

SHARE in Pittsburgh – Session 15591

Top 10 Things You Should Be Doing On Your HMC But You're ~~NOT~~ You Probably Are

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Jason Stapels

HMC Development

jstapels@us.ibm.com



Agenda

- Setting up HMC for Remote Use
- Securing User IDs
- Create Custom Users and Roles
- Custom Authentication Settings
- Communicating with other Users
- Using HMC Data Replication
- HMC Certificate Management
- Monitor System Events
- Absolute Capping
- Custom Groups

Setting up the HMC for Remote Use

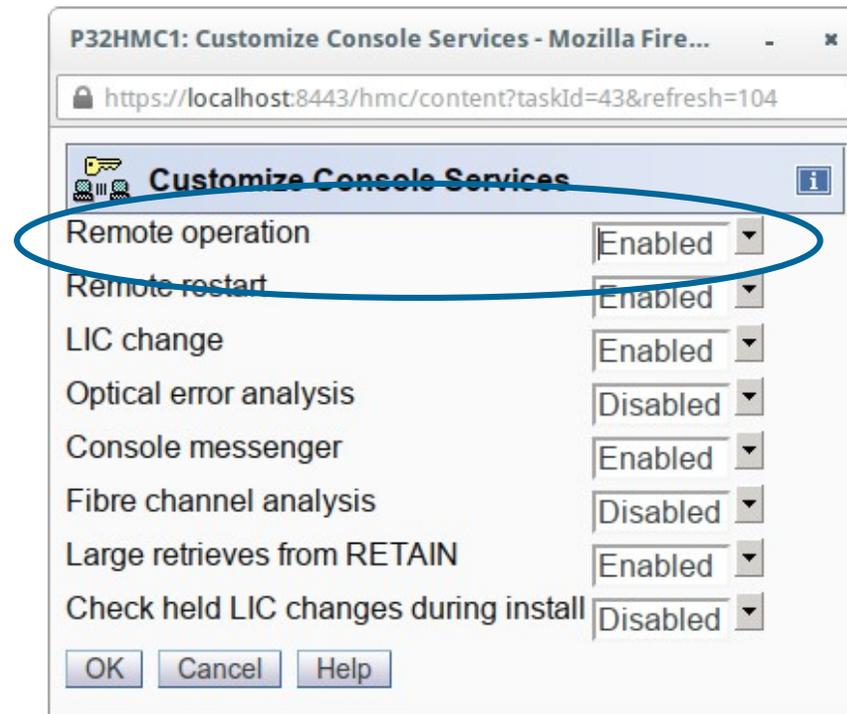
Setting up HMC for Remote Use

- Enables access from anywhere on the Local Area Network
 - Work with your Network Administrator to allow port 443 (HTTPS) and optionally port 9960 (Applets)
 - Could also allow remote access using an existing business VPN
- Allows the HMC to be physically secured
 - Lock it in a restricted area and ask people to login remotely
- Multiple users can access the HMC at the same time
 - HMC is design to handle concurrent users
- Read “IBM System z HMC Security” technical note for more details
 - [https://www.ibm.com/servers/resourceLink/lib03011.nsf/pages/zHmcSecurity/\\$file/zHMCSecurity.pdf](https://www.ibm.com/servers/resourceLink/lib03011.nsf/pages/zHmcSecurity/$file/zHMCSecurity.pdf)

Setting up HMC for Remote Use (cont.)

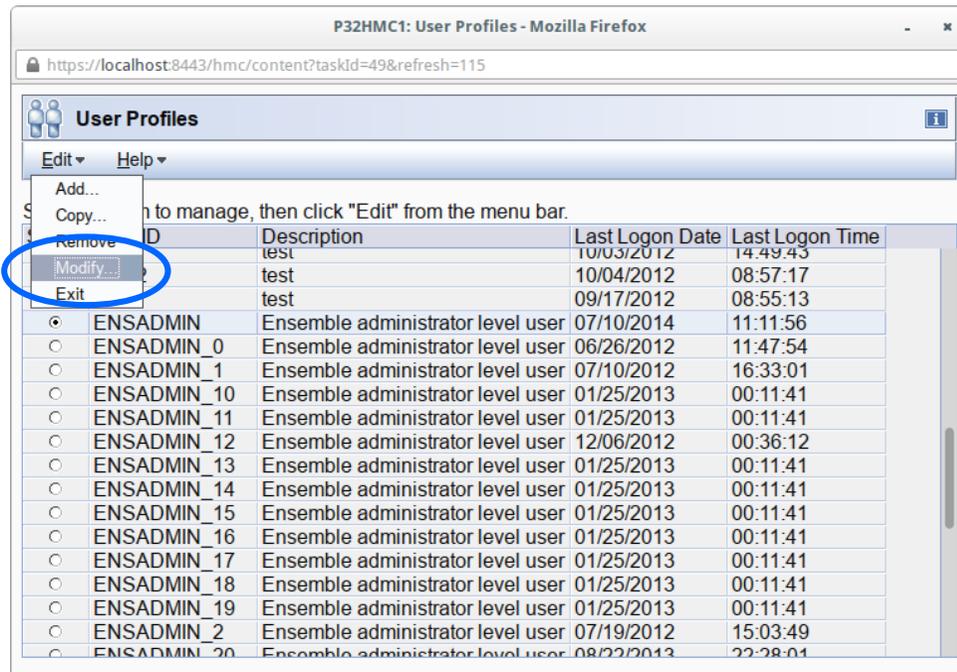
- Enable locally through the **Customize Console Services** task

 Customize Console Services
 Customize the enablement of various console services



Setting up HMC for Remote Use (cont.)

- Then, enable specific users for remote access
 - Use the ACSADMIN user if you don't have one already
- Use the **User Profiles** task  **User Profiles**
Manage your system users that log onto the Hardware Management Console
- Select the profile and then select *Modify* from the menu



Setting up HMC for Remote Use (cont.)

- Click the *User Properties...* button

The screenshot shows the 'Modify User' dialog box in Mozilla Firefox. The browser address bar shows the URL: `https://localhost:8443/hmc/content?taskId=49&refresh=116`. The dialog title is 'Modify User'. The 'User Information' section contains the following fields:

- User ID: `ENSADMIN`
- Description: `Ensemble administrator level`
- Disable user

The 'Authentication' section shows 'Local Authentication' selected in a list box, with 'LDAP Server' also visible. The 'Details' section contains:

- Password Rule: `Basic` (dropdown menu) with a 'Define Rules...' button.
- Password: [empty text box]
- Confirm password: [empty text box]
- Force user to change the password at next login

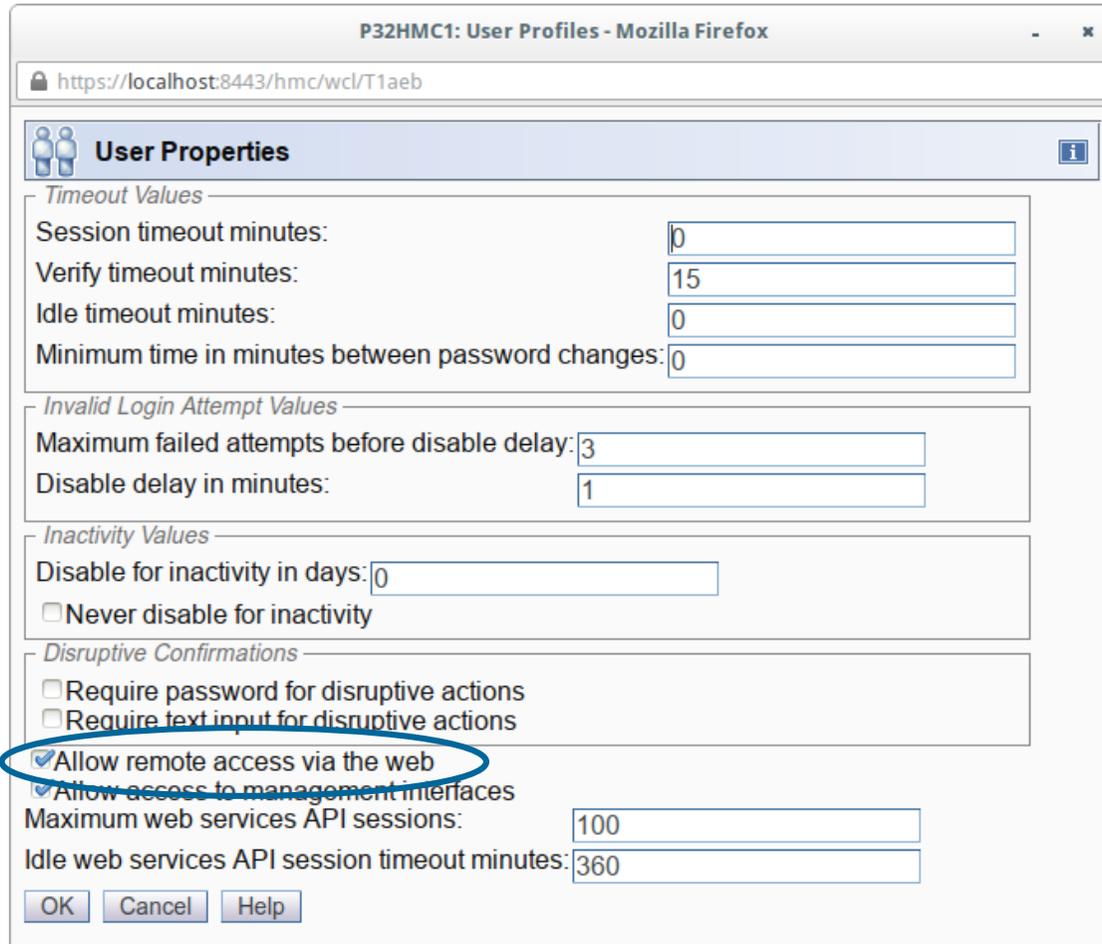
Below the authentication section are two scrollable lists:

