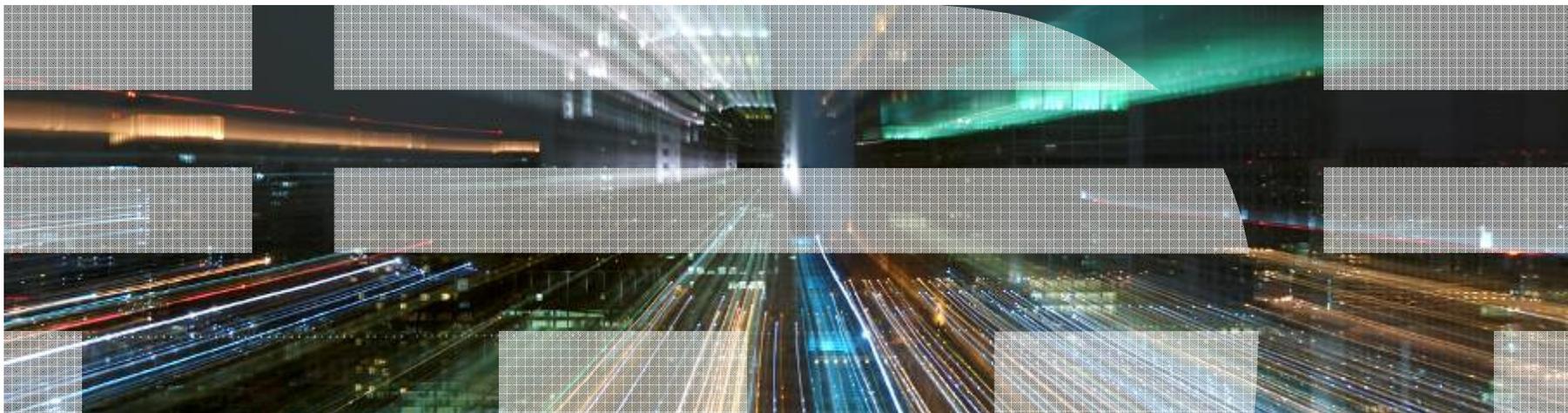


z/OS Capacity Provisioning: Update for z/OS V1.12 and z/OS V1.13 Preview



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Notes:

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**ENABLING BUSINESS.
A THROUGH Z.**

Agenda



- *Short Review of Capacity Provisioning*
- *Capacity Provisioning to simplify management of temporary capacity*
 - *Processing Modes*
 - *CPM Configuration*
 - *Reports, Logs, Audit Trails*
 - *Updates and future enhancements*
 - *Documentation*
- *Implementation Steps*





Advantages of z/OS Capacity Provisioning

- Capacity Provisioning ensures that the business has the processing capacity it needs
- Capacity Provisioning allows managing processing capacity more reliably, more easily, and faster

- z/OS base (BCP) component

- Capacity Provisioning provides new, flexible and automated way to control activation of On/Off Capacity on Demand

- From manual mode via analysis or confirmation mode to autonomic mode

- Capacity Provisioning Manager (CPM) helps to

- manage central processor, zAAP and zIIP capacity running z/OS on IBM zEnterprise 196 (z196) or IBM System z10
- control static power save mode of IBM z196

Manual capacity upgrades – How it could look like

1.	Workload increases	0 min
2.	Operator realizes bottleneck	5-10 min
3.	Operator informs system programmers and manager	2 min
4.	Discussion	10 min
5.	Logon to HMC, activate record	5 min

... meanwhile, so much workload may have queued up that one additional processor would be insufficient to decrease the queued workload

→ Two processors have to be added

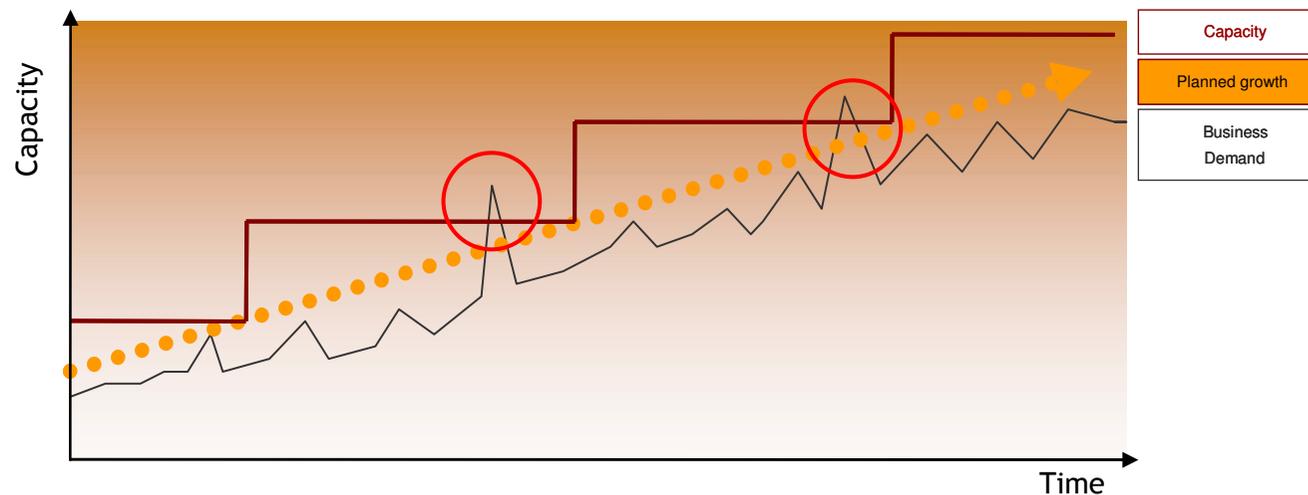
CPM can react faster and reduce cost

IBM z/OS Capacity Provisioning Basics



- **Contained in z/OS base component free of charge**
 - Requires a monitoring component, such as z/OS RMF, or equivalent
 - Base element since z/OS V1.9

- **Exploits on System z On/Off Capacity on Demand Feature**
 - IBM zEnterprise 196 or System z10
 - If On/Off CoD is not used CPM “analysis” mode may be used for monitoring and alerts



Capacity Provisioning Capabilities Overview



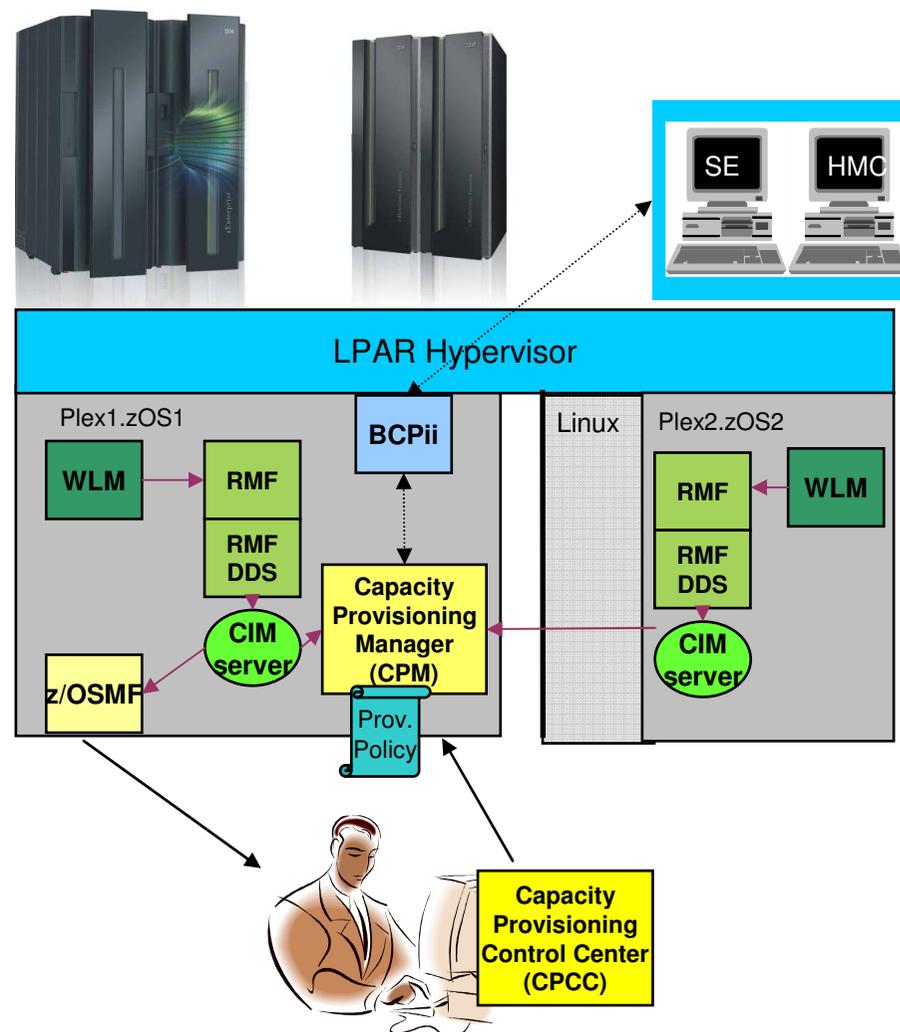
- The Capacity Provisioning Manager (CPM) can control temporary processor resources on IBM z196 or z10
 - Number of zAAPs or zIIPs
 - General purpose capacity
 - Considers different capacity levels (i.e. effective processor speeds) for subcapacity processors (general purpose capacity)
 - Can advise on logical processors
 - Can control one or more IBM zEnterprise or System z10 servers
 - Including multiple Sysplexes
 - Provides commands to control z196 static power save mode

