B50

IMS V9 Installation Considerations

John Butterweck

jbutterw@us.ibm.com

IMS

Technical Conference

Sept. 27-30, 2004

Orlando, FL

RETURN TO INDEX

Objectives

- The objectives of this session are:
  - Discuss the installation and packaging changes for IMS Version 9
  - Provide hints and tips to aid with a smooth migration
- Audience participation is encouraged

IBM Software

Installation and Packaging Changes

Packaging and Installation Changes - Summary

- No major changes in the installation process from IMS 8.1
- IMS Connect now packaged as part IMS product
- IRLM 2.2 and IRLM 2.1 provided depending on order
- Dynamic Resource Cleanup module DFSMRC20 provided
- IVP dialog can now EXPORT and IMPORT variables
- Increased SYSGEN Flexibility
- Changes in packaging from IMS V7 to IMS V8
  - Dataset name changes
  - SMP/E jobs removed from Install/IVP Dialog Process
  - New Target and Distribution datasets
  - SMP/E Receive, Apply, Accept processing
  - DFSJCLIN no longer provided
  - User exit changes

IBM Software

IMS CONNECT

- **IMS Connect now packaged as part IMS product**
  - **If installed in same target/distribution zone as IMS Connect, IMS Connect FMIDs will be deleted**
  - **IMS Connect packaged as part of services FMID HMK9900**
    - **Formerly FMID HIC2210 for IMS Connect 2.1**
  - **IMS Connector for Java packaged as part of IMS Java FMID JMK9906**
    - **Formerly FMID HIC2211 for IMS Connect 2.1**

IBM Software

IRLM

- IRLM 2.2 (HIR2220) provided with ServerPac orders
- IRLM 2.2 (HIR2220) and IRLM 2.1 (HIR2101) provided with CBPDO orders
- IRLM 2.2 works in both 32 and 64 bit processing mode
  - Dumps created when processing 64 bit mode must be analyzed on a system in 64 bit mode

IBM Software

DFSMRC20

- Dynamic resource cleanup module DFSMRC20 provided
  - No user setup is required
  - Eliminates need to ZAP z/OS module IEAVTRML
    - Cause of many S1 problems
  - Eliminates need to have DFSMRCL0 in LPA
- If running with versions of IMS prior to V9 still need DFSMRCL0 and all it's associated requirements
  - DFSMRCL0 provided with IMS V9
- Installation Volume 1 contains sample to uninstall DFSMRCL0
  - Can be done when all IMS systems are V9 and above

IBM Software

IVP Export

- **IVP Export Utility provided**

  EX 'IMS.V9.SDFSEXEC(DFSIVPEX) 'HLQ(IMS.V9)'

```
                          IVP Variable Export Utility
Command ===>

Enter the following information, then press enter.

_ 1. Select the IVP Environment
     1. DBB - Database Management (Batch)
     2. DBC - Database Management (DBCTL)
     3. DBT - Database and Transaction Management (DB/DC)
     4. XRF - DB/DC with Extended Recovery Facility (DB/DC with XRF)
     5. DCC - Transaction Management (DCCTL)

   2. Specify the IVP High Level Qualifier (IVP) of the INSTATBL dataset

      ____________________________________

   3. Specify the Export Dataset. (If the dataset does not exist, you will
      be prompted to create the dataset)

      ____________________________________________________
```

IVP Export - cont.

- Exported dataset can be modified using ISPF to change variables in mass
  - Change all variables from IMS810 to IMS910

