

# z/OS Introduction and Workshop

System Modification Program (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***.

## 4 types of SYSMODs:

### 1) Function

Introduce a new product, a new version or release of a product, or updated functions for an existing product into the system

### 2) PTE

Tested fixes for reported problems

### 3) APAR

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

### 4) USERMOD

SYSMODs built by you, either to change IBM code or to add independent functions to the system

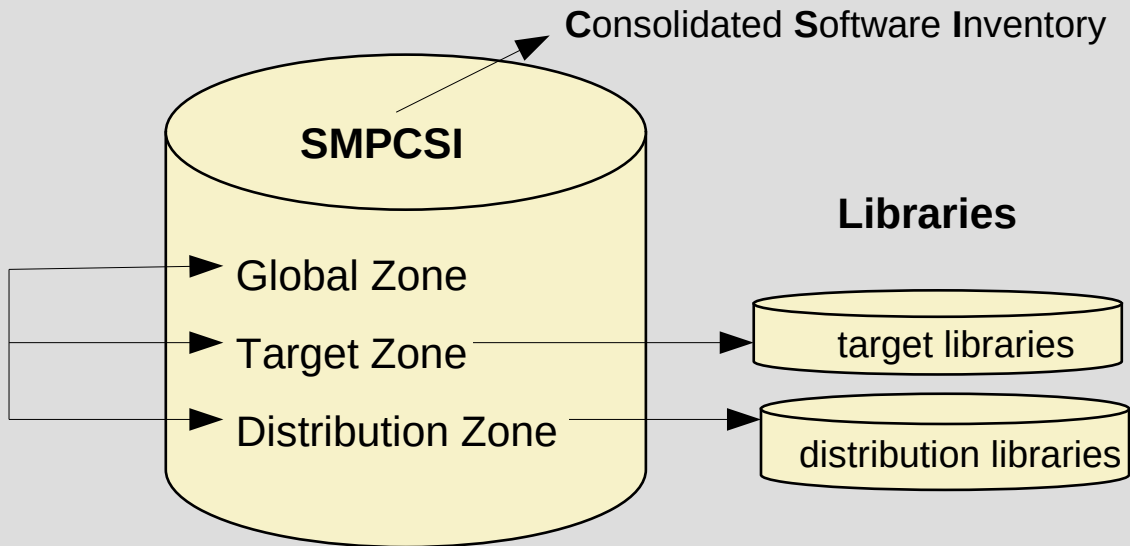
# SMP/E Data Sets

## 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.

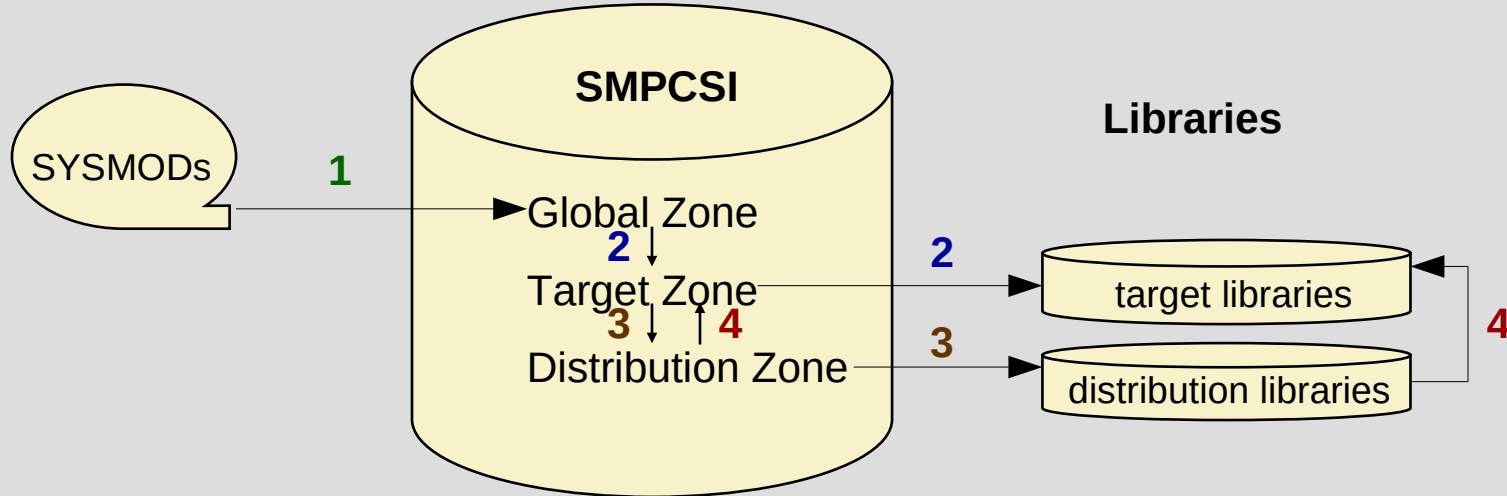
**SMPCSI (CSI) data sets** are Virtual Sequential Access Method (VSAM) data sets used to control the installation process and record the results of processing.



