

# Configuring, Customizing, and Modifying Your z/VM System

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# Topics

- *The Basics*
- *Using the Stand Alone Program Loader*
- *Defining and Modifying the System Configuration*
  - ▶ Configuration File Statements and CP Command
- *Logos*
- *More Configuration File Statements*

# Configuring z/VM: The Basics

## CP Configuration – System Startup (static)

### *SALIPL Utility*

- ▶ Writes Stand Alone Program Loader to IPL volume

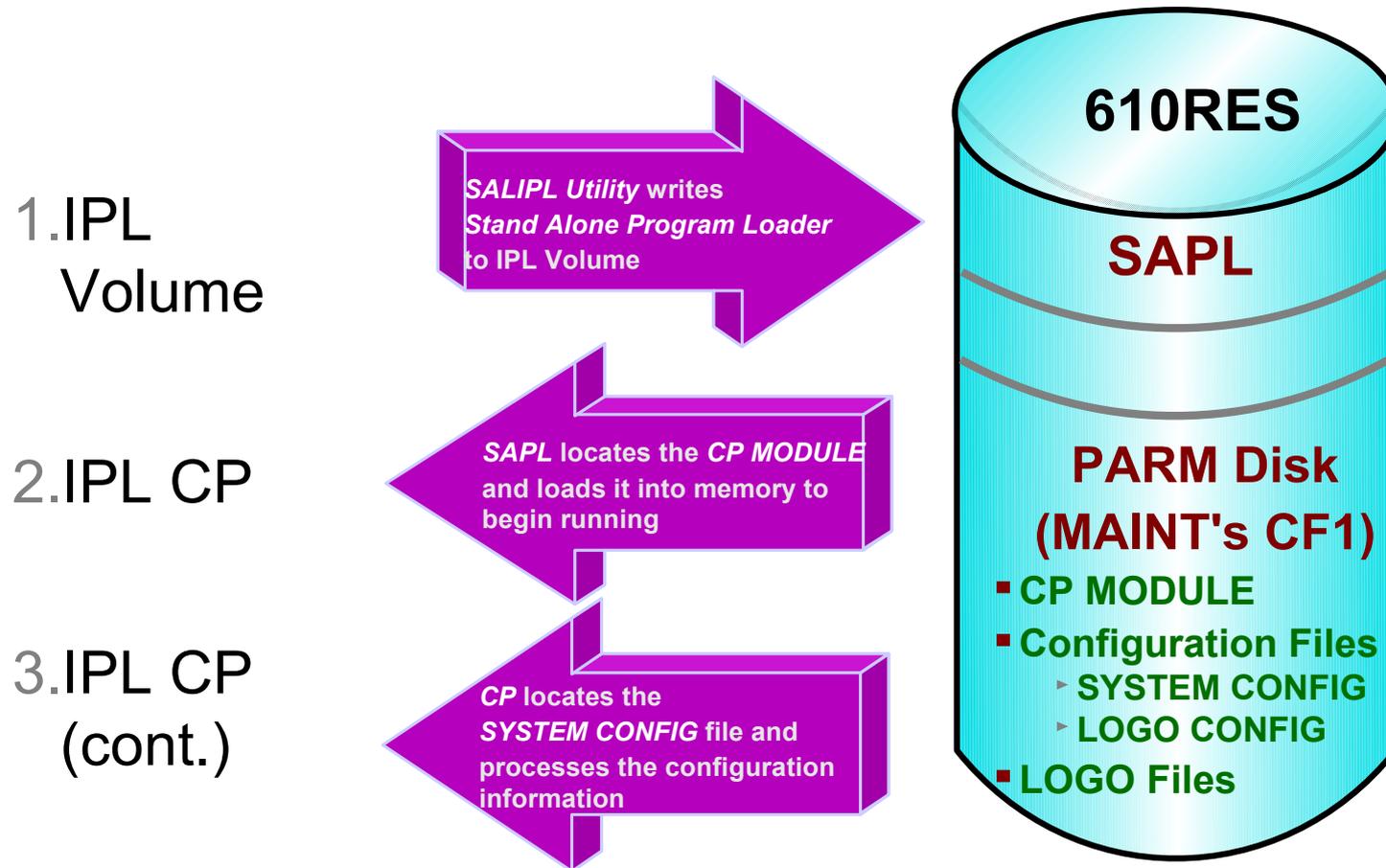
### *Stand Alone Program Loader*

- ▶ Loads selected version of z/VM Control Program
- ▶ Determines which configuration disks and files are used

### *System Configuration File*

- ▶ Defines attributes of z/VM system at IPL time

# CP Configuration – System Startup (static)...



## CP Configuration – Running System (dynamic)

### *Change system-wide definitions and defaults*

- ▶ timezone
- ▶ system operator
- ▶ log messages
- ▶ security features
- ▶ paging and spooling areas
- ▶ command privilege classes
- ▶ virtual networks
- ▶ CP Exits and extensions to CP such as user Diagnose codes