IBM Software

IVP Import

- IVP Import function an Action Code in Variable Gathering

```
IVP          Variable Gathering (LST Mode) - DBC      .. Row 1 to 8 of 126
Command ===>                                            Scroll ===> CSR

  Action Codes: Chg Doc eNt Rfr Imp Exp -- CHG is default if item modified
      Variable  =  Value.....................................................
          Var-Title..........................................................
I      IXUIVPHQ   =  JBUTTER.IMS910C
          IVP - High level DSNAME qualifier for IVP (IVP) data sets
!      IXURLMHQ   =  IVPRLM91
          IVP - High level DSNAME qualifier for IRLM (RLM) data sets
*      IXUDLBHQ   =  IMSSST.I91APAR.DBDC.M.CM1
          IVP - High level DSNAME qualifier for IMS DLIB (DLB) data sets
*      IXUSYSHQ   =  IMSSST.I91APAR.DBDC.M.CM1
          IVP - High level DSNAME qualifier for IMS System (SYS) data sets
!      IXUEXEHQ   =  IVPEXE91
```

IBM Software

IVP Import - 2

- **When Imp action selected:**

```
                        IVP Export File Name
Command ===>

Enter the name of the IVP Export Dataset, then press
enter:

 Export Dataset:
 _____________________________________________________________________
```

IBM Software

Increased SYSGEN Flexibility

- Removal of conditional link edits currently done by SYSGEN
  - Removes the restriction of requiring separate execution libraries for IMS environments
    - The same SDFSRESL can support DB/DC systems, DBCTL systems and/or DCCTL systems
      - Each system with or without Fastpath
      - Fastpath added or removed with a NUCLEUS type SYSGEN
        - Per a customer requirement
- Online Change modules removed from the IMS nucleus
  - Further reduction in SYSGEN
  - IMS Nucleus is loaded in below-the-line private storage

IBM Software

IMS V7 to IMS V8 Packaging Changes

- **The next few slides list the packaging changes between IMS V7 and IMS V8**
  - **Applicable to IMS V9**

IBM Software

Dataset Name Changes

Dataset Name Changes Between Versions:

V6 DLIB	V6 TLIB	V7 DLIB	V7 TLIB	V8/V9 DLIB	V8/V9 TLIB
GENLIB	SMPMTS	ADFSMAC	SDFSMAC	ADFSMAC	SDFSMAC
GENLIBA	MACLIB	ADFSMAC	SDFSMAC	ADFSMAC	SDFSMAC
GENLIBB	MACLIB/SMPMTS	ADFSMAC	SDFSMAC	ADFSMAC	SDFSMAC
LOAD	-	ADFSLOAD	-	ADFSLOAD	-
-	RESLIB	-	SDFSRESL	-	SDFSRESL
DBSOURCE	SMPSTS	ADFSSRC	SMPSTS	ADFSSRC	***SDFSSRC***
SVSOURCE	SMPSTS	ADFSSRC	SMPSTS	ADFSSRC	***SDFSSRC***
TMSOURCE	SMPSTS	ADFSSRC	SMPSTS	ADFSSRC	***SDFSSRC***
DFSCLSTA	DFSCLST	ADFSCLST	SDFSCLST	ADFSCLST	SDFSCLST
DFSEXECA	DFSEXEC	ADFSEXEC	SDFSEXEC	ADFSEXEC	SDFSEXEC
DFSISRCA	DFSISRC	ADFSISRC	SDFSISRC	ADFSISRC	SDFSISRC
DFSRTRMA	DFSRTRM	ADFSRTRM	SDFSRTRM	ADFSRTRM	SDFSRTRM
DFSMLIBA	DFSMLIB	ADFSMLIB	SDFSMLIB	ADFSMLIB	SDFSMLIB
DFSPLIBA	DFSPLIB	ADFSPLIB	SDFSPLIB	ADFSPLIB	SDFSPLIB
DFSSLIBA	DFSSLIB	ADFSSLIB	SDFSSLIB	ADFSSLIB	SDFSSLIB
DFSTLIBA	DFSTLIB	ADFSTLIB	SDFSTLIB	ADFSTLIB	SDFSTLIB

Pre IMS Dialog Jobs

- SMP/E Jobs removed from IVP Dialog Process
  - To conform to packaging standards
  - *IMS Install/ IVP Dialog* renamed to *IMS IVP Dialog*
    - Jobs which perform SMP/E installation and maintenance removed from the dialog
  - JCL provided in Program Directory to unload sample jobs to perform SMP/E processing
    - Jobs contain instructions for customization
    - Same variables in multiple jobs so may want to save in a separate file to use copy and paste
      - C #globalcsi IMS.V9.GLOBAL.CSI all
      - C targlib IMS91T all
        - NOTE changes are case sensitive