# 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)



# 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

===> 3

- 0 SETTINGS - Configure settings for the SMP/E dialogs
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- 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

```
====>  QUERY - ZONE SELECTION Row 1 of 7
SCROLL ====> PAGE

Select the zone that you want to query:

S  NAME      TYPE      CSI DATA SET
   CSQ600D   DLIB     CSQ600.CSQ600D.CSI
   CSQ600T   TARGET   CSQ600.CSQ600T.CSI
   CSQ701D   DLIB     CSQ701.CSQ701D.CSI
   CSQ701T   TARGET   CSQ701.CSQ701T.CSI
   GLOBAL   GLOBAL   MVS.GLOBAL.CSI
   MVSD     DLIB     MVS.MVSD.CSI
   MVST     TARGET   MVS.MVST.CSI
***** Bottom of data *****
```

# SMP/E JCL Command Processing

```
File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT      KC02440.JCL(SMP) - 01.02                Columns 00001 00072
Command ==> submit[]                             Scroll ==> PAGE
***** ***** Top of Data *****
000010 //SMPLIST JOB 1
000100 //LIST EXEC PGM=GIMSMP,REGION=4096K
000200 //SMPCSI DD DISP=SHR,DSN=MVS.GLOBAL.CSI
000300 //SMPLIST DD SYSOUT=*
000400 //SMPLOG DD SYSOUT=*
000500 //SMPCNTL DD *
000600 SET BDY(GLOBAL).
000900 LIST FMIDSET.
001000 LIST FUNCTIONS.
***** ***** Bottom of Data *****
```

# SMP/E Professional Manuals and Documentation

## + SMP/E Version 3

▲ Title	◆ Order number	◆ Last modified	◆ Download
<a href="#">z/OS SMP/E Commands</a>	SA23-2275-40	20 Nov 2019	PDF <a href="#">gim1000_v2r4.pdf</a> (2.74MB)
<a href="#">z/OS SMP/E Messages, Codes, and Diagnosis</a>	GA32-0883-40	20 Nov 2019	PDF <a href="#">gim0000_v2r4.pdf</a> (2.02MB)
<a href="#">z/OS SMP/E Reference</a>	SA23-2276-40	10 Jul 2019	PDF <a href="#">gim2000_v2r4.pdf</a> (2.82MB)
<a href="#">z/OS SMP/E User's Guide</a>	SA23-2277-40	20 Nov 2019	PDF <a href="#">gim3000_v2r4.pdf</a> (1.44MB)



z/OS ABCs

Volume 2

Chapter 5

A problem was experienced on your production z/OS involving Communications Server security.

Intrusion Detection Services was configured and enabled for immediate notification of suspicious activity.

The problem symptoms included:

EZBITKOB ABEND4C5 74F52002 TCB LOCK HELD HASHTAB TOKEN

<https://www.ibm.com/support/pages/apar/PH21740>

You call the IBM Defect Support Center

You provide the problem symptoms.

