


## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies



**SMP/E 3.5: Simplifying PSP Buckets  
(Identification and Installation of  
Required Fixes)**

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### **SMP/E 3.5: Simplifying PSP Buckets and Other Goodies**

Have you ever installed a software product and wanted SMP/E to ensure all service recommended in the product's Preventive Service Planning Bucket was also installed? Have you ever prepared to install new hardware and wanted an easy way to install required software service? Did you ever want an easy way to tell SMP/E to install coexistence service or cross-product dependencies for a new z/OS release? If the answer to any of these questions is yes, then you just might be a system programmer. This session will explain how SMP/E will be enhanced to help automate and simplify those tasks.

This support is planned to be available with z/OS V1.10. It will also be available as part of SMP/E 3.5 which can be installed on top of all supported z/OS releases. Target availability of both products is planned for September 2008.

### **Acknowledgement**

Kurt Quackenbush, IBM SMP/E Design and Development, provided valuable input on the SMP/E enhancements presented in this topic.

## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies

SMP/E V3.5 – Simplifying PSP Bucket Processing

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### Agenda - Identification and Installation of Required Fixes

- Background
  - **Current process to install required service for new hardware and software levels or functions**
  - **Problems with the current process**
- Proposed Solution
  - **Enhancements to SMP/E**
  - **Enhancements to Product and Service Deliverables**
- Using the new support for:
  - **New releases (FMIDs)**
  - **Coexistence Service**
  - **New Hardware**
- IBM Fix Categories
- Summary




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# Background

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### Current process for 'New Hardware, Release or Function' Service

1. Identify PSP Buckets to review
2. Review required service from the PSP Buckets and Product Documentation
  - **Hardware buckets for required service for device support or exploiting specific hardware functions.**
  - **Software buckets for recommended service to be installed when you install the software**
  - **Functional buckets for the list of Service Recommendations needed for the function**
  - **Product documentation for “driving system”, coexistence, and cross product target system functional requirements**
3. Acquire the missing service and install all required service
4. Monitor PSP Bucket – as needed
  - **Can use Enhanced PSP Tool to identify uninstalled PSP Bucket service, and then acquire and install missing fixes**

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### Current Process for Installing 'New Hardware, Release or Function' Service

The process of installing the required service for new hardware devices, new software releases, or enabling new hardware or software functions, is closer to the corrective service model, than today's preventive service model. That is, once you are told what service is recommended to be installed, you need to ensure that all that maintenance gets installed. The primary difference between installing this service and corrective service is how you are told what service you are 'told' to install.

## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies

Historically, service for new hardware or software has been defined in Preventive Service Planning (PSP) buckets. Initially, these were human readable collections of information, categorized into UPGRADEs and SUBSETs. In recent years, portions of these PSP have been transformed so that they can be processed programmatically by unique tools. For hardware, the UPGRADEs identify the device and the SUBSET the operating system that supports it. For software, the UPGRADEs identify the product release and the SUBSET identifies one or more FMIDs.

Therefore to install service required for new hardware devices, new software releases, or enabling new hardware or software functions, you first have to identify all the PSP bucket SUBSETs that are applicable to your hardware and software environment. Next, you need to review each of those PSP buckets, along with product documentation, to get a complete list of service that is required to be on your system(s). Once you have the complete list, you need to compare the list to the software currently installed to identify what else (if anything) has to be installed. Then you need to install and deploy that service. Since service can be added to PSP buckets daily, you may want to monitor the bucket over time and ensure any service that gets added, is also installed and deployed on your systems.

### **PSP Buckets**

There are three types of PSP Buckets: the traditional hardware and software buckets, and relatively recent functional buckets.

Hardware buckets identify required and recommended hardware MCL and patch level, as well as required software for device support or hardware function exploitation. Each hardware bucket also has a list of recommended software fixes to be installed if you have the hardware installed. Hardware buckets are used for processors/servers, DASD, and tape devices. Even though newer generations of hardware devices are built on the prior generation, the hardware PSP buckets only contain information on one generation. Therefore, if you are skipping generations, you will have to review the PSP buckets for the generations you are skipping as well as the one you are upgrading to.

Software buckets identify recommended fixes to be installed when you install the product. They also include updates to installation and product documentation. Finally, they contain information on cross-product dependencies that were not previously documented. Software buckets are used for all IBM software products. Sometimes they are unique to an FMID, other times they contain information on multiple FMIDs for a particular release that contain the same components.

In the past few years, IBM has introduced the concept of "Functional" PSP buckets which identify recommended service for selected functions.

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### Identify PSP Buckets to Review

- Identified in product documentation, announcement letters, and WSC Flashes/Techdocs
- Search capabilities available at
  - <http://www14.software.ibm.com/webapp/set2/psp/srchBroker>

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### Identify PSP Buckets to Review

As mentioned earlier, the primary difference between installing service for new hardware or software (or for enabling new functions) and corrective service is how you are told what service you are 'told' to install. Service for new hardware and new software is documented in PSP buckets. But unless you have product documentation in front of you, you might not know which PSP UPGRADE and SUBSET to review. Often times, even if you know some of the information, such as a FMID, you may not remember the Preventive Service Planning Upgrade and Subset name. The IBM TechSupport Web site (<http://www14.software.ibm.com/webapp/set2/psp/srchBroker>) provides graphical user interfaces to help you quickly locate the correct information.


On that site you can specify search terms, optionally enter an UPGRADE, SUBSET, FMID, or Component ID to narrow a search; or you can use "pull down" selection lists to identify the PSP Bucket that you are interested in.

Unfortunately, there is no way to easily identify new PSP Buckets that have been created since you last visited the web site, nor is there a way for the website to remember which upgrades and subsets you were interested in.

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Review Required Service from the PSP Buckets and Product Documentation



1. Perform Manual Checking
  - Compare APARs/PTFs from appropriate PSP SUBSETs or product documentation to your existing product and service inventory
    - Use cut and paste, highlighters, and SMP/E query dialog or LIST command
2. Use the Enhanced Preventive Service Planning Tool (EPSPT)
  - You must first download the compare program (this is a one time action)
  - For each PSP bucket subset that you are interested in, you must download “PSP extract files”
  - Run the compare program specifying your SMP/E CSI with “PSP extract files”
    - Generates a report similar to a REPORT ERRSYSMODS that tells you which of the associated fixes have not been received or applied on a particular target zone.
  - Some required service in product documentation must be reviewed manually
3. ServiceLink users use the PSP Service Extraction
  - You can order fixes based on your SMP/E CSI (or all fixes in a SUBSET)
    - IBM will filter out PTFs already received and ship any missing fixes
    - You may still have to use the EPSPT to identify already RECEIVED service
  - Some required service in product documentation must be reviewed manually

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### Review Required Service from the PSP Buckets and Product Documentation

Once you have identified all the PSP buckets SUBSETs that you need to review, you need to compare their contents with the service that you already have installed. To do that, you can either:


- Manually compare the service recommendations from each of the PSP Buckets to the service already installed in the SMP/E zone(s) associated with the target system software.
- Use the Enhanced Preventive Service Planning Tool to automate the comparison. You still have to download “extract files” and acquire and/or install any missing fixes.
- Use ServiceLink to automate the comparison and acquisition of any fixes not already SMP/E RECEIVED. However, you will still have to run the ePSPT (or manually check) to identify ALL the fixes that need to be installed. This is because, some of the recommended PTFs may have already been RECEIVED, and there isn't an easy way to identify those. Alternatively, you could use ServiceLink to identify ALL PTFs in a PSP bucket and use that as a selection list to SMP/E, but that list may contain PTFs already APPLYd, so it too doesn't give you exactly what you need.

No matter what method you choose, today some information, such as coexistence service for a new release of a product is only in product documentation (sometimes combined with one or more PSP buckets).

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### Acquire the Missing Service and Install ALL Required Service



1. Order missing service
  - Use a corrective (or preventive) service deliverable
    - For example, RECEIVE ORDER
2. SMP/E RECEIVE the PTFs, ++ASSIGN statements and HOLDDATA (++HOLD) into the global zone.
  - Can be combined with prior step depending on technique used
3. Run an SMP/E APPLY CHECK to identify any requisite service and exception HOLDS
4. Resolve ALL requisites and exception HOLDS
  - Put a plan in place to resolve the HOLDS prior to deployment
5. Run an SMP/E APPLY

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### Acquire the Missing Service and Install ALL Required Service

Finally, you need to install and deploy any missing service. Since service can be added to PSP buckets daily, you may want to monitor the bucket over time and ensure any service that gets added, is also installed and deployed on your systems.

#### **SMP/E Installation Procedure**

Follow the procedure outlined below:

1. Order missing service using a corrective (or preventive) service deliverable.
2. SMP/E RECEIVE the PTFs, ++ASSIGN statements and HOLDDATA (++HOLD) into the GLOBAL zone.
3. Run an SMP/E APPLY CHECK to identify any requisite service and exception HOLDS
  - In order to install ALL the missing service, you should specify the list of missing service as a selection list on the APPLY command.
  - Remember it is important to ensure that ALL missing service gets installed.
4. Resolve ALL requisites and exception HOLDS
  - Put a plan in place to resolve the HOLDS prior to deployment
5. Run an SMP/E APPLY


Note: If you are testing a new function for an extended period of time, it is more important that you monitor updates made to the PSP buckets that you are interested in.

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### Problems with the Current Methods



1. Procedure is very manual
2. The tools are **NOT** integrated into your existing processes
  - Extract files are not delivered when service is acquired
  - Report program is not part of SMP/E
  - No easy way to **APPLY** missing service
3. The procedure is geared to process one **SUBSET** at a time (when multiple **SUBSETs** are required)
4. Because of the above, many of you do **NOT** analyze PSP buckets
  - Or if you do,
    - You do not actively monitor updates in PSP buckets
    - You do not review hardware and functional buckets when you install new software levels (FMIDs).
5. There is no easy way to identify new hardware or functional buckets, or establish a list of buckets that are of interest.

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### Problems with the Current Methods

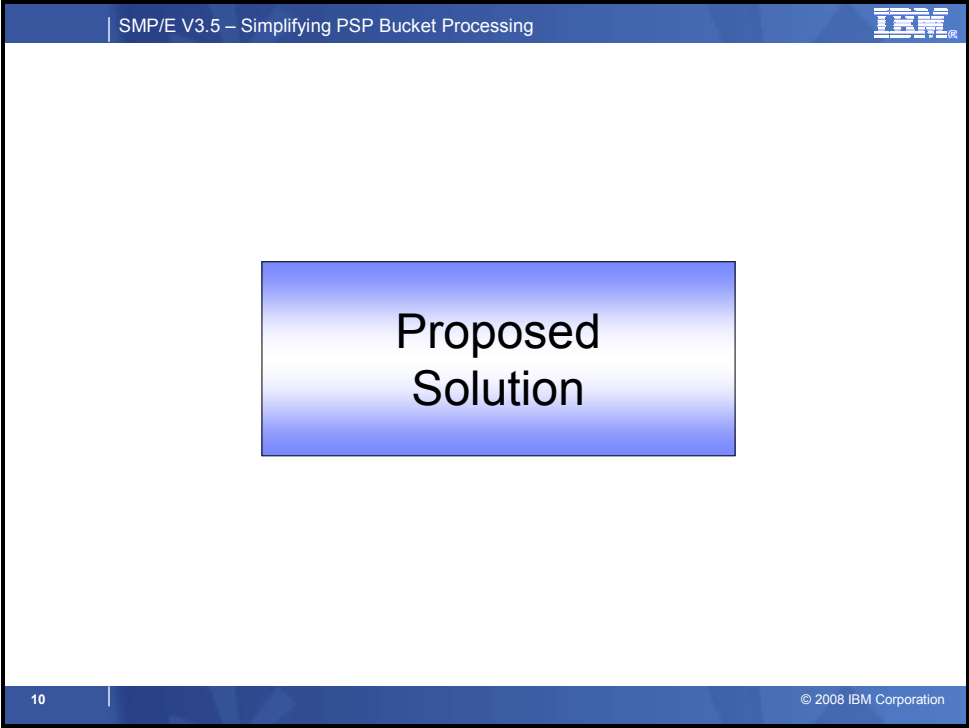
No matter what method you use today, there are a number of problems. Specifically, all of the current processes have large portions that are very manual, and as with almost all manual tasks, the results can be error-prone. It is too easy to miss service that is needed to support new hardware, new software, or enable new functions.

