations that are active on the line. All terminals are removed from response mode, test mode, looptest

/START

mode, MFSTEST mode, preset mode, or exclusive mode, and any terminals in signon status are reset. The /START LINE command without the PTERM keyword enables the line again (resulting in a BTAM LOPEN macro).

If the line must be enabled again, /START LINE must be entered prior to any /START LINE PTERM command.

The /START LINE PTERM command makes one or more physical terminals available for use. The physical terminals are removed from response mode, test mode, looptest mode, MFSTEST mode, preset destination mode, or exclusive mode, and resets terminals in signon status. If IMS encounters a stopped and idle line when processing /START LINE PTERM, it restarts the line. Any inoperable components are marked as operable.

To activate I/O operations for a LINE, LINE PTERM, or NODE without altering the status of the associated/specified terminals, use /RSTART instead of /START.

If an error is detected on parameters that are independent of one another, only the invalid parameters are indicated as being in error and processing continues for the rest of the parameters. This happens for /START LINE if:

- The specified line is already started or is not idle.
- Any terminals on the line had conversations that could not be canceled (because an application program is scheduled).
- The specified line could not be started because of IMS internal processing.
- The DD statement is missing from the IMS execution JCL.

LTERM

Specifies the logical terminals to be started and resets the QLOCK state (QLOCK indicates that the LTERM is locked from sending any further output or from receiving input that can create additional output for the same LTERM until the state is reset by a specific request received on the session.) /START LTERM is rejected for remote logical terminals.

The LTERM keyword is only effective for existing LTERMs.

The LTERM parameter can be generic where the generic parameter specifies LTERMs that already exist.

LUNAME TPNAME

Specifies the LU name that is to be started.

Specifying the keyword INPUT starts an luname for any input and synchronous outbound activities. Specifying the parameter ALL with the keyword INPUT causes all future LU 6.2 inbound and synchronous output activities to be started as well.

Specifying the keyword OUTPUT starts an luname for asynchronous outbound activities. Specifying the parameter ALL with the keyword OUTPUT causes all future LU 6.2 outbound asynchronous activities to be started as well.

Specifying neither INPUT nor OUTPUT is the same as specifying both INPUT and OUTPUT. The LU name is started for any input and both synchronous and asynchronous outbound activities. Specifying the parameter ALL in this case also causes the start of all future LU 6.2 inbound activities, outbound synchronous, and asynchronous activities.

/START

A network-qualified LU name is optional for the LUNAME keyword. If the LU name is not network-qualified and no TP name is specified, all the network-qualified LU names whose LU name matches the LU name specified are also started.

`/START LUNAME TPNAME` starts a particular tpname of an luname. The keyword `OUTPUT` is the default for this command.

If the specified resource does not exist, a structure is created to retain the status.

MSNAME

Specifies the logical link path that is to be started. The `MSNAME` keyword can be generic.

NODE

Allows IMS to accept logons from VTAM-attached terminals. It only operates if the node is disconnected, idle, and stopped. Any terminals in response mode, test mode, MFSTEST mode, preset mode, exclusive mode, or signon status are reset. The user is not signed off and the conversations are terminated. `/START NODE` is valid for temporary nodes, even though the node is not logged on.

The `/START NODE` command is only effective for existing nodes.

If an ETO logon terminal is stopped, use the `/OPNDST NODE USER` command to start it, not the `/START NODE` command.

If Fast Path is active for a specified physical terminal or node, `/START LINE` and `/START NODE` cannot reset terminal response mode. The `/DEQUEUE` command must be entered to discard Fast Path output before using `/START`.

The `/START NODE nodename USER username` command applies to ISC sessions only, and it is used to start a half-session allocated to `USER username` for `NODE nodename`. The `USER` keyword when used with the `NODE` keyword affects the specified half-session. When the `USER` keyword is omitted, all half-sessions of the specified node are affected.

The `NODE` parameter can be generic if the `USER` keyword is not present. The generic parameter specifies nodes that already exist.

OLDS

Indicates that either a previously stopped OLDS is to be started or that IMS is to add a new OLDS log data set. If a new OLDS is being added, `olds#` is an OLDS identifier that is defined by the DFSMDA macro specification. If in dual mode, both primary and secondary OLDSs are started. `olds#` must be 00-99.

When using `/START OLDS`, an OLDS must be defined in the DFSMDA macro, even if it is allocated in JCL.

OTMA

Causes IMS to join the XCF group for the IMS Open Transaction Manager Access (OTMA).

`/START OTMA` command processing is as follows:

1. IMS joins the XCF group.
2. Following a successful Client-Bid, IMS sends an ACK message to the OTMA client.

/START

3. IMS begins sending all Commit-then-Send (commit mode 0) output messages to the OTMA client.

PROGRAM

Specifies the application program that is to be started. This command also clears the indicator preventing a program from scheduling when I/O prevention has not completed. The integrity of a GSAM database residing on DASD can be affected if I/O prevention has not been done on a failing active system.

/START PROGRAM does not start a CPI Communications driven transaction program.

REGION

Specifies the set of message processing region JCL to be passed to MVS. If no member name is specified, the default member name is used.

IMS dependent regions of the same type (MPP, BMP, or IFP) can share a PROCLIB member containing the startup JCL for the type of region. Use the JOBNAME or LOCAL keywords of the /START REGION command to allow IMS to set (or override) the IMS ID for the dependent region to match the IMS ID of the IMS that processes the command.

Restriction: The JCL for the region to be started must include the IMSID= execution parameter.

Use the JOBNAME keyword to override the job name on the JOB statement of the default or specified JCL member for a dependent region.

If you specify the LOCAL keyword, IMS overrides the symbolic IMSID parameter in the JCL of the default or specified member. LOCAL is the default if you specify the JOBNAME keyword.

When the LOCAL or JOBNAME keywords are specified on the /START REGION command, the PROCLIB member must be a job that runs a procedure to start the dependent region. The procedure cannot be an instream procedure. For example, suppose that the /START REGION command is entered in one of the following formats:

```
/START REGION member_name LOCAL
/START REGION member_name JOBNAME job_name
/START REGION member_name JOBNAME job_name LOCAL
```

In these instances, *member_name* is a job that runs a procedure to start the dependent region and has the following format:

```
//job_name JOB ... (parameters)...
//      EXEC proc_name,
//      IMSID=xxxx
```

The operator can start more dependent regions than were specified in the IMS system definition or the EXEC parameter, up to 255. A request to start more regions than the system-definition value (but less than or equal to 255) might be rejected if resources are not available.

The /START REGION command is not mirrored on the XRF alternate subsystem. You must enter this command on the alternate subsystem if you want it to affect the alternate subsystem.

RTCODE

Specifies the Fast Path routing codes to be activated and allows transactions associated with the routing codes to be processed.

SB

Dynamically allows sequential buffering. This command does not affect sequential buffering applications scheduled before this command was issued.

SERVGRP

Starts communications between the entering service group and the service group at the other site in an RSR complex. If the subsystem is not currently identified to the transport manager, an attempt to identify precedes an attempt to connect to the other subsystem. /START SERVGRP is supported on an active IMS subsystem and an RSR tracking subsystem.

The /START SERVGRP command is not normally needed for an active subsystem, since the logger normally attempts to identify to transport manager at each OLDS switch to establish connections with the other subsystem. However, the operator may want to trigger this process between OLDS switches; for instance if a network outage between the active and tracking sites has been repaired and the operator does not want to wait until the next OLDS switch to re-establish communications.

Successful completion of the syntax checking of the /START SERVGRP command results in the DFS058 START COMMAND COMPLETED message, although processing of the command continues asynchronously.

SSM

Allows external subsystem connection processing to occur even though the option was not requested when IMS was started.

The syntax and usage of the SSM keyword are the same as the SSM=EXEC parameter that can be specified on the IMS startup JCL. The SSM keyword is followed by a 1 to 4 character identifier. IMS concatenates the SSM identifier to the IMSID to create an SSM PROCLIB member name. The SSM Proclib member is then used for external subsystem processing.

The SSM keyword is not valid if either of the following conditions apply:

- The SSM= keyword is specified in the EXEC parameters of the startup JCL.
- The /START SUBSYS SSM command has been previously issued.

SUBSYS

Specifies the external subsystem to which IMS is to connect. This command can also be used to dynamically reconfigure existing subsystem definitions. The installation can start IMS with the subsystem PROCLIB member defining one subsystem. The PROCLIB member can then be changed or added to. The operator can then /STOP the existing subsystem connections or only the one that has changed. By issuing the /START SUBSYS command, IMS will pick up the new or changed definitions and attempt to connect to those subsystems.

The /START SUBSYS ALL command connects IMS to all external subsystems. Also, the SSM keyword can be used with the /START SUBSYS command.

If the subsystem connection was abnormally terminated, IMS puts the connection in a stopped state. In this instance, the /START command must be used to reestablish the connection.

/START

SURVEILLANCE

Is used in an XRF environment to start the operation of the IMS surveillance function. When surveillance is on for a function, potential failures of the active system are detected. Based on information from surveillance, the alternate system either requests a takeover or informs the operator of the potential failure. The following are the surveillance functions to be started:

LNK	ISC link
RDS	Restart data set
LOG	System log
ALL	Same as specifying LNK, RDS, and LOG

The surveillance function is generally started during IMS system definition by using the /START SURVEILLANCE control statement. ALL is the default.

THREAD

Specifies the set of message processing region JCL to be passed to MVS/ESA. If no member name is specified, the default member name is used.

The /START THREAD command is used only for DEDB utility regions. BMP regions are started via JCL. CTL threads are started automatically at connection: first to the MINTHREAD value, and later (on demand) to MAXTHREAD value.

TMEMBER

Causes IMS to send an Open Transaction Manager Access (OTMA) command to OTMA clients to request that input resume for the specified transaction pipe name. IMS then resumes sending output to the OTMA client.

TPIPE

When it is used with the /START command, TPIPE causes IMS to resume sending output to OTMA clients.

Restriction: If a transaction pipe has a resynchronization pending status, IMS does not start the transaction pipe.

TRANSACTION

Specifies the transactions to be started.

The /START TRANSACTION ALL CLASS c1s# command causes all transactions associated with the specified class to be started.

If a transaction that has messages on the suspend queue is started, the suspend queue associated with the transaction will automatically be transferred to the normal queue.

The TRANSACTION keyword can be generic where the generic parameter specifies transactions that already exist.

TRKAUTOARCH

Indicates that the RSR tracking subsystem is to initiate a request to start the automatic archiving of the tracking log data sets. This keyword allows the user to start automatic archive after it has been terminated following archive data set full conditions.

/START

Successful completion of the syntax checking of the /START TRKAUTOARCH command results in the DFS058I START COMMAND COMPLETED message, although processing of the command continues asynchronously.

USER

Without the NODE keyword, USER specifies the ISC user or the dynamic user to start. The USER parameter can be generic where the generic parameter specifies users that already exist.

/START USER applies only to users that are stopped and signed off. The /START USER command also terminates any active conversations before starting the user.

/START USER removes the user from response mode, test mode, MFSTEST mode, preset mode, and exclusive mode. If the USER structure is temporary and the status conditions that caused the creation of the structure have been reset, the temporary user is deleted at the next simple checkpoint.

For ISC users, the user is started and made available for allocation.

For dynamic users, the user is started and made available for signon.

VGRS

Causes the IMS subsystem to join a VTAM generic resource group. The command is rejected if the VTAM ACB is closed (usually the result of a /STOP DC command).

The GRSNAME keyword allows you to specify the generic resource name if the IMS subsystem does not have one. The IMS subsystem already has a generic resource name if it has the GRSNAME= keyword specified on its EXEC statement.

WADS

Indicates that either a previously stopped WADS is to be started or that IMS is to add a new WADS to the pool of available WADs. If a new WADS is being added, wads# is a WADS identifier that is defined by the DFSMDA macro specification. wads# must be 0-9.

When using /START WADS, a WADS must be defined in the DFSMDA macro, even if it is allocated in JCL.

Examples

Example 1 for /START Command

Entry ET:

```
/START AREA DB1AREA0 DB1AREA1
```

Response ET:

```
DFS058I START COMMAND IN PROGRESS
DFS0488I START COMMAND COMPLETED. AREA=DB1AREA0
DFS0488I START COMMAND COMPLETED. AREA=DB1AREA1
```

Explanation: DEDB areas DB1AREA0 and DB1AREA1 are started.

Example 2 for /START Command

Entry ET:

```
/START AUTOARCH 4
```

/START

Response ET:

```
DFS058I  START COMMAND COMPLETED
```

Explanation: Automatic archiving will be initiated after 4 OLDS data sets are filled.

Example 3 for /START Command

Entry ET:

```
/START CLASS ALL
```

Response ET:

```
DFS058I  START COMMAND COMPLETED
```

Explanation: All classes of transactions are made available for scheduling into message processing regions.

Example 4 for /START Command

Entry ET:

```
/START DATABASE TREEFARM
```

Response ET:

```
DFS058I  (time stamp) START COMMAND IN PROGRESS  
DFS0488I START COMMAND COMPLETED. DBN=TREEFARM RC=0.
```

Explanation: Database TREEFARM is started.

Example 5 for /START Command

Entry ET:

```
/START LINE 4 PTERM 1, 2
```

Response ET:

```
DFS058I  START COMMAND COMPLETED
```

Response RT:

```
DFS059I  TERMINAL STARTED
```

Explanation: Physical terminals 1 and 2 on line 4 are started.

Example 6 for /START Command

Entry ET:

```
/START LINE 4,5,6,7,8,9,10,11
```

Response ET:

```
DFS058I  START COMMAND COMPLETED
```

Response RT:

```
DFS059I  TERMINAL STARTED
```

Explanation: Lines 4,5,6,7,8,9,10, and 11 are started.

Example 7 for /START Command

Entry ET:

```
/START LINE 4 5 6 700
```

Response ET:

```
DFS058I START COMMAND COMPLETED EXCEPT LINE 5 700
```

Response RT:

```
DFS059I TERMINAL STARTED
```

Explanation: Lines 4 and 6 are started. The /DISPLAY LINE command can be used to determine why line 5 did not start successfully. (700 is an invalid line number.)

Example 8 for /START Command

Entry ET:

```
/START LTERM APPLE, TREE, FRUIT
```

Response ET:

```
DFS058I START COMMAND COMPLETED
```

Response RT:

```
DFS059I TERMINAL STARTED
```

Explanation: Logical terminals APPLE, TREE, and FRUIT are started.

Example 9 for /START Command

Entry ET:

```
/START MSNAME CHICAGO
```

Response ET:

```
DFS058I START COMMAND COMPLETED
```

Explanation: A logical link path associated with the name CHICAGO is started.

Example 10 for /START Command

Entry ET:

```
/START NODE HARRY
```

Response ET:

```
DFS058I START COMMAND COMPLETED
```

Explanation: The physical terminal associated with the node HARRY is started.

Example 11 for /START Command

Entry ET:

```
/STA OTMA
```

Response ET:

```
DFS2360I 14:02:53 XCF GROUP JOINED SUCCESSFULLY. SYS3  
DFS058I 14:02:53 START COMMAND COMPLETED SYS3  
DFS996I *IMS READY* SYS3
```

Example 12 for /START Command

Entry ET:

```
/START OLDS 09
```

/START

Response ET:

```
DFS058I  START COMMAND IN PROGRESS
```

Explanation: OLDS data set DFSOLP09 (DFSOLS09) will be started for logging.

Example 13 for /START Command

Entry ET:

```
/START PROGRAM ALL
```

Response ET:

```
DFS058I  START COMMAND COMPLETED
```

Explanation: All application programs are started.

Example 14 for /START Command

Entry ET:

```
/START PROGRAM APPLETRE
```

Response ET:

```
DFS058I  START COMMAND COMPLETED
```

Explanation: Application program APPLETRE is started.

Example 15 for /START Command

Entry ET:

```
/START REGION
```

Response ET:

```
DFS058I  START COMMAND IN PROGRESS
```

Response ET:

```
DFS551I  IFP|MESSAGE|BATCH  REGION XXXXXXXX STARTED. ID=yy TIME=zzzz  
CLASSES=xxx,xxx,xxx,xxx
```

Explanation: One message region or batch region (ID=yy) is started at TIME=zzzz. The transactions associated with the classes listed in the response can now be scheduled.

Example 16 for /START Command

Entry ET:

```
/START REGION IMSWT000
```

Response ET:

```
DFS058I  START COMMAND IN PROGRESS
```

Explanation: The JCL stored as member IMSWT000 is used to start the spool SYSOUT utility for the data sets associated with the spool line corresponding to the IMSWT000 procedure.

Example 17 for /START Command

Entry ET:

```
/START REGION MEMABC
```


Response ET:

```
DFS058I START COMMAND IN PROGRESS
```

Response ET:

```
DFS551I IFP|MESSAGE|BATCH REGION XXXXXX STARTED. ID=yy TIME=zzzz
CLASSES=xxx,xxx,xxx,xxx
```

Explanation: The JCL stored as member XXXXXX is used to start a message processing region or batch message processing region with the classes specified by the EXEC statement parameters in MEMABC.

Example 18 for /START Command

Entry ET:

```
/START RTCODE ALL
```

Response ET:

```
DFS058I START COMMAND COMPLETED
```

Explanation: All the Fast Path routing codes are activated. Transactions associated with these routing codes can now be processed.

Example 19 for /START Command

Entry ET:

```
/START SB
```

Response ET:

```
DFS058I START COMMAND COMPLETED
```

Entry ET:

```
/DISPLAY POOL DBAS
```

Response ET:

```
SEQUENTIAL BUFFERING: STATUS = NOT-STOPPED
MAX      N.A. FREE  N.A.  CURR  160K HIGH  320K
DATABASE BUFFER POOL: SIZE  67584
REQ1      0 REQ2      0 READ      0 BISAM      0 WRITES      0
KEYC      0 LCYL      0 PURG      0 OWNRR      0 ERRORS 00/00
DATABASE BUFFER POOL: BSIZE 12288
RRBA      0 RKEY      0 BFALT      0 NREC      0 SYN PTS      0
NMBUFS 29 VRDS      0 FOUND      0 VWTS      0 ERRORS 00/00
DATABASE BUFFER POOL: BSIZE 356352
RRBA      0 RKEY      0 BFALT      0 NREC      0 SYN PTS      0
NMBUFS 29 VRDS      0 FOUND      0 VWTS      0 ERRORS 00/00
*86253/104547*
```

Explanation: Sequential buffering is started.

Example 20 for /START Command

Entry ET:

```
/START SUBSYS ABC
```

Response ET:

```
DFS058I START COMMAND COMPLETED
```

/START

Explanation: IMS has established a connection to the requested subsystem. It is likely that an external subsystem (not CCTL) connection message will be received at this time. If this is not the case, the /DISPLAY command can be used.

Example 21 for /START Command

Entry ET:

```
/sta tmember client1 tpipe tpipesy
```

Response ET:

```
DFS058I 15:39:40 START COMMAND COMPLETED   SYS3  
DFS996I *IMS READY*   SYS3
```

Example 22 for /START Command

Entry ET:

```
/START TRANSACTION ALL CLASS 6
```

Response ET:

```
DFS058I START COMMAND COMPLETED
```

Explanation: All transactions associated with class 6 are started.

Example 23 for /START Command

Entry ET:

```
/START TRANSACTION PIT, SEED
```

Response ET:

```
DFS058I START COMMAND COMPLETED
```

Explanation: Transactions PIT and SEED are started.

Example 24 for /START Command

Entry ET:

```
/DISPLAY USER IMSUS01 IMSUS02
```

Response ET:

```
USER      ENQCT DEQCT  QCT  
IMSUS01   0     0     0 STOPPED  
IMSUS02   0     0     0 STOPPED  
*91091/111727*
```

Entry ET:

```
R 38,/START USER IMSUS01
```

Response ET:

```
DFS058I 11:19:05 START COMMAND COMPLETED
```

Entry ET:

```
/DISPLAY USER IMSUS01 IMSUS02
```

Response ET:

```
USER      ENQCT DEQCT  QCT
IMSUS01      0    0    0
IMSUS02      0    0    0 STOPPED
*91091/113038*
```

Entry ET:

```
/START USER APPLE*
```

Response ET:

```
DFS3633 11:19:35 GENERIC PARAMETER RESOURCES NOT FOUND, NO ACTION TAKEN
```

Example 25 for /START Command

Entry ET (at the active site):

```
/START SERVGRP
```

Response ET (to the active subsystem):

```
DFS058 START COMMAND COMPLETED
```

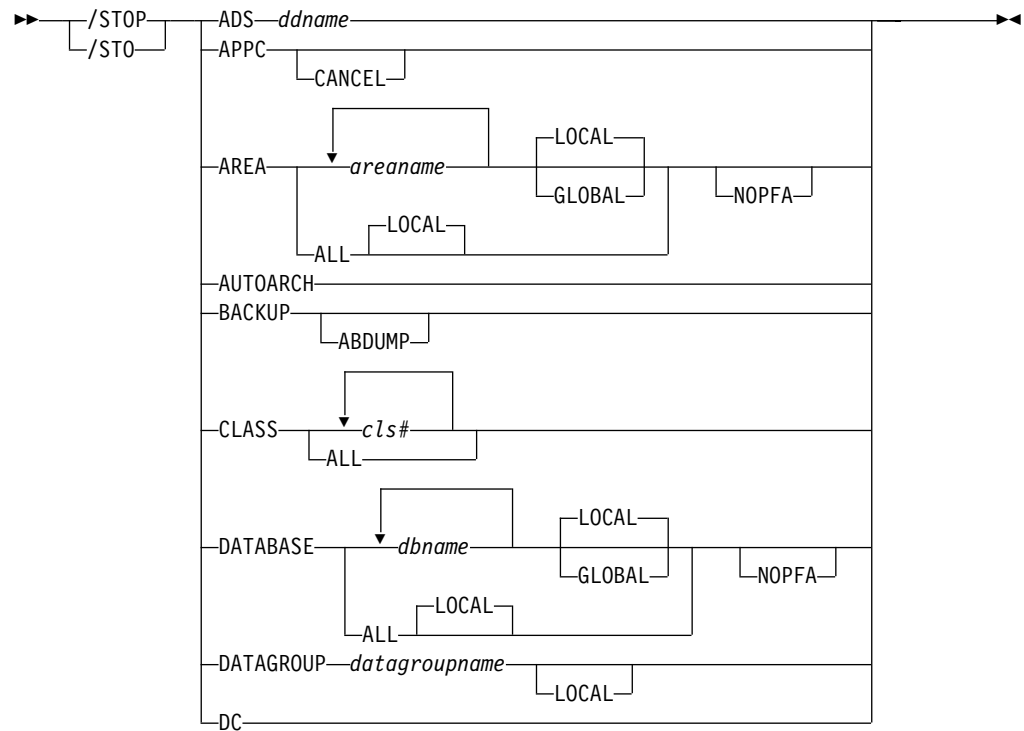
Explanation: Communications between the subsystem at the active site and the subsystem at the RSR tracking site are started.

IMS Commands

Chapter 54. /STOP

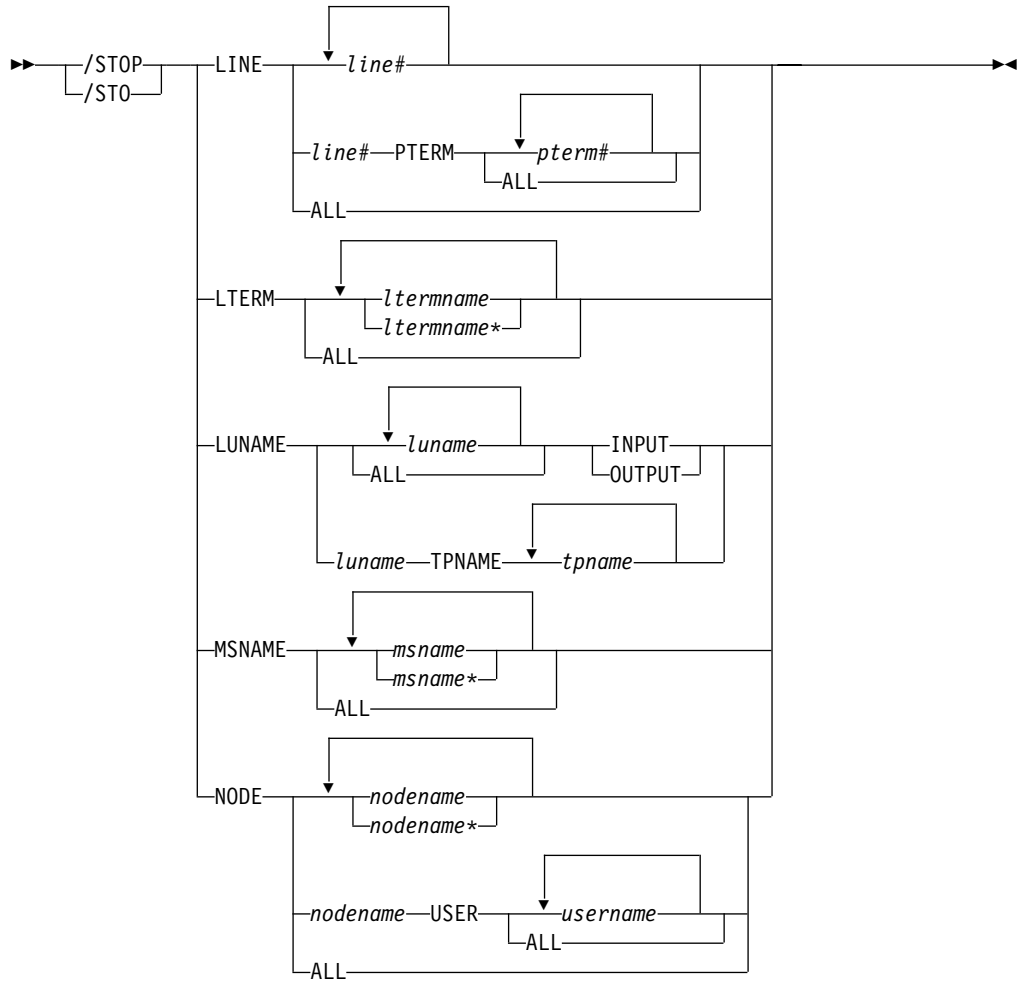
Format

/STOP Command: ADS through DC

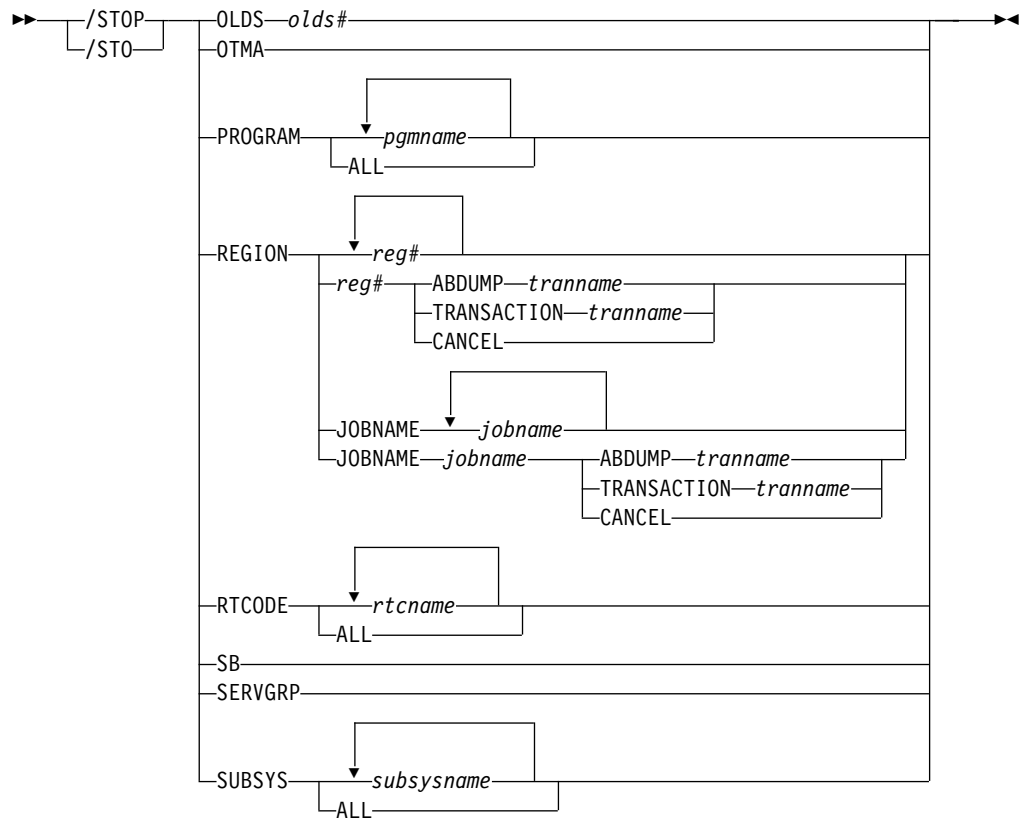


/STOP Command: LINE through NODE

/STOP

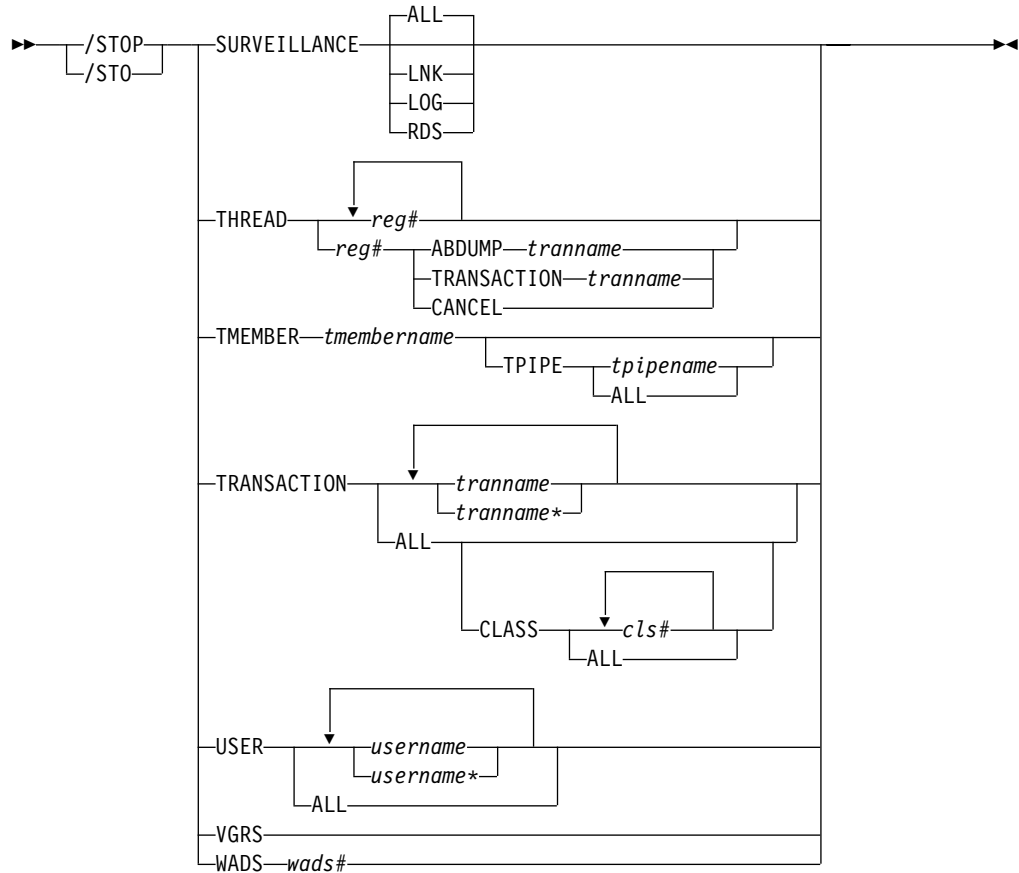


STOP Command: OLDS through SUBSYS



STOP Command: SURVEILLANCE through WADS

/STOP



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/STOP	X	X	X
ABDUMP	X	X	X
ADS	X	X	
APPC	X		X
AREA	X	X	
AUTOARCH	X	X	X
BACKUP	X		X
CANCEL	X	X	X
CLASS	X		X
DATABASE	X	X	
DATAGROUP	X	X	
DC	X		X
GLOBAL	X	X	
INPUT	X		X
JOBNAME	X	X	X
LINE	X		X

Command / Keywords	DB/DC	DBCTL	DCCTL
LOCAL	X	X	
LTERM	X		X
LUNAME	X		X
MSNAME	X		X
NOPFA	X	X	
NODE	X		X
OLDS	X	X	X
OTMA	X		X
OUTPUT	X		X
PROGRAM	X	X	X
PTERM	X		X
REGION	X	X	X
RTCODE	X		X
SB	X	X	
SERVGRP	X	X	X
SUBSYS	X	X	X
SURVEILLANCE	X		X
TMEMBER	X		X
TPIPE	X		X
TPNAME	X		X
TRANSACTION	X		X
USER	X		X
VGRS	X		X
WADS	X	X	X

Usage

The /STOP command stops:

- The sending, receiving, or queuing of output messages to a particular communication line, terminal, user, or logical path
- The scheduling or queuing of messages containing a specific transaction code
- The execution of a specific program
- The use of a given database

For VTAM nodes, the currently connected terminal is disconnected. All further logons are rejected until the node is the subject of a /START or /RSTART command.

/STOP validity checks all parameters entered by the terminal operator. If an error is detected on parameters that are independent of one another, only the invalid parameters are indicated as being in error and the /STOP command processes the rest of the parameters.

/STOP can be used to reset conditions previously established by the /START, /RSTART, /PSTOP, /PURGE, or /MONITOR commands.

/STOP

ADS

Specifies the area data set to be closed and deallocated. The AREA is not stopped as long as at least one data set in the AREA remains open. /STOP ADS is rejected if the specified ADS is the last data set available in the AREA.

Although the /STOP ADS command has no option of LOCAL/GLOBAL, if the DEDB area is shared at the block level, the response is the same as if GLOBAL were specified.

APPC

Instructs IMS to stop scheduling transactions from LU 6.2 devices. /STOP APPC can be used in a transient stopped state. It causes remote LU 6.2 devices to receive a sense code of TP_Not_Available_Retry. This is likely to lead to further attempts to access IMS.

/STOP APPC sets the desired status to STOPPED. The current status is set to STOPPED or FAILED according to the response from APPC/MVS.

CANCEL

Causes APPC/MVS to initiate a shutdown request when a long stopped period is anticipated, for example, at the end of the day's processing. All remote LU 6.2 devices receive a sense code of TP_Not_Available_No_Retry. The remote LU 6.2 devices stop trying to access this application.

/STOP APPC CANCEL sets the desired status to CANCEL according to responses from APPC/MVS. If the desired status is DISABLED, then IMS rejects /STOP APPC CANCEL² when it is entered.

AREA

Specifies that the data sets associated with this area are closed. Use the /DISPLAY AREA command to determine if the area is stopped or closed. If the area is stopped, the area must be made available using the /START AREA command. In MVS/ESA, all the data sets are deallocated. If the system processes a /STOP AREA command during HSSP processing, the area will be released after the current commit processing completes. Any image copy option in effect at /STOP time can affect the continued system operation. All virtual storage option (VSO) DEDB areas that are being stopped and that are in an MVS data space are removed from the data space and updates are written out to DASD.

/STOP AREA is not supported on an RSR tracking subsystem.

GLOBAL

Specifies when an IRLM is active and that the command applies to all subsystems sharing the database or area.

The GLOBAL keyword and the ALL parameter are mutually exclusive. If both keywords are specified, the command is rejected. The GLOBAL keyword requires that IRLM be active. If IRLM is not active, the command is rejected. DBRC is informed that the database or area has been stopped and will update the RECON data set to indicate the stopped condition.

The GLOBAL keyword is not supported on an RSR tracking subsystem.

2. The sense code returned to the LU 6.2 remote device for an incoming ATTACH to a stopped APPC/IMS system is determined by APPC/MVS, and it might differ from release to release. In general, the remote LU 6.2 application should wait for a period of time after rejection before any attempts to reestablish a session with IMS.

LOCAL

Specifies that the command only applies to the subsystem in which the command is entered. This command does not affect any other subsystem sharing the database or area. LOCAL is the default.

NOPFA

Specifies that DBRC is not notified that the database or area has changed status. You can use this keyword when you need to authorize the database for use after it is offline, for example, for offline utilities. By using this keyword, DBRC does not prevent further authorizations for the database or area.

Recommendation: Before restarting the database or area, issue this command **without** the NOPFA keyword to inform DBRC of the change in status for the database or area.

AUTOARCH

Specifies that automatic archiving is to be stopped.

BACKUP

Terminates the alternate system in an XRF environment. This command must be entered on the alternate system. The ABDUMP keyword results in a dump of the alternate system.

CLASS

Prevents further scheduling of application programs for the designated class.

All regions currently handling transactions assigned to the specific class are allowed to run until the limit count is reached (MPPs) or the input queue contains no more messages (BMPs and MPPs).

The region is not allowed to wait for the next message (wait-for-input mode). Instead a QC status code (no more messages) is returned to the application (MPPs).

If the region is already scheduled and waiting for the next message (wait-for-input mode) when the command is entered, the region is notified and a QC status code is returned to the application. (MPPs).

A batch message processing region (BMP) scheduled against wait-for-input (WFI) transactions returns a QC status code (no more messages) for /PSTOP REGION, /DBD, /DBR, or /STA commands only.

DATABASE

Prevents subsequently scheduled programs from accessing the database, without affecting currently scheduled programs or closing the database.

If the database is a DEDB or MSDB, programs using the database will not be scheduled. For other databases, the programs will still be scheduled but a call against the database will result in either a 3303 pseudoabend, or a BA status code, if the INIT call was issued.

If the database is stopped after the region is scheduled, the region is not allowed to wait for the next message (wait-for-input mode). If there are no more messages available for the region to process, a QC status (no more messages) will be returned to the application (MPPs). If the region is already scheduled

/STOP

and waiting for the next message (wait-for-input mode) when the command is entered, the region is notified and a QC status code is returned to the application (MPPs).

A batch message processing region (BMP) scheduled against wait-for-input (WFI) transactions returns a QC status code (no more messages) for /PSTOP REGION, /DBD, /DBR, or /STA commands only.

In an IFP region, the /STOP command has no effect until the region is started again.

See the AREA keyword for a description of the LOCAL, GLOBAL, and NOPFA keywords.

For DBCTL, when CCTL schedules a PSB, the DBCTL thread SCHED request defines the thread as LONG or SHORT. If the database is currently scheduled to a LONG thread, the command is rejected; otherwise, the thread is allowed to complete before the database is acted upon. This results in either a commit point or transaction termination.

For the results of issuing this command on a shared secondary index, see "Appendix D. Shared Secondary Index Database Commands" on page 565.

/STOP DATABASE is not supported on an RSR tracking subsystem.

DATAGROUP

Specifies groups of DL/I databases, Fast Path DEDBs, and Fast Path areas to be stopped. Data groups are logical groupings of databases and areas; they allow simplified command processing for databases and areas. You define a database group in the RECON data set using the INIT.DBDSGRP command with parameters GRPNAME and DBGRP.

Related Reading: See "Group Parameters" on page 15 for more information on defining data groups.

During /STOP DATAGROUP processing, all virtual storage option (VSO) DEDBs that are in an MVS data space are removed from the data space and updates are written out to DASD.

Recommendation: Although you can use DBDS groups as well as database groups for this command, you should use database groups whenever possible to eliminate the overhead of converting the DBDS group to a database group.

