

z/OS Introduction and Workshop

Configuration and Customization



Unit objectives

After completing this unit, you should be able to:

- Describe IPL process
- Describe IPL device and LOADPARM device
- Describe Support Element and HMC
- Describe System Parameters/Definitions
- Determine IPL and LOAPARM device using MVS commands
- Determine LOADPARM member read at IPL time
- Determine parameter libraries read at IPL time
- Determine parameter library members read at IPL time

System Initialization

The system operator supplies parameters instructing the system to load :

The bootstrap code on the IPL volume is loaded into storage at address 0 and control passed to it

The bootstrap the reads the IPLTEXT program IEAIPL00 which is given control and the complex task of loading the system starts

Hardware Management Console (HMC) – Support Element (SE)

Support Element (SE)

Choice:

- 2 laptops inside the IBM Z frame
- 2 1U rack slots

Hardware Management Console (HMC)

Choice:

- 1 Standalone desktop networked with all SE's
- 1 Rack mount device networked with all SE's

Hardware Management Appliance (HMA)

- 2 1U racks slots running HMC and SE together
- HMA IBM Z network with a primary HMA
- New with z15

Hardware Management Console (HMC) – Support Element (SE)

Tree Style (default)

P32HMC1: Primary Hardware Management Console Workplace (Version 2.12.1) - Mozilla Firefox

Hardware Management Console

Systems Management > Systems

Select	Name	Status	Activation Profile	Last Used Profile	Machine Type - Model	Machine Serial
<input type="checkbox"/>	P00E9EB6	Service required	ZAWARE		2827 - I43	000020E9EB6
<input type="checkbox"/>	APVIM1	Not Operating	APVIM1			
<input type="checkbox"/>	APVIM2	Not activated	APVIM2			
<input checked="" type="checkbox"/>	GDVMBUV	Not activated	GDVMBUV			
<input type="checkbox"/>	LX1	Not Operating	LX1	LX1		
<input type="checkbox"/>	LX2	Exceptions	LX2			
<input type="checkbox"/>	MCSIM	Exceptions	MCSIM	MCSIM		
<input type="checkbox"/>	MCSIMTST	Not activated	MCSIMTST			
<input type="checkbox"/>	VMALT1	Operating	VMALT1	VMALT1		

Tasks: GDVMBUV

Image Details: Toggle Lock

Daily: Activate, Deactivate, Grouping, Hardware Messages, Operating System Messages, Reset Normal

Recovery: Access Removable Media, Integrated 3270 Console, Integrated ASCII Console, Load from Removable Media or Server, PSW Restart, Reset Clear, Start All, Stop All

Operational Customization: Configure Channel Path On/Off, Customize/Enable Activation Profiles, Logical Processor Add, View Activation Profiles

Status: Exceptions and Messages

Classic Style (optional)

P32HMC1: Primary Hardware Management Console Workplace (Version 2.12.1) - Mozilla Firefox

Views

Groups Ensemble Exceptions Active Tasks Console Actions Task List Books Help

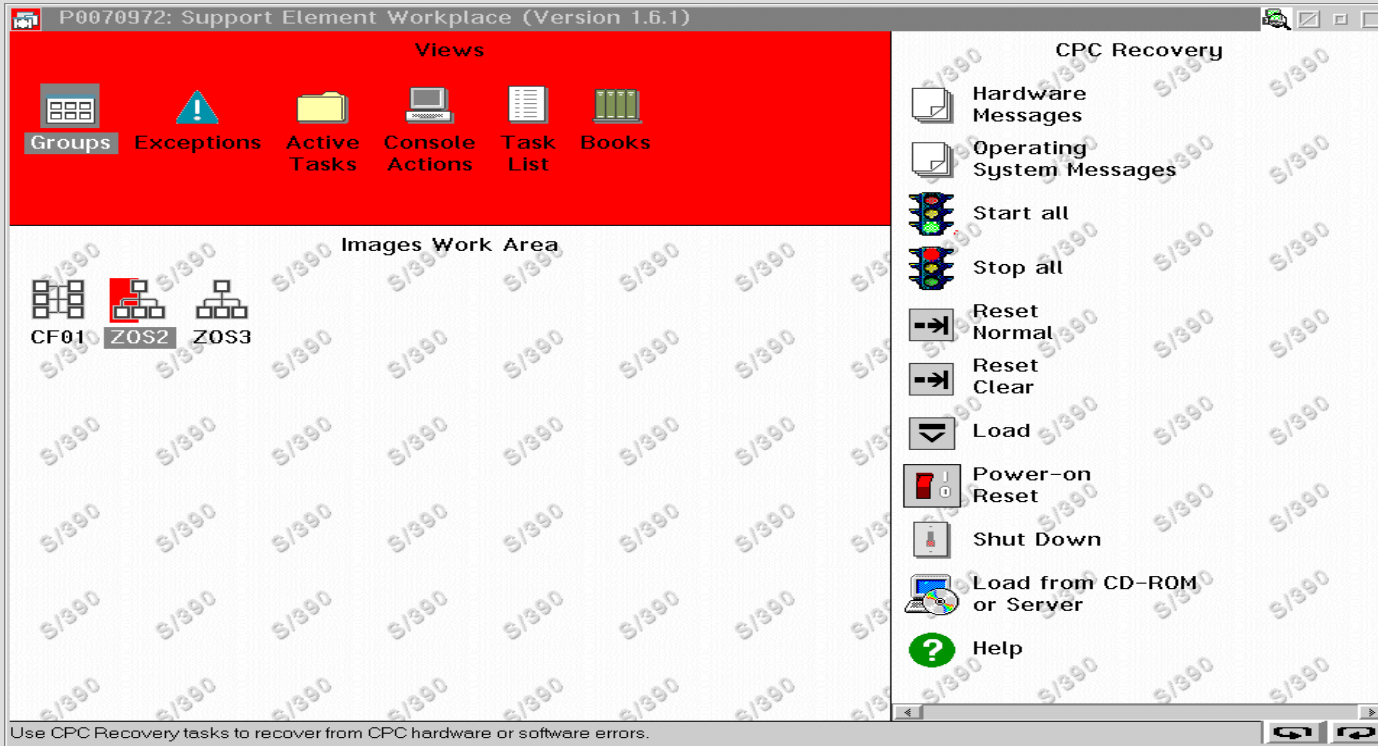
CPC Images Work Area

P00E9EB6 APVIM1 P00E9EB6 APVIM2 P00E9EB6 GDVMBUV P00E9EB6 LX1 P00E9EB6 LX2 P00E9EB6 MCSIM P00E9EB6 MCSIMTST P00E9EB6 VMALT1 (PVMALT1) P00E9EB6 VMALT2 (PVMALT2) P00E9EB6 ZOS P00E9EB6 ZOS1

