IBM

B51

General IMS Maintenance Recommendations, Part 1 & Part 2

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Introduction

- **The objectives theses sessions are:**

  - **Review and explain IMS maintenance recommendations**

  - **Review and explain IMS maintenance upgrade considerations**

  - **Discuss common problems customers encounter**

- **Audience participation is encouraged**

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General IMS/ESA Maintenance Recommendation

General IMS/ESA Maintenance Recommendation

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IMS Maint Recommendation Overview

- This general IMS maintenance recommendation provides guidelines that when implemented are intended to produce a more stable IMS environment

- Risk assessment should be carefully considered. Numerous factors may be involved, some of which follow:

    - The quality level of the local test environment

    - Business cycle

    - IMS maintenance status

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General IMS Maintenance Recommendation

- **The general IMS maintenance recommendation for an IMS production system:**

  - **Initial IMS production system base implementation service level.**
    - **Service levels 6 months behind current ESO/CBPDO level for planned migration date**
    - **All HIPER PTFs fixes 3 months behind the planned migration date**
    - **PE resolution**
    - **A 3 month test cycle is recommended prior to production implementation**

  - ⚠ **NOTE: Because IMS maintenance will continue to be distributed during the test cycle, the recommendations in the following foil should also be included in the initial IMS production base system implementation (See the following page)**

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General IMS Maint Recommendation (cont...)

- **Ongoing IMS production system service level**
  - **Fully tested fixes for significant** software problems encountered**
  - **Fully tested HIPER SYSMODs that are of direct applicability to the specific IMS environment and deemed significant****
  - **Fully tested SYSMODs which resolve PE's that are directly applicable to the specific IMS environment and deemed significant****
- **Review the IMS PSP bucket UPGRADE for the IMS release level and SUBSET FMIDs**
  - **Important IMS product related information is continually added to these buckets and may require action**
- **NOTE: The recommendations outlined above should be followed on an ongoing basis, and should also be included as part of the initial production implementation (See prior page.)**

**** A fix is considered "significant", when consequences which could not be tolerated may be encountered without the application of that fix**

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HIPER APAR Definition

- **Today, HIPER APARs are defined as "those that fix a high impact problem for any customer"**

- **In the past, IBM included pervasive problems as HIPER, but this is no longer the case**

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HIPER APAR Qualification

- **All HIPER APARs must have 1 or more of the following characteristics:**
  - Causes the customer to IPL or recycle the system or subsystem
    - FLAG: SYSTEMOUTAGE/Y
    - ServiceLink: RESTART/BOOT/IPL
  - Destruction and/or contamination of customer data
    - FLAG: DATALOSS/Y.... ServiceLink: DATALOSS
  - Causes major loss of function to the IMS system
    - FLAG: FUNCTIONLOSS/Y ServiceLink: FUNCTIONLOSS
  - Causes severe impact to system performance/throughput
    - FLAG: PERFORMANCE/Y ServiceLink: PERFORMANCE
- **Has the potential to affect many customers**
  - FLAG: PERVASIVE/Y... ServiceLink: PERVASIVE
  - NOTE: Another HIPER symptom must also be identified along with PERVASIVE to qualify for HIPER classification
- **HIPERs flagged as follows:**
  - FLAG: HIPER/Y.... ServiceLink: HIPER

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PE Definition

- **PE PTFs are those that were provided to correct a problem but have either not corrected the problem or have introduced a new problem**

  - **These PTF's are known as exception SYSMODs and are managed in SMP/E through ++HOLD and ++RELEASE statements (HOLDDATA)**

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PE and Hiper Exposure Identification

- **It is recommended that Enhanced HOLDDATA be used to identify exposures to HIPER and PE PTF's**
  - **Ensure that a current copy of the Enhanced HOLDDATA has been received in SMP/E**
  - **Use SMP/E REPORT ERRSYSMODS to identify all missing PE and HIPER service**