CPM allows for different types of provisioning requests:

- Manually at the z/OS console through Capacity Provisioning Manager commands
- Via user defined policy at specified schedules
- Via user defined policy by observing workload performance on z/OS

Capacity Provisioning – Infrastructure in a Nutshell

- z/OS WLM manages workloads to goals and business importance
- WLM indicators available through monitoring component
 - E.g. z/OS Resource Measurement Facility (RMF)
 - One RMF gatherer per z/OS system
 - RMF Distributed Data Server (DDS) per Sysplex
- Capacity Provisioning Manager (CPM) retrieves critical metrics through CIM
- CPM communicates to support elements or HMC, via BCPii (recommended) or SNMP.
- Capacity Provisioning Control Center is front end to administer Capacity Provisioning policies
 - Optionally z/OSMF can be used for monitoring



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New Function Overview



<i>z/OS (CPM) release</i> Function	V1.13	V1.12	V1.11	V1.10	V1.9
<i>Capacity increments Recurring time conditions</i>	+	OA35284	OA35284	OA35284 Toleration- only	
<i>CPCC Windows 7 support</i>	+				
<i>z196 Static Power Save Mode</i>	+	OA30433	OA30433	OA30433	OA30433 Toleration- only
<i>Samples for security definitions (CIM, CPM, z/OSMF)</i>	+	+			
<i>Control Center reporting enhancements, Windows Vista™ support</i>	+	+			
<i>CICS/IMS transaction classes support</i>	+	+	OA29641	OA29641	
<i>RMF provider can locate DDS dynamically</i>	+	+	OA31118	OA31118	
<i>z/OS BCPii Support and Logical Processor Mgmt</i>	+	+	+	OA25426 OA24945	
<i>z/OSMF release</i> Function	V1.13	V1.12	V1.11	V1.10	V1.9
<i>CPM Status Monitoring</i>	+				

Capacity Provisioning Enhancements in z/OS V1.13

- Capacity Provisioning management enhancements
 - Provisioning increments allow for faster or more aggressive provisioning
 - Recurring time condition support allows to define recurring time windows without resorting to ENABLE and DISABLE commands
 - Statement of Direction to withdraw support for the SNMP
 - z/OS BCPii is the recommend protocol
- Control Center Enhancements
 - Support the 32- and 64-bit versions of Microsoft Windows 7 Professional Edition
- **New with z/OSMF V1.13:**
 - Capacity Provisioning monitoring task



z/OS V1.13: Primary and secondary capacity quantum

- Up to z/OS 1.12 CPM increases capacity in small increments
 - On full speed models adding one processor at a time
- Starting with z/OS 1.13 CPM plans to support primary and secondary activation quantum
 - Primary quantum added for first activation on a given CPC
 - Secondary added on subsequent activations
 - Defined on “Maximum Provisioning Scope” Panels.
 - Only general purpose capacity supports primary and secondary quantum at this time.
 - Plan to retrofit to z/OS V1.11, V1.12

z/OS Capacity Provisioning Control Center - Domain GUI1

File Options Help

Workspace

- Provisioning Manager
- Configurations
- Policies
 - SAMPTD
 - SAMPWLD1
 - SAMPWLD2
 - Policy Timeline
 - Logical Processor Scope
 - Max. Provisioning Scope
- Rules
 - EndOfOct_DB
 - Conditions
 - EndOfOct_WEB
 - Conditions

Maximum Provisioning Scope

Policy: SAMPWLD2

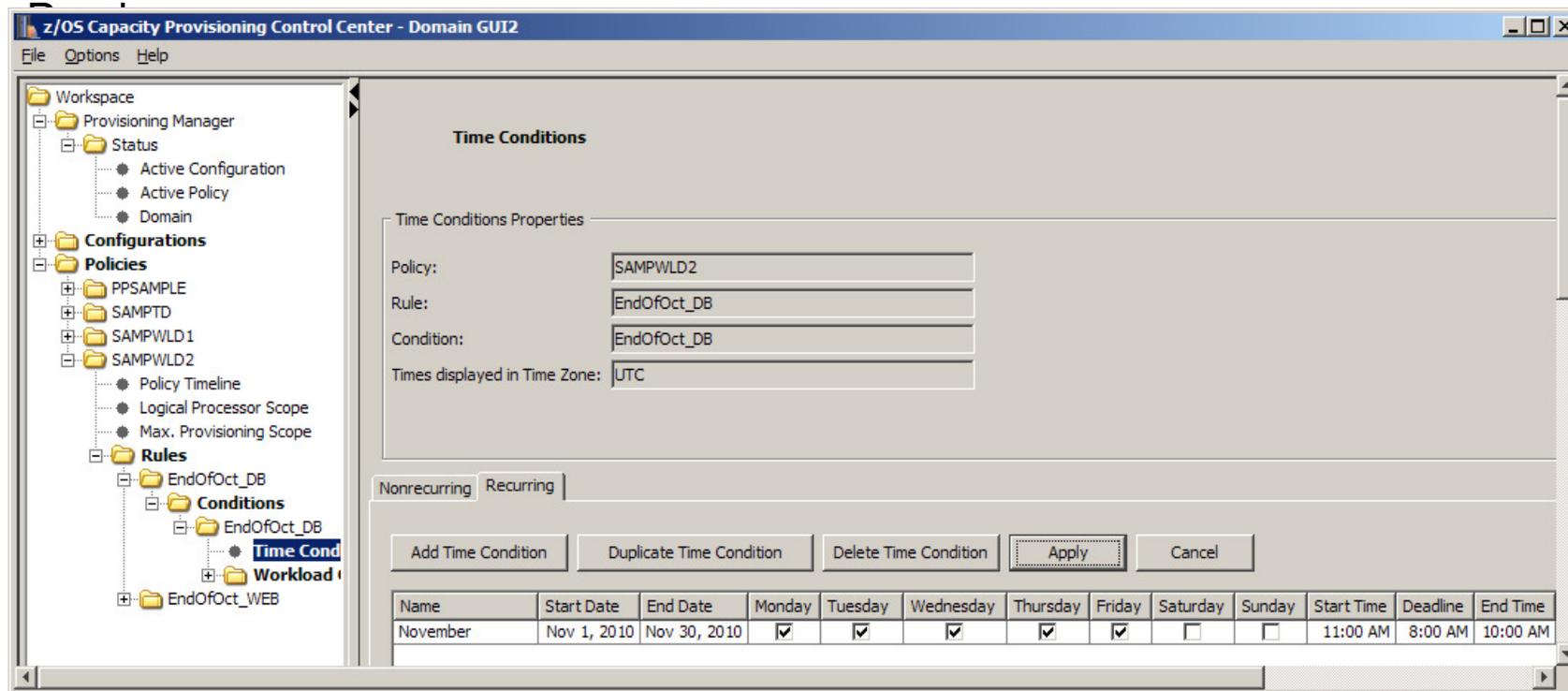
Maximum Provisioning Scope

Add Limit Delete Limit Apply Cancel

CPC	Max. MSU	Max. zAAP Processors	Max. zIIP Processors	Primary Activation (MSU)	Secondary Activations (MSU)
H05	2500	2	1	1500	500
R35	300	0	0	1000	100

z/OS V1.13: Recurring time conditions

- Up to z/OS 1.12 the CPM policy only supports fixed time intervals
 - Defined by start date/time and end date/time
- Starting with z/OS 1.13 CPM plans to support (weekly) recurring time conditions
 - Defined by start date, end date, start time, end time and day of week to which it applies
 - Plan to retrofit to z/OS V1.11, V1.12





z/OSMF Status Monitoring User Interface (Sample)

Welcome × Capacity Pro... ×

Provisioning Manager > Active Policy

Active Policy for Domain GUI2

This panel shows information about the active policy.
All timestamps are shown in GMT.