DC

Prohibits you from logging on to VTAM and ensures that all VTAM node sessions have terminated before IMS issues the DFS2111 VTAM ACB CLOSED message. The /STOP DC command can be used either before or after the /CLSDST NODE or /STOP NODE command, the only difference being that logons can still occur if the /STOP DC command is not entered. However, the command cannot start or complete processing if the VTAM ACB is not open or the VTAM nodes remain active. If the nodes are active, the /CLSDST NODE or /STOP NODE command must be issued to close the nodes; in some cases, a /IDLE NODE command can be issued to cause an OS VTAM VARY command to be issued against any nodes that remain connected.

LINE

Stops message queuing for lines and stops the sending and receiving of

messages over the lines. However, lines are not considered stopped unless they are stopped and idle. Use `/DISPLAY LINE` to verify line status.

`/STOP LINE PTERM` ensures that no input messages from any of the specified terminals assigned to the specified lines will be received by IMS after the command is issued.

LTERM

Specifies the LTERM that is to be stopped. The `/STOP LTERM` command with a logical terminal that is in a QLOCKED state does not reset the QLOCK state, but puts the LTERM in a STOPPED and QLOCKED state.

If IMS internally resets the QLOCK condition, the LTERM remains in a STOPPED state. (QLOCK indicates that the LTERM is locked from sending any further output or from receiving input that can create additional output for the same LTERM until the state is reset by a specific request received on the session.)

`/STOP LTERM` is rejected for remote logical terminals.

The LTERM parameter can be generic where the generic parameter specifies LTERMs that already exist.

LUNAME TPNAME

Specifies a particular LU name that is to be stopped.

Specifying the keyword `INPUT` with the `LUNAME TPNAME` keyword stops an luname for any input and synchronous outbound activities. Specifying the parameter `ALL` with `INPUT` causes all future LU 6.2 input and synchronous outbound activities to be stopped as well.

Specifying the keyword `OUTPUT` with the `LUNAME TPNAME` keyword stops an luname for any asynchronous outbound activities. Specifying the parameter `ALL` with `OUTPUT` causes all future LU 6.2 asynchronous outbound activities to be stopped as well.

Specifying neither `INPUT` nor `OUTPUT` is the same as specifying both `INPUT` and `OUTPUT`. The LU name is stopped for any input, and both synchronous and asynchronous outbound activities. Specifying the parameter `ALL` in this case stops all future LU 6.2 inbound activities, synchronous and asynchronous outbound activities.

A network-qualified LU name is optional for the `LUNAME` keyword. If the LU name is not network-qualified and no TP name is specified, all network-qualified LU names whose LU names match the LU name specified are also stopped.

`/STOP LUNAME TPNAME` stops a particular TP name of the LU name specified.

If the specified resource does not exist, a structure is created to retain the status.

MSNAME

Stops the sending of all messages (primary requests) from a terminal except those continuing a conversation. This includes all messages destined for remote transactions with the `SYSID` of the `MSNAME` and for remote logical terminals associated with this `MSNAME`.

/STOP

NODE

Specifies the VTAM node to be stopped and logged off. The NODE parameter can be generic if the USER keyword is not specified and applies to nodes that already exist.

The /STOP NODE command prevents future logons until a /START NODE command is issued.

/STOP NODE without the USER keyword is supported for nodes that do not yet exist. It causes the node to be created and stopped which prevents the dynamic node from logging on. /STOP NODE without the USER keyword affects all half-sessions of the specified node.

/STOP NODE USER is valid for ISC and non-ISC nodes and users; however the user must still be allocated or signed on to the node. /STOP NODE USER for ISC nodes stops the named half-session defined in USER username for NODE nodename.

OLDS

indicates that IMS is to stop using an OLDS log data set. olds# identifies an OLDS that is defined by JCL and/or a DFSMDA macro and is currently started. olds# must be 00 through 99. The stopped OLDS will be dynamically deallocated when it is no longer possible for it to be accessed for dynamic backout.

If in dual mode, both primary and secondary OLDSs are stopped. If there are only two OLDS data sets available, or if the specified OLDS is the one currently being used for output, the /STOP OLDS command will be rejected.

OTMA

Causes IMS to leave the XCF group for IMS Open Transaction Manager Access (OTMA).

/STOP OTMA command processing is as follows:

1. IMS leaves the XCF group.
2. For any IMS OTMA output awaiting an ACK message, IMS aborts the message. For Commit-then-Send transactions, the output remains enqueued to the transaction pipe. For Send-then-Commit transactions, IMS aborts the transaction.

PROGRAM

Specifies the application program that is to be stopped.

/STOP PROGRAM does not stop CPI Communications driven transaction programs.

REGION

Is used to stop IMS regions and/or application programs. /STOP REGION is not mirrored on the XRF alternate system. You must enter this command on the alternate system if you want it to affect the alternate system.

REGION reg#

Is used to terminate message processing regions at the conclusion of processing the current transaction.

reg# is a region identifier.

/STOP REGION reg# can also be used to terminate Fast Path regions. /STOP REGION reg# cannot be used to terminate batch regions.

A Fast Path utility region is terminated at the next system checkpoint of the utility.

REGION reg# ABDUMP traname

Causes abnormal termination of an application program.

reg# is a region identifier and traname is a transaction code.

If the transaction indicated by traname is currently running in REGION reg#, an error message is received at the master terminal, indicating an application program abend. The region is still be active but the transaction is stopped. The command is ignored if the transaction is not currently scheduled in region reg#.

/STOP REGION reg# ABDUMP should be used only for a region that appears to be looping or in a wait state. If this command does not abnormally terminate the application running in a region, then the /STOP REGION reg# CANCEL command can be used. This might cause the control region to terminate with abend 113 if parallel DL/I is being used. See /STOP REGION reg# CANCEL for further warnings.

traname is not valid for batch, IFP, or Fast Path utility regions.

REGION reg# TRANSACTION traname

Stops a message processing program in wait-for-input (WFI) mode from processing within the specified region.

reg# is a region identifier and traname is a transaction code.

If the transaction indicated by traname is currently running in region reg#, the IMS message DFS0569I is received at the master terminal, indicating that a QC status code (no more messages) was returned to the application program (MPPs). The region that contained the application is still active and the transaction is not stopped. A batch message processing program in WFI mode must be stopped using the /PSTOP command.

A batch message processing region (BMP) scheduled against wait-for-input (WFI) transactions returns a QC status code (no more messages) for /PSTOP REGION, /DBD, /DBR, or /STA commands only.

REGION reg# CANCEL

Is used if the region cannot be stopped with a /STOP REGION ABDUMP command and must be preceded by a /STOP REGION ABDUMP command.

reg# is a region identifier.

The use of the /STOP REGION CANCEL command can cause the IMS control region to terminate with a U113 abend if parallel DL/I is being used. An MVS/ESA CANCEL command will be rejected.

If the /CHECKPOINT command cannot shut down IMS or the resources are permanently unavailable, start the same type of region under the same initiator as the canceled region. This should enable IMS to detect the region as canceled and free the allocated resources.

REGION JOBNAME

Identifies regions to be stopped by their job names. The job name must be

/STOP

1-8 alphanumeric or national (\$,#,@) characters. The first character of the job name must be either alphabetic or national.

RTCODE

Specifies that transactions associated with this routing code are not processed.

SB

Disallows further use of sequential buffering. /STOP SB does not affect sequential buffering applications scheduled before this command was issued.

SERVGRP

Stops communications between the service group in an RSR complex at which the command was entered and the service group at the other site. /STOP SERVGRP also severs the relationship between the IMS subsystem and the TMS subsystem.

Once communications are stopped, the logger stops sending log data to the RSR tracking subsystem. No more attempts to re-establish failed conversations are made at OLDS switch. /STOP SERVGRP is normally not needed. /STOP SERVGRP is valid from an active subsystem and a tracking subsystem.

Successful completion of the syntax checking of the /STOP SERVGRP command results in the DFS058 STOP COMMAND COMPLETED message, although processing of the command continues asynchronously.

SUBSYS

Specifies the name of the external subsystem whose connection is to be terminated. /STOP SUBSYS does allow application programs currently accessing external resources to complete normally. When those applications have terminated, the connection to the subsystem will also terminate. The application must complete all message processing before actual connection termination. The next occurrence of an external subsystem call will receive a nonzero return code, indicating the connection is not available. A /START command is then necessary to reestablish the connection.

/STOP SUBSYS can also be used to dynamically reconfigure existing subsystem definitions. The operator can issue the /STOP SUBSYS command, change or add to the PROCLIB member, and then issue the /START SUBSYS command. IMS attempts to connect those subsystems defined in the PROCLIB member.

If system failure occurs after /STOP SUBSYS is processed, the stopped status is still set.

SURVEILLANCE

Is used in an XRF environment to stop the operation of the IMS surveillance function. The SURVEILLANCE keyword parameters are:

LNK	ISC link
RDS	Restart data set
LOG	System log.
ALL	The same as specifying LNK, RDS, and LOG. This is the default.

THREAD

Stops an inactive CCTL thread. The DEDB utility region is terminated at the next system checkpoint.

The /STOP THREAD command is not valid for:

- Active CCTL threads
- BMPs

THREAD ABDUMP

Abends BMPs and DEDB utilities. If this command is used with CCTL threads, a U0474 abend results.

TMEMBER

Causes IMS to send an Open Transaction Manager Access (OTMA) command to OTMA clients to request that input be suspended for the specified transaction pipe name. IMS then stops sending output to the OTMA client and prevents any further output from being sent to the client.

TPIPE

When used with the /STOP command, TPIPE causes IMS to suspend sending output to OTMA clients.

While processing the /STOP TMEMBER TPIPE command, IMS creates a temporary transaction pipe (if one does not already exist) with the stopped status. IMS sets the synchronization status for this transaction pipe when it sends or receives the first message for the transaction pipe.

After a /STOP TMEMBER xxx TPIPE ALL command is issued, newly created tpipes will not be stopped for either input or output.

TRANSACTION

Stops the queuing and scheduling of messages destined for a transaction or class of transactions, or stops transaction scheduling by class. However, output can still be queued if it originates from the application program.

If the region is already scheduled and waiting for the next message (wait-for-input mode) when the command is entered, a QC status (no more messages) is returned to the application (MPPs). If there are no more messages available for the region to process, the region is not allowed to wait for the next message. Instead, a QC status is returned to the application (MPPs).

A batch message processing region (BMP) scheduled against wait-for-input (WFI) transactions returns a QC status code (no more messages) for /PSTOP REGION, /DBD, /DBR, or /STA commands only.

In a shared-queues environment, if you issue a /STOP TRANSACTION command for a transaction that is not defined on that IMS subsystem, IMS creates an SMB if the Output Creation user exit routine indicates the destination is a valid transaction. The SMB is marked as "dynamic".

A dynamic SMB created by a /STOP TRANSACTION command can only be used to queue messages for the transaction and place the messages on the shared queues. The transaction cannot be scheduled or assigned. IMS does process checkpoints for the transaction, but does not save them across an IMS restart if they do not have a valid status.

The TRANSACTION parameter can be generic, when the generic parameter specifies a transaction that already exists.

USER

Requires the ISC user to stop or the signed on user to stop and sign off. The USER parameter can be generic and applies only to users that already exist.

/STOP

For ISC users, /STOP USER specifies the ISC user that is to be made unavailable for allocation until a /START USER command is issued.

For signed on users, the /STOP USER command prevents future signons until a /START USER command is issued.

/STOP USER is supported for users that do not yet exist. It causes the user to be created and stopped, which prevents the dynamic user from signing on.

/STOP USER will not cause the user to be signed off if the associated node is not active or the associated node is not in session.

VGRS

Causes the IMS subsystem to drop out of a generic resources group. This command is rejected if the VTAM ACB is closed (usually the result of a /STOP DC command).

While this command prevents VTAM from routing new sessions using a generic resource name to the IMS subsystem, it does not affect existing sessions, and affinities remain (until terminated through normal processing).

WADS

Indicates that a WADS is to be removed from the pool of available WADS. IMS does not allow the active WADS (if WADS mode is single), or the active WADS pair (if WADS mode is dual), to be stopped. wads# must be 0 through 9.

Examples

Example 1 for /STOP Command

Entry ET:

```
/STOP AREA DB1AREA0 DB1AREA1
```

Response ET:

```
DFS058I STOP COMMAND IN PROGRESS  
DFS0488I STOP COMMAND COMPLETED. AREA=DB1AREA0  
DFS0488I STOP COMMAND COMPLETED. AREA=DB1AREA1
```

Explanation: The DEDB areas DB1AREA0 and DB1AREA1 are stopped for processing.

Example 2 for /STOP Command

Entry ET:

```
/STOP AUTOARCH
```

Response ET:

```
DFS058I STOP COMMAND COMPLETED
```

Explanation: Automatic archiving is stopped.

Example 3 for /STOP Command

Entry ET:

```
/STOP CLASS 3
```

Response ET:

```
DFS058I  STOP COMMAND COMPLETED
```

Explanation: No further scheduling of application programs for class 3 transactions occurs. All message processing programs currently handling class 3 transactions are allowed to run until the processing limit count is reached or the input queue contains no more messages.

Example 4 for /STOP Command

Entry ET:

```
/STOP DATABASE TREEFARM
```

Response ET:

```
DFS058I  STOP COMMAND IN PROGRESS  
DFS0488I  STOP COMMAND COMPLETED.  DBN=TREEFARM RC=0
```

Explanation: Database TREEFARM is stopped.

Example 5 for /STOP Command

Entry ET:

```
/STOP LINE 4,5,6,7,8,9,10,11
```

Response ET:

```
DFS058I  STOP COMMAND COMPLETED
```

Response RT:

```
DFS059I  TERMINAL STOPPED
```

Explanation: Lines 4, 5, 6, 7, 8, 9, 10, and 11 and their associated physical terminals are stopped.

Example 6 for /STOP Command

Entry ET:

```
/STOP LINE 4 8 900
```

Response ET:

```
DFS058I  STOP COMMAND COMPLETED EXCEPT LINE 900
```

Response RT:

```
DFS059I  TERMINAL STOPPED
```

Explanation: Lines 4 and 8 and their associated physical terminals are stopped. 900 is an invalid line number.

Example 7 for /STOP Command

Entry ET:

```
/STOP LINE 4 PTERM 1, 2
```

Response ET:

```
DFS058I  STOP COMMAND COMPLETED
```

Response RT:

```
DFS059I  TERMINAL STOPPED
```

/STOP

Explanation: Physical terminals 1 and 2 on line 4 are stopped.

Example 8 for /STOP Command

Entry ET:

```
/STOP LTERM APPLE, TREE, FRUIT
```

Response ET:

```
DFS058I STOP COMMAND COMPLETED
```

Response RT:

```
DFS059I TERMINAL STOPPED
```

Explanation: Logical terminals APPLE, TREE, and FRUIT are stopped.

Example 9 for /STOP Command

Entry ET:

```
/STOP MSNAME BOSTON
```

Response ET:

```
DFS058I STOP COMMAND COMPLETED
```

Explanation: The logical link path associated with the name BOSTON is stopped.

Example 10 for /STOP Command

Entry ET:

```
/STOP NODE HARRY
```

Response ET:

```
DFS058I STOP COMMAND COMPLETED
```

Explanation: The physical terminal associated with node HARRY is disconnected (/CLSDST) and further logons are prevented.

Example 11 for /STOP Command

Entry ET:

```
/STO OTMA
```

Response ET:

```
DFS2361I 14:02:05 XCF GROUP CLOSED SUCCESSFULLY. SYS3  
DFS058I 14:02:06 STOP COMMAND COMPLETED SYS3  
DFS996I *IMS READY* SYS3
```

Example 12 for /STOP Command

Entry ET:

```
/STOP OLDS 09
```

Response ET:

```
DFS058I STOP COMMAND IN PROGRESS  
DFS2500I DATASET DFSOLP09 SUCCESSFULLY DEALLOCATED  
DFS3257I OLDS DEALLOCATED ON DFSOLP09
```

Explanation: The subject OLDS, DFSOLP09 (DFSOLS09), will be stopped.

Example 13 for /STOP Command

Entry ET:

```
/STOP PROGRAM APPLETRE
```

Response ET:

```
DFS058I STOP COMMAND COMPLETED
```

Explanation: Application program APPLETRE is stopped.

Example 14 for /STOP Command

Entry ET:

```
/DISPLAY A
```

Response ET:

```
REGID JOBNAME  TYPE  TRAN/STEP PROGRAM  STATUS          CLASS
   2 MPP        TP    TXCDRN24  DDLTRN24
   1 BMP        BMP   BMP       BMP255
   3 IFPN       FPM   NO MSG.   DDLTJN26
      DBR1CT13  DBRC
VTAM ACB CLOSED
LINE ACTIVE-IN - 1 ACTIV-OUT - 0
NODE ACTIVE-IN - 0 ACTIV-OUT - 0
LINK ACTIVE-IN - 0 ACTIV-OUT - 0
*89041/142004*
```

Explanation: Fast Path message-driven region 3 currently has no messages to process.

Entry ET:

```
/STOP REG 3
```

Response ET:

```
DFS058I STOP COMMAND IN PROGRESS
```

Entry ET:

```
/DISPLAY A
```

Response ET:

```
REGID JOBNAME  TYPE  TRAN/STEP PROGRAM  STATUS          CLASS
   2 MPP        TP    TXCDRN24  DDLTRN24
   1 BMP        BMP   BMP       BMP255
      FPRGN     FP    NONE
      DBR1CT13  DBRC
VTAM ACB CLOSED
LINE ACTIVE-IN - 1 ACTIV-OUT - 0
NODE ACTIVE-IN - 0 ACTIV-OUT - 0
LINK ACTIVE-IN - 0 ACTIV-OUT - 0
*89041/142102*
```

Explanation: Fast Path region 3 has been stopped. If region 3 had been processing a message, IMS would have terminated the region on completion of the transaction.

Example 15 for /STOP Command

Entry ET:

```
/DISPLAY A
```

/STOP

Response ET:

REGID	JOBNAME	TYPE	TRAN/STEP	PROGRAM	STATUS	CLASS
2	MPP	TP	TXCDRN24	DDLTRN24		1, 2
1	BMP	BMP	BMP	BMP255		
	FPRGN	FP	NONE			
	DBR1CT13	DBRC				

VTAM ACB CLOSED
LINE ACTIVE-IN - 1 ACTIV-OUT - 0
NODE ACTIVE-IN - 0 ACTIV-OUT - 0
LINK ACTIVE-IN - 0 ACTIV-OUT - 0
89041/142102

Entry ET:

/STOP REG 1

Response ET:

DFS058I STOP COMMAND IN PROGRESS
DFS0557I STOP REGION ID NOT VALID- REGION 0001 IS BMP.

Explanation: /STOP REGION(with no keywords) is not valid for batch regions.

Example 16 for /STOP Command

Entry ET:

/DISPLAY A

Response ET:

REGID	JOBNAME	TYPE	TRAN/STEP	PROGRAM	STATUS	CLASS
2	MPP	TP	TXCDRN24	DDLTRN24		1, 2
1	BMP	BMP	BMP	BMP255		
3	FPU	FPU	IFP	DBF#FPU0		
	DBR1CT13	DBRC				

VTAM ACB CLOSED
LINE ACTIVE-IN - 1 ACTIV-OUT - 0
NODE ACTIVE-IN - 0 ACTIV-OUT - 0
LINK ACTIVE-IN - 0 ACTIV-OUT - 0
89041/142453

Entry ET:

/STOP REG 3

Response ET:

DFS058I STOP COMMAND IN PROGRESS

Entry ET:

/DISPLAY A

Response ET:

REGID	JOBNAME	TYPE	TRAN/STEP	PROGRAM	STATUS	CLASS
2	MPP	TP	TXCDRN24	DDLTRN24		1, 2
1	BMP	BMP	BMP	BMP255		
	FPRGN	FP	NONE			
	DBR1CT13	DBRC				

VTAM ACB CLOSED
LINE ACTIVE-IN - 1 ACTIV-OUT - 0
NODE ACTIVE-IN - 0 ACTIV-OUT - 0
LINK ACTIVE-IN - 0 ACTIV-OUT - 0
89041/142758

Explanation: Fast Path utility region 3 has been stopped. The Fast Path utility DBF#FPU0 was terminated at the next system checkpoint.

Example 17 for /STOP Command

Entry ET:

```
/DISPLAY A
```

Response ET:

REGID	JOBNAME	TYPE	TRAN/STEP	PROGRAM	STATUS	CLASS
2	MPP	TP	TXCDRN24	DDLTRN24		1, 2
1	BMP	BMP	BMP	BMP255		
	FPRGN	FP	NONE	SYS3		

VTAM ACB CLOSED
 LINE ACTIVE-IN - 1 ACTIV-OUT - 0
 NODE ACTIVE-IN - 0 ACTIV-OUT - 0
 LINK ACTIVE-IN - 0 ACTIV-OUT - 0
 89041/142758

Explanation: Transaction TXCDRN24 in region 2 is looping or in a wait state.

Entry ET:

```
/STOP REG 2 ABDUMP TXCDRN24
```

Response ET:

```
DFS058I STOP COMMAND IN PROGRESS
DFS555I TRAN TXCDRN24 ABEND S000,U0474 SYS ID 220 MSG IN PROGRESS
```

Explanation: The application program has been terminated with a U0474 ABEND. This abend indicates termination in response to a user request (/STOP REGION ABDUMP).

Entry ET:

```
/DISPLAY A
```

Response ET:

REGID	JOBNAME	TYPE	TRAN/STEP	PROGRAM	STATUS	CLASS
2	MPP	TP	WAITING			1, 2
1	BMP	BMP	BMP	BMP255		
	FPRGN	FP	NONE			
	DBR1CT13	DBRC				

VTAM ACB CLOSED
 LINE ACTIVE-IN - 1 ACTIV-OUT - 0
 NODE ACTIVE-IN - 0 ACTIV-OUT - 0
 LINK ACTIVE-IN - 0 ACTIV-OUT - 0
 89041/143420

Explanation: The application has been terminated but the region remains active.

Entry ET:

```
/DISPLAY PROG DDLTRN24
```

Response ET:

PROGRAM	TRAN	TYPE
DDLTRN24	TXCDRN24	TP

90340/143749

Explanation: The program has not been stopped.

/STOP

Entry ET:

```
/DISPLAY TRANSACTION TXCDRN24
```

Response ET:

```
TRAN  CLS  ENQCT  QCT  LCT  PLCT  CP  NP  LP  SEGSZ  SEGNO  PARLM  RC
TXCDRN24  2    1    0  65535  65535  1  1  1    0    0    0  0
      PSBNAME: DDLTRN24
      STATUS: STOP
*90340/143802*
```

Explanation: The transaction has been stopped.

Example 18 for /STOP Command

Entry ET:

```
/DISPLAY A
```

Response ET:

```
REGID JOBNAME  TYPE  TRAN/STEP  PROGRAM  STATUS  CLASS
  2 MPP        TP    WAITING           1,  2
  1 BMP        BMP    BMP           BMP255
  3 FPU        FPU    IFP           DBP#FPU0
      DBR1CT13  DBRC
VTAM ACB CLOSED
LINE ACTIVE-IN - 1 ACTIV-OUT - 0
NODE ACTIVE-IN - 0 ACTIV-OUT - 0
LINK ACTIVE-IN - 0 ACTIV-OUT - 0
*89041/144248*
```

Entry ET:

```
/STOP REG 3 ABDUMP
```

Response ET:

```
DFS058I STOP COMMAND IN PROGRESS
```

Explanation: A transaction code is not entered when terminating a Fast Path utility with a /STOP REGION ABDUMP command.

Example 19 for /STOP Command

Entry ET:

```
/DISPLAY A
```

Response ET:

```
REGID JOBNAME  TYPE  TRAN/STEP  PROGRAM  STATUS  CLASS
  2 MPP        TP    TXCDRN24  DDLTRN24  WAIT-INPUT  1,  2
  1 BMP        BMP    BMP           BMP255
      FPRGN    FP    NONE
      DBR1CT13  DBRC
VTAM ACB CLOSED
LINE ACTIVE-IN - 1 ACTIV-OUT - 0
NODE ACTIVE-IN - 0 ACTIV-OUT - 0
LINE ACTIVE-IN - 0 ACTIV-OUT - 0
*89041/150141*
```

Explanation: Message processing program DDLTRN24 is waiting for an input message.

Entry ET:

/STOP REGION 2 TRANSACTION TXCDRN24

Response ET:

DFS058I STOP COMMAND IN PROGRESS
DFS0569I PSTOP OR STOP COMPLETE FOR REGION0002 TRAN TXCDRN24.

Explanation: A QC status code was returned to the WFI application program DDLTRN24.

Entry ET:

/DISPLAY A

Response ET:

REGID	JOBNAME	TYPE	TRAN/STEP	PROGRAM	STATUS	CLASS
2	MPP	TP	WAITING			1, 2
1	BMP	BMP	BMP	BMP255		
	FPRGN	FP	NONE			
	DBR1CT13	DBRC				
VTAM ACB CLOSED						
LINE	ACTIVE-IN	-	1	ACTIV-OUT	-	0
NODE	ACTIVE-IN	-	0	ACTIV-OUT	-	0
LINK	ACTIVE-IN	-	0	ACTIV-OUT	-	0
89041/150206						

Explanation: The WFI application has been terminated but the region is still active.

Entry ET:

/DISPLAY TRANSACTION TXCDRN24

Response ET:

TRAN	CLS	ENQCT	QCT	LCT	PLCT	CP	NP	LP	SEGSZ	SEGNO	PARLM	RC
TXCDRN24	2	4	0	65535	65535	1	1	1	0	0	0	0
PSBNAME: DDLTRN24												
90340/150219												

Explanation: The transaction is not stopped.

Example 20 for /STOP Command

Entry ET:

/DISPLAY A

Response ET:

REGID	JOBNAME	TYPE	TRAN/STEP	PROGRAM	STATUS	CLASS
2	MPP	TP	TXCDRN24	DDLTRN24	WAIT-INPUT	1, 2
1	BMP	BMP	BMP	BMP255		
	FPRGN	FP	NONE			
	DBR1CT13	DBRC				
VTAM ACB CLOSED						
LINE	ACTIVE-IN	-	1	ACTIV-OUT	-	0
NODE	ACTIVE-IN	-	0	ACTIV-OUT	-	0
LINK	ACTIVE-IN	-	0	ACTIV-OUT	-	0
89041/150813						

Entry ET:

/STOP REGION 2 TRANSACTION TRAN255

Response ET:

/STOP

```
DFS058I STOP COMMAND IN PROGRESS
DFS0558I TRAN TRAN255 NOT SCHEDULED
```

Explanation: TRAN255 is a valid transaction for the IMS system but it is not currently scheduled in region 2. If TRAN255 had not been a valid transaction for the IMS system, only message DFS230I (TRAN SPECIFIED WITH ABDUMP OR TRAN KEYWORD IS NOT VALID) would have been issued.

Example 21 for /STOP Command

Entry ET:

```
D A,L
```

Response ET:

JOB	M/S	TS	USERS	SYSAS	INITS	ACTIVE/MAX	VTAM	OAS
00001	00010	00001	00019	00020	00001/00020			00000
LLA	LLA	LLA	NSW S	VL	VL	VL	NSW S	
JES2	JES2	IEFPROC	NSW S	RM	RM	IEFPROC	NSW S	
IMSVTAM	IMSVTAM	IEFPROC	NSW S	TS	TS	STEP1	NSW S	
CQS	CQS	IEFPROC	NSW S	IMSECTA9	IMSECTA9	IEFPROC	NSW S	
DLIECTA9	DLIECTA9	DLISAS	NSW S	DBRECTA9	DBRECTA9	DBRC	NSW S	
MPP610C	MPP	MPP	NSW J					
USRT001	OWT							

Explanation: MPP610C is an IMS message processing region.

Entry ET:

```
/STOP REGION JOBNAME MPP610C
```

Response ET:

```
DFS058I STOP COMMAND IN PROGRESS
DFS552I MESSAGE REGION MPP610C STOPPED ID=00001 TIME=1616 SYSX

SMF000I MPP610C MPP DFSRRC00 0000
$HASP395 MPP610C ENDED
```

Example 22 for /STOP Command

Entry ET:

```
/STOP SB
```

Response ET:

```
DFS058 STOP COMMAND COMPLETED
```

Entry ET:

```
/DISPLAY POOL DBAS
```

Response ET:

```
SEQUENTIAL BUFFERING: STATUS = STOPPED
MAX N.A. FREE N.A. CURR 0K HIGH 320K
DATABASE BUFFER POOL: SIZE 67584
REQ1 0 REQ2 0 READ 0 BISAM 0 WRITES 0
KEYC 0 LCYL 0 PURG 0 OWNRR 0 ERRORS 00/00
DATABASE BUFFER POOL: BSIZE 12288
RRBA 0 RKEY 0 BFALT 0 NREC 0 SYN PTS 0
NMBUFS 29 VRDS 0 FOUND 0 VWTS 0 ERRORS 00/00
```

```

DATABASE BUFFER POOL:  BSIZE 356352
RRBA    0 RKEY    0 BFALT  0 NREC  0 SYN PTS    0
NMBUFS 29 VRDS    0 FOUND  0 VWTS  0 ERRORS 00/00
*90253/104547*

```

Explanation: Sequential buffering is stopped.

Example 23 for /STOP Command

Entry ET:

```
/STOP SUBSYS ALL
```

Response ET:

```
DFS058I STOP COMMAND IN PROGRESS
```

Explanation: IMS has initiated the termination of the connection. When all dependent regions have terminated their connections, IMS will complete the termination. It is likely that an external subsystem message indicating connection termination will be received at this time.

Example 24 for /STOP Command

Entry ET:

```
/STOP SUBSYS XXX1 XXX3
```

Response ET:

```
DFS058I STOP COMMAND IN PROGRESS
```

Explanation: IMS has initiated the termination of the connection. When all dependent regions have terminated their connections, IMS will complete the termination. It is likely that an external subsystem message indicating connection termination will be received at this time.

Example 25 for /STOP Command

Entry ET:

```
/STO TMEMBER CLIENT1 TPIPE TPIPESY
```

Response ET:

```
DFS058I 15:38:03 STOP COMMAND COMPLETED  SYS3
DFS996I *IMS READY*  SYS3
```

Example 26 for /STOP Command

Entry ET:

```
/STOP TRANSACTION ALL CLASS 6
```

Response ET:

```
DFS058I STOP COMMAND COMPLETED
```

Explanation: All transactions associated with class 6 will be marked as stopped and all class 6 transactions are no longer available for scheduling. All message processing regions currently processing class 6 transactions are allowed to run until the processing limit count is reached or the input queue contains no more messages.

/STOP

Example 27 for /STOP Command

Entry ET:

```
/STOP TRANSACTION PIT, SEED
```

Response ET:

```
DFS058I STOP COMMAND COMPLETED
```

Explanation: Transaction codes PIT and SEED are stopped.

Example 28 for /STOP Command

Entry ET:

```
/DISPLAY USER IMS*
```

Response ET:

USER	ENQCT	DEQCT	QCT	SYS3
IMSUS06	0	0	0	ALLOC(DTSLU602)
IMSUS04	0	0	0	ALLOC(DTSLU603)
IMSUS03	0	0	0	ALLOC(DTSLU601)
IMSUS02	0	0	0	ALLOC(DTSLU202)
IMSUS01	0	0	0	ALLOC(DTSLU201)
IMSUS09	N/A	N/A	N/A	ALLOC(ENDS02) STATIC
IMSUS08	N/A	N/A	N/A	ALLOC(ENDS01) STATIC
IMSUS11	N/A	N/A	N/A	ALLOC(ENDS03) STATIC
IMSUS10	N/A	N/A	N/A	ALLOC(OMSSLU2A) STATIC

91091/111454

Entry ET:

```
/STOP USER IMSUS01 IMSUS02
```

Response ET:

```
DFS058I 11:16:24 STOP COMMAND COMPLETED
```

Entry ET:

```
/STOP USER HELLO%
```

Response ET:

```
DFS3633 11:18:25 GENERIC PARAMETER RESOURCES NOT FOUND, NO ACTION TAKEN
```

Entry ET:

```
/DISPLAY USER IMSUS01 IMSUS02
```

Response ET:

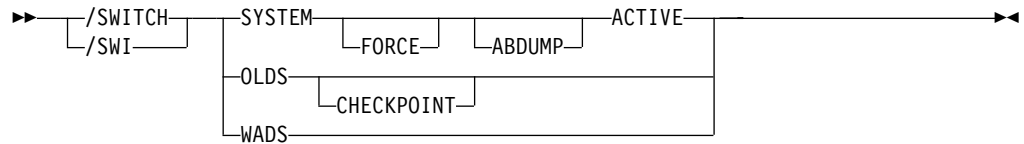
USER	ENQCT	DEQCT	QCT
IMSUS01	0	0	0 STOPPED
IMSUS02	0	0	0 STOPPED

91091/111727

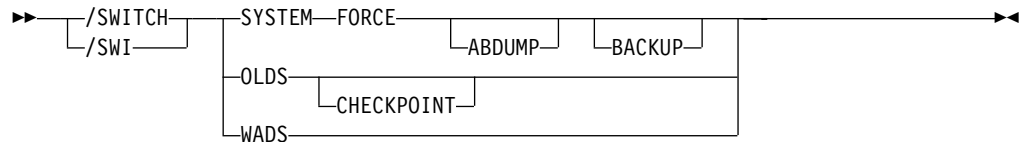
Chapter 55. /SWITCH

Format

/SWITCH for an Active XRF Subsystem



/SWITCH for an Alternate XRF Subsystem



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/SWITCH	X	X	X
ABDUMP	X		X
ACTIVE	X		X
BACKUP	X		X
CHECKPOINT	X	X	X
FORCE	X		X
OLDS	X	X	X
SYSTEM	X		X
WADS	X	X	X

Usage

The /SWITCH command is used to switch active data sets or change between the active and alternate systems. Certain combinations of keywords are valid only in the active or alternate systems, as shown in the format above.

For a list of the commands recovered, see 19.

SYSTEM

Requests a takeover by the alternate system from the current active system in an XRF environment.

/SWITCH

/SWITCH SYSTEM without the FORCE keyword causes the active system to attempt to gracefully quiesce before the alternate system becomes active. System activity currently in progress is allowed to complete. New activity is queued. This disables surveillance on the active system, but not the alternate. Therefore, surveillance (if enabled) will eventually trigger a takeover if it does not eventually quiesce.

Unless the optional FORCE keyword is specified, the command is only operable when entered on the active system.

FORCE

Causes an immediate termination of the active system, forcing the alternate system to become the active.

ABDUMP

Results in a diagnostic dump of the active system when entered from either the active system or the alternate system (if it is on the same processor as the active system).

ACTIVE, BACKUP

Indicates the system on which the command is being entered. The keyword ACTIVE is required when the command is entered on an active system. The keyword BACKUP is optional when the command is entered on an alternate system. /SWITCH SYSTEM FORCE, without the ACTIVE keyword, can only be entered on an alternate system. This prevents the inadvertent abend of a newly created active system that is mistakenly assumed to still be the alternate system.

OLDS, CHECKPOINT

Causes switching of the active log data set. This log switch capability is identical to that provided with /DBDUMP and /DBRECOVERY commands. You can specify the CHECKPOINT keyword to take a simple checkpoint after the active log data set has been switched to the next OLDS. The /SWITCH OLDS CHECKPOINT command operates in all IMS environments.

WADS

Causes switching of the active write-ahead log data set. If you are using dual logging for the WADS, this command causes IMS to use the next available WADS pair.

This command is rejected if no unused WADS is available, or for dual logging, if no unused pair of WADS is available.

Examples

Example 1 for /SWITCH Command

Entry ET:

```
/SWITCH OLDS
```

Response ET:

```
DFS3257I ONLINE LOG NOW SWITCHED  
DFS058I 17:10:51 SWITCH COMMAND COMPLETED
```

Entry ET:

```
/SWITCH OLDS CHECKPOINT
```

Response ET:

```
DFS3257I ONLINE LOG NOW SWITCHED - FROM DFSOLP01 TO DFSOLP02
DFS058I 17:12:53 SWITCH COMMAND COMPLETED
```

```
DFS2719I MSDB CHECKPOINT WRITTEN TO MSDBCP2
DFS994I *CHKPT 91057/171254**SIMPLE*
DFS3499I ACTIVE DDNAMES: MODBLKSA IMSACBA FORMATA MODSTAT ID: 1
DFS3804I LATEST RESTART CHKPT: 91057/132000, LATEST BUILDQ CHKPT:
91057/132414
```

Example 2 for /SWITCH Command

Entry ET (Master Terminal for active system IMSA):

```
/SWITCH SYSTEM FORCE
```

Response ET:

A response message is not returned for the /SWITCH SYSTEM FORCE command. Any further input to the master terminal of the active system is inhibited.

Response RT (MVS/ESA console for active system IMSA):

The MVS/ESA console for the active system will show a user 0604 abend in progress for IMSA. If the ABDUMP keyword had been included on the above /SWITCH command, the 0604 abend would be accompanied by a diagnostic dump of the active system.

Response RT (master terminal for alternate system IMSB):

Figure 5 shows some of the messages associated with the beginning of takeover on the alternate system.

```
85/05/15 15:28:27 RSENAME: DFSRSENM BACKUP TAKEOVER IN PROGRESS IMSB
DFS3890I 15:27:18 TAKEOVER REQUESTED
DFS970I 15:28:05 UNEXPECTED STATUS ,NODE APPLA ,USER N/A ,SEND ,RC
=14,FDB2=13,NSECIT =29,SENSE=00000000,REASON=00
DFS3257I ONLINE LOG CLOSED ON DFSOLP00
DFS3891I 15:28:18 TAKEOVER IN PROGRESS

DFS2591I NO MSDB HEADERS FOUND, IMAGE COPY LOAD IGNORED
DFS3839I 14:26:46 XRF INITIAL DB PRE-OPEN COMPLETE.
DFS3838I 14:28:41 XRF INITIAL DC PRE-OPEN COMPLETE.
```

PASSWORD:

Figure 5. Alternate System at Start of Takeover

Intermediate screens are not shown. They would indicate such takeover functions as:

- Enabling of dependent region processing

/SWITCH

- IRLM takeover
- Backout processing
- Draining of suspend queue
- Session switching

Figure 6 shows takeover complete.

```
85/05/15 15:30:59 RSENAME: DFSRSENM ACTIVE AWAITING I/O PREVENTION IMSB
DFS2716I NO MSDBS FOUND - NO MSDB CHECKPOINT TAKEN
DFS994I *CHKPT 85135/152931**SIMPLE**
DFS3499I ACTIVE DDNAMES: MODBLKSA IMSACBA FORMATA MODSTAT ID: 11
DFS3804I LAST CHKPT ID VALID FOR RESTART: 85135/152931-BUILDQ: 85135/142629

DFS994I TAKEOVER COMPLETED.
DFS3859I 15:29:19 PRIORITY 4 SESSIONS SWITCHED.
DFS3860I 15:29:19 ALL TERMINAL SESSIONS SWITCHED.
-----
```

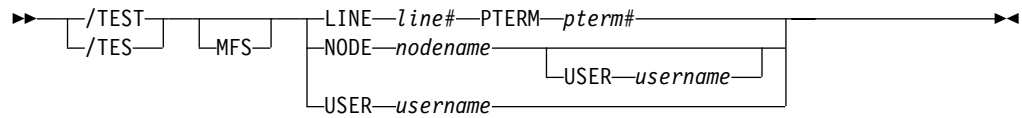
PASSWORD:

Figure 6. Newly Created Active System

Takeover is complete and the alternate system is now an active system. The XRF environment status line indicates that the newly created active system is running in I/O toleration mode (awaiting I/O prevention). For a more complete description of I/O toleration and I/O prevention, see *IMS/ESA Operations Guide*.