- **Each identified APAR should be examined to determine susceptibility to the IMS environment**
  - **Initial applicability can be determined by using the 'USERS AFFECTED' portion of the APAR text**

- **For each APAR deemed applicable to your IMS environment, decide which are significant enough that they need to be processed**
  - **Read 'Problem Description' in APAR text for technical details**
    - **IMS Technical support can be contacted for additional information**

- **One must weigh the decision to run without the latest PE and HIPER maintenance versus the risk of discovering a PE with that piece of maintenance**

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Enhanced Holddata

■ **++HOLD statements for HIPER APARs against the FMID (Enhanced Holddata) as well as standard PE statements**

● **Available since 1/98**

● **Hold data available with install/service orders**

● **Entire OS/390 Platform is covered in a single set of HOLDDATA**

● **REPORT ERRSYSMODS to identify HIPER service not currently installed as well as any PE PTF installed without resolving SYSMOD**

    SET   BOUNDARY (GLOBAL) .

    REPORT ERRSYSMODS ZONES(tzone) .

● **For complete descriptive information see Internet address:**
    http://service.boulder.ibm.com/390holddata.html

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Perform Risk Assessment of Applicable PTFs

- **Perform risk assessment on processed PE'd PTFs for which the system is susceptible**
  - **Courses of action can include:**
    - **Remove PTF in error if not already ACCEPTed**
    - **Leave the PTF in place if the reported PE symptom is not significant**
    - **Put in place operator procedures to restrict access to reported areas of exposure**
    - **Apply corrective APAR/PTF fix if available**
    - **Request a FIXTEST for the reported problem from software service**
    - **Request a USERMOD code bypass for the reported problem from software service**

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IMS PSP Bucket Names

- **The PSP buckets are organized by UPGRADE and SUBSET names**

- **IMS release 8.1 UPGRADE name= IMS810**

  - **The SUBSET names (IMS related FMIDs):**

CHG/INDEX	HIR2101/0203	HMK8800	JMK8801	JMK8802
JMK8803	JMK8804	JMK8805	JMK8806	*HMK8800/GA*
JMK8801/GA	*JMK8802/GA*	*JMK8803/GA*	*JMK8804/GA*	*JMK8805/GA*
JMK8806/GA	HIR2101/0036	*HMK8800/GA2*		

- **IMS release 9.1 UPGRADE name= IMS910**

  - **The SUBSET names (IMS related FMIDs) are:**

CHG/INDEX	HIR2101/0203	HMK9900	JMK9901	JMK9902
JMK9903	JMK9904	JMK9905	JMK9906	HIR2220
HMK9900/GA	*JMK9901/GA*	*JMK9902/GA*	*JMK9903/GA*	*JMK9904/GA*
JMK9905/GA	*JMK9906/GA*	*HIR2220/0408*		

- **PSP buckets available via IBMLINK and software orders.**

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PSP UPGRADE/SUBSET

- Each UPGRADE level includes SUBSET entries for each IMS FMID within that release. The SUBSET for each installed FMID needs to be examined separately

  - Program Directory provides Upgrade and Subset names

  - Key areas for review within each SUBSET entry include the following:

    - Opening Text
    - Change Summary
    - Service Recommendation Summary
    - Installation Information - Section 1
    - Documentation Changes - Section 2
    - General Information - Section 3
    - Service Recommendations - Section 4
    - Cross Product Dependencies - Section 5

- Available on WEB at: *http://techsupport.services.ibm.com/server/390.psp390*

  - USERID required

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Consolidated Service Test (CST)

- **Goal: Enhance the way service is tested and delivered for OS/390 and z/OS, by providing a single coordinated service recommendation**
  - **Provides cross product testing for the following products:**
    - **OS/390 BCP R9 and R10**
    - **z/OS V1R1**
    - **DFSMS**
    - **DB2 UDB for OS/390**
    - **IMS**
    - **MQSeries for OS/390**
    - **Will expand to include others**
  - **This is in addition to testing that was already being performed**
  - **Standardize maintenance recommendation on OS/390 and z/OS platform**
  - **See *http://www.ibm.com/servers/eserver/zseries/zos/servicetst/* for additional information**