- Managed Resource Roles**
 - All zCPC Managed Objects
 - BladeCenter Objects
 - DPXI50z Blade Objects
 - Ensemble Object
 - Groups created by ENSADMIN
- Task Roles**
 - Energy Administrator Tasks
 - Ensemble Administrator Tasks
 - Policy Administrator Tasks
 - Storage Resource Administrator Tasks
 - System Programmer Tasks

At the bottom of the dialog, there are four buttons: 'OK', 'User Properties...' (circled in blue), 'Cancel', and 'Help'.

Setting up HMC for Remote Use (cont.)

- Then check the *Allow remote access via web* checkbox



P32HMC1: User Profiles - Mozilla Firefox

https://localhost:8443/hmc/wcl/T1aeb

User Properties

Timeout Values

Session timeout minutes:

Verify timeout minutes:

Idle timeout minutes:

Minimum time in minutes between password changes:

Invalid Login Attempt Values

Maximum failed attempts before disable delay:

Disable delay in minutes:

Inactivity Values

Disable for inactivity in days:

Never disable for inactivity

Disruptive Confirmations

Require password for disruptive actions

Require text input for disruptive actions

Allow remote access via the web

Allow access to management interfaces

Maximum web services API sessions:

Idle web services API session timeout minutes:

OK Cancel Help

Setting up HMC for Remote Use (cont.)

- Or through the **Manage Users Wizard**



P32HMC1: Manage Users Wizard - Mozilla Firefox

https://localhost:8443/hmc/wcl/T1995

Manage User Wizard

- ✓ Welcome
- ✓ Pick a Task
- Create User Options
- ✓ Select a User
- **Create/Modify a User**
- Authentication Type
- Local Authentication
- LDAP Authentication
- Manage Objects
- Task Roles
- Confirmation Settings
- Object Control Settings
- UI Style Settings
- Classic Style Settings
- Object Background Settings
- Tree Style Settings
- Settings
- Summary

Create/Modify a User

Each user must sign in with a user name and some form of authentication. Select the Advanced button to assign logon session properties.

User name:

Description:

Disable user

Allow remote access via the web

< Back Next > Finish Cancel

Securing User IDs

Securing User IDs

• Best Practices

- Do not share HMC user IDs among multiple people
- Make sure each user ID is permitted access only to the tasks and managed resources needed to perform job responsibilities (see slides)
- Define password rules that adhere to the guidelines for the customer enterprise and make sure each user ID is configured to use these password rules (see slides)
- Use data replication to ensure that User Profile information (user IDs, roles, password rules, etc) are automatically synchronized among all HMCs installed in the enterprise (see slides)
- Disable the default user IDs
 - Even better DELETE them
 - At a minimum change the default passwords for these accounts

Securing User Ids (cont.)

- Use the User Profiles task to modify existing profiles
 - Check the **Disable user** field



User Profiles
Manage your system users that log onto the Hardware Management Console

Modify User

User Information

User ID: OPERATOR
Description: Operator level user

Disable user

Authentication

Local Authentication
LDAP Server

Details

Password Rule: Basic
Password:
Confirm password:

Force user to change the password at next login

Managed Resource Roles

Defined Directors/Timers Managed Objects
Defined Fiber Saver Managed Objects
Defined zCPC Managed Objects

Task Roles

Operator Tasks
Universal Director/Timer Tasks
Universal Fiber Saver Tasks

OK User Properties... Cancel Help

Or just delete the user

Delete Item Verification

You selected to delete the following user. User identification: OPERATOR.

Warning: Deleting the user will remove it permanently from the list of available users.

ADM003

Yes No

Create Custom Users and Roles

Create Custom Users and Roles

- Creating a custom user profile for each person that uses the HMC allows for the following benefits:
 - Specific access to the required objects for each user
 - Specific access to the required tasks for each user
 - More granularity in the audit logs, know exactly which person performed specific actions
 - No more sharing of user credentials and passwords
 - Each user will have a unique saved sessions on disconnects

Create Custom Users and Roles (cont.)

- User management tasks

- User Profiles
- Customize User Controls
- Password Profiles
- User Settings



User Profiles

Manage your system users that log onto the Hardware Management Console



Customize User Controls

Define, customize and remove managed resource roles and task roles



Password Profiles

Create, customize, or verify the password rules assigned to the system users



User Settings

Customize the appearance of the workplace

- Manage Users Wizard



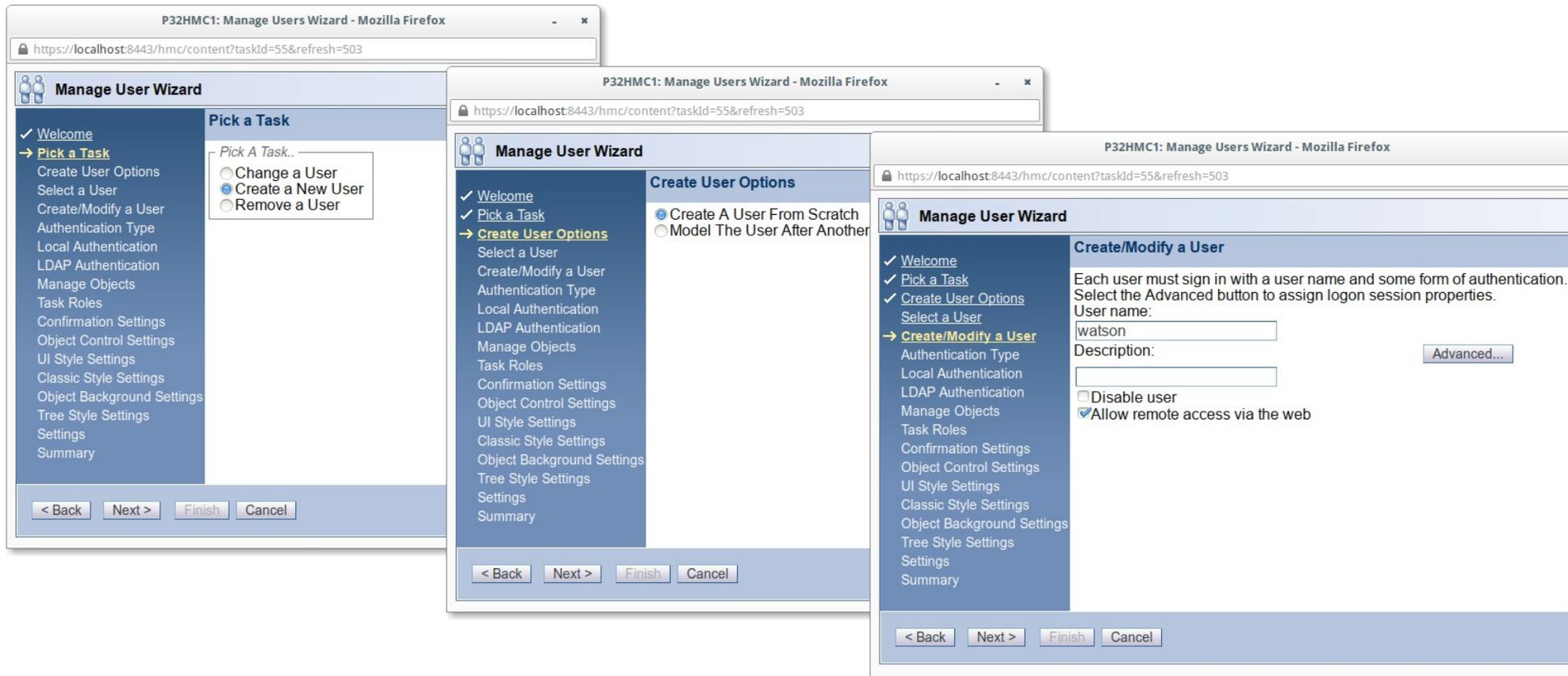
Manage Users Wizard

Create, modify, or remove users.

