What’s New in V2R2

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A Brief Look at What’s New in V2R2

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1 Foreword

Richard K. Faulhaber, the leader of this project, provides technical support services to all NewEra Software product customers and prospects worldwide. With his diverse background in various IT capacities, boundless creativity, and overwhelming enthusiasm for technology, he brings a fresh eye to z System computing.

In compiling this document and its future updates for you, Richard and his associate Andrew Hoyt Robichaux have and will use their best professional efforts to sort out changes and new things coming to you in V2R2 and beyond. Their work is based on findings from generally available public documentation and presentations. Though their research is extensive, it is ongoing. As they learn more, expect updates.

I suggest you stay tuned!

Paul R. Robichaux, Co-Founder

2 Source Documentation

The source documents used in creating this V2R2 Summary, z/OS V2R2 Elements and Features, can be found at the following web address:


Specific documents cited are as follows:

z/OS Communications Server - IP Configuration Reference - V2R2 - SC27-3651-04
z/OS Communications Server - SNA Resource Definition Reference - V2R2 - SC27-3675-03
z/OS JES2 Initialization and Tuning Reference - V2R2 - SA32-0992-01
z/OS MVS Initialization and Tuning Reference - V2R2 - SA23-1380-05
z/OS MVS System Commands - V2R2 - SA38-0666-03
z/OS Security Server RACF - Command Language Reference - V2R2 - SA23-2292-01
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4 MVS SYSTEM COMMANDS:

4.1 MVS System Commands New to V2R2

4.1.1 MODIFY command

Passing a MODIFY command string to a physical file system (PFS) through a logical file system (LFS) - /* V2R2 NEW */

The MODIFY OMVS command passes a modify command to a PFS through an LFS interface. This command is useful when a PFS runs in the OMVS address space and wants to support MODIFY commands. It can also be used for PFSes that run in their own address space.

```
F OMVS,PFS=pfsname,command_string
```

The parameters are as follows:

- `pfsname` Indicates the name of the PFS that will receive the `command_string`. It is the name used on the FILESYSTYPE TYPE statement from the BPXPRMxx parmlib member that defined the PFS.

- `command_string` The command string to be passed from the LFS to the PFS. The LFS passes the command string to the PFS with a vfs_pfsctl with command code PC_MODIFYPFS. For a description of MODIFY commands that are supported by zFS, see z/OS Distributed File Service zFS Administration.

4.1.2 SETGTZ PERSIST command - /* V2R2 NEW */

Use the SETGTZ PERSIST command to enable or disable the persistence of data for the tracking facility. The Generic Tracker starts with PERSIST initially disabled (OFF).

**Syntax**

```
SETGTZ PERSIST=(OFF,SMF)
```

**Parameters**

The following parameters are available for SETGTZ PERSIST:

- **PERSIST=OFF**
  
The tracking facility will not attempt to persist GTZ data. This is the default when the tracking facility starts.

  **Note:** GTZ data is normally kept in dynamic storage of the GTZ address space. When the system or GTZ shuts down, this data is lost, unless either of the following conditions exists:

  - Before the shutdown, the data is extracted using GTZ tools such as the DISPLAY GTZ operator command, the GTZPRINT tool, the GTQUERY service, or the GTZLQRY REXX function.
• The data is persisted in parallel with storage in dynamic storage. See PERSIST=SMF for more information.

**PERSIST=SMF**

The tracking facility will attempt to persist GTZ data in the form of SMF records.

**Note:** Other options that are in effect, for example the TYPE and NOTYPE options in PARMLIB member SMFPRMxx, might prevent the data from writing to the SMF records. The SMF record type for GTZ data is 117, with one subtype of value 1. Subtype 1 records contain persisted TRACKDATA information. For a description of the fields in type 117 records, see mapping macro GTZZSMF. Also see the utility programs GTZSMFU2 and GTZSMFU3, which you can use to format type 117 records in text form.

**Note:** TRACKDATA information that the tracking facility collected before SMF persistence was enabled is not recorded in SMF records. To ensure that you record all TRACKDATA information, consider enabling data persistence using the corresponding PERSIST statement in a GTZPRMxx PARMLIB member, which is read when the tracking facility starts. Also see system parameter GTZ, which you can specify in, for example, IEASYSxx.
4.1.3 SETLOGR MANAGE command - /* V2R2 NEW */

Use the SETLOGR MANAGE command to modify specific system logger IXGCNFxx parmlib parameters that pertain to the z/OS system logger resource management policy on a system. The command is useful for providing options for system logger to manage log stream offload data sets. See z/OS MVS Initialization and Tuning Reference for more information about the system logger MANAGE statement in SYS1.PARMLIB member IXGCNFxx.

As part of the SETLOGR command, system logger might issue a DISPLAY LOGGER command. See “Define authorization for the system logger address space” in z/OS MVS Setting Up a Sysplex for required SAF authority.

Before changing the MANAGE options, consider issuing a D LOGGER,IXGCNF[,MANAGE] command to see what options are currently in effect. See each of the following parameter descriptions for any restrictions on or special considerations for changing the parameter value with the SETLOGR MANAGE command.

Syntax

Table 56. SETLOGR MANAGE command

| SETLOGR MANAGE, |
| { OFFLOAD |
| { [, ALLOCAHEAD(YES|NO)] } |

Parameters

The parameters for SETLOGR MANAGE are:

**MANAGE**

Identifies the system logger resource management policy on a system.

**OFFLOAD**

Identifies the system logger policy on the system that manages log stream offload activity. See “Offloading log data from interim storage by freeing and/or moving it to DASD” in z/OS MVS Setting Up a Sysplex for more information about logger offload processing.

**ALLOCAHEAD(YES|NO)**

Specifies whether the system will proactively manage advanced-current offload data sets for log streams that are defined with an LS_ALLOCAHEAD value that is greater than zero (0). See “Offloading log data from interim storage by freeing and/or moving it to DASD” in z/OS MVS Setting Up a Sysplex for more information about the logger behavior that is based on the ALLOCAHEAD and LS_ALLOCAHEAD parameters.

The following options are possible:

**YES**

Indicates that the system will proactively manage advanced-current log stream offload data sets for log streams that are defined with an LS_ALLOCAHEAD value that is greater than zero (0) and are connected on the system in order to keep the log stream more readily available.
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GTZ, SUB=MSTR
Invokes the GTZ procedure that starts the tracking facility.

4.1.5.2 Starting IBM Health Checker for z/OS - /* V2R2 NEW */

Use the START hzsproc command to start IBM Health Checker for z/OS.

Although IBM Health Checker for z/OS starts automatically when you start z/OS, you can still manually stop and start IBM Health Checker for z/OS, such as to apply service.

Use the following syntax to start or restart IBM Health Checker for z/OS:

```
$ hzsproc[, HZSPRM=(PREV|SYSPARM|NONE|xx| (xx,...,zz))]
```

The parameters are:

- **hzsproc**
  - The name of the started procedure used to start IBM Health Checker for z/OS.
  - The default procedure ships with the name HZSPROC.

- **HZSPRM=PREV**
  - Specifies that your hzsproc procedure is to use the HZSPRMxx suffixes, if any, that were used by the previous instance of IBM Health Checker for z/OS within the current IPL. HZSPRM=PREV is used as the default in the standard HZSPROC procedure. HZSPRM=PREV behaves like HZSPRM=SYSPARM when the system encounters it at initial IPL time (the first use of the hzsproc procedure) because there is no previous instance of IBM Health Checker for z/OS to use at that time.

- **HZSPRM=SYSPARM**
  - Specifies that your hzsproc procedure is to use the HZSPRMxx suffixes specified on the HZS system parameter in the IEASYSxx member of parmlib.

- **HZSPRM=NONE**
  - Specifies that the hzsproc procedure is to use no HZSPRMxx parmlib members.

- **HZSPRM={xx|(xx...zz)}**
  - Specifies that one or more specific suffixes for the HZSPRMxx parmlib members that you want the hzsproc procedure to use.
4.1.6 STOP command

4.1.6.1 Stopping the generalized tracking facility - /* V2R2 NEW */

Use the following form of the STOP command to stop the generalized tracking facility. Before stopping the tracking facility, consider extracting any recorded tracking data for later analysis by using the GTZPRINT utility, the DISPLAY GTZ command, or a program using the GTZQUERY service.

```
P GTZ
```

The parameter is:

**GTZ**

Specifies that you want to stop the generic tracking facility.

4.1.6.2 Stopping IBM Health Checker for z/OS - /* V2R2 NEW */

Use the following form of the STOP command to stop IBM Health Checker for z/OS:

```
P hzsproc
```

The parameter is:

**hzsproc**

The name of the started procedure used to start IBM Health Checker for z/OS.

The default procedure ships with the name HZSPROC.
4.2 MVS System Commands **Changed in V2R2**

4.2.1 **CONFIG command**

4.2.1.1 Reconfiguring the system directly - /* V2R2 CHANGED */
4.2.2  DISPLAY command

4.2.2.1  Displaying the system logger and its log streams - /* V2R2 CHANGED */
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4.2.2.2 Displaying storage management subsystem information - /* V2R2

CHANGED */

D SMS[
  \{ACTIVE\}]
  [CACHE]
  [CFCACHE\{structurename\}]
  [CFLS\{lockstructurename\}]
  [CFVOL\{void\}]
  [CICSVR\{ALL\}LOGSTREAMS\{LogstreamName\}ALL\}RCDS\}]
  [DRIVE\{DRI\}\{name\}ALL\}][STATUS]
  [DETAIL]
  [DSNAME\{dsn\},WTOR]
  [JOB\{jobname\},WTOR]
  [LIBRARY\{LIB\}\{name\}ALL\}][STATUS][LISTDRI]
  [LISTDRI]
  [LOG\{logstreamid\}ALL\}WTOR]
  [MONDS\{specmask\}]
  [OAM]
  [OPTIONS]
  [OSMC\{TASK\}\{name\}]
  [PDSE\{PDSE\}\{LATCH\}\{laddr\}][DETAILED]
  [SUMMARY]
  MODULE\{modname\}
  [VSTOR]
  [HSPSTATS\{DSN\\{dsnname\}\}STORCLAS\{sc\}\}]
  [UNMANAGED]
  [SUMMARY]
  [MAXDSNS\{maxds\}]
  [CONNECTIONS\{DSN\\{dsnname\}\}VOL\{volser\}]
  [SEP]
  [SHCDS]
  [SHUNTED,{SPHERE\{sphere\}]\{UR\\{url\}ALL\}WTOR]
  [SMSVSAM\{ALL\}]
  [SMSVSAM,QUIESCE]
  [SMSVSAM,DIAG\{CONTENTION\}]
  [STORGRP\{SG\}\{stogrpg\}ALERT\{ALL\}][LISTVOL]
  [TRACE]
  [TRANSMAN\{ALL\}ALLOGS\}WTOR]
  [URID\{url\}ALL\}WTOR]
  [VOLUME\{VOL\}\{volume\}]
  [VOLSEMSG]
  [L={\{name\}\{name-a\}}]

Based on Generally Available Public Documentation and Presentations
4.2.2.3 Displaying static system symbols - /* V2R2 CHANGED */

4.2.3 MODIFY command

4.2.3.1 Passing information to a z/OS UNIX System Services application - /* V2R2 CHANGED */
4.2.3.2 Starting, configuring, and stopping hardware event data collection - /* V2R2 CHANGED */
### 4.2.4 SETGRS command - /* V2R2 CHANGED */

```plaintext
SETGRS {MODE=STAR}
{[RESMIL=nnnnnnnn|RESMIL=OFF][,TOLINT=nnnn][,SYNCHRES={YES|NO}]}
{ENQMAXA|ENQMAXU=nnnnnnnn} [,,{NOPROMPT|NP}]
{CNS=sysname}[,{NOPROMPT|NP}]
{GRSQ=ALL|CONTENTION[LOCALQ]}
{AUTHQLVL=n}
{MONITOR={YES|NO}}
{GRSMON=XX}
```

NEW
### 4.2.5 SETIOS command - /* V2R2 CHANGED */

| SETIOS [MIH[,class=mm:ss[,class=mm:ss]]|  |
| [,MOUNTMSG={YES|NO}] |  |
| [,DEV=([/devnum[,[/devnum]...,[/]lowdevnum-[/]highdevnum]...)]|  |
| [,TIME=mm:ss] |  |
| [,IOTIMING=mm:ss] |  |
| [,DCCF={MESSAGE|WAIT_STATE}] |  |
| [,MSGONLY={YES|NO}] |  |
| [,IOTSHMAP={YES|NO}[,IOTTERM={YES|NO}]] |  |
| [DCM={ON|OFF|REFRESH}] |  |
| [MIDAW={YES|NO}] |  |
| [FICON,STATS={YES|NO},FABRICPRTY={YES|NO}] |  |
| [CAPTUCB,PROTECT={YES|NO}] |  |
| [STORAGE,IOSBLKS={24|31}] |  |
| [HYPERPAV={NO|YES|BASEONLY}] |  |
| [EKM[,PRIMARY={host_name[:port],PRIPORT=port}] ] |  |
| {ipv4_address[:port],PRIPORT=port} |  |
| {ipv6_address[,PRIPORT=port]} |  |
| {NONE} |  |
| [,SECONDARY={host_name[:port],SECPORT=port}] |  |
| {ipv4_address[:port],SECPORT=port} |  |
| {ipv6_address[,SECPORT=port]} |  |
| {NONE} |  |
| [,MAXCONN=dd1] |  |
| [,MAXPCONN=dd2] |  |
| [RECOVERY,LIMITED_RECTIME=ss] |  |
| [,DEV={DASD|IOTIMING}] |  |
| [,PATH_SCOPE={CU[,PATH_INTERVAL=nn]} ] |  |
| {PATH_THRESHOLD=nnn} |  |
| {DEVICE} |  |
| [ZHPF={YES|NO}] |  |
| [HYPERWRITE={YES|NO}] |  |

Based on Generally Available Public Documentation and Presentations
4.2.6 SETLOAD command - /* V2R2 CHANGED */

V2R1 version

```
SETLOAD XX, [PARMLIB|IEASYM], [{DSNAME|DSN}=dsn], [{VOLUME|VOL|VOLSER}=vol]
```

CHANGED from 'xx,' to '{xx|IPL},'

V2R2 version

```
SETLOAD {xx|IPL}, [PARMLIB|IEASYM], [{DSNAME|DSN}=dsn], [{VOLUME|VOL|VOLSER}=vol]
```

4.2.7 SETLOGR FORCE command - /* V2R2 CHANGED */

```
SETLOGR FORCE, {DISCONNECT | DISC | DEL | DELETE | DEALLOCURDS | DEALLOC
  , {LSN | LSNNAME}=LogStreamName}
  , {ZAIQUIESCE | ZAIQUI | ZAICONN | ZAICONN}
  , {LSN | LSNNAME}=LogStreamName | ALL }
  , {NORECALL | NOREC}
  , {DSN | DSNNAME}=datasetname
```

ADDED

```
| DEALLOCURDS | DEALLOC
```

4.2.8 SETLOGRC command - /* V2R2 CHANGED */

```
SETLOGRC {LOGSTREAM|DATASET|IGNORE|LOGSTREAM=lsname|DATASET=dsname}
```

ADDED

```
| LOGSTREAM=lsname | DATASET=dsname |
```
A Brief Look at What’s New in V2R2