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Consolidated Service Test - 2

- **Change in criteria for inclusion in the <u>quarterly</u> RSU (0209):**
  - **Severity 1, 2, 3 & 4 APARs**
- **Testing of quarterly RSUs:**
  - **Three 30-day test cycles exercised**
  - **System upgraded every 30 days to include the next monthly RSU**
    - **HIPERs, PE fixes, security, integrity and fixes to CST problems**
  - **Stress and saturation testing, failure and recovery testing, and rolling IPL maintenance test of previous Quarterly RSU to current Quarterly RSU**
  - **Done prior to availability**
  - **Testing covers integrated workloads across all participating z/Series and S/390 products**
    - **Provides one clear consistent recommendation for the platform**
    - **Workloads will evolve over time**
- **Also available monthly**
  - **30 days of tested Hiper/PE and security/integrity APARs between quarterly testing**

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Consolidated Service Test - 3

- **Quarterly CST Reports available Consisting of:**

  - **CST Hardware Environment**
  - **Software Environment including maintenance levels**
  - **Rollout recommendations**
  - **Highlights for the QTR**
  - **Problems encountered**
  - **Excluded maintenance list**

- **Once service has passed CST testing**

  - **Marked with RSU (Recommended Service Upgrade) RSUyymm SOURCEID notation**
    - **QTRLY = RSUyy03, RSUyy06, RSUyy09, RSUyy12**
    - **Monthly = RSUyy01, RSUyy02, RSUyy03, etc.**

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Consolidated Service Test (CST) Continued...*

Month/Year	Service Available	RSU Sourceid
New! February 2003 1st quarter Excluded Service	All service through the end of **September 2002** not already marked RSU. PE resolution or HIPER PTFs and their associated requisites and supersedes through **December 2002**	RSU0301

Month/Year	Service Available	RSU Sourceid
January 2003 1st quarter Quarterly report	All service through the end of **September 2002** not already marked RSU. PE resolution or HIPER PTFs and their associated requisites and supersedes through **November 2002**	RSU0212
December 2002 Excluded service	All service through the end of **June 2002** not already marked RSU. PE resolution or HIPER PTFs and their associated requisites and supersedes through **October 2002**	RSU0211
November 2002 Excluded service	All service through the end of **June 2002** not already marked RSU PE resolution or HIPER PTFs and their associated requisites and supersedes through **September 2002**	RSU0210
October 2002 3rd quarter Quarterly report	All service through the end of **June 2002** not already marked RSU PE resolution or HIPER PTFs and their associated requisites and supersedes through **August 2002**	RSU0209

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Achieving IMS Maintenance Recommendation

- **Current IMS Maintenance Upgrade Technique**

  - **Obtain current service using ShopzSeries**

  - **Review IMS PSP Buckets**

  - **Obtain and RECEIVE current Enhanced Holddata**

  - **SMP/E process the service**

    - **Select CST created RSUyymm SOURCEIDs**

    - **Resolve PEs**

    - **Resolve System HOLDs**

  - **Obtain and RECEIVE current Enhanced Holddata again**

    - **Run SMP/E REPORT ERRSYSMODS to identify HIPER/PE exposure**

      - **Obtain applicable SYSMODS from ShopzSeries**

      - **Process SYSMODs that are applicable to your environment**

        - **Use IMS Support Website or PSP Buckets for APAR descriptions**

  - **Test the new maintenance level**

  - **Repeat underscored items on an ongoing basis to remain current** *IBM Software*

Achieving IMS Maintenance Recommendation - Cont.

