

z/OS PARMLIB Successful Practices - User Experience

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D PARMLIB

```
IEE251I 10.07.58 PARMLIB DISPLAY 446
```

```
PARMLIB DATA SETS SPECIFIED
```

```
AT IPL
```

```
ENTRY FLAGS VOLUME DATA SET
```

1	S	SYSCTT	USCT.PARMLIB	On system-specific cat pack
2	S	SYSX04	SYS2.PARMLIB	Shared across all LPARs
3	D	SYSR31	SYS1.PARMLIB	IBM Vanilla, shared across lpars

How do we specify multiple parmlibs?

SYS1.IPLPARAM(LOADTT)

SYSCAT SYSCTT113CMCAT.VSYSCTT

SYSPARM 00

IEASYM (TT,00,VS,L)

PARMLIB USCT.PARMLIB

PARMLIB SYS2.PARMLIB

PARMLIB SYS1.PARMLIB

- LOADPARAM 524ATTM

Symbol Usage

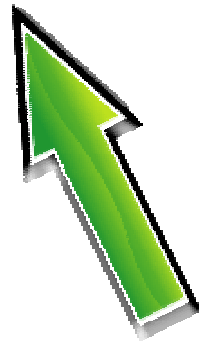
- We HEAVILY use symbols in our shop
- IEASYM (TT,00,VS,L)
- TT is the System (LPAR) specific
- 00 is shared by all LPARs, it sets up the TT
- VS is shared by all LPARs, unless we're in release transition

IEASYM00 - Shared by all LPARs

```
/* Static Symbol Definitions for all systems */

SYSDEF SYMDEF(&TZONE.='&EDT') /* Set current time zone */
SYMDEF(&EDT.='W.04') /* GMT offset for EDT */
SYMDEF(&EST.='W.05') /* GMT offset for EST */
SYMDEF(&SYSCDN.='1') /* XCF and CFRM CDS num 1 */
SYMDEF(&GRSMOD.='STAR') /* GRS=STAR for NDC */

/* Set system ID related symbols. Examples assume SYSNAME='USCT' */
SYMDEF(&SYSCPX.='&SYSNAME(1:3)') /* USC */
SYMDEF(&SYSSFX.='&SYSNAME(4:4).&SYSNAME(4:4)') /* TT */
SYMDEF(&SYSSID.='&SYSNAME(4:4)') /* T
```



IEASYMTT - USCT LPAR Specific

```
/* Static Symbol Definitions for system: USCT */
SYSDEF SYSNAME (USCT)
    SYSPARM (T1, TT) /* Sysplex=CSPLEXT1 Sysid=USCT */
    SYMDEF (&AALEVEL.= 'V2110D2') /* Level of ABENDAID */
    SYMDEF (&CA11LVL.= 'R11SP00C') /* Level of CA-11 */
    SYMDEF (&CA7LEVEL.= 'R113SP0D') /* Level of CA-7 */
    SYMDEF (&CCSLEVEL.= 'R12SP00K') /* Level of Common Services */
    SYMDEF (&CICSLVL.= 'C320T01') /* Level of CICS TS */
    SYMDEF (&CICSVER.= 'V320') /* Version of CICS */
```

There are 64 lines in this member!

IEASYMVS – z/OS Version/Release Symbols

```
/* Static Symbol Definitions for z/OS 1.12          */
SYSDEF  SYMDEF(&OSFMID.='HBB7770')  /* OS FMID          */
        SYMDEF(&OSNAME.='ZOS')     /* OS Name         */
        SYMDEF(&OSVER.='1')        /* OS Version      */
        SYMDEF(&OSREL.='C')        /* OS RELEASE     */
        SYMDEF(&OSVR.='&OSVER.&OSREL') /* OS Version / Release */
        SYMDEF(&OSVR2.='&OSVER..&OSREL') /* OS Version / Release */
```

SO...Where do we use all these dang symbols anyway??