Daily: Hardware Messages, Operating System Messages, Activate, Reset Normal, Deactivate, Grouping

- New users and new installs use Tree Style as default

Hardware Management Console (HMC) – Support Element (SE)



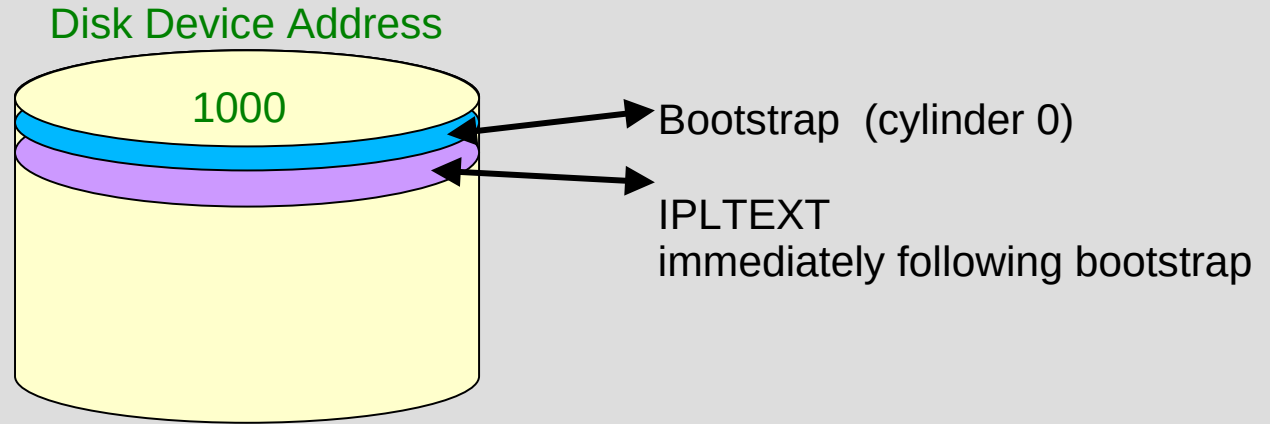
Disk Device Address of SYSRES and SYS1.IPLPARM

The image shows a 'Load' dialog box with the following configuration:

- Image:** ZOS2
- Load type:** Normal Clear
- Store status
- Load address:** 1000
- Load parameter:** 0CE3W1
- Time-out value:** 060 (60 to 600 seconds)

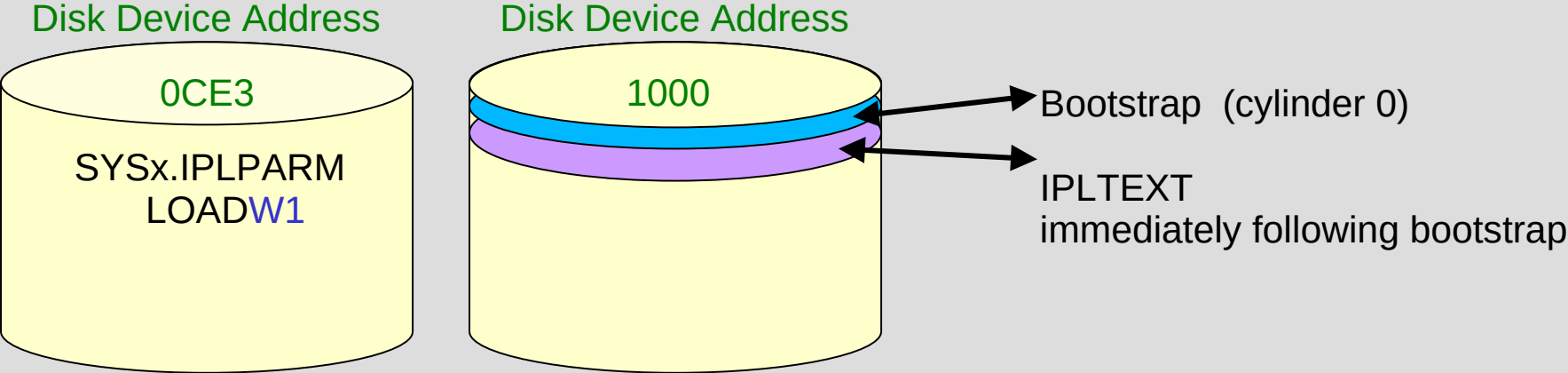
Buttons at the bottom: OK, Reset, Cancel, Help

Initial Program Load (IPL)



Initial Program Load (IPL)

IPL 1000 LOADPARAM 0CE3W1



System Definitions

IPL loadparm **SYS1.IPLPARM(LOADxx)**

SYS1.IPLPARM(LOADW1)

IEASYM (W1,SV,VN)

INITSQA 0000K 0512K

IODF 00 SYS1 MVS 00 Y

NUCLEUS 1

NUCLST SV N

SYSCAT VPMVSB113CMASSTERV.CATALOG

SYSPARM (00,LV,SV,VN)