IBM Software

Job Customization

- The following is an example of the instructions for customization of the sample jobs:

```
//* NOTES:                                                        */
//* 1) REVIEW THE SMP CONTROL STATEMENTS BEFORE SUBMITTING         */
//*    THIS JOB.                                                   */
//* 2) ADD A JOB CARD TO MEET YOUR SYSTEM'S REQUIREMENTS.          */
//* 3) CHANGE #globalcsi TO THE DATASET NAME OF YOUR GLOBAL        */
//*    CSI DATA SET.                                               */
//* 4) CHANGE targlib TO THE NAME OF YOUR TARGET ZONE.             */
//* 5) REMOVE THOSE FMIDs THAT YOU DO NOT WISH TO APPLY FROM       */
//*    THE SELECT AND FORFMID OPERANDS OF THE APPLY STATEMENT.     */
//*          HMK9900  <======= FMID to be installed            */
//*          HIR2101    <======= FMID to be installed           */
//*          JMK9901  <======= FMID to be installed             */
//*          JMK9902  <======= FMID to be installed             */
//*          JMK9903  <======= FMID to be installed             */
//*          JMK9904  <======= FMID to be installed             */
//*          JMK9905  <======= FMID to be installed             */
//*          JMK9906  <======= FMID to be installed             */
```

- NOTE - The lower case characters. Be sure to specify '*CAPS ON' as appropriate - HFS path names need to be in lower case characters*

IBM Software

Optional Sample Jobs

- Optional jobs provided to install IMS in its own unique SMP/E environment (GLOBAL Zone)
  - DFSALA - Allocate and initialize new CSI
  - DFSALB - Initialize CSI zones, allocate SMP/E datasets, build DDDEF entries for SMP/E
- Recommend using these jobs
  - If these jobs are NOT used, be sure ***ACCJCLIN*** is set in the IMS distribution zone prior to ACCEPT processing
    - ACCJCLIN is set in sample job DFSALB

IBM Software

SMP/E Processing Changes

- **SMP/E Processing Changes**
  - All FMIDs are installed using SMP/E RECEIVE, APPLY, ACCEPT
    - Conform to packaging standards
    - Results in multiple SMP/E messages indicating no target library for parts defined by SYSGEN
      - Program Directory contains message id's
    - Sample jobs provided will process service as well as FMIDs

IBM Software

SMP/E Processing Changes- Cont.

- **Always RECEIVE current Enhanced HOLDDATA prior to SMP/E processing**
  - **For complete descriptive information relating to Enhanced Holddata see Internet address: *http://service.boulder.ibm.com/390holddata.html***
- **Be sure to resolve PE's during processing**
  - **Contact the IBM Support Center for assistance as needed**

IBM Software

DFSJCLIN

- **DFSJCLIN**
  - **No longer provided as a job**
  - **Formerly used to build non-SYSGEN elements**
  - **Non-SYSGEN parts are created during SMP/E APPLY processing**
    - **Inline (++JCLIN) provided with FMIDs used by SMP/E to Bind (link edit) Non-SYSGEN elements during APPLY processing**

IBM Software

SMP/E GENERATE

- **SMP/E GENERATE command**
  - **Used to create JCL necessary to build non-SYSGEN parts**
    - **DFSJCLIN no longer necessary**
    - **Dependent on *ACCJCLIN* being set up in distribution zone *BEFORE* processing FMID's**
    - **Sample command:**

```
SET BDY(targlib) .
GENERATE FORFMID(HMK9900) JOBCARD(CNTL,J) REPLACE .
```

(NOTE: This sample requires DD CNTL to contain member 'J' which is a sample job card)