### *Update system's real device definitions*

- ▶ Add devices
- ▶ Change or clear existing devices

# Dynamic I/O Configuration

## *Modify the hardware I/O definitions (IOCDs) without an outage*

- ▶ Add, change, delete
  - CHPID
  - CNTLUNIT
  - IODEVICE
- ▶ Manage I/O definitions for all LPARs on a processor
- ▶ Commands based on hardware requirements

## *Modify the software view of I/O definitions*

- ▶ Reset I/O control blocks
  - Devices that do not support Sense commands
  - Clear control blocks of devices with errors

# The PARM Disk

*A CMS-formatted disk that CP uses during initialization*

- ▶ Default PARM disks:
  - MAINT CF1 (Primary)
  - MAINT CF2 (Test)
  - MAINT CF3 (Backup)

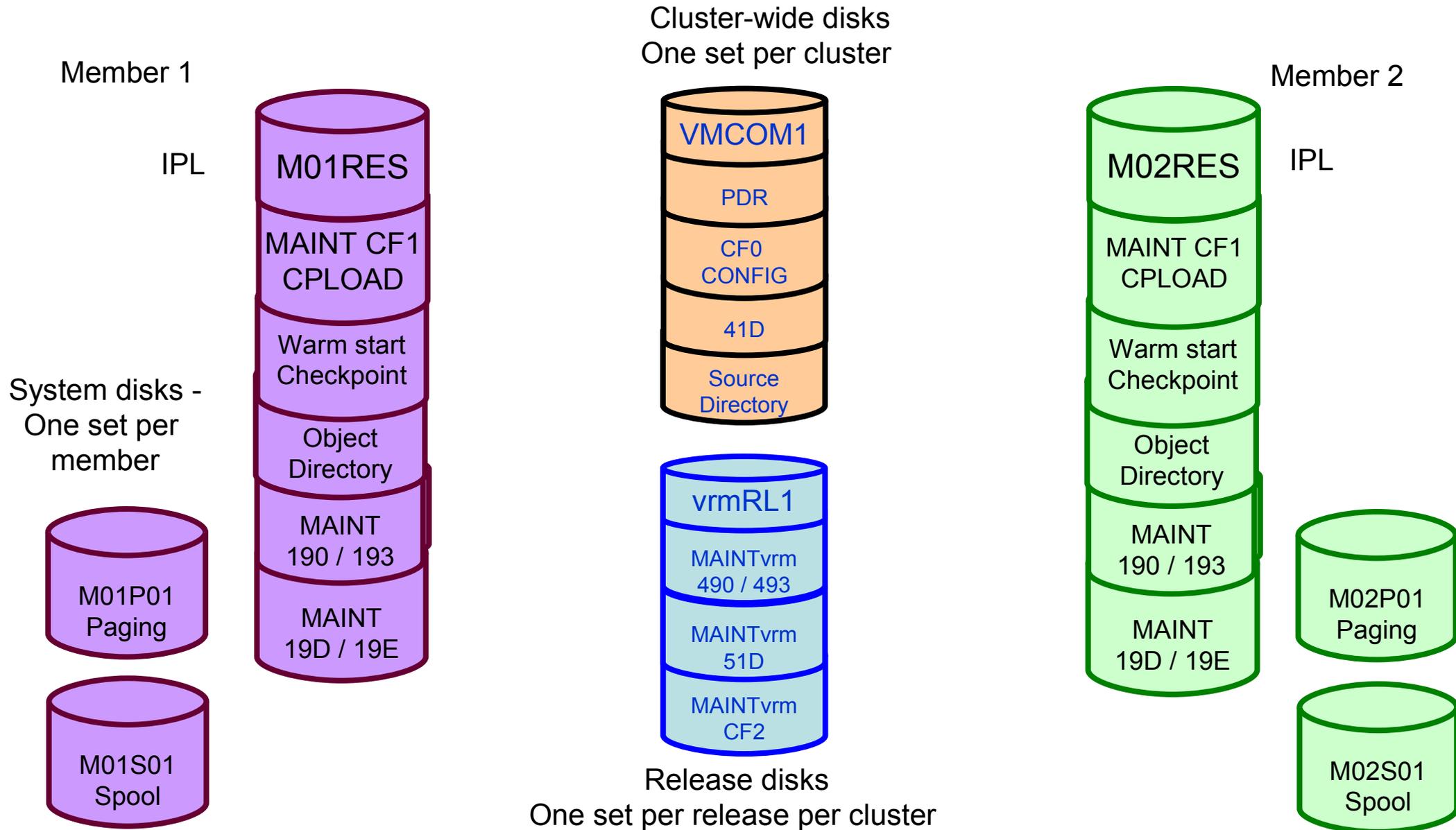
*Usually on the IPL volume*

- ▶ Multiple PARM extents may be defined on the IPL and other volumes
- ▶ IPLPARMS may be used to locate the PARM disk by
  - Address of device containing PARM disk
  - Cylinder offset
  - Number of PARM extent

*Contains*

- ▶ System and logo configuration files
- ▶ CP module to be IPLed

# Statement of Direction – z/VM Single System Image New PARM and IPL Disk Layout



## PARM Disk Use after IPL

- *PARM disks may be accessed by CP after IPL*
  - ▶ CP\_ACCESS statement in system configuration file
  - ▶ CPACCESS command
  - ▶ CPRELEASE command releases disk accessed by CP
  