Everywhere we can! - In other parmlib members:

```
LNKLST ADD NAME (PROGLT) DSN (CCSSYS. &CCSLEVL..CAILOAD)
LNKLST ADD NAME (PROGLT) DSN (CCSSYS. &CCSLEVL..CAIDCM)
LNKLST ADD NAME (PROGLT) DSN (SYNCSYS. &SYNCLVL..SORTLIB)
```

```
PCOUPLE (SYSPLEX. CSPLEXP &SYSCDN..CDS.PRI, SPXP11)
```

```
MOUNT FILESYSTEM ('CICS. &SYSNAME.. &CICSLVL..ZFS')
  MOUNTPOINT ('/$SYSNAME/cicsts')
  TYPE (ZFS) MODE (RDWR) SYSNAME (&SYSNAME) UNMOUNT
```

```
DAE=START, DSN (&SYSNAME..DAE)
```

```
CICSSYS. &SYSNAME..BETA.SDFHLPA (LNKLST), CICS 42 LPA MODULES
TSSSYS. &TSSLEVL..CAKOLPA, TSS LPA MODULES
```

```
In JES2PARM: INCLUDE MEMBER=HASEXIT &OSREL
```


Everywhere we can! - In Procs:

```
//CAS9      PROC DCOM=DCOMB0,RIMPARM=RIMPARM&SYSSID.
//CAIRIM     EXEC PGM=CAIRIM,TIME=1440
//STEPLIB   DD DISP=SHR,DSN=DISP.PROD.&DISPLVL..CAILIB
//          DD DISP=SHR,DSN=CA11.&CA11LVL..CAL7LOAD
//          DD DISP=SHR,DSN=DATACOM.PROD.&DCOM..CAILIB
//          DD DISP=SHR,DSN=ROSCOE.&ROSLEVL..RO60LIB
//PARMLIB   DD DISP=SHR,DSN=CCS.PROD.PPOPTION(&RIMPARM)

//SYSIN     DD DISP=SHR,DSN=CICS.&REL..SYSIN(&SYSNAME) SIT-OVERRIDS
//          DD DISP=SHR,DSN=CICS.&REL..SYSIN(&CICS)      SIT-OVERRIDES
//STEPLIB   DD DISP=SHR,DSN=CICS.&REL..ALIAS.&SYSNAME..SDFHAUTH
//          DD DISP=SHR,DSN=CICS.&REL..ALIAS.&SYSNAME..SDFJAUTH

//SYSTCPD   DD  DISP=SHR,DSN=CNMP.TCP32.TCPDATA(&SYSNAME)
```

Everywhere we can! - TSO Logon Procs

```
//          DD DISP=SHR,DSN=OPSS.PROD.FBCLIST          <== CA OPS/MVS
//          DD DISP=SHR,DSN=OPSS.&OPSLEVL..FBCLIST      <== CA OPS/MVS
//          DD DISP=SHR,DSN=FDR.PROD.USRCLIB           <== FDR CLIST
//          DD DISP=SHR,DSN=INT.&INTBLVL..CAICLIB       <== INTERTEST
```

In extended aliases:

```
DEFINE ALIAS (NAME(TMS.PROD.CTAPOPTN) -
              SYMBOLICRELATE(TMS.&TMSLEVL..CTAPOPTN))
```

3.4 shows:

Command - Enter "/" to select action	Message	Volume
I	TMS.PROD.CTAPOPTN	*ALIAS

"I" Shows:

```
Data Set Information
Command ==>
Data Set Name . . . :TMS.V120SP0B.CTAPOPTN
```

One change product upgrades

- So for example, if I put fixes on CA1, I create a new level of extended alias, and make one change, the system symbol:

FROM:

```
SYMDEF (&TMSLEVL.='V120SP0A') /* Level of TMS      */
```

TO:

```
SYMDEF (&TMSLEVL.='V120SP0B') /* Level of TMS      */
```

I IPL, and I'm ready to go. Or I could just use IEASYMUP SETPROG for LINKLIST and APF, and rerun TMSINIT.

So whats in USCT.PARMLIB?