4.2.9 SETPROG command

4.2.9.1 Updating dynamic exits - /* V2R2 CHANGED */

```
SETPROG EXIT, {ADD,EXITNAME=exitname,MODNAME=modname} }

[,STATE={ACTIVE|INACTIVE}]
[,DSNAME=dsname]
[,JOBNAME={jobname[*]}
[,ABENDNUM={n[,CONSEC]}]
[,FIRST|LAST]
[,PARAM=param]
[,DELETEFORCE={NO|YES}]
[,SERVICEMASK=servicemask]
{ATTRIB,EXITNAME=exitname,KEEPRC=(compare,kk)}
{DELETE,EXITNAME=exitname,MODNAME=modname} }
[,FORCE={YES|NO}]
{MODIFY,EXITNAME=exitname,MODNAME=modname} }
[,STATE={ACTIVE|INACTIVE}]
[,DSNAME=dsname]
[,SERVICEMASK=servicemask]
{UNDEFINE,EXITNAME=exitname}
```

NEW
NEW
NEW

REMOVED COMMA
REPLACE,EXITNAME=exitname,MODNAME=modname
ADDED COMMA

CHANGED FROM 'MODIFY' TO 'REPLACE'

4.2.9.2 Managing dynamic LPA content - /* V2R2 CHANGED */

```
SETPROG LPA, {ADD,MODNAME=(modname...,modname) | MASK=mask} }

[,DSNAME=dsname | LNKLST]
[,PAGEABLE | FIXED]
[,PAGEPROTALL | PAGEPROTPAGE]
[,SVCNUMDEC=svcnum | SVCNUMDEC=(svcnum,routecode)]
[,ADDALIAS | ,NOADDALIAS]
{DELETE,MODNAME=(modname...,modname) }
   FORCE={YES | CURRENT | OLDEST}
{CSMIN=(below,above) }
```

CHANGED FROM: 
'T[FIXED] [PAGEPROTPAGE]' 
TO: 
'[PAGEABLE | FIXED]
[PAGEPROTALL | PAGEPROTPAGE]'
A Brief Look at What’s New in V2R2

4.2.10 SETSSI command - /* V2R2 CHANGED */

```
SETSSI {ADD, {SUBNAME|SUB|S}=submenu
     {, (CONSNAME|C)=consname}
     [, {INITRTN|I}=initrtn[, {INITPARM|P}=initparm]]
     {DEACTIVATE|DEACT}, {SUBNAME|SUB|S}=submenu
     {, {INITRTN|I}=initrtn}
     {, {INITPARM|P}=initparm]}
     {ACTIVATE|ACT}, {SUBNAME|SUB|S}=submenu
     {, {INITRTN|I}=initrtn}
     {, {INITPARM|P}=initparm[ ]}
     {DELETE}, {SUBNAME|SUB|S}=submenu, FORCE
```

NEW

4.2.11 SETXCF DUMPCF command - /* V2R2 CHANGED */

```
SETXCF DUMPCF {CFNAME=cfname[, , TYPE={NONDISRUPTIVE|DISRUPTIVE}], , , UNCOND={NO|YES}]}
    {,UNCOND={NO|YES}}
    {STRNAME=strname
```
4.2.12 SETXCF MODIFY command - /* V2R2 CHANGED */

```c
SETXCF MODIFY, {PATHIN, {DEVICE=([/]indevnum[,/[/]indevnum]...})
{STRNAME=(strname[,strname]...)}
{CLASS=classname}
{MAXMSG=maxmsgbuffers}
{RETRY=retrylimit}

{PATHOUT, {DEVICE=([/]outdevnum[,/[/]outdevnum]...})
{STRNAME=(strname[,strname]...)}
{CLASS=classname}
{MAXMSG=maxmsgbuffers}
{RETRY=retrylimit}

{STRNAME or STRNM=(strname|ALL),
ALTER={DISABLED|ENABLED}}

{LOCALMSG, MAXMSG=maxmsgbuffers}
{CLASS=class-name}

{CLASSDEF, CLASS=classname}
{CLASSLEN=classlength}
{MAXMSG=defaultmaxmsgbuffers}
{ADDGROUP=\(\text{groupname}[,...]\)}
{DEFGROUP=\(\text{groupname}[,...]\)}

{SYNCASYNC={
SIMPLEX={\text{nmmm}[DEFAULT]}}
DUPLEX={\text{nmmm}[DEFAULT]}}
LOCKSIMPLEX={\text{nmmm}[DEFAULT]}}
LOCKDUPLEX={\text{nmmm}[DEFAULT]}}

REMOVED COMMA
ADDED BRACE
ADDED COMMAS
REMOVED SPACE BEFORE AND AFTER EACH ""
CHANGED FROM 'value' to 'nmmm'
```
A Brief Look at What’s New in V2R2

4.2.13 SLIP command

4.2.13.1 Syntax for an error event SLIP SET command - /* V2R2 CHANGED */

SLIP SET

```plaintext
[,ADDRESS=(start[,end]) ]
[,LPAEP=(name[,start[,end]]) ]
[,LPAMOD=(name[,start[,end]]) ]
[,NUCEP=(name[,start[,end]]) ]
[,NUCMOD=(name[,start[,end]]) ]
[,PVTEP=(name[,start[,end]]) ]
[,PVTMOD=(name[,start[,end]]) ]
[,ASID=(asid[,asid]) ]
[,COMP=code[,REASON=code] ]
[,MSGID=message-id ]
[,DATA={comparison[comparison]...} ]
[,TXIGD | NOTXIGD] ]
[,ERRTYPE=(type[,type]...)]
[,JOBNAME={userid | jobname}]
,[JSPGM=name]
[,MODE=(mode[,mode]...)[ANY | EVERY]]
[,PSWASC=(mode[,mode]...)

[,ACTION={IGNORE,[option]} ]
    [(nordump[,nordump]...)[,option] ]
    [NOSUP,[option] ]
    [RECORD ]
    [SVCD,[options] ]
    [TRACE,[options] ]
    [TRDUMP,[options] ]
    [STOPGT[,options] ]
    [WAIT[,options] ]
    [CMD,[options] ]

[,ENABLE | DISABLE]
[,IDGROUP=idgroup]

[,MATCHLIM=m ]
   ,MATCHLIM=1 for ACTION=SVCD or ACTION=SYNCYCD

[,DEBUG]
[,ID=trapid]
[,OK]
[,RLEVEL={ERROR | NOTESVRB | PREVIOUS}] ]

,END
```
A Brief Look at What’s New in V2R2

4.2.13.2 Syntax for an instruction fetch or successful branch SLIP SET PER command - /* V2R2 CHANGED */

SLIP SET, {IF | SBT}

[, LPAEP=(name[, start[, end]]) ]
[, LPAMOD=(name[, start[, end]]) ]
[, NUCEP=(name[, start[, end]]) ]
[, NUCMOD=(name[, start[, end]]) ]
[, PVTEP=(name[, start[, end]]) ]
[, PVTMOD=(name[, start[, end]]) ]
[, RANGE=(start[, end])] [+]

[, ASID=(asid[, asid]) ]

[, DATA=(comparison[, comparison]) ]
[, TXIDD | NOTXIDD ]

[, JOBNAME=(userid | jobname)]

[, JSPGM=name]

[, MODE= (mode[, mode]...[, ANY | EVERY])] [+]

[, PSWASC=(mode[, mode])] [+]

[, ACTION= ]

[, IGNORE[, RECOVERY]]

[, RECOVERY[, REFRAFTER[, REFFBEFOR[, STOPGTF[, TARGETID]]]][,options]] [+]

[, STDUMP[, REFRAFTER[, REFFBEFOR[, STOPGTF[, TARGETID]]]][,options]] [+]

[, STRACE[, REFRAFTER[, REFFBEFOR[, STOPGTF[, TARGETID]]]][,options]] [+]

[, SVCD[, RECOVERY[, REFRAFTER[, REFFBEFOR[, STOPGTF[, TARGETID]]]][,options]] [+]

[, SYNCSVCD[, REFRAFTER[, REFFBEFOR[, STOPGTF[, TARGETID]]]][,options]] [+]

[, STOPGTF[, REFRAFTER[, REFFBEFOR[, TARGETID]]]][,options]] [+]

[, TRACED[, RECOVERY[, REFRAFTER[, REFFBEFOR[, STOPGTF[, TARGETID]]]][,options]] [+]

[, TRDUMP[, RECOVERY[, REFRAFTER[, REFFBEFOR[, STOPGTF[, TARGETID]]]][,options]] [+]

[, WAIT[, RECOVERY[, REFRAFTER[, REFFBEFOR[, STOPGTF[, TARGETID]]]][,options]] [+]

[, CMD[, RECOVERY[, REFRAFTER[, REFFBEFOR[, STOPGTF[, TARGETID]]]][,options]] [+]

[, ENABLE | ,DISABLE]

[, IDGROUP=1dgroup]

[, MATCHLIM=m ]

[, MATCHLIM=1] for ACTION=SVCD or ACTION=SYNCSVCD
[, MATCHLIM=10] for ACTION=STDUMP or ACTION=STRACE

[, PRCNTLIM=p | PRCNTLIM=10]

[, DEBUG]

[, ID=trapid]

[, OK]

, END

NEW
4.2.13.3 Syntax for a storage alteration SLIP SET PER command - /* V2R2

CHANGED */

SLIP SET,(SA|SAS)
  |,ADDRESS=(start,[end])
  |,LPACP=(name,[start,[end]])
  |,LPAMOD=(name,[start,[end]])
  |,NUCEP=(name,[start,[end]])
  |,NUCMOD=(name,[start,[end]])
  |,PVT=(name,[start,[end]])
  |,PVTMOD=(name,[start,[end]])
  |,[RANGE=(start,[end])]
  |,[ASID=(asid,[asid])...]
  |,[ASIDSA=(asid | 'jobname'[asid | 'jobname'][asid | 'jobname']...)]
  |,[DATA=(comparison,[comparison])...]
  |,[DSAA=(asid.name | 'jobname'.name,[asid.name | 'jobname'.name])...]
  |,[JOBNAME={userid | jobname}]
  |,[JSPG=|name]
  |,[MODE=(mode[mode]...[,ANY | EVERY])]
  |,[PSWASC=(mode[mode]...)]
  |,[ACTION=]
    | [[|IGNORE[RECOVERY]]
    | [[RECOVERY[REFAFTER][REFBEFORE][STOPGT][TARGETID]],[options]
    | [[STDUMP[REFAFTER][REFBEFORE][STOPGT][TARGETID]],[options]
    | [[STOPGT[REFAFTER][REFBEFORE][TARGETID]],[options]
    | [[RECOV[REFAFTER][REFBEFORE][STOPGT][TARGETID]],[options]
    | [[SYNC[REFAFTER][REFBEFORE][STOPGT][TARGETID]],[options]
    | [[SYNC[REFAFTER][REFBEFORE][STOPGT][TARGETID]],[options]
    | [[SYNC[REFAFTER][REFBEFORE][STOPGT][TARGETID]],[options]
    | [[SYNC[REFAFTER][REFBEFORE][STOPGT][TARGETID]],[options]
    | [[SYNC[REFAFTER][REFBEFORE][STOPGT][TARGETID]],[options]
    | [[SYNC[REFAFTER][REFBEFORE][STOPGT][TARGETID]],[options]
    | [[ACTION[REFAFTER][REFBEFORE][STOPGT][TARGETID]],[options]
    | [[CMD[REFAFTER][REFBEFORE][STOPGT][TARGETID]],[options]
  | ,[ENABLE | ,DISABLE]
  | ,[IDGROUP=1dggroup]
  | ,[MATCHLIM=m ]
    | ,MATCHLIM=1 for ACTION=STDUMP or ACTION=SYNCSVCD
    | ,MATCHLIM=50 for ACTION=STDUMP or ACTION=SYNCSVCD
  | ,[PRCNTLIM=p | ,PRCNTLIM=10]
  | ,[DEBUG]
  | ,[ID=trapid]
  | ,[OK]
  ,END
4.2.13.4 Syntax for a zero address detection SLIP SET PER command - /* V2R2 CHANGED */

<table>
<thead>
<tr>
<th>SLIP SET,ZAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>[,ADDRESS=(start[,end]) ]</td>
</tr>
<tr>
<td>[,LPAEP=(name[,start[,end]]) ]</td>
</tr>
<tr>
<td>[,LPAMOD=(name[,start[,end]]) ]</td>
</tr>
<tr>
<td>[,NUCEP=(name[,start[,end]]) ]</td>
</tr>
<tr>
<td>[,NUCMOD=(name[,start[,end]]) ]</td>
</tr>
<tr>
<td>[,PVTEP=(name[,start[,end]]) ]</td>
</tr>
<tr>
<td>[,PVTMOD=(name[,start[,end]]) ]</td>
</tr>
<tr>
<td>[,ASID=(asid[,asid]...)]</td>
</tr>
<tr>
<td>[,ASIDSA=(asid</td>
</tr>
<tr>
<td>[,DATA=(comparison[,comparison]...)]</td>
</tr>
<tr>
<td>[,DSSA=(asid.name</td>
</tr>
<tr>
<td>[,JOBNAME=[userid</td>
</tr>
<tr>
<td>[,JSPGM=name]</td>
</tr>
<tr>
<td>[,MODE= (mode[,mode]...[,ANY</td>
</tr>
<tr>
<td>[,PSWASC= (mode[,mode]...)]</td>
</tr>
<tr>
<td>[,ACTION= ()]</td>
</tr>
<tr>
<td>([IGNORE[,RECOVERY]])</td>
</tr>
<tr>
<td>([RECOVERY[,REFATER][,REFBEFOR][,STOPGTF][,TARGETID]][,options])</td>
</tr>
<tr>
<td>([STDUMP[,REFATER][,REFBEFOR][,STOPGTF][,TARGETID]][,options])</td>
</tr>
<tr>
<td>([STOPGTF[,REFATER][,REFBEFOR][,TARGETID]][,options])</td>
</tr>
<tr>
<td>([TRACE[,REFATER][,REFBEFOR][,STOPGTF][,TARGETID]][,options])</td>
</tr>
<tr>
<td>([SVCD[,RECOVERY][,REFATER][,REFBEFOR][,STOPGTF][,TARGETID]][,options])</td>
</tr>
<tr>
<td>([SYNCVCD[,RECOVERY][,REFATER][,REFBEFOR][,STOPGTF][,TARGETID]][,options])</td>
</tr>
<tr>
<td>([TRDUMP[,RECOVERY][,REFATER][,REFBEFOR][,STOPGTF][,TARGETID]][,options])</td>
</tr>
<tr>
<td>([WAIT[,RECOVERY][,REFATER][,REFBEFOR][,STOPGTF][,TARGETID]][,options])</td>
</tr>
<tr>
<td>([CMD[,RECOVERY][,REFATER][,REFBEFOR][,STOPGTF][,TARGETID]][,options])</td>
</tr>
<tr>
<td>[,ENABLE</td>
</tr>
<tr>
<td>[,I GROUP= idgroup]</td>
</tr>
<tr>
<td>[,MATCHLIM=m ]</td>
</tr>
<tr>
<td>[,MATCHLIM=1] for ACTION=SVCD or ACTION=SYNCVCD</td>
</tr>
<tr>
<td>[,MATCHLIM=50] for ACTION=STDUMP or ACTION=TRACE</td>
</tr>
<tr>
<td>[,PRCNTLIM=p ]</td>
</tr>
<tr>
<td>[,PRCNTLIM=10]</td>
</tr>
<tr>
<td>[,DEBUG]</td>
</tr>
<tr>
<td>[,ID=trapid]</td>
</tr>
<tr>
<td>[,OK]</td>
</tr>
<tr>
<td>,END</td>
</tr>
</tbody>
</table>
A Brief Look at What’s New in V2R2