IBM Defect Support asks:

What is your z/OS release level?

D IPLINFO --- you respond z/OS Version 2 Release 3

IBM Defect Support checks defect database for known issues.

IBM Defect Support asks:

Do you have UI68269 applied?

What are you expected know and provide to IBM Defect Support.

# SMP/E Dialogs (Panels)

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

===> 3

- 0 SETTINGS - Configure settings for the SMP/E dialogs
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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

```
===> 1■                                QUERY SELECTION MENU
      1 CSI QUERY                        - Display SMPCSI entries
      2 CROSS-ZONE QUERY                 - Display status of an entry in
                                          all zones
      3 SOURCEID QUERY                   - Display SOURCEIDs for specified zone
      D DESCRIBE                          - Overview of using QUERY
      T TUTORIAL                          - Information on using QUERY
To return to the SMP/E primary option menu, enter END .
```

## CSI QUERY

==&gt;

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

ENTRY NAME ==> ui68269 Entry name to be queried.  
Leave blank or use a wildcard  
(entry name pattern) to display  
a selection list.

CSI QUERY - SYSMOD ENTRY

Row 1 of 6  
SCROLL ==> PAGE

==&gt; █

To return to the previous panel, enter END .

Primary Command: FIND

Entry Type: SYSMOD  
Entry Name: UI68269  
Description:Zone Name: MVST  
Zone Type: TARGETType: PTF Status: APP  
FMID: HIP6230  
Date/Time: 20.156 13:34:07 APP-----  
PRE UI66221  
SUP AH18551 AH21740 UI67443SOURCEID PUT2005  
SMCCOR  
MOD E2BTCUTL

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



## CSI QUERY

===&gt;

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

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

## CSI QUERY - MOD ENTRY

R

===&gt; ■

SCROLL

To return to the previous panel, enter END .

Primary Command: FIND

Entry Type: MOD	Zone Name: MYST
Entry Name: EZBTCUTL	Zone Type: TARGET

FMID: HIP6230	LASTUPD: HIP6230	TYPE=ADD
RMID: UI68269	DISTLIB: AEZAMODS	

Link-edit Parameters:

LMOD      EZBTIINI

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

## CSI QUERY

===&gt;

Query processing complete for MOD EZBTCUTL

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

## CSI QUERY - LMOD ENTRY

Row

===&gt; █

SCROLL ===

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

Zone Name: MVST

Entry Name: EZBTIINI

Zone Type: TARGET

RETURN CODE: 0

LASTUPD: HIP6230

TYPE=ADD

Link-edit Parameters:

RENT,AMODE=31,RMODE=ANY

-----  
SYSLIB SEZALOAD

## CSI QUERY

===> 

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

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

## QUERY - ZONE SELECTION

===&gt;

Select the zone that you want to query:

S	NAME	TYPE	CSI DATA SET
	CSQ701D	DLIB	CSQ701.CSQ701D.CSI
	CSQ701T	TARGET	CSQ701.CSQ701T.CSI
	CSQ710D	DLIB	CSQ710.CSQ710D.CSI
	CSQ710T	TARGET	CSQ710.CSQ710T.CSI
	CSQ800D	DLIB	CSQ800.CSQ800D.CSI
	CSQ800T	TARGET	CSQ800.CSQ800T.CSI
	CSQ901D	DLIB	CSQ901.CSQ901D.CSI
	CSQ901T	TARGET	CSQ901.CSQ901T.CSI
	CSQ911D	DLIB	CSQ911.CSQ911D.CSI
	CSQ911T	TARGET	CSQ911.CSQ911T.CSI
	GLOBAL	GLOBAL	MVS.GLOBAL.CSI
	MVSD	DLIB	MVS.MVSD.CSI
s	MVST	TARGET	MVS.MVST.CSI