SYSPLEX SVSCPLEX

PARMLIB VENDOR.PARMLIB

PARMLIB SVTSC.PARMLIB

PARMLIB LVL0.PARMLIB

PARMLIB SYS1.PARMLIB

**PARMLIB(IEASYSxx
)**

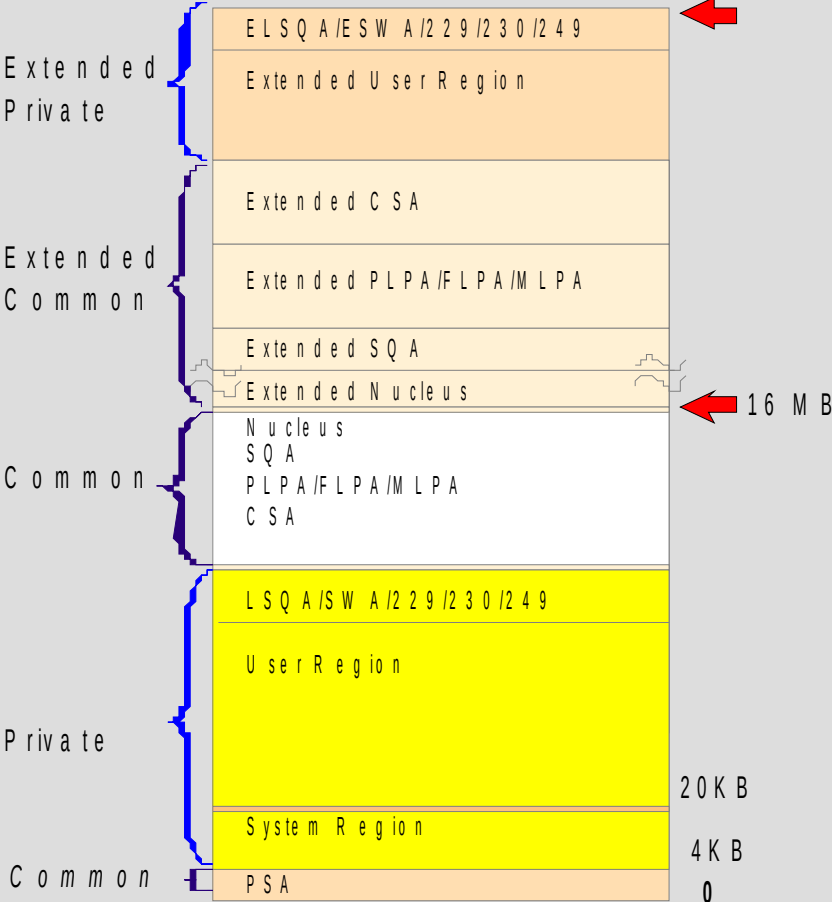
IEAIPL00

IEAIPL00 prepares the system by clearing central storage to zeroes then defines storage areas for the master scheduler

SYS1.NUCLEUS is located and a series of modules loaded which construct the normal environment of control blocks and subsystems

The first part of the Nucleus Initialization Program is then loaded

Storage Map



Data Areas and Control Blocks

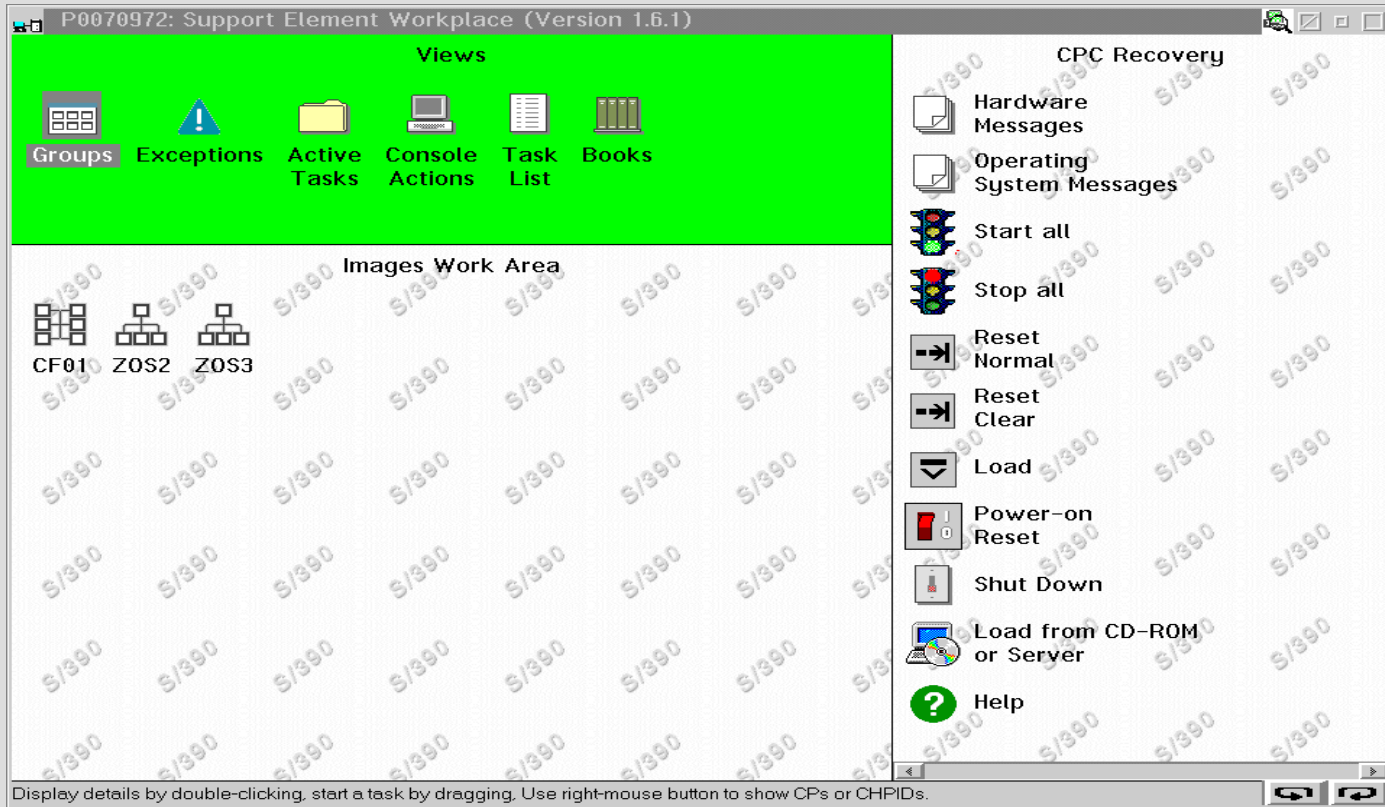
4K pages of system information

4K page of system information can reside in a 'frame' or 'slot'

Some 4K pages of system information are marked as a permanent resident in real storage – 'frame' only

Private	High User Region	16 EB
Shared Area	Default Shared Memory Addressing	512TB
		2TB
Low User Private	Low User Region	4G
	Reserved	
Extended Private	Extended LSQA/SWA/229/230	2G
	Extended User Region	
Extended Common	Extended CSA	
	Extended PLPA/FLPA/MLPA	
	Extended SQA	
	Extended Nucleus	16 Mb
Common	Nucleus	
	SQA	
	PLPA/FLPA/MLPA	
	CSA	
Private	LSQA/SWA/229/230	
	User Region	
Common	System Region	24K
	PSA	8K
		0

Systems are operational and connected to CF (Coupling Facility)