- *Files may be cached by CP to reduce I/O to parm disk*
  - ▶ CPCACHE command for specific files
  - ▶ List in file CPCACHE FILES
    - Read into storage when parm disk is CPACCESSEd
    - Sample:

*	CONFIG
*	LOGMS*
*	LOGO
INPTAREA	DEFAULT

# Changing Files on a CPACCESSed Disk

*To change files on a CPACCESSed disk:*

1. QUERY CPDISKS
  - Determine what mode CP is accessing the disk
2. CPRELEASE fm
  - Release the disk from CP
3. LINK/ACCESS the disk in R/W mode
4. Update files as required
  - Logo Files
  - Configuration Files
5. RELEASE/DETACH disk
6. LINK to disk in R/O mode
7. CPACCESS owner vdev fm mode
  - CP will read updated files

# Using the Stand Alone Program Loader



## SALIPL Utility

*Writes SAPL to cylinder zero of IPL volume (default)*

- ▶ Starting on block 5 of FBA volume

*Saves default IPL information and parameters*

*Allows SAPL defaults to be altered*

- ▶ CP load module name
- ▶ IPL device
- ▶ PARM disk location

*Up to 4 lines of operator instructions*

## SALIPL Utility...

*Default SALIPL command (issued during z/VM installation):*

```
salipl 123 (extent 1 origin 2000
```

*A more interesting example:*

```
salipl 123 (extent 1 module cpnew comments ? iplparms fn=syszvm
```

```
HCPSAL6803I ENTER UP TO 4 LINES OF COMMENTS
```

```
Use the CPNEW module to IPL the newest release of z/VM
```

```
HCPSAL6798I VOLUME ID IS 540RES
```

```
HCPSAL6797I MINIDISK VOLID AT OFFSET 5 IS IPLDSK
```

```
Ready;
```

# SAPL Panel

- *May be displayed using LOADPARM option*
  - *Allows all saved SAPL settings to be changed*
- ▶ **IPL 123 LOADPARM 0009**

```
STAND ALONE PROGRAM LOADER: z/VM VERSION 5 RELEASE 4.0

DEVICE NUMBER:  0123      MINIDISK OFFSET:  00000000  EXTENT:  1
MODULE NAME:    CPNEW     LOAD ORIGIN:      2000

-----IPL PARAMETERS-----
fn=syszvm

-----COMMENTS-----
Use the CPNEW module to IPL the newest release of z/VM

-----
9= FILELIST  10= LOAD  11= TOGGLE EXTENT/OFFSET
```

# SAPL Filelist Example

```

STAND ALONE PROGRAM LOADER: z/VM VERSION 5 RELEASE 4.0
FILENAME FILETYPE FORMAT LRECL   RECORDS   BLOCKS   DATE       TIME
SYSZVM   CONFIG   F         80        206        5 2009/02/22 11:32:03
SYSTEM   CONFIG   F         80        206        5 2009/02/21 23:37:01
CPNEW    SMALLMAP V         39        2286       23 2009/02/21 23:19:10
CPNEW    MODULE   V       65535        222       3533 2009/02/21 23:19:10
CPLOAD   MODULE   V       65535        222       3533 2009/02/21 23:18:52
CPLOAD   SMALLMAP V         39        2286       23 2009/02/21 23:18:45
LASTING  GLOBALV  V         22          4          1 2009/02/21 23:18:30
SYSNOCSE CONFIG   F         80        207        5 2007/02/04 12:47:29
INPTAREA SAMPLE   F         78          6          1 2005/06/17 16:28:42
LOGO     CONFIG   F         80         35          1 2005/06/17 16:28:33
ONMESS   SHARE    F         78          1          1 2004/02/06 15:15:06
ONMESS   LOGO     F         78          1          1 2004/02/06 15:15:06
ONMESS   SAMPLE   F         78          1          1 2004/02/04 14:11:54
JAF1RDEV CONFIG   F         80         76          2 2003/06/10 14:29:23
JAF1CSE  CONFIG   F         80         36          1 2002/12/05 11:11:39
MINIMUM  LOGO     F         78         16          1 2001/08/17 15:26:04
PRINTSEP LOGO     F         49         16          1 2001/08/17 15:25:49
3=QUIT  4=SORT (TYPE)  5=SORT (DATE)  6=SORT (NAME)  7=BACK  8=FORWARD  11=SELECT

```

## IPLing z/VM from a SCSI Disk

### *SCSI disks emulated as 9336 Model 20 FBA DASD*

- ▶ Larger emulated sizes supported (up to 381 GB)

### *All disks containing IPL information must be on same WWPN and LUN:*

IPL (FCP) Device	(where SAPL is)
SYSRES disk	(where CP module is)
Parm Disk	(where system configuration file is)

### *SCSI-specific parameters specified on Hardware Management Console*

## IPLing z/VM from a SCSI Disk...

### *"PDVOL= addr" IPL parameter is required*

- ▶ Defines emulated FBA address of SCSI IPL Device to CP
- ▶ Should **NOT** match address of any real devices
  - Error message; real device is ignored by CP
- ▶ May be specified on SALIPL command or SAPL panel