Active policy: REC Status: Enabled

Actions ▾ Table view: Tree

Type Filter	Name Filter	Current status Filter	Details Filter
Policy	REC	<input checked="" type="checkbox"/> Enabled	
Logical processor scope			
Processor limit	SYS.WLM		CP limit: Max. possible; zAAP limit: Max. possible; zIIP limit: Max. possible; Action: Local message
Max. provisioning scope			
Processor limit	WLM		MSU limit: 5; zAAP limit: 0; zIIP limit: 0
Rule	REC#1	<input checked="" type="checkbox"/> Enabled	Default status: Enabled
Provisioning scope			
Processor limit	WLM		MSU limit: 1; zAAP limit: 0; zIIP limit: 0
Condition	REC#1	<input checked="" type="checkbox"/> Enabled	Default status: Enabled
Recurring time condition	F#1	Pending	Start: Aug 30, 2010; End: Dec 30, 2010; Days: oXXXXXX
Recurring time condition	I#1	Active and enabled	Start: Oct 31, 2010; End: Dec 30, 2010; Days: oXXXXXX
Recurring time condition	G#1	Inactive	Start: Aug 30, 2010; End: Oct 30, 2010; Days: oXXXXXX
Rule	REC	<input checked="" type="checkbox"/> Enabled	Default status: Enabled
Provisioning scope			
Processor limit	WLM		MSU limit: 5; zAAP limit: 0; zIIP limit: 0
Condition	REC	<input checked="" type="checkbox"/> Enabled	Default status: Enabled
Time condition	REC	Inactive	Start: Sep 15, 2010 2:53:00 PM; End: Nov 15, 2010 3:53:00 PM
Recurring time condition	F	Observing and enabled	Start: Aug 30, 2010; End: Dec 30, 2010; Days: oXXXXXX
Recurring time condition	I	Active and enabled	Start: Oct 31, 2010; End: Dec 30, 2010; Days: oXXXXXX
Recurring time condition	G	Inactive	Start: Aug 30, 2010; End: Oct 30, 2010; Days: oXXXXXX
Workload condition	REC		System: SYS; Sysplex: PLEX
Importance filter	1		Importance: 1
Included service class	All in service definitio		Service class: All in service definition; Period: 1
Excluded service class	All in service definitio		Service class: All in service definition; Period: 1

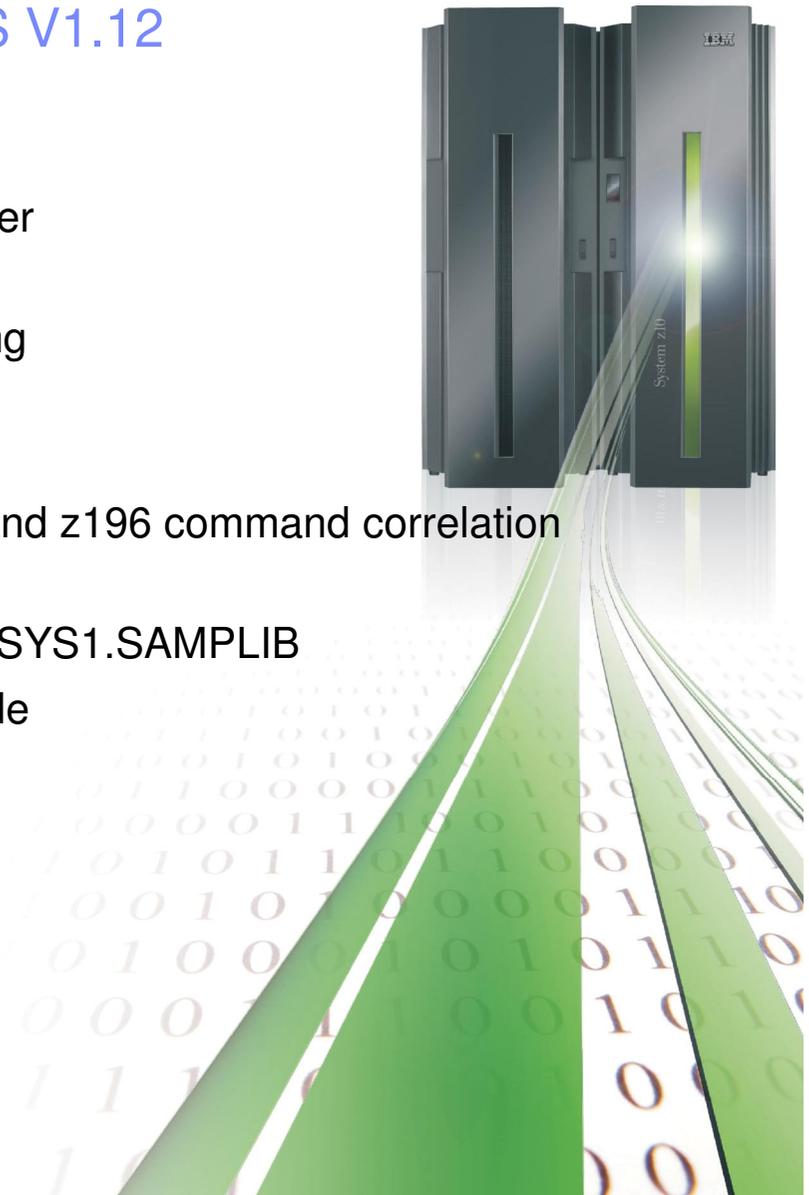
Statement of Direction

- z/OS V1.13 is planned to be the last release to provide the z/OS Capacity Provisioning support that utilizes the System z API for communication with the Support Element (SE) or Hardware Management Console (HMC). This protocol is based on IP network connection using SNMP.
- IBM recommends configuring the Capacity Provisioning Manager for communication via the z/OS BCP Internal Interface (BCPii) protocol.
- The SE and HMC support for the System z API remains, and is not affected by this withdrawal of support.

Capacity Provisioning Enhancements in z/OS V1.12

- Capacity Provisioning management enhancements
 - CICS and IMS transaction service class may trigger provisioning actions
 - Option for “rolling PI” management for provisioning durations
 - Better management if PIs fluctuate
 - More reliable hardware control by exploiting z10 and z196 command correlation capability
 - Simplified setup via sample security definitions in SYS1.SAMPLIB
 - Commands to control z196 static power save mode