- Incorporates user management tasks in a guided step-by-step process

Create Custom Users and Roles (cont.)

- A guided step-by-step process
 - Incorporates User Options, Roles, Controls, Authentication, and More



Create Custom Users and Roles (cont.)

- Limit access to specific objects
 - Create a custom role with specific objects a user should have access to

Select and existing role to filter Available Objects

Next, select the object the role should have access to and press the Add button

Create Custom Users and Roles (cont.)

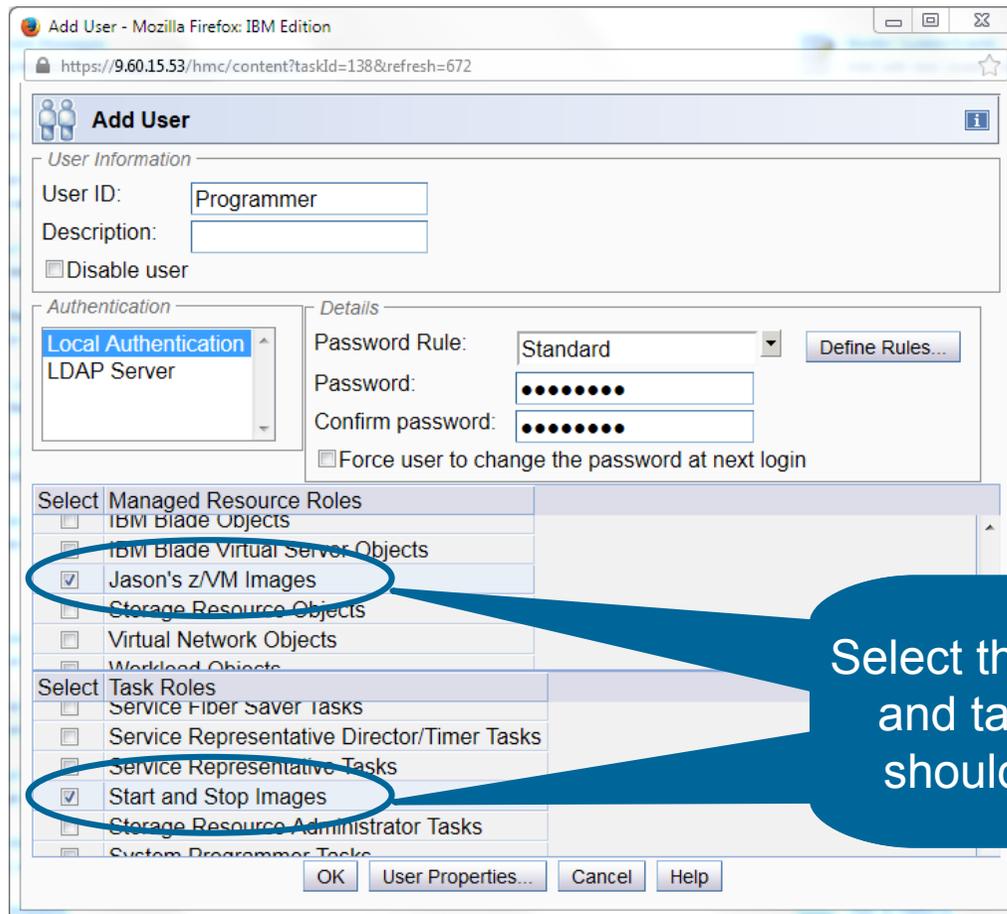
- Limit access to specific tasks
 - Create a task role with specific tasks a user should have access to

Select and existing role to filter Available Tasks

Next, select the task the role should have access to and press the Add button

Create Custom Users and Roles (cont.)

- Assign custom roles to user profiles
 - The user profile will be limited to the specific objects and tasks



Select the custom resource and task roles the user should have access to

Custom Authentication Settings

Custom Authentication Settings

- Users can be configured for either local authentication or LDAP
- Local Authentication
 - Governed by Password Profiles
 - Allows HMC users to meet corporate password rules
- Lightweight Directory Access Protocol (LDAP)
 - Provided by many enterprise directory servers
 - IBM Security Directory Server
 - Microsoft Active Directory
 - Apple Workgroup Manager
 - Allows HMC users to hook into existing corporate authentication
 - Single password across all HMCs and corporate network

Custom Authentication Settings (cont.)

- Use the **Password Profiles** task

Password Profiles
Create, customize, or verify the password rules assigned to the system users

Password Profiles

Password Rules

- Basic
- Standard
- Strict
- IBM Password Rules**

New Rule...
Delete Rule

Rule Data

Expiration day(s):	90
Minimum length:	8
Maximum length:	32
Consecutive characters:	0
Similarity count:	0
History count:	8
<input checked="" type="checkbox"/> Case sensitive	

Password Rule Parts

Defined Properties

- Rule Part 0
- Rule Part 1**

New Property
Delete Property

Property Data

Minimum characters:	7	
Maximum characters:	31	
Alphabetic:	must	
Numeric:	must	
Special:	can	
Specific property:	password	not
Specific property:		not

OK Cancel Help

Custom Authentication Settings (cont.)

- Custom password rules are defined through various profiles that are managed through the **Password Profiles** task

Password Profiles
Create, customize, or verify the password rules assigned to the system users

Password Profiles

Password Rules

- Basic
- Standard
- Strict
- IBM Password Rules**

New Rule...
Delete Rule

Rule Data

Expiration day(s): 90
 Minimum length: 8
 Maximum length: 32
 Consecutive characters: 0
 Similarity count: 0
 History count: 8
 Case sensitive

Password Rule Parts

Defined Properties

- Rule Part 0
- Rule Part 1**

New Property
Delete Property

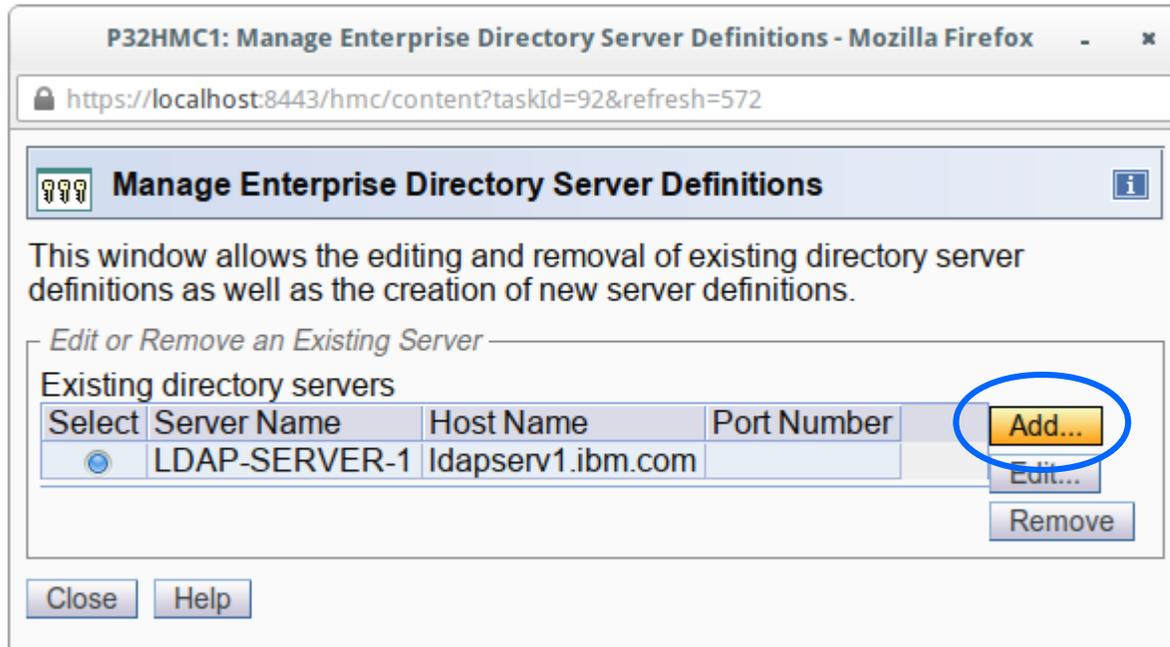
Property Data

Minimum characters: 7
 Maximum characters: 31
 Alphabetic: must
 Numeric: must
 Special: can
 Specific property: password not
 Specific property: not

OK Cancel Help

Custom Authentication Settings (cont.)