4.2.13.5 Syntax for the ACTION parameters for the SLIP SET command

\(\text{ACTION} = \text{REFAFTER}...\) /* V2R2 CHANGED */

```
ACTION=REFAFTER,REFAFTER=(triplet[,triplet]...)
ACTION=REFBEFOR,REFBEFOR=(triplet[,triplet]...)

ACTION=STDUMP[,options]
ACTION=(STDUMP[,REFAFTER][,REFBEFOR][STOPGTF],[TARGETID][][options]

Where the options are:

[,ASIDLST=(asid[,asid]...)]
[,DSPNAME=(asid.name | 'jobname'.name[,asid.name | 'jobname'.name]...)]
[,DESC='description']
[,LIST=(start,end[,start,end]...)]
[,REFAFTER=(triplet[,triplet]...)]
[,REFBEFOR=(triplet[,triplet]...)]
[,SDATA=(area[,area]...)]
[,SDATA=(NOALLPSA, NOALLSQA, NOSUM, TRT)]
[,SUMLIST=(start,end[,start,end]...)]
[,TARGETID=(trapid)]
```

NEW
4.2.13.6 Syntax for the ACTION parameters for the SLIP SET command

\[\text{ACTION=SVCD…}\] - /* V2R2 CHANGED */
4.2.13.7 Syntax for the ACTION parameters for the SLIP SET command

\[\text{ACTION}=$\text{SYNCSVCD}$... \] /* V2R2 CHANGED */

ACTION=SYNCSVCD[,]\ options
ACTION=(SYNCSVCD[,\ REFAFTER[,\ ,REFBEFORE[,\ ,STOPGTF[,\ ,TARGETID]]]][:,\ options]

Where the options are:

\[,\ ASIDLIST=(asid[,\ asid]...)
\[,\ DSPNAME=(asid.name | 'jobname'.name[,\ asid.name | 'jobname'.name]...)
\[,\ DESC='description'
\[,\ LIST=(start,end[,\ start,end]...)
\[,\ REFAFTER=(triplet[,\ triplet]...)
\[,\ REFBEFORE=(triplet[,\ triplet]...)
\[,\ REMOTE= \{\ (UNCOND | COND,remote) \}
\{\ (UNCOND | COND,(remote)[,(remote)]...\}\}
\{\ (remote)\}
\{\ (remote)[,(remote)]...\}\}
\[,\ SDATA=(area[,\ area]...)
\[,\ SDATA=(ALLPSA,\ CSA,\ LPN,\ NUC,\ RGN,\ SQA,\ SUM,\ TRT)
\[,\ STRLIST=(s-option[,\ s-option]...)]
\[,\ SUMLIST=(start,end[,\ start,end]...)
\[,\ TARGETID=(tripid)]

Where remote in the REMOTE parameter is:

\[,\ SYSLIST=(sysname,\ group.member,\ group.*,\ (start),...)]
\[,\ ACTION=SYSVD | WAIT]
\[,\ ASIDLIST=(asid[,\ asid]...)
\[,\ DSPNAME=(asid.name | 'jobname'.name[,\ asid.name | 'jobname'.name]...)
\[,\ JOBLIST=(jobname[,\ jobname]...)
\[,\ LIST=(start,end[,\ start,end]...)]
\[,\ SDATA=(area[,\ area]...)]
\[,\ STRLIST=(s-option[,\ s-option]...)]

Where s-option in the STRLIST parameter is:

\[,\ STRNAME=strname
\[,\ CONNAME=conname]
\[,\ ACCESTIME=[ENFORCE | NOLIMIT]]
\[,\ LOCKENTRIES]
\[,\ USERCNTLS]
\[,\ EVENTQS]
\[,\ (EMCONTROLS=[ALL | (list)])]]
\[,\ (COCCLASS | STGCCLASS | LISTNUM)=\{\ ALL, | \ (list)\}]
\[,\ (ADJUNCT=[CAPTURE | DIRECTIO]][ENTRYDATA=[UNSERIALIZE | SERIALIZE]])
\[,\ SUMMARY]]}
4.2.13.8 Syntax for the ACTION parameters for the SLIP SET command

\[(ACTION=TRDUMP\ldots) - */V2R2 CHANGED */\]

ACTION=TRDUMP[,options]
ACTION=(TRDUMP[RECOVERY],REFAFTER[,REBEFOR],[STOPGTF],TARGETID),options

Where the options are:

[,]ASIDLST=(asid[,asid]...)]
[,]DSPNAME=(asid.name | 'jobname'.name[,asid.name | 'jobname'.name]...)]
[,]DESC='description'
[,]LIST=(start,end[,start,end]...)]
[,]RECORD]
[,]REFAFTER=(triplet[,triplet]...)]
[,]REFBEFOR=(triplet[,triplet]...)]
[,]SDATA=(area[,area]...)]
[,]SDATA=(NOALLPSA,NOSUM),TRT)
[,]STRLIST=(s-option[,s-option]... ]
[,]SUMLIST=(start,end[,start,end]...)]
[,]TARGETID=(repid)
[,]TRDATA=((STD[,REGS][,list)])
   {REGS[,list]    }
   {list     }

Where s-option in the STRLIST parameter is:

STRNAME=strname
[,]CONNAME=connname]
[,]ACCESTIME={ENFORCE | NOLIMIT}
[,]LOCKENTRIES]
[,]USRCNTLS]
[,]EVENTQS]
[,](EMCONTROLS={ALL | (list)})
[,]{{COCLASS | STGCLASS | LISTNUM}={ALL | (list)}}
   {[ADJUNCT={CAPTURE|DIRECTIO},ENTRYDATA={UNSERIALIZE|SERIALIZE]}}
   {[SUMMARY]}}
4.2.13.9 Syntax for the ACTION parameters for the SLIP SET command

\((ACTION=\text{WAIT...})\) - /* V2R2 CHANGED */

```
ACTION=\text{WAIT}[,<options>
ACTION=(\text{WAIT}[,<\text{RECOVERY}] [,\text{REFAFTER}] [,\text{REFBEFORE}] [,\text{STOPGTF}] [,\text{TARGTID}]) [,<options>]

Where the options are:

\[
,\text{DESC}=\text{'description'}
\]

\[
,\text{RECORD}
\]

\[
,\text{REFAFTER}=(\text{triplet}[,,\text{triplet}])
\]

\[
,\text{REFBEFORE}=(\text{triplet}[,,\text{triplet}])
\]

\[
,\text{REMOTE}=\{(\text{UNCOND} | \text{COND},\text{remote})\}
\]

\[
(\text{UNCOND} | \text{COND},(\text{remote})[,,(\text{remote})])
\]

\[
((\text{remote})[,,(\text{remote})])
\]

\[
,\text{TARGTID}=(\text{rapid})
\]

Where remote in the \text{REMOTE} parameter is:

\[
,\text{SYSLIST}=\text{(sysname,group.member,group.*,(start),...)}
\]

\[
,\text{ACTION}=\text{SVCD} | \text{WAIT}
\]

\[
,\text{ASIDLST}=(\text{asid}[,,\text{asid}])
\]

\[
,\text{DSPNAME}=(\text{asid.name} | \text{'jobname'.name}[,,\text{asid.name} | \text{'jobname'.name}])
\]

\[
,\text{JOBLIST}=(\text{jobname}[,,\text{jobname}])
\]

\[
,\text{LIST}=(\text{start.end}[,,\text{start.end}])
\]

\[
,\text{DATA}=(\text{area}[,,\text{area}])
\]

\[
,\text{STRLIST}=(s-\text{option}[,,s-\text{option}])
\]

Where s-option in the \text{STRLIST} parameter is:

\[
\text{STRNAME}=\text{strname}
\]

\[
,\text{CONNAME}=\text{conname}
\]

\[
,\text{ACCESTMILE}=[\text{ENFORCE} | \text{NOLIMIT}]
\]

\[
,\text{LOCKENTRIES}
\]

\[
,\text{USERCNTLS}
\]

\[
,\text{EVENTQ}\]

\[
,(\text{ECNTRL}=\{\text{ALL} | (\text{list})\})
\]

\[
,(\text{CCLASS} | \text{TCCLASS} | \text{LISTNUM})=\{\text{ALL} | (\text{list})\}
\]

\[
,\text{ADJUNCT}=\{\text{CAPTURE} | \text{DIRECTIO}\}
\]

\[
,\text{ENTRYDATA}=\{\text{UNSERIALIZE} | \text{SERIALIZE}\}
\]

\[
,\text{SUMMARY}
\]
```
4.2.14 VARY command

4.2.14.1 Controlling MCS, HMCS and SMCS consoles - VARY CN command - /* V2R2 CHANGED */

```plaintext
V CN(\* [conspec1 [, conspec1] ...]
 [, AMSCOPE=\* [, name [, name] ...]]
 [, AUTH=ALL INFO MASTER [(SYS [(SYS [IO [(CONS]]])]]
 , AROUT=[rtcode [, rtcode] ...]]
 [, DMSCOPE=\* [, name [, name] ...]]
 [, DROUT=[rtcode [, rtcode] ...]]
 [, INTIDS=Y | N]
 [, LOGON=[OPTIONAL | REQUIRED | AUTO | DEFAULT]]
 [, LU=\{\* | \* | \* \}|
 [, MSCOPE=\{\* \} |
 [, OFFLINE=FORCE] | ONLINE=SYSNAME [FORCE] [[STANDBY]]
 [, ROUT=\{\* | \* | \* \} |
 [, SUPSBY=Y | N]]
 [, TIMEOUT=timeo]}
 [, UNKNIDS=Y | N]
```

ORDER OF THESE TWO LINES WAS SWAPPED BETWEEN V2R1 & V2R2

SWAPPED POSITION OF 'I' AND '['

REMOVED BRACE '['

NEW
4.3 All MVS System Commands with NO CHANGES (unless noted)

This is a complete list of MVS System Commands. Details of the noted changes are found in the previous two sections.

ACTIVATE command - No Changes
CANCEL command - No Changes
CHNGDUMP command - No Changes
CMDS command - No Changes
CONFIG command - /* V2R2 Changes - see specific command for details */
  Reconfiguring the system directly - /* V2R2 CHANGED */
CONTROL command - No Changes
DEVSEVR command - No Changes
DISPLAY command - /* V2R2 Changes - see specific command for details */
  Displaying the system logger and its log streams - /* V2R2 CHANGED */
  Displaying storage management subsystem information - /* V2R2 CHANGED */
  Displaying static system symbols - /* V2R2 CHANGED */
DUMP command - No Changes
DUMPDS command - No Changes
FORCE command - No Changes
HALT command - No Changes
IOACTION command - No Changes
LIBRARY command - No Changes
LOG command - No Changes
LOGOFF command - No Changes
LOGON command - No Changes
MODE command - No Changes
MODIFY command - /* V2R2 Changes - see specific command for details */
  Passing information to a z/OS UNIX System Services application - /* V2R2 CHANGED */
  Starting, configuring, and stopping hardware event data collection - /* V2R2 CHANGED */
  Passing a MODIFY command string to a physical file system (PFS) through a logical file system (LFS) - /* V2R2 NEW */
MODIFY (F) JES3 commands - No Changes
MONITOR command - No Changes
MOUNT command - No Changes
PAGEADD command - No Changes
PAGEDEL command - No Changes
QUIESCE command - No Changes
REPLY command - No Changes
RESET command - No Changes
ROUTE command - No Changes
SEND command - No Changes
SET command - No Changes

Based on Generally Available Public Documentation and Presentations
A Brief Look at What’s New in V2R2

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A Brief Look at What’s New in V2R2

Based on Generally Available Public Documentation and Presentations
5 TCPIP PROFILE:

5.1 TCP/IP statements for which support was removed from V2R2

5.1.1 ATMARPSV statement - /* V2R2 REMOVED */
5.1.2 ATMLIS Statement - /* V2R2 REMOVED */
5.1.3 ATMPVC Statement - /* V2R2 REMOVED */
5.1.4 DEVICE and LINK statements

Support was removed for the following legacy devices.

5.1.4.1 ATM devices statement - /* V2R2 REMOVED */
5.1.4.2 CLAW devices statement - /* V2R2 REMOVED */
5.1.4.3 HYPERchannel A220 devices statement - /* V2R2 REMOVED */
5.1.4.4 SNA LU0 links statement - /* V2R2 REMOVED */
5.1.4.5 SNA LU 6.2 links statement - /* V2R2 REMOVED */
5.1.4.6 X.25 NPSI connections statement - /* V2R2 REMOVED */
5.1.4.7 3745/46 channel DLC devices statement - /* V2R2 REMOVED */
5.1.5 GATEWAY statement – /* Support removed prior to V2R2 */
5.2 TCP/IP statements which were changed in V2R2

5.2.1 DELETE statement - /* V2R2 CHANGED */

Syntax

Rule: Specify the parameters in the order shown here.

```
DELETE ATMARPsv arpsrv_name
DELETE ATMLIS lts_name
DELETE ATMPVC pvc_name
DELETE DEVICE device_name
DELETE LINK link_name
```

Port Options

The optional parameters for the PORT profile statement can be specified on the DELETE PORT statement but, though the syntax of the parameters is verified, the parameter values are ignored.

```
DELETE PORTRange
```

```
1st_port num_ports TCP UDP RESERVED AUTHPORT jobname Portrange Options
```
5.2.2 **GLOBALCONFIG statement - /* V2R2 CHANGED */**

**Syntax**

Tip: Specify the parameters for this statement in any order.

Diagram changed. Old version is at the right.

In V2R2, the SMCR options are broken out in a separate diagram. However, there is no change in the logic flow.
5.2.3 IPCONFIG statement - /* V2R2 CHANGED */

Syntax

Tip: Specify the parameters for this statement in any order.

Based on Generally Available Public Documentation and Presentations
5.2.4 IPSEC statement – /* V2R2 CHANGED */

Not previously included in base_level_one_array.