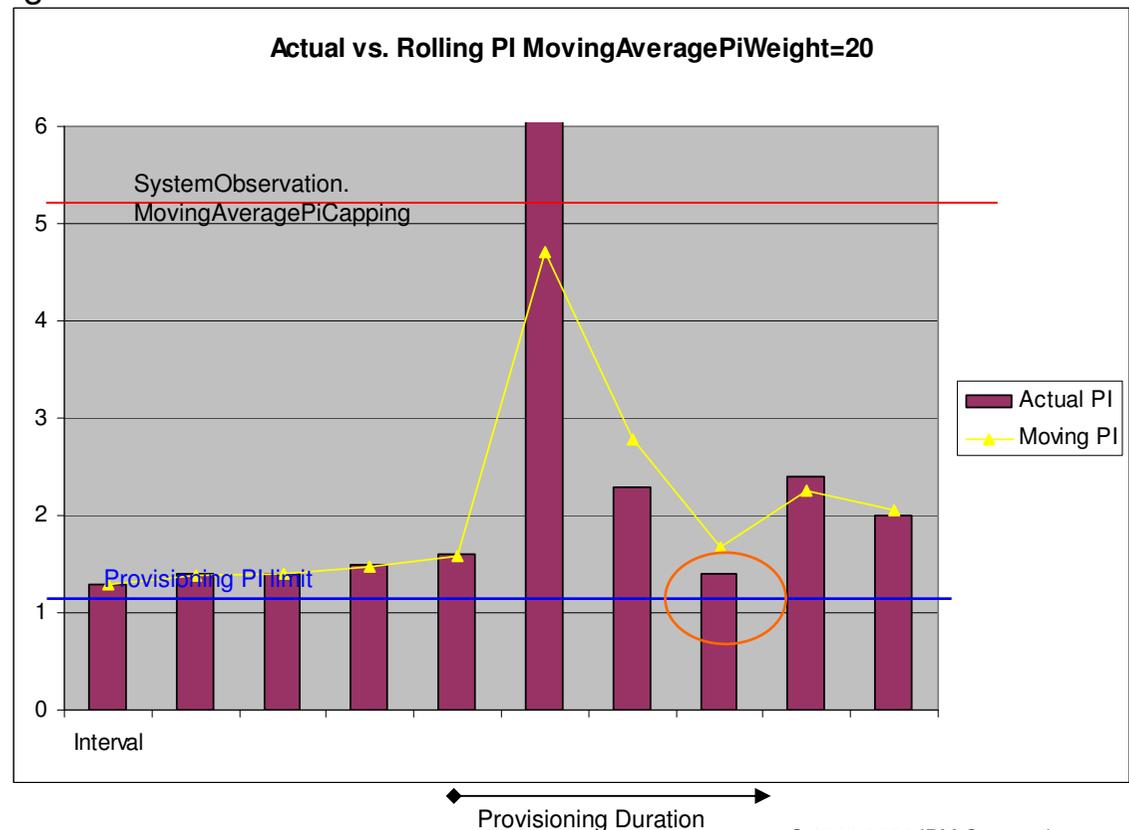
- *Control Center Enhancements*
 - *New install process*
 - *Multiple releases can be installed in parallel*
 - *Support for Windows Vista™*
 - *Additional reports available in UI*
 - *Domain, Configuration and active policy*



Moving average PI management

- “Exponentially weighted moving average PI” management for provisioning durations
 - May result in more reactive management if PIs fluctuate
 - Is defined in the PARM member
- `SystemObservation.MovingAveragePiweight` determines weight of historic PI
 - Value >0 activates average PI management

- “`SystemObservation.MovingAveragePiCapping` is the maximum PI value used to compute new rolling PI
 - Prevents that extremely high PIs distort average PIs too much
 - Default is 5.5



Support of zEnterprise 196 – Static Power Save Mode



- Commands to disable or enable static power save mode:

Syntax

```
▶ DISABLE—POWERSAVE—CPC=name—
  |
  |—D—PS—
```

```
▶ ENABLE—POWERSAVE—CPC=name—
  |
  |—E—PS—
```

- Existing reports are extended to report on power-save capability, and whether power-save mode can currently be enabled

```
CPC R35 with record * is enabled (default enabled)
CPC is matched with serial 000020089F25 since 07/23/2010 13:32:13
Hardware is of type 2817 with model M49
Current model is 722 with 2119 MSU, 1 zAAPs, and 1 zIIPs
No usable 00CoD record available
Power save mode is enabled
```

- If power-save mode cannot be re-enabled in current period: “Power save mode is disabled and not allowed”
- For CPCs supporting static power save mode the Provisioning Manager will not consider adding capacity based on the active policy while in power save mode
 - Already activated temporary capacity may be deactivated
 - ACTIVATE RESOURCE and DEACTIVATE RESOURCE commands are not affected by power save mode.
- Requires Automate version of the zEnterprise Unified Resource Management (zManager) suite
 - CPC Power Saving setting must be “Custom”
 - Also see “Controlling IBM zEnterprise 196 Static Power Save Mode via MVS Capacity Provisioning Manager (CPM)” at <http://www.ibm.com/support/techdocs/atsmastr.nsf/WebIndex/WP101869>

Sample CPCC Status Report in z/OS V1.12

z/OS Capacity Provisioning Control Center - Domain GUI2

File Options Help

Workspace

- Provisioning Manager
 - Status
 - Active Configuration
 - Active Policy
 - Domain
- Configurations
- Policies

Active Configuration

Configuration: CKDM1
 Status: Enabled
 Last Refresh At: Feb 21, 2010 8:59:02 AM
 Time Zone: US/Pacific

CPCs Systems

Name	Record ID	Active MSU	Active zAAPs	Active zIIPs	Enabled	Default Enabled
DAN2	*	N/A	N/A	N/A	<input type="checkbox"/>	<input type="checkbox"/>
ECL2	CR7LYKLY	174	0	3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
H42	*	N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

General

CPC: ECL2 Serial: 000510070B82
 Type/Model: 2097/E40
 Correlation Status: Matched Correlation Status Since: Feb 19, 2010 8:20:19 AM
 Error Status: No Error

Configuration

Current:	Permanent:
Model: 725	Model: 722
MSU: 1805	MSU: 1631
zAAPs: 4	
zIIPs: 7	
Spares: 2	

On/Off CoD Status

Record ID: CR7LYKLY
 MSU: 174
 Capacity Level: 0

	Active	Limit	Remaining
CPs:	3		N/A
zAAPs:	0	4	N/A
zIIPs:	3	4	N/A

Sample AutoReplies provided in z/OS V1.12

- IBM-Supplied SYS1.PARMLIB(AUTOR00) specifies default auto-replies for messages CPO4205I and CPO4206I
 - These are issued when CPM-initiated capacity changes were not detected within the specified timeframe
 - Default reply says to continue managing from current capacity setting

```

BROWSE      SYS1.PARMLIB(AUTOR00)                               Line 00000342 Col
Command ==> _____ Scroll =
/*****
/* CP04205I CPC name: Enter '1' to keep waiting for pending      */
/*           activation or '2' to accept current capacity setting */
/*                                                                 */
/* Rule: 3                                                         */
/*                                                                 */
/*   Msgid(CP04205I)   Delay(60S) Reply(2)                        */
/*****
/* CP04206I CPC name: Enter '1' to keep waiting for pending      */
/*           deactivation or '2' to accept current capacity setting */
/*                                                                 */
/* Rule: 3                                                         */
/*                                                                 */
/*   Msgid(CP04206I)   Delay(60S) Reply(2)                        */

```

Security setup samples for multiple components

- Security setup especially for the CIM component can be difficult because the description needs to allow for many permutations of possible configuration options.
- For most installations those different options are unneeded complexity:
 - A “fast-path” configuration best on recommended options can accelerate the setup
- With z/OS V1.12 the CIM and Capacity Provisioning components provide consistent samples in SYS1.SAMPLIB
 - CFZSEC for CIM (to be run first)
 - CPOSEC1,2 for Capacity Provisioning
 - Also z/OSMF security definitions are compatible
- Samples provide customizable job streams with RACF definitions
- It is required to
 - Review samples for compatibility with your environment
 - Complete with information for which no meaningful default exists

Capacity Provisioning Enhancements in z/OS V1.10+ and V1.11

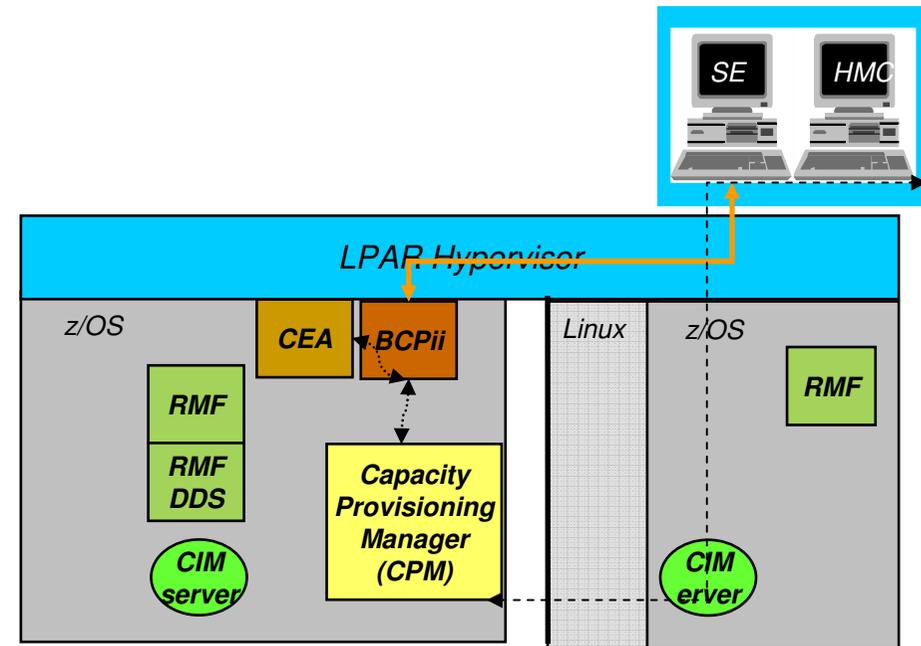
- Additional z/OS V1.10 enhancements became available 6/2009
 - Capacity Provisioning exploitation of BCPii
 - Alternative option to configure SE/HMC communication
 - No need for IP connection to HMC and firewall settings
 - Access to resources can be granted via z/OS security definitions
 - Logical processor management
 - Enablement via APARs
 - OA24945 - CPM
 - OA25426 – BCPii