`salipl 123 (extent 1 module cpnew comments ? iplparms fn=syszvm pdvol=555`

```

STAND ALONE PROGRAM LOADER: z/VM VERSION 5 RELEASE 4.0

DEVICE NUMBER:  0123      MINIDISK OFFSET:  00000000      EXTENT:  1
MODULE NAME:    CPNEW     LOAD ORIGIN:      2000

-----IPL PARAMETERS-----
fn=syszvm pdvol=555

-----COMMENTS-----
  
```

# Defining and Modifying the System Configuration

# The System Configuration File

*CMS file which resides on the PARM disk*

- ▶ Default name/type is SYSTEM CONFIG

*Defines the following at IPL time:*

- ▶ System attributes and options
- ▶ Device definitions when:
  - Configuration of device(s) is other than the default for that device type
  - A device does not respond to sense ID commands
  - Handling of specific devices at IPL time is other than default

# The System Configuration File...

## *Defines system-wide options*

- ▶ which devices to bring online at IPL time
- ▶ which timezone to select
- ▶ whether to autolog special user IDs
- ▶ whether to automatically do a specified type of IPL
- ▶ system owned disk volumes
  - CP
  - User
- ▶ etc...

## CPSYNTAX Utility

*Checks syntax of system configuration file statements*

- ▶ Includes imbedded files if on the same disk as base file

*Does not check configuration logic or integrity*

*Consists of 2 files*

- ▶ CPSYNTAX EXEC
- ▶ CPSYNCHK MODULE

*Recommend ALWAYS running after changing configuration file*

- ▶ Remove errors that may keep your system from completing IPL

# Dynamically Changing Your CP Configuration

- *CP commands change characteristics defined by configuration file statements*
  - ▶ DEFINE/QUERY
    - CPOWNERD
    - (spooling device)
    - TIMEZONE
  
  - ▶ SET/QUERY
    - LAN
    - PROMPT
    - RDEVICE
    - EDEVICE
    - TIMEZONE
    - RETRIEVE
    - VSWITCH
  
  - ▶ START/DRAIN DASD

# Configuration Statements and CP Commands

# RDEVICE Statement

*Tell CP what kind of devices are at specific addresses*

- ▶ Unit Record
  - Printers, Card punches/readers
- ▶ Communication controllers and line adapters
- ▶ DASD
- ▶ Graphic display devices
- ▶ Special devices
- ▶ Tape units
- ▶ Unsupported devices

*Use:*

- ▶ To define configuration of specific devices
  - Alter defaults
- ▶ When devices can't be sensed

# SET RDEVICE Command

*Modify an active system's definition of specific device(s)*

- ▶ Add devices to configuration
- ▶ Remove devices from configuration
- ▶ Modify definition of specific device(s)
- ▶ Change the type of device at a specific address

*Devices must be varied offline before they can be changed*

# Changing a CP Command Definition

## *MODIFY COMMAND / CMD Statement*

- ▶ Change privilege class(es) of a command
- ▶ Change entry point that processes a command
- ▶ Suppress responses for ATTACH, DETACH, GIVE commands

```
MODIFY Command LOCATE IBMclass C Privclasses G
```

```
QUERY CPCMDS LOCATE
```

```
Command: LOCATE
```

```
Status:      Enabled      Not Silent
IBM Class:   C             PrivClasses: G
CMDBK Address: 00E9C6B0   Entry Point: HCPCFDLO
```

```
Command: -----
```

```
Status:      Enabled      Not Silent
IBM Class:   C             PrivClasses: C
CMDBK Address: 01200780   Entry Point: HCPCFDLO
```

```
Command: LOCATE
```

```
Status:      Enabled      Not Silent
IBM Class:   E             PrivClasses: E
CMDBK Address: 00E9C720   Entry Point: HCPCFDLO
```

## *MODIFY COMMAND / CMD Command*

- ▶ Change same attributes of CP commands on active system

# Privilege Classes

*A user's privilege class(es) are defined in the directory*

```
USER OPERATOR U 32M 2047M ABCDEG
USER U1          U 32M 32M   G
```

*User is given directory privilege classes at LOGON*

```
QUERY PRIVCLASS OPERATOR
```

```
Privilege classes for user OPERATOR
```

```
Currently: ABCDEG
```

```
Directory: ABCDEG
```

```
The privilege classes are not locked against changes.
```

```
QUERY PRIVCLASS U1
```

```
Privilege classes for user U1
```

```
Currently: G
```

```
Directory: G
```

```
The privilege classes are not locked against changes.
```

## Privilege Classes...

*SET PRIVCLASS* command can be used to change a logged on user's privilege classes

- ▶ Self (Any privilege class)
  - Can set to privilege classes allowed in directory
- ▶ Others (Privilege class C)
  - Can set any privilege classes

```
SET PRIVCLASS OPERATOR -E
Privilege classes for user OPERATOR
  Currently: ABCDG
  Directory: ABCDEG
The privilege classes are not locked against changes.
```

```
SET PRIVCLASS U1 +CD
Privilege classes for user U1
  Currently: CDG
  Directory: G
The privilege classes are not locked against changes.
```