**Syntax**

**Rule:** Specify the parameters in the order shown here.

**IP Filter Rule:**

IPv4 Filter Rule:

IPv6 Filter Rule:

NEW
A Brief Look at What’s New in V2R2

Based on Generally Available Public Documentation and Presentations
A Brief Look at What’s New in V2R2

Based on Generally Available Public Documentation and Presentations
5.2.5 **PORT statement – */ V2R2 CHANGED */**

Syntax

```
PORT num [TCP | UDP] [RESERVED | Jobname] [Options]
  WHENLISTEN
  WHENBIND
  DENY
  SAF resname
  UDP [Jobname] SAF resname
  DENY
  SAF resname

Options:

- DELAYAcks
- NOAUTOLOG
- NODELAYAcks
- SHAREPort
- SHAREPORTWLM
- BIND --ipaddr
- SAF --resname
  NEW -- "SMC" added
```

Based on Generally Available Public Documentation and Presentations
5.2.6 PORTRANGE statement – /* V2R2 CHANGED */

Syntax

```
PORTRange

1st_port - num_ports | TCP | PortRange Access Specifications |

| RESERVED |

| AUTHPORT |

| jobname |

| Options |

| DELAYAcks |

| NOAUTOLog |

| NODELAYAcks |

| SAF - resname |

| NOSMC |

| SMC |

NEW - "SMC" added
```
5.2.7 TCPCONFIG statement — /* V2R2 CHANGED */

Based on Generally Available Public Documentation and Presentations
5.2.8  TRANSLATE statement - /* V2R2 CHANGED */

Syntax

Rule: Specify the parameters in the order shown here.
5.3 Complete List of TCP/IP Statements

ARPAGE statement - No Changes
ATMARPSV statement - /* V2R2 REMOVED */
ATMLIS Statement - /* V2R2 REMOVED */
ATMPVC Statement - /* V2R2 REMOVED */
AUTOLOG statement – No Changes
BEGINROUTES statement – No Changes
BEGINVTAM block – No Changes

Note: This is found in “TN3270 Telnet server” config statements.

BSDROUTINGPARMS statement – No Changes
 DATASETPREFIX statement – No Changes

Note: This is found in “Resolver setup and TCPIP.DATA” config statements.

DELETE statement - /* V2R2 CHANGED */
DEVICE and LINK statements - /* V2R2 CHANGED */

ATM devices statement - /* V2R2 REMOVED */
CLAW devices statement - /* V2R2 REMOVED */
CTC devices statement – No Changes

HYPERchannel A220 devices statement - /* V2R2 REMOVED */
LAN Channel Station and OSA devices statement – No Changes
LINK statement for FDDI LCS – No Changes

MPCIPA OSA-Express QDIO devices statement – No Changes

MPCIPA HiperSockets devices statement – No Changes

MPCOSA devices statement – No Changes

MPCPTP devices statement – No Changes

SNA LU0 links statement - /* V2R2 REMOVED */

SNA LU 6.2 links statement - /* V2R2 REMOVED */

VIRTUAL devices statement – No Changes

X.25 NPSI connections statement - /* V2R2 REMOVED */

3745/46 channel DLC devices statement - /* V2R2 REMOVED */

GATEWAY statement – /* Support removed prior to V2R2 */

GLOBALCONFIG statement - /* V2R2 CHANGED */

HOME statement – No Changes

INCLUDE statement – No Changes

INTERFACE statements – No Changes

IPAQENET OSA-Express QDIO interfaces statement – No Changes

IPAQIDIO HiperSockets interfaces statement – No Changes

VIRTUAL interfaces statement – No Changes

IPAQENET6 OSA-Express QDIO interfaces statement – No Changes

IPAQIDIO6 HiperSockets interfaces statement - No Changes

LOOPBACK6 interface statement - No Changes

MPCPTP6 interfaces statement - No Changes

VIRTUAL6 interfaces statement – No Changes
A Brief Look at What’s New in V2R2

Based on Generally Available Public Documentation and Presentations
A Brief Look at What’s New in V2R2

6 TN3270E Telnet Statements – NO CHANGES
Statements are noted as grouped if they appear together within the same Syntax Statement.

6.1 Telnet profile statements: NO CHANGES
TELNETGLOBALS statements - No Changes
  Group: TELNETGLOBALS, ENDTELNETGLOBALS
TELNETPARMS statements - No Changes
  Group: TELNETPARMS, ENDTELNETPARMS
PARMSGROUP statement - No Changes
  Group: PARMSGROUP, ENDPARMSGROUP
BEGINVTAM block – No Changes
INCLUDE statement – No Changes

6.2 Telnet parameter statements in the Telnet profile – NO CHANGES
BINARYLINEMODE statement – No Changes
CHECKCLIENTCONN statement - No Changes
CLIENTAUTH statement - No Changes
CODEPAGE statement - No Changes
CONNTYPE statement - No Changes
CRLLDAPSERVER statement - No Changes
DBCSTRACE statement - No Changes
DBCSTRTTRANSFORM statement - No Changes
DEBUG statement - No Changes
DISABLESGA statement - No Changes
DROPASSOCPRINTER statement - No Changes
ENCRYPTION statement - No Changes
EXPRESSLOGON statement - No Changes
FORMAT statement - No Changes
FULLDATATRACE statement - No Changes
INACTIVE statement - No Changes
INCLUDE statement – No Changes
KEEPINACTIVE statement - No Changes
KEEPPLU statement - No Changes
KEYRING statement - No Changes
LUSESESSIONPEND statement - No Changes
MAXRECEIVE statement - No Changes
MAXREQUESTS statement - No Changes
MAXRUCHAIN statement - No Changes
MAXTCPSENDQ statement - No Changes
MAXVTAMSENDQ statement - No Changes
MSG07 statement - No Changes
NACUSERID statement - No Changes
OLDSOLICITOR statement - No Changes
PASSWORDPHRASE statement - No Changes
PORT, SECUREPORT and TTLSPORT statements - No Changes
PROFILEINACTIVE statement - No Changes
PRTINACTIVE statement - No Changes

Based on Generally Available Public Documentation and Presentations
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PRTGROUP or SPRTGROUP statement - No Changes
PRTMAP statement - No Changes
RESTRICTAPPL statement - No Changes
USERGROUP statement - No Changes
USSTCP statement - No Changes
A Brief Look at What’s New in V2R2

7 TCPIP DATA and Resolver:

7.1 Resolver Setup Statements New to V2R2

7.1.1 CACHEORDER NOCACHEORDER statements - /* V2R2 ADDED */

Syntax

Use the CACHEORDER statement to enable system-wide cache reordering for the resolver. Use the NOCACHEORDER statement to disable system-wide cache reordering.

Tip: If you specify the NOCACHE statement, the CACHEORDER and NOCACHEORDER statements are ignored.

When system-wide cache reordering is enabled, the resolver reorders the list of cached IP addresses after retrieving the cached information in response to a host name resolution request. The list is reordered in a round-robin manner. See Cache reordering in z/OS Communications Server: IP Configuration Guide for more information.

The default value is NOCACHEORDER.

Parameters
This statement has no parameters.

Usage notes
- You can change the value of CACHEORDER or NOCACHEORDER dynamically by using the MODIFY RESOLVER,REFRESH,SETUP=resolver_setup_filename command. Changing the value of CACHEORDER or NOCACHEORDER dynamically has no affect on existing resolver API requests, but the new value applies to new resolver API requests that are processed after the MODIFY command completes.
- Resolver address sorting algorithms, such as the TCPIP.DATA SORTLIST statement, can further modify the list of cached IP addresses. For more information, see Cache reordering and sorting in z/OS Communications Server: IP Configuration Guide.

7.2 All Resolver Setup Statements

CACHE NOCACHE statements - No Changes
CACHEORDER NOCACHEORDER statements - /* V2R2 ADDED */
CACHESIZE statement - No Changes
COMMONSEARCH/NOCOMMONSEARCH statement - No Changes
DEFAULTIPNODES statement - No Changes
DEFAULTTCPIPDATA statement - No Changes
GLOBALIPNODES statement - No Changes
GLOBALTCPIPDATA statement - No Changes
MAXTTL statement - No Changes
UNRESPONSIVETHRESHOLD statement - No Changes
; and # statements - No Changes
7.3 Configuration Statements in TCPIP.DATA New to V2R2

7.3.1 NOCACHEREORDER statement - /* V2R2 ADDED */

Syntax

```
>NoCacherOrder
```

Use the NOCACHEREORDER statement to indicate that reordering of cached IP addresses is not performed for applications that use this TCPIP.DATA file. The NOCACHEREORDER statement is ignored if system-wide caching is not active, or if the NOCACHE statement is coded in this TCPIP.DATA file.


Parameters

system_name:
The name of the system to which this statement applies. See “system_name considerations” on page 335 for a complete description of this parameter.

Requirement: The colon is required.

Steps for modifying

You can use the MODIFY command to change whether this application uses cache reordering. If the NOCACHEREORDER statement is not in the TCPIP.DATA file, the current system-wide settings for cache reordering are used. For more information about parameters used with the MODIFY command, see z/OS Communications Server: IP System Administrator's Commands.

7.4 All Configuration Statements in TCPIP.DATA

- ALWAYSWTO statement - No Changes
- DATASETPREFIX statement - No Changes
- DOMAIN statement - No Changes
- DOMAINORIGIN statement - No Changes
- HOSTNAME statement - No Changes
- LOADDBCSTABLES statement - No Changes
- LOOKUP statement - No Changes
- MESSAGERCASE statement - No Changes
- NAMESERVER statement - No Changes
- NOCACHE statement - No Changes
- NOCACHEREORDER statement - /* V2R2 ADDED */
- NSINTERADDR statement - No Changes
- NSPORTADDR statement - No Changes
- OPTIONS statement - No Changes
- RESOLVERTIMEOUT statement - No Changes
- RESOLVERUDPRETRIES statement - No Changes
- RESOLVEVIA statement - No Changes
- SEARCH statement - No Changes
A Brief Look at What’s New in V2R2

SOCKDEBUG statement - No Changes
SOCKNOTESTSTOR statement - No Changes
SOCKTESTSTOR statement - No Changes
SORTLIST statement - No Changes
TCPIPHOSTNAME statement - No Changes
TCPIPUSERID statement - No Changes
TRACE RESOLVER statement - No Changes
TRACE SOCKET statement - No Changes
; and # statements - No Changes
A Brief Look at What’s New in V2R2

8 FTP:

8.1 FTP.DATA statements New to V2R2

8.1.1 PASSIVEONLY (FTP client) statement - /* V2R2 ADD */

<table>
<thead>
<tr>
<th>Syntax</th>
</tr>
</thead>
<tbody>
<tr>
<td>PASSIVEONLY FALSE</td>
</tr>
<tr>
<td>PASSIVEONLY FALSE TRUE</td>
</tr>
</tbody>
</table>

8.1.2 SECURE_SESSION_REUSE (FTP client & server) statement - /* V2R2 ADD */

<table>
<thead>
<tr>
<th>Syntax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server syntax</td>
</tr>
<tr>
<td>SECURE_SESSION_REUSE ALLOWED</td>
</tr>
<tr>
<td>SECURE_SESSION_REUSE ALLOWED REQUIRED</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Client syntax</th>
</tr>
</thead>
<tbody>
<tr>
<td>SECURE_SESSION_REUSE NONE</td>
</tr>
<tr>
<td>SECURE_SESSION_REUSE NONE ALLOWED REQUIRED</td>
</tr>
</tbody>
</table>
8.1.3 TLSCERTCROSSCHECK (FTP client & server) statement - /*
V2R2 ADD */
8.2 All FTP.DATA Statements

ACCESSERRORMSGS (FTP server) statement - No Changes
ADMINEMAILADDRESS (FTP server) statement - No Changes
ANONYMOUS (FTP server) statement - No Changes
ANONYMOUSFILEACCESS (FTP server) statement - No Changes
ANONYMOUSFILETYPEJES (FTP server) statement - No Changes
ANONYMOUSFILETYPESEQ (FTP server) statement - No Changes
ANONYMOUSFILETYPESQL (FTP server) statement - No Changes
ANONYMOUSFTPLOGGING (FTP server) statement - No Changes
ANONYMOUSHFSDIRMODE (FTP server) statement - No Changes
ANONYMOUSHFSFILEMODE (FTP server) statement - No Changes
ANONYMOUSHFSINFO (FTP server) statement - No Changes
ANONYMOUSHFSFILEACCESS (FTP server) statement - No Changes
ANONYMOUSLEVEL (FTP server) statement - No Changes
APPLNAME (FTP server) statement - No Changes
ASATRANS (FTP client & server) statement - No Changes
AUTOMOUNT (FTP client & server) statement - No Changes
AUTORECALL (FTP client & server) statement - No Changes
AUTOTAPEMOUNT (FTP client & server) statement - No Changes
BANNER (FTP server) statement - No Changes
BLKSIZE (FTP client & server) statement - No Changes
BUFNO (FTP client & server) statement - No Changes
CCONNTIME (FTP client) statement - No Changes
CCXLATE (FTP server) statement - No Changes
CHKCONFIDENCE statement (FTP client & server) statement - No Changes
CHKPTFLUSH (FTP client) statement - No Changes
CHKPTINT (FTP client & server) statement - No Changes
CHKPTPREFIX (FTP client) statement - No Changes
CIPHERSUITE (FTP client & server) statement - No Changes
CLIENTERRCODES (FTP client) statement - No Changes
CLIENTEXIT (FTP client) statement - No Changes
CONDDISP (FTP client & server) statement - No Changes
CTRLCONN (FTP client & server) statement - No Changes
DATACLASS (FTP client & server) statement - No Changes
DATACTTIME (FTP client) statement - No Changes
DATAKEEPALIVE (FTP client & server) statement - No Changes
DATAKEEPALIVE (FTP client & server) statement - No Changes
DATATIMEOUT (FTP server) statement - No Changes
DB2 (FTP client & server) statement - No Changes
DB2PLAN (FTP client and server) statement - No Changes
DBSUB (FTP client & server) statement - No Changes
DCBDSN (FTP client & server) statement - No Changes
DCONNTIME (FTP client & server) statement - No Changes
DEBUG (FTP client & server) statement - No Changes
DEBUGONSITE (FTP server) statement - No Changes
DEST (FTP server) statement - No Changes
A Brief Look at What’s New in V2R2

Based on Generally Available Public Documentation and Presentations
See Section 2 above for details.