## CSI QUERY - SELECT ENTRY

===&gt; 1 seziaload

Select one entry to query from TARGET zone MVST :

S	NAME	ACTION
	AACBCNTL	
	AADFMAC1	
	AADMCD A	
	AADMCF O	
	AADM DAT	
	AADM GDF	
	AADM IMG	
	AADM MAP	
	AADM MOD	
	AADM MSG	

## CSI QUERY - SELECT ENTRY

===&gt;

Select one entry to query from TARGET zone MVST :

S	NAME	ACTION
s	SEZALOAD	
	SEZALPA	
	SEZAMCT1	
	SEZAMENU	

## CSI QUERY - DDEF ENTRY

SCROLL R

===&gt;

To return to the previous panel, enter END .

Primary Command: FIND

Entry Type: DDEF  
Entry Name: SEZALOADZone Name: MVST  
Zone Type: TARGET

DSNAME: TCP/IP.SEZALOAD

VOLUME: VTMVSC UNIT: SYSDA DISP: SHR

Menu RefList RefMode Utilities Help

Data Set List Utility

Option ==>

blank Display data set list P Pri  
V Display VTOC information PV Pri

Enter one or both of the parameters below:

Dsname Level . . . tcpip.sezaload  
Volume serial . . .

DSLIS - Data Sets Matching TCPIP.SEZALOAD

Command ==>

Total Tracks: 3203 non-x: 3203 Data Sets:

Command - Enter "/" to select action

v TCPIP.SEZALOAD

BROWSE TCPIP.SEZALOAD(EZBTIINI)

Command ==> f UI68269

\*\*\*\*\* Top of Da

BROWSE TCPIP.SEZALOAD(EZBTIINI)

Li CHARS 'UI68269' found

Command ==>

Scroll ==> CSR

..x... .Q.xd..T.Q...xÉ..t.d<.&.{9É...k;...K.Q.Q.&Q...Q...Q...+ø...xd...  
UTL 20.069 13:07:51 UI68269.x4...x4.É...}x4.ø...x4.%...x4...!x4...øx4.-  
P.B/B/x...k.B/x...K.B...P.D.D.k.D.k.D.&&D&-D.&E.k.E.ØB/TØE...D.TØ...TØØ...  
%ø.&&M{...Tø.Y...UxÉ..T...j...xÉ..Tø...T.-...?T...T.-...?T...T.-...?T...

## Data Set List Utility

Option ==&gt;

blank Display data set list            P Print data set list  
 V Display VTOC information            PV Print VTOC information

Enter one or both of the parameters below:

Dsname Level . . . \*\*..csi  
 Volume serial . . .           