- **Caution: SYSMODs in APPLY status may be regressed by SYSGEN**

  - **Either ACCEPT all PTFs in APPLY status prior to SYSGEN**

  - **Or, After SYSGEN, reprocess APPLYed SYSMODs**

    - **Determine SYSMODs in APPLY only status**

      SET BOUNDARY (targetzone) .

      LIST APAR PTF USERMOD NOACCEPT NOSUP .

      - This will supply the list of APPLY only SYSMODs xxxxxxx

    - **APPLY REDO NOJCLIN <u>every</u> SYSMOD in APPLY status**

      APPLY REDO NOJCLIN SELECT(

              xxxxxxx

              xxxxxxx

              xxxxxxx) .

    __NOTE: Only specify NOJCLIN for REDO processing__

  Special handling may be required for SYSMODs in APPLY status that have holds requiring SYSGEN

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SMP/E SYSTEMHOLDs

■ **The following new SYSTEMHOLD REASON ID's have been added:**

● **DB2BIND - Not applicable in IMS**

  – **Used to identify service that requires a DB2 application REBIND for the designated service to become effective**

● **DDDEF**
  – **Used to identify dataset changes or additions**

● **DOWNLD (Download)**
  – **Maintenance needs to be downloaded**

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SMP/E SYSTEMHOLDs - 2

■ **The following new SYSTEMHOLD REASON ID's have been added:**

● **ENH (Enhancement)**
  – **Used to identify new function in the service stream**

● **EXIT (Change to User Exit)**
  – **Used to identify changes required to User Exits**
  – **For example, Reassembly required, change in interface, etc.**

● **IPL (IPL)**
  – **Currently used to identify *special* requirements (e.g., IPL with CLPA)**
  – **May be changed for all service requiring IPL**

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SMP/E SYSTEMHOLDs - 3

- **New SYSTEMHOLD REASONIDs cont.:**

  - **MULTSYS(Multiple System)**
    - **This Keyword identifies fixes that need to be applied to multiple Systems, in one of three cases; preconditioning, coexistence, or exploitation**

  - **RESTART**
    - **Used to identify *special* requirements for subsystem restart**

- **Additional REASONID's being considered**

- **Don't BYPASS if condition is unacceptable (build exclude list)**

- **See Information APAR II12867 for additional information**

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Structured Hold Web Address

The following contains information regarding the new HOLD REASONIDs:

http://ps.software.ibm.com/www/usa/images/holddata_maintenance.pdf

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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**

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Red Alerts

■ **Very critical APARs can be designated as 'RED ALERT'**

● **The following internet address contains information about 'RED ALERTS'**

http://techsupport.services.ibm.com/390/redalerts.html

● **You can subscribe to be automatically notified**

IBM Software

General Migration Considerations

- **The IMS/ESA Release Planning Guide contains a chapter on Migration considerations**

  - **Standard Considerations**

    - **Release Planning Guide for versions skipped**

    - **ACBGEN**

    - **ALL SYSGEN**

    - **Productivity Aids compatibility**

    - **PSP Buckets**

    - **Fallback Plan**

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T2 SVC

- **Make sure the IMS Type 2 SVC is bound (linkedit) with the *SCTR* option**

  - **If not IPL will go into a wait state**

- **LOADxx and NUCLSTxx members must be in the same library (both in SYS1.IPLPARM or both in SYS1.PARMLIB), if not IPL will go into a wait state.**

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DFSUSVC0

- **In V9 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**

    - **Module 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**

DFSMRC20

- **In IMS V9 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**

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IMS Maintenance Upgrade

IMS Maintenance Upgrade

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Maintenance Upgrade Abstract

The steps outlined in this section provide the steps necessary to process service using *'ACCEPT BYPASS(APPLYCHECK)'* processing

- **These steps are also used when:**
  - **Removing features from a Gen'd system**
  - **Anything that requires rebuilding the target environment from the distribution environment**
    - **Resolves maintenance mismatch situations**

- ***IMS service can be processed using traditional RECEIVE, APPLY, ACCEPT processing***
  - ***Unless there is a ++HOLD indicating otherwise***