*Requires SET\_PRIVCLASS to be enabled on FEATURES statement in system configuration file*

# Modifying Commands and Privilege Classes - Example

## *Modify SHUTDOWN and FORCE commands to limit usage*

- Requires privilege class A

```
MODIFY COMMAND SHUTDOWN PRIVCLASS Z
```

```
MODIFY COMMAND FORCE PRIVCLASS Z
```

```
Q CPCMDS SHUTDOWN
```

```
Command: SHUTDOWN
```

```
Status:           Enabled      Not Silent
IBM Class:        A             PrivClasses: Z
CMDBK Address:    00E9DFA0      Entry Point: HCPSHUTD
```

```
Command: -----
```

```
Status:           Enabled      Not Silent
IBM Class:        A             PrivClasses: A
CMDBK Address:    01169A88      Entry Point: HCPSHUTD
```

```
Q CPCMDS FORCE
```

```
Command: FORCE
```

```
Status:           Enabled      Not Silent
IBM Class:        A             PrivClasses: Z
CMDBK Address:    00E9BF40      Entry Point: HCPUSOFL
```

```
Command: -----
```

```
Status:           Enabled      Not Silent
IBM Class:        A             PrivClasses: A
CMDBK Address:    01169768      Entry Point: HCPUSOFL
```

## Modifying Commands and Privilege Classes - Example...

*Allow only user OPERZ to issue SHUTDOWN and FORCE when needed*

*From user OPERZ:*

```
QUERY PRIVCLASS
Privilege classes for user OPERZ
    Currently: AG
    Directory: AG
The privilege classes are not locked against changes.

FORCE U1
Unknown CP/CMS command
```

*From user with Class C privilege:*

```
SET PRIVCLASS OPERZ +Z
Privilege classes for user OPERZ
    Currently: AGZ
    Directory: AG
The privilege classes are not locked against changes.
```

*From user OPERZ:*

```
FORCE U1
USER DSC LOGOFF AS U1          USERS = 2          FORCED BY OPERZ
```

# Defining Disk Areas for CP System Use

## *CP\_OWNeD statement*

- ▶ Define disk volumes that contain system areas
  - Page, Spool, TDISK, DRCT
- ▶ Up to 255 slots may be defined
- ▶ RESERVED slots should be defined
  - Allow volumes to be added dynamically
  - **HINT:** Gaps in specified slot numbers result in RESERVED slots
- ▶ Default CP\_OWNeD statements for z/VM 5.4.0
  - (similar in z/VM 6.1.0)

```

CP_Owned   Slot   1   540RES
CP_Owned   Slot   2   540SPL
CP_Owned   Slot   3   540PAG
CP_Owned   Slot   4   540W01
CP_Owned   Slot   5   540W02
CP_Owned   Slot   6   540W03
CP_Owned   Slot   7   RESERVED
CP_Owned   Slot   8   RESERVED
           .
           .
CP_Owned   Slot  20   RESERVED
  
```

## *DEFINE CPOWNeD command*

- ▶ Define new entries or change existing entries in CP-Owned list

# Defining Disk Areas for CP System Use...

## *CP\_OWNED "Best Practice" for new system configurations*

Recommended to accommodate future growth (z/VM clusters)

Future default (z/VM install) configurations will be similar to the following:

```

/*****/
/*                                     SYSRES  VOLUME          */
/*****/
CP_Owned  Slot  1  xxxRES

/*****/
/*                                     * Reserved for IBM Use */
/*****/
CP_Owned  Slot  5  xxvol1

/*****/
/*                                     DUMP & SPOOL VOLUMES */
/* Dump and spool volumes begin with slot 10 and are          */
/* assigned in ascending order                                  */
/*****/
CP_Owned  Slot  10 xxxS01

/*****/
/*                                     PAGE & TDISK VOLUMES */
/* To avoid interference with spool volumes and to           */
/* automatically have all unused slots defined as             */
/* "Reserved", begin with slot 255 and assign them in        */
/* descending order.                                          */
/*****/
CP_Owned  Slot  255 xxxP01

```

## Stop and Start use of CP-Owned Space

### *DRAIN/START (Disk) statements and commands*

- ▶ Stop and start the following on CP-owned disk volumes:
  - writing pages
  - allowing links to minidisks
  - allocating spool space
  - allocating TDisk space

### *Specify by*

- ▶ rdev
- ▶ rdev range
- ▶ valid

*Existing data and allocations remain on DRAINED volumes*

## DRAIN/START (Disk) Statements...Examples

### Example #1 - Have CP:

1. Stop all operations on all DASD between X'0700' and X'07FF'
2. Allow users to link to minidisks on DASD X'0700'
3. Ensure that CP can write pages to the CP-owned paging pack (SYSPG1)

<b>Drain</b>	<b>DASD</b>	<b>0700-07ff</b>	<b>All</b>
<b>Start</b>	<b>DASD</b>	<b>0700</b>	<b>Links</b>
<b>Start</b>	<b>Valid</b>	<b>SYSPG1</b>	<b>Page</b>