- LDAP servers are configured through the **Manage Enterprise Directory Server Definitions** task



P32HMC1: Manage Enterprise Directory Server Definitions - Mozilla Firefox

https://localhost:8443/hmc/content?taskId=92&refresh=572

Manage Enterprise Directory Server Definitions

This window allows the editing and removal of existing directory server definitions as well as the creation of new server definitions.

Edit or Remove an Existing Server

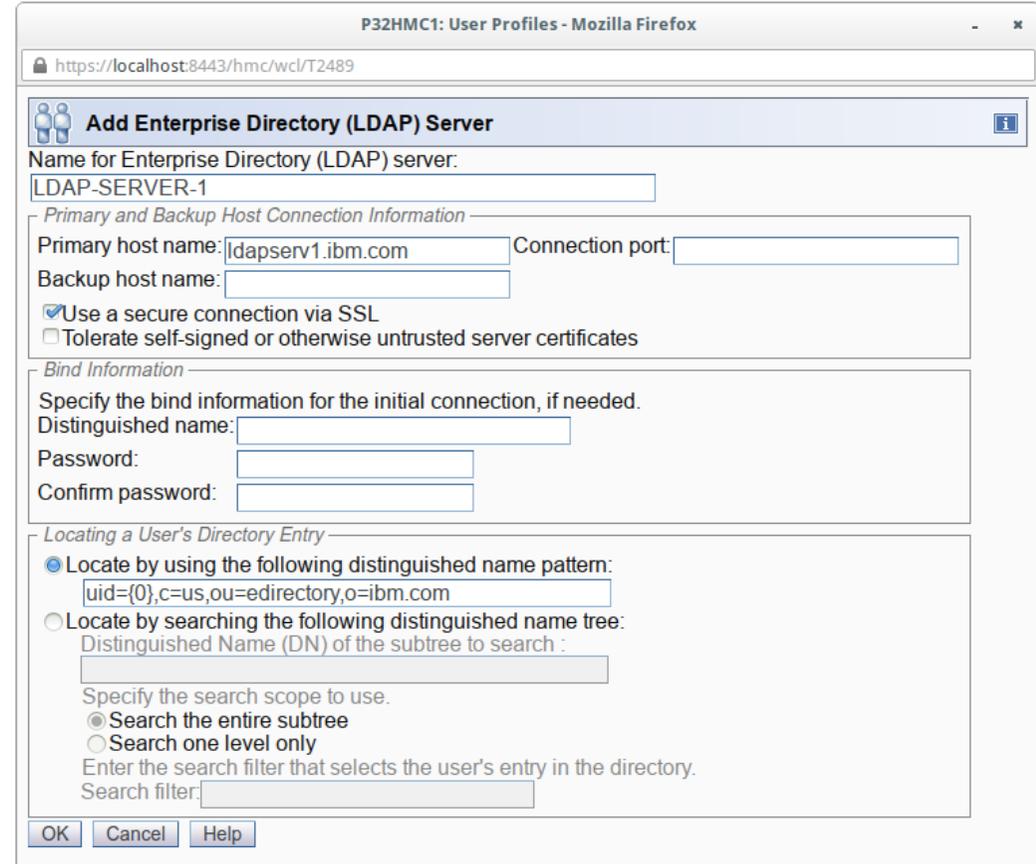
Existing directory servers

Select	Server Name	Host Name	Port Number	
<input checked="" type="radio"/>	LDAP-SERVER-1	ldapserv1.ibm.com		Add... Edit... Remove

Close Help

Custom Authentication Settings (cont.)

- Specify host name and other connection properties
- Enter a distinguished name (DN) pattern to match (as shown)
- Or search a directory entry on a DN tree through a property filter



The screenshot shows a web browser window titled "P32HMC1: User Profiles - Mozilla Firefox" with the URL "https://localhost:8443/hmc/wcl/T2489". The main content is a dialog box titled "Add Enterprise Directory (LDAP) Server".

Name for Enterprise Directory (LDAP) server:
LDAP-SERVER-1

Primary and Backup Host Connection Information

Primary host name: ldaperv1.ibm.com Connection port: []
Backup host name: []

Use a secure connection via SSL
 Tolerate self-signed or otherwise untrusted server certificates

Bind Information

Specify the bind information for the initial connection, if needed.
Distinguished name: []
Password: []
Confirm password: []

Locating a User's Directory Entry

Locate by using the following distinguished name pattern:
uid={0},c=us,ou=edirectory,o=ibm.com

Locate by searching the following distinguished name tree:
Distinguished Name (DN) of the subtree to search : []

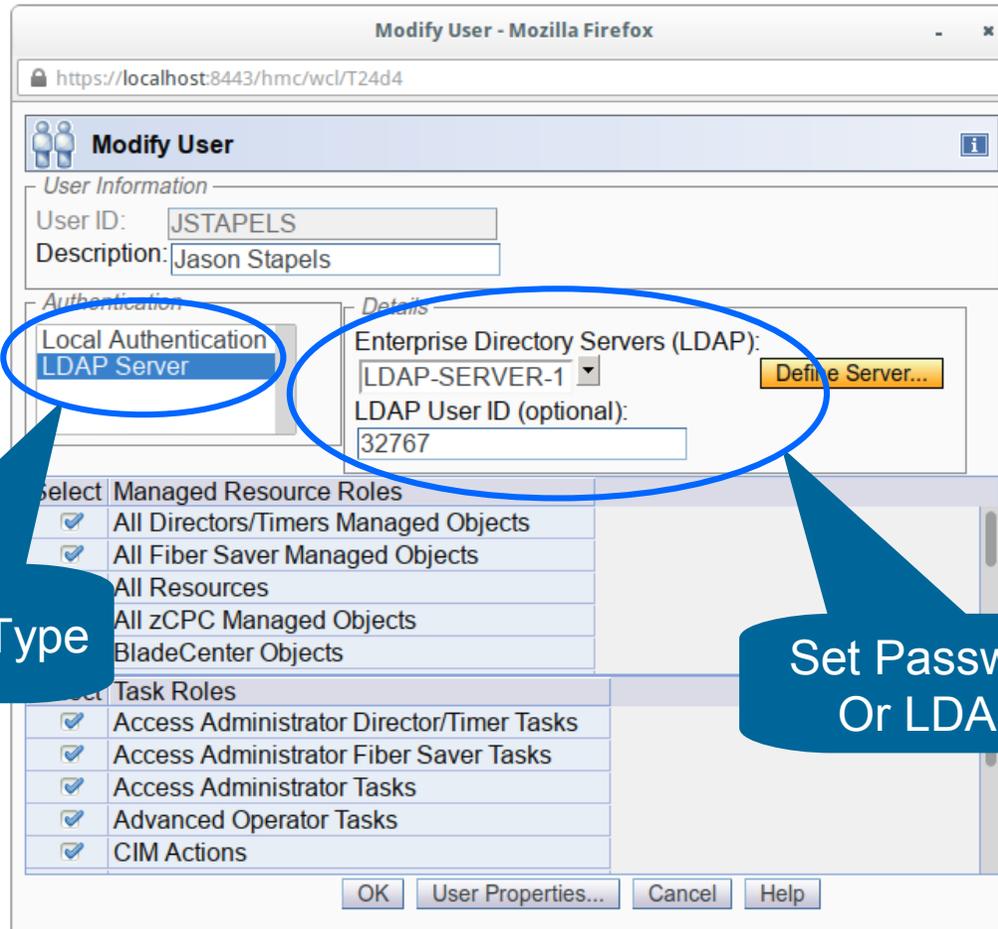
Specify the search scope to use.
 Search the entire subtree
 Search one level only

Enter the search filter that selects the user's entry in the directory.
Search filter: []

Buttons: OK, Cancel, Help

Custom Authentication Settings (cont.)