- **These steps also exist, within Information APAR Item II13024 (II08928 for pre V8 releases of IMS) which is updated as necessary**
  - **Refer to informational APAR to have most current information**

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IMS Upgrade Steps - 1

1) **Backup the IMS environment**
   a) SMP/E datasets
      - Global, Target, Distribution zones, SMPMTS, etc.
   b) IMS datasets
      - Target and Distribution datasets

2) **Either RESTORE or ACCEPT all outstanding service for all products present in the IMS Distribution and Target zones**

3) **UNLOAD the Target zone DDDEFs using the SMP/E UNLOAD command**

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IMS Upgrade Steps - 2

4) **Scratch and re-allocate the following data sets:**

- **SMPMTS**
- **SMPSTS**
- **SMPSCDS**
- **SMPLTS**

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IMS Upgrade Steps - 3

5) List the SMP/E Target Zone

6) ZONEDELETE and Redefine the Target zone
   a) ZONEDELETE the Target zone
   b) Delete and redefine Target CSI (the VSAM cluster)
      - *IF* no other zones are contained in this CSI

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IMS Upgrade Steps - 4

7) **Re-Initialize the new Target zone**

   a) Repro GIMZPOOL to the new Target zone
     - *IF* step 6b was performed

   b) Rebuild the relationship between the old DLIB zone and the new Target zone

   c) Run UCLIN for the Target zone DDDEFs using the file created in step 3 above

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IMS Upgrade Steps - 5

8) Run RECEIVE and ACCEPT GROUPEXTEND
   BYPASS(APPLYCHECK) for the PTFs to be processed

9) Run ZONEMERGE CONTENT to merge the Distribution
   zone into the new Target zone

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IMS Upgrade Steps - 6

**10) Run the SMP/E GENERATE command to create the JCL for
building the NON-SYSGEN elements**

     **- Dependent on ACCJCLIN being set when the FMID's
were processed**

     - Output goes to SMPPUNCH

**11) Run the jobstream built by the SMP/E GENERATE command
(step 10)**

     **- If IMS JAVA FMID JMK8806 is installed you will need to run the '*tar*'
command to untar samples.tar. This is documented in the 'Readme'
file in the directory (done automatically in V9 using shellscr)**
       <PATH>/usr/lpp/ims/imsjava81/samples
        **where <PATH> is the prefix of the path that points to the samples.tar
file**

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IMS Upgrade Steps - 7

12) Run an 'ALL' IMS system definition Stage1 and Stage2

13) Run JCLIN using the IMS Stage2 as input

14) Re-APPLY any desired IMS service that was not ACCEPTed

- This service was identified in step 2 above

15) Re-APPLY any desired service for other products that was not ACCEPTed

- This service was identified in step 2 above

Common Install and Maintenance Issues

Common Install and Maintenance Issues

IBM Software

SYSLIB Concatenation

■ **The SYSLIB concatenation is used during the assembly process to retrieve macros and copy statements as specified in the assembly source. This concatenation will vary depending on the process you are following and the IMS Version**

■ **The following pages will present this in detail**

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Syslib Concatenation V7 & Above

- **SMP/E Apply**
  - **IMS.OPTIONS**
  - **SMPMTS**
  - **IMS.SDFSMAC**
  - **MVS Macro Libraries**
    - **ASM.SASMMAC2 (concept 14 macros)**
      - ➤ **IF, THEN, ELSE, etc.**

- **SMP/E Accept**
  - **IMS.OPTIONS**
  - **IMS.ADFSMAC**
  - **MVS Macro Libraries**
    - **ASM.SASMMAC2 (concept 14 macros)**
      - ➤ **IF, THEN, ELSE, etc.**

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Syslib Concatenation V7 and above - 2