System Definitions

z/OS is highly configurable to best serve a customer's workload

System definitions (system parameters) are read during z/OS initialization

The values of many system parameters can be changed dynamically

Default values exist for the majority of system parameters

More matured systems change the defaults as their workloads change

It is important to develop a back out plan for any system definition change

System Initialization (IEE252I messages)

```
Lab System
File Edit View Communication Actions Window Help
  Display Filter View Print Options Help
-----
SDSF SYSLOG      4346.101 S0W1 S0W1 04/16/2007 0W          0      COLUMNS  51 130
COMMAND INPUT   ===> _                               SCROLL  ===> CSR
***** TOP OF DATA *****
0000  IEE042I SYSTEM LOG DATA SET INITIALIZED
0290  CONTROL M,UEXIT=Y IEAVN701 - INTERNALLY ISSUED K M
0090  IEA590I WTO USER EXIT IEAVMXIT NOT FOUND
0290  IEA371I SYS1.IPLPARM ON DEVICE 0CE3 SELECTED FOR IPL PARAMETERS
0290  IEA246I LOAD ID W1 SELECTED
0290  IEA246I NUCLST ID SV SELECTED
0290  IEA519I IODF DSN = SYS1.IODF00
0290  IEA520I CONFIGURATION ID = MVS . IODF DEVICE NUMBER = 0CE3
0290  IEA091I NUCLEUS 1 SELECTED
0290  IEA093I MODULE IEANUC01 CONTAINS UNRESOLVED WEAK EXTERNAL REFERENCE
        IFFIOM
0290  IEA093I MODULE IEANUC01 CONTAINS UNRESOLVED WEAK EXTERNAL REFERENCE
        IEDQATTN
0290  IEA093I MODULE IEANUC01 CONTAINS UNRESOLVED WEAK EXTERNAL REFERENCE
        IECTATEN
0290  IEA370I MASTER CATALOG SELECTED IS MASTERV.CATALOG
0290  IEE252I MEMBER IEASYMW1 FOUND IN LVL0.PARMLIB
0290  IEE252I MEMBER IEASYMSV FOUND IN SVTSC.PARMLIB
0290  IEE252I MEMBER IEASYMVN FOUND IN VENDOR.PARMLIB
0290  *IEA008I SYSTEM PARMS FOLLOW FOR z/OS 01.06.01 JBB77S9 020
0290          IEASYS00
0290          IEASYSLV
0290          IEASYSSV
0290          IEASYSVN
0290  IEE252I MEMBER IEASYS00 FOUND IN LVL0.PARMLIB
0290  IEE252I MEMBER IEASYSLV FOUND IN LVL0.PARMLIB
0290  IEE252I MEMBER IEASYSSV FOUND IN SVTSC.PARMLIB
MA a
04/021
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PDF Writer (Ghostscript) on Ghostscript1:
```


System Log (Trail of IEE252I messages)

IEE252I MEMBER *member* FOUND IN *parmdsname*

Explanation: This is an informational message that appears only in the hardcopy log when member *member* is found in **parmlib** dataset *parmdsname*

In the message text: _

member is the parmlib member name that is being processed.

parmdsname is the parmlib data set where member *member* is located.

System Action:

The system continues processing.

System Programmer Response:

Check the hardcopy to see if all the members in parmlib specified in LOADxx or in operator input are being used correctly and are found in the correct parmlib data set.

Source: Master scheduler, IPL/NIP

System Definitions

D IPLINFO

SYSTEM IPLED AT 08.41.25 ON 01/29/2007
RELEASE z/OS 01.07.01 LICENSE = z/OS
USED LOADW1 IN SYS1.IPLPARM ON 0CE3
ARCHLVL = 2 MTLSHARE = N
IEASYM LIST = (W1,SV,VN)
IEASYS LIST = (00,LV,SV,VN) (OP)
IODF DEVICE 0CE3
IPL DEVICE 1000 VOLUME VIMVSB

D PARMLIB

PARMLIB DATA SETS SPECIFIED
AT IPL

ENTRY	FLAGS	VOLUME	DATA SET
1	S	VPMVSD	VENDOR.PARMLIB
2	S	VTMVSG	SVTSC.PARMLIB
3	S	VTLVL0	LVL0.PARMLIB
4	D	VIMVSB	SYS1.PARMLIB

SYS1.IPLPARAM LOADxx member startup parameters

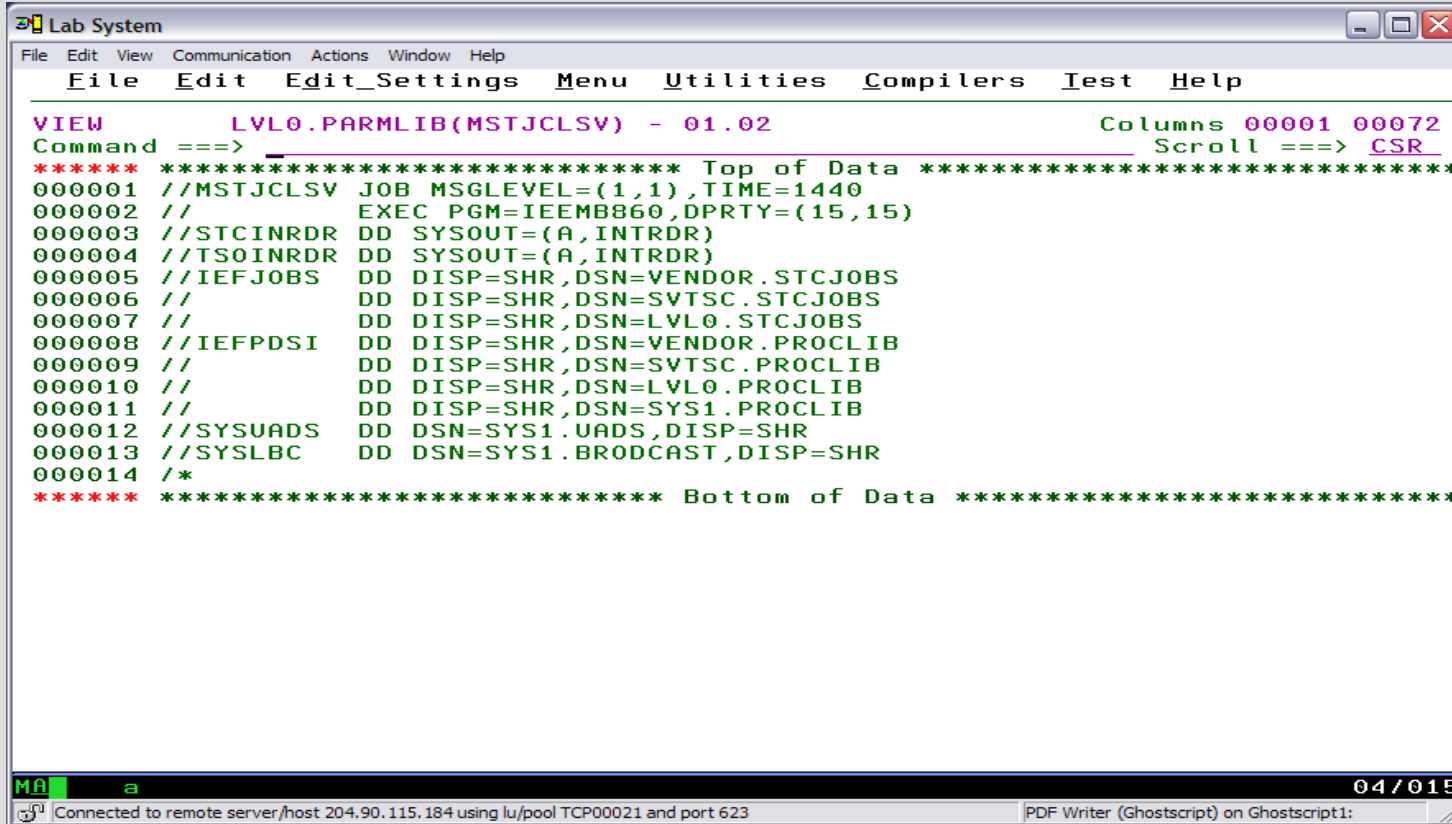
```
Lab System
File Edit View Communication Actions Window Help
File Edit Edit_Settings Menu Utilities Compilers Test Help
VIEW          SYS1.IPLPARAM(LOADW1) - 01.10          Columns 00001 00072
Command ==> _____ Scroll ==> CSR
***** Top of Data *****
000001 *---+---1---+---2---+---3---+---4---+---5
000002 IEASYM   (W1,SV,VN)
000003 INITSQA  0000M 0000M
000004 IODF     00 SYS1      MVS      00 Y
000005 NUCLEUS  1
000006 NUCLST   SV N
000007 SYSCAT   VPMVSB113CMASERV.CATALOG          CATALOG
000008 SYSPARM   (00,LV,SV,VN)
000009 SYSPLEX   SVSCPLEX
000010 PARMLIB  VENDOR.PARMLIB
000011 PARMLIB  SVTSC.PARMLIB
000012 PARMLIB  LVL0.PARMLIB
000013 PARMLIB  SYS1.PARMLIB
***** Bottom of Data *****
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PDF Writer (Ghostscript) on Ghostscript1:
```