- Configure the authentication type to the User Profile



Set Authentication Type

Set Password Profile
Or LDAP Server

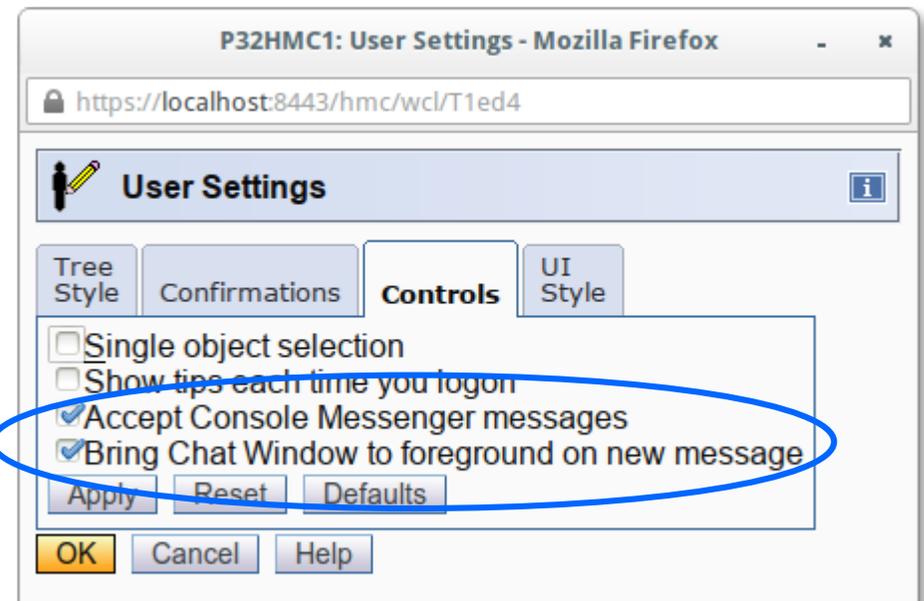
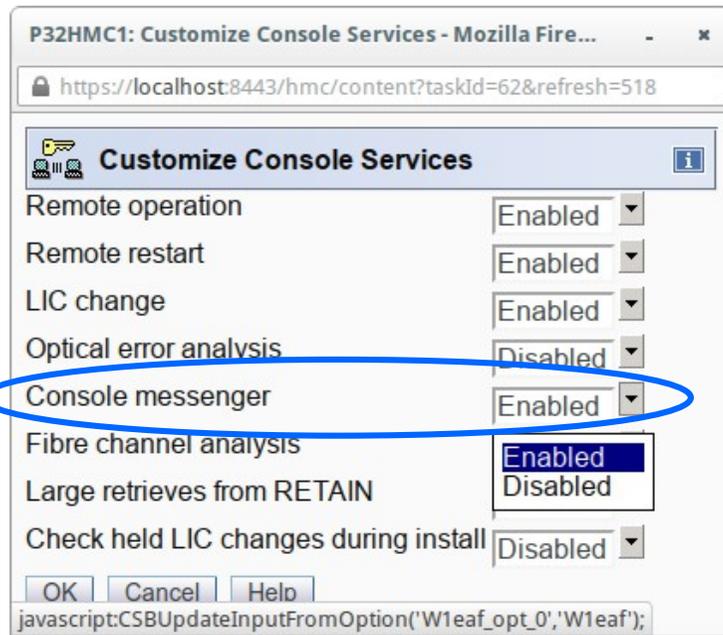
Communicating with Other Users

Communicating With Other Users

- **Console Messenger** task allows sending broadcast messages or start one-on-one chat sessions with other users

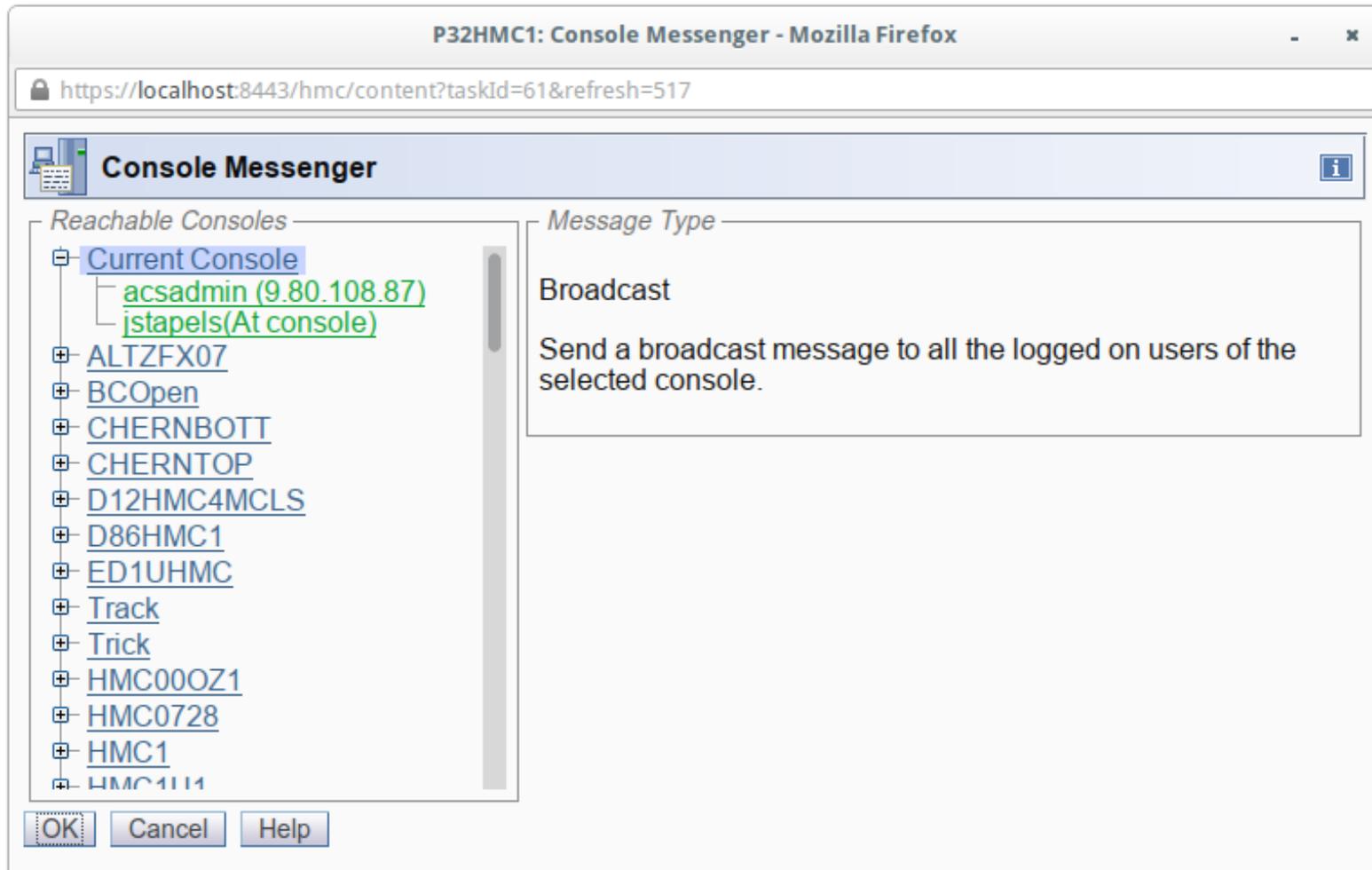


- Must be enabled on the console and for the user



Console Messenger

All HMCs with console messenger enabled and with the same security domain are listed.



Users and Tasks

- Can also be initiated from the **User and Tasks** task



P32HMC1: Users and Tasks - Mozilla Firefox

https://localhost:8443/hmc/content?taskId=57&refresh=507

Users and Tasks

The following is the list of users currently logged on. The table below lists all tasks running in the system.