■ **IMS Sysgen Stage 1**

● **IMS.ADFSMAC**

■ **IMS Sysgen Stage 2**

● **IMS.OPTIONS**

● **IMS.ADFSMAC**

● **MVS Macro Libraries**

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Binder Return codes

- **The following is a list of the acceptable return codes from the various Binder processes:**
  - **Apply processing - Return code 0**
    - **Unresolved external references ARE NOT ok**
      - ➤ **The exception being binds into SMPLTS**
  - **Accept processing - Return code 4**
    - **Unresolved external references ARE ok**
  - **Sysgen Stage 2 - Return code 0**
    - **Unresolved external references ARE NOT ok**

- **Suggest pointing to a different utility entry in SMP/E for APPLY and ACCEPT processing**
  - **SMP/E Utility entries added in V7 and above**

IBM Software

HLASM

- **Informational APAR II11589 documents issues between High Level Assembler V3, High Level Assembler V4 and IMS**

- **High Level Assembler Toolkit**

  - **HLASM Toolkit service for PQ74641/UQ77253 required after processing HLASM Toolkit service for PQ69812/UQ73992**
    - **Issues with LEAVE Macro**

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DFSJCLIN

- **DFSJCLIN**

  - **No longer provided as a job (V8)**

  - **Formerly used to build non-SYSGEN elements**
    - **SMP/E GENERATE command can be used**

  - **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 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 the target environment needs to re-built from the distribution environment**

    - **Not needed when processsing using RECEIVE, APPLY, ACCEPT**

    - **See Informational APAR II13024**

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V8 User Exit Changes

- **V8 and above User Exit Changes**

  - **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 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**

    NOTE: Service for SMP/E APAR IR51957 may be required to RESTORE SYSMODS properly

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V 8 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'
  .  .  .
  .  .  .
```

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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**

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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**

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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. |
                 ----------------------------------------------------
```

e

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**

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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*

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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**

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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**

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SMP/E Holderror Processing

Many times 1 or 2 PTF's in error can keep many other PTFs from processing

- **The following is a technique we developed to quickly identify the problem PTF's:**
  - **BYPASS (HOLDSYSTEM,HOLDERROR) during CHECK processing**
  - **Using the output from the CHECK run do a find for GIM35934**
  - **Be sure to analyze all SMP/E messages**
  - **Not recommended during IMS V8/V9 initial installation (DFSAPPLY/DFSACCEP) due to Enhanced Holddata**
    - **Use SMP/E CAUSER Report**

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SMP/E Zone Setup

- **Considerations**

  - **How to Implement Preventative Service**

  - **Sysgens when systems contain different levels of service**

  - **How to Process Emergency Service**

  - **SMP/E processing should never be done directly to the libraries being used**

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SMP/E Zone Setup 1 to 1

■ **The simplest way to set up SMP/E is:**

● **One TLIB, DLIB and set of datasets for each IMS system**

  – **Easiest for the human to understand**

  – **Uses the most resources (time, dasd, etc)**

  – **May not be practical!**

    ➤ **What if supporting 100+ systems**

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SMP/E Zone Setup Many to 1

- **A second method is:**
  - **One TLIB Zone For Each IMS - Common DLIB Zone**
    - **Service can be applied to each system selectively**
    - **Any SYSMOD in APPLY only status may be regressed via SYSGEN**
      - ➤ **Re-process any service in APPLY only status after SYSGEN**
    - **ACCEPT service once it has been applied to all systems**

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SMP/E Zone setup 1 ZONE

- **A third method is:**

  - **One DLIB and TLIB Zone for many systems**

    - **Implement to all systems at one time or manage outside of SMP/E**

      - ► **Most complex**

      - ► **Uses less computer resources**

No Target Library

- **SMP/E APPLY encounters one of the following warning messages:**

  - **GIM43401W aaaaaaaa bbbbbbbb IN SYSMOD cccccccc WAS NOT INSTALLED IN ANY TARGET LIBRARY**