The ePSPt and ServiceLink can assist with a subset of the tasks, however several customers who have used them find the intent desirable, but the implementation somewhat "cumbersome." They want the basic functions of the solution integrated into IBM's existing offerings and products. Specifically, they want:

- The acquisition of the PSP bucket meta-data to be integrated into existing PTF acquisition processes,
- The comparison of required APARs and PTFs with the current software environment integrated into existing SMP/E operations (REPORT ERRSYSMODS and LIST SOURCEID),
- SMP/E to enforce the installation of the appropriate PTFs identified in the PSP bucket meta-data, when they are installing a new FMID and have expressed an interest in one or more PSP buckets.
- To use PTF SOURCEIDs as a mechanism to select and install the appropriate PTFs identified in the PSP bucket meta-data,
- An easy way to use SMP/E to update their systems as updates are made to the PSP buckets that they are interested in, and finally
- A way to identify new PSP buckets that they might have an interest in.




**SMP/E 3.5: Simplifying PSP Buckets and Other Goodies**



The slide features a blue header bar with the text "SMP/E V3.5 – Simplifying PSP Bucket Processing" and the IBM logo. The main content area is white with a central blue box containing the text "Proposed Solution". The footer bar is blue and contains the number "10" on the left and "© 2008 IBM Corporation" on the right.

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### Proposed Solution

- **Simplify the verification and installation tasks for required service for new hardware and software levels, or to enable new hardware or software functions**
  - **Create metadata that associates PTFs with one or more fix categories**
    - Such as fixes needed for:
      - Specific hardware levels
      - New software FMIDs
      - Enabling new hardware/software functions
  - **Deliver the metadata with existing PTF and HOLDDATA acquisition procedures.**
  - **Integrate verification and installation tasks within typical SMP/E operations.**
    - Conditionally process the metadata based on user's interest and what is currently installed.
    - Extend well known SMP/E functions.

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### Proposed Solution

In order to remedy the problems with the existing solutions, we need to:

- Transform existing PSP (and product documentation) required service information into machine readable meta-data
- Integrate the acquisition of the PSP bucket meta-data to be integrated into existing PTF acquisition processes,
- Provide SMP/E REPORT and LIST capabilities to compare the list required APARs and PTFs with the current software environment,
- Enable SMP/E to enforce the installation of installation of the appropriate PTFs identified in the PSP bucket meta-data, when they are installing a new FMID and have expressed and interest in one or more PSP buckets.
- Provide (or create) PTFs SOURCEIDs to reflect the appropriate PSP bucket meta-data, and enable users to specify PTF SOURCEIDs as a mechanism to select and install the appropriate PTFs identified in the PSP buckets,
- Provide an easy way to use SMP/E to enable users to update their systems as updates are made to the PSP buckets that they are interested in, and finally,
- Provide a way to identify new PSP buckets that they might have an interest in.

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### Create Metadata that Associates PTFs with Fix Categories

- Define a new HOLDDATA type to carry PSP meta-data:
  - New *FIXCAT* type HOLDDATA (Fix Category)
  - In addition to existing **ERROR**, **SYSTEM**, and **USER HOLDS**
- **FIXCAT HOLDDATA:**
  - Associate an APAR to one or more categories of fixes.
  - Identify the resolving (fixing) PTF.
  - Applicable to **FUNCTION SYSMODs (FMIDs)**.
    - Like **ERROR HOLDS** for **HIPER APARs**

```
++HOLD(HBB7730)                /* Held FMID */
FMID(HBB7730)                  /* FMID of fixing PTF */
REASON(AA15968)                /* The APAR */
FIXCAT /* Associates an APAR to a fix category */
CATEGORY(IBM.Device.z9-EC-2094) /* A fix category */
RESOLVER(UA27113)              /* The fixing PTF */
```

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### Create Metadata that Associates PTFs with Fix Categories

HOLDDATA is a form of meta-data generated by IBM z/OS service processes and understood by SMP/E. Error HOLDDATA contains meta-data to identify HIPER APARs for products and PTFs in error for service, and to identify PTFs that resolve these HIPER APARs and PTF errors. Error HOLDDATA is available to all z/OS customers. It is delivered with ALL corrective and preventive service orders, and is even available without a service order via an IBM FTP server and the SMP/E RECEIVE ORDER command. Error HOLDDATA is used during product and service installation procedures to ensure all critical PTFs are installed. It is also used by SMP/E reporting capabilities (the REPORT ERRSYSMODS command) to identify critical PTFs that are missing.

It is reasonable and logical to use Error HOLDDATA as a model and extend HOLDDATA constructs to convey the additional meta-data described today in PSP buckets which identify required and recommended APARs and PTFs.

Specifically, SMP/E will support new HOLDDATA constructs (FIXCAT type HOLDDATA) which will be delivered in existing IBM service delivery offerings.


The FIXCAT HOLDDATA will specify an APAR (REASON) that provides a fix for the held SYSMOD (FMID) that is associated with one or more Fix Categories. Similar to ERROR HOLDS, the RESOLVER operand identifies the SYSMOD that resolves the held SYSMOD. More specifically, the resolving SYSMOD supersedes the reason ID APAR that caused the SYSMOD to be held.

Unlike ERROR HOLDS, it is optional whether the APAR identified in FIXCAT HOLDS will affect processing for the held SYSMOD (FMID). The user has to explicitly express an interest in a Fix Category for it to affect subsequent SMP/E processing. If one or more Fix Categories for the APAR match any of those that are of interest to the user, then the FMID will not be APPLyD or ACCEPTed until the APAR is *resolved*. The APAR is resolved when a SYSMOD that matches the APAR name, or a SYSMOD that supersedes the APAR, is APPLyD or ACCEPTed.

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### Deliver metadata with existing PTF and HOLDDATA deliverables



- FIXCAT type ++HOLDS will be included with ERROR ++HOLDS:
  - **Delivered with *all* existing IBM product and service offerings**
    - Included in the same file (SMPHOLD)
- FIXCAT HOLDDATA is incompatible with prior releases of SMP/E
  - **FIXCAT HOLDDATA is RECEIVED only if the UPGRADE command for SMP/E V3.5 has been run.**
    - UPGRADE allows you to make the trade-off between exploiting new functions and preserving compatibility with prior SMP/E releases.
    - Running the UPGRADE command allows SMP/E to exploit new capabilities that cause incompatible changes to SMP/E zones.
  - **Prior SMP/E releases (V3.3 and V3.4) will ignore FIXCAT HOLDS when discovered in SMPHOLD data sets.**
    - ♦ Coexistence APAR IO07480 is required (PTF UO00702 for V3.4)
    - ♦ Coexistence APAR IO07480 is required (PTF UO00700 for V3.3)

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### Deliver metadata with existing PTF and HOLDDATA deliverables


Just like ERROR and USER HOLDS, FIXCAT HOLD MCS are provided in a separate file (allocated to the SMPHOLD DD during RECEIVE processing), and cannot appear within a SYSMOD.

FIXCAT HOLDDATA is incompatible with prior releases of SMP/E. It can only be processed by SMP/E 3.5 after the UPGRADE command was run for the GLOBAL zone. Use of the UPGRADE command puts you in control as to when (or if) you want SMP/E to start exploiting new functions that introduce incompatibilities. The RECEIVE command processing will check the UPGLLEVEL of the GLOBAL zone before processing any FIXCAT type HOLDS. If the GLOBAL zone's UPGLLEVEL is less than 35.00, SMP/E will ignore any ++HOLD FIXCAT statements found in SMPHOLD and will issue message GIM58903W (see SMP/E V3.5 Attempt to RECEIVE FIXCAT HOLDDATA without running UPGRADE on page 43 for an example). RECEIVE processing continues, but the ++HOLD FIXCAT statements in SMPHOLD are skipped and not included in any report output.

**Coexistence APAR IO07480 has been provided for SMP/E 3.4 and SMP/E 3.3 to enable those releases to ignore the FIXCAT HOLDS when they are present in the SMPHOLD file.**

- PTF UO00702 for V3.4
- PTF UO00700 for V3.3

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**Integrate verification of fixes in fix categories with SMP/E operations.**


- **Update RECEIVE processing to process FIXCAT HOLDS**
- **Allow users to express interests in one or more fix categories**
  - Enable wildcarding to be used to express interest in multiple (even future) fix categories
- **Conditionally process the FIXCAT HOLDS based on user's interest and what is currently installed.**
  - Enhance APPLY and ACCEPT processing
- **Provide a NEW REPORT command to identify missing fixes in one or more fix categories**

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### **Integrate verification of fixes in fix categories with SMP/E operations**

As mentioned earlier, SMP/E will support new HOLDDATA constructs (FIXCAT type HOLDDATA). Specifically,

- RECEIVE processing will be updated to process FIXCAT HOLDS
- SMP/E commands will allow users to express interests in one or more fix categories
- SMP/E APPLY, ACCEPT, and REPORT commands will conditionally process the FIXCAT HOLDS based on user's interest and what is currently installed.
- A new REPORT command will identify missing fixes in one or more fix categories

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**Enhancements to SMP/E**

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## RECEIVE Command Enhancements

- **Once the SMP/E V3.5 UPGRADE command was run**
  - The RECEIVE Command will process FIXCAT (Fix Category) ++HOLDS along with ERROR ++HOLDS from the same file (SMPHOLD)
    - Information will be stored in the GLOBAL zone, just like ERROR HOLDS

```
++HOLD(HBB7730) FMID(HBB7730) FIXCAT REASON(AA15968)
CATEGORY(IBM.Device.z9-EC-2094) RESOLVER(UA27113) .
```

- **GLOBAL Zone Entry for HBB7730**

```
HBB7730 TYPE = FUNCTION
STATUS = REC
DATE/TIME REC = 07.244 12:39:49
SREL VER(1) = Z038
HOLDERROR = AA12345
HOLDFIXCAT = AA15968
HOLDUSER = US56789
```

Fix Category HOLD  
reason IDs in effect for  
this SYSMOD

- **FIXCAT (Fix Category) HOLDS may be deleted from the global zone using the ++RELEASE statement:**

```
++RELEASE(HBB7730) FMID(HBB7730) FIXCAT REASON(AA15968) .
```

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### RECEIVE Command Enhancements

The RECEIVE Command will now support the new FIXCAT type HOLDDATA, and assign SOURCEIDS to SYSMODs based on information defined in the HOLDDATA.

If the GLOBAL zone's UPGLEVEL value is 35.00 or higher, then SMP/E 3.5 can process ++HOLD FIXCAT statements. The selection criteria for FIXCAT type HOLDS is the same as that for the other HOLD types. That is, SMP/E determines which HOLDS to select for processing from the SMPHOLD file according to whether the SELECT or FORFMID operands are specified on the RECEIVE command.

- If SELECT is specified, SMP/E selects HOLD statements that hold any of the SYSMODs specified on the SELECT operand.
- If FORFMID is specified, SMP/E selects HOLD statements whose FMID is specified on the FORFMID operand.
- If neither SELECT nor FORFMID are specified, SMP/E selects HOLD statements whose FMID is defined in the GLOBAL zone.


For each ++HOLD FIXCAT statement that is selected and received, a HOLDFIXCAT subentry is created in the held SYSMODs GLOBAL zone entry. The value of the HOLDFIXCAT subentry is the reason ID of the HOLD. If no SYSMOD entry exists, SMP/E creates one that contains only the HOLDFIXCAT subentry. In addition, a HOLDDATA entry containing the ++HOLD statement is created (or replaced) in the GLOBAL zone. This processing is the same as that for the other HOLD types.