  - **Used as part processing of service via ACCEPT BYPASS APPLYCHECK or when target environment needs to be re-built from the distribution environment**
    - **Not needed when processing using RECEIVE, APPLY, ACCEPT**
    - **See Informational APAR II13024**

IBM Software

User Exits

- **User Exits**
  - Optional user exits now in SDFSSMPL
  - User exits created as ++SRC type part
    - Allows line updates during SMP/E processing of service as opposed to complete replacement
  - Corresponding ++MOD parts (Object Code) NOT shipped
    - No MOD to LMOD relationships are created during IMS install so SMP/E will not automatically assemble and bind the parts during APPLY processing
    - If the user creates the MOD to LMOD relationship then SMP/E APPLY processing will automatically assemble and bind these exits
  - Working toward all having user exits handled the same way

IBM Software

Sample User Exit Technique

- **The following is an example of a technique that can be used to have SMP/E Assemble and Bind one of the sample exits:**

```
++ USERMOD (XYZUMOD) .
++ VER (P115)
  FMID(HMK9900) .
++ JCLIN.
//INJCLIN  JOB . . .
//LKED    EXEC PGM=IEWL,
//        PARM='('SIZE=(880K,64K)',RENT,REFR,NCAL,LET,XREF,LIST)
//ADFSLOAD DD DSN=IMS.ADFSLOAD,DISP=SHR
//SYSPUNCH DD DSN=IMS.OBJDSET,DISP=SHR
//SYSUT1   DD UNIT=(SYSDA,SEP=(SYSLMOD,SYSLIN)),SPACE=(1024,(200,20))
//SYSPRINT DD SYSOUT=A
//SYSLMOD  DD DSN=IMS.SDFSRESL,DISP=SHR
//SYSLIN   DD  *
  INCLUDE ADFSLOAD(DFSCSI00)
  INCLUDE SYSPUNCH(DFSGMSG0)
  ENTRY DFSGMSG0
  NAME DFSGMSG0(R)
++ SRC   (DFSGMSG0) SYSLIB(SDFSSMPL) DISTLIB(ADFSSMPL) .
DFSGMSG0    TITLE 'DFSGMSG0 -- GREETING MESSAGES USER EXIT'
.  .  .
.  .  .
```

IBM Software

Hints & Tips

Hints and Tips

IBM Software

SMP/E Syslib Concatenation

- SMP/E Apply
  - IMS.OPTIONS
  - SMPMTS
    - Not used by IMS but should be present
  - IMS.SDFSMAC
  - MVS Macro Libraries
    - ASM.SASMMAC2
- SMP/E Accept
  - IMS.OPTIONS
  - IMS.ADFSMAC
  - MVS Macro Libraries
    - ASM.SASMMAC2

IBM Software

IVP Changes - V9

- **IVP Dialog Changes - V9**
  - **CQS (Shared Queues) optional samples provided**
  - **Enhanced Command Environment Samples added**
    - **SPOC samples with SCI & OM automatically started and without RM**
  - **Samples for the setup of the IMS dump formatter and to provide examples of using the IMS dump formatter to process an IMS dump**
  - **Sample for setting up z/OS dump options**
  - **A new and separate high-level-qualifier variable for VSAM data sets**
  - **SMS Storage Class and SMS Management Class parameters are available for allocating all data sets**

IBM Software

IVP Changes - V8

- IVP Dialog Changes (V8)
  - SMP/E jobs removed
  - Option to exclude Fastpath from IVP jobs
  - Syntax Checker sample provided
  - 'O' Series of jobs/tasks added to test Common Service Layer
    - Includes SPOC samples

IBM Software

Batch and Utility Execution

- DFSPBxxx member can now be used in batch and utility jobs
  - Parameters RGSUF=, PARM1= and PARM2= added
  - When not specified continues to work same as before
- DBRC for batch no longer specified in SYSGEN
  - Default for DBRC in batch and utility regions is YES
  - Module DFSIDEF0 can be used to set default for batch
    - Sample provided