  - **GIM44402W aaaaaaaa WAS NOT ASSEMBLED FOR bbbbbbbb cccccccc IN FOR aaaaaaaa**

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APAR/USERMOD SMP/E Regression

- **IMS APARs and USERMODs only PRE SYSMODS with code dependencies. The PRE will specify the APAR as opposed to the PTF**
- **This may cause regression messages to be encountered when processing IMS supplied APARs and USERMODs**
- **The following are samples of some of the messages that may be received:**
  - **GIM38201 THERE IS A MODID ERROR FOR aaaaaaaa ENTRY bbbbbbbb IN SYSMOD ccccccc**
  - **GIM38202 THERE IS A MODID ERROR FOR ASSEMBLY aaaaaaaa FOR bbbbbbbb ENTRY ccccccc IN SYSMOD dddddddd**
  - **GIM31901 SYSMOD aaaaaaa DOES NOT SPECIFY bbbbbbb ON THE PRE OR SUP OPERAND. bbbbbbb IS THE RMID FOR ccccccc dddddddd THAT IS CURRENTLY INSTALLED**
  - **GIM31902 SYSMOD aaaaaaa DOES NOT SPECIFY bbbbbbb ON THE PRE OR SUP OPERAND. bbbbbbb IS THE UMID FOR ccccccc dddddddd THAT IS CURRENTLY INSTALLED**
- **Messages of this type are expected, but each one must be analyzed**
- **Determine if regression will actually take place by doing the following:**
  - **Look at the prereq on the sysmod, determine if the prereqs match the PTF**
  - **Look at the code to see if there is any dependencies/intersections**
  - **Contact the support center for assistance**
- **If no regression will occur ignore these messages (specify bypass id for RMIDs)**

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Operating System Upgrade

The following are the IMS issues to be considered when the Operating System is being upgraded:

- **MVS / IMS interfaces must be considered**
  - **IMS/ESA Installation Volume 1**
  - **IVP 'd' series of jobs provide samples**
    - **DFSMRCL0 and its zap (not needed when all systems on V9)**
    - **DFSAFMD0 and its zap**
    - **T2 SVC**
    - **T4 SVC**
  - **MSC CTC Channel-end Appendage**
    - **IMSCTF macro APNDG keyword**
      - ► **IGG019zz**
- **Check the PSP buckets for all involved products**
  - **OS390**
  - **DFSMS**
  - **IMS**

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Key Internet Addresses

- **The following are some key Internet addresses:**

  - **IMS home page**
    www.ibm.com/ims

  - **Enhanced Holddata**
    http://service.boulder.ibm.com/390holddata.html

  - **Consolidated Service Test**
    http://www.ibm.com/servers/eserver/zseries/zos/servicetst/

  - **Structured holds**
    http://ps.software.ibm.com/www/usa/images/holddata_maintenance.pdf

  - **PSP (Preventative Service Planning)**
    http://techsupport.services.ibm.com/server/390.psp390

  - **Red Alerts**
    http://techsupport.services.ibm.com/390/redalerts.html

  - **Shopzseries**
    https://www14.software.ibm.com/webapp/ShopzSeries/ShopzSeries.jsp

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IMS Informational Apars

■ **The following is the list of InformationI APARs referenced in this presentation:**

- **OY45706 - How to remove a CSECT from IEANUC0x**

- **II13265- IMS 8.1 RECON migration/co-existance considerations**

- **II12867 - Additional SMP/E HOLDSYSTEM REASON IDs**

- **II13024 - V8 processing service using ACCEPT BYPASS APPLYCHECK**

- **II08928 - V7 and below processing service using ACCEPT BYPASS APPLYCHECK**

- **II11589 - Document relationships between High Level Assemblers 1.3.0, 1.4.0 and IMS**

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Redbooks

■ **The following Redbooks contain information relating to installation and maintenance of IMS:**

- **SC24-6574 - IMS Installation and Maintenance Processes**

- **SC24-5451 - Parallel Sysplex - Software Management for Availability**

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Thank You

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