Chapter 56. /TEST

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/TEST	X		X
LINE	X		X
NODE	X		X
PTERM	X		X
USER	X		X

Usage

The /TEST command places a terminal or user into either test mode or MFSTEST mode.

In test or echo mode, any input from the terminal is sent back. Input and output errors are not checked, and IMS error notification procedures are bypassed. Echo mode continues until reset with an /END, /IAM, /START LINE, /START LINE PTERM, or a /START NODE command. The /DISPLAY command identifies a terminal or user in test mode or MFSTEST mode. If no keywords are supplied, the terminal entering the command is placed into test mode or MFSTEST mode.

In MFSTEST mode, terminals supported by message format service use format blocks from a special test library if the requested format block is in the test library; otherwise, the blocks are obtained from the production library. MFSTEST mode continues until reset with an /END command. Certain error conditions can occur that cause MFSTEST mode to terminate. If an error condition occurs, the terminal operator receives an error message.

MFS

Specifies MFS test mode for the terminal or user. The MFS parameter is valid only for terminals supported by Message Format Service (MFS). When the /TEST MFS USER command is issued for a dynamic user, it is not possible to determine if the MFSTEST mode is valid until the user signs on to a terminal. Once the user signs on to a terminal, a check is made to determine whether that terminal supports MFSTEST mode. If the terminal does not support MFSTEST mode, the mode is not propagated to the terminal and is removed from the USER unless another /TEST MFS USER command is issued.

LINE, PTERM

Specifies the BTAM line and pterm to place into test or MFSTEST mode.

/TEST

NODE

Specifies the VTAM node to place into TEST or MFSTEST mode.

The /TEST (MFS) NODE form of the command is valid only for statically defined nodes.

The /TEST (MFS) NODE USER command is valid for ISC, LUP, and 3600. For ISC, the /TEST (MFS) NODE nodename USER username form of the command is supported for ISC nodes and applies to the half-session allocated to the USER username.

USER

When specified without the NODE keyword, USER specifies the dynamic user to place into either test or MFSTEST mode. Test mode status is remembered across signons. For example, if a user issues a /TEST (MFS) command, signs off and then signs on again at another terminal, the test mode is still in effect. If the user does not exist, it is created and test mode is set.

Examples

Example 1 for /TEST Command

Entry ET:

```
/TEST
```

Response ET:

```
DFS058I TEST COMMAND COMPLETED
```

Entry ET:

```
NOW IS THE TIME TO COME TO THE AID
```

Response ET:

```
NOW IS THE TIME TO COME TO THE AID
```

Explanation: The entering terminal is placed in echo mode and continues to receive message input as output until test mode is terminated.

Example 2 for /TEST Command

Entry ET:

```
/TEST MFS
```

Response ET:

```
DFS058I TEST COMMAND COMPLETED
```

Explanation: The entering terminal is placed into MFSTEST mode.

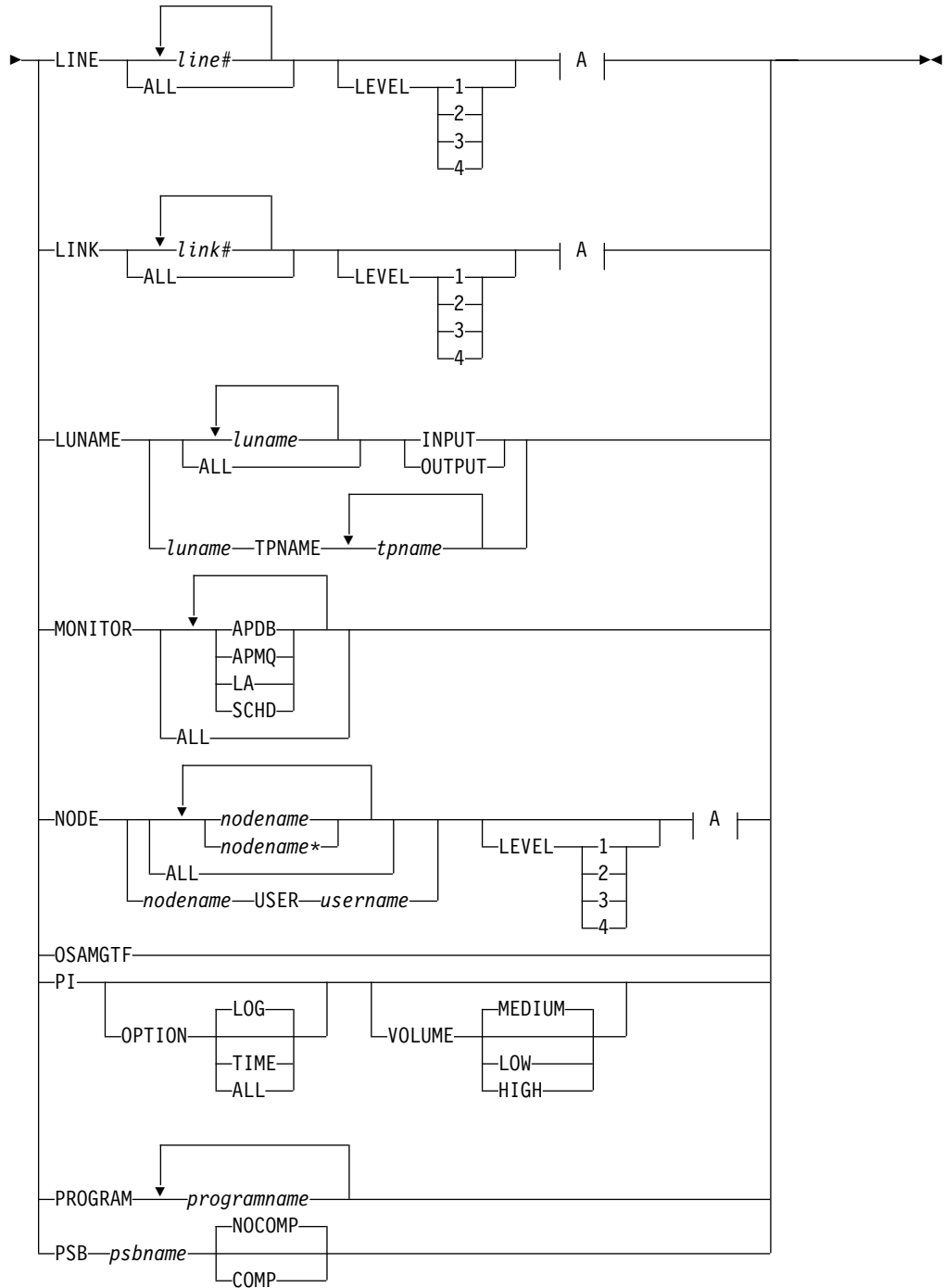
Chapter 57. /TRACE

Format

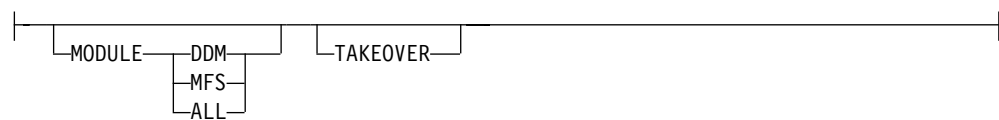
/TRACE Command: LINE through PSB



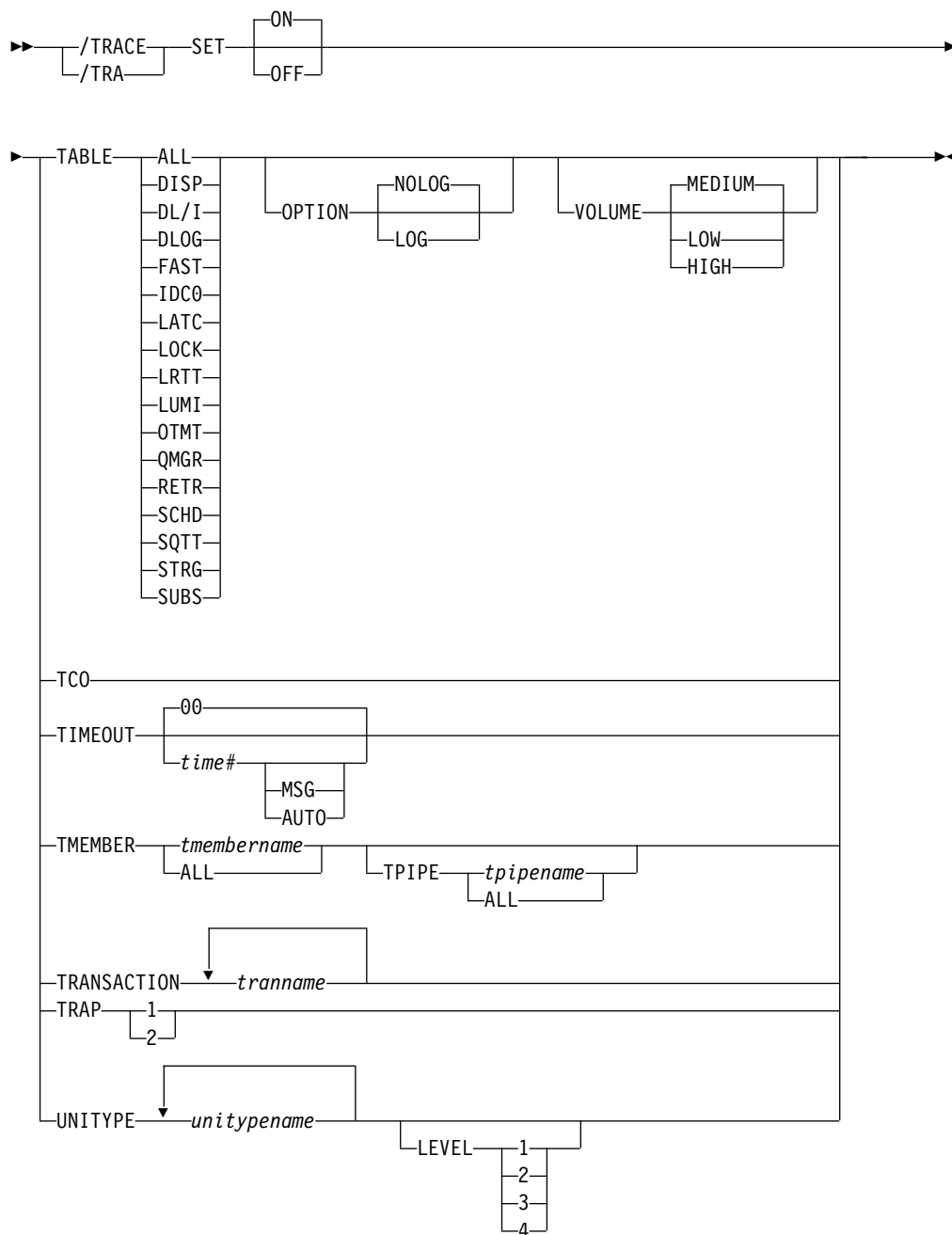
/TRACE



A:



/TRACE Command: TABLE through UNITYPE



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/TRACE	X	X	X
AUTO	X		X
COMP	X	X	
INPUT	X		X

/TRACE

Command / Keywords	DB/DC	DBCTL	DCCTL
LEVEL	X		X
LINE	X		X
LINK	X		X
LUNAME	X		X
MODULE	X		X
MONITOR	X	X	X
MSG	X		X
NOCOMP	X	X	
NODE	X		X
OPTION	X	X	X
OSAMGTF	X	X	
OUTPUT	X		X
PI	X	X	
PROGRAM	X	X	X
PSB	X	X	
SET	X	X	X
TABLE	X	X	X
TAKEOVER	X		X
TCO	X	X	X
TIMEOUT	X		X
TMEMBER	X		X
TPIPE	X		X
TPNAME	X		X
TRANSACTION	X		X
TRAP	X		X
UNITYPE	X		X
USER	X		X
VOLUME	X	X	X

Usage

/TRACE directs and controls the IMS capabilities for tracing internal IMS events. It also starts, stops, and defines the activity to be monitored by the IMS Monitor.

The information developed by the LINE, LINK, NODE, UNITYPE, TRANSACTION, PROGRAM, PSB, and TCO keywords is written on the IMS system log (type X'5F' for PSB, and type X'67' records for the other keywords mentioned.) PI (program isolation) and TABLE trace information is kept in storage or logged (type X'67' records), depending on specification of additional keywords. The MONITOR keyword provides no such output on the system log; it only controls the IMS Monitor. The monitor develops its own output data and writes it on a separate data set. For an explanation of the output reports provided by the monitor, refer to *IMS/ESA Utilities Reference: System*.

The status and options of the current IMS traces can be displayed with the /DISPLAY TRACE command.

LEVEL

Expands the LINE, LINK, NODE, or UNITYPE trace functions. The LEVEL specification is for the entire IMS system and is changed only by reissuing /TRACE with different values or by restarting the IMS control region.

LEVEL indicates the extent of the control block trace information desired. The indicated control blocks are only traced at relevant times. All levels are inclusive of numerically lower levels. The following list displays the levels and their associated blocks.

Level Blocks

- | | |
|----------|---|
| 1 | CLB (DECB) or LLB(MSC)
CTB or LTB(MSC)
IOB (for BTAM lines) or IOSB (MSC for channel-to-channel links) |
| 2 | CNT or LNB(MSC)
CXB
CRB
CIB
CCB
PD stack |
| 3 | queue manager buffers
Input/output line buffers
LXB (for channel-to-channel links and processor storage to processor storage) |
| 4 | save area sets (IMS dispatching) |

If the first /TRACE SET ON command does not specify LEVEL, a default of 4 will be used. Specifying LEVEL on subsequent commands will change the defaults.

LINE

Enter this keyword (and the associated parameters) to cause events related to the lines to be traced.

LINK

Enter this keyword (and the associated parameters) to cause events related to the logical links to be traced.

LUNAME TPNAME

Activates and deactivates tracing for a particular LU name or TP name of the LU name. Specifying this command causes trace entries to be written to the LUMI trace table. For this reason, the /TRACE SET ON TABLE LUMI command must be entered first in order to create the table for trace entries that will be created by subsequent /TRACE SET ON LUNAME commands. A trace entry is written:

- On LU 6.2 module entries/exits
- When APPC calls are made
- When errors are encountered

/TRACE

The INPUT and OUTPUT keywords provide the operator with the flexibility to control the volume of trace data for LU 6.2 devices.

Specifying the keyword INPUT with the LUNAME keyword indicates tracing is activated or deactivated for input and synchronous outbound activities.

Specifying the parameter ALL with the INPUT keyword causes all future LU 6.2 input and synchronous outbound activities to be traced as well.

Specifying the keyword OUTPUT with the LUNAME keyword indicates tracing is activated or deactivated for asynchronous outbound activities. Specifying the parameter ALL with OUTPUT causes all future LU 6.2 asynchronous outbound activities to be traced as well.

Specifying neither INPUT or OUTPUT is the same as both INPUT and Tracing is activated or deactivated for input and both synchronous and asynchronous outbound activities. Specifying the parameter ALL in this case causes all future LU 6.2 inbound activities, synchronous and asynchronous outbound activities to be traced as well.

The network-qualified LU name is optional for the LUNAME keyword. If the LU name is not a network-qualified LU name and no TP name is specified, tracing is activated or deactivated for all the network-qualified LU names in the system whose LU name matches the LU name specified.

If the specified resource does not exist and tracing is activated, a structure is created to retain the status.

MODULE

Is used to expand the LINE, LINK, NODE, or UNITYPE trace functions. The MODULE specification is for the entire IMS system and is changed only by reissuing /TRACE with different values or by restarting the IMS control region.

MODULE indicates which modules are to have their control blocks traced.

ALL Both DDM and MFS

DDM Communication analyzer and device-dependent module interfaces

MFS Communication analyzer and message format service module interfaces

If the first /TRACE SET ON command does not specify MODULE, a default of ALL will be used. Specifying MODULE on subsequent commands will change the defaults.

MONITOR

Enter this keyword to activate or deactivate the IMS Monitor.

When activating the monitor, you must specify one or more of the following MONITOR keyword parameters to indicate the events to be monitored:

ALL Monitor all of the activity in this list.

APDB Monitor activity between application programs and databases. This includes all application program requests to external subsystem databases.

APMQ Monitor activity between application programs and message queues.

LA Monitor line and logical link activity events.

SCHD Monitor scheduling and termination events.

You can specify any combination of APDB, APMQ, LA, and SCHD. The keywords are valid in the environments shown in Table 37.

Table 37. /MONITOR Keyword Parameter Environments

Command / Keywords	DB/DC	DBCTL	DCCTL
ALL	X	X	X
APDB	X	X	
APMQ	X		X
LA	X		X
SCHD	X	X	X

The IMS Monitor report output varies depending upon which keyword or parameters you specify. Sections of the report can be misleading if required records are excluded. If you specify the APDB parameter without the SCHD parameter, PSB/PCB relationships will not be correctly represented. To get the total DL/I call reports without the IMS line activity, the correct parameter to specify is /TRACE SET ON MONITOR APDB, APMQ, SCHD.

The monitor remains active until /TRACE SET OFF MONITOR is specified. When deactivating the monitor, no parameters are required. ALL is the default. If the monitor is to be reactivated, a new set of MONITOR keyword parameters must be selected.

NODE

Causes events related to the node or nodes to be traced.

The NODE parameter can be generic if the USER keyword is not specified and applies to nodes that already exist. Generic NODE parameters do not cause any dynamic nodes to be created.

For ISC nodes, the /TRACE NODE nodename without the USER applies to all half-sessions for NODE nodename, including dynamic ISC sessions that are dynamically allocated later.

For nodes that do not exist, /TRACE SET ON NODE nodename without the USER keyword causes the dynamic NODE nodename to be created to maintain knowledge of the trace request when the node becomes active. Until the node becomes active, /DISPLAY NODE shows a type of UNK (unknown). If the trace is subsequently turned off and the temporary node still exists, it is deleted at the next checkpoint.

/TRACE NODE nodename USER username is valid:

- For ISC nodes and dynamic nodes with signed on users
- Only if the USER username is still allocated to NODE nodename
- For non-ISC nodes only if the USER username is still signed on to NODE nodename

OSAMGTF

Causes the OSAMGTF keyword to activate or deactivate the OSAM GTF (Generalized Trace facility).

/TRACE

PI

Causes program isolation trace entries to be written to a trace table. PI trace entries are written in the same trace table as DL/I and lock activity trace entries. A PI trace entry contains information about program isolation ENQ/DEQ calls and DL/I calls. The trace entry created by /TRACE TABLE DLI contains different information about DL/I calls and is written as a separate entry in the same trace table. Starting the LOCK trace also causes PI tracing to occur.

If PI is entered without the OPTION keyword, the program isolation trace is kept in storage without being logged. If you are using the program isolation trace to provide statistics and performance data, you should enter OPTION(ALL).

Table 38 illustrates how various command formats influence tracing, logging, and the additional time field.

Table 38. /TRACE Command Formats

Command	Tracing	Logging	Additional Time Field
/TRACE SET ON PI	Yes	No	No
/TRACE SET OFF PI	No	No	No
/TRACE SET ON PI OPTION ¹	Yes	Yes	No
/TRACE SET OFF PI OPTION ¹	Yes	No	No
/TRACE SET ON PI OPTION TIME	Yes	No	Yes
/TRACE SET OFF PI OPTION TIME	Yes	No	No
/TRACE SET ON PI OPTION ALL	Yes	Yes	Yes
/TRACE SET OFF PI OPTION ALL	Yes	No	No

Note:

1. This is the same command as /TRACE SET ON/OFF PI OPTION LOG.

OPTION

Indicates a request for one of the following program isolation trace options:

ALL Both LOG and TIME.

LOG Requests that traced data be written to the system log. If SET OFF, tracing continues but no buffers are transferred to the system log. LOG is the default.

The log option includes the possibility of externally tracing to a data set other than the IMS OLDS. If specified, DASD external tracing has first priority, TAPE external tracing has second priority, and IMS OLDS has third priority. External tracing to the OLDS is not done without operator approval. EXTERNAL trace is available to the alternate system only for DASD/TAPE type, but not for OLDS. For more information, see *IMS/ESA Diagnosis Guide and Reference* and *IMS/ESA Operations Guide*.

TIME Requests that an additional time field be included in each ENQ/DEQ request trace record if a WAIT was needed. This field will contain elapsed wait time. If set OFF, tracing continues but only the time of day is recorded.

Entries for Fast Path have no elapsed wait time.

VOLUME

Specifies the volume of entries to be written to the PI trace table: LOW volume, MEDIUM volume (default), or HIGH volume.

PROGRAM

Is used to trace the DL/I portion of Data Communications (DC) for a specific program. Each DL/I call to a TPPCB, issued by the user application program, is traced on entry to and exit from the DC call handler DFSDLA30. On entry to DFSDLA30 a type 6701-LA3A record is written, on exit from DFSDLA30 a type 6701-LA3B record is written.

Each record will contain the following items if applicable:

- TPPCB
- Up to 64 bytes of the I/O area
- SMB
- PST

If the batch message program (BMP) being traced is the IMS/ESA Message Requeuer (MRQ) program product 5655-038, a 6701-MRQB record is logged by the message requeuer processor module DFSQMRQ0. The default program name for the MRQ BMP is MRQPSB, and can be overridden on the MSGQUEUE SYSGEN macro.

Items logged in the 6701-MRQB record, if applicable, are:

- TPPCB
- AIB
- I/O AREA
- PST
- QTPDST
- QSAPWKAD
- QMBA
- PSTDCA
- REG14-12

For more information about the message requeuer processor module DFSQMRQ0 and the 6701-MRQB trace, refer to *IMS/ESA Diagnosis Guide and Reference*. For more information about the Message Requeuer program product, refer to *IMS/ESA Message Requeuer Program Description/Operations Manual*.

When CPI Communications driven transaction programs issue the DL/I APSB call specifying a PSB that contains alternate PCBs, only the PROGRAM keyword is applicable.

PSB

Records all full function IMS DL/I database calls issued for the named PSB. FP/DC/SAA calls are not captured when /TRACE SET ON PSB initiated tracing of PSBs.

For LU 6.2, the PSB keyword is applicable only if the CPI Communications driven transaction program has issued a DL/I APSB call to allocate a PSB.

COMP

Used with the /TRACE SET PSB command to generate PCB and data-compare statement images.

/TRACE

The /TRACE SET PSB psbname COMP command only applies to BMPs in a DBCTL environment.

NOCOMP Prevents PCB and data-compare statement images from being generated. NOCOMP is the default.

The information resulting from the use of this keyword is written on the X'5F' log record.

SET

This keyword turns ON or OFF one of the following:

- The control block trace for particular LINE, LINK, NODE, or UNITYPE
- The program isolation trace
- The IMS Monitor
- The DL/I call trace for a specific PSB
- Tracing into a specific trace table
- Tracing of the DL/I portion of DC for programs and transactions
- Traps that enable MFS serviceability aids
- The VTAM I/O Detection facility
- The TCO trace
- The OSAMGTF trace
- Tracing for a particular LUNAME

TABLE

Is used with the SET keyword to start or stop online tracing into the specified trace tables. The TABLE keyword parameter indicates the specific trace that is to be activated or deactivated. The DL/I, LOCK, and PI traces share the same trace tables. However, turning on the DL/I trace does not turn on the LOCK trace, and vice versa.

The following trace into trace tables can be turned on or off with the online /TRACE command.

Table 39 on page 477 shows the environments in which the trace tables are valid.

ALL Indicates that traces into all trace tables are to be enabled or disabled. This is the default.

DISP Indicates that the dispatcher trace is to be activated or deactivated.

DL/I Indicates that DL/I tracing is to be activated or deactivated.

DLOG Indicates that the logging trace is to be activated or deactivated.

FAST Indicates that the Fast Path trace is to be activated or deactivated.

Fast Path Trace is activated by including the FPTRACE DD statement in the dependent region JCL to define the destination of the trace output and by issuing the operator command /TRACE SET ON TABLE FAST.

Recommendation: Only run this trace in a test environment because the FPTRACE output is very large.

IDC0	Indicates that tracing of errors in modules DFSCNXA0 and DFSIDC00 is to be activated or deactivated.
LATC	Indicates that the latch trace is to be activated or deactivated.
LOCK	Indicates that LOCK and PI tracing is to be activated or deactivated.
LRTT	Indicates that the log router trace table is to be activated or deactivated. LRTT is only valid for an RSR tracking subsystem.
LUMI	Indicates that the LU 6.2 manager trace is to be activated or deactivated. /TRACE SET ON TABLE LUMI must be entered first before entering any /TRACE SET ON LUNAME command in order to create the LUMI trace table for trace entries. LUMI is not valid for an RSR tracking subsystem.
OTMT	Indicates that the IMS Open Transaction Manager Access (OTMA) trace is to be activated or deactivated.
QMGR	Indicates that the queue manager trace is to be activated or deactivated.
RETR	Indicates that the DL/I retrieve trace is to be activated or deactivated. RETR is not valid for an RSR tracking subsystem.
SCHD	Indicates that the scheduler trace is to be activated or deactivated. SCHD is not valid for an RSR tracking subsystem.
SQTT	Indicates that the shared queues trace is to be activated or deactivated. SQTT is only valid in a shared-queues environment.
STRG	Indicates that the storage manager trace is to be activated or deactivated.
SUBS	Indicates that the external subsystem trace is to be activated or deactivated. SUBS is not valid for an RSR tracking subsystem.

Table 39. Trace Tables and Environments in Which They Are Valid

Trace Table	DB/DC	DBCTL	DCCTL
ALL	X	X	X
DISP	X	X	X
DL/I	X	X	X
DLOG	X	X	X
FAST	X	X	X
IDC0	X		X
LATC	X	X	X
LOCK	X	X	
LRTT	X	X	X
LUMI	X		X
OTMT	X		X

/TRACE

Table 39. Trace Tables and Environments in Which They Are Valid (continued)

Trace Table	DB/DC	DBCTL	DCCTL
QMGR	X		X
RETR	X	X	
SCHD	X	X	X
SQTT	X		X
STRG	X	X	X
SUBS	X	X	X

OPTION

Is used to indicate whether or not the trace tables are to be logged.

The meaning of the OPTION parameters are:

LOG

Requests that the trace tables be written to the system log before they are reused (wrapped).

The log option includes the possibility of externally tracing to a data set other than the IMS OLDS. If specified, DASD external tracing has first priority, TAPE external tracing has second priority, and IMS OLDS has third priority. External tracing to the OLDS is not done without operator approval. This option is ignored for the retrieve trace and the Fast Path trace, (default).

FPTRACE has its own SYSOUT. EXTERNAL trace is available to the alternate system only for DASD/TAPE type, but not for OLDS. For more information, see *IMS/ESA Diagnosis Guide and Reference* and *IMS/ESA Operations Guide*.

NOLOG

Indicates that the trace tables are not logged. This means that there will be no record of trace tables that have been reused. NOLOG is the default.

The same trace table is used for DL/I, LOCK, and PI trace information. Whether or not this table is logged will depend on the logging option of the last /TRACE command that was entered for DL/I, PI, or LOCK.

VOLUME

Specifies the volume of entries to be written to the specified trace table: LOW volume, MEDIUM volume (default), or HIGH volume.

TAKEOVER

Controls tracing during takeover only, and is separate from regular tracing. TAKEOVER tracing can be set for LINE, LINK, NODE, and UNITYPE keywords.

TAKEOVER only applies in an XRF environment.

When TAKEOVER is used with SET OFF, the trace is turned off before takeover.

When an output message is dequeued for a terminal, takeover tracing will stop for that terminal.

/TRACE

If both regular and takeover tracing are entered, the most recent setting will override any previous settings; for example, takeover tracing will override regular tracing if regular tracing was entered first. This means that either regular or TAKEOVER tracing can be in effect, but not both.

/TRACE TAKEOVER can be issued only from an XRF active system. It is rejected if entered from an alternate or non-XRF system. It is recovered across restart and takeover, and only needs to be entered once until cold start. Tracing occurs only if the session was active at the time of the takeover.

TCO

Is used to trace TCO (Time Controlled Operation) activity. For the first /TRACE command with the TCO keyword, the default module and level information is used. TCO trace is basically a DC LINE or NODE trace, and the information developed is also written on the type X'67' log record.

TIMEOUT

Is used to start or stop the I/O Timeout Detection facility.

time#

is the number of minutes used to determine if the I/O response is overdue. After this number of minutes, time has run out for the response. The range is from 1 through 60; the default value is 0.

If time# is 0, or not specified, then when I/O is initiated for a node, the node will be placed on a queue, so that its status can be displayed with the /DISPLAY TIMEOVER command. You will not be notified if the node does not receive a response and the time elapses, and the node will not be reactivated.

If time# is not 0, then the following keywords can be used.

MSG

Indicates that a message is issued to the master terminal when I/O takes longer than time# minutes. The message indicates that the time has elapsed.

AUTO

IMS issues a message to the master terminal, then perform a VTAM VARY NET,INACT and a VARY NET,ACT, if I/O takes longer than time# minutes. An /OPNDST is performed for operable devices that are not shared. For ISC nodes, a message is issued, but there is no automatic (AUTO) restart of any sessions and no VTAM VARY commands issued.

If you wish to change the time period or the action to be taken if timeout occurs, you can enter the /TRACE SET ... TIMEOUT command while the Timeout Detection facility is already active. However, if nodes are receiving or sending input or output, they will function according to the previous settings of the /TRACE ... TIMEOUT command. If this is undesirable, then you should enter the /TRACE SET OFF TIMEOUT command before reentering /TRACE SET ... TIMEOUT.

If the timeout trace facility failed during IMS initialization, the /TRACE SET ... TIMEOUT command is rejected with an error message.

/TRACE

The VTAM TIMEOUT I/O facility is automatically started during IMS shutdown. It is set for 1 minute and AUTO.

TMEMBER

Is used to trace IMS Open Transaction Manager Access (OTMA) client activity for OTMA clients.

TPIPE

Is used to trace transaction pipe activity for OTMA clients.

While processing the /TRACE TMEMBER TPIPE command, IMS creates a temporary transaction pipe (if one does not already exist) with the trace status. IMS sets the synchronization status for this transaction pipe when it sends or receives the first message for the transaction pipe.

TRANSACTION

Is used to trace the DL/I portion of Data Communications (DC) for a specific transaction. Each DL/I call to a TPPCB, issued by the user application program, is traced on entry to and exit from the DC call handler DFSDLA30. Upon entry to DFSDLA30, a type 6701-LA3A record is written; upon exit from DFSDLA30, a type 6701-LA3B record is written.

Each record will contain the following items, if applicable:

- TPPCB
- Up to 64 bytes of the I/O area
- SMB
- PST

For more information about this trace, see the discussion of the DLA3LOG trace in *IMS/ESA Diagnosis Guide and Reference*.

TRAP

Is used to detect overwrites of MFS blocks. When /TRACE is used, IMS attempts to detect overwrites in the MFS blocks. If an overwrite occurs, IMS sends a warning message. See *IMS/ESA Diagnosis Guide and Reference* for a description of trace records.

UNITYPE

Causes events related to the physical terminals of specified type to be traced.

The UNITYPE keyword is used to trace all terminals of a specific type. Parameters (unitypename) are similar to the identifiers displayed in the TYPE column by the /DISPLAY NODE and /DISPLAY LINE/PTERM commands. Table 40 shows the terminal types.

Table 40. UNITYPE Parameters and Terminal Types

UNITYPE Parameter	Terminal Type
2260R	2260/2265 REMOTE
3286	3284/3286
SYSTEM/7	SYSTEM 7
2980	2980
3270R	3270 REMOTE
3270I	3270 LOCAL
RDR/PTR	LOCAL SYSIN/SYSOUT

Table 40. UNITYPE Parameters and Terminal Types (continued)

UNITYPE Parameter	Terminal Type
SYSTEM/3	SYSTEM 3
FIN	3600
3277	3270 VTAM
SYS/7BS	SYSTEM 7 BSC
SLU1	SLU TYPE 1
SLU2	SLU TYPE 2
SLUP	SLU TYPE P
LU 6	LU TYPE 6
SLU4	LU TYPE 4
NTO	NTO
CONSOLE	MVS/ESA SYSTEM CONSOLE
TWX	TWX SWITCHED
3275SW	3270 SWITCHED
MSCBSC	Binary Synchronous Communication
MSCMTM	Memory to Memory Communication
MSCCTC	Channel to Channel Adapter
MSCVTAM	MSC VTAM

Examples

Example 1 for /TRACE Command

To turn on message format service module and communication analyzer level 4 control block tracing for all physical terminals on line 4.

Entry ET:

```
/TRACE SET ON LINE 4 LEVEL 4 MODULE MFS
```

Response ET:

```
DFS058I TRACE COMMAND COMPLETED
```

Example 2 for /TRACE Command

To turn on tracing for a logical link:

Entry ET:

```
/TRACE SET ON LINK 2 LEVEL 4 MODULE ALL
```

Response ET:

```
DFS058I TRACE COMMAND COMPLETED
```

Example 3 for /TRACE Command

Entry ET:

```
/TRACE SET ON MONITOR ALL
```

Response ET:

/TRACE

DFS058I TRACE COMMAND COMPLETED

Explanation: The monitor is activated and all events will be monitored.

Entry ET:

/TRACE SET OFF MONITOR

Response ET:

DFS058I TRACE COMMAND COMPLETED

Explanation: The monitor is deactivated.

Entry ET:

/TRACE SET ON MONITOR LA

Response ET:

DFS058I TRACE COMMAND COMPLETED

Explanation: The monitor is activated. Line and logical link activities will be monitored. The monitoring of events from the previous activation of the monitor no longer apply.

Example 4 for /TRACE Command

To turn on program isolation tracing, include the additional time field in the trace record and have the trace information logged:

Entry ET:

/TRACE SET PI OPTION ALL

Response ET:

DFS058I TRACE COMMAND COMPLETED

Example 5 for /TRACE Command

To turn off logging of program isolation trace data but continue the trace in storage:

Entry ET:

/TRACE SET OFF PI OPTION LOG

Response ET:

DFS058I TRACE COMMAND COMPLETED

Example 6 for /TRACE Command

To stop program isolation tracing.

Entry ET:

/TRACE SET OFF PI

Response ET:

DFS058I TRACE COMMAND COMPLETED

Example 7 for /TRACE Command

To trace all DL/I calls issued for PSB AALST:

Entry ET:

```
/TRACE SET ON PSB AALST COMP
```

Response ET:

```
DFS058I TRACE COMMAND COMPLETED
```

Example 8 for /TRACE Command

To turn on online tracing into the DL/I trace table:

Entry ET:

```
/TRACE SET ON TABLE DL/I
```

Response ET:

```
DFS058I TRACE COMMAND COMPLETED
```

Example 9 for /TRACE Command

To turn on the dispatcher's trace tables and have them written to the system log:

Entry ET:

```
/TRACE SET ON TABLE DISP OPTION LOG
```

When the dispatcher's trace tables are no longer required:

Entry ET:

```
/TRACE SET OFF TABLE DISP
```

Response ET:

```
DFS058I TRACE COMMAND COMPLETED
```

Example 10 for /TRACE Command

To turn on storage manager trace tables:

Entry ET:

```
/TRACE SET ON TABLE STRG
```

Response ET:

```
DFS058I TRACE COMMAND COMPLETED
```

When the storage manager trace tables are no longer needed:

Entry ET:

```
/TRACE SET OFF TABLE STRG
```

Response ET:

```
DFS058I TRACE COMMAND COMPLETED
```

/TRACE

Example 11 for /TRACE Command

Entry ET:

```
/STA TMEMBER CLIENT1 TPIPE TPIPESY
```

Response ET:

```
DFS058I 15:39:40 START COMMAND COMPLETED   SYS3  
DFS996I *IMS READY*   SYS3
```

Example 12 for /TRACE Command

Entry ET:

```
/TRA SET ON TMEMBER CLIENT1 TPIPE TPIPESY
```

Response ET:

```
DFS058I 15:45:05 TRACE COMMAND COMPLETED   SYS3  
DFS996I *IMS READY*   SYS3
```

Example 13 for /TRACE Command

To log the PCB, I/O area, and PST whenever module DFSDLA30 is invoked to process transaction APPLE:

Entry Et:

```
/TRACE SET ON TRANSACTION APPLE
```

Response ET:

```
DFS058I TRACE COMMAND COMPLETED
```

Example 14 for /TRACE Command

To trace all 2740 model 2 terminals:

Entry ET:

```
/TRACE SET ON UNITYPE 2740II
```

Response ET:

```
DFS058I TRACE COMMAND COMPLETED
```

Note: The control blocks and modules traced depend on the last LEVEL and MODULE specifications entered before the above command. If the LEVEL and MODULE keywords have not yet been entered, the defaults of 4 and ALL will be used.

Example 15 for /TRACE Command

This is an example of temporary nodes created to retain trace status data.

Entry ET:

```
/TRACE SET ON NODE DTSLU607
```

Response ET:

```
DFS058 TRACE COMMAND COMPLETED
```

Entry ET:

```
/DISPLAY NODE DTSLU607
```

Response ET:

NODE-USR	TYPE	CID	RECD	ENQCT	DEQCT	QCT	SENT
DTSLU607	UNK	00000000	0	0	0	0	0 TRA

90127/091634

Entry ET:

/DISPLAY NODE DTSLU607

Response ET:

NODE-USR	TYPE	CID	RECD	ENQCT	DEQCT	QCT	SENT
DTSLU607	LUT6						
-N/A	UNK	00000000	0	0	0	0	0 TRA
-IMSUS01		01000002	0	0	0	0	0 SIGN(IMSUS01) IDLE CON TRA PRI
-IMSUS02		01000004	0	0	0	0	0 SIGN(IMSUS02) IDLE CON TRA PRI

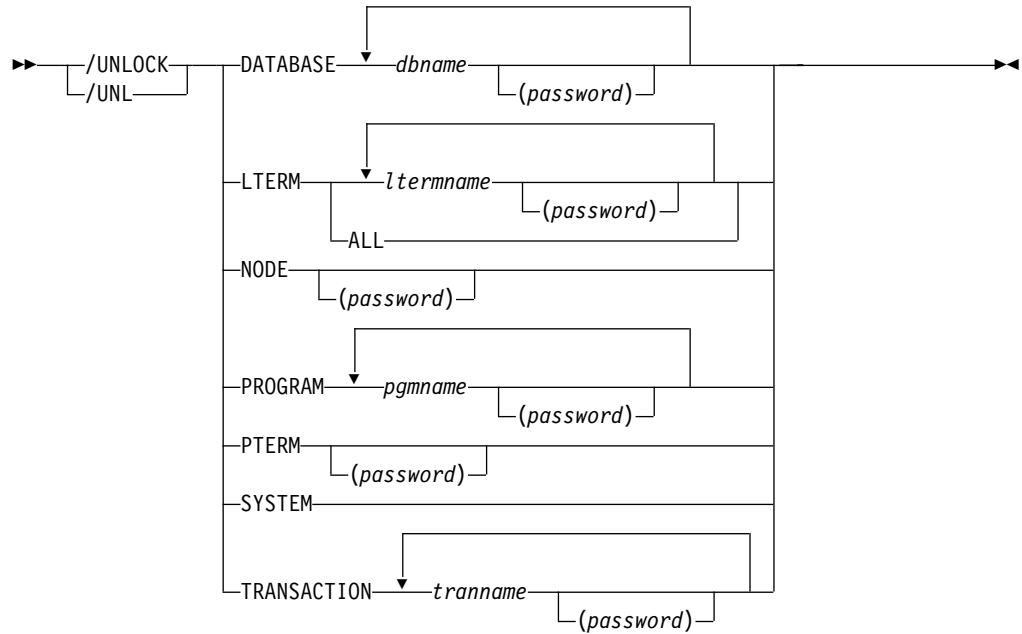
90127/091432

Explanation: The /TRACE command is issued for a dynamic ISC NODE that does not yet exist, DTSLU607, causing a temporary node to be created to retain the trace status. Once the ISC parallel sessions IMSUS01 and IMSUS02 are allocated, the trace status is applied to them both.