A ++RELEASE statement identifies a reason ID for an exception that should be removed for the SYSMOD specified on the RELEASE statement. For each RELEASE FIXCAT statement that is selected and received, SMP/E determines if the HOLDFIXCAT subentry for the named reason ID exists in the GLOBAL zone SYSMOD entry for the specified SYSMOD. If the HOLDFIXCAT subentry exists, it is removed from the GLOBAL zone SYSMOD entry. In addition, the HOLDDATA entry containing the ++HOLD statement is removed from the GLOBAL zone. This processing is the same as that for the other HOLD types.

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### RECEIVE Command Enhancements ...



- In addition, for FIXCAT HOLDs, SMP/E will dynamically add a SOURCEID to match each Fix Category to the resolving PTF.
  - SOURCEIDs can now be mixed case and up to 64 characters

```
++HOLD(HBB7730) FMID(HBB7730) FIXCAT REASON(AA15968)
CATEGORY(IBM.Device.z9-EC-2094) RESOLVER(UA27113) .
```

- GLOBAL Zone Entry for Resolving PTF

UA27113	TYPE	=	PTF
	STATUS	=	REC
	DATE/TIME REC	=	07.050 12:34:56
	SOURCEID	=	IBM.Device.z9-EC-2094
			PUT0606
			RSU0607

Long Sourceid to match the Fix Category

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### RECEIVE Command Enhancements (continued)

Currently source ID values assigned to SYSMODs are obtained in three ways:


- the SOURCEID operand on the RECEIVE command,
- ORDER entry name, and
- ++ASSIGN statements.

An additional supplier of SOURCEID values will be the CATEGORY operand in ++HOLD FIXCAT statements. That is, the Fix Category values found on HOLD statements that are selected for processing will be assigned as SOURCEIDs to the SYSMOD that resolves the APAR identified by the HOLD statement. Doing this allows users to more easily select a set of SYSMODs for APPLY and ACCEPT processing based on the Fix Category value associated with those SYSMODs.

The resolving SYSMODs are defined by the RESOLVER operand supplied on the HOLD statement. If a ++HOLD FIXCAT statement does not contain the RESOLVER operand, then no SYSMOD will be assigned a SOURCEID for that HOLD (Please note that all IBM supplied FIXCAT HOLDs should have a RESOLVER operand). When the RESOLVER operand is supplied, and the SYSMOD entry for that resolving SYSMOD is in the GLOBAL zone or the SYSMOD is being received, then the Fix Category values found on the CATEGORY operand will be stored as SOURCEID subentries in the SYSMOD entry for that resolving SYSMOD, and the SOURCEID values will be reported in the RECEIVE Summary Report. If the SYSMOD entry for that resolving SYSMOD is not in the GLOBAL zone and is not being received for any reason, then no SOURCEID value is assigned and the SOURCEID is not reported in the RECEIVE Summary Report for that ++HOLD statement.

In the chart above, SMP/E would assign a SOURCEID of IBM.Device.z9-EC-2094 to PTF UA27113.

## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies

SMP/E V3.5 – Simplifying PSP Bucket Processing

### RECEIVE Command Enhancements ...

- **RECEIVE Summary Report**

```
PAGE nnnn - NOW SET TO GLOBAL ZONE DATE mm/dd/yy TIME hh:mm:ss SMP/E vr.nn SMPRPT OUTPUT
RECEIVE SUMMARY REPORT
SYSMOD  STATUS  TYPE      SOURCEID  FEATURE  STATUS  FIELD  COMMENTS
UA27033  ASSIGNED  IBM.Device.z9-EC-2094
UA27113  ASSIGNED  IBM.Device.z9-EC-2094
          ASSIGNED  IBM.Device.z9-EC-2094.zIIP
UA27861  ASSIGNED  IBM.Device.z9-EC-2094
UA27891  ASSIGNED  IBM.Function.HealthChecker
```

- **RECEIVE Exception SYSMOD Data Report**

```
PAGE nnnn - NOW SET TO GLOBAL ZONE DATE mm/dd/yy TIME hh:mm:ss SMP/E vr.nn SMPRPT OUTPUT
RECEIVE ++HOLD/++RELEASE SUMMARY REPORT
NOTE:    SMD NF - SYSMOD NOT RELEASED - NOT FOUND IN THE GLOBAL ZONE
          RSN NF - SYSMOD NOT RELEASED - NOT HELD FOR THIS REASONID
          INT HLD - SYSMOD NOT RELEASED - CANNOT RELEASE INTERNAL SYS HOLD
SYSMOD   TYPE    STATUS   REASON   FMID    ++HOLD MCS STATEMENTS
HBB7730  ERR     HELD    AA3342   HBB7730 ++HOLD(HBB7730) FMID(HBB7730) REASON(AA03342)
          ERROR DATE(04294)
          COMMENT(SMRTDATA(FIX(UA14303) SYMP(IPL)
          CHGDT(041020))) CLASS(HIPER).
HBB7730  FIXC    HELD    AA13644  HBB7730 ++HOLD(HBB7730) FMID(HBB7730) REASON(AA13644)
          FIXCAT DATE(06068)
          RESOLVER(UA27033) CLASS(PSP)
          CATEGORY(IBM.Device.z9-EC-2094).
```

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### RECEIVE Command Enhancements (continued)

Currently RECEIVE Summary Report will be modified to include the SOURCEIDs that may be assigned from FIXCAT HOLDS.


The RECEIVE Exception SYSMOD Data report is produced at the end of RECEIVE command processing and indicates the HOLD and RELEASE statements that were processed. The new ++HOLD FIXCAT and ++RELEASE FIXCAT statements will be included in this report.

Another example of the RECEIVE reports produced is included in the backup material (see **SMP/E V3.5 Attempt to RECEIVE FIXCAT HOLDDATA after running UPGRADE** on page 44)



## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies

SMP/E V3.5 – Simplifying PSP Bucket Processing



### SMP/E Enhancements to Express Interests in Fix Categories

- Users need to express an interest in a Fix Category for it to be used for APPLY, ACCEPT or REPORT processing
  - The default processing is to ignore fix category HOLDS
    - Same as today
- Users will be able to express interests in one or more fix categories by
  - Specifying the Fix Categories explicitly on APPLY, ACCEPT and REPORT commands
    - Uses the FIXCAT operand
    - Expanded wildcarding capabilities exists with \* and %
  - Specifying persistent fix categories in a “Fix Category” subentry for an OPTIONS entry used for a target or DLIB zone
    - Expanded wildcarding capabilities with \* and % can be used
    - A Fix Category Explorer dialog allows a user to view and select from a list of Fix Category values in a structured manner
    - The interest list in the active OPTIONS entry is used for REPORT, APPLY and ACCEPT if not specified on the command.
      - An Interest List specified on the command overrides the list from the active OPTIONS entry.

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### SMP/E Enhancements to Express Interests in Fix Categories

As mentioned earlier, unlike ERROR HOLDS, it is optional whether the APAR identified in FIXCAT HOLDS will affect processing for the held SYSMOD. The user has to express an interest in a Fix Category for it to affect subsequent SMP/E processing. Otherwise, SMP/E processing will be the same as it is today.

You can express an interest in one or more Fix Categories in a number of ways:

- You can explicitly specify one or more Fix Categories using the FIXCAT operand on APPLY, ACCEPT or REPORT commands
- You can implicitly specify one or more Fix Categories by using wildcarding in the FIXCAT operand on APPLY, ACCEPT or REPORT commands
- You can create persistent interest lists in the active OPTIONS entry for either target or DLIB zones. The persistent interest list can also use wildcarding to identify multiple Fix Categories with a single entry.

#### The FIXCAT Operand

The FIXCAT operand identifies the list of Fix Categories of interest for command processing. This list determines which Fix Category APARs must be resolved for the SYSMODs being APPLYd (or ACCEPTed).

The values specified on the FIXCAT operand will override the list of values, if any, defined by the FIXCAT subentry in the active OPTIONS entry. **FIXCAT()** may be used to specify a null list, which means no Fix Category APARs must be resolved during current APPLY or ACCEPT processing.

Fix Category values can be 1 to 64 characters in length, can contain any non-blank character in the range X'41' - X'FE' except single quote ('), comma (,), left parenthesis ((), and right parenthesis ()), and may be specified in two ways:


### SMP/E 3.5: Simplifying PSP Buckets and Other Goodies

- Explicitly, by fully specifying a particular Fix Category value. For example, IBM.Device.z9-EC-2094.zIIP. In this case, all HOLDDATA associated with this Fix Category will be applicable to command processing.
- Implicitly, by partially specifying a Fix Category value using any number of asterisks (\*) as generic characters and percent signs (%) as placeholders.
  - A single asterisk indicates that zero or more characters can occupy that position. For example, IBM.Device\*, \*z/OS or IBM\*z/OS. In the first case, all HOLDDATA associated with a Fix Category that begins with the character string IBM.Device will be applicable. In the second case, all HOLDDATA associated with a Fix Category that ends with the character string z/OS will be applicable. In the third case, all HOLDDATA associated with a Fix Category that begins with the character string IBM and ends with the character string z/OS will be applicable.
  - A single percent sign indicates that any one single character can occupy that position. For example, IBM.Device.\*20%4. In this case, HOLDDATA associated with any of the following Fix Categories would be applicable: IBM.Device.z9-EC-2094, IBM.Device.z990-2084, and IBM.Device.z900-2064. HOLDDATA would not be applicable if associated with Fix Category IBM.Device.z9-BC-2096.

The following examples are acceptable Fix Category values:

```
IBM.Device*zIIP
*
IBM.Function*
IBM.Device.*20%4*
*HealthChecker
```

Fix Category values may contain mixed case alphabetic characters. However, SMP/E ignores the case when identifying matches for a specified Fix Category value. For example, a specified value of IBM.FUNCTION.HEALTHCHECKER will match a value of IBM.Function.HealthChecker.

SMP/E V3.5 – Simplifying PSP Bucket Processing

### Manage a Persistent Fix Category Interest List INTEREST

- **Traditional methods to manage OPTIONS entries:**
  - **UCLIN**
  - **SMP/E Administration Dialog**

```
SET BDY (GLOBAL) .
UCLIN.
  ADD OPTIONS (GLOBOPT) FIXCAT (
    IBM.Device.*20%4*
    IBM.Device.*.zIIP
    IBM.Coexistence.DB2.*
    IBM.Coexistence.z/OS.V1R9
    IBM.ProductInstall.RequiredService
    IBM.Function.HealthChecker) .
ENDUCL.
```

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### Manage a Persistent Fix Category Interest List

The Administration dialog can be used to display, update, and define entries in the *GLOBAL* zone, a target zone, or a distribution zone. It can also be used to create a new target or distribution zone. One of the entries in the *GLOBAL* zone that can be updated is the *OPTIONS* entry.

An *OPTIONS* entry defines processing options that are to be used for an SMP/E command or set of commands. Although *OPTIONS* entries exist in the *GLOBAL* zone, they are also used to process commands for the target and distribution zones.

The *FIXCAT* subentry specifies a list of Fix Categories. It can be specified similarly to the *FIXCAT* operand on *APPLY*, *ACCEPT*, and *REPORT* commands. That is, Fix Category values can be 1 to 64 characters in length, can contain any non-blank character in the range X'41' - X'FE' except single quote ('), comma (,), left parenthesis ((), and right parenthesis ()), and may be specified in two ways:


- Explicitly, by fully specifying a particular Fix Category value.
- Implicitly, by partially specifying a Fix Category value using any number of asterisks (\*) as generic characters and percent signs (%) as placeholders.

SMP/E V3.5 – Simplifying PSP Bucket Processing 

### Manage a Persistent Fix Category Interest List ...

**New SMP/E ISPF Dialog based Fix Category Explorer:**

- **Exploit the hierarchical name structure for Fix Categories**
- **Explore a list of all Fix Categories defined by all FIXCAT HOLDs.**
  - Build an Interest List from scratch.**
  - Update an existing Interest List**
    - Prime the explorer with selections from an existing Interest List.
  - Identify new categories received since the last use of the explorer.**
    - The explorer remembers the categories you've seen before.