DSLISIT - Data Sets Matching \*\*.GLOBAL.CSI

Row 1 of 141

Command ==> sort volumeScroll ==> CSR

Command - Enter "/" to select action	Message	Volume
	ADBB10.GLOBAL.CSI	*VSAM*
	ADBB10.GLOBAL.CSI.DATA	VDUTBB
	ADBB10.GLOBAL.CSI.INDEX	VDUTBB
	ADBB20.GLOBAL.CSI	*VSAM*
	ADBB20.GLOBAL.CSI.DATA	VTUTBA
	ADBB20.GLOBAL.CSI.INDEX	VTUTBA
	ADBC10.GLOBAL.CSI	*VSAM*
	ADBC10.GLOBAL.CSI.DATA	VDUTCA
	ADBC10.GLOBAL.CSI.INDEX	VDUTCA
	ANB110.GLOBAL.CSI	*VSAM*
	ANB110.GLOBAL.CSI.DATA	VDANBA
	ANB110.GLOBAL.CSI.INDEX	VDANBA
	APS450.GLOBAL.CSI	*VSAM*
	APS450.GLOBAL.CSI.DATA	YTAPSF
	APS450.GLOBAL.CSI.INDEX	YTAPSF
	AUT350.GLOBAL.CSI	*VSAM*
	AUT350.GLOBAL.CSI.DATA	YDAUTJ
	AUT350.GLOBAL.CSI.INDEX	YDAUTJ
	BAQ300.GLOBAL.CSI	*VSAM*
	BAQ300.GLOBAL.CSI.DATA	YPBAQB
	BAQ300.GLOBAL.CSI.INDEX	YPBAQB
	CAV100.GLOBAL.CSI	*VSAM*
	CAV100.GLOBAL.CSI.DATA	YDCAVA
	CAV100.GLOBAL.CSI.INDEX	YDCAVA
	CSQ800.GLOBAL.CSI	*VSAM*
	CSQ800.GLOBAL.CSI.DATA	YDMQ8D
	CSQ800.GLOBAL.CSI.INDEX	YDMQ8D
	CTG920.GLOBAL.CSI	*VSAM*
	CTG920.GLOBAL.CSI.DATA	VTCTGJ
	CTG920.GLOBAL.CSI.INDEX	VTCTGJ
	DCF140.GLOBAL.CSI	*VSAM*
	DCF140.GLOBAL.CSI.DATA	VDDCFA
	DCF140.GLOBAL.CSI.INDEX	VDDCFA
	DDA211.GLOBAL.CSI	*VSAM*
	DDA211.GLOBAL.CSI.DATA	VDUTBB
	DDA211.GLOBAL.CSI.INDEX	VDUTBB

## Data Set List Utility

Option ==&gt;

blank Display data set list                    P Print data set list  
 V Display VTDC information                    PV Print VTDC information

Enter one or both of the parameters below:

Dsname Level . . . \*\*.global.csi  
 Volume serial . . .

DSLIST - Data Sets Matching \*\*.GLOBAL.CSI

Row 1 of 141

Command ==&gt;

Scroll ==&gt; CSR

Command - Enter "/" to select action

Message

Volume

Command - Enter "/" to select action	Message	Volume
ADBB10.GLOBAL.CSI		*VSAM*
ADBB20.GLOBAL.CSI		*VSAM*
ADBC10.GLOBAL.CSI		*VSAM*
ANB110.GLOBAL.CSI		*VSAM*
APS450.GLOBAL.CSI		*VSAM*
AUT350.GLOBAL.CSI		*VSAM*
BAQ300.GLOBAL.CSI		*VSAM*
CAV100.GLOBAL.CSI		*VSAM*
CSQ800.GLOBAL.CSI		*VSAM*
CTG920.GLOBAL.CSI		*VSAM*
DCF140.GLOBAL.CSI		*VSAM*
DDA211.GLOBAL.CSI		*VSAM*
DDC211.GLOBAL.CSI		*VSAM*
DFH420.GLOBAL.CSI		*VSAM*
DFH530.GLOBAL.CSI		*VSAM*
DFH540.GLOBAL.CSI		*VSAM*
DFSD10.GLOBAL.CSI		*VSAM*
DFSE10.GLOBAL.CSI		*VSAM*
DIT130.GLOBAL.CSI		*VSAM*
DSNB10.GLOBAL.CSI		*VSAM*
DSNC10.GLOBAL.CSI		*VSAM*
EQAE10.GLOBAL.CSI		*VSAM*
FAN140.GLOBAL.CSI		*VSAM*
FELE00.GLOBAL.CSI		*VSAM*
FMND10.GLOBAL.CSI		*VSAM*
GIN143.GLOBAL.CSI		*VSAM*
GLA310.GLOBAL.CSI		*VSAM*
IDID10.GLOBAL.CSI		*VSAM*
IEL520.GLOBAL.CSI		*VSAM*
IGY420.GLOBAL.CSI		*VSAM*
IGY620.GLOBAL.CSI		*VSAM*
IQI810.GLOBAL.CSI		*VSAM*
ITP110.GLOBAL.CSI		*VSAM*
IXM110.GLOBAL.CSI		*VSAM*
JYA700.GLOBAL.CSI		*VSAM*
JYA710.GLOBAL.CSI		*VSAM*

# 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



IBM