### Example #2 - Have CP start allowing:

1. All new operations on all DASD between X'0700' and X'07FF'
2. SPOOLing on DASD at real device number X'0800'
3. Paging on volume SYSPG1

<b>Start</b>	<b>DASD</b>	<b>0700-07ff</b>	<b>All</b>
<b>Start</b>	<b>DASD</b>	<b>0800</b>	<b>Spool</b>
<b>Start</b>	<b>Valid</b>	<b>SYSPG1</b>	<b>Page</b>

# Dynamically Adding a CP Owned Volume

## 1. Define reserved slots in CP\_Owned list in config file

```
CP_Owned Slot 1 JF1RES
CP_Owned Slot 2 SPOOL0
CP_Owned Slot 3 MDSP0
CP_Owned Slot 4 RESERVED
CP_Owned Slot 5 RESERVED
```

## 2. Query CP\_Owned list for available slots

query cpowned

Slot	Vol-ID	Rdev	ype	Status
1	JF1RES	0A40	Own	Online and attached
2	SPOOL0	0780	Own	Online and attached
3	MDSP0	0880	Own	Online and attached
4	-----	----	----	Reserved
5	-----	----	----	Reserved

## Dynamically Adding a CP Owned Volume..

### 3. Replace a reserved entry in the config file with the new volume

#### - For next IPL

```
CP_Owned Slot 1 JF1RES
CP_Owned Slot 2 SPOOL0
CP_Owned Slot 3 MDSP0
CP_Owned Slot 4 NEWVOL
CP_Owned Slot 5 RESERVED
```

### 4. CPFMTXA to format and allocate new volume

### 5. Define new volume to active system

#### - (in same slot as config file)

```
define cpowned slot 4 newvol
```

### 6. Attach new volume to system

```
att 980 system
```

```
query cpowned
```

Slot	Vol-ID	Rdev	Type	Status
1	JF1RES	0A40	Own	Online and attached
2	SPOOL0	0780	Own	Online and attached
3	MDSP0	0880	Own	Online and attached
4	NEWVOL	0980	Own	Online and attached
5	-----	----	-----	Reserved

# Dynamically Deleting a CP Owned Volume...

## 1. Stop all CP activity on the volume

drain vold newvol all

## 2. Determine when volume is no longer being used

q alloc NEWVOL

```
DASD 0980 NEWVOL 3380 CKD-CKD (UNITS IN CYLINDERS)
  TDISK TOTA L=000500 INUSE=000000 AVAIL=000000, DR
  PAGE TOTAL =000500 INUSE=000000 AVAIL=000000, DR
  SPOOL TOTAL=000500 INUSE=000000 AVAIL=000005, DR
  DRCT TOTAL =000025 INUSE=000000 AVAIL=000000
```

## 3. Detach volume from system and vary offline

det 980 system  
vary offline 980

Slot	Vol-ID	Rdev	Type	Status
1	JF1RES	0A40	Own	Online and attached
2	SPOOL0	0780	Own	Online and attached
3	MDSP0	0880	Own	Online and attached
4	NEWVOL	----	Own	Offline
5	-----	----	----	Reserved

# Removing Spool File Data from a DRAINed Volume

1. *Issue DRAIN DASD command to stop new allocations*
2. *Use SPFPACK from VM Download Library to locate spool files which have information on the volume*
  - <http://www.vm.ibm.com/download/>
  - <http://www.vm.ibm.com/download/packages/>
3. *Dump those files to tape and purge from system*
  - SPXTAPE DUMP with PURGE option
4. *Reload files from tape; space will be allocated on non-DRAINed volumes*
  - SPXTAPE LOAD

# Defining and Modifying Virtual Switches

## *DEFINE VSWITCH statement*

- ▶ Creates a CP system owned switch (z/VM Virtual Switch) at IPL

## *MODIFY VSWITCH statement*

- ▶ Modify some characteristics of a previously defined virtual switch

## *DEFINE VSWITCH command*

- ▶ Add a virtual switch to a running system

## *SET VSWITCH command*

- ▶ Modify some characteristics of an existing virtual switch

## *Example:*

```
DEFINE VSWITCH JFSW1 RDEV FD00
```

```
q vswitch details
```

```
VSWITCH SYSTEM JFSW1      Type: VSWITCH Connected: 0      Maxconn: INFINITE
  PERSISTENT RESTRICTED   NONROUTER                      Accounting: OFF
  VLAN Unaware
  MAC address: 02-00-00-00-00-01
  State: Defined
  IPTimeout: 5            QueueStorage: 8
  RDEV: FD00.P00         Controller: NONE
```

# Defining and Changing Timezones

## *TimeZone\_Definition statements*

- ▶ Tell CP how to set the local time relative to the hardware clock

## *DEFINE TIMEZONE command*

- ▶ Define new timezone or change existing timezone definition

## *TimeZone\_Boundary statements*

- ▶ Tell CP which previously defined TimeZone should be active at IPL.
  - Must be at least one boundary with a date/time prior to the IPL time or CP will default to the hardware clock date/time
  - Does not cause the time zone of a running system to be changed