Users Logged On

Select	Session Id	User Name	Logon Time	Running Tasks	Access Location	Notes
<input type="checkbox"/>	11	jstapels	7/22/14 1:15 PM	1	At console	This is your session
<input checked="" type="checkbox"/>	12	acsadmin	7/22/14 9:37 PM	1	9.80.108.87	

Logoff Disconnect Chat With

Running Tasks

Select	Task Id	Task Name	Targets	Session Id	Start Time
<input type="radio"/>	57	Users and Tasks		11	7/22/14 9:38 PM
<input type="radio"/>	56	Customize Console Date/Time		12	7/22/14 9:38 PM

Switch To Terminate

Close Help

Two-Way Communication

P32HMC1: Console Messenger - Mozilla Firefox
https://localhost:8443/hmc/content?taskId=58&refresh=509

Console Messenger Chat

Chat Partner
acsadmin on P32HMC1
Status : **Logged on** [view more info](#)

History

07/22/14 09:40:47 PM EDT
Me (09:41:17 PM): I'm testing a scheduled operating, please don't adjust the time.
Partner (09:41:35 PM): Oh okay, no problem.
Me (09:41:46 PM): Thanks!

Message

Bring chat window to foreground on message arrival.
Send Close Help

P32HMC1: Console Messenger - Mozilla Firefox
https://localhost:8443/hmc/content?taskId=58&refresh=509

Console Messenger Chat

Chat Partner
acsadmin on P32HMC1
Status : **Closed by partner** [view more info](#)

History

07/22/14 09:40:47 PM EDT

Instant Status

HMC Data Replication

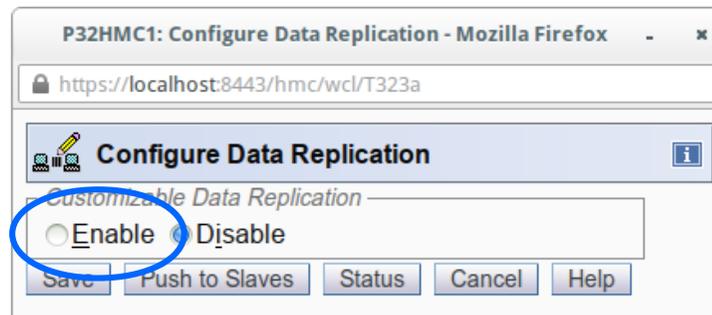
HMC Data Replication

- An HMC task and underlying communication framework
- Allows the exchange of configuration data between linked machines:
 - Acceptable Status Settings
 - Associated Activation Profiles
 - Customer Information Data
 - Group Data
 - Monitor System Events Data
 - Object Locking Data
 - Outbound Connectivity Data
 - User Profile Data
- A convenient way to keep multiple HMC synchronized
- Can be disabled to prevent this exchange
- Exchanges of data (inbound and outbound) are logged

HMC Data Replication (cont.)

- Enabled via **Configure Data Replication** task
- Occurs from the slave machine
- Master must be runnable/reachable
- Master need not be enabled for exchange

 [Configure Data Replication](#)
Configure the Data Replication settings for the HMC



HMC Data Replication (cont.)

- Configuration task allows you to
 - Search for/select masters
 - Select which data types to replicate
 - Establish 'local' modification warnings
 - Warns task user, on the slave, that their changes may interfere with data that is being replicated
 - It may cause a data item to become 'ahead' of the master

HMC Data Replication (cont.)

Configure Data Replication

Customizable Data Replication

Enable Disable

Data Source(s)

P32HMC2

New

Delete

Customizable Data Types

Select	Data Types
<input type="checkbox"/>	Customer Information Data
<input type="checkbox"/>	Group Data
<input type="checkbox"/>	Remote Service Data
<input checked="" type="checkbox"/>	User Profile Data
<input type="checkbox"/>	Monitor System Events Data

Local Customizable Data Change Warnings

Select the customizable data types that should generate warning when the type of data is manually changed on this Hardware Management Console and are also configured to be replicated from one or more data sources.

Select	Data Warning Types
<input type="checkbox"/>	Customer Information Data
<input type="checkbox"/>	Group Data
<input type="checkbox"/>	Remote Service Data
<input checked="" type="checkbox"/>	User Profile Data
<input type="checkbox"/>	Monitor System Events Data