- z/OS V1.11 Enhancements
 - Capacity Provisioning CIM provider already pre-registered in CIM repository shipped with V1.11
 - Eliminates customization steps



OA24945: z/OS BCPii Exploitation

- Alternate communication path to the hardware
 - Can replace SNMP (IP-based) communication
- Exploits new z/OS component Basic Control Program internal interface (BCPii)
 - SCLP based communication through Hypervisor
- New address space in z/OS (HWIBCPII) – started automatically after IPL
- Requires also Common Event Adapter (CEA) address space in full function mode



System z
API
(SNMP/IP)

Logical Processor Scope Definition in Policy

- *Definition on same level as maximum provisioning scope*
 - *No “tight” management of logical processors.*
 - *LCPs configured on- or offline only when required to absorb physical capacity or to allow for deactivation*
 - *Use HiperDispatch or IRD Vary CPU management to optimize logical to physical ratio*
 - *Can only be used with shared LPARs*

The screenshot shows the z/OS Capacity Provisioning Control Center interface. On the left is a tree view of the workspace containing folders for Provisioning Manager, Configurations, Policies (with sub-folders SAMPTD, SAMPWLD1, SAMPWLD2), Policy Timeline, Logical Processor Scope (selected), Max. Provisioning Scope, Rules, EndOfOct_DB, Conditions, and Time Condi. The main area displays the configuration for the selected policy, SAMPWLD2.

Logical Processor Scope

Policy: SAMPWLD2

Logical Processor Scope

System	Sysplex	Max. CP Processors ▲	Max. zAAP Processors	Max. zLIP Processors	Action
SYS1	*	*	1	1	Message on runtime system ▼
SYS2	PLEX2	*	*	*	Message on managed system ▼

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- For more information contact: IBMCPM@de.ibm.com
- Website under the WLM homepage
<http://www.ibm.com/servers/eserver/zseries/zos/wlm/cp>
- z/OS MVS Capacity Provisioning User's Guide, SC33-8299, at <http://publibz.boulder.ibm.com/epubs/pdf/iea2u130.pdf>
- IBM DEMOzone Demonstration of Capacity Provisioning
http://www.demos.ibm.com/servers/Demo/IBM_Demo_IBM_z_OS_Capacity_Provisioning-Jan09.htm

- ITSO Redbook:

System z10 Enterprise Class Capacity on Demand, SG24-7504

<http://www.redbooks.ibm.com/abstracts/sg247504.html?Open>



- Capacity on Demand advancements on the IBM System z10, IBM J. RES. & DEV. VOL. 53 NO. 1 PAPER 15 2009
<http://www.research.ibm.com/journal/abstracts/rd/531/axnix.html>
- “Controlling IBM zEnterprise 196 Static Power Save Mode via MVS Capacity Provisioning Manager (CPM)”
<http://www.ibm.com/support/techdocs/atmastr.nsf/WebIndex/WP101869>

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Suggested Implementation Sequence (1)

1. Verify pre-requisite software (Monitoring component, Java) and recommended service
 - See backup section
2. Set up z/OS RMF, including Distributed Data Server
 - In most installations this will already be done
3. Set up z/OS CIM
 - Follow [z/OS Common Information Model User's Guide](#)
 - Include „Appendix F. Connecting the RMF CIM providers to the RMF Distributed Data Server (DDS)”
 - No need to include “Cluster / Couple Dataset / JES2-JES3Jobs Provider Setup”
 - On z/OS V1.12 and above CFZSEC in SYS1.PARMLIB provides sample security setup
 - When using z/OSMF then z/OSMF may be configured at this point

Suggested Implementation Sequence (2)

4. Set up z/OS Capacity Provisioning
 - Follow [z/OS MVS Capacity Provisioning User's Guide](#), chapter 3
 - On z/OS R10 and above decide whether to use BCPii (recommended), or SNMP
 - If BCPii is chosen,
 - Verify PSP bucket and required microcode levels
 - set up Common Event Adapter in full function mode, and the HWIBCPii address space.
 - For both BCPii and SNMP some definitions are required at Support Element/HMC.

5. Verify Capacity Provisioning function
 - Some CPM “PARM” settings simplify testing
 - Accelerate via reduced time duration
 - Provisioning suggestions in relatively uncinstrained environment
 - Enable logging
 - Enable tracing, if problems are encountered

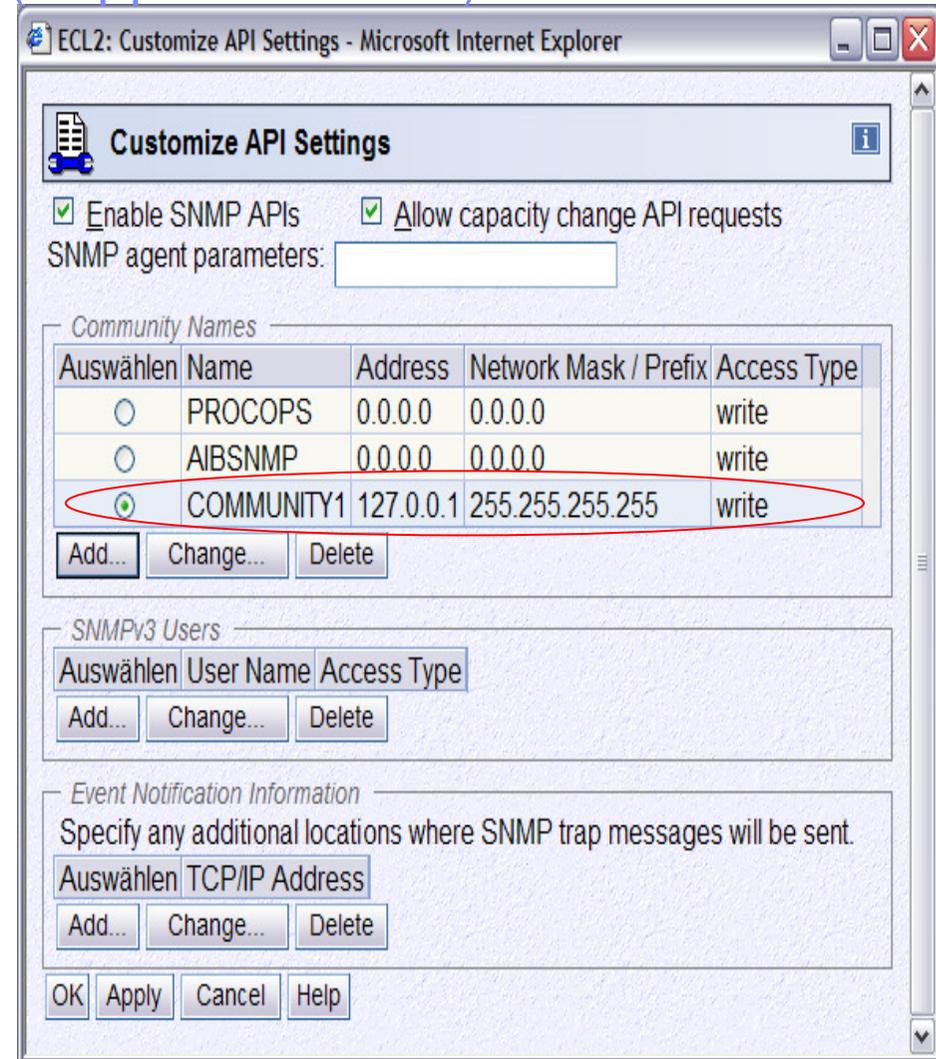
Customization Overview for BCPii (z/OS)