## *SET TIMEZONE command*

- ▶ Change a running system's active time zone definition and offset

# Defining and Changing Timezones...Example

## *Configuration File statements*

```
TimeZone_Definition EST West 05.00.00  
TimeZone_Definition EDT West 04.00.00
```

```
Timezone_boundary on 2010-03-14 at 02:00:00 to EDT  
Timezone_boundary on 2010-11-07 at 02:00:00 to EST  
Timezone_boundary on 2011-03-13 at 02:00:00 to EDT  
Timezone_boundary on 2011-11-06 at 02:00:00 to EST
```

## *Changing timezone on an active system*

```
q time  
TIME IS 17:00:50 EST FRIDAY 2011-02-11  
CONNECT= 00:00:23 VIRTCPU= 000:00.01 TOTCPU= 000:00.06
```

```
set timezone edt  
HCPTZN6759I The time zone has changed to EDT.
```

```
q time  
TIME IS 18:01:10 EDT FRIDAY 2011-02-11  
CONNECT= 00:00:42 VIRTCPU= 000:00.01 TOTCPU= 000:00.06
```

# Logos

# Logo Configuration Files

## *LOGO CONFIG (default name/type)*

- ▶ Specify information about logos for terminals and printers
- ▶ Specify text for status area of terminals

## *Logos may be selected based on criteria*

- ▶ Screen size
- ▶ Device address
- ▶ The ID of the virtual machine creating a logical device.
- ▶ The ID of the VTAM service machine (VSM) managing a terminal session

## *You can alter:*

- ▶ The format of the input area for user IDs, passwords, and commands
- ▶ The contents of the online message at the top of the screen
- ▶ The contents of the status areas, such as CP READ, VM READ, and so forth.

# Logo Configuration File: Example

```

/*****/
/*          Logo Configuration File          */
/*****/
/*-----*
*   Status Area Definition   *
*-----*/
Status VM_Read      'VM READ '      ,
      CP_Read       'CP READ '      ,
      Running       'RUNNING '      ,
      More          'MORE... '      ,
      Hold          'HOLDING '      ,
      Not_Accepted  'NOT ACCEPTED'
/*-----*
*   Online Message Definition *
*-----*/
      Online_Message      ONMESS LOGO

/*-----*
*   Logo Definifions        *
*-----*/
      Choose_Logo Default      LOCAL   LOGO
      Choose_Logo Local        LOCAL   LOGO
      Choose_Logo Ldev         LDEV    LOGO
      Choose_Logo VSM_VMid     VTAM    SNA  LOGO
      Choose_Logo Print_Separator PRINTSEP LOGO
      Choose_Logo Minimum      DEFAULT LOGO
      Input_Area   INPTAREA     SAMPLE

```

# Logo Files

## *Logo files can be updated dynamically*

- ▶ Located on a CPACCESSed PARM disk
- ▶ CPACCESS the disk to cause CP to re-read the files
- ▶ Changes activated with CP commands
  - CP REFRESH LOGOINFO filename CONFIG
  - CP REFRESH LOGOVSM user-id

## *DRAWLOGO tool supplied to help in drawing LOGO files*

- ▶ Located on MAINT 2C2 disk
  - DRAWLOGO SAMPEXEC
  - X\$DRWL\$X SAMPXEDI

# Changing Logo Information

```

THIS IS JAF1's z/VM TEST LOGO SYSTEM

                / VV          VVV MM          MM
               / VV          VVV MMM         MMM
              / VV          VVV MMMM        MMMM
             / VV          VVV MM MM MM MM
            / VV          VVV MM  MMM  MM
           / VVVVV        MM   M   MM
          / VVV          MM          MM
         / V            MM          MM
        /

ZZZZZZ
 ZZ
  ZZ
   ZZ
    ZZ
     ZZZZZZ /

                built on IBM Virtualization Technology

Fill in your USERID and PASSWORD and press ENTER
(Your password will not appear when you type it)
USERID   ==>
PASSWORD ==> _
COMMAND  ==>

RUNNING   JOHN1
  
```

# Update Logo Configuration File

```
cprelease a
16:25:28 CPRELEASE request for disk A scheduled.
16:25:28 HCPZAC6730I CPRELEASE request for disk A completed.

link maint 1000 1000 mr u

acc 1000 z

x logo config z
    Status  VM_Read      'VM READ ' ,
           CP_Read      'CP READ ' ,
           Running      'GLIDING ' ,

           Online_Message  ONMESS SHARE

rel z (det
16:29:17 DASD 1000 DETACHED

cpaccess maint 1000 a
16:29:23 CPACCESS request for mode A scheduled.

16:29:23 HCPZAC6732I CPACCESS request for MAINT's 1000 in mode A complete

cp refresh logoinfo logo config
```

# New Logo

THIS IS JAF1's z/VM SHARE SYSTEM

```

          / VV          VVV MM          MM
         / VV          VVV  MMM          MMM
        / VV          VVV  MMMM          MMMM
       / VV  VVV          MM  MM  MM  MM
      / VV  VVV          MM  MMM  MM
     / VVVVV          MM  M  MM
    / VVV          MM          MM
   / V          MM          MM
  /
ZZZZZZ /
  ZZ
  ZZ
  ZZ
  ZZ
ZZZZZZ /