Display IPLINFO and system PARMLIB concatenation

```
Lab System
File Edit View Communication Actions Window Help
  Display Filter View Print Options Help
-----
SDSF ULOG  CONSOLE ZIBM030                LINE 0          COLUMNS 19- 98
COMMAND INPUT ==> _                        SCROLL ==> CSR
***** TOP OF DATA *****
16:13:45.10      ISF031I CONSOLE ZIBM030 ACTIVATED
16:13:48.88      -D IPLINFO
16:13:48.91      IEE254I 16.13.48 IPLINFO DISPLAY 178
                  SYSTEM IPLED AT 14.10.36 ON 04/16/2007
                  RELEASE z/OS 01.06.01 LICENSE = z/OS
                  USED LOADW1 IN SYS1.IPLPARM ON 0CE3
                  ARCHLVL = 2 MTLSHARE = N
                  IEASYM LIST = (W1,SV,VN)
                  IEASYS LIST = (00,LV,SV,VN) (OP)
                  IODF DEVICE 0CE3
                  IPL DEVICE 1000 VOLUME VIMVSB
16:13:51.51      -D PARMLIB
16:13:51.54      IEE251I 16.13.51 PARMLIB DISPLAY 180
                  PARMLIB DATA SETS SPECIFIED
                  AT IPL
                  ENTRY  FLAGS  VOLUME  DATA SET
                   1      S      VPMVSD  VENDOR.PARMLIB
                   2      S      VTMVSG  SVTSC.PARMLIB
                   3      S      VTLVL0  LVL0.PARMLIB
                   4      D      VIMVSB  SYS1.PARMLIB
***** BOTTOM OF DATA *****

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PDF Writer (Ghostscript) on Ghostscript1:
```