Save Push to Slaves Sync from Master Status Cancel Help

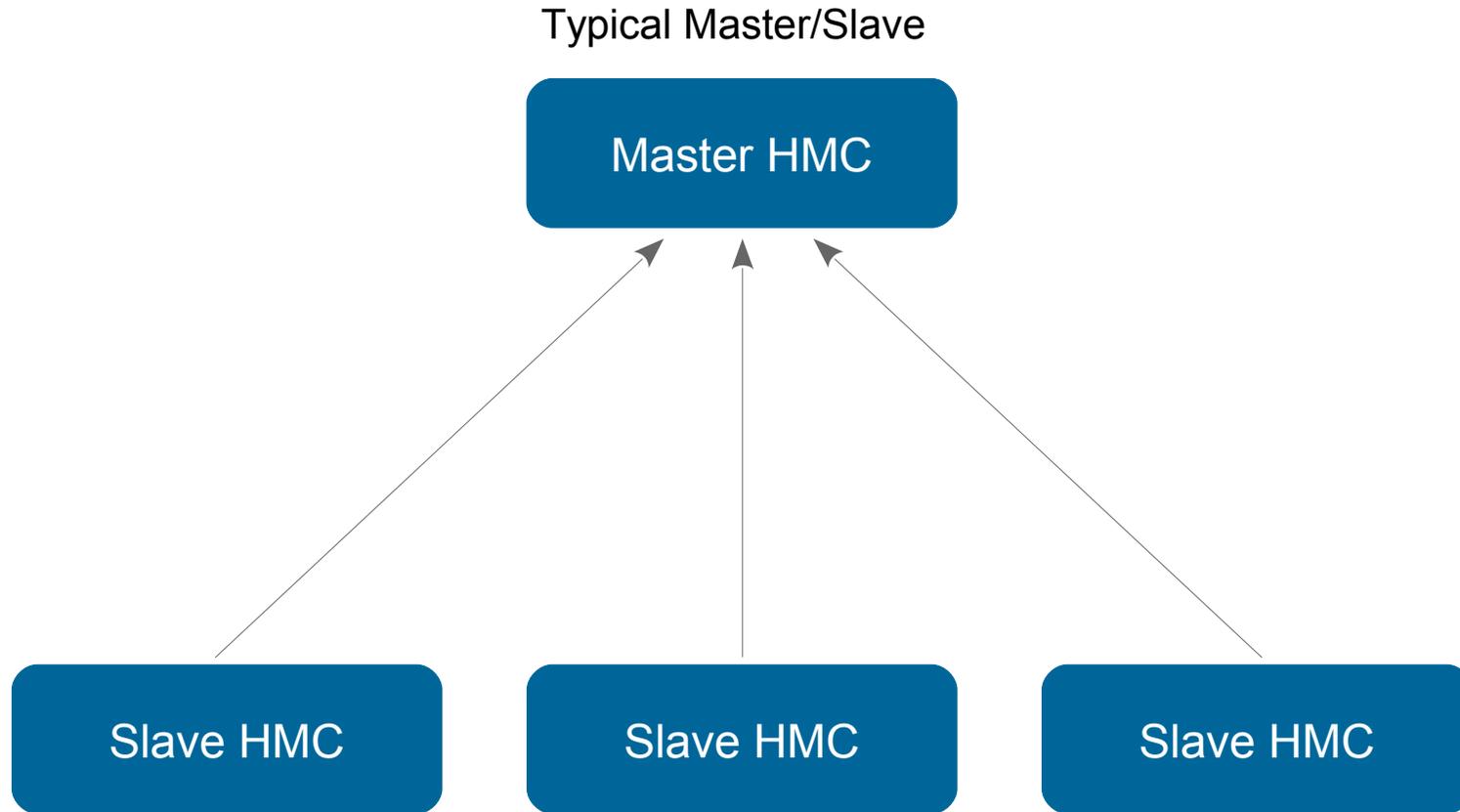
Requested Data Types From The Master

Master Name

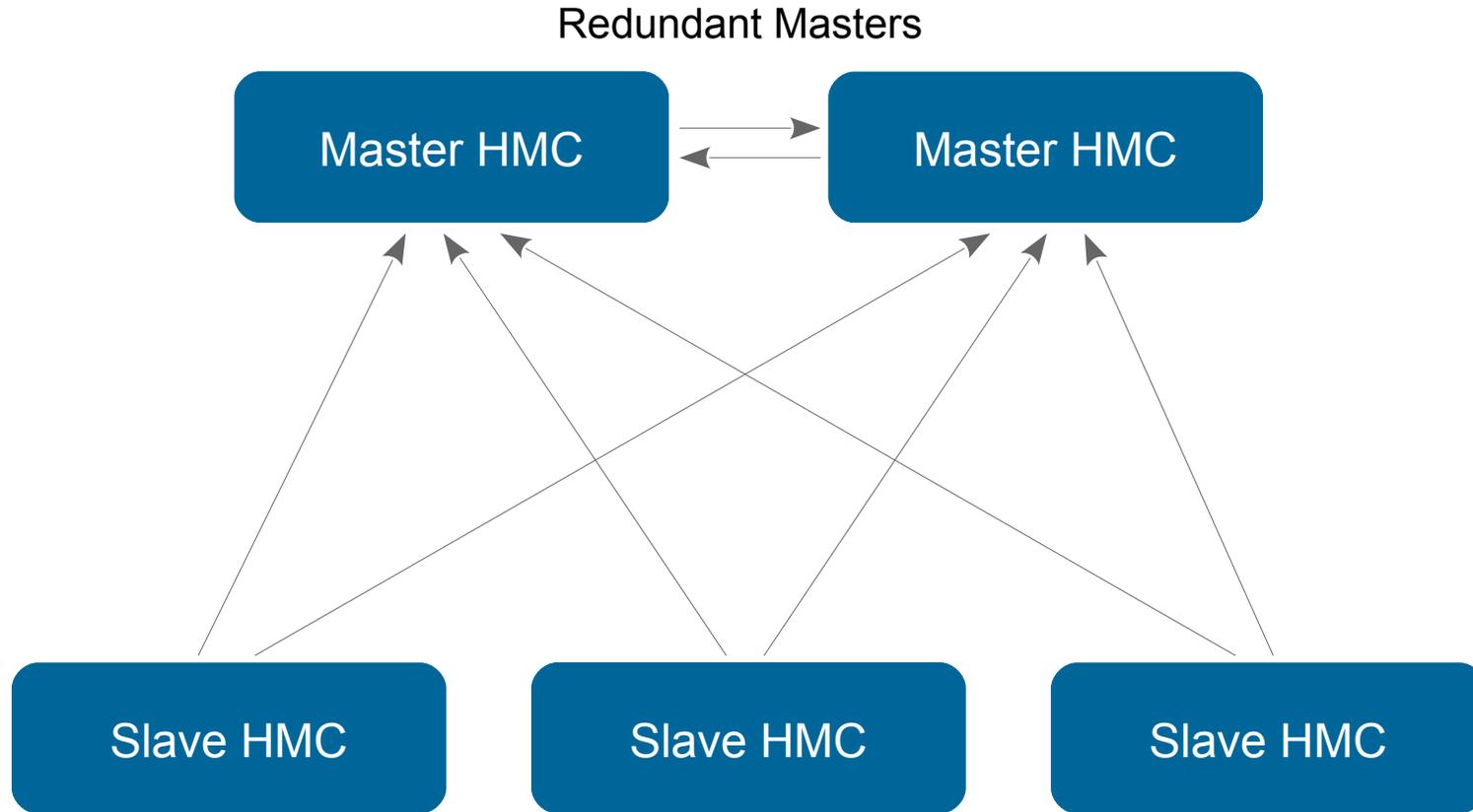
Warn Users When They Change Selected Data on Local Machine

Used to Force Updates If Slave Gets 'Ahead' Of Master

HMC Data Replication (cont.)



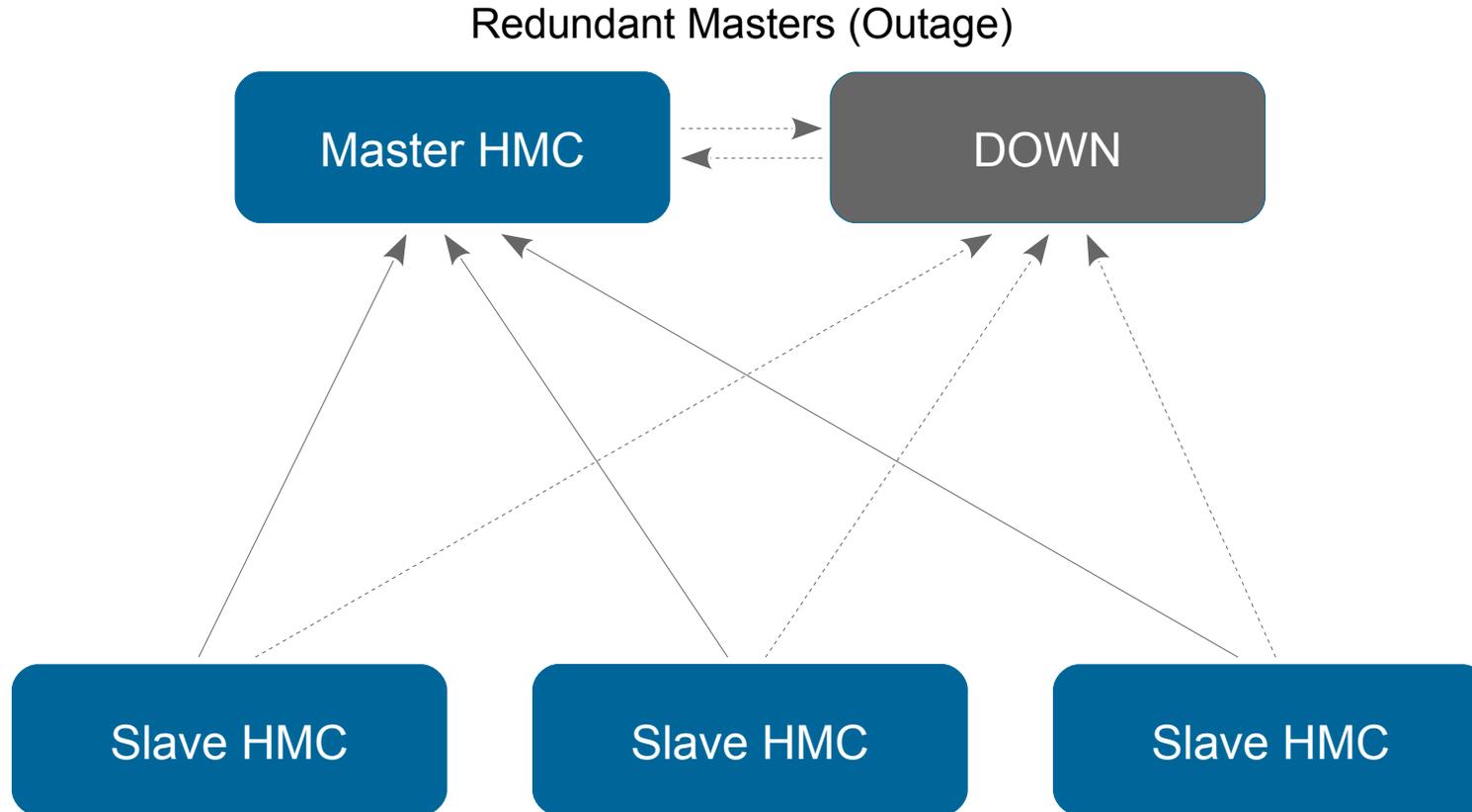
HMC Data Replication (cont.)



Changes made on either master:

- Propagate to all slaves
- And the peer master

HMC Data Replication (cont.)



HMC Certificate Management

HMC Certificate Management

- Self-signed certificate created at the time of HMC installation
 - Not used until remote communications enabled
- Recommend replacing the self-signed certificate with one signed by a Certificate Authority (CA)
 - If the remote users using a network which potentially isn't secure
- If the self-signed certificate is not replaced and a user adds the certificate as an exception, there is a risk of the HMC being “spoofed” and capturing HMC credentials
- If your company does not have its own CA, you can purchase a certificate from a commercial CA that is already in your browser
 - Check your browser for a list of CA certificates already installed and trusted

HMC Certificate Management (cont.)