IMS Commands

Chapter 58. /UNLOCK

Format



Environments and Keywords

Command / Keywords	DB/DC	DBCTL	DCCTL
/UNLOCK	X	X	X
DATABASE	X	X	
LTERM	X		X
NODE	X		X
PROGRAM	X	X	X
PTERM	X		X
SYSTEM	X		X
TRANSACTION	X		X

Usage

/UNLOCK releases resources that, in most cases, have been previously locked by a /LOCK command.

If the terminals are on a switched communication network and a physical or logical terminal disconnection occurs, an implied /UNLOCK is processed against the physical terminal and inquiry logical terminal.

When using ISC, the /UNLOCK command can only be used with logical terminals assigned to allocated users.

/UNLOCK

/UNLOCK LTERM, NODE, and PTERM apply only to the entering physical terminal.

/UNLOCK DATABASE, PROGRAM, and TRANSACTION are only valid if entered from the master terminal, the system console, a TCO script, or from an AOI application program. /UNLOCK SYSTEM is only valid if it is entered from the master terminal or from the system console on an XRF system.

DATABASE

Specifies the database to be unlocked.

For the results of issuing this command on a shared secondary index, see "Appendix D. Shared Secondary Index Database Commands" on page 565.

LTERM

Specifies the logical terminal to be unlocked. This keyword applies only to the entering physical terminal and to logical terminals assigned to that physical terminal.

Any password specified with the /UNLOCK LTERM command is ignored for ACF/VTAM nodes created dynamically. Password support on the /UNLOCK command uses the Security Maintenance Utility, which is not supported for dynamic terminals.

The /UNLOCK LTERM ALL command can only be used when all of the logical terminals associated with the entering physical terminal do not have passwords.

NODE

Specifies the VTAM node to be unlocked. This keyword applies only to the entering physical terminal and to logical terminals assigned to that physical terminal.

Any password specified with the /UNLOCK NODE command is ignored for ACF/VTAM nodes created dynamically. Password support on the /UNLOCK command uses the Security Maintenance Utility, which is not supported for dynamic terminals.

PROGRAM

Specifies the application program to be unlocked.

PTERM

Specifies the physical terminal to be unlocked. This keyword applies only to the entering physical terminal and to logical terminals assigned to that physical terminal.

SYSTEM

Notifies a newly created active system in an XRF complex that I/O prevention is complete. I/O prevention is initiated at takeover to ensure that the failing active system cannot write to the databases. The alternate system then initiates I/O toleration to ensure database integrity and to enable new transaction processing as soon as possible. /UNLOCK SYSTEM ends the I/O toleration phase of processing. See *IMS/ESA Operations Guide* for a more detailed description of I/O prevention, I/O toleration, and the /UNLOCK SYSTEM command.

TRANSACTION

Specifies the transaction code to be unlocked.

/UNLOCK TRANSACTION cannot be used for Fast Path exclusive or CPI Communications driven transaction programs.

Examples

Example 1 for /UNLOCK Command

Entry ET:

```
/UNLOCK DATABASE TREEFARM
```

Response ET:

```
DFS058I UNLOCK COMMAND COMPLETED
```

Explanation: Database TREEFARM is unlocked and can be used.

Example 2 for /UNLOCK Command

Entry ET:

```
/UNLOCK PROGRAM APPLETRE
```

Response ET:

```
DFS058I UNLOCK COMMAND COMPLETED
```

Explanation: Application program APPLETRE is unlocked and can be executed.

Example 3 for /UNLOCK Command

Entry ET:

```
/UNLOCK PTERM
```

Response ET:

```
DFS058I UNLOCK COMMAND COMPLETED
```

Explanation: The physical terminal from which the command is entered is unlocked.

Example 4 for /UNLOCK Command

Entry ET:

```
/UNLOCK TRANSACTION SEED
```

Response ET:

```
DFS058I UNLOCK COMMAND COMPLETED
```

Explanation: Transaction SEED is unlocked and can be scheduled.

Example 5 for /UNLOCK Command

The following three figures illustrate the use of the /UNLOCK SYSTEM command on a newly created active system. Each figure is a formatted master screen for the newly created active system IMSB.

Figure 7 on page 490 shows a newly created active system in the I/O toleration phase of processing (awaiting I/O prevention). Database DD41M803 has an I/O toleration EEQE.

/UNLOCK

```
85/05/15 16:19:03 RSENAME: DFSRSENM ACTIVE AWAITING I/O PREVENTION IMSB
DFS2716I NO MSDBS FOUND - NO MSDB CHECKPOINT TAKEN
DFS994I *CHKPT 85135/152931**SIMPLE**
DFS3499I ACTIVE DDNAMES: MODBLKSA IMSACBA FORMATA MODSTAT ID: 11
DFS3804I LAST CHKPT ID VALID FOR RESTART: 85135/161847-BUILDQ: 85135/161213
```

```
DFS994I TAKEOVER COMPLETED.
DFS3859I 16:18:29 PRIORITY 4 SESSIONS SWITCHED.
DFS3860I 16:18:29 ALL TERMINAL SESSIONS SWITCHED.
```

```
-----
DATABASE
DD41M803
  ERROR DD TYPE BLOCK
  DD41M803 IOT 0000003F
*85135/161902*
```

PASSWORD:

/dis db dd41m803 bkerr

Figure 7. I/O Toleration Phase of Processing

Figure 8 shows the use of the /UNLOCK SYSTEM command to notify the newly created active system that I/O prevention is complete (the XRF system status line now indicates that processing is no longer degraded by I/O toleration).

```
85/05/15 16:34:14 RSENAME: DFSRSENM ACTIVE IMSB
DFS2716I NO MSDBS FOUND - NO MSDB CHECKPOINT TAKEN
DFS994I *CHKPT 85135/161847**SIMPLE**
DFS3499I ACTIVE DDNAMES: MODBLKSA IMSACBA FORMATA MODSTAT ID: 11
DFS3804I LAST CHKPT ID VALID FOR RESTART: 85135/161847-BUILDQ: 85135/161213
```

```
DFS058 16:34:14 UNLOCK COMMAND IN PROGRESS
DFS0488I - UNLOCK COMMAND COMPLETED. RC = 00
DFS3860I 15:29:19 ALL TERMINAL SESSIONS SWITCHED.
```

PASSWORD:

/unlock system

Figure 8. /UNLOCK SYSTEM Command

Figure 9 on page 491 shows that the I/O toleration EEQE for database DD41M803 has been deleted as part of /UNLOCK SYSTEM processing.

```
85/05/15 16:35:00 RSENAME: DFSRSENM ACTIVE IMSB
DFS2716I NO MSDBS FOUND - NO MSDB CHECKPOINT TAKEN
DFS994I *CHKPT 85135/161847**SIMPLE**
DFS3499I ACTIVE DDNAMES: MODBLKSA IMSACBA FORMATA MODSTAT ID: 11
DFS3804I LAST CHKPT ID VALID FOR RESTART: 85135/161847 - BUILDQ: 85135/161213

DFS058 16:34:14 UNLOCK COMMAND IN PROGRESS
DFS0488I - UNLOCK COMMAND COMPLETED. RC = 00
DFS3860I 16:18:29 ALL TERMINAL SESSIONS SWITCHED.
-----
DATABASE
DD41M803
NO EEQE OR INCOMPLETE BACKOUT INFORMATION AVAILABLE
*85135/163500*

PASSWORD:

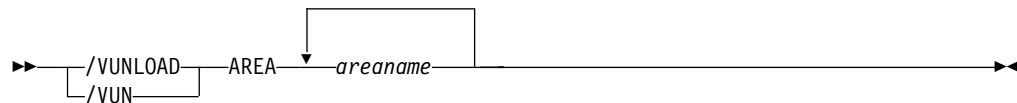
/dis db dd41m803 bkerr
```

Figure 9. EEQE Deleted as Part of /UNLOCK SYSTEM Processing

IMS Commands

Chapter 59. /VUNLOAD

Format



Environments and Keywords

COMMAND / KEYWORDS	DB/TM	DBCTL	DCCTL
/VUNLOAD	X	X	
AREA	X	X	

Usage

The /VUNLOAD AREA command removes the specified areas from the MVS data space or coupling facility. All of the updated CIs for the area are written to DASD. All subsequent I/O for the area is from DASD. /VUNLOAD processing occurs concurrently with application processing.

In a data-sharing environment, in order to maintain data integrity, IMS requests IRLM to lock the first control interval (CI) in exclusive mode before IMS unloads the area from the coupling facility. This lock causes those IMS subsystems sharing the area to complete any synchronization point processing. When all sharing subsystems are no longer using the area, IMS requests IRLM to release the CI locks and IMS unloads the area. All subsequent I/O for the area is from DASD.

The /VUNLOAD command does not change any of the VSO options set in the RECON data set. Therefore, at the next IMS restart or /START AREA command, the VSO options again take effect. Any changes to VSO definitions must be made through DBRC commands.

The /VUNLOAD command is not valid for an RSR tracking subsystem.

IMS Commands

Part 3. OS/390 (MVS/ESA) Commands Used for IMS

Chapter 60. Introduction	499
Chapter 61. START FDBRPROC	501
Format	501
Usage.	501
Chapter 62. START IRLMPROC	503
Format	503
Usage.	503
Chapter 63. MODIFY IMS	507
F jobname,DUMP	507
Format	507
Usage.	507
Example	507
F jobname,DUMPxxxx.	507
Format	507
Usage.	507
Examples	508
Example 1 for F jobname,DUMPxxxx	508
Example 2 for F jobname,STOPxxxx	508
F jobname,FORCExxxx	508
Format	508
Usage.	508
Examples	509
Example 1 for F jobname,FORCExxxx.	509
Example 2 for F jobname,FORCExxxx.	509
F jobname,RECONNECT	509
Format	509
Usage.	509
Example	509
F jobname,RECONNSTR	510
Format	510
Usage.	510
Example	510
F jobname,STOP.	511
Format	511
Usage.	511
Example	511
F jobname,STOPxxxx	511
Format	511
Usage.	511
Examples	512
Example 1 for F jobname,STOPxxxx	512
Example 2 for F jobname,STOPxxxx	512
Chapter 64. MODIFY FDBRPROC	513
F fdbrproc,DUMP	513
Format	513
Usage.	513
F fdbrproc,RECOVER	513
Format	513
Usage.	513

F fdbproc,STATUS	513
Format	513
Usage.	513
F fdbproc,STOP.	514
Format	514
Usage.	514
F fdbproc,TERM	514
Format	514
Usage.	514
Chapter 65. MODIFY IRLMPROC	517
F irlmproc,ABEND	517
Format	517
Usage.	517
Examples	517
Example 1 for F irlmproc,ABEND.	517
Example 2 for F irlmproc,ABEND.	518
F irlmproc,DIAG,DELAY	518
Format	518
Usage.	518
F irlmproc,PURGE,imsname	519
Format	519
Usage.	519
Example	519
F irlmproc,SET	520
Format	520
Usage.	520
Examples	521
Example 1 for F irlmproc,SET	521
Example 2 for F irlmproc,SET	521
F irlmproc,STATUS	521
Format	521
Usage.	521
Examples	522
Example 1 for F irlmproc,STATUS	522
Example 2 for F irlmproc,STATUS	522
Example 3 for F irlmproc,STATUS	523
Example 4 for F irlmproc,STATUS	523
Example 5 for F irlmproc,STATUS	524
Example 6 for F irlmproc,STATUS	524
Chapter 66. STOP CQSJOB	527
Format	527
Usage.	527
Chapter 67. STOP IRLMPROC	529
Format	529
Usage.	529
Example	529
Chapter 68. TRACE CT	531
Format	531
Usage.	531
Ensure IRLM Load Module Is in MVS Link List.	533
Sample External Writer Procedure	533
Displaying a Trace	533

Examples	533
Example 1 for TRACE CT	533
Example 2 for TRACE CT	533

Chapter 60. Introduction

The MVS/ESA `START`, `MODIFY`, and `STOP` commands are used by the MVS/ESA console operator to control the execution of the Internal Resource Lock Manager (IRLM) and, for data sharing, to reconnect an IMS to an IRLM. The `TRACE CT` command is used to start, stop, or modify an IRLM diagnostic trace. The `MODIFY (F)` command is also used to force the termination of IMS or to terminate one or more external subsystems connections. External subsystems in this chapter refer to non-CCTL subsystems.

IRLM provides a resource locking facility for use by IMS subsystems that share data when running under MVS/ESA. IRLM is used by online and batch IMS subsystems that require intrasystem or intersystem locking to guarantee the integrity of shared data.

The IRLM resource locking facility can also be used by an online IMS subsystem to provide program isolation or local locking. This facility controls access to data accessed by application programs within the subsystem.

All responses and information messages with the prefix `DXR` are returned to the MVS/ESA console.

The IRLM commands shown in this book apply to IRLM 2.1; if you need the syntax for IRLM 1.5 commands, please see *IMS/ESA Version 5 Operator's Reference* (SC26-8030).

Chapter 61. START FDBRPROC

Format

▶▶—S fdbbrproc————▶▶

Usage

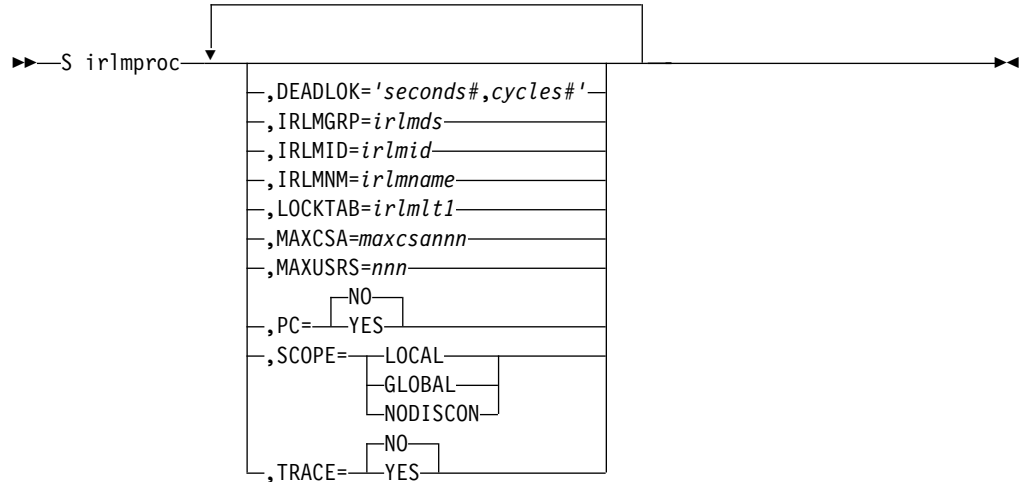
Although you normally start an IMS Fast DB Recovery region using a job submitted after the databases to be tracked are started, you can use the MVS START command to start the region and tracking.

The fdbbrproc identifies the procedure name of the region to be started.

IMS Commands

Chapter 62. START IRLMPROC

Format



Usage

The START irlmproc command starts an IRLM component with a procedure put in place by your installation. Symbolic parameters in the procedure can be overridden using the START irlmproc command. IRLM must be started before any IMS subsystem that needs the facilities provided by IRLM.

The irlmproc identifies the procedure name of the IRLM to be started.

Any IRLM parameter can be overridden using the START command.

DEADLOK=

Specifies the local deadlock-detection interval (in seconds), and the number of local cycles that are to occur before a global detection is initiated. You can specify the following:

seconds#

This 1- to 4-digit numeric value, ranging from 1 to 9999, specifies the interval (in seconds) between IRLM local deadlock-detection cycles. Although values above 5 are accepted, the maximum used is 5.

Recommendation: Set this parameter to be no greater than 5. This is because it takes multiple local cycles to complete one global cycle. Otherwise, global deadlocks may not be broken frequently enough to ensure maximum throughput.

cycles#

This 1- to 4-digit numeric value, ranging from 1 to 9999, specifies the number of local deadlock cycles that must expire before global deadlock-detection is performed. Although values above 1 are accepted, the maximum used is 1.

START IRLMPROC

Recommendation: Set this parameter to be no greater than 5. This is because it takes multiple local cycles to complete one global cycle. Otherwise, global deadlocks may not be broken frequently enough to ensure maximum throughput.

IRLMGRP=

Specifies the name of the MVS Cross-System Coupling Facility (XCF) group for which this IRLM will serve as lock manager.

irlmids

The name of the XCF group.

IRLMID=

Specifies either a decimal number or a printable character that is used to distinguish between multiple IRLMs. The IRLM with the lowest ID value in the group becomes the global deadlock manager for the group. You must specify a unique name for every IRLM in the group. The total number of IRLMs that can be included in a group is not related to the value you specify; the total number is limited by your hardware, and may be lower than 255.

The *irlmid* can be either a one- to three-digit number ranging in value from 1 to 255, or a printable EBCDIC character. When you specify a character, you must surround the character with enough single quotes to permit IRLM to understand that this value is indeed a printable character. IRLM converts the character to an EBCDIC value between 1 and 255.

Because of the way that MVS interprets quotes, you must use 7 quotes on either side of the character.

Example: If you want to specify the printable character 'D', you must specify `IRLMID='''''''D''''''`.

IRLMNM=

Specifies the 1- to 4-byte MVS/ESA subsystem name assigned to this IRLM.

LOCKTAB

Specifies the lock table to be used by the data sharing group specified in the GROUP parameter.

irlmt1

Is the name of the lock table.

MAXCSA=

Specifies the maximum amount of CSA that IRLM is to use for its lock structures. In displays, this storage is called *accountable* storage because it is accountable to the value you set for MAXCSA. Use the accountable storage high water mark (AHWM) data from messages DXR100I and DXR121I to monitor IRLM's usage of common storage and as a basis for adjustments to the MAXCSA value.

This parameter must be specified as a 1 or 3-digit number from 1 to 999. This number indicates the number of megabytes of CSA storage that IRLM will use. If IRLM is using extended CSA support and running on a MVS/ESA system, this number indicates multiples of 1 MB of extended CSA storage. For example, a specification of 3 states that IRLM can use 3 MB of CSA, or 3 MB of ECSA, if IRLM is running with extended CSA support on a MVS/ESA system.

MAXUSRS=

Specifies the maximum number of users, from 2 to 248, that can connect to the data sharing group.

PC=

Specifies whether a space switching program call is to be used by IRLM. If PC=YES is specified, the IRLM lock control block structure resides in the IRLM address space, and the space switching program call (PC) instruction is used to obtain addressability to the structure. If PC=NO is specified, the IRLM lock structure resides in ECSA. The default for this parameter is PC=NO.

SCOPE=

Specifies whether the IRLM is to be used in a data-sharing environment and, if so, whether the IRLM should automatically disconnect when the associated IMS terminates.

LOCAL

Specifies that the IRLM is in a non-data-sharing environment and there is no intersystem sharing.

GLOBAL

Specifies that the IRLM is in a data-sharing environment and that intersystem sharing is to be performed. The IRLM disconnects from the data-sharing group when there are no IMSs identified to it. Both XCF and SLM are required

NODISCON

Specifies that the IRLM is in a data-sharing environment and that intersystem sharing is to be performed. The IRLM remains connected to the data-sharing group even when there are no IMSs identified to it. Normal DISCONNECT from the sharing group does not occur. You must explicitly stop the IRLM when NODISCON is specified. Both XCF and SLM are required.

With NODISCON, there is less impact on other systems when an IMS fails because MVS is not required to perform certain recovery actions that it normally perform when an IRLM terminates. Another benefit of the NODISCON parameter is that IMS restarts more quickly after a normal or abnormal termination because it does not have to wait for IRLM to rejoin the IRLM data-sharing group.

TRACE=

Specifies whether the IRLM should trace activity during IRLM startup. Traces are written to wrap-around trace buffers, that is, the first buffer is reused after the last buffer is full.

NO

Do not initialize trace activity during IRLM startup. NO is the default.

To trace IRLM activity, use the TRACE CT command. See "Chapter 68. TRACE CT" on page 531.

YES

Initialize IRLM trace activity during startup.

Recommendation: Turn on tracing in all data-sharing environments.

START IRLMPROC

Chapter 63. MODIFY IMS

You can use the following MVS commands to control an IMS region.

F jobname,DUMP

Format

►►—F *jobname*,DUMP—◄◄

Usage

The MODIFY (F) *jobname*,DUMP command forces a termination of IMS with an offline dump.

For DBCTL, the following are abended, but are not rolled back until the following /ERESTART command:

- Active threads
- BMPs
- DEDB utilities

Example

Entry MVS/ESA SC:

```
F jobname,DUMP
```

Response MVS/ESA SC:

```
DFS628I ABNORMAL TERMINATION SCHEDULED  
DFS629I IMS STM TCB ABEND - IMS 0020
```

F jobname,DUMPxxxx

Format

►►—F *jobname*,DUMPxxxx—◄◄

Usage

Note: “External subsystem” means a non-CCTL subsystem.

The MODIFY (F) *jobname*,DUMPxxxx command causes one or more attached external subsystem connections to be terminated with a dump. If xxxx is specified as ESS, the parent external subsystem task and all external subsystem subtasks are terminated. If xxxx is a specific external subsystem name, only that external subsystem is terminated. The subsystem specified must be defined in the IMS external subsystem PROCLIB member.

MODIFY IMS

Examples

Example 1 for F jobname,DUMPxxxx

Entry MVS/ESA SC:

```
F jobname,DUMPname
```

Response MVS/ESA SC:

```
DFS628I ABNORMAL TERMINATION SCHEDULED
DFS629I IMS ESI TCB DUMP - IMS 0020 IES
DFS3611I EXTERNAL SUBSYSTEM name CONNECTION TERMINATED
```

Example 2 for F jobname,STOPxxxx

Entry MVS/ESA SC:

```
F jobname,DUMPESS
```

Response MVS/ESA SC:

```
DFS628I ABNORMAL TERMINATION SCHEDULED
DFS629I IMS ESS TCB DUMP - IMS 0020
DFS629I IMS ESS TCB DUMP - IMS 4095 IES
DFS3611I EXTERNAL SUBSYSTEM name CONNECTION TERMINATED
```

F jobname,FORCExxxx

Format

►►—F *jobname*,FORCExxxx—◄◄

Usage

The MODIFY (F) *jobname*,FORCExxxx command causes one or more attached external subsystem connections to be terminated without a dump. If xxxx is specified as ESS, the parent external subsystem task and all external subsystem subtasks are terminated. If xxxx is a specific external subsystem name, only that external subsystem is terminated. The subsystem specified must be defined in the IMS external subsystem PROCLIB member.

The FORCE option is not applicable to any other IMS task, for example, to the control task. IMS does not communicate with the external subsystem termination exits, for example, terminate subsystem exits and terminate identify exits.

The reason IMS does not communicate is to allow the installation to break the IMS-to-other-subsystem connection in the event of an error (such as a WAIT STATE) in the external subsystem. If IMS were to invoke one of the exits, as it does with the STOP/DUMP options, the exit can once again start a WAIT STATE, and not allow the termination of that subsystem connection.

Use the FORCE option when either STOP or DUMP fails to break the subsystem connection.

Examples

Example 1 for F jobname,FORCExxxx

Entry MVS/ESA SC:

```
F jobname,FORCEname
```

Response MVS/ESA SC:

```
DFS628I ABNORMAL TERMINATION SCHEDULED
DFS629I IMS ESI TCB DUMP - IMS 0020 IES
DFS3611I EXTERNAL SUBSYSTEM name CONNECTION TERMINATED
```

Example 2 for F jobname,FORCExxxx

Entry MVS/ESA SC:

```
F jobname,FORCEESS
```

Response MVS/ESA SC:

```
DFS628I ABNORMAL TERMINATION SCHEDULED
DFS629I IMS ESS TCB DUMP - IMS 0020
DFS629I IMS ESS TCB DUMP - IMS 4095 IES
DFS3611I EXTERNAL SUBSYSTEM name CONNECTION TERMINATED
```

F jobname,RECONNECT

Format

```
►►—F jobname,RECONNECT—◄◄
```

Usage

The MODIFY (F) jobname,RECONNECT command causes the IMS system on which it is entered to be reconnected to a restarted IRLM.

Jobname is the job name or procedure name for the IMS control region. When this command is successfully completed, a message indicating that the IRLM has been reconnected is sent to both the IMS master terminal operator and the MVS console operator. Then the IMS MTO can start any Fast Path DEDB areas that were involved in block-level sharing at the time of the IRLM failure.

Example

In this example, two IMS subsystems are connected to the same IRLM when it terminates.

MVS/ESA SYSTEM SC RECEIVES:

```
DXR121I KRLM212 END-OF-TASK CLEAN-UP SUCCESSFUL - HI-CSA 410K -
HI-ACCT-CSA 0K
```

IMS 1 MT RECEIVES:

```
DFS2500I IMSA DATABASE dbname SUCCESSFULLY DEALLOCATED
```

IMS 2 MT RECEIVES:

```
DFS2500I IMSB DATABASE dbname SUCCESSFULLY DEALLOCATED
```

MODIFY IMS

MVS/ESA SYSTEM SC:

S KRLM1

MVS/ESA SYSTEM SC RECEIVES:

DXR180I KRLM212 AUTOMATIC RESTART MANAGER IS NOT ENABLED
OR

DXR172I KRLM212 armentname ARM READY COMPLETED

DXR117I KRLM212 INITIALIZATION COMPLETE

MVS/ESA SYSTEM SC:

F jobname,RECONNECT

IMS 1 MT AND MVS/ESA SYSTEM SC RECEIVE:

DFS626I KRLM RECONNECT COMMAND SUCCESSFUL. IMSA

MVS/ESA SYSTEM SC:

F jobname,RECONNECT

IMS 1 MT AND MVS/ESA SYSTEM SC RECEIVE:

DFS626I KRLM RECONNECT COMMAND SUCCESSFUL. IMSB

IMS MT:

/START AREA areaname

Explanation: The IRLM has abnormally terminated. When the IRLM has been successfully restarted, the MVS operator modifies the IMSs to reconnect to the restarted IRLM. The areas can then be restarted using the /START AREA command.

F jobname,RECONNSTR

Format

►►—F *jobname*,RECONNSTR—►►

Usage

Use this command to cause the IMS subsystem on which you enter it to reconnect to IRLM, OSAM, and VSAM coupling facility structures.

jobname is the job name or procedure name for the IMS control region.

Example

Entry MVS SC:

F jobname,RECONNSTR

Explanation: If the connection to IRLM, OSAM, or VSAM structures has abnormally terminated, usually IMS automatically reconnects to these structures. If IMS does not reconnect to the structures, the operator can use this command to ensure IMS reconnects to them.

F jobname,STOP

Format

►►—F *jobname*,STOP—◄◄

Usage

Active threads, BMPs, and DEDB utilities are abended, but not rolled back until the following /ERESTART command.

Normally, IMS is terminated with an IMS /CHECKPOINT shutdown command. Whenever it becomes necessary to force termination of IMS, the MVS/ESA MODIFY command should be used. When MODIFY is used, a dump of the IMS control region can be requested. (Consult the appropriate MVS/ESA operator's guide for specific MODIFY formats.)

The MODIFY (F) *jobname*,STOP command forces a termination of IMS without a dump.

Example

Entry MVS/ESA SC:

```
F jobname,STOP
```

Response MVS/ESA SC:

```
DFS628I ABNORMAL TERMINATION SCHEDULED
DFS629I IMS STM TCB ABEND - IMS 0020
```

F jobname,STOPxxxx

Format

►►—F *jobname*,STOPxxxx—◄◄

Usage

Note: All references to external subsystems refer to non-CCTL subsystems.

The MODIFY (F) *jobname*,STOPxxxx command causes one or more attached external subsystem connections to be terminated without a dump. If *xxxx* is specified as ESS, the parent external subsystem task and all external subsystem subtasks are terminated. If *xxxx* is a specific external subsystem name, only that external subsystem is terminated. The subsystem specified must be defined in the IMS external subsystem PROCLIB member.

MODIFY IMS

Examples

Example 1 for F jobname,STOPxxxx

Entry MVS/ESA SC:

```
F jobname,STOPname
```

Response MVS/ESA SC:

```
DFS628I ABNORMAL TERMINATION SCHEDULED
DFS629I IMS ESI TCB DUMP - IMS 0020 IES
DFS3611I EXTERNAL SUBSYSTEM name CONNECTION TERMINATED
```

Example 2 for F jobname,STOPxxxx

Entry MVS/ESA SC:

```
F jobname,STOPESS
```

Response MVS/ESA SC:

```
DFS628I ABNORMAL TERMINATION SCHEDULED
DFS629I IMS ESS TCB DUMP - IMS 0020
DFS629I IMS ESS TCB DUMP - IMS 4095 IES
DFS3611I EXTERNAL SUBSYSTEM name CONNECTION TERMINATED
```

Chapter 64. MODIFY FDBRPROC

The MODIFY fdbrproc commands are used for an IMS Fast Database Recovery region: to display its status, to stop it, and to recover from failures.

F fdbrproc,DUMP

Format

»—F fdbrproc,DUMP—«

Usage

Use this command to stop IMS Fast DB Recovery functions and request a dump for the region. The region ends with a return code X'0020'.

F fdbrproc,RECOVER

Format

»—F fdbrproc,RECOVER—«

Usage

Use this command to initiate an IMS Fast DB Recovery of tracked IMS databases. Use this command, for example, after a time-out during XCF or log surveillance.

This command is not accepted if an IMS Fast DB Recovery region is currently starting or if it is recovering databases.

F fdbrproc,STATUS

Format

»—F fdbrproc,STATUS—«

Usage

Use this command to display status for an IMS Fast DB Recovery region. The output displayed includes the following information:

PHASE

This field indicates the phase of the Fast DB Recovery region. The following are possible values for the phase:

- INIT
- TRACKING
- RECOVERY

MODIFY FDBRPROC

LOG-TIME	Time of the log record currently being processed by the Fast DB Recovery region. The length of time the Fast DB Recovery region lags behind IMS in reading the log is the difference between the current time, as shown by the time stamp, and the log time. This field displays N/A during FDBR initialization.
ACT-ID	The IMSID of the IMS subsystem that Fast DB Recovery is tracking. This field displays N/A during FDBR initialization.
GROUPNAME	XCF group name used for XCF monitoring. This field displays N/A during FDBR initialization.
TIMEOUT	XCF timeout value. This field displays N/A during FDBR initialization.
AREA01	The sharing level for DEDB areas. The following are possible values for AREA01: <ul style="list-style-type: none">• RECOV• NORECOV <p>You specify the sharing level for AREA01 in the DFSFDRxx member of IMS.PROCLIB.</p>

Example:

```
PHASE: TRACKING LOG-TIME: 11:13:40
ACT-ID: SYS3     GROUPNAME: FDRSYS3
TIMEOUT: 055 SEC AREA01: NORECOV
```

F fdbproc,STOP

Format

►►—F fdbproc,STOP—◄◄

Usage

Use this command to stop an IMS Fast DB Recovery region. The region ends with a return code X'0020'.

F fdbproc,TERM

Format

►►—F fdbproc,TERM—◄◄

Usage

Use this command to stop IMS Fast DB Recovery tracking activity.

MODIFY FDBRPROC

This command is not accepted if an IMS Fast DB Recovery region is currently starting or if it is recovering databases.

IMS Commands

Chapter 65. MODIFY IRLMPROC

The MODIFY (F) *irlmproc* commands are used to display the status of an IRLM and abnormally terminate an IRLM.

F *irlmproc*,ABEND

Format

►►—F *irlmproc*,ABEND—,NODUMP—►►

Usage

The MODIFY *irlmproc*,ABEND command is used to abnormally terminate IRLM whether or not any IMS subsystems are identified to IRLM.

The *irlmproc* identifies the procedure name of the IRLM to be terminated. Prior to terminating, IRLM initiates all active IMS STATUS exit routines to inform them of the pending termination.

If the NODUMP parameter is specified, IRLM terminates without generating a dump. If the NODUMP parameter is not specified, the system dump is taken to the SYS1.DUMPxx data set.

Recommendation: If IRLM does not terminate because of outstanding IMS requests in process (the DXR011I *irlmproc* END-OF-TASK CLEAN-UP SUCCESSFUL message is not received), use the following methods (in this order) to terminate IRLM:

1. Issue the MODIFY *irlmproc*,ABEND,NODUMP command to terminate IRLM without attempting to clean up the outstanding IMS requests.
2. Issue the MVS/ESA CANCEL command.
3. Issue the MVS/ESA FORCE command. This method is least preferred because it might prevent the *irlmproc* from completing the cleanup required to permit the subsystem to be restarted.

Examples

Example 1 for F *irlmproc*,ABEND

MVS/ESA SYSTEM 1 SC:

```
F IR21J,ABEND
```

Response SYSTEM 1 SC: (partial messages)

```
DXR124E JR21212 ABENDED VIA MODIFY COMMAND
DUMPID=001 REQUESTED BY JOB (IR21J )
IEA794I SVC DUMP HAS CAPTURED: 857
DUMP TITLE=JR21 ESTAE ENTERED. ABEND U2020 MODULE DXRRL020+0A98
      APAR PQ15432 1999/007 14:14:03
IXL030I CONNECTOR STATISTICS FOR LOCK STRUCTURE LOCK2, 860
      CONNECTOR IRLMGRPR$JR21212:
IXL031I CONNECTOR CLEANUP FOR LOCK STRUCTURE LOCK2, 861
```

MODIFY IRLMPROC

```
CONNECTOR IRLMGRPR$JR21212, HAS COMPLETED.  
DXR121I JR21212 END-OF-TASK CLEANUP SUCCESSFUL - HI-CSA    410K -  
HI-ACCT-CSA      0K  
IEF450I IR21J IR21J - ABEND=S000 U2020 REASON=00000000  
IEF352I ADDRESS SPACE UNAVAILABLE  
$HASP395 IR21J      ENDED
```

Response SYSTEM 2 SC: (partial messages)

```
DXR137I IR21001 GROUP STATUS CHANGED. JR21 212 HAS BEEN DISCONNECTED  
FROM THE DATA SHARING GROUP
```

Explanation: The operator on system 1 has terminated the procedure named IR21J. The operator on system 2 is informed that the IRLM on system 1 has failed.

Example 2 for F irlmproc,ABEND

MVS/ESA SYSTEM 2 SC:

```
F IR21J,ABEND,NODUMP
```

Response SYSTEM 2 SC: (partial messages)

```
DXR165I JR21212 TERMINATED VIA IRLM MODIFY COMMAND.  
IXL030I CONNECTOR STATISTICS FOR LOCK STRUCTURE LOCK2, 976  
CONNECTOR IRLMGRPR$JR21212:  
.....  
IXL020I CLEANUP FOR LOCK STRUCTURE LOCK2, 980  
CONNECTION ID 02, STARTED BY CONNECTOR IRLMGRPR$IR21001  
IXL021I GLOBAL CLEANUP FOR LOCK STRUCTURE LOCK2, 981  
CONNECTION ID 02, BY CONNECTOR IRLMGRPR$IR21001  
HAS COMPLETED.  
DXR121I JR21212 END-OF-TASK CLEANUP SUCCESSFUL - HI-CSA    343K -  
HI-ACCT-CSA      0K  
IEF352I ADDRESS SPACE UNAVAILABLE  
$HASP395 IR21J      ENDED
```

Response SYSTEM 1 SC: (partial messages)

```
DXR137I IR21001 GROUP STATUS CHANGED. JR21 212 HAS BEEN DISCONNECTED  
FROM THE DATA SHARING GROUP
```

Explanation: The operator on system 2 has terminated the procedure named IR21J and has suppressed the SDUMP dump. The operator on system 1 is informed that the IRLM on system 2 has failed.

F irlmproc,DIAG,DELAY

Format

►►—F *irlmproc*,DIAG,DELAY—◄◄

Usage

The MODIFY (F) *irlmproc*,DIAG,DELAY command initiates diagnostic dumps for IRLM subsystems in a data sharing group when responses to SLM requests take longer than 45 seconds.

If IRLM detects a delay in the child-lock propagation process, it retries the SLM calls in order to recover. Use the F *irlmproc*,DIAG,DELAY command if you want to diagnose delays caused by child-lock propagation.

Recommendation: Before issuing the `F irImproc,DIAG,DELAY` command, use the `TRACE CT` command to activate IRLM traces and validate the SLM requests.

Restriction: This command is active for only one incident, that is, after an IRLM detects the delay and takes the dump. You must reenter the command to initiate further detection. However, when you enter this command for one member of the data sharing group, **any** member that detects the delay will initiate a dump for all members.

The *irImproc* identifies the procedure name for IRLM. If multiple IRLMs exist in the same system, each procedure must have a unique procedure name.

F irImproc,PURGE,imsname

Format

►►—F *irImproc*,PURGE,*imsname*—————◄◄

Usage

The MODIFY (F) *irImproc*, PURGE,*imsname* command releases IRLM locks retained for a specific IMS subsystem because of an IMS, IRLM, or system failure. The command causes STATUS exit routines to be activated for each identified IMS. This command is used in the following recovery situations:

- Database cleanup was performed and reflected in the RECON data set, but the IRLM was not made aware of it. This typically occurs when a batch backout is performed before the IRLMs are reconnected. After the PURGE command is issued, data that was locked is made available to the active IMSs.
- Recovery will be performed later and the databases must be unavailable for use by other IMSs.

Restriction: Ensure the IMS Database Manager is inactive prior to issuing this command. In a DBCTL environment, use the `/CHANGE CCTL` command when the DBMS is active.

The *imsname* is the IMS name displayed by the STATUS command.

The *irImproc* identifies the procedure name for each IRLM. If multiple IRLMs exist in the same system, each procedure must have a unique procedure name.

Example

Entry MVS/ESA SC:

```
F IR21I,PURGE,IMS1
```

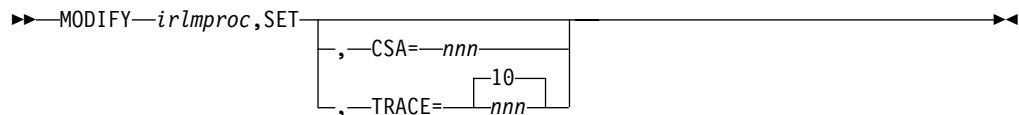
Response SYSTEM 1 SC:

```
DXR109I IR21001 PURGE COMMAND COMPLETED FOR IMS1
```

MODIFY IRLMPROC

F irImproc,SET

Format



Usage

The Modify (F) *irImproc,SET* command dynamically sets the maximum CSA allowed for IRLM, or dynamically sets the number of trace buffers allowed for IRLM.

irImproc

Specifies the IRLM that is to process the command.

CSA=nnn

Requests that IRLM dynamically sets the maximum amount of CSA that this IRLM can use for lock control structures. These structures are allocated from ECSA when PC=NO or IRLM private region with PC=YES. Valid values are from 1 through 999 (megabytes). IRLM does not immediately allocate CSA storage for the new value you set in this command. IRLM allocates storage as needed, not to exceed the amount of CSA specified in the command. If the amount of storage currently allocated by IRLM is greater than the amount of CSA you specify in this command, more storage is not obtained until normal processing frees enough storage to bring the current allocation below the new CSA value you set.