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### Manage a Persistent Fix Category Interest List (continued)

The Fix Category Explorer is a new SMP/E dialog that allows you to view and select from a list of Fix Category values in a structured manner. The Fix Category Explorer takes advantage of the hierarchical form of the Fix Category values to allow the user to navigate the list of Fix Categories similar to how the navigation pane of Windows Explorer allows a user to navigate the directories and files of a hierarchical file system.


More specifically, the naming convention for Fix Categories uses dot-qualified hierarchical values of the form

FirstLQ.SecondLQ.ThirdLQ. ... NthLQ

That is, qualifiers are separated by dots (periods), allowing as many qualifiers as can fit within a maximum of 64 characters. For example, the Fix Category value `IBM.Device.z9-EC-2094` has three qualifiers, where `IBM` is the first level qualifier, `Device` is the second level qualifier, and `"z9-EC-2094"` is the third level qualifier. The Fix Category Explorer panels display the Fix Categories by exploiting this dot-qualified hierarchical scheme. Fix Category values displayed can be considered "parent" or "child" values. A parent value is constructed from one or more qualifiers of a complete Fix Category value. For example, `IBM` is the parent value for `IBM.Device` which in turn is the parent value for `IBM.Device.z9-EC-2094`.

Please note that while the naming convention is similar to the data set naming conventions, there are differences in that the Fix Category names are less restrictive. Specifically, the maximum number of characters is 64 (not 44), each qualifier can have more than 8 characters, and there isn't any restriction on the leading characters of a Fix Category.

## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies

SMP/E V3.5 – Simplifying PSP Bucket Processing 


### Administration Dialog – Update OPTIONS entry

```
DEFINITION - OPTIONS ENTRY ZOSOPT
===> _
Select one of the following:
  1 UTILITY - Modify data related to the utility programs invoked by
             SMP/E.
  2 RECOVERY - Modify data related to the SMP/E recovery processing after
              error conditions.
  3 CLEANUP - Modify data related to the SMP/E data set cleanup
              operations after SMP/E processing.
  4 GENERAL - Modify data related to general SMP/E operations and output
              format.
  5 DSSPACE/ - Modify space allocation and/or the data name prefix for
    DSPREFIX  SMPTLIB data sets.
  6 ZONE GROUP - Modify data related to the SMP/E RECEIVE processing of
    SYSMODs  previously accepted and/or applied.
  7 HOLDDATA - Modify information related to HOLDDATA processing during
              the APPLY, ACCEPT and REPORT MISSINGFIX commands.
```

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### Administration Dialog Options Entry, FIXCAT Subentry

Within the SMP/E administration dialog for the options entry, the existing HOLDDATA selection was updated to manage persistent fix category interest lists. Selecting "7" on the panel above, will display the updated panel shown below. Selecting "2" on the panel below will enable you to define, or update, the persistent list of fix categories that will become the default when this OPTIONS entry is in use during APPLY, ACCEPT, or REPORT MISSINGFIX commands.

SMP/E V3.5 – Simplifying PSP Bucket Processing 

### Administration Dialog – Update OPTIONS entry

```
----- OPTIONS ENTRY ZOSOPT - HOLDDATA Reporting -----
===> 2 _
Select one of the following:
  1 SUPPHOLD - Specify Reason IDs for which the HOLDDATA image is to be
              suppressed in the APPLY and ACCEPT command HOLDDATA reports.
  2 FIXCAT - Specify the Fix Categories whose HOLDDATA will affect APPLY,
            ACCEPT and REPORT MISSINGFIX command processing.
To return to previous panel, enter END .
```

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## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies

SMP/E V3.5 – Simplifying PSP Bucket Processing

Administration Dialog – Update OPTIONS entry

```
FIXCAT OPTIONS ENTRY - ZOSOPT                               Row 1 of 10
==>                                                         SCROLL ==> CSR

Enter the Fix Categories whose HOLDDATA is to be considered during processing
for the APPLY, ACCEPT and REPORT MISSINGFIX commands. When the list is
complete, enter END.

Explore Fix Categories? ==> NO_ (YES or NO) ←
```

Fix Category

\*\*\*\*\* Bottom of data \*\*\*\*\*

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### Administration Dialog Options Entry, FIXCAT Subentry

This panel allows you to specify a list of Fix Categories whose HOLDDATA is to be considered during APPLY, ACCEPT and REPORT command processing, or to use the Fix Category Explorer to view and select Fix Category values. If no FIXCAT subentry exists in the current OPTIONS entry, then the display will be empty. Otherwise the existing subentry list values will be displayed.

If you specify YES to enter the Fix Category Explorer (as shown below), you may view and select from a list of all Fix Category values from all FIXCAT HOLDS (next set of slides). In addition, new Fix Category values will be identified.

SMP/E V3.5 – Simplifying PSP Bucket Processing

Administration Dialog – Update OPTIONS entry

```
FIXCAT OPTIONS ENTRY - ZOSOPT                               Row 1 of 10
==>                                                         SCROLL ==> CSR

Enter the Fix Categories whose HOLDDATA is to be considered during processing
for the APPLY, ACCEPT and REPORT MISSINGFIX commands. When the list is
complete, enter END.

Explore Fix Categories? ==> YES (YES or NO) ←
```

Fix Category

\*\*\*\*\* Bottom of data \*\*\*\*\*

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## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies

SMP/E V3.5 – Simplifying PSP Bucket Processing

### Administration Dialog – Update OPTIONS entry

```
----- Fix Category Explorer ----- Row 1 of 66
===> _                               SCROLL ==> CSR

Commands: FIND -Find a string, E -Expand all, C -Collapse all, U -U
Actions:  E -Expand, C -Collapse, S -Select, U -Unselect, V -View p
NEW indicates a Fix Category is new since

Fix Categories                               New Selected
-----
-IBM.*                                       NEW
-IBM.Device.*                               NEW
  IBM.Device.ApplicationServer-3000         NEW
  IBM.Device.CommunicationsController-3745  NEW
  IBM.Device.CouplingFacility-9674         NEW
  IBM.Device.DASD-3380                     NEW
  IBM.Device.DASD-9345                     NEW
  IBM.Device.DS6000-1750                    NEW
  IBM.Device.DS8000-2107                   NEW
  IBM.Device.EnterpriseServerES9000-9021   NEW
  IBM.Device.EnterpriseStorageServiceESSShark-2105 NEW
  IBM.Device.EnterpriseTapeDrive-3590      NEW
  IBM.Device.ESCONDirector-9032           NEW
```

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### Fix Category Explorer

When a user enters the Fix Category Explorer while updating an OPTIONS entry, all Fix Category values that are new and have not been viewed previously will be marked as NEW in the display. That is, all FIXCAT HOLD entries will be read from the GLOBAL zone and all Fix Category values will be collected from those HOLD entries. This list of Fix Category values will be compared to the list of saved Fix Categories in the permanent ISPF table that is unique for the current userid (this is the list of Fix Categories viewed last time). Any Fix Category values from the HOLD entries that are not in the saved list are considered new. The NEW field for such values will be set to NEW. The NEW field for all other values will be blank. Finally, all Fix Categories are analyzed and dissected into their various levels, or qualifiers. Appropriate parent and child values are then constructed for the Explorer display.

This display option is useful if you have traveled this path before. That is, if you choose to enter the Fix Category Explorer, the SMP/E dialog will remember all Fix Category values that are used to build the display. The next time you enter the Explorer, only the Fix Categories from new HOLDDATA received into the GLOBAL zone since the last time will be marked new in the display.

The initial display for a user's first visit (or for a user with no saved list of previously viewed Fix Categories) all values will be NEW and therefore all levels are expanded in order to expose all NEW values in the display.

## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies

SMP/E V3.5 – Simplifying PSP Bucket Processing

### Administration Update OPTIONS entry

Use "E" command to expand ALL fix categories

No new Fix Categories found in the GLOBAL zone

```
----- Fix Category Explorer ----- Row 1 of 5
===> _ SCROLL ==> CSR
Commands: FIND -Find a string, E -Expand all, U -Unselect all
Actions: E -Expand, C -Collapse, S -Select, U -Unselect, V -View patterns
No Fix Categories are new since 2008/05/13.

Fix Categories New Selected
-----
-IBM.*
+IBM.Coexistence.*
+IBM.Device.*
+IBM.Function.*
+IBM.*
***** Bottom of data *****
```

Use "E" line command to expand the list of fix categories

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### Fix Category Explorer

The Fix Category Explorer allows you to view and select Fix Category values from a structured display. The display takes advantage of the hierarchical form of the Fix Category values and represents all Fix Categories from all FIXCAT HOLDS found in the GLOBAL zone. It allows you to manage a persistent interest list. You can expand Fix Categories to see the more fully qualified name, as well as specify (select) an interest in a Fix Categories (or unselect it to state that you are no longer interested in that Fix Category).

SMP/E V3.5 – Simplifying PSP Bucket Processing

### Administration Update OPTIONS entry

Can use the FIND command to locate z10 Fix Categories

The list of IBM devices is expanded by one qualifier

```
----- Fix Category Explorer ----- Row 1 of 46
===> f z10 SCROLL ==> CSR
Commands: FIND -Find a string, E -Expand all, C -Collapse all, U -Unselect all
Actions: E -Expand, C -Collapse, S -Select, U -Unselect, V -View patterns
No Fix Categories are new since 2008/05/13.

Fix Categories New Selected
-----
-IBM.*
+IBM.Coexistence.*
-IBM.Device.*
  IBM.Device.ApplicationServer-3000
  IBM.Device.ArrayDASD-9391
  IBM.Device.CommunicationsController-3745
  IBM.Device.CouplingFacility-9674
  IBM.Device.DASD-3380
  IBM.Device.DASD-3390
  IBM.Device.DASD-9345
  IBM.Device.DS8000-2107
+IBM.Device.DS8000-2107.*
  IBM.Device.EnterpriseTapeDrive-3590
```

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## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies

SMP/E V3.5 – Simplifying PSP Bucket Processing

### Administration Dialog – Update OPTIONS entry

```
----- Fix Category Explorer ----- CHARS 'Z10' FOUND
===> SCROLL ==> CSR

Commands: FIND -Find a string, E -Expand all, C -Collapse all, U -Unselect all
Actions: E -Expand, C -Collapse, S -Select, U -Unselect, V -View patterns
No Fix Categories are new since 2008/05/13.

Fix Categories                                     New Selected
-----
S IBM.Device.z10-EC-2097
S +IBM.Device.z10-EC-2097.*
  IBM.Device.z800-2066
  IBM.Device.z890-2086
+IBM.Device.z890-2086.*
  IBM.Device.z9-BC-2096
+IBM.Device.z9-BC-2096.*
  IBM.Device.z9-EC-2094
+IBM.Device.z9-EC-2094.*
  IBM.Device.z900-2064
  IBM.Device.z990-2084
+IBM.Device.z990-2084.*
  IBM.Device.3090
```

Use the "S" line command to express an interest in the Fix Category

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SMP/E V3.5 – Simplifying PSP Bucket Processing

### Administration Dialog – Update OPTIONS entry

```
----- Fix Category Explorer ----- Row 32 of 52
===> _ SCROLL ==> CSR

Commands: FIND -Find a string, E -Expand all, C -Collapse all, U -Unselect all
Actions: E -Expand, C -Collapse, S -Select, U -Unselect, V -View patterns
No Fix Categories are new since 2008/05/13.

Fix Categories                                     New Selected
-----
  IBM.Device.z10-EC-2097                               SELECTED
-IBM.Device.z10-EC-2097.*                             SELECTED
  IBM.Device.z10-EC-2097.CapacityProvisioning          *
  IBM.Device.z10-EC-2097.DecimalFloatingPoint          *
  IBM.Device.z10-EC-2097.MIDAW                         *
  IBM.Device.z10-EC-2097.ServerTimeProtocol            *
  IBM.Device.z10-EC-2097.zAAP                          *
  IBM.Device.z10-EC-2097.zIIP                          *
  IBM.Device.z800-2066
  IBM.Device.z890-2086
+IBM.Device.z890-2086.*
  IBM.Device.z9-BC-2096
+IBM.Device.z9-BC-2096.*
```

Fix Categories covered by a selected generic entry are implicitly selected and displayed with an asterisk (\*\*)

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### Fix Category Explorer (continued)

If one or more Fix Categories are already specified in the OPTIONS subentry, they will be pre-selected in the Fix Category Explorer display.