- Not much!
- Some APPC members for LUDEL of MQ ACB's
- The odd SCHEDxx or ERBRMFxx that someone is working on, but only on our test systems.
- We look forward to batch jobs being able to use system symbols. 😊

IEASYS00

- `CMD= (00 , &SYSSFX) ,`
- `LOGREC=&SYSNAME . . LOGREC ,`
- `LPA= (&SYSSFX , L) ,`
- `PROG= (00 , A&SYSSID , L&SYSSID) ,`
- `SMF=&SYSSFX ,`

z/OS Bi-Monthly maintenance

- We put two months of RSU's and PUT's on, six weeks back. (IE, on June 14, we put 1103 and 1104 PUTs on)
- We clone a new sysres, and change any necessary symbols, then IPL our little system. The changes run there for two weeks. We do have CICS/MQ/DB2/Datacom here.
- After two weeks, we IPL the other two, higher activity test lpars off the same sysres.
- After two more weeks, we begin rolling production IPLs, with the new SYSRES and symbol changes. This takes about four weeks to complete.
- We 'stage' the symbol changes the day before, and IPL with a new Load address.

z/OS Maintenance – Backout

- We've not had to backout in the three years I've been here.
- Another sysprog remembers backing out once, but can't recall the reason
- If we did, we'd simply undo the parmlib changes and IPL with the previous load address.

Implementation Plan: Page 1

Update <code>SYS2.PARMLIB(IEASYMM)</code>	z/OS System Staff - 703-921-xxxx	Implementation Date / 02:00:00
FROM:	TO:	
&AALEVL.='V2110D1'	&AALEVL.='V2110D2'	
&CICSLVL.='C320T03'	&CICSLVL.='C320T01'	
&FDRPLVL.='V5475B'	&FDRPLVL.='V5475C'	
&HIPLVL.='V8000D0'	&HIPLVL.='V8000D1'	
&JCKLEVL.='R11SP01E'	&JCKLEVL.='R11SP01F'	
&MIMLEVL.='R117SP2D'	&MIMLEVL.='R117SP2E'	
&QWKLEVL.='R73A'	&QWKLEVL.='R74A'	
&SYNCLVL.='ZOSR14A'	&SYNCLVL.='ZOSR14B'	
&SYSVLVL.='R127SP0G'	&SYSVLVL.='R130SP0A'	
&TMOCLVL.='T310T01'	&TMOCLVL.='T310T03'	
&TPXLEVL.='TPX530B'	&TPXLEVL.='TPX530C'	
&TSSDB2L.='V13SP00A'	&TSSDB2L.='V13SP00B'	
&TSSLEVL.='R15SP00H'	&TSSLEVL.='R15SP00K'	
&VPSLVL.='V2R10C'	&VPSLVL.='V2R10D'	
&ZENLVL.='V210F'	&ZENLVL.='V210G'	
Update <code>SYS2.PARMLIB(PROGLM)</code>	z/OS System Staff - 703-921-xxxx	Implementation Date / 02:00:00

Implementation Plan: Page 2

Update <code>SYS2.PARMLIB(PROGLM)</code>	z/OS System Staff - 703-921-xxxx	Implementation Date / 02:00:00
<p>Remove the following entry after <code>SYS2.LINKLIB</code>:</p> <pre>LNKLST ADD NAME (PROGLD) DSN (DBSYS.SUBSYS.DBLOAD) VOL (DBSY04)</pre>		
Update <code>SYS2.PARMLIB(BPXPRMMM)</code>	z/OS System Staff - 703-921-xxxx	Implementation Date / 02:00:00
<p>To be determined - will depend on which <u>HFSs</u> are replaced by <u>ZFSs</u>.</p> <p>After making the changes, perform a syntax check of this member by issuing the following <u>SDSF:log</u></p> <pre>SETOMVS SYNTAXCHECK=(MM)</pre>		

Catalogs

- Each LPAR has its own master catalog. Though we are going to look at sharing.
- The master catalog uses indirect addressing with sysres, and stays the same across maintenance and even z/OS releases. (We do a manual check to see if we need to add any SYS1 datasets or remove any)
- All UCATs are connected to all MCATs and as such, all dasd and datasets are shared (across two sysplexes). This DOES cause an issue with PDSE's.

Incidentals

- We have great users. They are diligent testers! That helps!
All the way from CICS/MQ/DB2/Datacom to end users.
- Our implementation plan runs 40 pages. Most of it is change control junk, but we do have backout procedures for each product.
- We didn't build this in a day, it evolved over years.

Questions?