TRACE=nnn

Requests that IRLM dynamically sets the maximum number of 64KB trace buffers per trace type to the value you specify in *nnn*. This value is used only when the external CTRACE writer is not activated. The trace buffers are allocated from ECSA. Valid values are from 10 through 255. If you specify a value outside of this range, IRLM automatically adjusts the value to a value within the range. The default is 10. IRLM does not immediately acquire the number of trace buffers you set, but allocates buffers as needed, not to exceed the number of buffers you set in this command. If the number of trace buffers you set is less than the number of currently allocated buffers, IRLM brings the number to within your specified range by releasing the oldest buffers at the end of the next deadlock or timeout cycle.

Restrictions:

1. Do not modify the CSA value without first contacting the system programmer to determine the amount of CSA storage that can be used for IRLM.
2. The values you set in the MODIFY command do not persist through a stop and restart of IRLM. The number of trace buffers for each trace type returns to the default value of 10 and the value for MAXCSA returns to the value you set for the MAXCSA parameter of the IRLM startup procedure.

Examples

Example 1 for F *irlmproc*,SET

Entry on the MVS1 system console:

```
F IRTPROC,SET,CSA=10
```

Response on MVS1 system console:

```
DXR178I IR21033 MAXIMUM CSA IS SET TO 10MB
```

IR21033 is the IRLM subsystem name concatenated with the IRLM system ID.

Example 2 for F *irlmproc*,SET

Entry on a system console:

```
F ir21proc,SET,TRACE=20
```

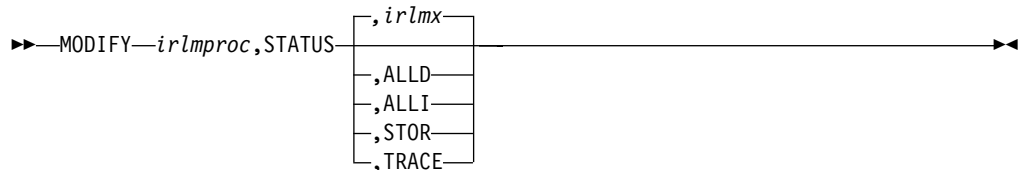
Response on system console:

```
DXR177I IR21033 THE MAXIMUM NUMBER OF TRACE BUFFERS
FOR EACH TRACE TYPE IS SET TO 20
```

F *irlmproc*,STATUS

This command is used to display the status of an IRLM.

Format



Usage

The MODIFY (F) *irlmproc*,STATUS command is used to display the status of an IRLM.

The *irlmproc* identifies the IRLM that is to process the command.

irlmx

Specifies which IRLM's status is to be displayed. The *irlmx* parameter is the concatenation of the IRLM subsystem name (IRLMN) and a three-digit IRLM member ID (IRLMID) specified in the IRLM startup procedure. An example is DB2G002 (ID is 002).

ALLD

Requests the DBMS names and status of subsystems, active or failed, on any IRLM in the data sharing group. This also shows any RETAINED LOCKS these systems might own and the IRLM they are currently associated with.

ALLI

Requests the IRLM names and status for all IRLMs in a data sharing group.

STOR

For this IRLM, displays the current and maximum specified allocation for CSA and ECSA storage.

MODIFY IRLMPROC

TRACE

For this IRLM, requests information about IRLM subcomponent trace types. The information returned includes whether a subcomponent trace type is active, how many trace buffers are used by the trace, and whether the component trace external writer is active for the trace.

You can activate or deactivate traces by using the TRACE CT command of MVS. You cannot turn off the EXP and INT traces. The XIT (for data sharing), EXP, and INT traces are automatically activated when you start IRLM. Traces are automatically activated with IRLMPROC TRACE=YES.

Message DXR001I is issued if the *irlmx* parameter is omitted or specifies the IRLM receiving the command. This multiline message contains work unit and lock information for each IMS identified to this IRLM.

Message DXR001I is also issued if the *irlmx* parameter is specified, but the IRLM receiving the command has no knowledge of an IRLM with an IRLMID of *irlmx*.

Message DXR102I is issued if *irlmx* is specified. This multiline message contains the IMS names and status of each IMS subsystem identified to the IRLM with an IRLMN and IRLMID of *irlmx*. Message DXR102I is also issued if ALLD is specified. It contains the names and status of each IMS subsystem identified to the IRLM in the data sharing group.

Message DXR103I is issued if ALLI is specified. This multiline message contains the IRLM names and status of all IRLMs in the data sharing group.

Examples

Example 1 for F irlmproc,STATUS

Assume you are in a non-data sharing environment. Enter on the MVS1 system console:

```
F IRTPROC,STATUS
```

Response on MVS1 system console:

```
DXR101I IR2T001 STATUS SCOPE=LOCAL
SUBSYSTEMS IDENTIFIED          PT01
NAME    STATUS    UNITS    HELD    WAITING    RET_LKS
DSNT1   UP-NS     0005     0010     0002       0
```

Explanation: The operator on system 1 has requested information about the IMS systems connected to the IRLM identified by the IRLM procedure named IRTPROC.

Example 2 for F irlmproc,STATUS

Assume you have a data sharing group. Enter on a system console:

```
F DB1GIRLM,STATUS,ALLD
```

Response on system console:

```
14.02.10 STC00086 DXR102I DJ1G001 STATUS IRLMID=001
SUBSYSTEMS IDENTIFIED          PT01
NAME    STATUS    RET_LKS    IRLMID    IRLM_NAME
DB4G    UP           0          004       DJ4G
DB3G    UP           0          003       DJ3G
DB2G    UP           0          002       DJ2G
DB1G    UP           0          001       DJ1G
```

Explanation: The output shows all the IMS subsystems that are connected to IRLMs in this data sharing group (the group to which the IRLM processing the request belongs). The value "UP" in the STATUS field indicates that the IMS is active. Other possible values for STATUS include:

DOWN	The IMS is failed.
UP-RO	IMS is active and is currently identified to IRLM as a read-only subsystem.
CLEANUP	IRLM is waiting for the IMS subsystem to respond that cleanup has completed after a failure condition.
SFAIL	The IRLM that IMS is identified to has been disconnected from the data sharing group. Any "modify" type locks held by IMS have been retained by IRLM.

Example 3 for F irlmproc,STATUS

Again, assume data sharing is in effect. Enter the following on the system console:

```
F DB1GIRLM,STATUS,ALLI
```

The response on the console is:

```
14.03.50 STC00086 DXR103I DJ1G001 STATUS IRLMID=001
          IRLMS PARTICIPATING IN DATA SHARING PT01
          IRLM_NAME  IRLMID  STATUS
          DJ4G       004     UP
          DJ3G       003     UP
          DJ2G       002     UP
          DJ1G       001     UP
```

Explanation: The output shows the IRLMs that are participating in this data sharing group (the group that includes the IRLM processing the request). The value "UP" in the STATUS field indicates that the IRLM is active. STATUS shows "DOWN" if the IRLM is failed.

Example 4 for F irlmproc,STATUS

Enter the following command on the system console:

```
F IR21PROC,STATUS,STOR
```

The response on the console is:

```
DXR1001 IR21001 STOR STATS
PC:NO  MAXCSA:  6M1
CSA USE:ACNT: 132K  AHWM: 132K2  CUR: 4048K  HWM: 4086K3
      ABOVE 16M: 72 4033K  BELOW 16M:  6 15K
CLASS TYPE SEGS  MEM  TYPE SEGS  MEM  TYPE SEGS  MEM
ACCNT T-1   1   64K T-2   1   64K T-3   1   4K4
PROC  WRK 11  58K SRB   3   3K OTH   2   2K
MISC  VAR 60 4081K N-V   6  22K FIX   1  24K5
```

Notes:

1. Displays the current values for the PC and MAXCSA options of the IRLM startup procedure.
2. Shows storage use of accountable storage; that is, storage that is accountable toward the MAXCSA value of the IRLM procedure. In this output, the current use accountable storage (ACNT) is 132 KB. The high water mark since the last time IRLM was started is also 132 KB.
3. Shows the total current CSA and ECSA usage. In this case, the current usage is 4048 KB and the high water mark is 4086 KB. The accountable storage is a subset of this total storage.

MODIFY IRLMPROC

- The ACCNT row of the report is a breakdown of lock control block structures and their storage use.
 - T-1** Type 1 structures are for resources. In this case, it shows that one storage segment is held for a total of 64 KB.
 - T-2** Type 2 structures are for all resource requests after the first request for a specific resource. In this case, it shows that one storage segment is held for a total of 64 KB.
 - T-3** Type 3 structures are for requesters (or work units) that are waiting for resources or are currently holding resources. In this case, it shows that one storage segment is held for a total of 4 KB.
- The PROC and MISC rows contain usage information for CSA, ECSA, and private storage used to process DBMS requests. Use this information under the guidance of IBM service for diagnosing problems.

Example 5 for F irlmproc,STATUS

In this example, the response on the console displays a report that is started with PC=YES.

```
DXR1001 JR21212 STOR STATS
PC: YES MAXCSA: N/A
CSA USE: ACNT: 0K AHWM: 0K CUR: 4362K HWM: 5830K
ABOVE 16M: 78 4376K BELOW 16M: 23 32K
CLASS TYPE SEGS MEM TYPE SEGS MEM TYPE SEGS MEM
ACCNT T-1 1 64K T-2 1 64K T-3 1 4K
PROC WRK 11 58K SRB 20 20K OTH 2 2K
MISC VAR 68 4497K N-V 6 22K FIX 1 24K
```

Because this is an IRLM report that results from specifying PC=YES, the storage used, shown for accountable storage, is that of IRLM private storage used for the IRLM lock control structures.

This example illustrates what can happen when an application generates a high IRLM lock contention rate. Notice that a large amount of storage used is for SRB and below the 16MB line.

Related Reading: For more information about reducing lock contention and on tuning your system, see *IBM DATABASE 2 Administration Guide* and *DB2 for OS/390 Version 5: Data Sharing: Planning and Administration*.

Example 6 for F irlmproc,STATUS

When the following command is entered on the system console:

```
F PR21PROC,STATUS,TRACE
```

The response on the console is:

```
DXR179I PR21034 TRACE USAGE
TRACE BUFFER STORAGE IN USE: 256KB
MAXIMUM NUMBER OF TRACE BUFFERS ALLOWED PER TRACE TYPE: 10
TRACE TYPE ACTIVE BUFFERS IN USE CTRACE WRITER
-----
SLM N 0 N
XIT Y 2 N
XCF N 0 N
DBM N 0 N
EXP Y 1 N
INT Y 1 N
```

The example shows the storage currently allocated for IRLM tracing is 256 KB, the maximum number of trace buffers allowed per trace type is set to 10, and the

external CTRACE writer is not active. The trace size for each buffer is 64 KB. You can change the maximum number of trace buffers that can be used by issuing the following command: `MODIFY irlmproc,SET,TRACE=nnn`.

Related Reading: For more information about trace types, see “Chapter 68. TRACE CT” on page 531.

IMS Commands

Chapter 66. STOP CQSJOB

Format

▶▶—P *cqsjobname*————▶▶

Usage

The STOP (P) *cqsjobname* command is used to normally shut down CQS. The command is rejected if any active IMS subsystems are currently connected to CQS.

The *cqsjobname* identifies the job name for the CQS to be stopped.

IMS Commands

Chapter 67. STOP IRLMPROC

Format

►►—P *irlmproc*—————►►

Usage

The STOP (P) irlmproc command is used to normally shut down IRLM. The command is rejected if any active IMS subsystems are currently identified to IRLM.

The irlmproc identifies the procedure name for the IRLM to be stopped.

Example

MVS/ESA SYSTEM 1 SC:

P IR21I

Response SYSTEM 1 SC:

```
DXR110I IR21001 STOP COMMAND ACCEPTED
IXL030I CONNECTOR STATISTICS FOR LOCK STRUCTURE LOCK2, 070
CONNECTOR IRLMGRPR$IR21001:
IXL031I CONNECTOR CLEANUP FOR LOCK STRUCTURE LOCK2, 071
CONNECTOR IRLMGRPR$IR21001, HAS COMPLETED.
DXR121I IR21001 END-OF-TASK CLEANUP SUCCESSFUL - HI-CSA 732K -
HI-ACCT-CSA 132K
IEF352I ADDRESS SPACE UNAVAILABLE
$HASP395 IR21I ENDED
```

Response SYSTEM 2 SC:

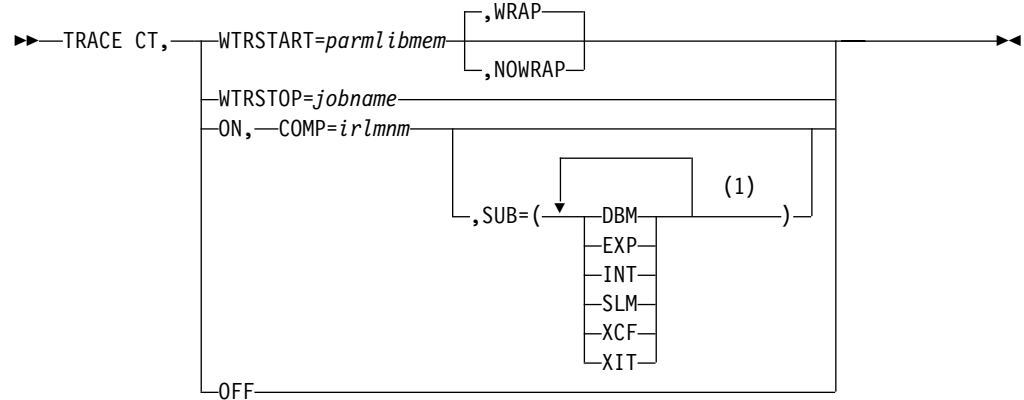
NONE

Explanation: The operator on system 1 has terminated the IRLM procedure named IR21I. No operator action on system 2 is required.

IMS Commands

Chapter 68. TRACE CT

Format



Notes:

- 1 The same trace type can be specified only once.

Usage

Use the MVS TRACE CT command to start, stop, or modify an IRLM diagnostic trace. IRLM does not support all the options available on the TRACE CT command described in *MVS/ESA System Commands*.

The impact of setting TRACE CT ON is that each active subname type requires up to .7 MB of ECSA. Because IRLM initializes its own traces when it starts, the DISPLAY TRACE command shows that all traces are off. After you issue the TRACE ON command, the reports are accurate except for the two subname types, INT and EXT, which cannot be turned off.

This command can be entered only from the master console. The command requires an appropriate level of MVS authority, as described in *MVS/ESA System Commands*.

CT

Specifies the component trace (instead of the other trace options available on the MVS TRACE command).

WTRSTART=parmlibmem

Identifies the name of the member that contains the source JCL that invokes the external writer and defines the data set to which external writer writes the trace buffers. The member can be a SYS1.PROCLIB cataloged procedure or a job. Many installations use a cataloged procedure in SYS1.PROCLIB.

After you enter a TRACE CT,WTRSTART command, turn the trace on and connect the writer using the WTR parameter in the reply for a TRACE CT command, as shown in "Examples" on page 533.

WRAP

Specifies that when the system reaches the end of the data set or

TRACE CT Command

group of data sets, it writes over the oldest data at the start of the data set or the start of the first data set in the group. The primary extents of the data set are used.

NOWRAP

Specifies that the system stops writing to the data set or data sets when they are full. The primary and secondary extents of the data sets are used.

WTRSTOP=*jobname*

Identifies the job name of a component trace external writer to be stopped. The data sets that the writer used are closed.

The job name is either:

- A member name, if the source JCL is a procedure.
- The name on a JOB statement within the source JCL.

ON

Turns on the trace.

COMP=*irlmssnm*

The IRLM subsystem name.

SUB=*subname*

Identifies the type of sublevel trace desired. This parameter can be any of the following values:

DBM

Trace interactions with the identified DBMS.

EXP

Trace any exception condition. EXP is automatically turned on when IRLM starts running and is permanently turned on.

INT

Trace member and group events outside of normal locking activity. INT is automatically turned on when IRLM starts running and is permanently turned on.

SLM

Trace interactions with the MVS locking component.

XCF

Trace all interactions with MVS Cross-System coupling services.

XIT

Trace just asynchronous interactions with the MVS locking component. XIT is automatically turned on when IRLM starts running, but it can be turned off using the MVS TRACE CT command.

OFF

Turns off the trace. If IRLM is connected to a component trace external writer, the system forces an implicit disconnect.

In the case of the EXP and INT sublevel traces, the OFF parameter stops the traces from writing to the external writer. However they continue to write to buffers. These traces are used by IMS for debugging purposes.

Ensure IRLM Load Module Is in MVS Link List

Because this command uses MVS component trace services, make sure that the IRLM start and stop load module, DXRRL183, is in the MVS link list.

Sample External Writer Procedure

Here is a sample procedure for the IRLM external writer:

```
//CTWTR   PROC
//        EXEC PGM=ITTTTCWR
//TRCOUT01 DD  DSNAME=SYS1.WTR1,DISP=OLD
//TRCOUT02 DD  DSNAME=SYS1.WTR2,DISP=OLD
```

Displaying a Trace

To display a trace, use the MVS DISPLAY command:

```
D TRACE,COMP=IRLM
```

Examples

Example 1 for TRACE CT

Here is an example sequence of commands to start and stop an IRLM DBM trace. In this example, the trace data is written to an external writer data set identified in procedure CTWTR:

```
TRACE CT,WTRSTART=CTWTR
TRACE CT,ON,COMP=IRLM,SUB=(DBM)
:
: (MVS asks for a reply.)
:
:
R 15,WTR=CTWTR,END
TRACE CT,OFF,COMP=IRLM,SUB=(DBM)
:
: (Wait a while to make sure trace buffers are externalized.)
TRACE CT,WTRSTOP=CTWTR
```

Example 2 for TRACE CT

Here is a sample procedure to start and stop traces in wrap-around mode. The traces captured in this procedure are saved in a limited number of buffers that are provided by IRLM. Each buffer is reused when the previous buffer is filled.

```
TRACE CT,ON,COMP=IRLM
:
: (MVS asks for a reply.)
:
:
R 15,END
TRACE CT,OFF,COMP=IRLM
```

TRACE CT Command

Part 4. IMS Transport Manager Subsystem Commands

Chapter 69. Introduction	537
Chapter 70. DEFINE	539
Format	539
Usage.	539
Chapter 71. DISPLAY	541
Format	541
Usage.	541
Examples of the DISPLAY Command	545
Example 1 for DISPLAY Command	545
Example 2 for DISPLAY Command	545
Example 3 for DISPLAY Command	545
Example 4 for DISPLAY Command	546
Example 5 for DISPLAY Command	546
Example 6 for DISPLAY Command	546
Chapter 72. SET	547
Format	547
Usage.	547
Chapter 73. START	549
Format	549
Usage.	549
Chapter 74. STOP	551
Format	551
Usage.	551

Chapter 69. Introduction

Transport Manager Subsystem commands can be issued either from a SYSIN data set as an automated process during component start or from an MVS console using the MVS MODIFY command (F procname,command).

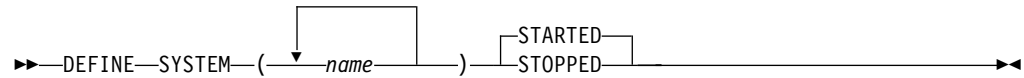
Transport manager commands are:

- DEFINE
- DISPLAY
- SET
- START
- STOP

Introduction to TM Commands

Chapter 70. DEFINE

Format



Usage

The DEFINE command is used to define one or more transport manager subsystems that support IMS components for one or more global service groups.

A START SYSTEM(name) command is required to start the TMS once it has been defined.

SYSTEM

Specifies the first portion (1 to 5 characters) of the VTAM APPLID used by the other transport managers to which this transport manager should connect. The name specified should match the SET APPLID. A system name that matches the APPLID of this transport manager (specified on the SETnd) causes an informational message to be issued; other system names will continue to be processed.

Transport manager will not communicate with an LU whose name has not been defined by a DEFINE SYSTEM command.

STARTED

Specifies that the system should be started automatically when the TMS is started or (if the TMS is already started) when the DEFINE command is processed.

STARTED is the default.

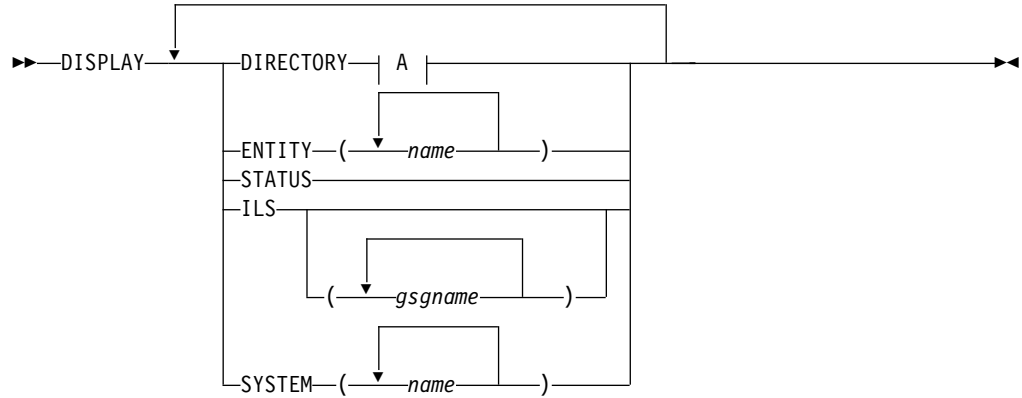
STOPPED

Specifies that the system should not be started automatically when the TMS is started or (if the TMS is already started) when the DEFINE command is processed.

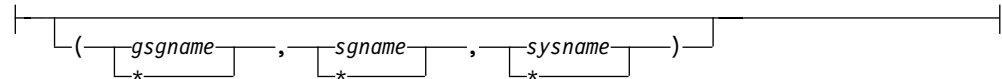
DEFINE

Chapter 71. DISPLAY

Format



A:



Usage

The DISPLAY command is used to provide information about the definition and status of resources related to transport manager. Transport manager only provides communication services for the active and tracking site IMSs; it has no knowledge of the activities at either site.

To see information related to active site IMS or tracking site IMS use the IMS /DISPLAY command.

DIRECTORY

Displays current entity (IMS subsystem or ILS task) information from the transport manager directory. If no entity (or list of entities) is specified, all information in the directory is displayed. The directory information includes information on the global service group (GSG) name, the service group (SG) name, the system name, the instance name, and the component name.

If you specify *, then ALL information for the entity is displayed.

ENTITY

Displays entities (IMS subsystems and ILS tasks) currently identified to this transport manager. If no list of entity names is provided, all are displayed. Entity information is displayed for the following:

MSGNAME

The IMS ID or job name of the entity. This is included in various TMS messages (prefix ELX) to identify the entity.

DISPLAY

GSGname

The global service group name.

SGname

The service group name.

INSTANCEname

The TMS instance name.

COMPONENTname

The TMS component name.

APPLID

The VTAM APPLID assigned to the entity.

STATUS

The relationship between the entity and the transport manager. The status of the entity can be any of the following:

IDENO

APPLID resource name is allocated for the entity during the IDENTIFY processing.

IDEN1

APPLID resource name is committed for the entity during the IDENTIFY processing.

ACT

The entity is active.

FAIL

The entity has failed during the IDENTIFY processing.

STATUS

Displays the status information of this transport manager as the following:

TRANSPORT MANAGER

The version number of the transport manager.

STATUS

The status of the entity can be any of the following:

STARTING

Transport manager start requested.

STARTED

Transport manager started.

STOPPING

Transport manager stop requested.

STOPPED

Transport manager stopped.

INSTANCE

The instance name of the transport manager.

APPLID/SYSTEM

The system name of the transport manager.

ENTITIES

The number of the active entities (including the TMS itself).

SYSTEMS

The number of the active systems.

ILS

Displays information on all or on specific global service groups for which ILS is currently started in a transport manager subsystem address space. A DISPLAY ILS command will not complete while a volume mount is outstanding for other than the first volume of a multivolume log data set.

GSG.SG SUMMARY

Summary information for each tracking subsystem being supported.

GSG

Global service group name (from the START ILS command).

SG

Service group name of the tracking subsystem for which this group of display information applies.

MODE

VTAM mode name used for conversations (from the START ILS command).

MAXCONV

The maximum number of conversations allowed (from the START ILS command).

CONV

The number of conversations currently allocated between this ILS and the tracking subsystem.

Q-REQ

The number of *query* requests received from the tracking subsystem since communication began with the tracking subsystem. *Query* requests are sent periodically by the tracking subsystem to determine if active service group IMS subsystems have run without communicating with the tracking subsystem.

G-REQ

The number of *gap* requests received from the tracking subsystem since communication began with the tracking subsystem.

DS-SENT

The number of log data sets successfully sent to the tracking subsystem since communication began with the tracking subsystem. ILS actually sends contiguous portions of log data sets based on the gaps in log data at the tracking site. When all of one of these contiguous portions is sent, the value of this display field is incremented.

DATASETS

If any log data sets are currently under consideration for transport to the tracking subsystem described above, they are listed below a separator line. If there is no data set activity, there will be no separator.

STATUS

Indicates the current state of processing for a particular data set.

ACTIVE

The data set is currently being transported, no delays other than waits for data set read have been detected.

W-CONV

The data set may be selected for transmission as soon as a conversation is available.

DISPLAY

ALLOC-IP

The data set is queued for or in the process of allocation or deallocation. This involves MVS ENQ/DEQ (for OLDS data sets), MVS DYNALLOC, MVS OPEN/CLOSE functions. Only one data set is processed through this function at a time, so a delay of one may delay others. The most likely cause of a delay in this state would be an unsatisfied tape mount.

DBRC-IP

ILS logic is awaiting completion of a DBRC request related to this data set. The most likely cause of a delay in this state would be contention for the RECON data sets.

W-SEND

The data set is currently being transported, but VTAM is not accepting data as fast as ILS is attempting to send it; send is currently waiting for completion of a previous VTAM send. This state generally reflects the results of VTAM pacing controls that limit the ILS to tracking subsystem data rate.

W-TRKPAC

The data set is currently being transported, but the tracking subsystem is not accepting data as fast as ILS is attempting to send it. This state generally reflects the tracking subsystem's inability to write log data as fast as ILS can send it.

W-TRKOK1

The data set is part of a gap; the tracking subsystem has not yet approved actual transport of data sets to fill the gap.

W-TRKOK2

ILS is waiting for the tracking subsystem to approve transport of this specific data set.

RECORDS-SENT

The number of records, in decimal, that have been sent. The number is of the form nnnK, where K represents 1024 records. The number is rounded off to the nearest K.

NAME

The IMSID of the active system that created the log data set or the job name of the BATCH or BBO job that created the log data set.

VOLSER

The volume serial number, if any, used in allocation of the data set. If this field is blank, the data set is (expected to be) cataloged.

DSNAME

The data set name that is or will be read for transport. This may be a primary or secondary copy of an OLDS or SLDS data set.

SYSTEM

Displays status information about the specified systems. The system name is specified by the DEFINE command and status are displayed. If no list is provided, all are displayed. The status of the system can be any of the following:

RALOC

Allocation requested for the system.

ALOC

The system is actually allocated.

RSTA
Start requested for the system.

STA
The system is actually started.

RSTO
Stop requested for the system.

STO
The system is actually stopped.

Examples of the DISPLAY Command

The following are examples of output from the DISPLAY command.

Example 1 for DISPLAY Command

Entry ET:

```
DISPLAY DIRECTORY
```

Response ET:

```
ELX0170I TRANSPORT MANAGER DISPLAY: 92.078 13.48.29.0
GSG      SG      SYSTEM  INSTANCE COMPONENT
*        *        TMP2    *        TMANAGER
FUNDS    SITEA   TMP2    IMSA    LOGGER
FUNDS    SITET   TMP4    IMSC    LOGROUTR
FUNDS    SITEA   TMP2    IMSB    LOGGER
FUNDS    SITEA   TMP2    *       ISEND
```

Explanation: When the DIRECTORY object keyword is completely processed, this message is issued for current entity information from the transport manager directory.

Example 2 for DISPLAY Command

Entry ET:

```
DISPLAY DIRECTORY
```

Response ET:

```
ELX0170I TRANSPORT MANAGER DISPLAY: 92.078 13.58.39.0
*** NO DIRECTORY TO DISPLAY ***
```

Explanation: The DIRECTORY has no entities to display. This message is issued when transport manager has not started by the time the DISPLAY command is processed.

Example 3 for DISPLAY Command

Entry ET:

```
DISPLAY ENTITY
```

Response ET:

```
ELX0170I TRANSPORT MANAGER DISPLAY: 92.090 13.48.29.0
MSGNAME  GSG      SG      INSTANCE COMP  APPLID  STATUS
TMP       *        *        *        TMANAGER TMP2001 IDEN1,ACT
TMPA     FUNDS    SITEA   IMSA    LOGGER  *       IDENO
```

Explanation: When the ENTITY object keyword is completely processed, this message is issued to display entities currently identified to this transport manager.

DISPLAY

Example 4 for DISPLAY Command

Entry ET:

```
DISPLAY SYSTEM
```

Response ET:

```
ELX0170I TRANSPORT MANAGER DISPLAY: 92.078 13.54.51.1
SYSTEM STATUS
TMP4 ALOC,STA
TMP3 ALOC,STA
TMP5 ALOC,STA
```

Explanation: When the SYSTEM object keyword is completely processed, this message is issued to display status information for the specified systems.

Example 5 for DISPLAY Command

Entry ET:

```
DISPLAY ILS
```

Response ET:

```
ELX0170I TRANSPORT MANAGER DISPLAY: 91.105 12.07.24.7
GSG: IMSGSG1 SG: STLSITE1 MODE: ILSMODE MAXCONV: 2
CONV: 2 Q-REQ: 92 G-REQ: 3 DS-SENT: 5
**** DATASETS ****
STATUS RECORDS-SENT NAME VOLSER DSNAME
W-SEND 12K IMSA L00813 BURKES.PAYROLL.SLDSP1
ACTIVE 72K IMSA KENTT.PAYROLL.DFSOLP03
W-CONV 0K IMSA L00803 BURKES.PAYROLL.SLDSP2
```

Explanation: When the ILS object keyword is completely processed, this message is issued to display isolated log sender status for the specified GSG name.

Example 6 for DISPLAY Command

Entry ET:

```
DISPLAY STATUS
```

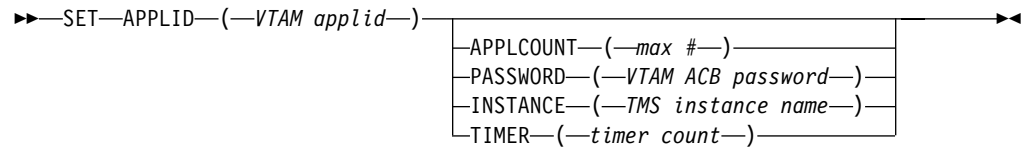
Response ET:

```
ELX0170I TRANSPORT MANAGER DISPLAY: 90.078 13.56.59.5
TRANSPORT MANAGER V5 R0 STATUS: STARTING,STARTED
INSTANCE: ELX APPLID/SYSTEM: TMP2
ENTITIES: 1 SYSTEMS: 3
```

Explanation: When the /DISPLAY command is entered with the STATUS object keyword, this message is issued to display the status of resources related to transport manager.

Chapter 72. SET

Format



Usage

The /SET command allows you to specify various parameters that typically stay in effect for the duration of an execution of the transport manager task.

APPLID

Specifies a 1- to 5-character name that becomes the first portion of the series of VTAM APPLIDs used by transport manager and related IMS subsystems. This name also becomes the “system name” of the CPC running this transport manager (used in the naming scheme used by transport manager and users of transport manager).

The name used for the APPLID must match the first portion of the name (specified on the DEFINE SYSTEM command) or the ACBNAME=acbname used for a series of VTAM APPL definition statements. See *IMS/ESA Installation Volume 2: System Definition and Tailoring*.

When transport manager is connected to VTAM (that is, the ACB is open), the APPLID keyword is rejected. To avoid definitional conflicts, SET APPLID must be specified before DEFINE SYSTEM commands are issued.

APPLCOUNT

Specifies the number of VTAM applids that are to be defined to VTAM for use by this transport manager. The number must exceed by at least 1 the maximum number of IMS subsystems ever expected concurrently to execute on this CPC plus the maximum instances of isolated log sender to be started for this transport manager.

PASSWORD

Specifies the VTAM ACB password to be used for the transport manager. This specification is tied to the VTAM APPL PRTCT=password definition. A single password is used for all APPL names.

INSTANCE

Specifies a 1 to 4 character name that becomes the instance name (subsystem id) of this execution of transport manager. This value, combined with the TMI name specified in the DFSRSRxx proclib member, the IMSCTRL macro, the DLIBATCH procedure or the DBBBATCH procedure, allows you to use multiple instances of the transport manager within a single system. With different instances of transport manager, you can run test and production subsystems within the same IMS system.

The default value for the instance name is ELX.

Once the TMS is started, the INSTANCE keyword will be rejected.

SET

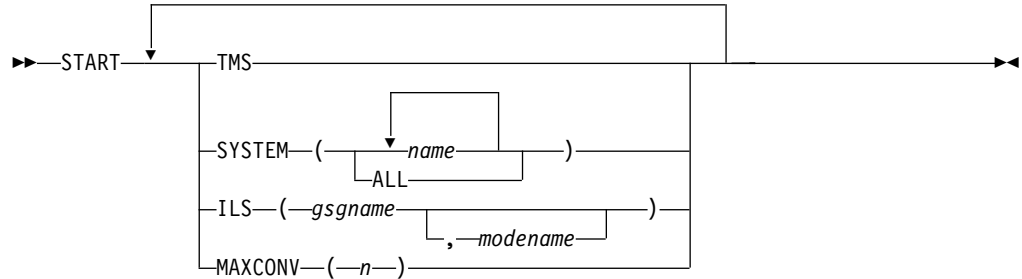
TIMER

Specifies the interval, in seconds, to be used for automatic restart of transport-manager-to-transport-manager conversations. Automatic restart attempts are made after conversation failures and are continued until a conversation is established or a STOP SYSTEM or STOP RETRY command is issued.

The default value is 300 seconds.

Chapter 73. START

Format



Usage

The /START command is used to activate the objects specified (TMS, SYSTEM, or ILS).

TMS

Specifies that the transport manager is to be started. The START TMS command should be issued after the initial SET and DEFINE commands.

SYSTEM

Specifies that conversations to the specified systems are to be started. This command may be required after a network outage where the transport managers are up but there has been no network connectivity. Specifying SYSTEM(ALL) causes start to be attempted for all systems not already started or starting.

ILS

Specifies that an isolated log sender task is to be started.

gsgname specifies the 1- to 8-character name of the global service group to be serviced by this instance of isolated log sender.

modename specifies the VTAM mode name to be used when allocating conversations for a transfer request. If *modename* is not specified, the TMS default mode name, TMDEFLT, is used.

MAXCONV

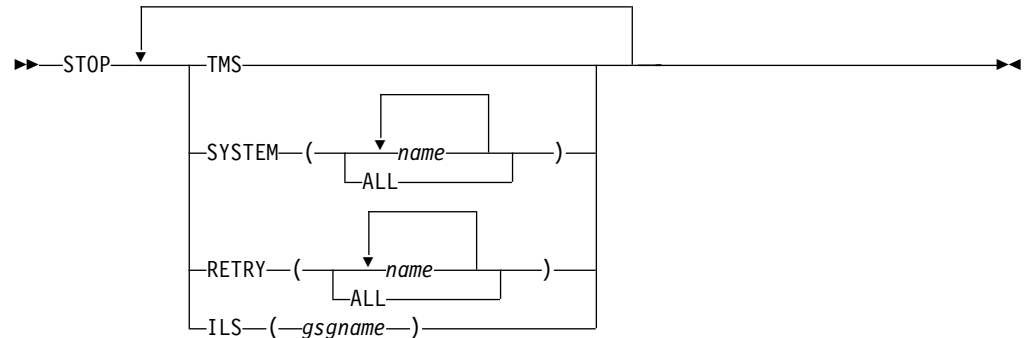
Specifies, for an ILS task, the maximum number of concurrent data set transfers to be used to process one transfer request. The most efficient value is highly dependent on network capacity and routing, as well as on disk configurations and allocations on both local and remote sites.

The default value is 2. The maximum value is 30.

START

Chapter 74. STOP

Format



Usage

The STOP command is used to stop the objects specified. In order to stop the entire transport manager subsystem, you can use MVS STOP command (P procname) from the MVS console.

TMS

Specifies that the entire TMS subsystem is to be stopped.

SYSTEM

Specifies that conversations to the specified systems are to be stopped. Requests from other systems to establish conversations will be rejected.

RETRY

Specifies that automatic conversation allocation retry is to be stopped for the specified systems or for ALL systems. Requests from other systems to establish conversations will be accepted.

Automatic conversation allocation retry is allowed again after a conversation is successfully established with the specified systems.

ILS

Specifies that an isolated log sender task is to be stopped.

gsgname specifies the 1- to 8-character name of the global service group being serviced by the instance of isolated log sender to be stopped.

IMS Commands

Part 5. Appendixes

Appendix A. DBCTL Commands

Table 41 is a list of commands and keywords valid in the Database Control (DBCTL) environment.

Table 41. Commands and Keywords Valid in DBCTL

Commands	Keywords	Page
/CHANGE	ABORT, CCTL, COMMIT, FDR, OASN, PASSWORD, PRTKN, RESET, SUBSYS, TIMEOUT	101
/CHECKPOINT	ABDUMP, FREEZE, PURGE, STATISTICS	115
/DBDUMP	DATABASE, GLOBAL, LOCAL, NOFEOV, NOPFA	133
/DBRECOVERY	AREA, DATABASE, DATAGROUP, GLOBAL, LOCAL, NOFEOV, NOPFA	137
/DELETE	DATABASE, PASSWORD, PROGRAM	143
/DEQUEUE	AOITOKEN	145
/DISPLAY	ACTIVE, AOITOKEN, AREA, BKERR, CCTL, DATABASE, DBD, FDR, FPVIRTUAL, HSSP, INDOUBT, MODIFY, MONITOR, OASN, OLDS, OSAMGTF, PI, POOL, PROGRAM, PSB, REGION, SHUTDOWN, STATUS, SUBSYS, TABLE, TCO, TRACE, TRACKING STATUS, XTRC	151
/ERESTART	CHECKPOINT, COLDBASE, COLDSYS, FORMAT, NOBMP, OVERRIDE	285
/LOCK	DATABASE, PROGRAM	313
/LOG		317
/MODIFY	ABORT, COMMIT, PASSWORD, PREPARE	321
/NRESTART	CHECKPOINT, FORMAT	339
/PSTOP	AOITOKEN, JOBNAME, REGION	355
/RMxxxxxx		379
/RTAKEOVER		393
/SSR		411
/START	ACCESS, AREA, AUTOARCH, DATABASE, DATAGROUP, DBALLOC, GLOBAL, ISOLOG, JOBNAME, LOCAL, NOBACKOUT, NODBALLOC, OLDS, PROGRAM, REGION, SB, SERVGRP, SSM, SUBSYS, THREAD, TRKAUTOARCH, WADS	413
/STOP	ABDUMP, ADS, AREA, AUTOARCH, CANCEL, DATABASE, DATAGROUP, GLOBAL, JOBNAME, LOCAL, NOPFA, OLDS, PROGRAM, REGION, SB, SERVGRP, SUBSYS, THREAD, WADS	437
/SWITCH	CHECKPOINT, OLDS, WADS	461
/TRACE	COMP, MONITOR, NOCOMP, OPTION, OSAMGTF, PI, PROGRAM, PSB, SET, TABLE, TCO, VOLUME	467
/UNLOCK	DATABASE, PROGRAM	487
/UNLOAD		493

DBCTL Commands

Appendix B. DCCTL Commands

Table 42 is a list of commands and keywords valid in a Data Communications Control (DCCTL) environment.