Master JCL for Master Scheduler

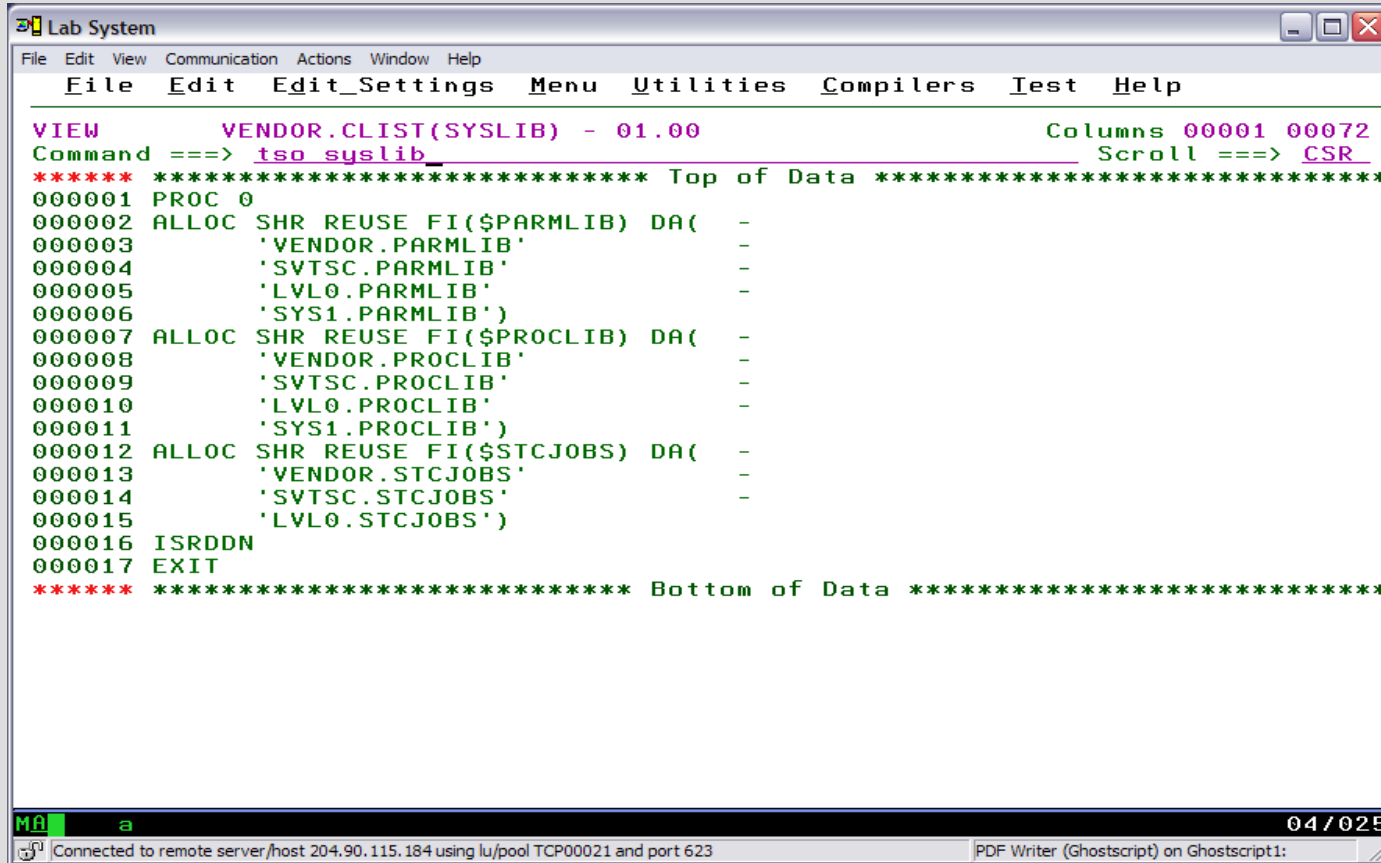


```
Lab System
File Edit View Communication Actions Window Help
File Edit Edit_Settings Menu Utilities Compilers Test Help

VIEW          LVL0.PARMLIB(MSTJCLSV) - 01.02          Columns 00001 00072
Command ==>                                         Scroll ==> CSR
***** ***** Top of Data *****
000001 //MSTJCLSV JOB MSGLEVEL=(1,1),TIME=1440
000002 //          EXEC PGM=IEEMB860,DPRTY=(15,15)
000003 //STCINRDR DD SYSOUT=(A,INTRDR)
000004 //TSOINRDR DD SYSOUT=(A,INTRDR)
000005 //IEFJOBS  DD DISP=SHR,DSN=VENDOR.STCJOBS
000006 //          DD DISP=SHR,DSN=SVTSC.STCJOBS
000007 //          DD DISP=SHR,DSN=LVL0.STCJOBS
000008 //IEFPDSI  DD DISP=SHR,DSN=VENDOR.PROCLIB
000009 //          DD DISP=SHR,DSN=SVTSC.PROCLIB
000010 //          DD DISP=SHR,DSN=LVL0.PROCLIB
000011 //          DD DISP=SHR,DSN=SYS1.PROCLIB
000012 //SYSUADS  DD DSN=SYS1.UADS,DISP=SHR
000013 //SYSLBC   DD DSN=SYS1.BROADCAST,DISP=SHR
000014 /*
***** ***** Bottom of Data *****

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PDF Writer (Ghostscript) on Ghostscript1:
```

CLIST to easily find system parm and proc members



```
Lab System
File Edit View Communication Actions Window Help
File Edit Edit_Settings Menu Utilities Compilers Test Help

VIEW          VENDOR.CLIST(SYSLIB) - 01.00          Columns 00001 00072
Command ==>  tso syslib          Scroll ==>  CSR
***** ***** Top of Data *****
000001 PROC 0
000002 ALLOC SHR REUSE FI($PARMLIB) DA( -
000003         'VENDOR.PARMLIB'         -
000004         'SVTSC.PARMLIB'         -
000005         'LVLO.PARMLIB'         -
000006         'SYS1.PARMLIB')
000007 ALLOC SHR REUSE FI($PROCLIB) DA( -
000008         'VENDOR.PROCLIB'         -
000009         'SVTSC.PROCLIB'         -
000010         'LVLO.PROCLIB'         -
000011         'SYS1.PROCLIB')
000012 ALLOC SHR REUSE FI($STCJOBS) DA( -
000013         'VENDOR.STCJOBS'         -
000014         'SVTSC.STCJOBS'         -
000015         'LVLO.STCJOBS')
000016 ISRDDN
000017 EXIT
***** ***** Bottom of Data *****

MA a 04/025
Connected to remote server /host 204.90.115.184 using lu/pool TCP00021 and port 623
PDF Writer (Ghostscript) on Ghostscript1:
```

View system PARMLIB concatenation

```
Lab System
File Edit View Communication Actions Window Help
Current Data Set Allocations Row 1 of 160
Command ==> Scroll ==> PAGE
Volume Disposition Act DDname Data Set Name Actions: B E V M F C I Q
VPMVSD SHR,KEEP > v $PARMLIB VENDOR.PARMLIB
VTMVSG SHR,KEEP > - SVTSC.PARMLIB
VTLVL0 SHR,KEEP > - LVL0.PARMLIB
VIMVSB SHR,KEEP > - SYS1.PARMLIB
VPMVSD SHR,KEEP > - $PROCLIB VENDOR.PROCLIB
VTMVSG SHR,KEEP > - SVTSC.PROCLIB
VTLVL0 SHR,KEEP > - LVL0.PROCLIB
VIMVSB SHR,KEEP > - SYS1.PROCLIB
VPMVSD SHR,KEEP > - $STCJOBS VENDOR.STCJOBS
VTMVSG SHR,KEEP > - SVTSC.STCJOBS
VTLVL0 SHR,KEEP > - LVL0.STCJOBS
VPUT8A SHR,KEEP > - ADMCDATA QMF810.ADMCDATA
VTUT8A SHR,KEEP > - ADMCFORM QMF810.SDSQCHRT
VTMVSE SHR,KEEP > - ADMCGM GDDM.SADMSAM
VTMVSE SHR,KEEP > - ADMGDF GDDM.SADMMAP
VPUT8A SHR,KEEP > - QMF810.ADMGDF
VTMVSE SHR,KEEP > - ADMGGMAP GDDM.SADMMAP
VTUT8A SHR,KEEP > - QMF810.SDSQMAPE
VTMVSE SHR,KEEP > - ADMIMG GDDM.SADMMAP
VTMVSE SHR,KEEP > - GDDM.SADMMAP
VTMVSE SHR,KEEP > - ADMPROJ GDDM.SADMMAP
VTMVSE SHR,KEEP > - GDDM.SADMMAP
VTMVSE SHR,KEEP > - ADMSYMBL GDDM.SADMSYM
VPUT8A SHR,KEEP > - QMF810.ADMSYMBL
VPMVSD SHR,KEEP > - CIDTABL VENDOR.CIDTABL
VPUT8A MOD,DEL > - DSQDEBUG ----- JES2 Subsystem file -----
VPUT8A SHR,KEEP > - DSQPNLE QMF810.DSQPNLE
MA a 06/025
Connected to remote server /host 204.90.115.184 using lu/pool TCP00021 and port 623 PDF Writer (Ghostscript) on Ghostscript1:
```