- PASSPHRASE (FTP server) statement - No Changes
- PDSTYPE (FTP client & server) statement - No Changes
- PORTCOMMAND (FTP server) statement - No Changes
- PORTCOMMANDIPADDR (FTP server) statement - No Changes
- PORTCOMMANDPORT (FTP server) statement - No Changes
- PORTOFENTRY4 (FTP server) statement - No Changes
- PRIMARY (FTP client & server) statement - No Changes
- PROGRESS (FTP client) statement - No Changes
- QUOTESOVERRIDE (FTP client & server) statement - No Changes
- RDW (FTP client & server) statement - No Changes
- RECFM (FTP client & server) statement - No Changes
- REMOVEINBEOF (FTP client & server) statement - No Changes
- REPLY226 (FTP server) statement - No Changes
- REPLYSECURITYLEVEL (FTP server) statement - No Changes
- RESTGET (FTP client) statement - No Changes
- RESTPUT (FTP server) statement - No Changes
- RETPD (FTP client & server) statement - No Changes
- SBDATACONN (FTP client & server) statement - No Changes
- SBSNDEOL statement (FTP client & server) statement - No Changes
- SBSUB (FTP client & server) statement - No Changes
- SBSUBCHAR (FTP client & server) statement - No Changes
- SBTRANS (FTP client) statement - No Changes
- SECONDARY (FTP client & server) statement - No Changes
- SECURE_CTRLCONN (FTP client & server) statement - No Changes
- SECURE_DATACONN (FTP client & server) statement - No Changes
- SECURE_FTP (FTP client & server) statement - No Changes
- SECURE_HOSTNAME (FTP client) statement - No Changes
- SECUREIMPLICITZOS (FTP client & server) statement - No Changes
- SECURE_LOGIN (FTP server) statement - No Changes
- SECURE_MECHANISM (FTP client) statement - No Changes
- SECURE_PASSWORD (FTP server) statement - No Changes
- SECURE_PASSWORD_KERBEROS (FTP server) statement - No Changes
- SECURE_PBSZ (FTP client & server) statement - No Changes
- SECURE_SESSION_REUSE (FTP client & srvr) statement - /* V2R2 ADD */
  
  See Section 2 above for details.
- SEQNUMSUPPORT (FTP client) statement - No Changes
- SMF (FTP server) statement - No Changes
- SMFAPPE (FTP server) statement - No Changes
- SMFDCFG (FTP server) statement - No Changes
- SMFDEL (FTP server) statement - No Changes
- SMFEXIT (FTP server) statement - No Changes
- SMFJES (FTP server) statement - No Changes
- SMFLOGN (FTP server) statement - No Changes
- SMFREN (FTP server) statement - No Changes
- SMFRETR (FTP server) statement - No Changes
- SMFSQL (FTP server) statement - No Changes
- SMFSTOR (FTP server) statement - No Changes

Based on Generally Available Public Documentation and Presentations
<table>
<thead>
<tr>
<th>Statement</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCKSCONFIGFILE (FTP client) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>SPACETYPE (FTP client &amp; server) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>SPREAD (FTP client &amp; server) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>SQLCOL (FTP client &amp; server) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>SSLV3 (FTP client &amp; server connection) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>STARTDIRECTORY (FTP server) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>STORCLASS (FTP client &amp; server) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>SUPRESSIGNOREWARNINGS (FTP client &amp; server) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>TAPEREDSTREAM (FTP server) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>TLSCERTCROSSCHECK (FTP client &amp; server) statement</td>
<td>/* V2R2 ADD */</td>
</tr>
<tr>
<td>See Section 2 above for details.</td>
<td></td>
</tr>
<tr>
<td>TLSMECHANISM (FTP client &amp; server) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>TLSSPORT (FTP client &amp; server) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>TLSRFCLEVEL (FTP client &amp; server) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>TLSTIMEOUT (FTP client &amp; server) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>TRACE (FTP client &amp; server) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>TRACECAPI (FTP client) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>TRAILINGBLANKS (FTP client &amp; server) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>TRUNCATE (FTP client &amp; server) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>UCOUNT (FTP client &amp; server) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>UCSHOSTCS (FTP client &amp; server) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>UCSSUB (FTP client &amp; server) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>UCSTRUNC (FTP client &amp; server) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>UMASK (FTP client &amp; server) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>UNICODEFILESYSTEMBOM (FTP client &amp; server) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>UNITNAME (FTP client &amp; server) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>UNIXFILETYPE (FTP client &amp; server) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>VCOUNT (FTP client &amp; server) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>VERIFYUSER (FTP server) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>VOLUME (FTP client &amp; server) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>WRAPRECORD (FTP client &amp; server) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>WRTAPEFASTIO (FTP client &amp; server) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>XDATE (FTP server) statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>FTP server environment variables</td>
<td>No Changes</td>
</tr>
<tr>
<td>SOCKS configuration statements in SOCKSCONFIGFILE</td>
<td>No Changes</td>
</tr>
<tr>
<td>DIRECT statement</td>
<td>No Changes</td>
</tr>
<tr>
<td>SOCKD statement</td>
<td>No Changes</td>
</tr>
</tbody>
</table>
9  VTAM: /* V2R2 CHANGE */
   Changed information:
   • 64-bit enablement of the TCP/IP stack.

10  JSE2: /* V2R2 ADD & CHANGE */

10.1  JES2 statement with keywords or parameters New to V2R2.

10.1.1  GRPDEF - /* V2R2 NEW */
   Added new GRPDEF initialization statement.
   Added new initialization statement parameter summary table for GRPDEF statement.

10.1.2  INPUTDEF - /* V2R2 NEW */
   Added new INPUTDEF initialization statement.
   Added new initialization statement parameter summary tables for INPUTDEF statement.

10.1.3  JECLDEF, JES3= - /* V2R2 NEW */
   Added new JECLDEF, JES3= initialization statement.

10.1.4  JECLDEF, JES2= - /* V2R2 NEW */
   Added new initialization statement parameter summary tables for JECLDEF statement.
   Added new JECLDEF, JES2= initialization statement.

10.1.5  JOBCLASS - /* V2R2 NEW */
   Added PROMO_RATE to JOBCLASS statement and parameter summary table.

10.1.6  JOBDEF - /* V2R2 NEW */
   Added SUP_EVENTLOG_SMF TO JOBDEF statement and parameter summary table.

10.1.7  MASDEF - /* V2R2 NEW */
   Added keyword CYCLEMGT to MASDEF.
   Added CYCLEMGT to MASDEF statement and parameter summary table.

10.1.8  OUTDEF - /* V2R2 NEW */
   Added LDEV_OPT and WS_OPT to OUTDEF statement and parameter summary table.

10.2  JES2 statements Changed in V2R2.

10.2.1  DEBUG - /* V2R2 CHANGE */
   Modified DEBUG to add TIMECLOCK=Yes|No.

10.2.2  DEStid(xxxxxxxx) - /* V2R2 CHANGE */
   Modified PRIMARY=Yes|No of DEStid.

10.2.3  Init(nnnn) - /* V2R2 CHANGE */
   With APAR OA44670, CLASS= parameter of $Init(nnnn) was modified.

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A Brief Look at What’s New in V2R2

10.2.4 INTRDR - /* V2R2 CHANGE */
Modified “Format Description for INTRDR” and “Parameter Description for INTRDR”.

10.2.5 JOBCLASS - /* V2R2 CHANGE */
Modified DSENQSRH and SYSSYM parameters for “Parameter description for JOBCLASS(class...|STC|TSU)”. 

10.2.6 MASDEF - /* V2R2 CHANGE */
Modified XCFGRPNM to add ENFSCOPE=SYSPLEX/JESPLEX.
Modified CYCLEMGT and DORMANCY of MASDEF.

10.2.7 OFF(n) JT - /* V2R2 CHANGE */
Modified RANGE value of OFF(n).JT.

10.2.8 OFFLOAD(n) - /* V2R2 CHANGE */
Modified VALIDATE default of OFFLOAD(n).

10.2.9 PROCLIB(xxxxxxxx) - /* V2R2 CHANGE */
Modified “PROCLIB(xxxxxxxx) - Dynamic PROCLIB definition”. 
Modified NAME=xxxxxxx of “Parameter description for PROCLIB”.

10.2.10 RECOPTS - /* V2R2 CHANGE */
Modified “Parameter Description for RECOPTS”. 

10.2.11 SPOOLDEF - /* V2R2 CHANGE */
Modified VOLUME of “Parameter description for SPOOLDEF”.

10.3 All JES2 statements with NO CHANGES (unless noted)
This is a complete list of JES2 statements. Details of the noted changes are found in the previous two sections.

APPL(jxxxxxxx) - No Changes
BADTRACK - No Changes
BUFDEF - No Changes
CKPTDEF - No Changes
CKPTSPACE - No Changes
COMPACT - No Changes
CONDEF - No Changes
CONNnect - No Changes
D INITINFO - No Changes
D LOADMOD(jxxxxxxx) - No Changes
D MODule(jxxxxxxx) - No Changes
D OPTsdef - No Changes
D SUBNET(jxxxxxxx) - No Changes
DEBUG - /* V2R2 CHANGE */
DESTDEF - No Changes

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A Brief Look at What’s New in V2R2

PUN(nn) - No Changes
PUNCHDEF - No Changes
R(nnnn) PR(m) - /* V2R2 REMOVED */
R(nnnnn) PU(m) - No Changes
R(nnnnnn) RD(m) - No Changes
RDR(nn) - No Changes
RECOPTS - /* V2R2 CHANGE */
REDIRect(vvvv) - No Changes
REP - No Changes
REQJOBID - No Changes
RMT(nnnnn) - No Changes
SMFDEF - No Changes
SOCKET(xxxxxxxx) - No Changes
SPOOL - No Changes
SPOOLDEF - /* V2R2 CHANGE */
SSI(nnn) - No Changes
SUBTDEF - No Changes
TPDEF - No Changes
TRACE(n) - No Changes
TRACEDEF - No Changes
VERify - No Changes
ZAPJOB - No Changes

11 JSE3: /* V2R2 ADD & CHANGE */

11.1 JES3 statement with keywords or parameters New to V2R2.

11.1.1 OPTIONS - /* V2R2 ADD */
Added new keywords and parameters to the OPTIONS statement.

11.1.2 SYSOUT - /* V2R2 ADD */
Added new keywords and parameters to the SYSOUT statement.

11.2 JES3 statements Changed in V2R2.

11.2.1 DYNALLOC - /* V2R2 CHANGE */
Modified the coding considerations of the DYNALLOC Summary table of the DYNALLOC statement.

Based on Generally Available Public Documentation and Presentations 67
11.3 All JES3 statements with NO CHANGES (unless noted)

This is a complete list of JES3 statements. Details of the noted changes are found in the previous two sections.

- ACCOUNT - No Changes
- BADTRACK - No Changes
- BUFFER - No Changes
- CIPARM - No Changes
- CLASS - No Changes
- COMMDEFN - No Changes
- COMMENT - No Changes
- COMPACT - No Changes
- CONSOLE - No Changes
- CONSTD - No Changes
- DEADLINE - No Changes
- DESTDEF - No Changes
- DEVICE - No Changes
- DEVICE - No Changes
- DEVICE - No Changes
- DYNALDSN - No Changes
- DYNALLOC - /* V2R2 CHANGE */
- ENDINISH - No Changes
- ENDJSAM - No Changes
- FORMAT - No Changes
- FSSDEF - No Changes
- GROUP - No Changes
- HWSNAME - No Changes
- INCLUDE - No Changes
- INTDEBUG - No Changes
- MAINPROC - No Changes
- MSGROUTE - No Changes
- NETSERV - No Changes
- NJECONS - No Changes
- NJERMT - No Changes
- OPTIONS - /* V2R2 ADD */
- OUTSERV - No Changes
- RESCTLBK - No Changes
- RESDSN - No Changes
- RJPLINE - No Changes
- RJPTERM - No Changes
- RJPWS - No Changes
- SELECT - No Changes
- SETACC - No Changes
- SETNAME - No Changes
A Brief Look at What’s New in V2R2

SETPARAM - No Changes
SETRES - No Changes
OCKET - No Changes
SPART - No Changes
STANDARDS - No Changes
SYSID - No Changes
SYOUT - /* V2R2 ADD */
TRACK - No Changes
12 IBM Health Checker for z/OS:

12.1 IBM Health Checks new in V2R2

12.1.1 HZSLPDRD function - /* V2R2 ADD */

This function is new in z/OS V2R2.
Purpose: REXX persistent data read function for the check. This is the interface to the assembler HZSPREAD macro.

12.1.2 HZSLPDWR function - /* V2R2 ADD */

This function is new in z/OS V2R2.
Purpose: REXX persistent data write function for the check. This is the interface to the assembler HZSPWRIT macro.

12.1.3 Component trace checks (IBMCTRACE) - /* V2R2 ADD */

New check description section added for z/OS V2R2

12.1.4 JES3 checks (IBMJES3) - /* V2R2 ADD */

New check description section added for z/OS V2R2

12.1.5 CATALOG_ATTRIBUTE_CHECK - /* V2R2 ADD */

Description:
Checks whether any catalogs in the environment are defined with inconsistent share options.

Reason for check:
Catalogs defined with SHAREOPTIONS(3,4) must reside on shared DASD and vice-versa.

Unshared Catalogs (share options (3 3)) that reside on shared DASD will become damaged if accessed by multiple systems. Conversely, a shared catalog (share options (3 4)) on non-shared DASD may see performance degradation due to unnecessary serialization activity.

12.1.6 CTRACE_DEFAULT_OR_MIN - /* V2R2 ADD */

Description:
Checks to see whether any component traces have been active with other than the default and the minimum for longer than the threshold.

Reason for check:
A component trace that is tracing more than the default can cause degraded system performance.
12.1.7 DMO_REFUCB - /* V2R2 ADD */
Description:
This check indicates whether the REFUCB function is disabled by the system.

Reason for check:
IBM recommends that the REFUCB function is enabled by the system to maintain VTOC integrity with shared DASD.

12.1.8 ICSF_KEY_EXPIRATION - /* V2R2 ADD */
Description:
The ICSF_KEY_EXPIRATION:
• Checks each record in each active KDS.
• Examines the key validity end date of the record.
• If the end date is set and the end date is equal to or less than today’s date plus the number of days specified (the DAYS parameter value), lists the label in the check output.
• Reports the active key data sets that were checked and the labels of the records that will expire within the specified number of days. The records are grouped by number of days until expiration.

The ICSF_KEY_EXPIRATION check is registered with these attributes:

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severity</td>
<td>Medium</td>
</tr>
<tr>
<td>State</td>
<td>Active</td>
</tr>
<tr>
<td>Interval</td>
<td>Run once a day on each system.</td>
</tr>
<tr>
<td>Date</td>
<td>20150101</td>
</tr>
<tr>
<td>Reason</td>
<td>Detect cryptographic keys that are about to expire.</td>
</tr>
<tr>
<td>Parameter</td>
<td>DAYS(mnn), where mnn is between 1 and 366, with a default of 60 if DAYS is not specified explicitly.</td>
</tr>
</tbody>
</table>

Reason for check:
ICSF_KEY_EXPIRATION allows the ICSF administrator to identify all records in the cryptographic key data sets which are going to expire within the specified interval.

12.1.9 IOS_DYNAMIC_ROUTING - /* V2R2 ADD */
Description:
In a switch environment, there are different methods to route I/O requests from the channel to the control unit and from the control unit to the channel. One such method is dynamic routing, where each I/O request can take a different route through the fabric, allowing for improved workload balancing. In order for the dynamic routing method to function properly, dynamic routing must be supported by the processor and the connected devices.

Based on Generally Available Public Documentation and Presentations
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Dynamic routing is a vendor-neutral name. Each vendor has its own name and implementation of dynamic routing.

The system runs this check whenever any of the following occur:
• IBM Health Checker for z/OS starts.
• A change in the dynamic routing support within the storage area network (SAN) is detected (for instance, the first device in a control unit is brought online).
• A user requests it.

Reason for check:
When dynamic routing is enabled within the SAN, the processor and controllers connected in the SAN must be able to support dynamic routing. This check identifies any inconsistencies in the dynamic routing support within the SAN.

12.1.10 JES3_DATASET_INTEGRITY - /* V2R2 ADD */

Description: This check determines if DSI or NODSI has been specified on the JES3 entries in the Program Properties Table (PPT). Specifying DSI enables Data Set Integrity for JES3 data sets allocated via DYNALLOC statements. The check generates an exception message when the current DSI setting does not match the specified setting.

Reason for check:
JES3 uses the DSI PPT specification from the SCHEDxx member of SYS1.PARMLIB. IBM recommends that you use DSI so there is an ENQUEUE outstanding on all its data sets (major name=SYSDSN, minor name=dsname) while JES3 is up and running.