Table 42. Commands and Keywords Valid in DCCTL

Commands	Keywords	Page
/ACTIVATE	LINK, NODE	75
/ALLOCATE	LUNAME, MODE, TPNAME	77
/ASSIGN	CLASS, COMPONENT, CPRI, ICOMPONENT, INPUT, LINE, LMCT, LPRI, LTERM, NODE, NPRI, OUTPUT, PARLIM, PLMCT, PTERM, REGION, SEGNO, SEGSIZE, TRANSACTION, USER, VTAMPOOL	79
/BROADCAST	ACTIVE, LINE, LTERM, MSNAME, NODE, PTERM, SYSID, USER	93
/CANCEL		99
/CHANGE	ASR, COLDSESS, DESCRIPTOR, DIRECTORY, FORCSESS, INTERVAL, LINK, LUNAME, MAXRGN, MODE, NODE, OASN, PASSWORD, RESET, SIDE, SUBSYS, SURVEILLANCE, SYNCLEVEL, SYNCSESS, TIMEOUT, TPNAME, TRANSACTION, TYPE, UOR, USER	101
/CHECKPOINT	ABDUMP, DUMPQ, FREEZE, LEAVEGR, PURGE, QUIESCE, SNAPQ, STATISTICS	115
/CLSDST	FORCE, NODE, USER	121
/COMPT	CNS, CRD, NODE, NOTRDY, PCH, PDS, PRT, RDR, READY, TDS, UDS, USER, VID, WPM1, WPM2, WPM3	123
/CQCHKPT	SHAREDQ, STRUCTURE, SYSTEM	127
/CQQUERY	STATISTICS, STRUCTURE	129
/CQSET	SHAREDQ, SHUTDOWN, STRUCTURE	131
/DELETE	LINE, LTERM, NODE, PASSWORD, PROGRAM, PTERM, TERMINAL, TRANSACTION	143
/DEQUEUE	AOITOKEN, LINE, LTERM, LUNAME, MSNAME, NODE, PTERM, PURGE, PURGE1, SUSPEND, TMEMBER, TPIPE, TPNAME, TRANSACTION, USER	145
/DISPLAY	ACTIVE, AFFINITY, AOITOKEN, APPC, ASSIGNMENT, BALGRP, CLASS, CONVERSATION, CQS, DC, DESCRIPTOR, HSB, INPUT, LINE, LINK, LTERM, LUNAME, MODE, MODIFY, MONITOR, MSGAGE, MSNAME, MSPLINK, NODE, OASN, OLDS, OTMA, OUTPUT, OVERFLOWQ, POOL, PRIORITY, PROGRAM, PSB, PTERM, Q, QCNT, REGION, REMOTE, RTCODE, SHUTDOWN, STATUS, STRUCTURE, SUBSYS, SYSID, TABLE, TCO, TIMEOUT, TIMEOVER, TMEMBER, TPIPE, TPNAME, TRACE, TRACKING STATUS, TRANSACTION, TRAP, UOR, USER, XTRC	151

DCCTL Commands

Table 42. Commands and Keywords Valid in DCCTL (continued)

Commands	Keywords	Page
/END	LINE, NODE, PTERM, USER	283
/ERESTART	BACKUP, BUILDQ, CHECKPOINT, CMDAUTH, CMDAUTHE, COLDCOMM, COLDSYS, FORMAT, MULTSIGN, NOBMP, NOCMDAUTH, NOCMDAUTHE, NOPASSWORD, NOTERMINAL, NOTRANAUTHE, NOTRANCMD, NOUSER, OVERRIDE, PASSWORD, SNGLSIGN, TERMINAL, TRANAUTHE, TRANCMD, USER	285
/EXCLUSIVE	LINE, NODE, PTERM, USER	297
/EXIT	CONVERSATION, LINE, NODE, PTERM, USER	299
/FORMAT	LTERM	303
/HOLD		305
/IAM	DONE, LTERM, PTERM	307
/IDLE	LINE, LINK, NODE, NOSHUT	309
/LOCK	LTERM, NODE, PROGRAM, PTERM, TRANSACTION	313
/LOG		317
/LOOPTEST	LINE, PTERM	319
/MODIFY	ABORT, COMMIT, LTERM, PASSWORD, PREPARE, TERMINAL, TRANCMD	321
/MONITOR	LINE, PTERM	329
/MSASSIGN	LINK, LOCAL, MSNAME, MSPLINK, SYSID, TRANSACTION	331
/MSVERIFY	MSNAME, SYSID	335
/NRESTART	BUILDQ, CHECKPOINT, CMDAUTH, CMDAUTHE, FORMAT, MULTSIGN, NOBUILDQ, NOCMDAUTH, NOCMDAUTHE, NOPASSWORD, NOTERMINAL, NOTRANAUTHE, NOTRANCMD, NOUSER, PASSWORD, SNGLSIGN, TERMINAL, TRANAUTHE, TRANCMD, USER	339
/OPNDST	ID, LOGOND, MODE, NODE, Q, UDATA, USER, USERD	349
/PSTOP	AOITOKEN, CLASS, FORCE, JOBNAME, LINE, LINK, LTERM, MSPLINK, PTERM, PURGE, REGION, TRANSACTION	355
/PURGE	APPC, CLASS, FPPROG, FPREGION, LINE, LTERM, MSNAME, PTERM, TRANSACTION	363
/QUIESCE	NODE, USER	367
/RCLSDST		369
/RCOMPT	CNS, NOTRDY, PCH, PDS, PRT, RDR, READY, TDS, UDS, VID	371
/RDISPLAY		373
/RELEASE	CONVERSATION	375
/RESET		377
/RMxxxxxx	LTERM	379

Table 42. Commands and Keywords Valid in DCCTL (continued)

Commands	Keywords	Page
/RSTART	CONTINUOUS, LINE, LINK, LOPEN, MODE, MSPLINK, NODE, PTERM, USER	387
/RTAKEOVER	FREEZE, DUMPQ, NOREVERSE, UNPLAN	393
/SECURE	APPC, OTMA	397
/SET	CONVERSATION, LTERM, TRANSACTION	401
/SIGN		405
/SMCOPY	MASTER, TERMINAL	409
/SSR		411
/START	APPC, AUTOARCH, CLASS, DC, GRSNAME, INPUT, ISOLOG, JOBNAME, LINE, LTERM, LUNAME, MSNAME, NODE, OLDS, OTMA, OUTPUT, PROGRAM, PTERM, REGION, RTCODE, SERVGRP, SSM, SUBSYS, SURVEILLANCE, TMEMBER, TPIPE, TPNAME, TRANSACTION, TRKAUTOARCH, USER, VGRS, WADS	413
/STOP	ABDUMP, APPC, AUTOARCH, BACKUP, CANCEL, CLASS, DC, INPUT, JOBNAME, LINE, LTERM, LUNAME, MSNAME, NODE, OLDS, OTMA, OUTPUT, PROGRAM, PTERM, REGION, RTCODE, SERVGRP, SUBSYS, SURVEILLANCE, TMEMBER, TPIPE, TPNAME, TRANSACTION, USER, VGRS, WADS	437
/SWITCH	ABDUMP, ACTIVE, BACKUP, CHECKPOINT, FORCE, OLDS, SYSTEM, WADS	461
/TEST	LINE, NODE, PTERM, USER	465
/TRACE	AUTO, INPUT, LEVEL, LINE, LINK, LUNAME, MODULE, MONITOR, MSG, NODE, OPTION, OUTPUT, PROGRAM, SET, TABLE, TAKEOVER, TCO, TIMEOUT, TMEMBER, TPIPE, TPNAME, TRANSACTION, TRAP, UNITYPE, USER, VOLUME	467
/UNLOCK	LTERM, NODE, PROGRAM, PTERM, SYSTEM, TRANSACTION	487

DCCTL Commands

Appendix C. List of Reserved Words

A	ABDUMP	ABORT	ACCESS
ACT	ACTIV	ACTIVATE	ACTIVE
ADS	AFF	AFFIN	AFFINITY
AFTER	AOITKN	AOITOKEN	ALL
ALLOC	ALLOCATE	ALLOCF	ALLOCS
APPC	ARCHIVE	AREA	ASMT
ASR	ASSIGN	ASSIGNMENT	AUTO
AUTOARC	AUTOARCH	AUTOSR	BACKOUT
BACKUP	BALG	BALGRP	BKERR
BLDQ	BLDQS	BROADCAST	BU
BUILDQ	BUILDQS	C1INOP	C2INOP
C3INOP	C4INOP	CANCEL	CC
CCTL	CHANGE	CHECKPOINT	CHECKPT
CHKPOINT	CHKPT	CLASS	CLS
CLSDST	CMDAUTH	CMDAUTHE	CNS
COLDB	COLDBASE	COLDC	COLDCOMM
COLDS	COLDSESS	COLDSYS	COMMIT
COMP	COMPINOP	COMPONENT	COMPT
CON	CONT	CONTINUOUS	CONV
CONVACT	CONVERSATION	CONVHLD	CPRI
CQCHKPT	CQQUERY	CQS	CQSET
CRD	DATABASE	DATABASES	DATAGROUP
DATAGRP	DB	DBALLOC	DBD
DBDUMP	DBRECOVERY	DBS	DC
DEACT	DEADQ	DELETE	DEQUEUE
DESC	DESCRIPTOR	DISPLAY	DIR
DIRECTORY	DONE	DUMPQ	DUMPQS
EEQE	END	ERESTART	EXCL
EXCLUSIVE	EXIT	EXTRACE	FDR
FIRST	FMT	FOR	FORC
FORCE	FORCES	FORCSESS	FORMAT
FPPROG	FPREGION	FPRGN	FPV
FPVIRTUAL	FREEZE	GLOBAL	GRS
GRSN	GRSNAME	HOLD	HOTSTANDBY
HSB	HSSP	IAM	IC
ICOMPONENT	ICOMPT	ID	IDLE
IND	INDOUBT	INOP	INPUT
INQONLY	INT	INTERVAL	INTV
IOVF	ISOLOG	JBN	JOB
JOBNAME	KEY	LCT	LEAVEGR
LEVEL	LGND	LINE	LINES
LINK	LMCT	LOCAL	LOCK
LOG	LOGOND	LOOPTEST	LOPEN
LOST	LPRI	LTERM	LTERMS
LU	LUN	LUNAME	MAXRGN
MESSAGE	MFST	MFSTEST	MODE
MODETABLE	MODETBL	MODIFY	MODULE
MON	MONITOR	MSASSIGN	MSDB
MSDBLOAD	MSG	MSGAGE	MSGREG
MSGREGION	MSGREGIONS	MSGREGS	MSNAME
MSPLINK	MSVERIFY	MULTSIGN	NBLDQ
NOBACKOUT	NOBKO	NOBLDQ	NOBMP
NOBUILDQ	NOCMDAUTH	NOCMDAUTHE	NOCOMP

Reserved Words

NODBALLOC	NODE	NOFEOV	NOIN
NONE	NOOUT	NOPASSWORD	NOPFA
NOPSWD	NOQUEUE	NOREVERSE	NOS
NOSHUT	NOTER	NOTERM	NOTERMINAL
NOTINIT	NOTOPEN	NOTRANAUTH	NOTRANCMD5
NOTRDY	NOUSER	NPRI	NRESTART
OASN	OFF	OFR	OLDS
ON	OPNDST	OPTION	OSAMGTF
OTMA	OUTPUT	OVER	OVERFLOWQ
OVERRIDE	OVFLWQ	PAGE	PARLIM
PASSWORD	PASSWORDS	PCH	PDS
PGM	PGMS	PI	PLCT
PLMCT	POOL	PREL	PREO
PREPARE	PRI	PRIMARY	PRIORITY
PRK	PROG	PROGRAM	PROGRAMS
PROGS	PRST	PRT	PRTKN
PRTY	PSB	PSTOP	PSTOPPED
PSWD	PSWDS	PTERM	PTERMS
PUR	PURGE	PURGE1	Q
QCNT	QMGR	QS	QUEUE
QUEUES	QUI	QUIESCE	RCLSDST
RCOMPT	RCS	RDISPLAY	RDR
READY	RECOVERN	REG	REGION
REGIONS	REGS	RELEASE	RELREQ
REMOTE	RESET	RESP	RESPINP
RESYNC	RMCHANGE	RMDELETE	RMGENJCL
RMINIT	RMLIST	RMNOTIFY	RSTART
RTAKEOVER	RTC	RTCODE	SB
SEC	SECURE	SECURITY	SEGNO
SEGSIZE	SEGSZ	SERVGRP	SET
SG	SHAREDQ	SHRQ	SHUT
SHUTDOWN	SIDE	SIGN	SIMLOGON
SINGLE	SMCOPY	SNAPQ	SINGL
SNGLSIGN	SQTT	SSM	SSR
START	STATIC	STATISTICS	STATUS
STO	STOP	STOPPED	STRUC
STRUCTURE	SUB	SUBPOOL	SUBSYS
SUBSYSTEMEMBER	SUBSYSTEM	SUBSYSTEMS	SUR
SURV	SURVEIL	SURVEILLANCE	SUSPEND
SWITCH	SYNC	SYNCLEVEL	SYNCLV
SYNCSESS	SYSID	SYSTEM	TABLE
TAKEOVER	TCO	TDS	TER
TERM	TERMINAL	TERMINALS	TERMS
TERS	TEST	THREAD	TIMEOUT
TIMEOVER	TIMO	TKO	TKOTRA
TKOVR	TMEM	TMEMBER	TO
TP	TPI	TPIPE	TPN
TPNAME	TRA	TRACE	TRACKING
TRAN	TRANAUTH	TRANCMD5	TRANCODE
TRANCOD5	TRANS	TRANSACTION	TRANSACTIONS
TRAP	TRKARCH	TRKAUTOARCH	TRS
TYPE	UDATA	UDS	UNITYPE
UNLOCK	UNPLAN	UOR	USER
USERD	USRD	VGR	VGRS
VID	VIR	VOLUME	VPL

Reserved Words

VTAMPOOL
WPM2
XTRACE

VUNLOAD
WPM3

WADS
XKEY

WPM1
XTRC

Reserved Words

Appendix D. Shared Secondary Index Database Commands

The original advantage of a shared index database was that it saved a significant amount of main storage for buffers and some control blocks. However, when VSAM was enhanced with shared resources, the savings in storage became less significant. Now the possible disadvantages of using shared index databases generally outweigh the small amount of space they save.

Commands sometimes operate differently depending on whether they are issued for the first of the secondary indexes or for subsequent secondary indexes. The first secondary index is the first database name specified in the DBDUMP statement of the shared secondary index DBDGEN. This first database is the **real** database. Other secondary index databases are physically part of the **real** database but they are logically distinct. Commands operate as follows:

Issuing the Commands...	On the...	Affects...	Comments
/STOP /LOCK	First secondary index	Only the named database	<p>If no applications are scheduled on any shared secondary indexes that cause the authorization of the real database by DBRC, the commands have the same effect as the /DBRECOVERY command on the first secondary index.</p> <p>When a /DISPLAY command is issued on the shared secondary index database, the subsequent secondary indexes are shown as stopped or locked only if the /STOP, /LOCK, or /DBRECOVERY command was issued.</p> <p>To undo the /STOP or /LOCK command, issue a /START or /UNLOCK command on the first secondary index.</p>
/STOP /LOCK	Subsequent secondary indexes	Only the named database	To undo the /STOP or /LOCK command, issue a /START or /UNLOCK command on the named database.
/DBDUMP	First secondary index	All databases sharing the secondary index data set	<p>The /DBDUMP command quiescs activity on all the indexes in the shared database. The database is then closed and reopened for input only.</p> <p>To undo the /DBDUMP command, issue a /START command on the first secondary index.</p>
/DBDUMP	Subsequent secondary indexes	Only the named database	<p>The secondary index is available for read only.</p> <p>To undo the /DBDUMP command, issue a /START command on the named database.</p>
/DBRECOVERY	First secondary index	All databases sharing the secondary index data set	<p>The /DBRECOVERY command quiescs activity on all the indexes in the shared database. The database is then closed and stopped.</p> <p>When the DISPLAY command is issued on the shared secondary index database, the subsequent secondary indexes are shown as stopped or locked only if the /STOP, /LOCK, or /DBRECOVERY command was issued.</p> <p>To undo the /DBRECOVERY command, issue a /START command on the first secondary index.</p>

Shared Index Database Commands

Issuing the Commands...	On the...	Affects...	Comments
/DBRECOVERY	Subsequent secondary indexes	Only the named database	<p>This command is the same as the /STOP command for the named database. However, the /DBRECOVERY command works immediately, but the /STOP command allows current work to quiesce.</p> <p>To undo the /DBRECOVERY command, issue a /START command on the named database.</p>

Appendix E. Commands with the NODE USER Keyword Combination

Many commands using the NODE USER keyword combination can be used with dynamic terminals as well as with non-ISC nodes. Using the NODE USER combination from a dynamic terminal ensures that the command is valid only if the USER is still signed on to the NODE. Commands with the NODE USER keyword pair are valid only if:

- The USER is signed on to the NODE
- In an ISC environment, the USER is allocated to the NODE

Commands with the NODE USER keyword pair are only valid for existing nodes and users. No temporary control blocks are created to retain status data.

The following commands are valid for ISC and non-ISC nodes and users:

- /CHANGE NODE p1 USER p2,...pn/all (ASR ON/OFF)/MODETABLE(modname)
- /CLSDST NODE p1 USER p2...pn/all
- /COMPT (1/2/3/4) NODE p1 USER p2 (READY/NOTRDY)
- /DEQUEUE NODE p1 USER p2 (LTERM p3)
- /DISPLAY ASMT NODE p1 USER p2 (LTERM p3)
- /DISPLAY NODE p1 USER p2,...pn/all
- /END NODE p1 USER p2
- /OPNDST NODE p1 USER p2...
- /STOP NODE p1 USER p2,...pn/all
- /TRACE NODE p1 USER p2,...pn/all

The following commands are valid for ISC nodes only:

- /CHANGE NODE p1 USER p2,...pn/all (FORCSESS/SYNCSESS)
- /QUIESCE NODE p1 USER p2,...pn/all

The following commands are valid for ISC, LUP, and 3600 nodes only:

- /DEQUEUE NODE p1 USER p2 PURGE/LTERM p3 PURGE1
- /EXIT (CONV) NODE p2 USER p3
- /RSTART NODE p1 USER p2,...pn/all
- /START NODE p1 USER p2,...pn/all
- /TEST (MFS) NODE p1 USER p2,...pn/all

NODE USER Commands

Appendix F. Commands That Are Valid in ETO

Table 43 is a list of the commands that are valid for lterms, nodes, and users in ETO.

Table 43. Commands Valid in ETO

Commands	Dynamic Lterms That Are Valid	Dynamic Nodes That Are Valid	Dynamic Users That Are Valid
/ACTIVATE		X	
/ASSIGN	X ¹		X ²
/BROADCAST	X	X	X
/CHANGE		X	X
/CLSDST		X	X
/COMPT		X	X
/DEQUEUE	X	X	X
/DISPLAY	X	X	X
/END			X
/EXCLUSIVE			X
/EXIT		X	X
/FORMAT	X		
/IDLE		X	
/LOCK	X	X	
/MODIFY	X		
/OPNDST		X	
/PSTOP	X		
/PURGE	X		
/QUIESCE		X	X
/RMxxxxxx	X		
/RSTART		X	X
/SET	X		
/SIGN			X
/START	X	X	X
/STOP	X	X	X
/TEST			X
/TRACE		X	
/UNLOCK	X	X	

Notes:

1. Only valid for /ASSIGN LTERM USER.
2. Only valid for /ASSIGN USER.

ETO Commands

Appendix G. Status and Attributes for the /DISPLAY Command

A list of the attributes and status shown in the /DISPLAY command are shown in Table 44.

Table 44. Attributes and Status in the /DISPLAY Command

Status or Attribute	Meaning
	Indicates no status for the resource.
ACCEPT TRAFFIC	Indicates the OTMA client is ready.
ACT MODETBL	Indicates mode table name actually used to initiate mode.
ACTIV	Indicates this node is in an XRF session, on the active system.
ACTIVE, A	Indicates conversation in progress. For /DISPLAY MODIFY, indicates that the routing code (RTCODE) named is active or that the library is active. Indicates the IMS subsystem is the active subsystem. Indicates the current XRF surveillance mechanism is active. Indicates the OTMA client is in an active XCF group. Indicates the secondary master terminal is active.
ACTIVE-DBCMD	Indicates an /DBD or /DBR command is in progress and waiting for the region to terminate before the /DBD or /DBR can complete.
ACTV	Indicates, for a logical link, that link startup processing is complete and the line is available for message transfer.
ALLOC	Indicates that an ISC user is allocated. The node name to which the user is allocated or signed on follows in parenthesis.
ALLOCATION IN PROGRESS	Indicates a conversation is in the process of being allocated.
ALLOCF	Indicates that database allocation failed.
ALLOCS	Indicates that database allocation was successful.
AREA	The subset of a DEDB.
AUTOSR	Indicates a session initiation option of ASR.
AVAILABLE	Indicates the OLDS can be reused. Indicates a region is available to schedule an application. Indicates a coupling facility structure is available for use by IMS.
AWAITING RESPONSE	Indicates an active terminal is waiting for a response.
AWAITING SNAPQ	Indicates the alternate subsystem is waiting for /CHE SNAPQ from the active subsystem.
BACKOUT	Indicates the OLDS is potentially required for backout or, in the case of a database, there are incomplete backouts preventing the use of the database.
BACKUP	Indicates the IMS subsystem is the alternate subsystem.
BAL	Identifies a transaction eligible for load balancing (for example, with parallel limits specified). The current maximum number of regions that can be simultaneously scheduled to process the transaction follows in parentheses.
BCKUP	Indicates this node is in an XRF session, on the alternate system.

Status for /DISPLAY Command

Table 44. Attributes and Status in the /DISPLAY Command (continued)

Status or Attribute	Meaning
C1INOP, C2INOP, C3INOP, C4INOP	Indicates the inoperable node or terminal component, where C1, C2, C3, and C4 refer to different components as defined by system definition. (Refer to the /COMPT and /RCOMPT commands for details on how to ready inoperable components.)
CANCEL	Indicates an APPC connection was stopped by the /STOP APPC CANCEL command.
CHECK	Indicates the OTMA client is using RACF for security verification.
CLSDST	Indicates a session is being disconnected.
CLSE	Indicates an error has occurred when closing the OLDS.
CLSDST	Indicates that a /CLSDST or /STOP command has been entered for a VTAM node but has not yet taken effect. This condition can occur because of an outstanding input or output operation that has not completed. The VTAM network operator can issue an MVS/ESA VARY command to clear the condition.
COLD	Indicates, for a logical link, that link startup processing is not complete.
COMPINOP	Indicates an inoperable terminal component. For 3270 terminals, this is an indication the either the display or the printer is not ready.
CON	Indicates that a node is connected, or in session, with IMS.
CONN	Subsystem connection.
CONN, ACTIVE	Indicates an application program has established communication with a subsystem.
CONNECTED	Indicates IMS is connected to a coupling facility structure.
CONN IN PROGRESS	Subsystem connection in progress.
CONVACT, CONV-ACT	Indicates an active conversation on this terminal, node, or user.
CONVERSATION TERM/USER	<p>Indicates for /DISPLAY MODIFY that the transaction to be changed or deleted or the transaction referencing a program or database to be changed or deleted is in conversation. The terminal originating the conversational transaction and the conversation ID are also displayed.</p> <p>The terminal displayed is:</p> <ul style="list-style-type: none"> • nodename for VTAM terminals • nodename and username if an ETO user is signed on to the node • username for ETO users who signed off while in conversation • lin#-pte# (line and pterm number) for BTAM terminals • 1- SC for the system console
CONVHLD, CONV-HLD	Indicates a held conversation on this terminal, node, or user.
COPY-PHASE	Indicates the CREATE utility is currently in COPY-PHASE for an ADS.
CREATED	Indicates the XCF group has been created, but the OTMA client has not yet connected to it.

Status for /DISPLAY Command

Table 44. Attributes and Status in the /DISPLAY Command (continued)

Status or Attribute	Meaning
DB-STOPD	Indicates a database used by this program is stopped.
/DBD ACTIVE	A /DBDUMP command is in progress for a database to be changed or deleted.
/DBR ACTIVE	A /DBRECOVERY command is in progress for a database to be changed or deleted.
DEACT (DEACTIVATED)	Indicates a physical terminal/node or line has been permanently deactivated. Restart of BTAM node requires /STOP DC and /START DC commands. Message DFS2473 in the system console log might contain information regarding the reason this status was set. DFS2473 can occur more than once in the system console log.
DEADQ	Indicates a user with dead letter queues or whose last access time was outside the limit set by the DLQT JCL parameter. The DEADQ status can be removed by signing on the user or entering the /DEQUEUE or /ASSIGN command. For a further description and methods to reset the DEADQ status, refer to <i>IMS/ESA Administration Guide: Transaction Manager</i> .
DEALLOCATION IN PROGRESS	Indicates a conversation is in the process of being deallocated.
DEQCT	Number of local message dequeues since the last IMS cold start or, in a shared-queue environment, since the last IMS restart. DEQCT is reset to zero when ENQCT reaches 32768. A DEQCT count can equal the sum of the DEQCTs of multiple destinations (logical terminals or transactions).
DISABLED	Indicates APPC/IMS is not known to APPC/MVS.
DISCONNECTED	Indicates a node is not in session. Indicates the OTMA client has disconnected from the XCF group. Indicates IMS is not connected to a coupling facility structure.
DQF	Indicates a dequeue request for OTMA REPresynch command failed..
DYNAMIC	A transaction was built in a shared-queues environment to allow transaction messages to be enqueued, but the transaction cannot run on the current IMS subsystem.
EEQE	Extended error queue element, indicates that one or more error queue elements are associated with the database.
ENABLED	Indicates APPC is started.
ENQCT	Number of local message enqueues since the last IMS cold start, or in a shared-queue environment, since the last IMS restart. ENQCT is reset to the number of messages on queue (QCT) when the counter reaches 32768 (QCT = ENQCT - DEQCT). The ENQCT can exceed 32768 if the DEQCT remains zero. The ENQCT will be reset to zero if the counter exceeds 65535. An ENQCT count can equal the sum of the ENQCTs of multiple destinations (logical terminals or transactions).
ERE	Indicates, for a logical link, that link startup processing is not complete. When the link is started, emergency restart synchronization will be performed, because the previous link shutdown was either not normal or an IMS emergency restart was performed.

Status for /DISPLAY Command

Table 44. Attributes and Status in the /DISPLAY Command (continued)

Status or Attribute	Meaning
EXCL	Indicates a node, terminal, or user is in exclusive mode.
FAILED	Indicates APPC failed to start. Indicates OTMA failed to start or that the XCF group failed initialization.
FILLING	Indicates a log gap is currently being filled.
FORCE, FORCES	Indicates a session initiation option of FORCE.
FORMAT-PHASE	Indicates the CREATE utility is currently in FORMAT-PHASE for an ADS.
FULL	Indicates the OTMA client is using RACF for security verification, including for dependent regions.
GLOBAL QUEUE COUNT INTERNAL ERROR, GLOBAL QUEUE COUNT STORAGE ERROR	Indicates IMS is unable to access global queue counts or obtain storage to query the queue counts.
IC	Indicates image copy is in progress for that area or database by an HSSP region.
IDENTIFICATION IN PROGRESS	Indicates that an the IMS logger is in the process of identifying to the Transport Manager Subsystem but has not yet completed.
IDENTIFIED	Indicates that an IMS logger has identified to the Transport Manager Subsystem.
IDLE	Indicates that no activity of any kind is in progress for a line, node, or logical link. This is a common condition for VTAM node channel-to-channel links, and processor storage-to-processor storage links.
INACTIVE, I	Indicates the current XRF surveillance mechanism is inactive. For /DISPLAY MODIFY, indicates the library is inactive. The RSR tracking subsystem is idle.
INOP	Indicates a terminal or node is inoperable.
IN-OVERFLOW	Indicates a coupling facility structure is in overflow mode.
INPUT IN PROGRESS	Indicates input in progress for an active terminal.
INQONLY	Indicates a /DBDUMP command was issued for the database.
IN SLOWDOWN	Indicates the OTMA client is experiencing a slowdown due to excessive message traffic or resource constraints.
INUSE, IN USE	Indicates that queuing is in process for this transaction. (either terminal input or program-to-program switch). Also indicates this is the OLDS currently being used.
INVALID SUBSYSTEM NAME = XXXX	Indicates that a subsystem name was not defined to IMS.
I/O PREVEN, I/O PREVENT, I/O PREV	Indicates a BMP program containing GSAM cannot complete scheduling because I/O prevention has not completed. Indicates further I/O requests to data sets are inhibited.
I/O TOLERATION	Takeover process by which an alternate IMS subsystem ensures database integrity and enables new transaction processing as soon as possible.
LOCK	Indicates a node, terminal, transaction, program, or database is locked.
LOOPTEST	Indicates a line or terminal in looptest mode.

Status for /DISPLAY Command

Table 44. Attributes and Status in the /DISPLAY Command (continued)

Status or Attribute	Meaning
LOST	Indicates the VTAM LOSTERM EXIT has been scheduled for this node but has not yet been recognized by IMS. At the next interrupt for this node, IMS will interrogate the LOSTERM value. All values, with one exception, result in an immediate CLSDST, or disconnection, from IMS. For the LOSTERM exception, IMS must wait for VTAM to notify IMS (via another LOSTERM) of completion of recovery operation. Indicates an IMS logger's connection to the Transport Manager Subsystem is gone due to TMS or VTAM failure.
MESSAGES WAITING	Indicates there are system messages waiting to be sent, which prevents shutdown from completing.
MFSTEST, MFST	Indicates a terminal, node, or user in MFSTEST mode.
MSGS IN QUEUE	Indicates there are messages in the queue for an active terminal.
MSG CT	Number of messages on the queue for this destination (calculated by subtracting the DEQCT from ENQCT).
N/A	Indicates a link is not assigned or a user is signed on to a static terminal, in which case queues are not applicable.
NEEDED	Indicates the OLDS that needs to be archived.
NO ACTIVE CONVERSATION	Indicates there is no active conversation between a logger and a log router.
NODE-USR	Node name and user identifier.
NOIN	Indicates a line or terminal stopped for input.
NO INPUTTING LINES	Indicates no terminal activity.
NO LOG ROUTER SG DEFINED	Indicates that there is no Log Router Service Group defined to DBRC.
NONE	Indicates the OTMA client is using not using RACF for security verification.
NOOUT	Indicates a line or terminal stopped for output.
NO OUTPUTTING LINES	Indicates no terminal activity.
NOQUEUE	Indicates a line or terminal that has had message queuing stopped for message switching.
NOT CONN	No subsystem connection.
NOT DEFINED	Indicates the OTMA client has left the XCF group.
NOT IDENTIFIED	Indicates an IMS logger is not identified to the Transport Manager Subsystem.

Status for /DISPLAY Command

Table 44. Attributes and Status in the /DISPLAY Command (continued)

Status or Attribute	Meaning
NOTIDLE s	Indicates that a logical link is waiting for the completion of a synchronous event. The s represents the following subcodes: <ul style="list-style-type: none"> A Indicates a status of NOTIDLE-POST, which means that an event has completed but the link has not been dispatched to process it. B Indicates a status of NOTIDLE-IWAIT, which means the link is waiting for completion of internal I/O. Cxx Indicates a status of NOTIDLE-TP WAIT, which means the link is waiting for completion of a TP access method request. The two characters xx indicate the value of the access method operation code. Blanks appear if the link is VTAM.
NOTINIT	Indicates a database or program for which directory initialization failed or indicates DMB or PSB pool space not large enough to accommodate blocks.
NOTOPEN, NOT-OPEN	Indicates a database, area, line, terminal, or physical link that is not in open status. This status is not applicable to MSDBs.
NOT USABLE	Indicates a log data set (OLDS) is unusable because of previous error.
NRE	Indicates, for a logical link, that link startup processing is not complete. When the link is started, normal restart synchronization will be performed, because the previous link shutdown or IMS restart was normal.
OFR	Indicates that the database or area is being brought up to the current tracking level with online forward recovery.
OPEN	Indicates that the VTAM ACB is open. Indicates an area to be changed or deleted is open.
OPNDST	Indicates an OPNDST is in process for this node.
OUTBOUND	Indicates the alternate subsystem is APPC-enabled. Also shown on active subsystem when APPC processing cannot start.
OUTPUT IN PROGRESS	Indicates output in progress for an active terminal.
PAGE	Indicates an MFS paged message.
PERMNT ERR	Indicates there is a permanent error, such as a read error, that prevents a log gap from being filled.
PLANNED TAKEOVER IN PROGRESS	Indicates all active subsystems being tracked have successfully shut down and the tracker is now in the process of shutting down.
PRE-OPEN FAILED	Pre-open for ADS failed.
PREV CLSER	Indicates that the previous OLDS could not be closed because of an I/O error; therefore, this OLDS is required by the Log Recovery utility to correct the condition.
PRI	Indicates this node is the primary partner of an ISC session; or, for a link, indicates it is the primary partner of an MSC-VTAM session.

Status for /DISPLAY Command

Table 44. Attributes and Status in the /DISPLAY Command (continued)

Status or Attribute	Meaning
PRIMARY MSTR	Indicates the terminal is the primary master terminal.
PROFILE	Indicates the OTMA client is using values in the Security Data section of the message prefix for a transaction.
PRST	Indicates that a terminal or user is in preset destination mode. The destination trancode or logical terminal name follows in parentheses.
PSB SCHEDULED	A program referencing a database to be changed or deleted is scheduled.
PSTOPPED (PSTO, PSTOP)	Indicates a line, terminal, transaction, or logical link that has been pstopped. This status can indicate that a different, necessary resource is unavailable. For example, a transaction could show a status of PSTOP because the associated program is not initialized.
PUR, PURGING	Indicates a transaction, line, or terminal that is purging all of its output.
QCT	Number of messages on the queue for this destination (calculated by subtracting the DEQCT from ENQCT).
QERR, QERROR	Indicates that an I/O error has occurred on the queue for this LTERM, or remote transaction (MSC).
QLOCK	Indicates that the LTERM is locked from sending any further output or from receiving input which could create additional output for the same LTERM until the state is reset by a specific request received on the session.
QUEUING nn	Indicates that messages are queued to the transaction to be changed or deleted, and nn is the number of messages queued.
QUI	Indicates that a VTAM node has sent a VTAM Quiesce-End-of-Chain indicator to suspend IMS output.
QUIESCED	Indicates the XCF group is stopped. Indicates the node is stopped.
REBLD-INPROG	Indicates a CQS structure rebuild is in progress for a structure.
RECALL	Indicates database or area is in recall.
RECOVERY-NEEDED, RECOVERN	Indicates areas that need recovery.
RELREQ (NODE)	Indicates the VTAM RELREQ exit routine has been driven but IMS is waiting for an operation in progress to complete before releasing the node.
REP	Indicates IMS is waiting for an OTMA REPresynch command from the client.
REQ	Indicates IMS is sending an OTMA REQresynch command to the client.
RESP	Indicates the node, line, terminal, or user is in response mode and the response reply message is available for output or in the process of being sent.
RESPINP, RESP-INP	Indicates the terminal, line, node, or user is in response mode and the response mode input is still in-doubt; for example, the response reply message is not available for output.

Status for /DISPLAY Command

Table 44. Attributes and Status in the /DISPLAY Command (continued)

Status or Attribute	Meaning
RESYNC	Indicates that the positive acknowledgement for an IMS recoverable output message was not received when the connection with the VTAM node was terminated. This message will be subject to resynchronization when the next connection for this node is attempted.
RSF	Indicates a reset request failed for an OTMA REPresynch command.
SCHEDULED	Indicates that a conversation, transaction, or program has been received and queued. For a conversation, this status will be displayed from the time an input message is entered until the output message is dequeued. With /DISPLAY MODIFY, indicates that the named resource (a transaction or program to be changed or deleted, or a program referencing a database to be changed or deleted) is scheduled. With /DISPLAY OLDS, indicates an archive job had been generated.
SEC	Indicates this node is the secondary partner of an ISC session; or, for a link, indicates it is the secondary partner of an MSC-VTAM session.
SECOND MSTR	Indicates the terminal is the secondary master terminal.
SENDING LOGS	Indicates a logger has an active conversation with a log router and is sending logs to the tracking site.
SERVER	Indicates the OTMA client is acting as the server.
SEVERE-ERROR	Indicates ADS encountered a severe error.
SHUT	Indicates that normal processing has completed for the node and a VTAM shutdown-complete indicator was returned to IMS. The node can receive IMS output but cannot enter data while in this state.
SHUTDOWN-STRCHKPT	Indicates CQS will take a structure checkpoint during normal shutdown.
SIGN	Indicates that a terminal or user is signed on to a node under enhanced security. The user signed on to the node is shown in parentheses following SIGN.
SIMLOGON	Indicates that a logon to IMS has been simulated.
SPND	Indicates that a transaction had messages on the suspend queue.
/STA ACTIVE	A /START DATABASE command is in progress for a database to be changed or deleted.
STARTING	Shown after /DIS CONV is issued and before the status is set to SCHEDULED. Indicates that a conversation has been received but is not eligible for scheduling to an application program until an end-of-message indication is received. Also shown after /START APPC is issued and before the status is set to ENABLED or FAILED.
STATIC	Indicates that the node, LTERM or user was defined during system definition.
STOP IN PROGRESS	Indicates a /STOP SUBSYS command is in progress.

Status for /DISPLAY Command

Table 44. Attributes and Status in the /DISPLAY Command (continued)

Status or Attribute	Meaning
STOPPED, STO, STOP	Indicates an area, line, LTERM, LU name, node, terminal, user, OLDS, subsystem, transaction, routing code (RTCODE), OTMA client, program, or database that is stopped. Indicates a subsystem connection is stopped. Indicates a /STOP SERVGRP command was issued. Indicates a transaction pipe is stopped.
STO-INP	Indicates the terminal is stopped with input messages enqueued to the LU name.
STO-OUTP	Indicates the terminal is stopped with output message enqueued to the LU name.
STRCHKPT-INPROG	Indicates a CQS structure checkpoint is in progress for a structure.
SUBSYSTEM XXXX NOT DEFINED BUT RECOVERY OUTSTANDING	Indicates that the subsystem was not defined but IMS has outstanding recovery elements.
SUSPENDED	Indicates that the transaction has been suspended. For /DISPLAY MODIFY, indicates that the transaction to be changed or deleted is on the suspend queue.
SUSPENDED LOGS	Indicates a logger has an active conversation with a log router but has suspended sending logs to the tracking site due to resource shortage. The conversation is still intact.
SYNCHRONIZING, SYN	Indicates the alternate subsystem is processing a /CHE SNAPQ command from the active subsystem. Indicates a transaction pipe is being synchronized.
SYS CONSOLE	Indicates the terminal is the system console.
TAKEOVER IN PROGRESS	Indicates the alternate subsystem is taking over workload from the active subsystem.
TAKEOVER REQUESTED	Indicates the active subsystem has requested a takeover by the alternate subsystem.
TBR	Indicates IMS is waiting for an OTMA TBResynch command from the client.
TERM IN PROGRESS	Indicates an internal termination of the subsystem.
TERMINATING	Indicates the application program is being terminated.
TEST	Indicates a line, node, terminal, or user in test mode.
TKOTRA	Indicates that a node, line, link, or terminal in an XRF session is to be traced only during takeover, to help diagnose XRF terminal switch problems.
TMP	Indicates a transaction pipe is temporary.
TRA	Indicates the physical terminal, node, logical link, LU name, transaction, program or transaction pipe is being traced.
TRACKING	Indicates the XRF alternate subsystem is tracking the active subsystem or an RSR tracking subsystem is tracking one or more active subsystems.