IBM Software

DFSIDEF0 Sample

- The following sample can be used to assemble and bind DFSIDEF0

```
//ASSEMBLE EXEC PGM=ASMA90,PARM='NOOBJ,DECK'
//SYSLIB DD DSN=IMS.SDFSMAC,DISP=SHR
//SYSPUNCH DD DISP=OLD,DSN=IMS.OBJDSET(DFSIDEF0)
//SYSPRINT DD SYSOUT=*
//SYSUT1   DD UNIT=SYSDA,DISP=(,DELETE),SPACE=(CYL,(15,15))
//SYSIN    DD *
IDEF0    TITLE 'DFSIDEF0 - IMS INSTALLATION DEFAULTS BLOCK'
DFSIDEF0 CSECT
         SPACE 1
         DFSIDEF TYPE=BEGIN
         DFSIDEF TYPE=PARM,DBRC=YES
*****    DFSIDEF TYPE=PARM,DBRC=NO
*****    DFSIDEF TYPE=PARM,DBRC=FORCE
         DFSIDEF TYPE=END
         END   DFSIDEF0
//STEP1 EXEC PGM=IEWL,
//             PARM='SIZE=(880K,64K),NCAL,LET,REUS,XREF,LIST'
//SYSPRINT DD  SYSOUT=*
//SYSPUNCH DD DSN=IMS.OBJDSET,DISP=SHR
//SYSLMOD  DD DSN=IMS.SDFSRESL,DISP=SHR
//SYSUT1   DD    UNIT=(SYSDA,SEP=(SYSLMOD,SYSPUNCH)),SPACE=(CYL,(10,1)
//SYSLIN   DD *
 INCLUDE SYSPUNCH(DFSIDEF0)
 NAME DFSIDEF0(R)
```

IBM Software

DFSPBxxx

- **The following DFSPBxxx parms added to allow the unique initialization of DFSVC000 for each defined IMS instance:**
  - **DESC=n Specifies a message descriptor code for IMS system console messages. This value overrides the value specified in the IMSCTF or IMSCTRL system definition macros**
  - **MCS=(x,y) Specifies the MVS routing code or codes for the IMS system console. This value overrides the value specified in the IMSCTF or IMSCTRL system definition macros**
  - **SVC2=nnn Specifies the type-2 SVC numbers reserved for use by the IMS subsystem. The value can range from 200 to 255. This value overrides the value specified in the IMSCTF or IMSCTRL system definition macros**

IBM Software

DFSUSVC0

- **DFSUSVC0 the Dynamic SVC Install utility can now update both the Type 2 and/or the type 4 SVC's**
  - **TYPE 4 SVC modules remains in storage as active jobs/tasks may still be using it**
    - **In ECSA**
  - **TYPE 2 SVC updated if not in use by any active job/task**
    - **No change from previous versions**
  - **Lasts for the life of the IPL**

IBM Software

IMS Application Menu

- The IMS Application Menu (DFSAPPL) can be used to invoke the growing number of IMS ISPF applications
  - EX 'IMS.V9.SDFSEXEC(DFSAPPL)' 'HLQ(IMS.V9)'

```
                              IMS Application Menu
Command ===>  ____________________________________________________

Select the desired application and press Enter.


         1   Single Point of Control (SPOC)
         2   Knowledge-Based Log Analysis (KBLA)
         3   HALDB Partition Definition Utility (PDU)
         4   Syntax Checker for IMS parameters (SC)
         5   Installation Verification Program (IVP)
         6   IVP Export Utility (IVPEX)
         7   IPCS with IMS Dump Formatter (IPCS)


 To exit the application, press F3.

           ------------------------------------------------------
           | (C) Copyright IBM Corp. 2003. All rights reserved. |
           ------------------------------------------------------
```

64BITIMS Keyword

- **The keyword *64BITIMS* is added in the cover letter for all IMS APARs which address 64 bit issues**
  - **Search on the corresponding COMPID and 64bitims to find all 64 bit related service for a give release:**
    - **IMS 7.1**
      64BITIMS 5655B0100
    - **IMS 8.1**
      64BITIMS 5655C5600