JES3 does not hold any data set ENQUEUE when NODSI is specified which allows other jobs or address spaces to access JES3 data sets. Updating JES3 data sets without using DSI can cause great damage with the ultimate result being a cold start.

12.1.11 JES3_DOT_POOL_USAGE - /* V2R2 ADD */

Description: Checks the utilization of the JES3 DOT cellpool as a percentage of the pool’s total capacity. The check generates an exception message when current usage exceeds a specified threshold.

Reason for check:
Check usage of JES3 DOT pool which is a finite resource. JES3 abends or termination can result if the resource is exhausted.

12.1.12 JES3_JET_POOL_USAGE - /* V2R2 ADD */

Description: Checks the utilization of the JES3 JET cellpool as a percentage of the pool’s total capacity. The check generates an exception message when current usage exceeds a specified threshold.

Reason for check:
Check usage of JES3 JET pool which is a finite resource. JES3 abends or termination can
result if the resource is exhausted.

12.1.13  JES3_OST_POOL_USAGE - /* V2R2 ADD */

Description:
Checks the utilization of the JES3 OST cellpool as a percentage of the pool's total capacity. The check generates an exception message when current usage exceeds a specified threshold.

Reason for check:
Check usage of JES3 OST pool which is a finite resource. JES3 abends or termination can result if the resource is exhausted.

12.1.14  JES3_SEE_POOL_USAGE - /* V2R2 ADD */

Description:
Checks the utilization of the JES3 SEE cellpool as a percentage of the pool's total capacity. The check generates an exception message when current usage exceeds a specified threshold.

Reason for check:
Check usage of JES3 SEE pool which is a finite resource. JES3 abends or termination can result if the resource is exhausted.

12.1.15  RACF_ENCRYPTION_ALGORITHM - /* V2R2 ADD */

Description:
The RACF_ENCRYPTION_ALGORITHM check verifies that the KDFAES algorithm is used for password protection.

Reason for check:
RACF_ENCRYPTION_ALGORITHM allows RACF to verify that the KDFAES algorithm is used for password protection.

12.1.16  RACF_PASSWORD_CONTROLS - /* V2R2 ADD */

Description:
The RACF_PASSWORD_CONTROLS health check examines the client's RACF password control settings and raises an exception when recommended settings are not being used. Using the IBM supplied default Health Check parameter values, an exception would be raised if either:
- RACF is not enabled for mixed-case passwords.
- The invalid password revocation count is greater than three (3).
- The maximum days a password/passphrase is valid is greater than 90.
- The INITSTATS function is not in effect.

Reason for check:
RACF_PASSWORD_CONTROLS allows RACF to examine the client's RACF password control settings and raises an exception when recommended settings are not being used.
**12.1.17 RACF_RRSF_RESOURCES - /* V2R2 ADD */**

Description:
The RACF_RRSF_RESOURCES check examines the security characteristics of the RRSF INMSG/OUTMSG workspace data sets. This check is functionally the same as the RACF_SENSITIVE_RESOURCES check. As its own check, it can be disabled when the Health Checker address space is not authorized to use R_admin to retrieve RRSF INMSG/OUTMSG data set names.

For each of these, the check examines:

- That the data set exists on the expected volume. If the data set does not exist on the volume, a V (volume exception) is placed in the Status (S) column.
- That the resource has baseline protection. The RRSF INMSG/OUTMSG data sets can have a general access as high as NONE.

The check verifies the protection of each data set by extracting its profile and examining the UACC, WARNING status, and the ID(*) entry in the access list if one exists. In addition, if there is no profile protecting a data set, then if NOPROTECTALL or PROTECTALL(WARN) is in effect, the check flags the data set as an exception. The customer can optionally specify a user ID to the check which, if specified, is used to perform a RACF authorization check for the next higher access authority after the highest expected general access authority.

The APIs used by this Health Check require that the user ID assigned to the Health Checker for z/OS address space has the following access:

- IRR.RADMIN.EXTRACT.RRSF in the FACILITY class. READ authority is required to use R_admin to extract RRSF information.
- <subsystem>.TARGET.LIST in the OPERCMDS class. If this resource is protected, READ authority is required.

Reason for check:
RACF_RRSF_RESOURCES allows RACF to examines the security characteristics of the RRSF INMSG/OUTMSG workspace data sets.

**12.1.18 TSOE_OPERSEWAIT_SETTING - /* V2R2 ADD */**

Description:
This check will report whether the current setting of OPERSEWAIT matches the preferred installation setting.

Reason for check:
The default setting for OPERSEWAIT (in IKJTSOxx parmlib member) prior to z/OS V2R2 is ON which means the SEND command will wait for a user’s VTAM buffer to free up and the message to be sent, instead of failing the command when a buffer is unavailable. When the SEND command is holding a resource such as the SYSIKJBC exclusive enqueue on the broadcast data set, this can hold up any TSO/E LOGONs on the system. Beginning in z/OS V2R2 the default setting of OPERSEWAIT is OFF.
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12.1.19  USS_KERNEL_RESOURCES_THRESHOLD - /* V2R2 ADD */

Description:
This check monitors the current usage of z/OS UNIX System Services kernel resources.

Reason for check:
Running out of z/OS UNIX System Services kernel resources can cause system calls to start failing.

12.1.20  ZFS_CACHE_REMOVALS - /* V2R2 ADD */

Description:
Check if the system is running with user specified I0EFSPRM configuration options METABACK_CACHE_SIZE, CLIENT_CACHE_SIZE, and TRAN_CACHE_SIZE.

Reason for check:
Client cache and transaction cache are no longer supported for z/OS V2R2 and later. Also, since meta data backing cache is combined into meta data cache for z/OS V2R2 and later, IBM recommends to remove METABACK_CACHE_SIZE configuration option from I0EFSPRM after adding its size into META_CACHE_SIZE option.

The check issues an exception message if any of the METABACK_CACHE_SIZE, CLIENT_CACHE_SIZE, or TRAN_CACHE_SIZE zFS I0EFSPRM configuration options are specified.

12.1.21  ZOSMIGV2R2_Next_CS_SENDMAILCLIENT - /* V2R2 ADD */

Description:
Checks whether the sendmail client is in use on this system. Support for the sendmail client will be withdrawn in a future release of IBM z/OS Communications Server.

If this check determines that the sendmail client has been invoked on this system, it will continue to be reported for the duration of this IPL, or as long as this Migration Health Check is active. When this exception condition is detected, message ISTM018E is issued and is followed by message ISTM9001 which indicates the date and time that the sendmail client was last invoked, even if it has since been removed from the system or usage of it has stopped. Therefore, if this exception has been corrected (for example, sendmail client no longer being used on the system) you can use message ISTM9001 to determine whether a new use of the sendmail client has been detected, or whether the exception condition is related to the earlier detection of the sendmail client or use a compatible third-party solution.

Reason for check:
Because sendmail on z/OS will no longer be supported in a future release of the IBM z/OS Communications Server, IBM suggests that customers who currently use or plan to use sendmail for sending email, migrate to the CSSMTP daemon that was introduced in z/OS V1R11.

12.1.22  ZOSMIGV2R2_Next_CS_SENDMAILDAEMN - /* V2R2 ADD */

Description:
Checks whether the sendmail daemon is in use on this system. Support for the sendmail
A Brief Look at What’s New in V2R2

daemon will be withdrawn in a future release of IBM z/OS Communications Server.

If this check determines that the sendmail daemon is running on this system, it will continue to be reported for the duration of this IPL, or as long as this Migration Health Check is active. When this exception condition is detected, message ISTM028E is issued and is followed by message ISTM900I which indicates the date and time that the sendmail daemon was last detected, even if it has since been stopped. Therefore, if this exception has been corrected (for example, sendmail daemon no longer being used on the system) you can use message ISTM900I to determine whether a new use of the sendmail daemon has been detected, or whether the exception condition is related to the earlier detection of the sendmail daemon.

Reason for check:
Because the ability to run sendmail on z/OS will no longer be supported in future releases, IBM suggests that customers who currently use or plan to use sendmail on z/OS for sending email from z/OS, migrate to the CSSSMTP daemon that was introduced in z/OS V1R11. Customers who currently use or plan to use sendmail on z/OS for purposes other than sending email from z/OS, are encouraged to migrate those functions to a compatible third-party solution or to other operating system platforms that continue to support sendmail or equivalent function, such as Linux on z Systems.

12.1.23 ZOSMIGV2R2_Next_CS_SENDMAILMSA /* V2R2 ADD */

Description:
Checks whether sendmail is being used as a Mail Submission Agent (MSA) on this system (sendmail is listening on port 587). Support sendmail will be withdrawn in a future release of IBM z/OS Communications Server and the MSA function will no longer be available on z/OS.

If this check determines that sendmail is acting as an MSA on this system, it will continue to be reported for the duration of this IPL, or as long as this Migration Health Check is active. When this exception condition is detected, message ISTM022E is issued and is followed by message ISTM900I which indicates the date and time that the sendmail MSA was last detected, even if it has since been removed from the system or usage of it has stopped. Therefore, if this exception has been corrected (for example, sendmail MSA function no longer being used on the system) you can use message ISTM900I to determine whether a new use of the sendmail MSA function has been detected, or whether the exception condition is related to the earlier detection of the sendmail MSA function.

Reason for check:
Because sendmail will no longer be supported on z/OS in future releases and the MSA function will no longer be available on z/OS, IBM suggests that customers who currently use or plan to use sendmail as a mail submission agent (MSA), migrate that function to a compatible third-party solution or to other operating system platforms that continue to support MSA functions, such as Linux on z Systems.

12.1.24 ZOSMIGV2R2_Next_CS_SENDMAILMTA /* V2R2 ADD */

Description:
Checks whether sendmail is being used as a Mail Transfer Agent (MTA) on this system (sendmail is listening on port 25). Support for sendmail will be withdrawn in a future release of IBM z/OS Communications Server and the MTA function will no longer be supported.

Based on Generally Available Public Documentation and Presentations
If this check determines that sendmail is acting as an MTA on this system, it will continue to be reported for the duration of this IPL, or as long as this Migration Health Check is active. When this exception condition is detected, message ISTM020E is issued and is followed by message ISTM9001 which indicates the date and time that the sendmail MTA was last detected, even if it has since been removed from the system or usage of it has stopped. Therefore, if this exception has been corrected (for example, sendmail MTA function no longer being used on the system) you can use message ISTM9001 to determine whether a new use of the sendmail MTA function has been detected, or whether the exception condition is related to the earlier detection of the sendmail MTA function.

Reason for check:
Because sendmail will no longer be supported on z/OS in future releases and the MTA function will no longer be available on z/OS, IBM suggests that customers who currently use or plan to use sendmail as a mail transfer agent (MTA), migrate that function to a compatible third-party solution or to other operating system platforms that continue to support MTA functions, such as Linux on z Systems.

**12.1.25 ZOSMIGV2R2_Next_CS_SMTPDDAEMON - */ V2R2 ADD */**

Description:
Checks whether the SMTPD daemon is in use on this system. Support for the SMTPD daemon will be withdrawn in a future release of IBM z/OS Communications Server.

If this check determines that SMTPD is running on this system, it will continue to be reported for the duration of this IPL, or as long as this Migration Health Check is active. When this exception condition is detected, message ISTM024E is issued and is followed by message ISTM9001 which indicates the date and time that the SMTPD daemon was last detected, even if it has since been removed from the system or usage of it has stopped. Therefore, if this exception has been corrected (for example, SMTPD no longer being used on the system) you can use message ISTM9001 to determine whether a new use of the SMTPD daemon has been detected, or whether the exception condition is related to the earlier detection of the SMTPD daemon.

Reason for check:
Because SMTPD on z/OS will no longer be supported in future releases, IBM suggests that customers who currently use or plan to use SMTPD to send mail from the z/OS JES spool, migrate to the CSSSMTP daemon that was introduced in z/OS V1R11. Customers who currently use or plan to use SMTP for purposes other than sending mail from the z/OS JES spool, are encouraged to migrate those mail functions to other operating system platforms that continue to support full email functionality, such as Linux on z Systems.

**12.1.26 ZOSMIGV2R2_Next_CS_SMTPDMDTA - */ V2R2 ADD */**

Description:
Checks whether the SMTPD daemon is in use as a Mail Transfer Agent (MTA) on this system (SMTPD is listening on port 25). Support for the SMTPD daemon will be withdrawn in a future release of IBM z/OS Communications Server and MTA functionality will no longer be available on z/OS.

If this check determines that SMTPD is running as an MTA on this system (SMTPD listening on port 25), it will continue to be reported for the duration of this IPL, or as long as this Migration Health Check is active. When this exception condition is detected,
message ISTM026E is issued and is followed by message ISTM900I which indicates the date and time that the SMTPD daemon was last detected acting as an MTA, even if it has since been removed from the system or usage of it as an MTA has stopped. Therefore, if this exception has been corrected (for example, SMTPD no longer listening on port 25 on the system) you can use message ISTM900I to determine whether a new use of the SMTPD daemon's MTA function has been detected, or whether the exception condition is related to the earlier detection of the SMTPD daemon's MTA function.

Reason for check:
Because SMTPD will no longer be supported on z/OS in future releases, and its MTA function will not be available on z/OS, IBM suggests that customers who are currently using or plan to use SMTPD as an MTA, migrate that function to other operating system platforms that continue to provide MTA support, such as Linux on z Systems.
12.2 IBM Health Checks with changes in V2R2

12.2.1 HZSPREAD macro — Read Check Persistent Data - /* V2R2 CHANGE */

This macro has been updated in z/OS V2R2.

SYNTAX

```
main diagram
```

BYTESPROVIDED=bytesprovided

An optional output parameter that indicates the total number of bytes that were returned by this call. This number is derived by the system from the values of the StartByte, DataLen, and BytesAvail parameters as described under the BytesAvail parameter.

To code: Specify the RS-type address, or address in register (2)- (12), of a fullword field.

12.2.2 ASM_PLPA_COMMON_USAGE - /* V2R2 CHANGE */

This Health Check has been updated in z/OS V2R2.

Description:

Looks at the slot usage of the PLPA and Common page data sets. The check generates an exception if the combined usage of both data sets meets or exceeds the warning threshold.

Note: If the PLPA and Common page data sets are not defined in the system, informational message ILRH0112I is issued to indicate this condition and the check is stopped from running.

Reason for check:

You should prevent full conditions on the PLPA and Common page data sets.
A Brief Look at What's New in V2R

12.2.3 CNZ_Task_Table - /* V2R2 CHANGE */

This Health Check has been updated in z/OS V2R2.

Description:
Reports the status of important tasks that run in the CONSOLE address space.

Reason for check:
Using the report generated from this check, installations can determine if there are (real or potential) problems with specific functions of the Consoles component.

Messages:
This check will issue Header message CNZTTH01R and may issue one, or more, exception messages. If Console Services appears to be running sluggishly, IBM recommends that CNZ TASK Table output, including any exception messages, be provided for analysis.

- CNZTTH02E
- CNZTTH03E
- CNZTTH04E
- CNZTTH05E
- CNZTTH06E
- CNZTTH07E
- CNZTTH08E

12.2.4 RACF_SENSITIVE_RESOURCES - /* V2R2 CHANGE */

This Health Check has been updated in z/OS V2R2.