- z/OS “Common Event Adapter“ (CEA) address space must be set up to run in full function mode
 - See z/OS R10 “Planning for Installation”
- z/OS “BCP internal interface” (BCPii) must be set up
 - See z/OS R10 “OSMVS Programming: Callable Services for High-Level Languages” for details
- Security definitions must be made
 - BCPii needs be allowed to communicate with local SE
 - Allow Capacity Provisioning manager READ access to security profiles in SERVAUTH class
 - CEA.CONNECT
 - CEA.SUBSCRIBE.ENF_0068*
 - READ access to ESM profiles HWI.APPLNAME.HWISERV in FACILITY class
 - For each managed CPC
 - CONTROL access to ESM profile HWI.TARGET.*net ID.NAU* in FACILITY class
 - READ access to ESM profile HWI.CAPREC.*net ID.NAU.** in FACILITY class

Customization Overview for BCPii (Support Element)

On SE of all managed and the local CPC:

- Define community name as specified in ESM profile
- Allow for local host only
 - Address 127.0.0.1,
 - network mask 255.255.255.255
- Check „Enable SNMP API“
- Check „Allow capacity change API requests“



Activation of BCPii in Capacity Provisioning

- In the <hlq>.<domain>.PARM(PARM) change:
 - Topology.Protocol = INTERNAL

- All runtime systems must be using z/OS R10 with OA24945, or higher

- The following SNMP-specific key may be removed:
 - Topology.Protocol = SNMP
 - Topology.Address = *HMC_address*
 - Topology.Community = *community_name*

Overview on Observed Metrics

CPC Metrics

- Per processor type
 - Shared physical utilization
 - Total logical processors
 - Total weights
 - Physical processors

LPAR/System Metrics

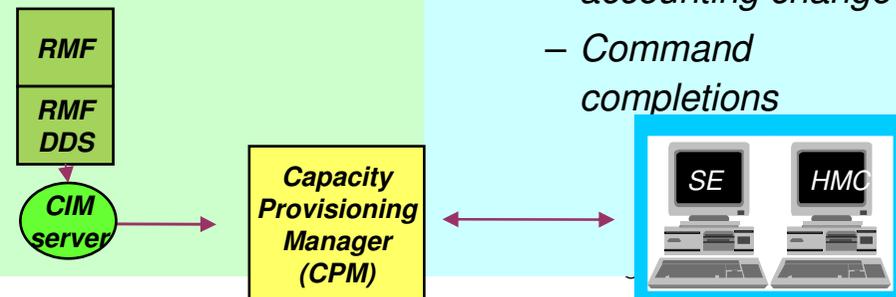
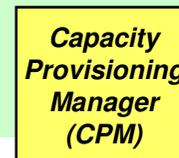
- *WLM Service definition, policy, service classes Shared/dedicated*
- *Initial capping*
- *Defined capacity*
- *Capping*
- *4h Rolling Average*
- *Dispatchable units (InR Queue)*
- *IRD weight & vary CPU mgmt*
- *Per processor type*
 - *Online CPs, zAAPs, zIIPs*
 - *Reserved processors*
 - *LPAR weight*
 - *MVS utilization*
 - *LPAR utilization*

Service Class Period Metrics

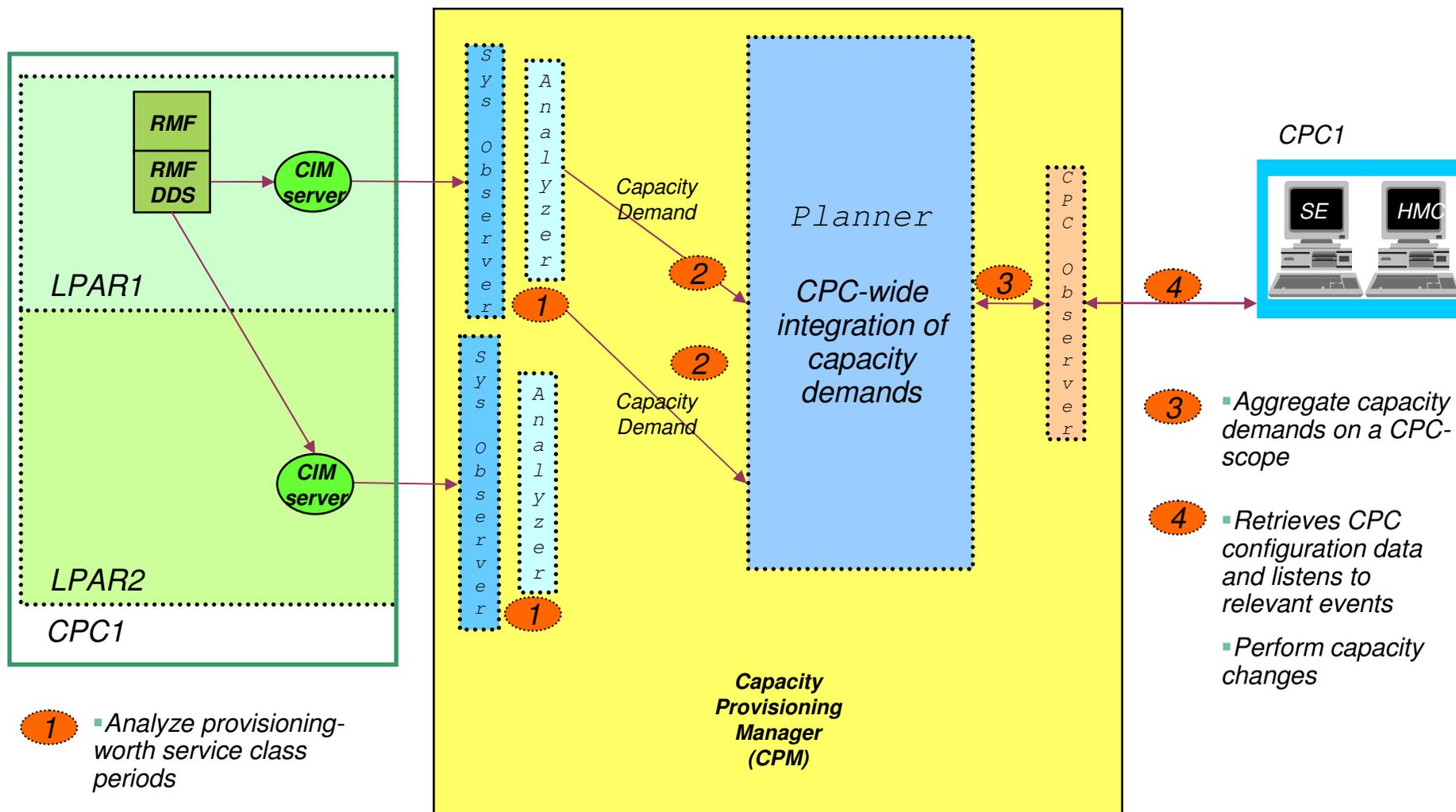
- *Local PI*
- *Sysplex PI*
- *%Capped*
- *Delays*
- *Per processor type*
 - *Processor delays*
 - *TCB, SRB*

Support Element

- *H/W model*
- *Spare processors*
- *Installed OOCoD records*
- *Current S/W model*
- *Current number of processors*
- *Power save (z196)*
- *For OOCoD record*
 - *Activation limits, validity, current activation level*
- *Event subscriptions*
 - *Capacity accounting change*
 - *Command completions*