    IMS 9.1
      64BITIMS 5655J3800
- **Be sure to check the appropriate PSP buckets for additional information**

IBM Software

Standard Migration Considerations

- **The IMS/ESA Release Planning Guide contains a chapter on Migration considerations**
  - **Considerations**
    - **Release Planning Guide for versions skipped**
    - **ACBGEN**
    - **ALL SYSGEN required**
    - **Productivity Aids compatibility**
      - **PSP bucket contains information**
    - **PSP Buckets**
    - **Fallback Plan**

IBM Software

Compatibility Migration Considerations

- **The following is a list of service needed for compatibility *(see the PSP buckets for updated considerations):***
  - **Considerations**
    - **DBRC Migration/Coexistence SPE**
      - **IMS 7.1 PQ72838 (UQ82308 - 0312)**
      - **IMS 8.1 PQ72840 (UQ82290 - 0311)**
    - **OLR Coexistence SPE (IMS 8.1)IMS 8.1**
      - **PQ78493 (UQ81445 - 0310)**
      - **PQ78916 (UQ87189 - 0404)**
      - **PQ80049 (UQ87204 - 0404)**
      - **PQ78917**
      - **PQ78758**

IBM Software

APAR SYSMOD Naming Conventions

- The prefix name for APARs is currently 'PQ'
  - Next series will be PK (UK for PTF's)
- One APAR may result in multiple SYSMODS
- The prefix name in the actual sysmod(s) will vary depending on the FMID as follows:

IRLM		IMS 7.1		IMS 8.1		IMS 9.1	
FMID	PRE	FMID	PRE	FMID	PRE	FMID	PRE
HIR2101	Aq	HMK7700	Dq	HMK8800	Dq	HMK9900	Dq
		JMK7701	Aq	JMK8801	Aq	JMK9901	Aq
		JMK7702	Vq	JMK8802	Vq	JMK9902	Vq
HIR2220	Aq	JMK7703	Gq	JMK8803	Gq	JMK9903	Gq
		JMK7704	Wq	JMK8804	Wq	JMK9904	Wq
		JMK7705	Xq	JMK8805	Xq	JMK9905	Xq
		JMK7708	Jq	JMK8806	Jq	JMK9906	Jq

where q represents the second character of the APAR prefix

- The prefix will be followed by the 5 digit APAR number

IBM Software

APAR Naming conventions - Part 2

- The name of the APAR fix available on DLL/IBMLINK will vary depending on the IMS release as follows:
  - PQxxxxxz
    - PQ - Prefix name for the APAR
    - xxxxx - The number for the APAR
    - z - The suffix will identify the IMS release as follows:
      - L - IRLM 2.1
      - *H - IRLM 2.2*
      - F - IMS 7.1
      - G - IMS 8.1
      - *I - IMS 9.1*

IBM Software

USERMOD Naming Conventions on DLL/IBMLINK

■ **The naming conventions for USERMODs will vary depending on the type of USERMOD as follows:**

- **Fixtest for an APAR**
  - **FQxxxxxz**
    - **F - Identifies this as a fixtest**
    - **Q - Indicates the second character of the apar currently being used**
    - **xxxxx - The number portion of the apar associated with this fixtest**
    - **z - The version of this fixtest (A=1st, B=2nd, etc.)**
- **Relief for an APAR**
  - **RQxxxxxz**
    - **R - Identifies this as a relief**
    - **Q - Indicates the second character of the apar currently being used**
    - **xxxxx - The number portion of the apar associated with this fixtest**
    - **The version of this fixtest (A=1st, B=2nd, etc)**
- **Trap or bypass (no APAR #)**
  - **The name will be determined via an internal CLIST**