Description: The RACF_SENSITIVE_RESOURCES check examines the security characteristics of several system-critical data sets and general resources other than data sets. The output of this check is a list of exceptions flagged.

For each of these, the check examines:
- For system-critical data sets, that the data set exists on the expected volume. If the data set does not exist on the volume, a V (volume exception) is placed in the Status (S) column.
- That the resource has baseline protection. For example, APF data sets can have a general access as high as READ, while the data sets which comprise the RACF data base must have a general access of NONE.

The check verifies the protection of each resource by extracting its profile and examining the UACC, WARNING status, and the ID(*) entry in the access list if one exists. In addition, if there is no profile protecting a data set, then if NOPROTECTALL or PROTECTALL(WARN) is in effect, the check flags the data set as an exception. The customer can optionally specify a user ID to the check which, if specified, is used to perform a RACF authorization check for the next higher access authority after the highest expected general access authority.

The resources above are all "discrete resources", that is, the resource name is a predictable value. There are other "sensitive" resource names which contain a variable value, often in the form of a data set name or module name. This support enhances the RACF_SENSITIVE_RESOURCES check to examine these resources for a proper baseline protection. These are shown in "Additional "Generic" General Resources for RACF_SENSITIVE_RESOURCES."
A Brief Look at What's New in V2R2

Table 59. "Generic" General Resources for RACF_SENSITIVE_RESOURCES

<table>
<thead>
<tr>
<th>Class</th>
<th>Resource</th>
<th>Maximum Public Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACILITY</td>
<td>CSVAPF.data_set_name (excluding CSVAPF.MVS.SETPROG.FORMAT.DYNAMIC)</td>
<td>READ</td>
</tr>
<tr>
<td>FACILITY</td>
<td>CSVDYLP.ADV.module_name</td>
<td>READ</td>
</tr>
<tr>
<td>FACILITY</td>
<td>CSVDYLP.DELETE.module_name</td>
<td>READ</td>
</tr>
<tr>
<td>FACILITY</td>
<td>CSVDYNEX.exit_name.function.modname (excluding CSVDYNEX.LIST,</td>
<td>READ</td>
</tr>
<tr>
<td></td>
<td>CSVDYNEX.exit_name.RECOVER, and CSVDYNEX.exit_name.CALL)</td>
<td></td>
</tr>
<tr>
<td>FACILITY</td>
<td>CSVDYNL.linestname.function (excluding CSVDYNL.linestname.DEFINE and</td>
<td>READ</td>
</tr>
<tr>
<td></td>
<td>CSVDYNL.linestname.UNDEFINE)</td>
<td></td>
</tr>
<tr>
<td>FACILITY</td>
<td>BPX.FILEATTR.SHARELIB</td>
<td>NONE</td>
</tr>
<tr>
<td>FACILITY</td>
<td>BPX.JOBNAME</td>
<td>NONE</td>
</tr>
<tr>
<td>FACILITY</td>
<td>BPX.POE</td>
<td>NONE</td>
</tr>
<tr>
<td>FACILITY</td>
<td>BPX.SMF</td>
<td>NONE</td>
</tr>
<tr>
<td>FACILITY</td>
<td>BPX.STOR.SWAP</td>
<td>NONE</td>
</tr>
<tr>
<td>FACILITY</td>
<td>BPX.UNLIMITED.OUTPUT</td>
<td>NONE</td>
</tr>
<tr>
<td>UNIXPRIV</td>
<td>SUPERUSER.IPC.RMID</td>
<td>NONE</td>
</tr>
<tr>
<td>UNIXPRIV</td>
<td>SUPERUSER.FILESYS.PFSCTL</td>
<td>NONE</td>
</tr>
<tr>
<td>UNIXPRIV</td>
<td>SUPERUSER.FILESYS.QUESCE</td>
<td>NONE</td>
</tr>
<tr>
<td>UNIXPRIV</td>
<td>SUPERUSER.FILESYS.VREGISTER</td>
<td>NONE</td>
</tr>
<tr>
<td>UNIXPRIV</td>
<td>SUPERUSER.SET.PRIORITY</td>
<td>NONE</td>
</tr>
<tr>
<td>SURROGAT</td>
<td>BPX.SRV.userid</td>
<td>NONE</td>
</tr>
</tbody>
</table>

The RACF_SENSITIVE_RESOURCE health check will report on each resource name that it finds, flagging exceptions in a manner consistent with the existing exception flagging. No new messages are planned.

The RACF_SENSITIVE_RESOURCE check will not validate any portion of the "variable" portion of the resource name.

The RACF_SENSITIVE_RESOURCE check will evaluate only the names which begin with the specific high level qualifier. Profiles which contain generic qualifications or RACF variables in the high level qualifier will not be flagged.

Because of the change in the resources that are checked in the RACF_SENSITIVE_RESOURCES check, the date associated with the check is changed to '20120106' (6 January 2012). Reason for check:

The system is critically exposed if these resources are not properly protected.

12.2.5 RSM_HVSHARE /* V2R2 CHANGE */

This Health Check has been updated in z/OS V2R2.

Description:

Based on Generally Available Public Documentation and Presentations
Checks the configured size and current allocation of the high virtual shared area (HVSHARE in IEASYSxx). This check will issue a warning when the allocation of high virtual storage exceeds a predetermined threshold, and/or when the size of the high virtual shared area is less than the default minimum.

Note: The IBMRSM,RSM_HVSHARE check will be disabled if the current setting of HVSHARE in IEASYSxx is 0.

Reason for check:
The HVSHARE setting controls the size of the shared area above 2GB, directly affecting how much virtual storage may be shared by jobs on the system. Setting this value too low may cause jobs relying on shared high virtual storage to fail. The default suggested value for this area is 510T.

12.2.6 ZOSMIGREC_SUP_TIMER_INUSE - /* V2R2 CHANGE */

This Health Check has been updated in z/OS V2R2.

Description:
Verify that Server Time Protocol (STP) is in use, when appropriate.

Reason for check:
Server Time Protocol is recommended because the Sysplex Timer (9037-002) has been withdrawn from marketing and STP is planned to be its replacement.

Messages:
This check issues the following exception messages:
• IEATH005E
• IEATH006E
• IEATH009E

12.2.7 USS_KERNEL_PVTSTG_THRESHOLD - /* V2R2 CHANGE */

This Health Check has been updated in z/OS V2R2.

Description:
This check monitors the current usage of private below-the-bar storage of the UNIX System Services kernel against a suggested threshold.

Reason for check:
Exhausting the kernel private below-the-bar storage will cause unpredictable errors because resources can no longer be obtained, which could potentially bring down z/OS UNIX.

z/OS releases the check applies to:
z/OS V2R1 and later.

User override of IBM values:
Use the keywords in the following statement to override check values on either a POLICY statement in the HZSPRMxx parmlib member or on a MODIFY command. This statement can be copied and modified to override the check defaults:
Based on Generally Available Public Documentation and Presentations
12.2.8  XCF_CF_STR_PREFLIST - /* V2R2 CHANGE */

This Health Check has been updated in z/OS V2R2.

Description:
Check that each structure is allocated according to the preference list in the CFRM active policy. For z/OS V2R2 and higher releases, also check that each duplexed structure is allocated according to the CF site preference.

Reason for check:
It is recommended that structure placement is in accordance with the preference list, and for z/OS V2R2 and higher releases that duplexed structure placement is in accordance with the CF site preference.

Messages:
This check issues the following exception messages:
• IXCH0201I
• IXCH0202I
• IXCH0203I
• IXCH0204I
• IXCH0206E
• IXCH0209I
• IXCH0226I
• IXCH0227I

12.2.9  ZOSMIGV2R1_ZFS_VERIFY_CACHESIZE - /* V2R2 CHANGE */

This Health Check has been updated in z/OS V2R2.

Description:
Determines if the system is running with the default settings for IOEFSPRM configuration options meta_cache_size, metaback_cache_size and user_cache_size.

For user cache size, check if the current size is less than the z/OS V2R1 default user cache size. For metadata cache size and metadata backing cache size, check if the sum of the two caches is less than the sum of the z/OS V2R1 defaults.

Reason for check:
Running with a very small cache size could affect zFS performance. This check issues an exception message if either or both of the conditions are true:
• The sum of the current metadata cache size and metadata backing cache size is less than the sum of the V2R1 default metadata cache size and metadata backing cache size.
• The current user cache size is less than the z/OS V2R1 default user cache size.

Parameters accepted:
Specifying one or more keywords of meta_cache, metaback_cache and user_cache are acceptable. Each keyword defines a decimal number to be compared with the current cache size. The decimal number is limited to a length of 10 characters and a maximum
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Based on Generally Available Public Documentation and Presentations

value of 2147483647 (2G-1). A K, M or G can be appended to the number to mean kilobytes, megabytes or gigabytes, respectively.

- The valid range for meta_cache is 1 M through 1024 M.
- The valid range for metaback_cache is 1 M through 2097144 K
- The valid range for user_cache is 10 M to 64 G.

12.2.10 ZFS_VERIFY_CACHESIZE - /* V2R2 CHANGE */

This Health Check has been updated in z/OS V2R2.

Description:
Checks whether the system is running with the default settings for IOEFSPRM configuration options meta_cache, metaback_cache and user_cache.

For user-defined user cache size, check if the current size is less than the default user cache size. For either or both user-defined metadata cache size and metadata backing cache size, check if the sum of the two metadata caches is less than the default metadata cache size.

Reason for check:
Running with a very small cache size could affect zFS performance. This check issues an exception message if either or both of the conditions are true:
- For user-defined user cache size, check if the current size is less than the default user cache size. For either or both user-defined metadata cache size and metadata backing cache size, check if the sum of the two metadata caches is less than the default metadata cache size.

z/OS releases the check applies to:
z/OS V2R1 and later.

User override of IBM values:
The following example shows the default keywords for the check, which you can override on either a POLICY statement in the HZSPRMxx parmlib member or on a MODIFY command. This statement can be copied and modified to override the check defaults:

```
CHECK(NAME=ZFS_VERIFY_CACHESIZE, SEVERITY=LOW, INTERVAL=ONE_TIME, PARK="META_CACHE=size1, USER_CACHE=size2", DATE="2013/08/20", REASON='Your reason for making the update.')
```

Note: The cache sizes (size1 and size2) are the internally-calculated defaults based on the current configuration option settings and the amount of real storage during zFS initialization.

For z/OS V2R2 and up, the previous parameter METABACK_CACHE is no longer supported.

Debug support:
No

Verbose support:
No

Parameters accepted:
Specifying one or more keywords of meta_cache and user_cache is acceptable. Each keyword defines a decimal number to be compared with the current cache size. The decimal number is limited to a length of 10 characters and a maximum value of 2147483647 (2G-1). A K, M or G can be appended to the number to mean kilobytes, megabytes or gigabytes, respectively.

- The valid range for meta_cache is 1 M through 64 G
- The valid range for user_cache is 10 M to 64 G.

12.3 IBM Health Checks removed from V2R2

The following Health Checks were deleted in z/OS V2R2:

12.3.1 ZOSMIGREC_ZFS_RM_MULTIFS - /* V2R2 REMOVED */
12.3.2 ZOSMIGV1R13_ZFS_FILESYS - /* V2R2 REMOVED */
13 Parmlib Members:

13.1 GRSMONxx - /* V2R2 ADD */

A new parmlib member, GRSMONxx, was added.

**GRSMONxx (global resource serialization monitor)**

GRSMONxx consists of two lists of filters for the GRS Monitor. When the GRS Monitor is active, meaning that the GRS MONITOR parameter is YES, the system uses these filters to determine whether to monitor ENQ (ENQ, DEQ, ISGENQ, or RESERVE), GQSCAN, or ISGQUERY REQINFO=QSCAN requests. The following filter lists are included:

- **INCLUDE list**
  - Specifies criteria to monitor a request.

- **EXCLUDE list**
  - Specifies criteria to prevent the monitoring of a request.

The following items summarize filter processing for a given request:

- The lists are searched in the order of the INCLUDE list and then the EXCLUDE list. If an entry is included on both lists, it is processed according to the EXCLUDE list.
- For a filter to match, all of the sub-keywords (except INCLUDE and EXCLUDE) must match. In effect, a filter is a logical 'AND' of all of the sub-keywords.
- If the request matches any filter on the INCLUDE list, then the request is further checked against the EXCLUDE list.
  - If the request matches a filter on the EXCLUDE list, the request is not monitored.
  - If the request does not match any filter on the EXCLUDE list, and monitoring is active, then the request is monitored.
  - If there is no EXCLUDE list, and monitoring is active, then the request is monitored.
- If a GRSMONxx parmlib member is applied but it has no INCLUDE list or monitoring is not active, then the request is not monitored.
- If no GRSMONxx parmlib member is applied and monitoring is active, the GRS monitor remains compatible with OA42221 on lower release levels. In this circumstance, global, generic queue scans are monitored. You can detect this condition by issuing display GRS[,]system and observing GRSMON: NONE in response message ISG343I.

For more information about using the GRS monitor, see z/OS MVS Planning: Global Resource Serialization.

Use the SETGRS command to change the GRSMONxx parmlib member while the system is active. For more information about the SETGRS command, see z/OS MVS System Commands.
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For more information, see z/OS MVS Initialization and Tuning Reference - V2R2 -SA23-1380-05

13.2 SMFLIMxx (specifying region and memlimit values) - /* V2R2 ADD */

Use the SMFLIMxx parmlib member to specify region and memlimit values that are similar to the output fields in the IEFUSI SMF exit. The SMFLIM specification becomes active when the SMF address space is initialized, regardless of whether SMF records are being collected and recorded.

SMFLIMxx consists of a set of REGION statements. Each REGION statement has one or more filter keywords and corresponding memory attributes to be set.

Parameter in IEASYSxx (or supplied by the operator)

Syntax rules for SMFLIMxx

The SMFLIMxx member consists of an ordered set of statements, each consisting of the required REGION keyword followed by a set of filters and a set of attributes to be applied. The filters are matched to existing specifics of the job step, and the attributes alter the execution environment (for example, memory available) of the job step, when applied. Each filter (for example, JOBNAME) can specify up to eight filter values; the filter values can include wildcard characters * and ?. The * character is defined to match 0 or more characters, while the ? character matches exactly one character. The statements are ordered; subsequent statements with matching filters that appear later in the parmlib member or in a subsequent parmlib member override the values of statements that appeared earlier.

The SYSNAME filter suppresses the REGION rule from being built into the in-storage copy. As such, it will not appear in DISPLAY SMFLIM output. LIMIT rules that do not match due to the SYSNAME filter are counted as statements for the statement number that appears in DISPLAY SMFLIM output and in the IEF043I message that might appear in the job log of a given job.