```

built on IBM Virtualization Technology

Fill in your USERID and PASSWORD and press ENTER  
 (Your password will not appear when you type it)

USERID ==> \_

PASSWORD ==> \_

COMMAND ==>

GLIDING JOHN1

# More Configuration File Statements

## Conditional Statements/Imbeds

*Conditional Statements are based on System\_Identifier labels*

```
System_Identifier 2064 012345 MYVM1
System_Identifier_Default      MYVM2

MYVM1: Operator_Consoles      0C00 0C01
MYVM2: Operator_Consoles      1C00 1C01

MYVM1: MYVM2: Features ,
  Enable ,
  Auto_Warm_IPL
```

*Imbeds allow statements to be included from other files*

- ▶ Useful for sections common to multiple systems
  - Command privilege class modification
  - User diagnose

# DEVICES Statement

*Tell CP how to handle specified devices at initialization*

- ▶ Whether to:
  - Accept
  - Allow dynamic changes
  - Initialize at IPL
  - Measure subchannels
  - Assign tape drive to system
  - Use sense ID information to define device
  - Share dasd between operating systems
  - Throttle I/O rate

# Consoles Statement

*Operator\_Consoles tell CP where to try to display IPL messages*

- ▶ Console addresses
  - Integrated 3270 Console (SYSTEM\_3270)
  - Locally attached 3270-type displays
  - System Console (SYSTEM\_CONSOLE)
- ▶ Must have 3270 to display SAPL screen
  - Enter device number in LOADPARM on processor console
- ▶ If no devices in the list are functional, IPL Wait State 1010

*Emergency\_Message\_Consoles tell CP where to display critical messages such as ABEND and RESTART*

- ▶ Include most IPL consoles (except SYSTEM\_3270)
- ▶ Also include System Programmer consoles

*Example:*

```

MYVM1:  Operator_Consoles          SYSTEM_3270 0C00 0E00
MYVM1:  Emergency_Message_Consoles 0C00 0E00 1234

MYVM2:  Operator_Consoles          0D00 0F00
MYVM2:  Emergency_Message_Consoles 0D00 0F00 1235

```

# FEATURES Statement

## *Set system attributes at system initialization time*

- ▶ IPL Attributes
  - AUTO\_WARM\_IPL
  - PROMPT...
    - AFTER\_REStart
    - AFTER\_SHUTDOWN\_REIPL
    - AFTER\_POWERoff
- ▶ Authorize users system-wide to use certain functions
  - SET\_DYNamic\_i/o, SET\_DYNamic\_io
  - SET\_DEVices
  - SET\_PRIVclass

## FEATURES Statement...

*Tell CP whether, and how, to activate certain system functions*

- ▶ CPCHECKING
  - ABEND
  - VMSTOP
- ▶ CLEAR\_TDisk at initialization
- ▶ LOGMSG\_FROM\_File
  - SHOW\_ACCount Yes/No
  - SHOW\_ACGroup Yes/No
  - SHOW\_Userid Yes/No
- ▶ NEW\_DEVICES\_initialized\_when\_added
- ▶ THROTTLE\_ALL

# FEATURES Statement...

## *Misc. system and user functions*

- ▶ Number of MAXusers (or NOLimit)
- ▶ PASSWORDS\_ON\_CMDS
  - AUTOLog Yes/No
  - LINK Yes/No
  - LOGon Yes/No
- ▶ Number of RETRIEVE buffers per user
  - DEFault
  - MAXimum
- ▶ VDISK/VDSK installation default limits
  - Syslim
  - Userlim
  - Infinite

## FEATURES Statement...Automatic IPL

### *AUTO\_IPL features*

- ▶ AUTO\_IPL
- ▶ AUTO\_IPL\_AFTER\_REStart
- ▶ AUTO\_IPL\_AFTER\_SHUTDOWN\_REIPL

### *All types of IPL may be specified for each AUTO\_IPL feature*

- ▶ CLEAN
- ▶ COLD
- ▶ FORCE
- ▶ WARM

### *IPL Options may also be specified*

- ▶ NOENABLE
- ▶ DRAIN
- ▶ NOAUTOLOG
- ▶ NODIRECT

## FEATURES Statement...Misc.

### *IPL\_MESSAGES*

- ▶ tell CP whether or not to display IPL messages or prompts

### *DISCONNECT\_TIMEOUT*

- ▶ nnnnnn
  - Sets interval between a forced disconnect and its logoff to specified number of minutes
- ▶ OFF
  - Disables automatic logoff

# Summary

# Summary

*VM's configurability support allows changes to be made while system remains up and running*

- ▶ No source code changes
- ▶ No compiles/assemblies
- ▶ Re-IPL not necessary in most cases

*Additional information:*

- ▶ z/VM CP Planning and Administration
- ▶ z/VM Dynamic I/O Configuration Planning and Administration
- ▶ z/VM CP Command and Utility Reference
- ▶ z/VM System Operation
- ▶ z/VM CP Exit Customization

# Thanks!

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