### SMP/E 3.5: Simplifying PSP Buckets and Other Goodies

Specifying "S" on a row that is not already explicitly selected, or is implicitly selected by a match (its **Selected** field is either blank or \*), will set that Fix Category to **SELECTED**. In addition, if the current row is a parent Fix Category value, then all of its children that are not already explicitly selected, will be implicitly selected. The **Selected** field for all such child Fix Categories will be set to asterisk (\*), and then the table is redisplayed.

**Note:** Even though the **Selected** field for a child is set to asterisk (\*), the display state of child rows is not affected by the **Select** command for a parent. That is, if a parent row is currently collapsed, its children will be implicitly selected, but they will remain hidden from view until the parent row is expanded.

The screenshot shows the SMP/E V3.5 Category Explorer interface. At the top, it says "SMP/E V3.5 - Simplifying PSP Bucket Processing" and "Administration Update OPTIONS entry". The main display area shows a list of Fix Categories with a "New Selected" column. The list is currently collapsed, showing only the root categories: -IBM.\* and +IBM.Coexistence.\*. A yellow callout bubble points to the command prompt "===> c\_" and says "Use 'C' command to collapse ALL fix categories". Another yellow callout bubble points to the "-IBM.Device.\*" line and says "Use 'C' line command to collapse the list of fix categories". The interface also shows command and action keys: "Commands: FIND -Find a string, E -Expand all, C -Collapse all, U -Unselect all" and "Actions: E -Expand, C -Collapse, S -Select, U -Unselect, V -View patterns". The bottom of the screen shows "31" and "© 2008 IBM Corporation".

## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies

SMP/E V3.5 – Simplifying PSP Bucket Processing

### Administration Dialog – Update OPTIONS entry

```
----- Fix Category Explorer ----- Row 1 of 7
==>                                     SCROLL ==> CSR

Commands: FIND -Find a string, E -Expand all, C -Collapse all, U -Unselect all
Actions:  E -Expand, C -Collapse, S -Select, U -Unselect, V -View patterns

No Fix Categories are new since 2008/05/12

Fix Categories                                     New Selected
-----
-IBM.*
-IBM.Coexistence.*
-IBM.Coexistence.z/OS.*
S IBM.Coexistence.z/OS.V1R10
+IBM.Device.*
+IBM.Function.*
S +IBM.ProductInstall.*
***** Bottom of data *****
```

Select coexistence maintenance for z/OS V1.10

Select Recommended Service from software PSP buckets

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SMP/E V3.5 – Simplifying PSP Bucket Processing

### Administration Dialog – Update OPTIONS entry

```
FIXCAT OPTIONS ENTRY - ZOSOPT Row 1 of 4
==>                                     SCROLL ==> CSR

Enter the Fix Categories whose HOLDDATA is to be considered during processing
for the APPLY, ACCEPT and REPORT MISSINGFIX commands. When the list is
complete, enter END.

Explore Fix Categories? ==> NO_ (YES a

Fix Category
**** IBM.Coexistence.z/OS.V1R10
**** IBM.Device.z10-EC-2097
**** IBM.Device.z10-EC-2097.*
**** IBM.ProductInstall.*
***** Bottom of data *****
```


Default interest list for this OPTIONS entry

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### Fix Category Explorer (continued)

If either the END or RETURN command is processed, the list of Fix Categories displayed will be saved and used later to determine which Fix Categories will be marked "new" the next time this user chooses the NEW option of the Fix Category Explorer, and the selected Fix Categories will be stored in the FIXCAT subentry of the subject options entry.

SMP/E V3.5 – Simplifying PSP Bucket Processing

**APPLY and ACCEPT Command Enhancements** 

- **Fix Category HOLDS can affect installation of FMIDs**
  - **An FMID will NOT install if:**
    - The user expresses an interest in the Fix Category AND the PTF identified in the RESOLVER operand isn't also being installed
      - This is similar to ERROR HOLDS for HIPERs
- **User can specify the FIXCAT operand to identify Fix Categories of interest for THIS command**
  - If FIXCAT is *not* specified (or defined in the active OPTIONS entry), then FIXCAT HOLDS in the global zone have no affect on the APPLY
- **Users can specify BYPASS(HOLDFIXCAT) to allow all or specific FIXCAT HOLDS to be ignored**

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### APPLY and ACCEPT Command Enhancements

During APPLY and ACCEPT command processing, SMP/E ensures all requisites and exceptions are satisfied for all SYSMODs to be installed. Requisites are identified using relationships such as PRE, REQ, and IFREQ. To satisfy such a requisite means the named requisite SYSMOD is either already APPLYd or ACCEPTed, or is being APPLYd or ACCEPTed at the same time as the subject SYSMOD. This processing is not changing.

Exceptions are defined using ++HOLD MCS and stored in the GLOBAL zone as HOLDDATA entries. Each HOLDDATA entry has a reason ID value that identifies why the SYSMOD has been put into exception status. All current HOLDDATA types for the selected SYSMODs are applicable to APPLY and ACCEPT command processing and must be resolved. That is, all ERROR, SYSTEM, and USER HOLDS are applicable. This will not be the case for the new FIXCAT type HOLDDATA.

FIXCAT type HOLDDATA entries identify APARs for the held SYSMOD, and the APAR is associated with one or more Fix Categories. It is optional whether the FIXCAT type HOLDDATA entry will affect processing for the held SYSMOD, based on the Fix Categories of the HOLDDATA and the Fix Categories of interest specified by the user. If a Fix Category value of the HOLDDATA matches any of those of interest to the user, then the held SYSMOD will not be APPLYd or ACCEPTed until the APAR reason ID is resolved. Please note that the Fix Category values in the active interest list, and the values on the FIXCAT type HOLDDATA entry may contain mixed case alphabetic characters. SMP/E processing will ignore the case when identifying matches.

The active Fix Category interest list is defined by the values on the FIXCAT operand on the command and the FIXCAT subentry in the active OPTIONS entry as described previously. Applicability for each FIXCAT type HOLDDATA entry is determined as follows:

- If the active Fix Category interest list is not null, and if any of the Fix Category values of the FIXCAT type HOLDDATA matches a value in the active interest list, then the HOLDDATA is applicable to command processing and the reason ID APAR must be resolved.

### SMP/E 3.5: Simplifying PSP Buckets and Other Goodies

- If the active Fix Category interest list is not null but none of the Fix Category values of the HOLDDATA matches any of the values in the active interest list, then the HOLDDATA is not applicable to command processing and the reason ID APAR need not be resolved. In fact, the HOLDDATA plays no further role in command processing and is not reported in the SYSMOD Status Report or any of the HOLDDATA Reports.

For FIXCAT type HOLDDATA entries that are applicable to command processing, the APAR is considered resolved (sometimes described as, the requisite is considered satisfied) when any one of the following conditions is true:

- the SYSMOD named as the reason ID (the APAR) of the HOLDDATA is already APPLYd (or ACCEPTed) or has been superseded by a SYSMOD that is already APPLYd (or ACCEPTed).
- the SYSMOD named as the reason ID (the APAR) of the HOLDDATA is being APPLYd (or ACCEPTed) concurrently or is being superseded by a SYSMOD that is being APPLYd (or ACCEPTed) concurrently.
- An applicable BYPASS operand of HOLDCLASS or HOLDFIXCAT is specified.

The BYPASS operand can be used to override missing requisites and exceptions. To BYPASS one or more Fix Category reason IDs, you can use BYPASS(HOLDFIXCAT) to indicate that held SYSMODs associated with the specified Fix Category reason IDs should not be held. The list of reason IDs is optional. If a list of reason IDs is included, only the ones specified are bypassed. If a list is not included, all Fix Category reason IDs are bypassed.

## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies

SMP/E V3.5 – Simplifying PSP Bucket Processing

### APPLY and ACCEPT Command Enhancements

- Fix Categories can also simplify the installation of:
  - FMIDs
    - Through the use of a single Fix Category for ALL Recommended Service currently defined in a software PSP bucket
      - IBM.ProductInstall.RequiredService
    - Through the other Fix Categories that you want to ensure the resolving PTFs are also installed with the FMID
      - For example, PTFs for hardware support: IBM.Device.z9-EC-2094
    - By simplifying the GROUPEXTEND used to resolve FIXCAT HOLDS product release SOURCEID used to include recommended service

```
SET BDY(ZOS18T) .
APPLY CHECK GROUP ...
SELECT (HDB881, FORFMID
SOURCEID(RSU*)
FIXCAT (IBM.ProductInstall.RequiredService
IBM.Device.z9-EC-2094)
BYPASS (HOLDFIXCAT (AA15968) )
```

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### APPLY and ACCEPT Command Enhancements (continued)

Today when you install a new release of a product, the product's Program Directory instructs you to install all recommended service that has been identified in the PSP buckets that are applicable to the product. For products that are made up of many FMID, for example the z/OS product, that could be many subsets (for z/OS over 60).

IBM has defined a single Fix Category for all service identified in a Recommended Service section of a PSP bucket. The associated FIXCAT HOLDDATA will specify the applicable FMIDs. By expressing an interest in the Fix Category "IBM.ProductInstall.RequiredService" you can ensure that all service specified in the Recommended Service section of all applicable PSP subsets is installed when the FMID is installed.

Furthermore, by expressing an interest in other Fix Categories, such as hardware devices, you can ensure that all required service for the specified hardware devices is installed with the new FMID.

Finally, by defining additional Fix Categories for information currently just in product documentation, we can programmatically ensure that that service is installed as well.

Please note that if you express interests in one or more Fix Categories and want SMP/E to automatically add the resolving PTF to the candidate list of SYSMODs to install that you need to specify the GROUPEXTEND operand on the APPLY or ACCEPT commands. Otherwise, you will have to add all the resolving PTFs to the selection list (or use some other filtering technique like SOURCEID) to have the resolving PTFs processed with the applicable FMID.

For example, consider the case when SYSMOD HBB7740 is being APPLYd, and there exists a HOLDDATA entry in the GLOBAL zone as follows:


```
++HOLD(HBB7740) FMID(HBB7740) REASON(AA23333) FIXCAT DATE(08057)
CLASS(PSP) RESOLVER(UA90399)
CATEGORY(IBM.Device.z10-EC-2097) .
```

If the active Fix Category interest list contained the value IBM.Device.z10\* (or IBM.Device.\*2097\*), then the HOLDDATA is applicable and APAR AA23333 must be resolved. If the active Fix Category interest list were null, or if it contained only the value \*HealthChecker\*, then the HOLDDATA is not applicable, APAR AA23333 need not be resolved, and no mention of the HOLDDATA will be found in the APPLY output.

## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies

SMP/E V3.5 – Simplifying PSP Bucket Processing

**APPLY and ACCEPT Command Enhancements**



- Fix Categories can also simplify the installation of:
  - Service for new hardware, or hardware/software functions
    - Through the use of **SOURCEIDs** for resolving PTFs that match the fix categories
      - For example, IBM.Device.z9-EC-2094.ZIIP or IBM.Function.HealthChecker
    - SOURCEID** and **EXSRCID** operands can now be mixed case, up to 64 alphabetic characters
      - SMP/E ignores the case when identifying Category value.
      - For example, a specified value of IBM.Function.Hea match a value of IBM.Function.Hea
      - Expanded wildcarding capabilities exist and %

```
APPLY SOURCEID(IBM.Device.*209%
        IBM.Function.Hea
        RSU*)
EXSRCID(PUT08%%
        IBM.Device.z9-BC*.STP)
CHECK.
```

Include all required and functional service for z9 EC, z9 BC and z10 EC servers, as well as any Health Checks and all RSU maintenance

Exclude STP maintenance for a z9 BC and any PTF that closed this year

purposes only!