Workload Analysis and Planning



1 Analyze provisioning-worth service class periods

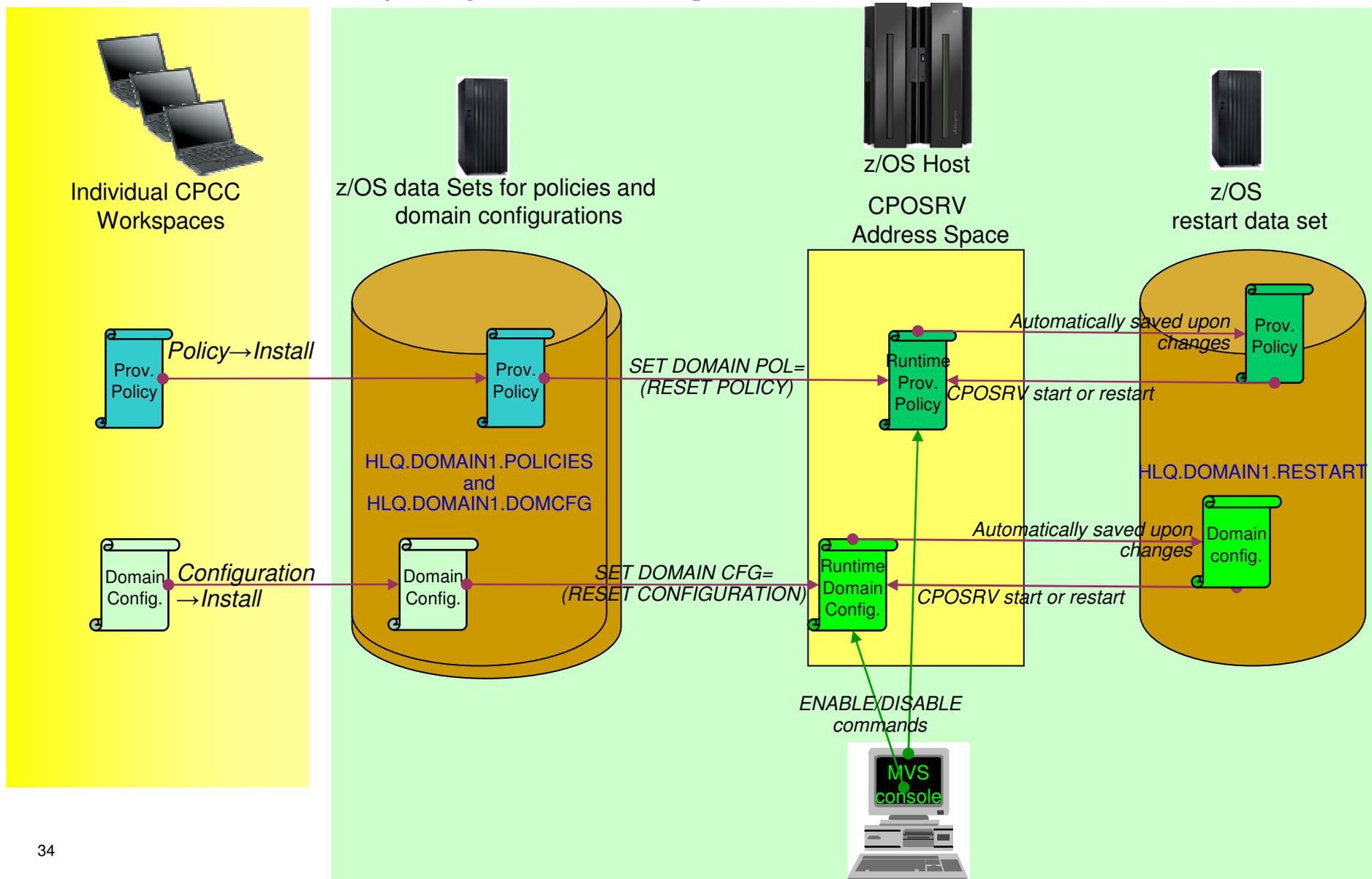
2 Inform planner component of capacity demands. E.g.
`Pescp[Identifier[SVPLEX7/R76/basepol/BASEPOL/CPMCPU/1]]`
 registers Capacity Demand with Provisioning Types
`[SpeedStep]` and State `CapacityDemandState.ACTIVE`

3 Aggregate capacity demands on a CPC-scope

4 Retrieves CPC configuration data and listens to relevant events

Perform capacity changes

Capacity Provisioning Policy Instances with Workstation Capacity Provisioning Control Center



Other relevant enhancements in service stream

- **OA29173 – Faster reaction times**
 - The smallest (de)provisioning duration that may be specified in the policy workload condition was reduced from 5 to 1 min
 - Requires adequate monitoring setup, e.g. MINTIME

- **OA31072 + OA31059 (CIM)**
 - **Performance enhancements** especially when monitoring many systems in a domain
 - If CPM is already set up the changes need to be reflected to productive members:
 - CPM region size
SYS1.SAMPLIB(CPOSERV) → proclib(CPOSERV)
 - JVM maximum heap size
/usr/lpp/cpo/samples/env → <hlq>.<domain>.PARM(ENV)
 - New option to minimize overflow of specialty-processor eligible work to general purpose processors
 - Only use when required
 - Set SystemObservation.PollingSpreadLimit to value > 0.
50 is good value to begin with

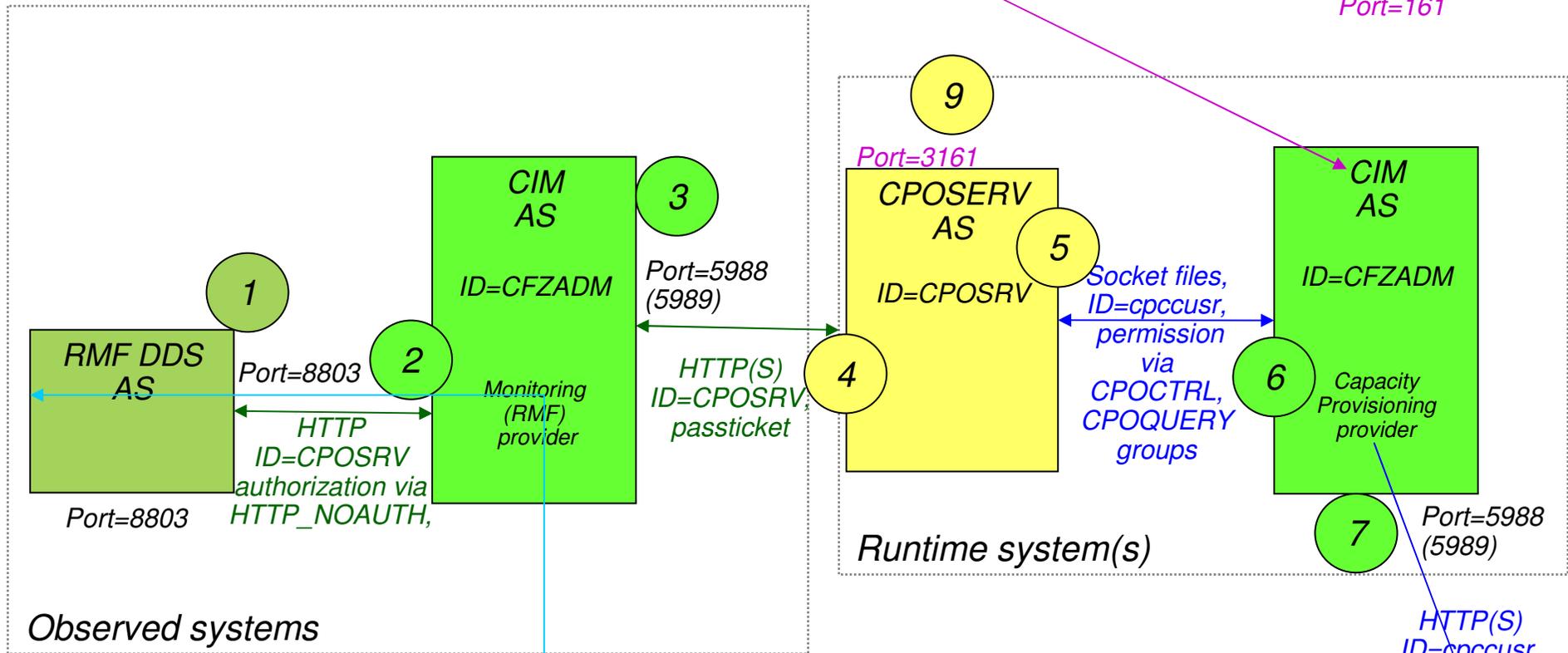
Other relevant enhancements in service stream

- **RMF / CIM APAR - II14385 + OA31118**
 - **z/OS V1.10 and above**
 - Beginning with z/OS V1.10 the CIM Monitoring providers can automatically locate an active RMF Distributed Data Server (DDS) in the Sysplex. When the DDS gets restarted on different systems through RMF DDS management, the CIM monitoring providers can connect to an active DDS without additional configuration.
 - Optionally, passticket authentication may be used between CIM RMF provider and DDS instead of HTT_NOAUTH.

