z/OS Introduction and Workshop

SMP/E
Unit Objectives

After completing this unit, you should be able to:

• Describe SMP/E
• Describe SYSMOD
• List 4 Types of SYSMODs
• Describe Global Zone
• Describe Target and Distribution Libraries
• List 4 SMP/E Commands for Managing Software Maintenance
What is SMP/E?

SMP/E (System Management Program / Extended) is the basic tool for installing and maintaining software in z/OS.

SMP/E controls these changes at the “element” level by:

- Selecting the elements to be installed from a large number of potential changes
- Calling system utility programs to install the changes
- Keeping records of the installed changes

SMP/E can be run either using

- Batch jobs (JCL)
- Dialogs (panels) under ISPF
SMP/E Terminology

The combination of elements and control information is called a system modification, or SYSMOD.

There are four types of SYSMODs:

1) Function SYSMODs (or functions)
   Introduce a new product, a new version or release of a product, or updated functions for an existing product into the system

2) PTFs
   Tested fixes for reported problems

3) APARs
   Authorized program analysis reports (APARs) are temporary fixes designed to fix or bypass a problem for the first reporter of the problem

4) User modifications (USERMODs)
   SYSMODs built by you, either to change IBM code or to add independent functions to the system
SMP/E Data Sets

**Data sets used by SMP/E**

**Target libraries** contain the executable code needed to run your system.

**Distribution libraries** (DLIBs) contain the master copy of each element for a system.

**SMPCSI (CSI) data sets** are Virtual Sequential Access Method (VSAM) data sets used to control the installation process and record the results of processing.
SMP/E Command Processing

Commands used by SMP/E

1) RECEIVE – reads sysmods into SMP data sets
2) APPLY – updates target libraries with sysmods
3) ACCEPT – updates distribution libraries making changes permanent
4) RESTORE – remove sysmod from the system (only before ACCEPT of sysmod)

SYSMODs

SMPCSI

Global Zone

Target Zone

Distribution Zone

Libraries

target libraries

distribution libraries
SMP/E Dialogs (Panels)

--- SMP/E PRIMARY OPTION MENU --- SMP/E 35.44

0 SETTINGS - Configure settings for the SMP/E dialogs
1 ADMINISTRATION - Administer the SMPCSI contents
2 SYSMOD MANAGEMENT - Receive SYSMODs and HOLDDATA and install SYSMODs
3 QUERY - Display SMPCSI information
4 COMMAND GENERATION - Generate SMP/E commands
5 RECEIVE - Receive SYSMODs, HOLDDATA and support information
6 MIGRATION ASSISTANT - Generate Planning and Migration Reports
7 ORDER MANAGEMENT - Manage ORDER entries in the global zone
D DESCRIBE - An overview of the dialogs
T TUTORIAL - Details on using the dialogs
W WHAT IS NEW - What is New in SMP/E

Specify the name of the CSI that contains the global zone:
  SMPCSI DATA SET ===>

(Leave blank for a list of SMPCSI data set names.)

Specify YES to have DD statements for SYSOUT and temporary data sets generated. Specify NO, to use DDDEFs.
  Generate DD statements ===> NO
SMP/E Dialogs (Panels)

--------- SMP/E PRIMARY OPTION MENU --------- SMP/E 35.44

0  SETTINGS - Configure settings for the SMP/E dialogs
1  ADMINISTRATION - Administer the SMPCSI contents
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D  DESCRIBE - An overview of the dialogs
T  TUTORIAL - Details on using the dialogs
W  WHAT IS NEW - What is New in SMP/E

Specify the name of the CSI that contains the global zone:
   SMPCSI DATA SET ===> 'mvs.global.csi'
   (Leave blank for a list of SMPCSI data set names.)

Specify YES to have DD statements for SYSOUT and temporary data sets generated. Specify NO, to use DDDEFS.
   Generate DD statements ===> NO
SMP/E CSI Data Set Names

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<td>MVST</td>
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</table>

*************************************************************************** Bottom of data **************************************************************************
A problem occurred and isolation of problem implicated IGW system component and specifically module IGWLHHS

IBM Support Center asked “Is UA83940 applied?”
CSI QUERY

Specify the zone, entry type, and name to be queried:

ZONE NAME ==> MYST  Name of the zone to be queried. To display a list of all zones, leave blank

ENTRY TYPE ==> SYSMOD Entry type to be queried. To display a list of all valid entry types, leave ENTRY TYPE and ENTRY NAME blank

ENTRY NAME ==> UA83940 Entry name to be queried. Leave blank or use a wildcard (entry name pattern) to display a selection list.