Status for /DISPLAY Command

Table 44. Attributes and Status in the /DISPLAY Command (continued)

Status or Attribute	Meaning
UNAVAILABLE, UNAVAIL	Indicates an ADS that is unavailable. Indicates a region is unavailable because an application is using it, even though the application is not currently scheduled. The region is not available to any other application for use. Indicates that there are no records of a log gap at the active site; these records may have been deleted. Indicates a coupling facility structure is not available for use by IMS.
UNKNOWN	Indicates the XCF group has an unknown status.
UNPLANNED TAKEOVER IN PROGRESS	Indicates an /RTAKEOVER command was entered on the tracking subsystem and an unplanned takeover is in progress.
USTOP, USTOPPED	Indicates scheduling of transactions has been stopped due to unavailable data.

Status for /DISPLAY Command

Table 44. Attributes and Status in the /DISPLAY Command (continued)

Status or Attribute	Meaning
WAIT cond	<p>Indicates the application program is waiting for the completion of an event. The cond represents the reason for waiting. The cond can be:</p> <p>AOI indicates that an AO application issued a GMSG call with the wait option specified, but there are no messages for the application to retrieve.</p> <p>BLOCKMOVER or BLKMVR indicates that an application control block cannot be loaded because the ACB block mover is busy.</p> <p>CMD/PENDING indicates that a /DBD command or a /DBR command is in progress.</p> <p>INPUT indicates that the application program is in wait-for-input (WFI) mode.</p> <p>INTENT or INTENT/POOL indicates one of two conditions:</p> <ol style="list-style-type: none"> 1. The application program's intent for a database conflicts with the use of the database by a scheduled program. 2. A temporary shortage of DMB, PSB, or PSB work area pool space exists. <p>I/O PREVEN indicates that a BMP region which accesses a GSAM database cannot schedule until I/O prevention has completed.</p> <p>MESSAGE indicates that the application program is in a pseudo wait-for-input mode. The application is scheduled and is waiting for a message.</p> <p>POOLSPACE or POOLSP indicates a temporary shortage of DMB, PSB, or PSB work area pool space exists.</p> <p>SWITCHOVER or SWITCH indicates that the alternate system is tracking the active system.</p> <p>SYNCPOINT indicates that the application in the region is now in sync point.</p> <p>WAIT-EPCB POOL indicates that there is a temporary shortage of EPCB pool space.</p> <p>WAIT-RRS/OTMA PC A program has a protected conversation with an OTMA client.</p>
WAIT BID	Indicates that the OTMA client is procesing a Client-Bid request.
WAITING	Indicates that the MPP region is waiting for work. Indicates a log gap is not being filled yet.

Status for /DISPLAY Command

Table 44. Attributes and Status in the /DISPLAY Command (continued)

Status or Attribute	Meaning
WAIT RESPONSE	Indicates that the OTMA client is processing a message and is waiting for a response from the server.
WRTErr	Indicates a write I/O error on the OLDS or a database.

Bibliography

This bibliography includes all the publications cited in this book, including the publications in the IMS library.

- IMS/ESA Message Requeuer Program Description/Operations Manual, SH21-1089*
- MVS/ESA Operations: JES2 Commands, SC28-1039*
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IMS/ESA Version 6 Library

SC26-8725	ADB	Administration Guide: Database Manager
SC26-8730	AS	Administration Guide: System
SC26-8731	ATM	Administration Guide: Transaction Manager
SC26-8727	APDB	Application Programming: Database Manager
SC26-8728	APDG	Application Programming: Design Guide
SC26-8726	APCICS	Application Programming: EXEC DLI Commands for CICS and IMS
SC26-8729	APTM	Application Programming: Transaction Manager
SC26-8732	CG	Customization Guide
SC26-9517	CQS	Common Queue Server Reference
SC26-8733	DBRC	Database Recovery Control Guide and Reference
LY37-3731	DGR	Diagnosis Guide and Reference
LY37-3732	FAST	Failure Analysis Structure Tables (FAST) for Dump Analysis
GC26-8736	IIV	Installation Volume 1: Installation and Verification
GC26-8737	ISDT	Installation Volume 2: System Definition and Tailoring
SC26-8740	MIG	Master Index and Glossary
GC26-8739	MC	Messages and Codes
SC26-8743	OTMA	Open Transaction Manager Access Guide
SC26-8741	OG	Operations Guide
SC26-8742	OR	Operator's Reference
GC26-8744	RPG	Release Planning Guide
SC26-8767	SOP	Sample Operating Procedures
SC26-8769	URDB	Utilities Reference: Database Manager

SC26-8770	URS	Utilities Reference: System
SC26-8771	URTM	Utilities Reference: Transaction Manager

Supplementary Publications

GC26-8738	LPS	Licensed Program Specifications
SC26-8766	SOC	Summary of Operator Commands

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LK3T-2326	CDROM	IMS/ESA Version 6 Softcopy Library
SK2T-0730	CDROM	IBM Online Library: Transaction Processing and Data
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Bibliography

Index

Special Characters

- /ACTIVATE command
 - description 75
 - environments 75
 - examples 75
 - syntax diagram 75
- /ALLOCATE command
 - description 77
 - environments 77
 - syntax diagram 77
- /ASSIGN command
 - description 81
 - environments 80
 - examples 88
 - syntax diagram 79
- /BROADCAST command
 - description 94
 - environments 93
 - examples 95
 - syntax diagram 93
- /CANCEL command
 - description 99
 - environments 99
 - example 99
 - syntax diagram 99
- /CHANGE command
 - description 103
 - environments 102
 - examples 109
 - syntax diagram 101
- /CHECKPOINT command
 - description 116
 - environments 115
 - examples 119
 - shutdown
 - description 115
 - simple
 - description 115
 - statistics
 - description 115
- /CLSDST command
 - description 121
 - environments 121
 - example 122
 - syntax diagram 121
- /COMPT command
 - description 124
 - environments 123
 - examples 124
 - syntax diagram 123
- /CQCHKPT command
 - description 127
 - environments 127
 - examples 128
 - syntax diagram 127
- /CQQUERY command
 - description 129
- /CQQUERY command (*continued*)
 - environments 129
 - examples 130
 - syntax diagram 129
- /CQSET command
 - description 131
 - environments 131
 - examples 132
 - syntax diagram 131
- /DBDUMP command
 - description 133
 - environments 133
 - examples 135
 - syntax diagram 133
- /DBRECOVERY command
 - description 137
 - environments 137
 - examples 140
 - syntax diagram 137
- /DELETE command
 - description 144
 - environments 143
 - examples 144
 - syntax diagram 143
- /DEQUEUE command
 - description 146
 - environments 145
 - examples 150
 - syntax diagram 145
- /DISPLAY command
 - description 163
 - environments 161
 - examples 224
 - syntax diagram 151
- /END command
 - description 283
 - environments 283
 - example 283
 - syntax diagram 283
- /ERESTART command
 - description 287
 - environments 286
 - examples 293
 - syntax diagram 285
- /EXCLUSIVE command
 - description 297
 - environments 297
 - example 298
 - syntax diagram 297
- /EXIT command
 - description 299
 - environments 299
 - examples 300
 - syntax diagram 299
- /FORMAT command
 - description 303
 - environments 303
 - example 304

- /FORMAT command *(continued)*
 - syntax diagram 303
- /HOLD command
 - description 305
 - environments 305
 - example 305
 - syntax diagram 305
- /IAM command
 - description 307
 - environments 307
 - examples 308
 - syntax diagram 307
- /IDLE command
 - description 309
 - environments 309
 - examples 311
 - syntax diagram 309
- /LOCK command
 - description 313
 - environments 313
 - examples 315
 - syntax diagram 313
- /LOG command
 - description 317
 - environments 317
 - example 317
 - syntax diagram 317
- /LOOPTEST command
 - description 319
 - environments 319
 - example 319
 - syntax diagram 319
- /MODIFY command
 - description 321
 - environments 321
 - examples 325
 - syntax diagram 321
- /MONITOR command
 - description 329
 - environments 329
 - example 329
 - syntax diagram 329
- /MSASSIGN command
 - description 331
 - environments 331
 - examples 332
 - syntax diagram 331
- /MSVERIFY command
 - description 335
 - environments 335
 - examples 335
 - syntax diagram 335
- /NRESTART command
 - description 341
 - environments 341
 - examples 346
 - syntax diagrams 339
- /OPNDST command
 - description 350
 - environments 349
 - examples 352

- /OPNDST command *(continued)*
 - syntax diagram 349
- /PSTOP command
 - description 356
 - environments 355
 - examples 358
 - syntax diagram 355
- /PURGE command
 - description 364
 - environments 363
 - examples 365
 - syntax diagram 363
- /QUIESCE command
 - description 367
 - environments 367
 - example 367
 - syntax diagram 367
- /RCLSDST command
 - description 369
 - environments 369
 - example 369
 - syntax diagram 369
- /RCOMPT command
 - description 371
 - environments 371
 - example 372
 - syntax diagram 371
- /RDISPLAY command
 - description 373
 - environments 373
 - examples 373
 - syntax diagram 373
- /RELEASE command
 - description 375
 - environments 375
 - example 375
 - syntax diagram 375
- /RESET command
 - description 377
 - environments 377
 - example 377
 - syntax diagram 377
- /RMCHANGE command
 - description 379
- /RMDELETE command
 - description 379
- /RMGENJCL command
 - description 379
- /RMINIT command
 - description 379
- /RMLIST command
 - description 379
- /RMNOTIFY command
 - description 379
- /RMxxxxx command
 - DBRC modifiers 380
 - description 379
 - environments 379
 - examples 381
 - LTERM keyword 380
 - parameters passed to DBRC 381

- /RMxxxxxx command *(continued)*
 - syntax diagram 379
- /RSTART command
 - description 388
 - environments 387
 - examples 389
 - syntax diagram 387
- /RTAKEOVER command
 - description 393
- /SECURE command
 - description 397
 - environments 397
 - examples 398
 - syntax diagram 397
- /SET command
 - description 401
 - environments 401
 - examples 402
 - syntax diagram 401
- /SIGN command
 - description 405
 - environments 405
 - examples 407
 - syntax diagram 405
- /SMCOPY command
 - description 409
 - environments 409
 - example 410
 - syntax diagram 409
- /SSR command
 - description 411
 - environments 411
 - example 411
 - syntax format 411
- /START command
 - description 417
 - environments 416
 - examples 429
 - syntax diagram 413
- /STOP command
 - description 441
 - environments 440
 - examples 450
 - syntax diagram 437
- /SWITCH command
 - description 461
 - environments 461
 - examples 462
 - syntax diagram 461
- /TEST command
 - description 465
 - environments 465
 - examples 466
 - syntax diagram 465
- /TRACE command
 - description 470
 - environments 469
 - examples 481
 - syntax diagram 467
- /UNLOCK command
 - description 487

- /UNLOCK command *(continued)*
 - environments 487
 - examples 489
 - syntax diagram 487
- /UNLOAD command
 - description 493

Numerics

- 3270 Information Display System
 - display screen 3
 - MFS bypass 22
 - multisegment command input
 - description 6
 - example 8
 - printer 3
- 3270 terminal
 - FORMAT command 303
- 3275 terminal
 - COMPONENT keyword 82
- 3770 terminal
 - COMPONENT keyword 82

A

- ABDUMP keyword
 - CHECKPOINT command 116
 - definition 36
 - STOP command 443
 - SWITCH command 462
- ABORT keyword
 - CHANGE command 103
 - definition 36
 - MODIFY Command 322
- ACBLIB library
 - switching to inactive libraries
 - MODIFY command 321
- ACCESS keyword
 - definition 36
 - START command 420, 422
- ACF/VTAM
 - dynamic nodes
 - LOCK NODE command 314
- ACTIVATE command
 - description 75
 - environments 75
 - examples 75
 - LINK keyword 75
 - NODE keyword 75
 - syntax diagram 75
- ACTIVE keyword
 - BROADCAST command 94
 - definition 36
 - DISPLAY command
 - description 163
 - examples 224, 227
 - SWITCH command 462
- active system
 - master terminal display screen 464
 - status 163

ADS keyword
 definition 37
 STOP command 442
 AFFINITY keyword
 definition 37
 DISPLAY command
 description 167
 ALL parameter
 KEYWD macro statement 14
 specifying 14
 ALLD parameter
 F irlmproc,STATUS command 521
 ALLI parameter
 F irlmproc,STATUS command 521
 ALLOCATE command
 description 77
 environments 77
 LUNAME keyword 77
 MODE keyword 77
 syntax diagram 77
 TPNAME keyword 77
 alternate system
 master terminal display screen 463
 AO (automated operator) application
 CMD call 20
 commands supported 20
 ICMD call 22
 AOI (automated operator interface)
 See AO application 20
 AOI application programs
 UNLOCK DATABASE command 488
 UNLOCK PROGRAM command 488
 UNLOCK SYSTEM command 488
 UNLOCK TRANSACTION command 488
 AOITOKEN keyword 37
 DEQUEUE command 146
 DISPLAY command
 description 167
 APPC keyword
 CHANGE command 103
 definition 37
 DISPLAY command
 description 168
 example 228
 PURGE command 364
 SECURE command 397
 START command 418
 STOP command 442
 APPLCOUNT keyword
 SET command 547
 APPLID keyword
 SET command 547
 area data set
 referring to 37
 AREA keyword
 DBRECOVERY command 138
 definition 37
 DISPLAY command
 description 169
 example 228
 START command 418
 AREA keyword (*continued*)
 STOP command 442
 ASR keyword
 CHANGE command
 description 106
 SONSCIP= keyword 106
 definition 37
 ASSIGN command
 CLASS keyword 81
 COMPONENT keyword 82
 CPRI keyword 82
 description 81
 environments 80
 examples 88
 ICOMPONENT keyword 82
 INPUT keyword 82
 LINE keyword 82
 LMCT keyword 83
 LPRI keyword 83
 LTERM keyword
 data considerations 85
 description 83
 master terminal 84
 physical terminal 83
 PRIMARY parameter 84
 master terminal 81
 master terminal BTAM line 116
 NODE keyword 86
 NPRI keyword
 BMP transactions 86
 description 86
 OUTPUT keyword
 description 86
 ISC node 86
 PARLIM keyword
 CPI communications driven transactions 86
 description 86
 PLMCT keyword
 CPI communications driven transactions 87
 description 87
 PTERM keyword 87
 REGION keyword 87
 SEGNO keyword
 CPI communications driven transactions 87
 description 87
 SEGSIZE keyword
 CPI communications driven transactions 87
 description 87
 syntax diagram 79
 TRANSACTION keyword 87
 USER keyword 87
 VTAMPOOL keyword 88
 ASSIGNMENT keyword
 definition 37
 DISPLAY command
 description 171
 example 229
 attributes
 DISPLAY command 571
 AUTO keyword
 description 37

AUTO keyword (*continued*)
TRACE command 479
AUTOARCH keyword
definition 38
START command 419
STOP command 443
automated operator interface (AOI)
See AO application 20

B

BACKUP keyword
definition 38
ERESTART command 288
STOP command 443
SWITCH command 462
BALGRP keyword
definition 38
DISPLAY command 202
BISYNC link
resetting continuous mode 356
BKERR keyword
definition 38
DISPLAY command
description 175
BMP (batch message processing) program
no backout of updates 291
BMP transactions
ASSIGN command
NPRI keyword 86
LPRI keyword 83
BROADCAST command
ACTIVE keyword 94
CHECKPOINT command 116
description 94
environments 93
examples 95
LINE keyword 94
LTERM keyword
ALL parameter 94
description 94
MASTER parameter 95
MSNAME keyword 93
NODE keyword 95
PTERM keyword 95
syntax diagram 93
SYSID keyword 93
USER keyword 95
BSC (binary synchronous communication)
logical link
RSTART command 388
BTAM (Basic Telecommunications Access Method)
link
RSTART command 388
multiple-page messages 116
BTAM lines
terminate input
IDLE LINE NOSHUT command 309
BTAM terminals
RSR environment 29

BUILDQ keyword
definition 38
ERESTART command 288
NRESTART command 342

C

CANCEL command
description 99
environments 99
example 99
syntax diagram 99
CANCEL keyword
definition 38
STOP command 442, 447
CBT (control block table) pool
display abbreviations 195
DISPLAY POOL command 193
storage pool 194
CCTL (coordinator controller)
status 172
CCTL keyword
CHANGE command 103
definition 38
DISPLAY command
description 172
examples 235
CHANGE command
ABORT keyword 103
APPC keyword 103
ASR keyword
description 106
SONSCIP= keyword 106
CCTL keyword 103
COLDSESS keyword
description 105
COMMIT keyword 103
description 103
DESCRIPTOR keyword 104
DIRECTORY keyword
description 105
environments 102
examples 109
FDR keyword 105
FORCSESS keyword
LINK 105
NODE 106
INTERVAL keyword 107
LINK keyword 105
LUNAME keyword 104
MAXRGN keyword 108
MODE keyword
with DESCRIPTOR keyword 104
with LINK keyword 106
with NODE keyword 106
NODE keyword 106
OASN keyword 107
PASSWORD keyword 107
RESET keyword 107
SIDE keyword 104
SUBSYS keyword 107

CHANGE command (*continued*)

- SURVEILLANCE keyword 107
- SYNLEVEL keyword 104
- SYNCESS keyword 105, 106
- syntax diagram 101
- TIMEOUT #minutes keyword 103
- TIMEOUT keyword 107
- TPNAME keyword
 - description 104
- TRANSACTION keyword 108
- TYPE keyword 104
- UOR keyword 108
- USER keyword 107

CHECK parameter

- SECURE command 397, 398

CHECKPOINT command

- ABDUMP keyword 116
- DBCTL (database control) 117
 - description 116
 - syntax diagram 115
- DUMPQ keyword 116
- environments 115
- examples 119
- FREEZE keyword 116
- LEAVEGR keyword 118
- master terminal BTAM line 116
- NOCQSSHUT keyword 118
- notifying with the BROADCAST command 116
- PURGE keyword 116
- QUIESCE keyword 118
- shutdown
 - description 115
 - syntax diagram 115
- simple
 - description 115
 - syntax diagram 115
- SNAPQ keyword 118
- statistics
 - description 115
- STATISTICS keyword 118
- system messages 116

CHECKPOINT keyword

- definition 38
- ERESTART command 288
- NRESTART command 343
- SWITCH command 462

CLASS keyword

- ASSIGN command 81
 - definition 38
- DISPLAY command 202
- START command 419
- STOP command 443

CLSDST command

- description 121
- environments 121
- example 122
- FORCE keyword 121
- ISC node 121
- NODE keyword 121
 - syntax diagram 121
- USER keyword 122

CLSDST command (*continued*)

- VTAM terminal 121

CMD call 20

CMDAUTH keyword

- definition 38
- ERESTART command 288
- NRESTART command 343

CMDAUTHE keyword

- definition 38
- ERESTART command 288
- NRESTART command 343

CNS keyword

- COMPT command 123
 - definition 39
- RCOMPT command 371

cold start

- CHANGE LINK COLDSESS command 105
- CHANGE LINK FORCSESS command 105

COLDBASE keyword

- definition 39
- ERESTART command 289

COLDCOMM keyword

- definition 39
- ERESTART command 289

COLDSESS keyword

- CHANGE command
 - description 105
 - definition 39

COLDSYS keyword

- definition 39
- ERESTART command 289

COMM macro

- time stamp 10

command

- ACTIVATE 75
- ALLOCATE 77
- alter IMS resources 18
- AOI 20
- ASSIGN 79
- automated operator transaction 20
- BROADCAST 93
- CANCEL 99
- CHANGE 101
- changes for version 6 xxvii
- CHECKPOINT 115
- CLSDST 121
- CMD call 20
- comment 16
- COMPT 123
- CQCHKPT 127
- CQQUERY 129
- CQSET 131
- DBCTL 8, 555
- DBDUMP command 133
- DBRECOVERY command 137
- DCCTL
 - list 557
- DEFINE 539
- DELETE command 143
- DEQUEUE 145
- DFSnnn message 10

command (*continued*)

- DISPLAY 151, 541
- END 283
- environments
 - DB/DC 31
 - DBCTL 31
 - DCCTL 31
- ERESTART 285
- ETO 569
- examples 11
- EXCLUSIVE 297
- EXIT 299
- F fdbproc 513
- F irlmproc,ABEND command 517
- F irlmproc,DIAG,DELAY command 518
- F irlmproc,PURGE,imsname command 519
- F irlmproc,SET command 520
- F irlmproc,STATUS command 521
- F jobname,DUMP command 507
- F jobname,DUMPxxxx command 507
- F jobname,FORCExxxx 508
- F jobname,RECONNECT command 509
- F jobname,STOP command 511
- format
 - DBCTL 12
- FORMAT command 303
- generic parameters 15
- HOLD 305
- IAM 307
- ICMD 22
- IDLE 309
- keywords 13, 31
- LOCK 313
- LOG 317
- logged to secondary master terminal 19
- LOOPTEST 319
- LU 6.2 device
 - allocate conversation 8
 - command response 10
 - list of 29
 - password 8
 - security defaults 30
- MODIFY 321
- MONITOR 329
- MSASSIGN 331
- MSVERIFY 335
- multisegment input 6
- MVS/ESA
 - entering commands 3
- MVS/ESA, used for IMS 499
- NODE USER keyword combinations 567
- NRESTART 339
- OPNDST command 349
- OS/390, used for IMS 499
- OS/390 commands for version 6 xxviii
- OTMA
 - list of 29
 - security defaults 30
- P cqsjob 527
- P irlmproc 529
- parameters 13

command (*continued*)

- PSTOP command 355
- PURGE 363
- QUIESCE command 367
- RCLSDST command 369
- RCOMPT command 371
- RDISPLAY command 373
- recovered at emergency restart 18
- RELEASE command 375
- reserved words 14
- RESET command 377
- response 10
- response with EXCEPT phrase 10
- RMCHANGE command 379
- RMDELETE command 379
- RMGENJCL command 379
- RMINIT command 379
- RMLIST command 379
- RMNOTIFY command 379
- RMxxxxxx command 379
- RSR
 - supported on the tracker 26
- RSTART command 387
- RTAKEOVER 393
- S irlmproc command 503
- SECURE 397
- SET 547
- SET command 401
- shared secondary index database 565
- SIGN 405
- SMCOPY command 409
- SSR command 411
- START 549
- START command 413
- STOP 551
- STOP command 437
- SWITCH command 461
- terminal security defaults 17
- TEST command 465
- TRACE 467
- transaction-entered 20
- UNLOCK command 487
- VUNLOAD 493
- XRF
 - mirrored on the alternate 24
 - supported on the alternate 25
- commands
 - transport manager 537
- comment
 - command 16
- COMMIT keyword
 - CHANGE command 103
 - definition 39
 - MODIFY Command 322
- COMP keyword
 - definition 39
 - TRACE command 475
- COMPONENT keyword
 - 3275 terminal 82
 - 3770 terminal 82
 - ASSIGN command 82

COMPONENT keyword *(continued)*

- definition 39
- SLU 1 terminal 82
- SLU 4 terminal 82
- SLU P terminal 82

COMPT command

- CNS keyword 123
- CRD keyword 123
- description 124
- environments 123
- examples 124
- NOTRDY keyword 124
- PCH keyword 123
- PDS keyword 123
- PRT keyword 123
- RDR keyword 123
- READY keyword 124
- ready state 124
- syntax diagram 123
- TDS keyword 123
- UDS keyword 123
- USER keyword 123
- VID keyword 123
- WPM1 keyword 123
- WPM2 keyword 123
- WPM3 keyword 123

CONTINUOUS keyword

- definition 39
- RSTART command 388

CONVERSATION keyword

- definition 39
- DISPLAY command
 - description 173
 - example 236
- EXIT command 300
- RELEASE command 375
- SET command 401

conversational processing

- status 173

CPI communications driven transactions

- ASSIGN PARLIM command 86
- ASSIGN PLMCT command 87
- ASSIGN SEGNO command 87

CPRI keyword

- ASSIGN command 82
- definition 39

CQCHKPT command

- description 127
- environments 127
- examples 128
- SHAREDQ keyword 127
- STRUCTURE keyword 127
- syntax diagram 127
- SYSTEM keyword 128

CQQUERY command

- description 129
- environments 129
- examples 130
- STATISTICS keyword 129
- STRUCTURE keyword 129
- syntax diagram 129

CQS (Common Queue Server)

- DISPLAY command 174

CQS keyword

- definition 40
- DISPLAY command
 - description 174
 - examples 237

CQSET command

- description 131
- environments 131
- examples 132
- SHAREDQ keyword 131
- SHUTDOWN keyword 131
- STRUCTURE keyword 132
- syntax diagram 131

CRD keyword

- COMPT command 123
- definition 40
- RCOMPT command 371

CSA=nnn parameter

- F irlmproc,SET command 520

CTC (channel-to-channel)

- link
 - RSTART command 388

D

data parameter

- FORMAT command 304

data sharing

- ACCESS keyword 36
- ACTIVE keyword 36
- GLOBAL keyword 42
- LOCAL keyword 43
- NRESTART command 343

database

- DBRC authorization
 - MODIFY command 322
- deleting
 - MODIFY command 322
- Fast Path
 - MODIFY command 322
- status 174

database control 555

DATABASE keyword

- DBDUMP command 133
- DBRECOVERY command 138
- definition 40
- DELETE command 144
- DISPLAY command
 - description 174
 - examples 238
- DISPLAY command with BKERR keyword 175
- LOCK command 313
- START command 419
- STOP command 443
- UNLOCK command 488

database recovery control (DBRC) 379

DATAGROUP keyword

- DATAGROUP command 139
- definition 40

DATAGROUP keyword (*continued*)
 START command 421
 STOP command 444

DB/DC
 keyword list 31

DBALLOC keyword
 definition 40
 START command 421, 423

DBCTL (database control)
 CHECKPOINT command 117
 command
 format 8
 list 555
 DBDUMP command 134
 DBRECOVERY command 139
 keyword list 31
 LOCK DATABASE command 314
 starting subsystem
 START irlmproc 503

DBD keyword
 definition 40
 DISPLAY command
 description 176
 Fast Path 176

DBDUMP command
 DATABASE keyword 133
 DBCTL 134
 description 133
 environments 133
 examples 135
 GLOBAL keyword 134
 LOCAL keyword 134
 MSDB 134
 NOFEOV keyword 134
 NOPFA keyword 134
 results 133
 syntax diagram 133

DBRC (database recovery control)
 DBRECOVERY command 139
 modifiers
 RMxxxxxx command 380
 RMCHANGE command 379, 380
 RMDELETE command 379, 380
 RMGENJCL command 379, 380
 RMINIT command 379, 380
 RMLIST command 379, 380
 RMNOTIFY command 379, 380
 RMxxxxxx command 379

DBRECOVERY command
 AREA keyword 138
 DATABASE keyword 138
 DATAGROUP keyword 139
 DBCTL 139
 DBRC 139
 DEDB 138
 description 137
 environments 137
 examples 140
 GLOBAL keyword 139
 LOCAL keyword 139
 MSDB 138

DBRECOVERY command (*continued*)
 NOFEOV keyword 139
 NOPFA keyword 139
 results of 138
 syntax diagram 137

DBS keyword
 definition 40

DC keyword
 definition 40
 IDLE command 311
 START command 423
 STOP command 444

DCCTL
 keyword list 31

DCCTL (data communication control)
 commands
 list 557

DEADLOCK= parameter
 START irlmproc command 503

DEADQ status
 DEQUEUE USER command 149

DEDB (data entry database)
 DBRECOVERY command 138
 DISPLAY command 174
 ERESTART command 288
 LOCK DATABASE command 314

DEFINE command
 description 539
 entry format 539
 STARTED keyword 539
 STOPPED keyword 539
 SYSTEM keyword 539

DELETE command
 DATABASE keyword 144
 description 144
 environments 143
 examples 144
 ISC parallel-session node 144
 LINE keyword 144
 logical link security 144
 LTERM keyword 144
 NODE keyword 144
 PASSWORD keyword 144
 password security authorizations 144
 PROGRAM keyword 144
 PTERM keyword 144
 SMU 144
 syntax diagram 143
 TERMINAL keyword 144
 terminal security 144
 transaction code 144
 TRANSACTION keyword 144
 VTAM node 144

DEQUEUE command
 AOITOKEN keyword 146
 description 146
 environments 145
 examples 150
 LINE keyword 146
 LTERM keyword 146
 LUNAME keyword 147

DEQUEUE command *(continued)*
 MSNAME keyword 147
 network-qualified LU name 147
 NODE keyword 147
 PTERM keyword 146
 PURGE keyword 147
 PURGE1 keyword 148
 SUSPEND keyword 148
 syntax diagram 145
 TMEMBER keyword
 OTMA 149
 TPIPE keyword
 OTMA 149
 TPNAME keyword 147
 TRANSACTION keyword 149
 USER keyword 149
 DEQUEUE USER command
 DEADQ status 149
 DESCRIPTOR keyword
 CHANGE command 104
 definition 41
 DISPLAY command
 description 176
 example 240
 DFSCPIC
 DISPLAY TRANSACTION command 220
 DFSMDA macro
 START OLDS command 425
 DIRECTORY keyword
 CHANGE command
 description 105
 definition 41
 DISPLAY command 541
 DISPLAY command
 ACTIVE keyword
 description 163
 examples 224, 227
 AFFINITY keyword
 description 167
 AOITOKEN keyword
 description 167
 APPC keyword
 description 168
 example 228
 AREA keyword
 description 169
 examples 228
 ASSIGNMENT keyword
 description 171
 example 229
 attributes
 list 571
 BALGRP keyword 202
 BKERR keyword
 description 175
 CCTL keyword
 description 172
 examples 235
 CLASS keyword 202
 CONVERSATION keyword
 description 173

DISPLAY command *(continued)*
 CONVERSATION keyword *(continued)*
 example 236
 conversation processing 173
 CQS keyword
 description 174
 examples 237
 DATABASE keyword
 description 174
 examples 238
 DBD keyword
 description 176
 description 163, 541
 DESCRIPTOR keyword
 description 176
 example 240
 DIRECTORY keyword 541
 ENTITY keyword 541
 entry format 541
 environments 161
 FDR keyword 177
 FPVIRTUAL keyword 177
 HSB keyword
 description 178
 example 241
 HSSP keyword
 description 180
 example 241
 ILS keyword 543
 INTERVAL keyword 179
 LINE keyword
 description 180
 example 242
 LINK keyword
 description 181
 examples 243
 LTERM keyword
 description 182
 examples 243
 LUNAME keyword
 description 182
 examples 244
 MASTER keyword
 description 184
 MASTER parameter
 examples 246
 MODIFY keyword
 description 184
 examples 247
 MSNAME keyword
 description 187
 examples 248
 network-qualified LU name 168
 NODE keyword
 description 187
 examples 249
 OASN keyword
 description 189
 examples 252
 OLDS keyword
 description 189

DISPLAY command (*continued*)
 examples 253
 OTMA keyword
 description 191
 examples 253
 OVERFLOWQ keyword
 description 192
 examples 253
 POOL keyword
 abbreviations used 195
 CBT pool 193
 description 193
 examples 254, 262
 PRIORITY keyword 202
 PROGRAM keyword
 description 201
 examples 262
 PSB keyword
 description 201
 examples 263
 PTERM keyword
 description 202
 examples 263
 Q keyword
 description 202
 examples 264
 QCNT keyword
 description 203
 examples 266
 RTCODE keyword
 description 204
 examples 266
 SHUTDOWN keyword
 description 204
 examples 267
 STATUS keyword 204
 status
 list 571
 STATUS keyword 542
 description 204, 206
 examples 268
 SHUTDOWN keyword 204
 STRUCTURE keyword
 description 208
 examples 271
 SUBSYS keyword
 description 189, 208
 examples 252, 271
 syntax diagram 151
 SYSID keyword
 description 210
 examples 272
 with TRANSACTION keyword 210
 TIMEOVER keyword
 description 210
 examples 272
 TMEMBER keyword
 description 210
 examples 272
 TRACE keyword
 description 212

DISPLAY command (*continued*)
 TRACE keyword (*continued*)
 examples 273
 TRACKING STATUS keyword 213
 TRANSACTION keyword
 description 220
 examples 278
 with Q keyword 202
 with SYSID keyword 210
 UOR keyword
 description 221
 examples 279
 USER keyword
 description 222
 examples 280
 display screen
 active system 464
 alternate system 463
 EEQE (extended error queue element) 491
 I/O toleration 490
 UNLOCK SYSTEM 490
 display screen format
 display area 5
 master terminal 4
 master terminal in XRF 4
 message area 5
 restoring format of 6
 system status 4
 user input area 6
 warning message area 5
 XRF system status 5
 DL/I
 database error queues
 status 175
 DL/I databases
 inflight changes
 backing out 289
 DONE keyword
 definition 41
 IAM command 307
 DUMPQ keyword
 CHECKPOINT command 116
 definition 41
 dynamic directory (MFS), emptying 105

E

E-MCS 6
 EEQE (extended error queue element)
 display screen 491
 END command
 description 283
 environments 283
 example 283
 LINE keyword 283
 NODE keyword 283
 PTERM keyword 283
 syntax diagram 283
 USER keyword 283
 ENTITY keyword
 DISPLAY command 541
 EOM
 multisegment command input 6

EOS
 multisegment command input 6
 ERESTART command
 BACKUP keyword 288
 BUILDQ keyword 288
 CHECKPOINT keyword 288
 CMDAUTH keyword 288
 CMDAUTHE keyword 288
 COLDBASE keyword 289
 COLDCOMM keyword 289
 COLDSYS keyword 289
 DEDB 288
 description 287
 environments 286
 examples 293
 FORMAT keyword 290
 MSDB 288
 MULTSIGN keyword 291
 NOBMP keyword 291
 NOCMDAUTH keyword 291
 NOCMDAUTHE keyword 291
 NOPASSWORD keyword 292
 NOTERMINAL keyword 291
 NOTRANAUTH keyword 291
 NOTRANCMDs keyword 292
 NOUSER keyword 291
 OVERRIDE keyword 292
 PASSWORD keyword 292
 restart
 security definition 287
 SNGLSIGN keyword 292
 syntax diagram 285
 TERMINAL keyword 292
 TRANAUTH keyword 292
 TRANCMDs keyword 292
 USER keyword 292
 ET 12
 ETO
 commands 569
 terminal
 ERESTART CMDAUTH command 288
 ERESTART CMDAUTHE command 288
 examples
 F irlmproc,SET command
 CSA=nnn 521
 TRACE=nnn 521
 F irlmproc,STATUS command 522
 TRACE CT 533
 EXCEPT phrase
 response to command 10
 EXCLUSIVE command
 description 297
 environments 297
 example 298
 LINE keyword 297
 NODE keyword 297
 PTERM keyword 297
 syntax diagram 297
 USER keyword 297
 EXIT command
 CONVERSATION keyword 300

EXIT command (*continued*)
 description 299
 environments 299
 examples 300
 LINE keyword 300
 NODE keyword 300
 PTERM keyword 300
 syntax diagram 299
 USER keyword 300
 Extended Recovery facility 4

F
 F irlmproc,ABEND command
 description 517
 examples 517
 syntax diagram 517
 F irlmproc,DIAG,DELAY command
 description 518
 syntax diagram 518
 F irlmproc,PURGE,imsname command
 description 519
 example 519
 syntax diagram 519
 F irlmproc,SET command
 CSA=nnn parameter 520
 description 520
 examples
 CSA=nnn 521
 TRACE=nnn 521
 irlmproc parameter 520
 restrictions 520
 syntax diagram 520
 TRACE=nnn parameter 520
 F irlmproc,STATUS command
 ALLD parameter 521
 ALLI parameter 521
 description 521
 examples 522
 irlmx parameter 521
 STOR parameter 521
 syntax diagram 521
 TRACE parameter 522
 F jobname,DUMP command
 description 507
 example 507
 syntax diagram 507
 F jobname,DUMPxxxx command
 description 507
 examples 508
 syntax diagram 507
 F jobname,FORCExxxx command
 description 508
 examples 509
 syntax diagram 508
 F jobname,RECONNECT command
 description 509
 example 509
 syntax diagram 509
 F jobname,STOP command
 description 511
 example 511

F jobname,STOP command (*continued*)
 syntax diagram 511

F jobname,STOPxxxx command
 description 511
 examples 512
 syntax diagram 511

Fast Path
 area
 status 169
 database
 MODIFY command 322
 database buffer pool
 display 200
 DEDBs
 recovering 289
 DISPLAY DBD command 176
 ERESTART COLDBASE command 289
 exclusive transactions
 DISPLAY command 220
 PSTOP command 356
 LOCK TRANSACTION command 314
 message-driven programs
 PURGE command 364
 potential transactions
 PSTOP command 356
 region
 STOP REGION command 446
 reset terminal response mode 388
 RSTART command 388
 START command 425

FDR keyword
 CHANGE command 105
 definition 41
 DISPLAY command 177

FORCE keyword
 CLSDST command 121
 definition 41
 PSTOP command 356
 SWITCH command 462

FORCSESS keyword
 CHANGE command
 description 105, 106
 definition 41

format
 lost during conversation
 restoring 303

FORMAT command
 data parameter 304
 description 303
 environments 303
 example 304
 LTERM keyword 303
 modname parameter 303
 syntax diagram 303

FORMAT keyword
 definition 41
 ERESTART command 290
 NRESTART command 343

FORMAT library
 switching to inactive libraries
 MODIFY command 321

FPPROG keyword
 definition 41
 PURGE command 364

FPREGION keyword
 definition 41
 PURGE command 364

FPVIRTUAL keyword
 definition 42
 DISPLAY command 177

FREEZE keyword
 CHECKPOINT command 116
 definition 42

FULL parameter
 SECURE command 397, 398

G

generic resources
 GRSNAME keyword 42

GLOBAL keyword
 DBDUMP command 134
 DBRECOVERY command 139
 definition 42
 START command 418, 421
 STOP command 442

GROUP keyword
 NEWPW command 406
 SIGN command 406

GRSNAME keyword
 definition 42

GSAM database
 START PROGRAM command
 integrity can be affected 426

H

HIDAM database
 starting 419

HOLD command
 description 305
 environments 305
 example 305
 syntax diagram 305

HSB keyword
 definition 42
 DISPLAY command
 description 178
 example 241

HSSP (high-speed sequential processing)
 status 180

HSSP keyword
 definition 42
 DISPLAY command
 description 180
 example 241

I

I/O Timeout Detection facility
 /TRACE command 479

I/O toleration
 display screen 490

IAM command
 description 307
 DONE keyword 307
 environments 307
 examples 308
 INQU ltermname parameter 307
 LTERM keyword 307
 password 13
 PTERM keyword 307
 syntax diagram 307

ICMD call 22

ICOMPONENT keyword
 ASSIGN command 82
 definition 42

ID keyword
 definition 42
 OPNDST command 350

IDLE command
 DC keyword 311
 description 309
 environments 309
 examples 311
 LINE keyword 309
 LINK keyword 310
 master terminal BTAM line 116
 NODE keyword 311
 NOSHUT keyword
 description 309
 restarting 310
 syntax diagram 309

ILS keyword
 DISPLAY command 543
 START command 549
 STOP command 551

IMS subsystem
 starting
 START irlmproc 503

INDOUBT keyword, description 42

INPUT keyword
 ASSIGN command 82
 definition 42

INQU
 ltermname parameter
 IAM command 307

INSTANCE keyword
 SET command 547

Internal Resource Lock Manager 499

INTERVAL keyword
 CHANGE command 107
 definition 42
 DISPLAY command 179
 values 108