Syntax format of SMFLIMxx

REGION {filters } {attributes }
The filter keywords are as follows:
JOBACCT(aaaa,{bbb,ccc,})
JOBCLASS(aaaa,{bbb,ccc,})
JOBNAME(aaaa,{bbb,ccc,})
PGMNAME(aaaa,{bbb,ccc,})
STEPACCT(aaaa,{bbb,ccc,})
STEPNAME(aaaa,{bbb,ccc,})
SUBSYS(aaaa,{bbb,ccc,})
SYSNAME(aaaa,{bbb,ccc,})
USER(aaaa,{bbb,ccc,})

The attributes are as follows:
REGIONABOVE ({NOLIMIT})
{nmmmG }
{nmmmM }
A Brief Look at What’s New in V2R2

Based on Generally Available Public Documentation and Presentations
14 Parmlib Keywords:

14.1 Changing System Symbols - /* V2R2 CHANGE */

“Changing system symbols” was updated in support of enhancements to using system symbols. Subpool 245 (ESQA) can be as large as 57088 bytes. (was 32512 bytes)

| When you update symbols, the entire system symbol table is rebuilt, and the old system symbol table remains in storage; this storage is never freed, for system integrity reasons. As a result, you can avoid wasting common storage if you do a group of updates together instead of doing individual updates. The system symbol table is in subpool 245 (ESQA) and can be as large as 57088 bytes. The size depends upon the number of symbols that you have defined. In general, the number of bytes in the table can be calculated as the sum of:
| • Number of Symbols multiplied by 16
| • Length of every symbol name (including the leading ampersand and trailing period)
| • Length of the value for every symbol

14.2 Writing your own master scheduler JCL - /* V2R2 CHANGE */

APAR OA46703 provided an update for “Writing your own master scheduler JCL”.

| The master scheduler JCL runs in the master scheduler’s address space. The TIO 7 size is 12 K, which means that approximately 600 unit allocations can be done in the master scheduler’s address space. Therefore, be careful not to exceed this limit when allocating data sets in the master scheduler JCL. Data sets that reside on multiple volumes or that have a data class with a dynamic volume count greater than 1 use more TIO 7 space than single volume data sets, reducing the number of data sets that can be allocated. For more information about TIO 7 space calculations, see the description of the TIO 7 SIZE parameter in the ALLOCxx parmlib member.

14.3 ALLOCxx - /* V2R2 ADD & CHANGE */

14.3.1 ALLOCxx – Syntax Change

Minor corrections were made to the syntax example for ALLOCxx.

Syntax format of ALLOCxx

Based on Generally Available Public Documentation and Presentations
14.4 AXRxx - /* V2R2 ADD */

The AXRxx parmlib member has a new parameter, TIMEINT, which specifies the default time limit on REXX execs and overrides the default of 30 seconds.

Syntax format of AXRxx

```plaintext
TIMEINT(nn)

Specifies the default time limit on REXX execs, overriding the current default of 30 seconds.

Value range: A value in seconds from 0-21474536, the current maximum TIMEINT value that is supported on the AXREXX macro.

Default: When 0 is specified, the default is no time limit. If the TIMEINT option is omitted, the default remains 30 seconds.
```

14.5 AXRxx - /* V2R2 CHANGE */

Clarification was added to the ACRUSER statement of the AXRxx parmlib member and the RACF resource that is used.

For information about AXRUSER and the RACF resource that is used, see the topic on planning to use SYSTEM REXX and the section on security in z/OS MVS Programming: Authorized Assembler Services Guide. The resource is a SURROGAT class resource, and the required access is READ.

14.6 BLSCECT - /* V2R2 ADD */

The BLSCECT parmlib member now supports system symbols.

14.7 BLSCUSER - /* V2R2 ADD & CHANGE */

14.7.1 BLSCUSER - /* V2R2 ADD */

The BLSCUSER parmlib member now supports system symbols.
14.7.2  BLSCUSER - /* V2R2 CHANGE */

For the BLSCUSER parmlib member, the syntax of the ENVIRONMENT keyword of the DATA statement is ENVIRONMENT(program [,arch]).

Syntax format of BLSCUSER
The ENVIRONMENT option for the following statements was clarified to indicate the correct selections:

- CTRACE statement
- DATA statement
- DIALOG statement
- EXIT statement
- IMBED statement
- PANDEF statement
- SYMBOL statement
- SYSDDIR dsname statement

### 14.8 BPXPRMxx - /* V2R2 ADD */

#### 14.8.1 KERNELSTACKS statement - /* V2R2 ADD */

**Syntax format of BPXPRMxx**

As part of the support for increased thread limit in the kernel, the KERNELSTACKS statement was added.

#### 14.8.2 SHRLIBRGNSIZE statement - /* V2R2 ADD */

With APAR OA44841, clarification was added to the value range for SHRLIBRGNSIZE. The specified value (if within the range) is rounded up to a megabyte boundary. With APAR OA44841, a new usage note explained that the value for SHRLIBRGNSIZE must be evenly divisible by 1048576.
**14.9 FILESYSTEM statement - /* V2R2 ADD */**

With APAR OA46056, two new optional parameters were added to the FILESYSTEM statement, RNODEWAIT(t) and WAITABEND.

**14.10 CEAPRMxx - /* V2R2 ADD */**

Two new operands, MAXSESSIONS and MAXSESSPERUSER, were added to the TSOASMG statement in the CEAPRMxx parmlib member.

**14.11 CONFIGxx - /* V2R2 CHANGE */**

Prior to APAR OA44791, the PFID statement of the CONFIGxx parmlib member had to be a value 00-x’FF’. Now it can be 00-x’FFFF’.

**14.12 CONSOLxx - /* V2R2 ADD */**

The CONSOLE statement in the CONSOLxx parmlib member has a new keyword, TIMEOUT. It causes the system to automatically issue a LOGOFF command due to console input inactivity.

**14.13 COUPLEExx - /* V2R2 ADD */**

The COUPLExx parmlib member has a new keyword, CFRMTAKEOVERCF. It requests operator prompting to control the usage of coupling facilities that are owned by a different sysplex.

**14.14 DEVSUPxx - /* V2R2 ADD */**

The SSR value was added for the ENABLE and DISABLE parameters. It enables or disables the secondary space reduction support of the Device Manager.

<table>
<thead>
<tr>
<th>SSR</th>
<th>Enables or disables the secondary space reduction support of the Device Manager.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISABLE (SSR)</td>
<td>Disables the secondary space reduction support.</td>
</tr>
<tr>
<td>ENABLE (SSR)</td>
<td>Enables the secondary space reduction support.</td>
</tr>
<tr>
<td>Default: ENABLE (SSR)</td>
<td></td>
</tr>
</tbody>
</table>

Based on Generally Available Public Documentation and Presentations
A Brief Look at What’s New in V2R2

14.15 DIAGxx - /* V2R2 ADD & CHANGE */

14.15.1 FREEMAINEDFRAMES keyword - /* V2R2 ADD */
For the DIAGxx parmlib member, a new FREEMAINEDFRAMES keyword has been added.

Syntax format of DIAGxx

```plaintext
  [FREEMAINEDFRAMES(NO)]
  [FREEMAINEDFRAMES:YES] [EXCLUDEJOBLIST([Job1,Job2...]])
```

14.15.2 IeaSlipConfirm trap - /* V2R2 CHANGE */
Starting in V2R2, the IeaSlipConfirm trap is obsolete. It can only be used for V2R1 systems.

```plaintext
IeaSlipConfirm

Checks to see if JOBNAME or ASID is specified when MODE=HOME is specified on the SLIP command. If both JOBNAME and ASID parameters were omitted, SLIP issues message IEE088D asking if you would like to continue. This trap is used only for V2R1 systems and is obsolete in V2R2.

In V2R2, SLIP always issues message IEE088D when MODE=HOME is specified without JOBNAME and ASID.
```

14.16 GRSRNLxx - /* V2R2 CHANGE */
The GENERIC parameter was clarified and a description of the RNAME behavior was added.

14.17 IEAFIXxx - /* V2R2 CHANGE */
The Volume keyword was added to the IEAFIXxx member. Previous documentation did not include a description of that keyword.

```plaintext
VOLUME

Allows uncataloged data sets.
```

14.18 IEALPAxx - /* V2R2 CHANGE */
The Volume keyword was added to the IEALPAxx member. Previous documentations did not include a description of that keyword.

```plaintext
VOLUME

Allows uncataloged data sets.
```

14.19 IEAOPTxx - /* V2R2 CHANGE */

14.19.1 BLWLINTHD statement - /* V2R2 CHANGE */
The value range was changed from 5-64435 seconds to 1-65535 seconds for the BLWLINTHD statement.
A Brief Look at What’s New in V2R2

14.19.2 MCCFXTPR=xxx parameter - /* V2R2 CHANGE */

The MCCFXTPR=xxx parameter was updated as part of performance enhancements for LPARs with large amounts of real storage.

| Default value: On small systems (less than 320 GB), the target is 80 percent. |
| On large systems (more than 320 GB), the target is total storage minus 64 GB. |

14.20 IEASYMU2 - /* V2R2 ADD */

A return code, xxxxxx30, was added to the IEASYMU2 return codes table.

<table>
<thead>
<tr>
<th>xxxxxx30</th>
<th>Underscore conflict</th>
</tr>
</thead>
<tbody>
<tr>
<td>The symbol violated one of the following rules:</td>
<td></td>
</tr>
<tr>
<td>• An existing symbol cannot be a substring of a new symbol if the next character of the new symbol is an underscore.</td>
<td></td>
</tr>
<tr>
<td>• A new symbol cannot be a substring of an existing symbol if the next character of the existing symbol is an underscore.</td>
<td></td>
</tr>
</tbody>
</table>

14.21 IEASYMxx - /* V2R2 CHANGE */

Support for longer system symbol names and longer symbol substitution values were added to the SYMDEF keyword of the IEASYMxx parmlib member.

SYMDEF(&symbol='sub-text')

Defines a static system symbol and its substitution text. Your installation can define at least 800 static system symbols in addition to the system symbols that MVS provides, unless you are using symbols with substitution length longer than the symbol names as described below. You can define at least 700 static system symbols that are of the maximum length (16 characters) and the maximum substitution length (44 characters). You can optionally specify an ending period on &symbol.

You can use SYMD as a short name for SYMDEF.

These symbol names are supported:

- Symbol names with length up to 16 with substitution text length limited to NameLength+1. The name can contain an underscore (_) in any character position other than the first one.
- Symbol names with length up to 16 with a last character of an underscore (_) with substitution text length up to 44.
A Brief Look at What’s New in V2R2

14.22IEASYSxx - /* V2R2 ADD & CHANGE */

14.22.1 LOGSTREAM=lsname - /* V2R2 ADD */
A new option, LOGSTREAM=lsname, was added to the LOGREC parameter of the IEASYSxx parmlib member.

14.22.2 LFAREA parameter - /* V2R2 CHANGE */
In the IEASYSxx member, the INCLUDE1MAFC option on the LFAREA parameter now allows you to specify YES or NO, and the default is now INCLUDE1MAFC(YES).

14.23IECIOSxx - /* V2R2 ADD & CHANGE*/

14.23.1 Added support for I/O timing for TAPE with MSGONLY=YES - /* V2R2 ADD */
For the IECIOSxx parmlib member, APAR OA43674 added support for I/O timing for TAPE with MSGONLY=YES. The MIH statement of the IECIOSxx parmlib member supports a new keyword, IOTTAPE.

14.23.2 Clarifications were added for PATH_SCOPE=CU - /* V2R2 CHANGE */
For the IECIOSxx parmlib member, various clarifications were added for PATH_SCOPE=CU.

14.24IGDSMSxx - /* V2R2 ADD & CHANGE */

14.24.1 USER_ACSVAR keyword - /* V2R2 ADD */
IGDSMSxx has a new optional keyword, USER_ACSVAR, which sets values for use in ACS routines.

14.24.2 VOLSELMSG parameter - /* V2R2 CHANGE */
The default for the VOLSELMSG parameter of the IGDSMSxx parmlib member should have been OFF,0. The default for SUPPRESS_SMSMSG should have been NO,IGD17054I,IGD17227I,IGD17395I.
A Brief Look at What’s New in V2R2

14.25 JGGCATxx - /* V2R2 ADD */

14.25.1 GDGSCRATCH statement - /* V2R2 ADD */

A new statement, GDGSCRATCH, was added. It specifies the default for DEFINE GDG when neither the SCRATCH nor the NOSCRATCH parameter is specified.

14.25.2 TASKMAX parameter - /* V2R2 ADD */

Clarifications were added to the TASKMAX parameter about the maximum value and the default. A note was added to the TASKMAX and TASKTABLESIZE parameters that TASKTABLESIZE must be specified first if both TASKMASK and TASKTABLESIZE are specified.

14.26 IKJTSOxx - /* V2R2 ADD & CHANGE */

14.26.1 IKJTSOxx syntax - /* V2R2 ADD */

The syntax format for IKJTSOxx was added; it was missing in the previous release.

14.26.2 SEND OPERSEWAIT default - /* V2R2 CHANGE */

The SEND OPERSEWAIT default of the IKJTSOxx parmlib member was changed from ON to OFF.

14.26.3 PASSWORDPREPROMPT keyword - /* V2R2 CHANGE */

With APAR OA44855, a new keyword of PASSWORDPREPROMPT was added to the LOGON parameter of the IKJTSOxx parmlib member.

14.27 IPCSPRxx - /* V2R2 ADD */

The IPCSPRxx parmlib member now support system symbols.

14.28 IVTPRM00 - /* V2R2 ADD & CHANGE */

14.28.1 HVCOMM MAX statement - /* V2R2 ADD */

A new statement, HVCOMM MAX, was added to the IVTPRM00 parmlib member in support of 64-bit enablement of the TCP/IP stack, strategic DLCs, and CSM.
14.28.2 FIXED MAX default value - /* V2R2 CHANGE */

The default value for FIXED MAX was changed from 100 M to 200 M as a result of added support for 64-bit addressing.

14.29 IXGCNFxx - /* V2R2 ADD */

A new statement, MANAGE, was added to the IXGCNFxx parmlib member in support of logger resource management policies.

14.30 LOADxx - /* V2R2 CHANGE */

APAR OA43366 updated the PROCVIEW statement of the LOADxx parmlib member.

14.31 PROGxx - /* V2R2 ADD & CHANGE */

14.31.1 DELETEFORCE and SERVICEMASK parameters - /* V2R2 ADD */

New DELETEFORCE and SERVICEMASK parameters were added in “Syntax format of the EXIT statements”.

14.31.2 LINKLIST statement - /* V2R2 CHANGE */

APAR OA46703 added a caution to the LINKLIST statement of the PROGxx parmlib member.

14.31.3 Program properties table (PPT) - /* V2R2 CHANGE */

The program properties table in the SCHEDxx parmlib member had some updates for APAR OA44829.

14.31.4 FPGINIT and IQPINIT - /* V2R2 CHANGE */

The bypass security protection attribute was removed for both FPGINIT and IQPINIT.

14.31.5 IOSVROUT - /* V2R2 CHANGE */

The no honor IEFUSI region settings value for IOSVROUT was added.

14.32 SNFPRMxx - /* V2R2 ADD */

A new RECSIGN statement to enable digital signatures for SMF records was added in SMFPRMxx (system management facilities (SMF) parameters).
15 Static System Symbols: /* V2R2 CHANGE */

Though there were no changes to Static System Symbols themselves, support for longer system symbol names and longer symbol substitution values was added to the SYMDEF keyword of the IEASYMxx parmlib member.
Contact us for additional information:

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