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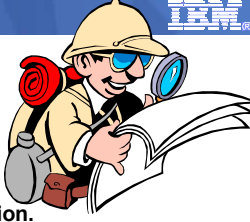
### APPLY and ACCEPT Command Enhancements (continued)

As mentioned at the beginning of the presentation, today when you prepare to install new hardware, or enable a new hardware or software function you have to review and compare the service identified in multiple PSP bucket subsets to what you currently have installed, and then acquire and install all the missing service.

Through the use of **SOURCEIDs** you can automate that processing.

For example, if you are currently running on a z990 (2084) and are planning to install a z10 EC server (2097), then you need to install all the required service for a z9 EC server, as well as the 2097 server that you want to install. By obtaining the latest **HOLDDATA** and using a **SOURCEID** with a wildcard (either **IBM.Device.\*209%**, **IBM.Device.\*209\***, or **IBM.Device.\*209%\***) you can attempt to install all service that was in either the **2094DEVICE**, **2096DEVICE** and the **2097DEVICE** PSP buckets for z/OS. Notice that the first example, **IBM.Device.\*209%**, will only identify the minimum service for the server. The other two examples with an **"\*"** at the end will include that service, but also include service for optional hardware functions such as **MIDAW**, **ZAAP**, **ZIIP**, and **STP**.

## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies

SMP/E V3.5 – Simplifying PSP Bucket Processing

### New REPORT MISSINGFIX Command

- Identifies missing APARs and missing resolving PTFs.
  - Missing = not applied / accepted
- Similar to REPORT ERRSYSMODS
  - But uses ++HOLD FIXCAT for the source of APAR information.
- Reports only the Fix Categories that match your Interest List.
- Generates RECEIVE ORDER and APPLY command for any identified resolving PTFs.
- ZONES operand identifies one or more target and distribution zones to report on.
- FIXCAT operand
  - Identifies Fix Categories of interest (aka Interest List).
  - Determines which FIXCAT HOLDS will be included in the report.
  - Extended wildcards with \* and %.
- FORFMID operand to limit which FIXCAT HOLDS will be included in the report.

```
REPORT MISSINGFIX ZONES (ZOS17T)  
FIXCAT (IBM.Device.z9-EC-2094*  
        IBM.Coexistence.z/OS.V1R8  
        IBM.Function.HealthChecker)  
FORFMID (HBB7730 HRM7730) .
```

Example  
REPORT  
command is  
for illustrative  
purposes only!

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### New REPORT MISSINGFIX Command Enhancement

The new REPORT MISSINGFIX command is similar to the existing REPORT ERRSYSMODS command that reports on the installed SYSMODs that have unresolved ERROR HOLDS.

The REPORT MISSINGFIX command helps to determine whether any FIXCAT APARs exist that are applicable and have not yet been installed, and whether any SYSMODs are available to satisfy the missing FIXCAT APARs. More specifically, the REPORT MISSINGFIX command will report on SYSMODs that have been APPLYd or ACCEPTed for which subsequent FIXCAT HOLDS have been received and whose reason IDs have not yet been resolved. The actual FIXCAT HOLDS analyzed during report processing are determined by the Fix Categories of interest specified by the user.



## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies

SMP/E V3.5 – Simplifying PSP Bucket Processing

### Report Missing FIXCAT Sample

```

MISSING FIXCAT SYSMOD REPORT FOR ZONE ZOS17T

FIX CATEGORY      FMID      HOLD      MISSING  HELD      RESOLVING SYSMOD
CLASS            APAR      CLASS     APAR      SYSMOD    NAME      STATUS   RECEIVED
-----
IBM.Device.z9-EC-2094
HBB7730  SERVCAT  AA13644  HBB7730  UA27033  GOOD     NO
                AA14941  HBB7730  UA26443  GOOD     NO
                AA15968  HBB7730  UA27113  GOOD     YES
                AA16005  HBB7730  UA26745  GOOD     NO
                AA16529  HBB7730  UA26741  HELD     NO
                AA17268  HBB7730  UA27861  GOOD     NO
HRM7730  SERVCAT  AA16458  HRM7730  UA28236  GOOD     NO

IBM.Device.z9-EC-2094.zIIP
HBB7730  SERVCAT  AA15968  HBB7730  UA27113  GOOD     NO
                AA16005  HBB7730  UA26745  GOOD     NO
HRM7730  SERVCAT  AA16458  HRM7730  UA28236  GOOD     NO
                AA18772  HRM7730  ***NONE

IBM.Function.HealthChecker
HBB7730  SERVCAT  AA15593  HBB7730  UA28084  GOOD     NO
                AA16687  HBB7730  UA27678  GOOD     NO
HRF7730  SERVCAT  AA15290  HRF7730  UA26196  GOOD     NO
                AA17429  HRF7730  UA28412  GOOD     NO

```

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### New REPORT MISSINGFIX Command Enhancements (continued)

The new Missing FIXCAT SYSMOD Report produced by the REPORT MISSINGFIX command will also contain two parts. The first part of the report (shown above) is the main part and identifies the FIXCAT APARs that are missing as well as the SYSMODs that can resolve the missing APARs. The second part of the report (part of which is shown below) is used to provide additional information about those resolving SYSMODs from the first report part that are held for an error. This information can be useful when trying to resolve the missing APARs.

```

PAGE nnnn - NOW SET TO GLOBAL ZONE          DATE mm/dd/yy  TIME hh:mm:ss
SMP/E 35.00 SMPRPT OUTPUT

MISSING FIXCAT SYSMOD REPORT FOR ZONE TGT    - FIXES FOR HELD RESOLVING
SYSMODS

HOLD      HELD      RESOLVING SYSMOD      HOLD
FMID      SYSMOD    APAR      NAME      STATUS   RECEIVED  CLASS
-----
HBB7730  UA26741  AA22874  UA34271  GOOD     NO        PE
                UA36122  GOOD     YES        PE
                UA29059  AA24875  UA36625  HELD     NO        PE
                UA36625  AA43771  ***NONE  PE
                AA45962  ***NONE  PE

```

Another example of the REPORT MISSINGFIX output is included in the backup material (see **Sample REPORT MISSINGFIX Command for all z10 EC Service** on page 46).

## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies

SMP/E V3.5 – Simplifying PSP Bucket Processing

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Enhancements to  
Product and Service  
Deliverables


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SMP/E V3.5 – Simplifying PSP Bucket Processing

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### Enhancements to Product and Service Deliverables

- **FIXCAT type ++HOLDS will be included in *all* existing IBM product and service offerings**
  - RECEIVE ORDER
  - ShopzSeries
  - ServiceLink
  - TechSupport
  - HOLDDATA Web Site
  - CBPDO, ...
  - Included in the same file (SMPHOLD)
- **System Replacement Offerings**
  - ServerPacs and SystemPacs will come with the SMP/E V3.5 UPGRADE command run for the delivered SMP/E zones
  - FIXCAT holds will be RECEIVED along with uninstalled service
  - No Interest Lists will be defined




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## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies

SMP/E V3.5 – Simplifying PSP Bucket Processing 

# Using the New Support

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SMP/E V3.5 – Simplifying PSP Bucket Processing 

### Install a New Software Level (FMID)


- How do you ensure all the Recommended PTFs identified in all the appropriate PSP buckets are installed when a new FMID is installed?
- Today:
  1. Read Program Directory and identify PSP UPGRADEs and SUBSETs needed for the new FMIDs
  2. Identify other PSP subsets that you have interests in
  3. Compare the list of PTFs in each of those subsets to target zones AFTER install is done, or just install all available PTFs.
    - Usually done manually or combined with ePSPt
  4. Order any missing fixes
  5. Install the PTFs in each of those subsets either with the FMID, or after the FMID was installed
    - ▶ Requires either a long Select list, user defined SOURCEIDs, or installing more service than just the Recommended Service
  6. If you are testing the new release (FMID) for an extended period of time, you may want to repeat steps 3-5 periodically

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### Install a New Software Level (FMID)

As mentioned several times already, the existing process is very manual, and each step error-prone. In fact, it is so manual that many customers either don't attempt to install the recommended service identified in the product's PSP bucket, or they install all available service for the FMID (even service not yet recommended).

Now, as shown on the next chart, a tantalizingly simple APPLY command can be constructed (with a relatively simple persistent Fix Category interest list) automate that process.

SMP/E V3.5 – Simplifying PSP Bucket Processing 

### Install a New Software Level (FMID) ...

- Tomorrow:
  1. Use standard **APPLY** with **GROUPEXTEND** and a persistent Fix Category Interest List. Notice that it is no longer necessary to specify (HIPER,PRP) in the SOURCEID operand

```
SET BDY(tgtzone) .
APPLY CHECK GROUPEXTEND BYPASS (HOLDSYS) SOURCEID (RSU*)
SELECT (fmid1, fmid2, ...) FORFMID (fmid1, fmid2,...) .
```
  2. If you are testing the new release for an extended period of time, you may want to run an **APPLY (CHECK) FORFMID(fmid1, fmid2,...)** specifying **SOURCEIDs** of the Fix Categories in your interest list. If **FIXCAT** not specified in the **OPTIONS ENTRY**, add **FIXCAT(IBM.ProductInstall.RequiredService)**
- Assumes
  1. All applicable PTFs for the FMIDs being installed have been **RECEIVED**
  2. The **OPTIONS** entry for **tgtzone** specifies the Fix Categories that the customer is interested in
    - ▶ Minimally this needs to include **IBM.ProductInstall.RequiredService**

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### Install a New Software Level (FMID) (continued)


The first step in product installation is to **RECEIVE** the FMID, the latest **HOLDDATA** and all available service. Please note that for z/OS Web Deliverables you need to acquire the service separately.

Now, minimally as a onetime action, you would update the **OPTIONS** entry that will be used for the target zone to include the Fix Category "IBM.ProductInstall.RequiredService".

The **APPLY CHECK** command (shown above) can then be used to ensure **ALL** service from the product's PSP bucket and recommended service for the product will be installed along with the FMIDs. The **FORFMID** and **SOURCEID** operands tell SMP/E to try and install all recommended service along with the FMID; the **FIXCAT** operand (either specified explicitly or as part of the active **OPTIONS** entry) will ensure that the FMID doesn't get installed without any PTFs listed in the PSP bucket; and the **GROUPEXTEND** operand will enable SMP/E to try and resolve any exceptions (either **ERROR**, **FIXCAT**, or **USER HOLDS**).


If you are testing the new release (FMID) for an extended period of time, you may want to run an **APPLY (CHECK) FORFMID(fmid1, fmid2,...)** specifying **SOURCEIDs** of the Fix Categories in your interest list. This will update the product with any PTF added to a PSP bucket that you were interested in.

## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies


SMP/E V3.5 – Simplifying PSP Bucket Processing 

### Install Coexistence Service for a New Software Level (FMID)

- How do you ensure all the coexistence PTFs for a product are installed on all software instances that will share resources with the new software level?
- Today:
  1. Read Program Directory, product installation or migration manuals to identify coexistence service
    - ▶ For z/OS, this is documented in the z/OS Migration manual and documented in the Cross Product Dependency section of the ZOSGEN Subset of the “from” UPGRADE
      - Compare the list of PTFs in the subset to the target zones for the software instances that will share resources
      - > Usually done manually or download extract file and run ePSPT
  2. Order any missing fixes
  3. Install the PTFs in each of those subsets either with the FMID, or after the FMID was installed
    - ▶ Requires either a Select list, user defined SOURCEIDs, or installing more service than just the Recommended Service



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SMP/E V3.5 – Simplifying PSP Bucket Processing 

### Install Coexistence Service for a New Software Level (FMID) ...

- Tomorrow:

**APPLY CHECK with SOURCEID to select missing coexistence service.**

```
SET BDY (ZOS17T) . "From" target zone
  APPLY CHECK GROUPEXTEND BYPASS (HOLDSYS) "To" z/OS release
    SOURCEID (IBM.Coexistence.z/OS.V1R9) .
SET BDY (ZOS18T) .
  APPLY CHECK GROUPEXTEND BYPASS (HOLDSYS)
    SOURCEID (IBM.Coexistence.z/OS.V1R9) .
```


OR

**Run new SMP/E REPORT MISSINGFIX command to identify missing coexistence service.**

```
SET BDY (GLOBAL) . "From" target zones
REPORT MISSINGFIX ZONES (ZOS17T, ZOS18T)
  FIXCAT (IBM.Coexistence.z/OS.V1R9) . "To" z/OS release
```

2. Then run RECEIVE ORDER and APPLY command generated by REPORT MISSINGFIX.

The first example assumes all available PTFs and the latest HOLDDATA has been RECEIVED; the second just assumes that the latest HOLDDATA has been RECEIVED



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### Install Coexistence Service for a New Software Level (FMID)

Until recently there was NO programmatic way to either identify missing coexistence service, or install just the missing service. As of z/OS V1.8, the ZOSGEN PSP Bucket subset was used to identify coexistence service for z/OS. All other products still only documented coexistence service in their product publications or web sites. Even the z/OS coexistence service had the “cumbersome”, partially manual, process described earlier. As of SMP/E 3.5 you will have two options to simplify this task.

## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies

1. If you have RECEIVED the latest HOLDDATA, and **ALL** service for the "from" target zone (or at least the "from" FMIDs), then you will be able to use a simple APPLY CHECK command with a SOURCEID to identify any missing coexistence service.
2. If you don't want to RECEIVE all PTFs for the "from" FMID, once you have RECEIVED the latest HOLDDATA, you can run the REPORT MISSINGFIX command with a SMPPUNCH DD. The REPORT will generate sample RECEIVE ORDER and APPLY commands to acquire and install any missing coexistence service.

SMP/E V3.5 – Simplifying PSP Bucket Processing



### Install Service for a New Hardware Device


- How do you ensure all the hardware support PTFs are installed on all software instances that will run on the new hardware?
- How do you know that the PTFs needed to exploit the optional hardware functions that you want to use are installed on all software instances that will run on the new hardware?
- Today:
  1. Read hardware PSP Bucket for the device (if necessary, read the subsets for prior generations)
    - Compare the list of PTFs in the subsets to the target zones for the software instances that will run on the new hardware
      - > Usually done manually or download extract files and run ePSPt
  2. Order any missing fixes
  3. Install the PTFs in each of those subsets either with the FMID, or after the FMID was installed
    - ▶ Requires either a Select list, user defined SOURCEIDs, or installing more service than just the Recommended Service

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### Install Service for a New Hardware Device

As mentioned earlier, today when you prepare to install new hardware, or enable a new hardware or software function you have to review and compare the service identified in multiple PSP bucket subsets to what you currently have installed, and then acquire and install all the missing service. Tomorrow you can simplify and automate that process through the use of SOURCEIDs, especially if wildcarding is used. Again, you can either use APPLY CHECK or REPORT MISSINGFIX depending on whether you choose to RECEIVE all service prior to issuing the command.

## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies

SMP/E V3.5 – Simplifying PSP Bucket Processing 

### Install Service for a New Hardware Device ...

- Tomorrow:  
**APPLY CHECK with SOURCEID to select missing hardware service.**

```
SET BDY(ZOS17T).  
  APPLY CHECK GROUPEXTEND BYPASS(HOLD, HOLD, HOLD, HOLD, HOLD, HOLD,  
    SOURCEID(IBM.Device.*209%*))  
SET BDY(ZOS18T).  
  APPLY CHECK GROUPEXTEND BYPASS(HOLD, HOLD, HOLD, HOLD, HOLD, HOLD,  
    SOURCEID(IBM.Device.*209%*))
```

Use wildcarding to include prior generations or optional functions

OR

- 1.Run new **SMP/E REPORT MISSINGFIX** command to identify missing hardware service.


```
SET BDY(GLOBAL).  
REPORT MISSINGFIX ZONES(ZOS17T, ZOS18T, ZOS19T, ZOS20T, ZOS21T, ZOS22T,  
  FIXCAT(IBM.Device.*209%*))
```

Use wildcarding to include prior generations or optional functions

- 2.Then run **RECEIVE ORDER** and **APPLY** command generated by **REPORT MISSINGFIX**.

The first example assumes all available PTFs and the latest **HOLDDATA** has been **RECEIVED**; the second just assumes that the latest **HOLDDATA** has been **RECEIVED**


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# IBM Fix Categories

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## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies


SMP/E V3.5 – Simplifying PSP Bucket Processing 

### Fix Category Naming Conventions - Examples

IBM.Device.DASD-3380	IBM.Function.DST2007
IBM.Device.DASD-3390	IBM.Function.HealthChecker
IBM.Device.MagneticTapeSubsystem-3422	IBM.Function.SysplexDataSharing
IBM.Device.MagneticTapeSubsystem-3480	
IBM.Device.MagneticTapeSubsystem-3490	
IBM.Device.VirtualTapeServerVTS-3494	IBM.Coexistence.DB2.V7
IBM.Device.z900-2064	IBM.Coexistence.DB2.V8
IBM.Device.z800-2066	IBM.Coexistence.DB2.V9
IBM.Device.z990-2084	IBM.Coexistence.z/OS.V1R7
IBM.Device.z990-2084.zAAP	IBM.Coexistence.z/OS.V1R8
IBM.Device.z890-2086	IBM.Coexistence.z/OS.V1R9
IBM.Device.z890-2086.zAAP	IBM.DrivingSysReq.z/OS.V1R9
IBM.Device.z9-EC-2094	IBM.TargetSysReq.z/OS.V1R8
IBM.Device.z9-EC-2094.zAAP	IBM.TargetSysReq.z/OS.V1R9
IBM.Device.z9-EC-2094.zIIP	IBM.TargetSysReq.WebSphere.V7
IBM.Device.z9-BC-2096	
IBM.Device.z9-BC-2096.zAAP	
IBM.Device.z9-BC-2096.zIIP	
IBM.Device.z10-EC-2097	
IBM.Device.z10-EC-2097.zAAP	
IBM.Device.z10-EC-2097.zIIP	
IBM.Device.z10-EC-2097.DECFP	IBM.ProductInstall.RequiredService

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The Fix Categories listed are examples. Feedback is appreciated.

SMP/E V3.5 – Simplifying PSP Bucket Processing 


# Summary

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## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies

SMP/E V3.5 – Simplifying PSP Bucket Processing




### Summary


- **FIXCAT HOLDS** will be delivered with all existing IBM service offerings.
- All applicable **FIXCAT HOLDS** will be received into the global zone.
- **APPLY** and **ACCEPT** are affected only if a **FIXCAT** interest list is specified.
  - Either explicitly on the command or in a **FIXCAT** subentry of the active **OPTIONS** entry
- The overall design will simplify and automate several tasks required to properly install products and service.
  - When you plan to install new hardware or enable new hardware or software functions, this enhancement will simplify the identification and installation of software identified in those PSP buckets.
  - The use of a naming convention and wildcarding will enable you to process several PSP buckets at the same time, eliminating the need to serially process each subset.
  - By integrating the processing into SMP/E, the existing steps (and context switches) required to use EPSPT or manual methods are eliminated.
  - The Fix Category Explorer provides an easy means of identifying new fix categories

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SMP/E V3.5 – Simplifying PSP Bucket Processing



### Questions for ....




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In case no one has asked yet, this support is planned to be available with z/OS V1.10. It will also be available as part of SMP/E 3.5 which can be installed on top of all supported z/OS releases. Target availability of both products is planned for September 2008.

## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies


SMP/E V3.5 – Simplifying PSP Bucket Processing



Backup

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SMP/E V3.5 – Simplifying PSP Bucket Processing




### Structure of PSP Buckets

- Hardware Buckets
  - Change Summary
  - Service Recommendation Summary
  - 1. General Information
  - 2. Hardware Service Levels
  - 3. Software Service Levels
  - 4. Service Recommendations
  - 5. Optional Product Levels
- Software Buckets
  - Change Summary
  - Service Recommendation Summary
  - 1. Installation Information
  - 2. Documentation Changes
  - 3. General Information
  - 4. Service Recommendations
  - 5. Cross Product Dependencies

Anything “hyper-linked” will be retrievable with ServiceLink function. (This is mostly in the “Service Recommendation Summary” section.)

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## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies

SMP/E V3.5 – Simplifying PSP Bucket Processing

### SMP/E V3.5 Attempt to RECEIVE FIXCAT HOLDDATA without running UPGRADE

```


Display Filter View Print Options Help
-----
SDSF OUTPUT DISPLAY RECVAQ81 JOB26573 DSID 102 LINE 1 COLUMNS 02- 81
COMMAND INPUT ==> SCROLL ==> CSR
PAGE 0001 - NOW SET TO GLOBAL ZONE DATE 05/02/08 TIME 15:14:24 SMP/E

GIM42401I THE FOLLOWING PARAMETERS WERE SPECIFIED ON THE EXEC STATEMENT FOR G
SET BDY (GLOBAL) OPTIONS (OS390OPT) .
GIM20501I SET PROCESSING IS COMPLETE. THE HIGHEST RETURN CODE WAS 00.

RECEIVE HOLDDATA

GIM58903W SMP/E COULD NOT PROCESS A ++HOLD FIXCAT MCS BECAUSE IT WOULD HAVE M
CANNOT BE PROCESSED COMPLETELY BY PRIOR LEVELS OF SMP/E. USE THE UP
SUCH CHANGES.
GIM20501I RECEIVE PROCESSING IS COMPLETE. THE HIGHEST RETURN CODE WAS 04.
```

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SMP/E V3.5 – Simplifying PSP Bucket Processing

### SMP/E V3.5 Attempt to RECEIVE FIXCAT HOLDDATA without running UPGRADE

```

Display Filter View Print Options Help
-----
SDSF OUTPUT DISPLAY RECVAQ81 JOB26573 DSID 102 LINE 1 COLUMNS 55- 134
COMMAND INPUT ==> SCROLL ==> CSR
02/08 TIME 15:14:24 SMP/E 35.00 SMP/OUT OUTPUT

ON THE EXEC STATEMENT FOR GIMSMP: 'DATE=U'.

RETURN CODE WAS 00.


***
**
***
MCS BECAUSE IT WOULD HAVE MADE A CHANGE TO THE GLOBAL ZONE THAT
LEVELS OF SMP/E. USE THE UPGRADE COMMAND TO ALLOW SMP/E TO MAKE

EST RETURN CODE WAS 04.
```

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**SMP/E V3.5 Attempt to RECEIVE FIXCAT HOLDDATA without running UPGRADE**  
SMP/E V3.5 will generate message GIM58903W stating that a FIXCAT HOLD statement was found in the SMPHOLD input file, but the UPGRADE command was not run so those statements were not processed. You must run the UPGRADE command and then RECEIVE the SMPHOLD file. Note: The HOLDDATA file will contain 2 years of HOLDDATA, including 2 years of FIXCAT HOLDDATA.

## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies

SMP/E V3.5 – Simplifying PSP Bucket Processing 

### SMP/E V3.5 Attempt to RECEIVE FIXCAT HOLDDATA after running UPGRADE

```
Display Filter View Print Options Help
-----
SDSF OUTPUT DISPLAY RECVH09A JOB30562 DSID 102 LINE 0 COLUMNS 02- 81
COMMAND INPUT ==> _ SCROLL ==> CSR
***** TOP OF DATA *****
PAGE 0001 - NOW SET TO GLOBAL ZONE DATE 05/03/08 TIME 07:40:03 SMP/E


GIM42401I THE FOLLOWING PARAMETERS WERE SPECIFIED ON THE EXEC STATEMENT FOR G
SET BDY(GLOBAL) .
GIM20501I SET PROCESSING IS COMPLETE. THE HIGHEST RETURN CODE WAS 00.

RECEIVE HOLDDATA

GIM20501I RECEIVE PROCESSING IS COMPLETE. THE HIGHEST RETURN CODE WAS 00.

GIM20502I SMP/E PROCESSING IS COMPLETE. THE HIGHEST RETURN CODE WAS 00. SMP/E
IS AT LEVEL 35.00.
***** BOTTOM OF DATA *****
```

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SMP/E V3.5 – Simplifying PSP Bucket Processing 

### SMP/E V3.5 Attempt to RECEIVE FIXCAT HOLDDATA after running UPGRADE

```
Display Filter View Print Options Help
-----
SDSF OUTPUT DISPLAY ELVIRA7 JOB31478 DSID 105 LINE 76 COLUMNS 02- 81
COMMAND INPUT ==> _ SCROLL ==> CSR

SYSMOD STATUS TYPE SOURCEID FEATURE STATUS FIELD COMMENTS


ASSIGNED IBM.Device.z9-BC-2096.zIIP
ASSIGNED IBM.Device.z9-EC-2094.zIIP
ASSIGNED IBM.Function.HealthChecker
UA39389 ASSIGNED IBM.Device.z10-EC-2097
ASSIGNED IBM.Device.z10-EC-2097.zIIP
ASSIGNED IBM.Device.z9-BC-2096.zIIP
ASSIGNED IBM.Device.z9-EC-2094.zIIP
ASSIGNED IBM.Function.HealthChecker
UA39411 ASSIGNED IBM.Device.z10-EC-2097
UA39413 ASSIGNED IBM.Device.z10-EC-2097
ASSIGNED IBM.Device.z10-EC-2097.CapacityProvisioning
UA39414 ASSIGNED IBM.Device.z10-EC-2097
ASSIGNED IBM.Device.z10-EC-2097.CapacityProvisioning
UA39452 ASSIGNED IBM.Device.z10-EC-2097
UA39460 ASSIGNED IBM.Function.RLS
UA39474 ASSIGNED IBM.ProductInstall.RequiredService
```

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### **SMP/E V3.5 Attempt to RECEIVE FIXCAT HOLDDATA after running UPGRADE**

The SMP/E V3.5 RECEIVE Summary Report will now show any SYSMODs assigned a SOURCEID due to a FIXCAT HOLD (shown above), and for any FMID not defined in the GLOBAL zone, SMP/E will show that that Fix Category HOLD was not applicable ("N/A") (next slide). The RECEIVE ++HOLD/++RELEASE SUMMARY REPORT will list out Fix Category HOLDS for FMIDs that have been defined to the GLOBAL zone (slide 60).

## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies


SMP/E V3.5 – Simplifying PSP Bucket Processing 

### SMP/E V3.5 Attempt to RECEIVE FIXCAT HOLDDATA after running UPGRADE

```

Display Filter View Print Options Help
-----
SDSF OUTPUT DISPLAY RECVH09A JOB30562 DSID 104 LINE 3,281 COLUMNS 02- 81
COMMAND INPUT ==> _ SCROLL ==> CSR
HBB7703 FIXC N/A AA01977 HBB7703
HBB7703 FIXC N/A AA02024 HBB7703
HBB7703 FIXC N/A AA02033 HBB7703
HBB7703 FIXC N/A AA02061 HBB7703
HBB7703 FIXC N/A AA02068 HBB7703
HBB7703 FIXC N/A AA02080 HBB7703
HBB7703 FIXC N/A AA02111 HBB7703
HBB7703 FIXC N/A AA02114 HBB7703
HBB7703 FIXC N/A AA02117 HBB7703
HBB7703 FIXC N/A AA02120 HBB7703
HBB7703 FIXC N/A AA02131 HBB7703
HBB7703 FIXC N/A AA02137 HBB7703
HBB7703 FIXC N/A AA02172 HBB7703
HBB7703 FIXC N/A AA02180 HBB7703
HBB7703 FIXC N/A AA02185 HBB7703
HBB7703 FIXC N/A AA02187 HBB7703
HBB7703 FIXC N/A AA02238 HBB7703
HBB7703 FIXC N/A AA02284 HBB7703
HBB7703 FIXC N/A AA02297 HBB7703
HBB7703 FIXC N/A AA02310 HBB7703
    
```

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SMP/E V3.5 – Simplifying PSP Bucket Processing 

### SMP/E V3.5 Attempt to RECEIVE FIXCAT HOLDDATA after running UPGRADE

```

Display Filter View Print Options Help
-----
SDSF OUTPUT DISPLAY RECVH09A JOB30562 DSID 104 LINE 140 COLUMNS 02- 81
COMMAND INPUT ==> _ SCROLL ==> CSR
NOTE: SMD NF - SYSMOD NOT RELEASED - NOT FOUND IN
      RSN NF - SYSMOD NOT RELEASED - NOT HELD FOR
      INT HLD - SYSMOD NOT RELEASED - CANNOT RELEAS
SYSMOD TYPE STATUS REASON FMID ++HOLD MCS S
EDU1H01 FIXC HELD AK04980 EDU1H01 ++HOLD (EDU1H01) FMID (EDU1H01) REASON (AK049
CLASS (PSP) RESOLVER (UK03260)
CATEGORY (IBM.Device.DS6000-1750,
IBM.Device.DS8000-2107,
IBM.ProductInstall.RequiredSer
EDU1H01 FIXC HELD AK07247 EDU1H01 ++HOLD (EDU1H01) FMID (EDU1H01) REASON (AK072
CLASS (PSP) RESOLVER (UK04470)
CATEGORY (IBM.Device.DS6000-1750,
IBM.Device.DS8000-2107,
IBM.ProductInstall.RequiredSer
EDU1H01 FIXC HELD AK11598 EDU1H01 ++HOLD (EDU1H01) FMID (EDU1H01) REASON (AK115
CLASS (PSP) RESOLVER (UK07608)
CATEGORY (IBM.Device.DS8000-2107,
    
```

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## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies

SMP/E V3.5 – Simplifying PSP Bucket Processing

### SMP/E V3.5 REPORT MISSINGFIX for z10 Service

```

Display Filter View Print Options Help
-----
SDSF OUTPUT DISPLAY REPORT9A JOB31041 DSID 102 LINE 1 COLUMNS 02- 81
COMMAND INPUT ==> _ SCROLL ==> CSR
PAGE 0001 - NOW SET TO GLOBAL ZONE DATE 05/03/08 TIME 07:44:39 SMP/E

GIM42401I THE FOLLOWING PARAMETERS WERE SPECIFIED ON THE EXEC STATEMENT FOR G
SET BDY (GLOBAL) .
GIM20501I SET PROCESSING IS COMPLETE. THE HIGHEST RETURN CODE WAS 00.

REPORT MISSINGFIX ZONES (TGTZ19)
FIXCAT (IBM*2097*)

GIM20501I REPORT PROCESSING IS COMPLETE. THE HIGHEST RETURN CODE WAS 00.
                    
```

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### Sample REPORT MISSINGFIX Command for all z10 EC Service

The SMP/E V3.5 REPORT MISSINGFIX SYSMOD Report (shown on the next 3 slides) identifies any resolving SYSMODs (PTFs for IBM FIXCAT HOLDS) that were not currently installed in the specified target zone. In addition, the report identifies whether the resolving PTF has been RECEIVED, and if it is currently being HELD. For any SYSMODs not RECEIVED SMP/E will punch a RECEIVE ORDER command that can be used to obtain the PTF. Similarly, for any PTF not currently APPLYd, SMP/E will generate an APPLY CHECK command (shown on slide 65).

SMP/E V3.5 – Simplifying PSP Bucket Processing

### SMP/E V3.5 REPORT MISSINGFIX for z10 Service


```

Display Filter View Print Options Help
-----
SDSF OUTPUT DISPLAY REPORT9A JOB31041 DSID 104 LINE 5 COLUMNS 02- 81
COMMAND INPUT ==> _ SCROLL ==> CSR

FIX CATEGORY FMID HOLD CLASS MISSING APAR HELD SYSMOD RESOLVING SYSMOD
STATUS RECEIVED
IBM.Device.z10-2097
EER3500 PSP A008254 EER3500 U000715 GOOD YES
HBB7740 PSP AA22675 HBB7740 UA39411 GOOD YES
UA39452 GOOD YES
UA39503 GOOD YES
HCM1910 PSP A005753 HCM1910 U090003 GOOD YES
HCS7740 PSP AA20468 HCS7740 UA90392 GOOD YES
HI01104 PSP AA22001 HI01104 UA90380 GOOD YES
HLB7740 PSP AK54415 HLB7740 UK31348 GOOD YES
UK33668 GOOD YES
UK31348 GOOD YES
UK33668 GOOD YES
UK31348 GOOD YES
UK33668 GOOD YES
UK31348 GOOD YES
UK33668 GOOD YES
UK31348 GOOD YES
                    
```

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## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies

SMP/E V3.5 – Simplifying PSP Bucket Processing 

### SMP/E V3.5 REPORT MISSINGFIX for z10 Service


```

Display Filter View Print Options Help
-----
SDSF OUTPUT DISPLAY REPORT9A JOB31041 DSID 104 LINE 25 COLUMNS 02- 81
COMMAND INPUT ==> _ SCROLL ==> CSR

```

UK33668	GOOD	YES
UK31348	GOOD	YES
UK33668	GOOD	YES
UK31348	GOOD	YES
UK33668	GOOD	YES
UK31348	GOOD	YES
UK33668	GOOD	YES
UK31348	GOOD	YES
UK33668	GOOD	YES
UK31545	GOOD	YES
UK33740	GOOD	YES
UK31546	GOOD	YES
UK33741	GOOD	YES
UK31547	GOOD	YES
UK33742	GOOD	YES
UK33755	GOOD	YES
UK31348	GOOD	YES
UK33668	GOOD	YES
UK31348	GOOD	YES
UK33668	GOOD	YES

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SMP/E V3.5 – Simplifying PSP Bucket Processing 

### SMP/E V3.5 REPORT MISSINGFIX for z10 Service

```

Display Filter View Print Options Help
-----
SDSF OUTPUT DISPLAY REPORT9A JOB31041 DSID 104 LINE 45 COLUMNS 02- 81
COMMAND INPUT ==> _ SCROLL ==> CSR

```

UK31348	GOOD	YES
UK33668	GOOD	YES
HLE7740 PSP AK57016 HLE7740 UK31548	GOOD	YES
UK31548	GOOD	YES
HMQ4150 PSP AK58463 HMQ4150 UK33787	GOOD	YES
HPG2900 PSP AA22914 HPG2900 UA39413	GOOD	YES
HPV7740 PSP AA20824 HPV7740 UA39307	GOOD	YES
HRM7740 PSP AA12774 HRM7740 UA39278	GOOD	YES
UA40032	GOOD	YES
HTV7740 PSP AK58087 HTV7740 UK32256	GOOD	YES
UK32256	GOOD	YES
JCS774J PSP AA20468 JCS774J UA90394	GOOD	YES
JPG290A PSP AA22914 JPG290A UA39414	GOOD	YES
JRM774J PSP AA12774 JRM774J UA39279	GOOD	YES
UA40054	GOOD	YES
IBM.Device.z10-2097.ZAAP		
HBB7740 PSP AA22160 HBB7740 UA38783	GOOD	YES
PAGE 0002 - NOW SET TO GLOBAL ZONE DATE 05/03/08 TIME 07:44:41 SMP/E		

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## SMP/E 3.5: Simplifying PSP Buckets and Other Goodies

SMP/E V3.5 – Simplifying PSP Bucket Processing

### SMP/E V3.5 REPORT MISSINGFIX (SMPPUNCH)

```
Display Filter View Print Options Help
-----
SDSF OUTPUT DISPLAY REPORT9A JOB31041 DSID 106 LINE 1 COLUMNS 02- 81
COMMAND INPUT ==> - SCROLL ==> CSR
SET BDY(TGTZ19 ).
APPLY CHECK
SELECT (
/* IBM.Device.z10-2097 */
UA39278
UA39279
UA39307
UA39411
UA39413
UA39414
UA39452
UA39503
UA40032
UA40054
UA90380
UA90392
UA90394
UK31348
UK31545
UK31546
```

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