To return to the Query selection menu, enter END.
CSI QUERY - SYSMOD ENTRY

To return to the previous panel, enter END.

Primary Command: FIND

Entry Type: SYSMOD
Entry Name: UA83940
Zone Name: MVST
Zone Type: TARGET

Description:

Type: PTF
Status: APP BYP
FMID: HDZ2220
Date/Time: 17.096 06:28:09 APP

-------------- ------------- ------------- ------------- -------------
PRE UA77531 UA80583
SUP AA51383 AA51516 UA83257

SOURCEID HIPER
IBM.Function.PDSE
IBM.ProductInstall-RequiredService
PUT1703
SMCCOR
MOD IGWLGLCN IGWLGRPO IGWLHOBT

******************************************************************************** Bottom of data ********************************************************************************
CSI QUERY of MOD IGWLGLCN

CSI QUERY

Specify the zone, entry type, and name to be queried:

ZONE NAME  ==>  MYST  Name of the zone to be queried.  
                 To display a list of all zones, 
                 leave blank

ENTRY TYPE  ==>  mod    Entry type to be queried.  
                    To display a list of all valid 
                    entry types, leave ENTRY TYPE 
                    and ENTRY NAME blank

ENTRY NAME  ==>  igwlglcn  Entry name to be queried.  
                      Leave blank or use a wildcard 
                      (entry name pattern) to display 
                      a selection list.

To return to the Query selection menu, enter END.
Results in CSI QUERY of MOD IGWLGLCN

To return to the previous panel, enter END.

Primary Command: FIND

Entry Type: MOD          Zone Name: MVST
Entry Name: IGWLGLCN     Zone Type: TARGET
FMID: HDZ2220          LASTUPD: HDZ2220 TYPE=ADD
RMID: UA83940          DISTLIB: ACLMMOD0

Link-edit Parameters:

********** ********** ********** ********** ********** ********** **********

LMOD  IGWLHHLS
CSECTS IGWLGLCN

********** Bottom of data **********
CSI QUERY of LMOD IGWLHHLHLS

CSI QUERY

==> Query processing complete for MOD IGWLGLCN
Specify the zone, entry type, and name to be queried:

ZONE NAME ==> MVST
Name of the zone to be queried. To display a list of all zones, leave blank

ENTRY TYPE ==> LMOD
Entry type to be queried. To display a list of all valid entry types, leave ENTRY TYPE and ENTRY NAME blank

ENTRY NAME ==> IGWLHHLHLS
Entry name to be queried. Leave blank or use a wildcard (entry name pattern) to display a selection list.

To return to the Query selection menu, enter END.
Results in CSI QUERY of LMOD IGWLHHLS

CSI QUERY - LMOD ENTRY

Row 1 of 1

To return to the previous panel, enter END.

Primary Command: FIND
NOTE: ENTER L ON COMMAND LINE TO DISPLAY LINK-EDIT DATA

Entry Type: LMOD
Entry Name: IGWLHHLS

Zone Name: MYST
Zone Type: TARGET

RETURN CODE: 0
LASTUPD: HDZ2220
TYPE=ADD

Link-edit Parameters:
RENT,NCAL

---
SYSLIB LPALIB

************************************************************************** Bottom of data **************************************************************************
CSI QUERY of DDDEF LPALIB

CSI QUERY

Query processing complete for LMOD IGWLHHLS
Specify the zone, entry type, and name to be queried:

ZONE NAME  ==>  MVST  Name of the zone to be queried.
To display a list of all zones, leave blank

ENTRY TYPE  ==>  DDDEF  Entry type to be queried.
To display a list of all valid entry types, leave ENTRY TYPE
and ENTRY NAME blank

ENTRY NAME  ==>  LPALIB  Entry name to be queried.
Leave blank or use a wildcard (entry name pattern) to display
a selection list.

To return to the Query selection menu, enter END.
Result of CSI QUERY of DDDEF LPALIB

CSI QUERY - DDDEF ENTRY

Row 1 of 1

To return to the previous panel, enter END.

Primary Command: FIND

Entry Type: DDDEF
Entry Name: LPALIB
Zone Name: MVST
Zone Type: TARGET
DSNAME: SYS1.LPALIB

VOLUME: VIMYSB  UNIT: SYSDA  DISP: SHR
SPACE:  PRIM:  SECOND:  DIR:  
SYSPRINT CLASS:  
PROTECT:  
DATABASE:  

** Bottom of data **
**Browse load module IGWLHHL5**

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Browse LMOD IGWLHHL5 in LPALIB
Browse LMOD IGWLHHL in LPALIB
SMP SOURCEID QUERY of SMP target zone

SOURCED QUERY

=>

Specify the zone to be queried:

ZONE NAME  => mvst

Name of the zone to be queried.
To display a list of all zones, leave blank.