SYSPARM IEASYSxx values in PARMLIB

VIEW **VENDOR.PARMLIB** Row 00139 of 00262
Command ==> Scroll ==> PAGE

Name	Prompt	Lib	Size	Created	Changed	ID
. IEASYMW3		3	3	1996/06/21	1996/06/21 11:19:53	SVTSCU
. IEASYSAA		3	19	1997/07/15	2002/03/14 20:18:53	RAMON
. IEASYSAP		3	6	1998/08/07	1998/08/07 11:34:01	TODD
. IEASYSFS		3	11	2003/09/18	2003/09/18 15:00:00	PKRUTZA
. IEASYSLV		3	65	1999/04/15	2004/03/10 11:58:25	PKRUTZA
. IEASYSSV		2	29	1998/10/07	2006/05/18 10:37:39	IBMUSER
. IEASYSVN		1	10	1998/10/07	2001/08/10 16:24:48	RAMON
. IEASYSZE		3	2	2002/01/29	2002/01/29 19:44:34	RALEY
s IEASYS00		3	4	1997/07/15	1997/07/15 16:45:14	TODD
. IEASYS52		3	9	1998/08/07	1998/08/07 11:33:20	TODD
. IEASYS98		3	61	2001/10/11	2001/10/11 13:24:06	PKRUTZA
. IEASYS99		3	56	1998/10/09	1999/01/04 16:21:34	TODD
. IEAVIPCS		4				
. IECIOSTC		3	3	1996/07/09	1997/06/10 18:18:38	RALEY
. IEFIPCSA		4				
. IEFIPCSI		4				
. IEFIPCST		4				
. IEFSSNAT		3	1	1999/12/02	1999/12/02 18:41:00	TODD
. IEFSSNDB		2	3	2006/05/17	2006/05/17 12:30:35	DPACK
. IEFSSND1		3	2	1996/07/17	1996/07/17 06:22:01	DPACK
. IEFSSND2		3	2	1997/09/24	2000/06/17 19:19:31	TODD
. IEFSSNFF		3	1	1997/04/18	1997/04/18 18:15:18	RALEY
. IEFSSNI9		2	2	2006/05/17	2006/05/17 12:30:56	DPACK
. IEFSSNJ2		3	6	1998/08/07	1998/08/07 11:32:00	TODD
. IEFSSNJ3		3	7	1996/02/23	1998/08/07 11:42:48	TODD
. IEFSSNMQ		2	6	2002/10/22	2005/08/08 16:39:04	IBMUSER
. IEFSSNPE		3	1	1999/11/16	1999/11/16 18:43:54	TODD

MA a 14/004

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IEASYS00 is read first. IEASYS00 has few parameters

```
Lab System
File Edit View Communication Actions Window Help
File Edit Edit_Settings Menu Utilities Compilers Test Help
VIEW          LVL0.PARMLIB(IEASYS00) - 01.00          Columns 00001 00072
Command ==>          Scroll ==> CSR
***** ***** Top of Data *****
000001 CLPA,
000002 REAL=280,          ALLOWS 2 64K JOBS OR 1 128K JOB TO RUN V=R
000003 RSU=0,           NO RECONFIG STORAGE UNITS          DEFAULT
000004 VRREGN=140      DEFAULT REAL-STORAGE REGION SIZE
***** ***** Bottom of Data *****
MA a
04/015
Connected to remote server/host 204.90.115.184 using lu/pool TCP00021 and port 623
PDF Writer (Ghostscript) on Ghostscript1:
```

IEASYSLV is read 2nd. IEASYSLV has more parameters

```
Lab System
File Edit View Communication Actions Window Help
File Edit Edit_Settings Menu Utilities Compilers Test Help

VIEW          LVL0.PARMLIB(IEASYSLV) - 01.23          Invalid command
Command ==>  Scroll ==> CSR
***** ***** Top of Data *****
000001 APG=07,          AUTOMATIC PRIORITY GROUP IS 7          DEFAULT
000002 CLOCK=SV,      SELECT CLOCK SETTING
000003 CMB=(UNITR,COMM,GRAPH,CHDR),  ADDITIONAL CMB ENTRIES
000004 CMD=(&JESSN.,00,LV,LW,SV,VN),
000005 CON=00,        SELECT CONSOL00          DEFAULT
000006 COUPLE=SV,
000007 CSA=(4500,30000),  MVS/ESA CSA RANGE
000008 CSCBLOC=ABOVE,
000009 DEVSUP=SV,      SET IDRC DEFAULT
000010 DUMP=DASD,      PLACE SVC DUMPS ON DASD DEVICES  DEFAULT
000011 FIX=(00,RF),    FIX MODULES SPECIFIED          /*J3*/
000012 GRS=TRYJOIN,
000013 GRSCNF=00,
000014 GRSRNL=SV,
000015 ILMODE=NONE,
000016 IOS=TC,
000017 LNKAUTH=LNKLST,  AUTHORIZE LNKLST00-DEFAULT, APFTAB IS ALT
000018 LOGCLS=C,        WILL NOT BE PRINTED BY DEFAULT
000019 LOGLMT=008000,  MUST BE 6 DIGITS, MAX WTL MESSAGES QUEUED
000020 LOGREC=SYS1.&SYSNAME..LOGREC,
000021 LPA=(00),
000022 MAXUSER=300,     (SYS TASKS + INITS + TSUSERS)
000023 MLPA=(RF,I5),   MLPA PARAMETERS
000024 MSTRJCL=SV,
000025 PAGTOTL=(8),    MAX # PAGE D/S AVAILABLE - ALLOWS 3 ADD'L
000026 PAK=00,        IEAPAK00
000027 PLEXCFG=MULTISYSTEM,
```

MA a 04/015

Connected to remote server /host 204.90.115.184 using lu/pool TCP00021 and port 623 PDF Writer (Ghostscript) on Ghostscript1:

IEASYSSV is read 3rd-duplicate parm values are overridden

```
Lab System
File Edit View Communication Actions Window Help
File Edit Edit_Settings Menu Utilities Compilers Test Help
VIEW          SVTSC.PARMLIB(IEASYSSV) - 01.06          Columns 00001 00072
Command ==> _                                         Scroll ==> CSR
***** ***** Top of Data *****
000001 CMD=(&JESSN.,00,LV,LW,SV,VN,60),
000002 CSA=(4500,800000),          MVS/ESA CSA RANGE
000003 DUMP=DASD,
000004 LPA=(00,60,64),
000005 MLPA=(RF,I9),
000006 OMVS=(0M,VN,60,MS,64),          ALLOW OPERATOR OVERRIDE TO IEASYS00
000007 PAGE=(PAGE.&SYSNAME..PLPA,
000008         PAGE.&SYSNAME..COMMON1,
000009         PAGE.&SYSNAME..LOCALA,
000010         PAGE.&SYSNAME..LOCALB,
000011         PAGE.&SYSNAME..LOCALC,
000012         PAGE.&SYSNAME..LOCALD,
000013         PAGE.&SYSNAME..LOCALE,
000014         PAGE.&SYSNAME..LOCALF,
000015         PAGE.&SYSNAME..LOCALG,
000016         PAGE.&SYSNAME..LOCALH,L),
000017 PROG=(00,64,52,J3,AA,DB,C6,I9,MS,
000018         SY,LA,LB,MC,MD,LE,LG,LJ,LN,DB,B6,MR,L9),
000019 PAGTOTL=(14),
000020 SCH=(00,I9,TC,MQ,AT,C6),          PPT UPDATES
000021 SSN=(SM,&JESSN.,RF,TC,MQ,FF,PE,RS,AT,DB,64),
000022 SVC=(I9,64),
000023 VAL=00          SELECT VATLST00          DEFAULT
000024 /* COMMENTS:
000025 /*
000026 /* USE THIS MEMBER TO OVERRIDE PARAMETERS IN LVL0.PARMLIB(IEASYSLV)
000027 /*
MA a
04/015
Connected to remote server/host 204.90.115.184 using lu/pool TCP00021 and port 623
PDF Writer (Ghostscript) on Ghostscript1:
```

IEASYSVN the last member read has only one parm entry

```
Lab System
File Edit View Communication Actions Window Help
File Edit Edit_Settings Menu Utilities Compilers Test Help
VIEW          VENDOR.PARMLIB(IEASYSVN) - 01.03          Columns 00001 00072
Command ==>          Scroll ==> CSR
*****
000001 DUMP=DASD
000002 /* COMMENTS:
000003 /*
000004 /* USE THIS MEMBER TO OVERRIDE PARAMETERS IN
000005 /* SVTSC.PARMLIB(IEASYSSV) AND LVL0.PARMLIB(IEASYSLV)
000006 /*
000007 /* PUT ONLY THE PARMS REQUIRED HERE. DO NOT COPY ALL THE PARMS FROM
000008 /* IEASYSSV OR IEASYSLV TO THIS MEMBER.
000009 /*
000010 /* CONTACT SOLUTION DEVELOPER TECHNICAL SUPPORT IF YOU NEED HELP.
*****
***** Top of Data *****
***** Bottom of Data *****

MA a
04/015
Connected to remote server /host 204.90.115.184 using lu/pool TCP00021 and port 623
PDF Writer (Ghostscript) on Ghostscript1:
```

System Libraries

SYS1.LINKLIB prime system software library
– LNKLST concatenation

SYS1.LPALIB system subroutines

SYS1.NUCLEUS basic supervisor modules

SYS1.PROCLIB system procedure JCL
– PROCLIB concatenation

SYS1.PARMLIB control parameters
– PARMLIB concatenation

System search order for programs

Programs (load modules) must be in central storage and therefore in the virtual storage of the address space before they can run

System has a defined search order for a newly requested program

Search order for programs

- 1) JCL STEPLIB (if present)
- 2) JCL JOBLIB (if present)
- 3) Link Pack Area (LPA)
 - Fixed LPA (FLPA)
 - Modified LPA (MLPA)
 - Pageable LPA (PLPA)
- 4) LINKLST (Concatenated Group of Partitioned Data Sets)

SYS1.LPALIB

The Link Pack Area (LPA) is built at IPL time from the modules defined in the LPALSTxx member of parmlib.

SYS1.LPALIB is always the first library used unless overridden by a SYSLIB statement

Modules are loaded into common storage at IPL time and so are available to all address spaces

SYS1.LPALIB

Fixed LPA comprises those modules defined in IEAFIXxx that are fixed in central storage

Pageable LPA comprises most other modules whose pages are eligible to be stolen

Modified LPA has modules which are temporary replacements for PLPA modules and is searched first.

JES JOB JCL Procedure Library

JES2 JCL Procedure Librares are searched for JOB and STC PROCs

```
//PROC00      DD      DSN=SYS1.PROCLIB,DISP=SHR
//           DD      DSN=SYS3.PROD.PROCLIB,DISP=SHR
//PROC01      DD      DSN=SYS1.PROC2,DISP=SHR
...
//PROCnn      DD      DSN=SYS1.LASTPROC,DISP=SHR
...
```

JOB JCL can have personal JCL Procedure Libraries search first

```
//MYJOB       JOB
//MYLIBS      JCLLIB ORDER=(MY.PROCLIB.JCL,YOUR.PROCLIB.JCL)
//S1         EXEC  PROC=MYPROC1
...
```

System Symbols

System symbols allow the use of a shared parmlib by two or more systems

Each symbol has a name which can be used in various places and then substituted at IPL time

Major uses are indirect cataloging and substituting system specific data sets such as the page data sets

Professional Manuals

+ z/OS MVS

[z/OS MVS Initialization and Tuning Guide](#)

SA23-1379-40

18 Dec 2019

PDF [ieae100_v2r4.pdf](#)
(1.92MB)

[z/OS MVS Initialization and Tuning Reference](#)

SA23-1380-40

23 Jun 2020

PDF [ieae200_v2r4.pdf](#)
(3.44MB)

+ z/OS JES2

[z/OS JES2 Initialization and Tuning Guide](#)

SA32-0991-40

25 Mar 2020

PDF [hasa300_v2r4.pdf](#)
(3.3MB)

[z/OS JES2 Initialization and Tuning Reference](#)

SA32-0992-40

25 Mar 2020

PDF [hasa400_v2r4.pdf](#)
(2.45MB)

Unit summary

Having completed this unit, you should be able to:

- Describe IPL process
- Describe IPL device and LOADPARM device
- Describe Support Element and HMC
- Describe System Parameters/Definitions
- Determine IPL and LOAPARM device using MVS commands
- Determine LOADPARM member read at IPL time
- Determine parameter libraries read at IPL time
- Determine parameter library members read at IPL time

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