IRLM (Internal Resource Lock Manager)
 commands 499

IRLMGRP= parameter
 START irlmproc command 504

IRLMID= parameter
 START irlmproc command 504

IRLMNM= parameter
 START irlmproc command 504

irlmproc parameter
 F irlmproc,SET command 520

irlmx parameter
 F irlmproc,STATUS command 521

ISC
 node
 ASSIGN OUTPUT command 86
 CLSDST command 121
 parallel-session node
 DELETE command 144
 subpool 57
 user
 CLSDST NODE USER command 122

ISC (Intersystem Communication)
 END NODE command 283
 node
 shutdown and deallocation 367
 RCOMPT command
 valid parameters 372
 STOP NODE USER command 446

ISOLOG keyword
 definition 42
 START command 423

J

JOBNAME keyword
 definition 43

K

KEYWD macro statement
 ALL parameter 14
 generic parameters 15

keyword
 changes for version 6 xxvii
 environments
 DB/DC 31
 DBCTL 31
 DCCTL 31
 guidelines for entering 13
 list 31
 reserved words 561
 synonyms 31

L

LEAVEGR keyword
 CHECKPOINT command 118
 definition 43

LEVEL keyword
 definition 43
 TRACE command 471

line
 inclusive parameter 14

LINE keyword
 ASSIGN command 82
 BROADCAST command 94
 definition 43

LINE keyword (*continued*)
 DELETE command 144
 DEQUEUE command 146
 DISPLAY command
 description 180
 example 242
 END command 283
 EXCLUSIVE command 297
 EXIT command 300
 IDLE command 309
 LOOPTEST command 319
 MONITOR command 329
 PSTOP command 356
 PURGE command 364
 RSTART command 388
 START command 423
 STOP command 444
 TEST command 465
 TRACE command 471
 link
 inclusive parameter 14
 status 181
 LINK keyword
 ACTIVATE command 75
 CHANGE command 105
 definition 43
 DISPLAY command
 description 181
 examples 243
 IDLE command 310
 MSASSIGN command 331
 PSTOP command 356
 RSTART command 388
 TRACE command 471
 LMCT keyword
 ASSIGN command 83
 definition 43
 LOCAL keyword
 DBDUMP command 134
 DBRECOVERY command 139
 definition 43
 MSASSIGN command 332
 START command 418, 421, 423
 STOP command 443
 LOCK command
 DATABASE keyword 313
 description 313
 environments 313
 examples 315
 LTERM keyword 314
 NODE keyword 314
 password 13
 PROGRAM keyword 314
 PTERM keyword 314
 syntax diagram 313
 TRANSACTION keyword 314
 LOCKTAB= parameter
 START irlmproc command 504
 LOG command
 description 317
 environments 317
 LOG command (*continued*)
 example 317
 syntax diagram 317
 logical link path
 queue counts 187
 logical terminal
 LTERM keyword 44
 logical unit name
 LUNAME keyword 44
 LOGOND keyword
 definition 43
 OPNDST command 350
 LOOPTEST command
 description 319
 environments 319
 example 319
 LINE keyword 319
 PTERM keyword 319
 syntax diagram 319
 looptest mode
 DISPLAY LINE PTERM command 319
 LOPEN keyword
 definition 43
 RSTART command 388
 LPRI keyword
 ASSIGN command 83
 BMP transactions 83
 definition 44
 lterm
 status 182
 LTERM keyword
 ASSIGN command
 data considerations 85
 description 83
 master terminal 84
 physical terminal 83
 PRIMARY parameter 84
 BROADCAST command
 ALL parameter 94
 description 94
 definition 44
 DELETE command 144
 DEQUEUE command 146
 DISPLAY command
 description 182
 examples 243
 FORMAT command 303
 generic parameters 15
 IAM command 307
 LOCK command 314
 PSTOP command 357
 PURGE command 364
 RMxxxxxx command 380
 SET command 401
 START command 424
 STOP command 445
 UNLOCK command 488
 LU 6.2 application program
 DEALLOCATE 299
 descriptor 176
 ending conversations 299

- LU 6.2 application program (*continued*)
 - EXIT command 299
 - network-qualified LU name
 - status 176
 - status
 - related activity 168
 - specific device 182
- LU 6.2 device
 - allocating a synchronous conversation 8
 - command
 - format 8
 - response 10
 - security defaults 30
 - supported 29
 - multisegment command input 7
 - releasing a conversation 375
 - stop scheduling transactions 442
- LUNAME keyword
 - ALLOCATE command 77
 - CHANGE command 104
 - definition 44
 - DEQUEUE command 147
 - DISPLAY command
 - description 182
 - examples 244
 - network-qualified LU name 147
 - START command 424
 - STOP command 445
 - TRACE command 471

M

- MASTER parameter
 - BROADCAST command 95
 - DISPLAY command
 - description 184
 - examples 246
 - RDISPLAY command 373
 - SMCOPY command 410
- master terminal
 - ASSIGN command 81
 - display screen 4
 - display screen format 3
 - entering commands 3
 - messages to 11
 - status 184
 - UNLOCK DATABASE command 488
 - UNLOCK PROGRAM command 488
 - UNLOCK TRANSACTION command 488
 - XRF display screen format 4
- MATRIX library
 - switching to inactive libraries
 - MODIFY command 321
- MAXCONV keyword
 - START command 549
- MAXCSA= parameter
 - START irlmproc command 504
- MAXRGN keyword
 - CHANGE command 108
 - definition 44

- MAXUSRS= parameter
 - START irlmproc command 504
- MCS (multiple console support) console 6
- message
 - destination
 - CHANGE DESCRIPTOR command 104
- Message Requeuer program 288
- MFS (message format service)
 - bypass 22
 - CHANGE DIRECTORY command 105
 - dynamic directory, emptying 105
 - password 12
- MFS (Message Format Service)
 - FORMAT command 303
- MFS keyword
 - TEST command 465
- MFS parameter
 - CHANGE DIRECTORY command 105
- MFSTEST mode
 - TEST command 465
- MODBLKS library
 - switching to inactive libraries
 - MODIFY command 321
- MODE keyword
 - ALLOCATE command 77
 - CHANGE command
 - with DESCRIPTOR keyword 104
 - with LINK keyword 106
 - with NODE keyword 106
 - definition 44
 - OPNDST command 350
 - RSTART command 389
- MODIFY command
 - ABORT keyword 322
 - COMMIT keyword 322
 - description 321
 - environments 321
 - examples 325
 - PASSWORD keyword 324
 - PREPARE keyword 323
 - RACF keyword 325
 - syntax diagram 321
 - TERMINAL keyword 325
 - TRANCMDs keyword 325
- MODIFY IMS commands
 - DUMP 507
 - DUMPxxxx 507
 - FORCExxxx 508
 - RECONNECT 509
 - STOP 511
 - STOPxxxx 511
- MODIFY irlmproc commands
 - ABEND 517
 - DIAG,DELAY 518
 - PURGE,imsname 519
 - SET 520
 - STATUS 521
- MODIFY keyword
 - definition 44
 - DISPLAY command
 - description 184

MODIFY keyword (*continued*)
 examples 247
 modname parameter
 FORMAT command 303
 MODULE keyword
 definition 45
 TRACE command 472
 MONITOR command
 description 329
 environments 329
 example 329
 LINE keyword 329
 PTERM keyword 329
 syntax diagram 329
 MONITOR keyword
 definition 45
 TRACE command 472
 MPP (message processing program)
 stopping processing within a specified region 447
 MRQ (Message Requeuer program)
 default MRQ BMP program name 475
 ERESTART BUILDQ command 288
 NRESTART BUILDQ command fails 343
 MSASSIGN command
 description 331
 environments 331
 examples 332
 LINK keyword 331
 LOCAL keyword 332
 MSNAME keyword 332
 MSPLINK keyword 332
 syntax diagram 331
 SYSID keyword 332
 TRANSACTION keyword 332
 MSC (multiple systems coupling)
 MSVERIFY command 335
 MSC (Multiple Systems Coupling)
 MSASSIGN command 331
 MSDB (main storage database)
 checkpoint data set 344
 DBDUMP command 134
 DBRECOVERY command 138
 ERESTART command 288
 LOCK DATABASE command 314
 NRESTART command 344
 reloading 289
 MSDB (Main Storage Database)
 STOP DATABASE command 443
 MSDBLOAD keyword
 definition 45
 NRESTART command 344
 MSG keyword
 description 45
 TRACE command 479
 MSGAGE keyword
 description 45
 MSNAME keyword
 BROADCAST command 93
 definition 45
 DEQUEUE command 147
 MSNAME keyword (*continued*)
 DISPLAY command
 description 187
 examples 248
 generic parameters 15
 MSASSIGN command 332
 MSVERIFY command 335
 PURGE command 365
 START command 425
 STOP command 445
 MSPLINK keyword
 definition 45
 DISPLAY command 172
 MSASSIGN command 332
 PSTOP command 357
 RSTART command 389
 MSVERIFY command
 description 335
 environments 335
 examples 335
 MSNAME keyword 335
 syntax diagram 335
 SYSID keyword 335
 MTM
 link
 RSTART command 388
 multiple console support 6
 Multiple Systems Coupling 331
 multisegment command input
 3270 Information Display System 7
 display screen 6
 EOM 6
 EOS 6
 examples 7
 LU 6.2 device 7
 MULTISIGN keyword
 definition 45
 ERESTART command 291
 NRESTART command 344
 MVS
 multiple console support 6
 system console
 messages to 11
 outstanding reply numbers 6
 MVS/ESA
 command
 entering 3
 F fdbproc 513
 F irlmproc,ABEND command 517
 F irlmproc,DIAG,DELAY command 518
 F irlmproc,PURGE,imsname command 519
 F irlmproc,SET command 520
 F irlmproc,STATUS command 521
 F jobname,DUMP command 507
 F jobname,FORCExxxx command 508
 F jobname,RECONNECT command 509
 F jobname,STOP command 511
 F jobname,STOPxxxx command 511
 P cqsjob 527
 P irlmproc command 529
 S irlmproc command 503

MVS/ESA (*continued*)
 STOP 527, 529
 used for IMS 499
 STOP AREA command 442
 STOP JES2 CANCEL command 447
 STOP MVS/ESA CANCEL command 447

N

network-qualified LU name 9
 network terminal option 307
 NOBACKOUT keyword
 definition 45
 START command 421
 NOBMP keyword
 definition 45
 ERESTART command 291
 NOBUILDQ keyword
 definition 46
 NRESTART command 342
 NOCMDAUTH keyword
 definition 46
 ERESTART command 291
 NRESTART command 344
 NOCMDAUTHE keyword
 definition 46
 ERESTART command 291
 NRESTART command 344
 NOCOMP keyword
 definition 46
 TRACE command 476
 NOCQSSHUT keyword
 CHECKPOINT command 118
 definition 46
 NODBALLOC keyword
 definition 46
 START command 421, 423
 node
 status 187
 NODE keyword
 ACTIVATE command 75
 ASSIGN command 86
 BROADCAST command 95
 CHANGE command 106
 CLSDST command 121
 definition 46
 DELETE command 144
 DEQUEUE command 147
 DISPLAY command
 description 187
 examples 249
 END command 283
 EXCLUSIVE command 297
 EXIT command 300
 generic parameters 15
 IDLE command 311
 LOCK command 314
 OPNDST command 350
 QUIESCE command 367
 RSTART command 389
 START command 425

NODE keyword (*continued*)
 STOP command 446
 TEST command 465, 466
 TRACE command 473
 UNLOCK command 488
 USER keyword combinations 567
 NOFEOV keyword
 DBDUMP command 134
 DBRECOVERY command 139
 definition 47
 NONE parameter
 SECURE command 397, 398
 NOPASSWORD keyword
 definition 47
 ERESTART command 292
 NRESTART command 345
 NOPFA keyword
 DBDUMP command 134
 DBRECOVERY command 139
 definition 46
 STOP command 443
 NOREVERSE keyword
 definition 47
 NOSHUT keyword
 definition 47
 IDLE command
 description 309
 restarting 310
 NOTERMINAL keyword
 definition 47
 ERESTART command 291
 NRESTART command 344
 NOTRANAUTH keyword
 definition 47
 ERESTART command 291
 NRESTART command 345
 NOTRANCMS keyword
 definition 47
 ERESTART command 292
 NRESTART command 345
 NOTRDY keyword
 COMPT command 124
 definition 47
 RCOMPT command 371
 NOUSER keyword
 definition 48
 ERESTART command 291
 NRESTART command 345
 NPRI keyword
 ASSIGN command
 BMP transactions 86
 description 86
 definition 48
 NRESTART command
 BUILDQ keyword 342
 CHECKPOINT keyword 343
 CMDAUTH keyword 343
 CMDAUTHE keyword 343
 description 341
 environments 341
 examples 346

NRESTART command *(continued)*

- FORMAT keyword 343
 - MSDBLOAD keyword 344
 - MULTSIGN keyword 344
 - NOBUILDQ keyword 342
 - NOCMDAUTH keyword 344
 - NOCMDAUTHE keyword 344
 - NOPASSWORD keyword 345
 - NOTERMINAL keyword 344
 - NOTRANAUTH keyword 345
 - NOTRANCMDMDS keyword 345
 - NOUSER keyword 345
 - PASSWORD keyword 345
 - restart
 - security definition 342
 - SNGLSIGN keyword 345
 - syntax diagrams 339
 - TERMINAL keyword 345
 - TRANAUTH keyword 345
 - TRANCMDMDS keyword 345
 - USER keyword 346
 - with data sharing 343
- NTO (network terminal option)
- IAM command 307
- null keywords 16
- null word
- reserved words 561

O

OASN (origin application schedule numbers)

- status 189

OASN keyword

- CHANGE command 107
- definition 48
- DISPLAY command
 - description 189
 - examples 252

OFF keyword

- SIGN command 407

OLDS keyword

- definition 48
- DISPLAY command
 - description 189
 - examples 253
- START command 425
- STOP command 446
- SWITCH command 462

ON parameter

- SIGN command 405

online change process

- terminating 36

Open Transaction Manager Access (OTMA)

- status 191

OPNDST command

- description 350
- environments 349
- examples 352
- ID keyword 350
- LOGOND keyword 350
- MODE keyword 350

OPNDST command *(continued)*

- NODE keyword 350
 - Q keyword 351
 - syntax diagram 349
 - UDATA keyword 352
 - USER keyword 351
 - USERD keyword 352
- OPTION keyword
- definition 48
 - TRACE command 474, 478
- OS/390
- command
 - used for IMS 499
- OSAM (overflow sequential access method)
- buffer pool
 - /DISPLAY POOL command 196
 - enhanced buffer pool
 - /DISPLAY POOL command 198

OSAMGTF keyword

- definition 48
- TRACE command 473

OTMA

- commands that support 29
- security default commands 30

OTMA keyword

- definition 48
- DISPLAY command
 - description 191
 - examples 253
- OTMA keyword 253
- SECURE command 397
- START command 425
- STOP command 446

OUTPUT keyword

- ASSIGN command
 - description 86
 - ISC node 86
- definition 48
- outstanding reply numbers
 - MVS system console 6

OVERFLOWQ keyword

- definition 48
- DISPLAY command
 - description 192
 - examples 253

OVERRIDE keyword

- definition 48
- ERESTART command 292

P

P cqsjob command

- description 527
- syntax diagram 527

P irlmproc command

- description 529
- example 529
- syntax diagram 529

parameters

- ALL 14
- description 13

parameters (*continued*)

- generic
 - description 14
 - KEYWD macro statement 14
 - LTERM keyword 15
 - MSNAME keyword 15
 - NODE keyword 15
 - TRANSACTION keyword 15
 - USER keyword 15
- group
 - description 15
 - KEYWD macro statement 15
- inclusive 14
- PARLIM keyword
 - ASSIGN command
 - CPI communications driven transactions 86
 - description 86
 - definition 49
- password
 - command 12
 - definition 12
 - RACF 12
 - security
 - DELETE command 144
 - SMU 12
 - terminals 12
- PASSWORD keyword
 - CHANGE command 107
 - definition 49
 - DELETE command 144
 - ERESTART command 292
 - MODIFY command 324
 - NRESTART command 345
 - SET command 547
- PC= parameter
 - START irlmproc command 505
- PCH keyword
 - COMPT command 123
 - definition 49
 - RCOMPT command 371
- PDS keyword
 - COMPT command 123
 - definition 49
 - RCOMPT command 371
- PI keyword
 - definition 49
 - TRACE command 474
- PLMCT keyword
 - ASSIGN command
 - CPI communications driven transactions 87
 - description 87
 - definition 49
- POOL keyword
 - definition 49
 - DISPLAY command
 - description 193
 - examples 254, 262
- PREPARE keyword
 - definition 49
 - MODIFY command 323
- preset mode
 - 3270 Information Display System
 - MFS bypass 22
 - ASSIGN command
 - LINE keyword 82
 - LTERM keyword 83
 - NODE keyword 86
 - RCLSDST command 369
 - RESET command 377
 - resetting
 - /IAM command 401
 - /RESET command 401
 - /START LINE command 401
 - /START LINE PTERM command 401
 - SET command 401
 - START command 423, 425
- PRIORITY keyword
 - definition 49
 - DISPLAY command 202
- PROCLIB library
 - START SUBSYS command 427
 - STOP SUBSYS command 448
- PROFILE parameter
 - SECURE command 397, 398
- program isolation trace
 - TRACE PI command 474
- PROGRAM keyword
 - definition 49
 - DELETE command 144
 - DISPLAY command
 - description 201
 - examples 262
 - LOCK command 314
 - START command 426
 - STOP command 446
 - TRACE command 475
 - UNLOCK command 488
- PRT keyword
 - COMPT command 123
 - definition 50
 - RCOMPT command 371
- PRTKN keyword
 - definition 50
- PSB keyword
 - definition 50
 - DISPLAY command
 - description 201
 - examples 263
 - TRACE command 475
- PSTOP command
 - description 356
 - environments 355
 - examples 358
 - FORCE keyword 356
 - LINE keyword 356
 - LINK keyword 356
 - LTERM keyword 357
 - MSPLINK keyword 357
 - PURGE keyword 356
 - REGION keyword 357
 - syntax diagram 355

PSTOP command (*continued*)
 TRANSACTION keyword 358

pterm
 inclusive parameter 14

PTERM keyword
 ASSIGN command 87
 BROADCAST command 95
 definition 50
 DELETE command 144
 DEQUEUE command 146
 DISPLAY command
 description 202
 examples 263
 END command 283
 EXCLUSIVE command 297
 EXIT command 300
 IAM command 307
 LOCK command 314
 LOOPTEST command 319
 MONITOR command 329
 TEST command 465
 UNLOCK command 488

PURGE command
 APPC keyword 364
 description 364
 environments 363
 examples 365
 FPPROG keyword 364
 FPREGION keyword 364
 LINE keyword 364
 LTERM keyword 364
 MSNAME keyword 365
 syntax diagram 363
 TRANSACTION keyword 365

PURGE keyword
 CHECKPOINT command 116
 definition 50
 DEQUEUE command 147
 PSTOP command 356

PURGE1 keyword
 definition 50
 DEQUEUE command 148

Q

Q keyword
 definition 50
 DISPLAY command
 description 202
 examples 264
 OPNDST command 351

QCNT keyword
 definition 51
 DISPLAY command
 description 203
 examples 266

QLOCK state
 START LTERM command 424

QUEUE keyword 50

QUIESCE command
 description 367

QUIESCE command (*continued*)
 environments 367
 example 367
 NODE keyword 367
 syntax diagram 367
 USER keyword 367

QUIESCE keyword
 CHECKPOINT command 118
 definition 51

R

RACF (Resource Access Control facility)
 MODIFY RACF command 325
 password 12
 SECURE command 397
 SIGN ON command 405

RACF keyword
 MODIFY command 325

RCF= parameter
 overriding with ERESTART COLDSYS
 command 289
 overriding with NRESTART COLDSYS
 command 342

RCLSDST command
 description 369
 environments 369
 example 369
 syntax diagram 369

RCOMPT command
 CNS keyword 371
 CRD keyword 371
 description 371
 environments 371
 example 372
 PCH keyword 371
 PDS keyword 371
 PRT keyword 371
 RDR keyword 371
 syntax diagram 371
 TDS keyword 371
 UDS keyword 371
 VID keyword 371

RCS keyword
 definition 51

RDISPLAY command
 description 373
 environments 373
 examples 373
 MASTER parameter 373
 syntax diagram 373

RDR keyword
 COMPT command 123
 definition 51
 RCOMPT command 371

READY keyword
 COMPT command 123, 124
 definition 51

ready state
 COMPT command 124

REGION keyword
 /START command 426
 ASSIGN command 87
 definition 51
 PSTOP command 357
 STOP command 446
 RELEASE command
 CONVERSATION keyword 375
 description 375
 environments 375
 example 375
 LU 6.2 device 375
 syntax diagram 375
 REMOTE keyword
 definition 51
 reserved words
 description 14
 keywords 13, 561
 null keywords 16
 null words 561
 parameters 561
 RESET command
 description 377
 environments 377
 example 377
 MFS bypass 22
 syntax diagram 377
 RESET keyword
 CHANGE command 107
 definition 52
 resources
 assignment
 status 171
 changed status 184
 restart
 security definition 287
 restrictions
 F irlmproc,SET command 520
 RETRY keyword
 STOP command 551
 RMxxxxxx command
 syntax diagram 379
 RS parameter
 NRESTART command 343
 RSR (Remote Site Recovery)
 BTAM terminals 29
 commands supported on the tracker 26
 RSTART command
 CONTINUOUS keyword 388
 description 388
 environments 387
 examples 389
 LINE keyword 388
 LINK keyword 388
 LOPEN keyword 388
 MODE keyword 389
 MSPLINK keyword 389
 NODE keyword 389
 syntax diagram 387
 USER keyword 389
 RT 12

RTAKEOVER command
 active subsystem 393
 description 393
 tracking subsystem 394
 RTCODE keyword
 definition 52
 DISPLAY command
 description 204
 examples 266
 START command 427
 STOP command 448

S

SB keyword
 definition 52
 START command 427
 STOP command 448
 SCOPE= parameter
 START irlmproc command 505
 secondary master terminal
 commands logged 19
 SECURE command 398
 APPC keyword 397
 CHECK parameter 397, 398
 description 397
 environments 397
 examples 398
 FULL parameter 397, 398
 NONE parameter 397, 398
 OTMA keyword 397
 PROFILE parameter 397, 398
 syntax diagram 397
 security
 definition
 at /NRESTART warm restart 342
 at cold start 342
 at restart 287
 logical link 144
 password authorizations 144
 terminal 144
 terminal default 17
 transaction code 144
 Security Maintenance Utility 12
 SEGNO keyword
 ASSIGN command
 CPI communications driven transactions 87
 description 87
 definition 52
 SEGSIZE keyword
 ASSIGN command
 CPI communications driven transactions 87
 description 87
 definition 52
 SERVGRP keyword
 definition 52
 START command 427
 STOP command 448
 SET command
 APPLCOUNT keyword 547
 APPLID keyword 547

- SET command *(continued)*
 - CONVERSATION keyword 401
 - description 401, 547
 - entry format 547
 - environments 401
 - examples 402
 - INSTANCE keyword 547
 - LTERM keyword 401
 - PASSWORD keyword 547
 - syntax diagram 401
 - TIMER keyword 548
 - TRANSACTION keyword 402
- SET keyword
 - definition 52
 - TRACE command 476
- SGN= parameter
 - overriding with ERESTART COLDSYS command 289
 - overriding with NRESTART COLDSYS command 342
- shared secondary index database
 - commands 565
- SHAREDQ keyword
 - CQCHKPT command 127
 - CQSET command 131
 - definition 52
- shutdown
 - CHECKPOINT command
 - DUMPQ keyword 117
 - FREEZE keyword 117
 - PURGE keyword 117
 - status 204
- SHUTDOWN keyword
 - CQSET command 131
 - definition 52
 - DISPLAY command
 - description 204
 - examples 267
 - STATUS keyword 204
- SIDE keyword
 - CHANGE command 104
 - definition 52
- SIGN command
 - description 405
 - environments 405
 - examples 407
 - GROUP keyword 406
 - NEWPW keyword 406
 - OFF keyword 407
 - ON parameter 405
 - syntax diagram 405
 - USERD keyword 406
 - VERIFY keyword 407
- signon
 - RACF 405
 - terminals requiring
 - commands accepted 405
- SLU 1 terminal
 - COMPONENT keyword 82
- SLU 4 terminal
 - COMPONENT keyword 82
- SLU P terminal
 - COMPONENT keyword 82
- SMCOPY command
 - commands logged to secondary master terminal 19
 - description 409
 - environments 409
 - example 410
 - MASTER parameter 410
 - syntax diagram 409
 - TERMINAL keyword 410
- SMU (Security Maintenance utility)
 - automated operator transactions 20
 - DELETE command 144
 - description 20
 - LOCK LTERM command 314
 - LOCK NODE command 314
 - password 12
- SNAPQ keyword
 - CHECKPOINT command 118
 - definition 52
- SNGLSIGN keyword
 - definition 53
 - ERESTART command 292
 - NRESTART command 345
- SONSCIP= keyword
 - CHANGE LINK ASR command 106
- SSM keyword
 - definition 53
 - START command 427
- SSR command
 - description 411
 - environments 411
 - example 411
 - syntax format 411
- START command
 - ACCESS keyword 420, 422
 - APPC keyword 418
 - AREA keyword 418
 - AUTOARCH keyword 419
 - CLASS keyword 419
 - DATABASE keyword 419
 - DBALLOC keyword 421, 423
 - LOCAL keyword 423
 - NODBALLOC keyword 421, 423
 - DATAGROUP keyword 421
 - DC keyword 423
 - description 417, 549
 - entry format 549
 - environments 416
 - examples 429
 - GLOBAL keyword 418, 421
 - ILS keyword 549
 - ISOLOG keyword 423
 - LINE keyword 423
 - LOCAL keyword 418, 421
 - LTERM keyword 424
 - LUNAME keyword 424
 - MAXCONV keyword 549
 - MSNAME keyword 425
 - NOBACKOUT keyword 421
 - NODE keyword 425

START command (*continued*)
 OLDS keyword 425
 OTMA keyword 425
 PROGRAM keyword 426
 REGION keyword 426
 RTCODE keyword 427
 SB keyword 427
 SERVGRP keyword 427
 SSM keyword 427
 SUBSYS keyword 427
 SURVEILLANCE keyword 428
 syntax diagram 413
 SYSTEM keyword 549
 THREAD keyword 428
 TMEMBER keyword
 OTMA 428
 TMS keyword 549
 TPIPE keyword 428
 TPNAME keyword 424
 TRANSACTION keyword 428
 TRKAUTOARCH keyword 428
 USER keyword 429
 VGRS keyword 429
 WADS keyword 429

START irlmproc command
 DEADLOK= parameter 503
 description 503
 IRLMGRP= parameter 504
 IRLMID= parameter 504
 IRLMNM= parameter 504
 LOCKTAB= parameter 504
 MAXCSA= parameter 504
 MAXUSRS= parameter 504
 PC= parameter 505
 SCOPE= parameter 505
 syntax diagram 503
 TRACE= parameter 505

STARTED keyword
 DEFINE command 539

static
 node
 inclusive parameter 14
 terminal
 ERESTART CMDAUTH command 288

STATISTICS keyword
 CHECKPOINT command 118
 CQUERY command 129
 definition 53

status
 active system 163
 CCTL 172
 communication line 180
 conversational processing 173
 database 174
 database access 176
 DEDB 174
 DISPLAY command
 list 571
 DL/I database error queues 175
 external subsystem 208

status (*continued*)
 Fast Path
 ADS exceptions 207
 area 169, 207
 database 207
 routing code 204
 HSSP activities 180
 IMS resources 206
 logical link 181
 logical link path 187
 logical terminal 182
 LU 6.2 application program
 descriptor 176
 for specific devices 182
 related activities 168
 master terminal 184
 message queues 202
 node 187
 OASN 189
 OTMA 191
 OTMA transaction member 210
 physical terminal 180, 202
 program 201
 PSB 201
 resource assignment 171
 resources
 added, changed, or deleted 184
 shutdown 204
 storage pools 193
 system logging 189
 trace 212
 transaction 210, 220
 unit of recovery 221
 user structures 222
 VTAM response 210
 XRF system 178

STATUS keyword
 definition 53
 DISPLAY command 542
 description 204, 206
 examples 268
 SHUTDOWN keyword 204

STOP command
 ABDUMP keyword 443
 ADS keyword 442
 APPC keyword 442
 AREA keyword 442
 AUTOARCH keyword 443
 BACKUP keyword 443
 CANCEL keyword 442, 447
 CLASS keyword 443
 DATABASE keyword 443
 DATAGROUP keyword 444
 DC keyword 444
 description 441, 551
 entry format 551
 environments 440
 examples 450
 GLOBAL keyword 442
 ILS keyword 551
 JES2 CANCEL 447

STOP command (*continued*)

- LINE keyword 444
- LOCAL keyword 443
- LTERM keyword 445
- LUNAME keyword 445
- MSNAME keyword 445
- MVS/ESA CANCEL 447
- NODE keyword 446
- NOPFA keyword 443
- OLDS keyword 446
- OTMA keyword 446
- PROGRAM keyword 446
- REGION keyword 446
- REGION TRANSACTION keywords
 - stopping WFI mode 447
- RETRY keyword 551
- RTCODE keyword 448
- SB keyword 448
- SERVGRP keyword 448
- SUBSYS keyword 448
- SURVEILLANCE keyword 448
 - syntax diagram 437
- SYSTEM keyword 551
- THREAD keyword 448
- TMEMBER keyword
 - OTMA 449
- TMS keyword 551
- TPIPE keyword
 - OTMA 449
- TPNAME keyword 445
- TRANSACTION keyword 449
- USER keyword 449
- VGRS keyword 450
- WADS keyword 450

STOP cqsjob command
description 527

STOP irlmproc command
description 529
example 529

STOPPED keyword
DEFINE command 539

STOR parameter
F irlmproc,STATUS command 521

storage pool
status 193

STRUCTURE keyword
CQCHKPT command 127
CQQUERY command 129
CQSET command 132
definition 53
DISPLAY command
description 208
examples 271

SUBSYS keyword
CHANGE command 107
definition 53
DISPLAY command
description 208
examples 252, 271
START command 427
STOP command 448

SURVEILLANCE keyword
CHANGE command 107
definition 53
START command 428
STOP command 448

SUSPEND keyword
definition 53
DEQUEUE command 148

SWITCH command 461
ABDUMP keyword 462
ACTIVE keyword 462
BACKUP keyword 462
CHECKPOINT keyword 462
description 461
environments 461
examples 462
FORCE keyword 462
OLDS keyword 462
syntax diagram 461
SYSTEM keyword 461
WADS keyword 462

SYNLEVEL keyword
CHANGE command 104
definition 54

SYNCESS keyword
CHANGE command 105, 106
definition 54

SYSID keyword
BROADCAST command 93
definition 54
DISPLAY command
description 210
examples 272
with TRANSACTION keyword 210
MSASSIGN command 332
MSVERIFY command 335

SYSID TRANSACTION keyword
definition 54

System/3
lines
LOOPTEST LINE command 319
stopping output
/MONITOR command 329

System/7
lines
LOOPTEST LINE command 319
stopping output
/MONITOR command 329

system console
UNLOCK DATABASE command 488
UNLOCK PROGRAM command 488
UNLOCK TRANSACTION command 488

SYSTEM keyword
CQCHKPT command 128
DEFINE command 539
definition 54
START command 549
STOP command 551
SWITCH command 461
UNLOCK command 488

system logging
 status 189
system messages
 CHECKPOINT command 116

T

TABLE keyword
 definition 54
 TRACE command 476
TAKEOVER keyword
 definition 54
 TRACE command 478
TCO keyword
 definition 54
 TRACE command 479
TDS keyword
 COMPT command 123
 definition 54
 RCOMPT command 371
terminal
 LU 6.2 devices
 security command defaults 30
 OTMA
 security command defaults 30
TERMINAL keyword
 definition 54
 DELETE command 144
 ERESTART command 292
 MODIFY command 325
 NRESTART command 345
 SMCOPY command 410
TEST command
 description 465
 environments 465
 examples 466
 LINE keyword 465
 MFS keyword 465
 NODE keyword 465, 466
 PTERM keyword 465
 syntax diagram 465
 USER keyword 466
THREAD keyword
 definition 55
 START command 428
 STOP command 448
time stamp
 defined by COMM macro 10
 used in command responses 10
TIMEOUT #minutes keyword
 CHANGE command 103
TIMEOUT keyword
 CHANGE command 107
 definition 55
 TRACE command 479
 values 107
TIMEOVER keyword
 definition 55
 DISPLAY command
 description 210
 examples 272

TIMER keyword
 SET command 548
TMEMBER keyword
 definition 55
 DEQUEUE command 149
 DISPLAY command
 description 210
 examples 272
 OTMA client 55
 START command 428
 STOP command 449
 TRACE command
 OTMA 480
TMS command
 DEFINE 539
 DISPLAY 541
 SET 547
 START 549
 STOP 551
TMS keyword
 START command 549
 STOP command 551
TPIPE keyword
 definition 55
 DEQUEUE command 149
 START command 428
 STOP command 449
 TRACE command
 OTMA 480
TPNAME keyword
 ALLOCATE command 77
 CHANGE command
 description 104
 definition 55
 DEQUEUE command 147
 START command 424
 STOP command 445
 TRACE command 471
TRACE= parameter
 START irlmproc command 505
TRACE command
 AUTO keyword 479
 COMP keyword 475
 description 470
 environments 469
 examples 481
 formats
 changes additional time field 475
 changes logging 475
 changes tracing 475
 LEVEL keyword 471
 LINE keyword 471
 LINK keyword 471
 LUNAME keyword 471
 MODULE keyword 472
 MONITOR keyword 472
 MSG keyword 479
 NOCOMP keyword 476
 NODE keyword 473
 OPTION keyword 474, 478
 OSAMGTF 473

TRACE command (*continued*)
 PI keyword 474
 PROGRAM keyword 475
 PSB keyword 475
 SET keyword 476
 syntax diagram 467
 TABLE keyword 476
 VOLUME keyword 475, 478
 TAKEOVER keyword 478
 TCO keyword 479
 TIMEOUT keyword 479
 TMEMBER keyword 480
 TPIPE keyword 480
 TPNAME keyword 471
 TRANSACTION keyword 480
 TRAP keyword 480
 UNITYPE keyword 480
 VTAM I/O Timeout Detection facility 479

TRACE CT command
 examples 533

TRACE ENTRIES
 OTMA trace activation 477

TRACE keyword
 definition 56
 DISPLAY command
 description 212
 examples 273

TRACE=nnn parameter
 F irlmproc,SET command 520

TRACE parameter
 F irlmproc,STATUS command 522

TRACKING keyword
 definition 56

TRACKING STATUS keyword
 DISPLAY command 213

TRANAUTH keyword
 definition 56
 ERESTART command 292
 NRESTART command 345

TRANCMDs keyword
 definition 56
 ERESTART command 292
 MODIFY command 325
 NRESTART command 345

transaction authorization
 terminals requiring signon 405

TRANSACTION keyword
 ASSIGN command 87
 CHANGE command 108
 definition 56
 DELETE command 144
 DEQUEUE command 149
 DISPLAY command
 description 220
 examples 278
 with Q keyword 202
 with SYSID keyword 210
 generic parameters 15
 LOCK command 314
 MSASSIGN command 332
 PSTOP command 358

TRANSACTION keyword (*continued*)
 PURGE command 365
 SET command 402
 START command 428
 STOP command 449
 TRACE command 480
 UNLOCK command 488

transport manager commands 537

TRAP keyword
 definition 56
 TRACE command 480

TRKAUTOARCH keyword
 definition 56

TRN= parameter
 overriding with ERESTART COLDSYS
 command 289
 overriding with NRESTART COLDSYS
 command 342

TRS keyword
 definition 56

TYPE keyword
 CHANGE command 104
 definition 56

U

UDATA keyword
 definition 57
 OPNDST command 352

UDS keyword
 COMPT command 123
 definition 57
 RCOMPT command 371

UNITYPE keyword
 definition 57
 terminal type parameters 480
 TRACE command 480

UNLOCK command
 DATABASE keyword 488
 description 487
 entered from AOI application programs 488
 entered from master terminal 488
 entered from system console 488
 environments 487
 examples 489
 LTERM keyword 488
 NODE keyword 488
 password 13
 PROGRAM keyword 488
 PTERM keyword 488
 syntax diagram 487
 SYSTEM keyword
 definition 488
 display screen format 490
 TRANSACTION keyword 488

UNPLAN keyword
 definition 57

UOR keyword
 CHANGE command 108
 definition 57

UOR keyword (*continued*)

- DISPLAY command
 - description 221
 - examples 279

user

- dynamic 57
- ISC dynamic 57
- ISC static 57
- ISC subpool 57
- non-ISC static 57

USER keyword

- ASSIGN command 87
- BROADCAST command 95
- CHANGE command 107
- CLSDST command 122
- COMPT command 123
- definition 57
- DEQUEUE command 149
- DISPLAY command
 - description 222
 - examples 280
- END command 283
- ERESTART command 292
- EXCLUSIVE command 297
- EXIT command 300
- generic parameters 15
- NODE keyword combinations 567
- NRESTART command 345, 346
- OPNDST command 351
- QUIESCE command 367
- RSTART command 389
- START command 429
- STOP command 449
- TEST command 466

USERD keyword

- description 58
- OPNDST command 352
- SIGN command 406

V

VGRS keyword

- description 58
- START command 429
- STOP command 450

VID keyword

- COMPT command 123
- definition 58

VOLUME keyword

- definition 58
- TRACE command 475, 478

VSAM (Virtual Storage Access Method)

- buffer pool
 - /DISPLAY POOL command 197
- enhanced buffer pool
 - /DISPLAY POOL command 199

VTAM (Virtual Telecommunications Access Method)

- ACB
 - close 206
- accepting logons from 425

VTAM (Virtual Telecommunications Access Method) (*continued*)

- attached terminals
 - LOOPTEST LINE command 319

link

- RSTART command 388

MSC links

- checkpoint shutdown 310
- IDLE LINK command 310
- PSTOP MSPLINK command 357

node

- close 206
- DELETE command 144
- EXCLUSIVE NODE command 297
- IDLE NODE command 311

terminal

- CLSDST command 121
- disconnecting 369
- initiating a session 350
- ready/not ready state 371
- signing on 350

VTAM generic resources

- GRSNAME keyword 42

VTAM I/O Timeout Detection facility

- /TRACE command 479

VTAMPOOL keyword

- ASSIGN command 88
- definition 58

VUNLOAD command

- description 493
- entry format 493

W

WADS keyword

- definition 58
- START command 429
- STOP command 450
- SWITCH command 462

wait-for-input mode

- stopping message processing 447

WPM1 keyword

- COMPT command 123
- definition 59

WPM2 keyword

- COMPT command 123
- definition 59

WPM3 keyword

- COMPT command 123
- definition 59

X

XRF (Extended Recovery facility)

- alternate system
 - START REGION command 426
- commands mirrored by the alternate 24
- commands supported on the alternate 25
- display screen
 - master terminal 4
 - system status 5

XRF (Extended Recovery facility) *(continued)*

INTERVAL keyword 42

starting the surveillance function 428

stopping the surveillance function 448

system-related status information 178

UNLOCK SYSTEM command

system console 488

XTRC

definition 59

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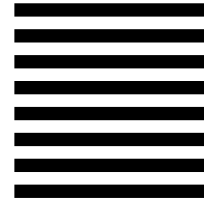
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