To return to the Query selection menu, enter END.
SMP SOURCEID QUERY of SMP target zone

Locate PUT levels

SMP SOURCEID QUERY - SOURCEID SELECTION

===> 1 put

Select one SOURCEID for TARGET zone MVST

S

SOURCEID

EURO99

HIPER

IBM.Coexistence.z/OS.V2R1

IBM.Coexistence.z/OS.V2R2

IBM.Coexistence.z/OS.V2R3

IBM.Coexistence.z/OSMF.V2R1

IBM.Coexistence.ICSF.z/OS.V2R1-V2R2-HCR77C0

IBM.Device.Disk.DS8000-2107

IBM.Device.Disk.ESS-Shark-2105

IBM.Device.Disk.RAMAC-VirtualArraySubsystem-9393

IBM.Device.Disk.3390

IBM.Device.FICONDirector.2032

IBM.Device.FICONDirector.2042

IBM.Device.FICONDirector.2062

IBM.Device.Server.s/390Multiprise3000-7060

IBM.Device.Server.zBC12-2828

IBM.Device.Server.zBC12-2828.zHighPerformanceFICON
SMP SOURCEID QUERY of SMP target zone
Locate PUT level 1703

Select one SOURCEID for TARGET zone MVST

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### SMP SOURCEID QUERY of SMP target zone

**Select PUT1703**

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SMP SOURCEID QUERY of SMP target zone
Select UA83940 from PUT1703

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Results in CSI QUERY of SYSMOD UA83940

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CSI QUERY - SYSMOD ENTRY

Row 1 of 9

To return to the previous panel, enter END.

Primary Command: FIND

Entry Type: SYSMOD
Entry Name: UA83940

Zone Name: MVST
Zone Type: TARGET

Description:

Type: PTF
FMID: HDZ2220
Date/Time: 17.096 06:28:09 APP

-------- -------- -------- -------- -------- -------- --------
PRE      UA77531  UA80583
SUP      AA51383  AA51516  UA83257

SOURCEID HIPER
IBM.Function.PDSE
Results in CSI QUERY of SYSMOD UA83940

CSI QUERY - SYSMOD ENTRY

To return to the previous panel, enter END.

Primary Command: FIND

Entry Type: SYSMOD
Entry Name: UA83940
Zone Name: MYST
Zone Type: TARGET

Description:

Type: PTF
Status: APP
BYP
FMID: HDZ2220
Date/Time: 17.096 06:28:09 APP

--------- --------- --------- --------- --------- --------- ---------
IBM.ProductInstall-RequiredService
PUT1703
SMCCOR
MOD IGWLGLCN IGWLGRPO IGWLHOBT

******************************************************************** Bottom of data  ********************************************************************
SMP/E JCL Command Processing

Command ==> submit

******** ************ Top of Data ***
000001 //SMPLIST JOB 1
000002 //GIM EXEC PGM=GIMSPM,REGION=4096K
000003 //SMPCSI DD DISP=SHR,DSN=MYS.GLOBAL.CSI
000004 //SMPLIST DD SYSOUT=* 
000005 //SMPLOG DD SYSOUT=* 
000006 //SMPCNTL DD *
000007 SET BDY(MYST). 
000008 LIST SYSMOD(UA83940). 
000009 LIST MOD(IGWLGCLCN). 
000010 LIST LMOD(IGWLLHLS). 
000011 LIST DDDEF(LPALIB). 
000012 /* LIST FUNCTIONS.

******** ************ Bottom of Data *
SMP/E Documentation & Information

IBM Redbooks

ABCs of z/OS System Programming Volume 2 - Chapter 5 (SG24-6982-02)

IBM Manuals

SMP/E for z/OS

User's Guide (SA22-7773-18)
Reference (SA22-7772-16)
Commands (SA22-7771-15)

Software Product Program Directories (detailed installation instructions)
Chapter 5

SMP/E Professional Manuals and Documentation

SMP/E User Guide

SMP/E Reference

SMP/E Commands
Unit summary

Having completed this unit, you should be able to:

✓ Describe SMP/E
✓ Describe SYSMOD
✓ List 4 Types of SYSMODs
✓ Describe Global Zone
✓ Describe Target and Distribution Libraries
✓ List 4 SMP/E Commands for Managing Software Maintenance