Network configuration and identity flow z/OS V1.9



Port=161



Green: Systems Monitoring

Pink: H/W Observation and Management (SNMP)

Blue: Administration/reporting through CPCC

Light blue: Web browser invocation of RMF Data Portal



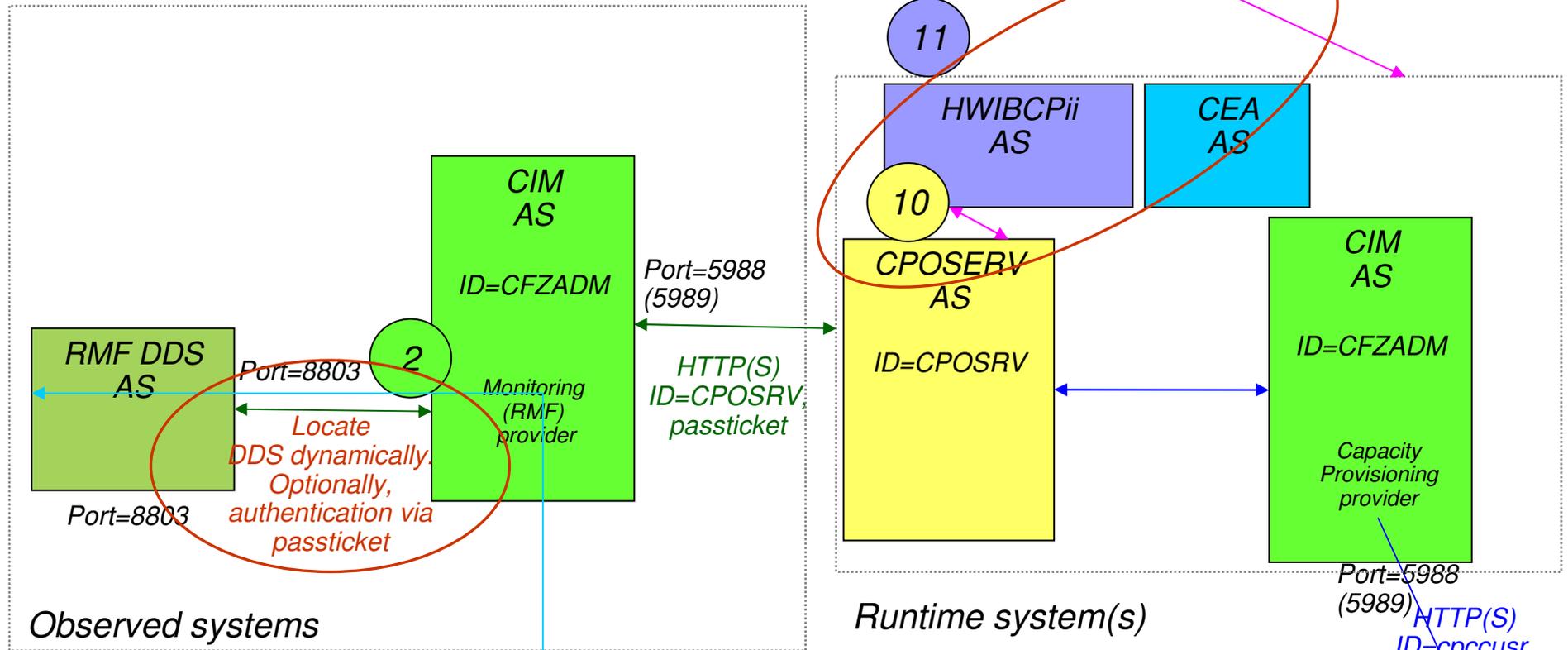
Capacity Provisioning Control Center (CPCC)

Networking Configuration Controls – z/OS V1.9

- 1 *GPMSRVxx: HTTP_PORT(), HTTP_NOAUTH()*
- 2 *cimserver.env: RMF_CIM_HOST, RMF_CIM_PORT*
- 3 7 *cimserver.conf: httpPort*
Modify via cimconfig command or MODIFY console command
- 4 *Host address and port in CPM domain configuration*
- 5 *CPM PARM member: CIM.ReadGroup, CIM.ModifyGroup*
- 6 */etc/cpoprovider.properties*
- 8 *Host address and port in CPCC “Provisioning Manager” panel*
- 9 *CPM PARM member: Topology.Address, Topology.Community*

Network configuration and identity flow

Additional options for z/OS V1.10 and above



Networking Configuration Controls

Additional options for z/OS V1.10 and above

- 2 *cimserver.env: RMF_CIM_HOST, RMF_CIM_PORT no longer required.*
GPMSRVxx: HTTP_NOAUTH() no longer required. Use security profile GPMSERVE in PTKTDATA class and others to allow for passticket generation.
- 10 *CPM PARM member: Topology.Protocol = INTERNAL specifies that BCPII is to be used*
- 11 *Security profile HWI.TARGET.net id.name in the FACILITY class. APPLDATA defines community name to be used.*

Interaction with Manual Activations

- Capacity Provisioning tolerates “manual” capacity changes
 - Initiated at HMC/SE, through CPM, or through other automation products (Tivoli System Automation, GDPS)
 - CBU activations are “mostly” ignored
 - CBU can be activated concurrently
 - If OOCoD resources are required to complete “Force” mode CBU activations then CPM prompts to release CBU resources (CPO3034W)
 - On/Off CoD: Only one OOCoD record may be active at a time
 - Because CPM tries to honor concurrent manual actions, such activations reduce the capacity navigation scope of CPM.
 - Messages inform about effects. E.g.
 - CPO4121I Some temporary resources were already active when starting managing the CPC ECL2. Only resources exceeding 2 CP, capacity level 0, 0 zAAP and 0 zIIP will be managed by the Provisioning Manager
 - CPO4101W Manual intervention detected for CPC H87. Continue managing model 404 (0/0) with 4 zAAPs and 0 zIIPs
 - CPO4105I A change of the manually activated resources has been detected for CPC H05. All resources of the defined On/Off CoD record are now managed by the Provisioning Manager



Backup



Recommended Service for Capacity Provisioning

Component	z/OS V1.12	z/OS V1.11	z/OS V1.10
<i>Capacity Provisioning</i>	<i>OA30433</i>	<i>OA31072 OA30433</i>	<i>OA31072 OA30433</i>
<i>RMF</i>			<i>OA28378 OA27083 OA24730 OA26140</i>
<i>CIM</i>	<i>OA33594</i>	<i>OA31118</i>	<i>OA31118 OA27704 OA26444 OA25364</i>
<i>WLM/SRM</i>		<i>OA31263</i>	<i>OA31263</i>
<i>Java 5 SDK, 31-bit</i>			<i>PK49493 UK57325</i>
<i>Java 6 SDK, 31-bit</i>			<i>PK75130</i>

Capacity Provisioning Service Data



- *Capacity Provisioning is z/OS BCP FMID*
 - *z/OS V1.12: HPV7770*
 - *z/OS V1.11: HPV7760*
 - *z/OS V1.10: HPV7750*
 - *z/OS V1.9: HPV7740*
- *Component ID (COMPID): 5752SCCAP*
- *Required service (all components, not just Capacity Provisioning) is identified via functional PSP bucket*
 - *Use “**CAPPROV/K**” keyword to search*
- *Capacity Provisioning APARs that include a new level of the Capacity Provisioning Control Center (CPCC) specify a **++HOLD REASON(DOWNLD)** action*

How to obtain a Functional PSP Bucket

- Go to http://techsupport.services.ibm.com/390/psp_main.html

Preventive Service Planning buckets for mainframe operating environments

- Select Type=Function
- Select Category=CAPPROV

Find information by type, category and release

Find by type, category and release is available for base components of support z/OS, OS/390, latest hardware supported by these operating systems, and several z/OS cross-function buckets (for example: SYSPLEXDS).

Type: 

Category:

Release:

- Alternatively, search for APARs containing CAPPROV/K