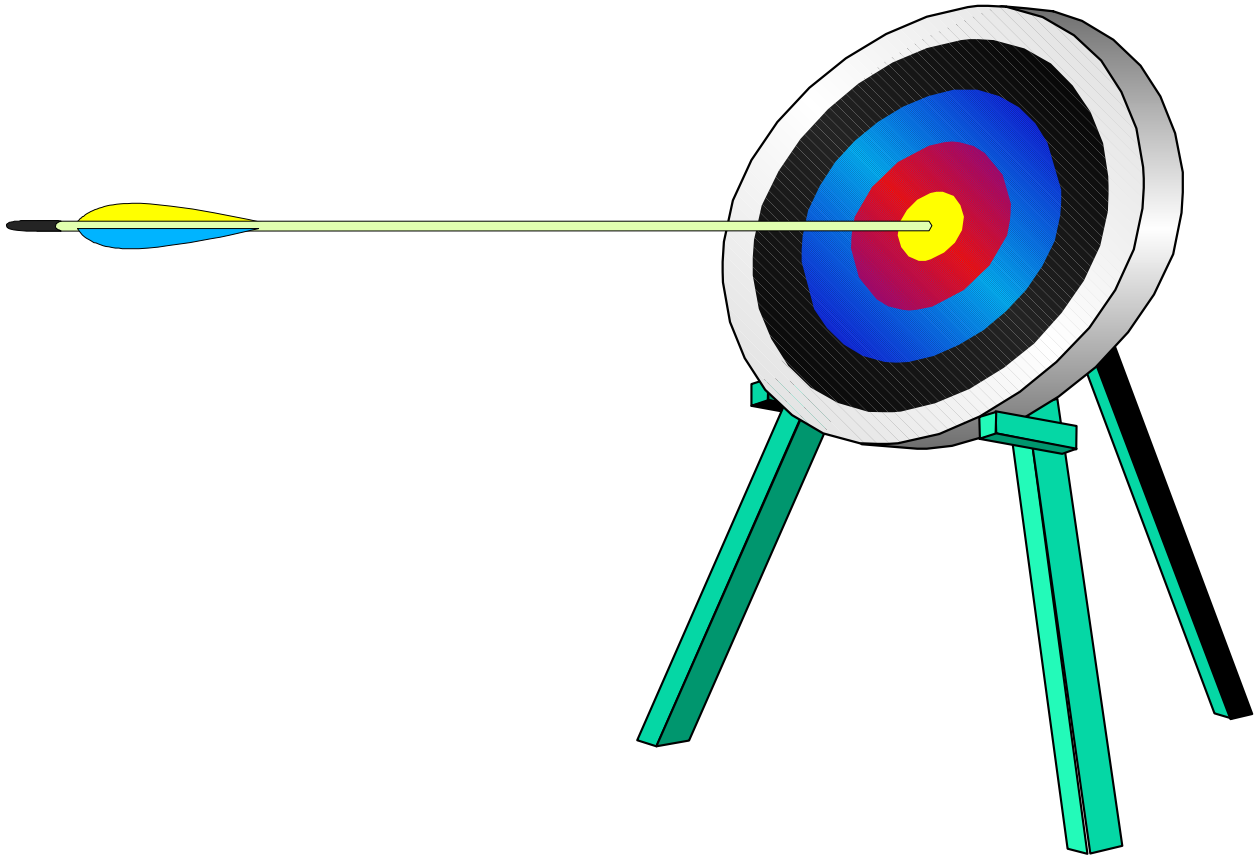
IBM Software

USERMOD SYSMOD Naming Conventions

- The naming conventions of the sysmod for usermods will vary depending on the type of usermod as follows:
  - Fixtest and relief for an APAR
    - pzxxxxx
      - p - The apar prefix depending on the fmid/compid
      - z - The version of this fixtest/relief (A=1st, B=2nd, etc)
      - xxxxx - The number portion of the apar associated with this fixtest
  - Trap or bypass (no apar #)
    - pzxxxxx
      - p - The apar prefix depending on the fmid/compid
      - z - The last character of the fix name supplied by the internal CLIST
      - xxxxx - The number portion supplied by the internal CLIST

IBM Software

Thank You



IBM Software

RETURN TO INDEX