- Use the *New Certificate* action in the **Certificate Management** task to change the current certificate



Certificate Management

Create, modify, delete, and import certificates used on the HMC, and view certificate signing information

P32HMC1: Certificate Management - Mozilla Firefox

https://localhost:8443/hmc/content?taskId=70&refresh=536

Certificate Management

Create ▾ Selected ▾ Advanced ▾

New Certificate

Certificate for this console:

Select	Property	Value
<input type="radio"/>	Version	3
<input type="radio"/>	Serial Number	78745020305661003580885907565053457269
<input type="radio"/>	Issuer	CN=P32HMC1.endicott.ibm.com
<input type="radio"/>	Valid From	Jan 14, 2014 10:19:48 AM
<input type="radio"/>	Valid Until	Jun 26, 2022 11:19:48 AM
<input type="radio"/>	Subject	CN=P32HMC1.endicott.ibm.com
<input type="radio"/>	Subject Alternative Names	DNS: P32HMC2.endicott.ibm.com, DNS: P32HMC1.endicott.ibm.com, IP: 9.60.14.53, IP: 9.60.14.54, IP: 9.60.15.53, IP: 9.60.15.54

Apply Cancel Help

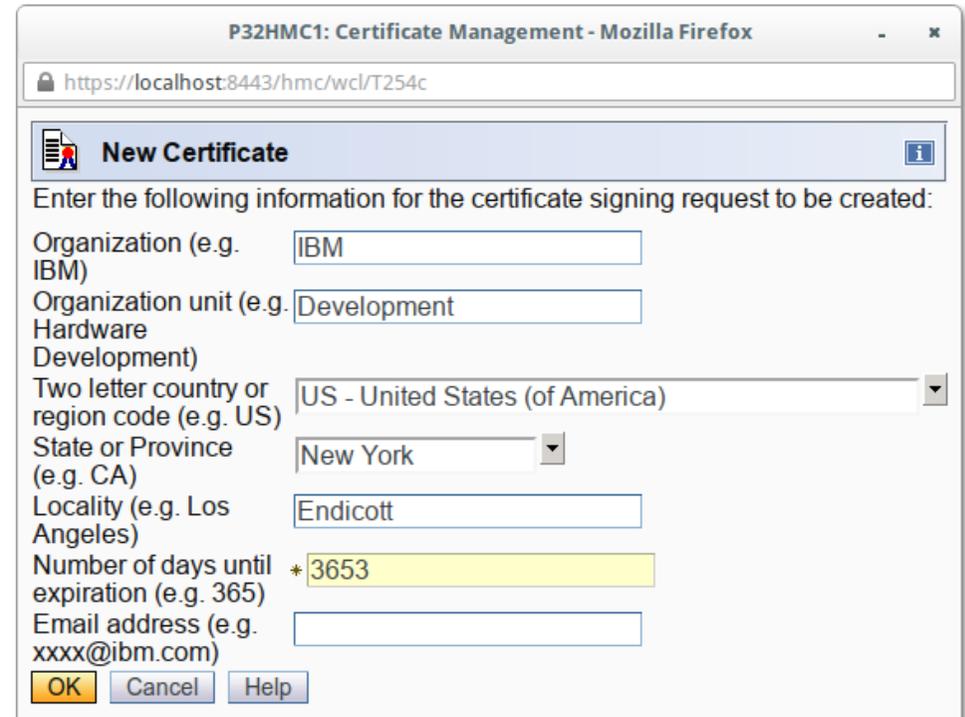
HMC Certificate Management (cont.)

- Select *Signed by a Certificate Authority*



HMC Certificate Management (cont.)

- Fill in the specifics for the HMC (e.g. your organization and company)
- The IP address (v4 and/or v6) and the TCP/IP host name of the HMC is included automatically in the certificate
- You will be guided to write the Certificate Signing Request (CSR) to the USB Flash Drive (UFD)



P32HMC1: Certificate Management - Mozilla Firefox

https://localhost:8443/hmc/wcl/T254c

New Certificate

Enter the following information for the certificate signing request to be created:

Organization (e.g. IBM)

Organization unit (e.g. Development)

Hardware Development

Two letter country or region code (e.g. US)

State or Province (e.g. CA)

Locality (e.g. Los Angeles)

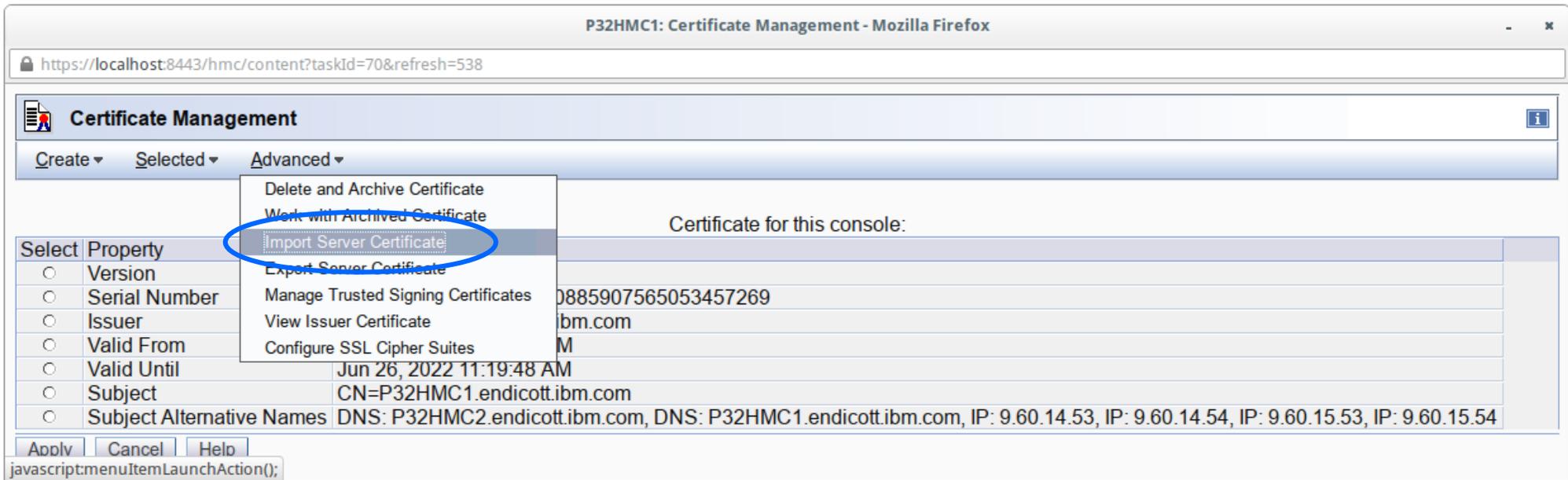
Number of days until expiration (e.g. 365) *

Email address (e.g. xxxx@ibm.com)

OK Cancel Help

HMC Certificate Management (cont.)

- After generating a new certificate using the CSR, use *Import Server Certificate* to load the new certificate



The screenshot shows the 'Certificate Management' interface in Mozilla Firefox. The browser address bar displays 'https://localhost:8443/hmc/content?taskId=70&refresh=538'. The page title is 'P32HMC1: Certificate Management - Mozilla Firefox'. Below the title bar, there are navigation tabs: 'Create', 'Selected', and 'Advanced'. A dropdown menu is open under the 'Advanced' tab, with 'Import Server Certificate' highlighted by a blue circle. Other options in the menu include 'Delete and Archive Certificate', 'Work with Archived Certificate', 'Export Server Certificate', 'Manage Trusted Signing Certificates', 'View Issuer Certificate', and 'Configure SSL Cipher Suites'. Below the menu, a table displays certificate details for 'Certificate for this console:'. The table has columns for 'Select', 'Property', and 'Value'. The 'Subject' property is highlighted. At the bottom of the table, there are 'Apply', 'Cancel', and 'Help' buttons. A small JavaScript snippet is visible at the bottom left: 'javascript:menuItemLaunchAction();'.

Select	Property	Value
<input type="radio"/>	Version	
<input type="radio"/>	Serial Number	0885907565053457269
<input type="radio"/>	Issuer	ibm.com
<input type="radio"/>	Valid From	M
<input type="radio"/>	Valid Until	Jun 26, 2022 11:19:48 AM
<input type="radio"/>	Subject	CN=P32HMC1.endicott.ibm.com
<input type="radio"/>	Subject Alternative Names	DNS: P32HMC2.endicott.ibm.com, DNS: P32HMC1.endicott.ibm.com, IP: 9.60.14.53, IP: 9.60.14.54, IP: 9.60.15.53, IP: 9.60.15.54

- Load the new certificate using removable media
- The new certificate will now be used for new HMC connections

Monitor System Events

Monitor System Events

- Allows you to receive an email when a particular event happens for objects that you're interested in
- Supported event types
 - State Changes
 - Hardware Message
 - Operating System Messages
 - Security Log
 - Performance Index
 - Availability Status
- Uses an SMTP server to send out email
 - It's recommended that you use a private SMTP server designated just for the HMCs use

Monitor System Events (cont.)

- Launch **Monitor System Events** task
- Configure SMTP settings



Monitor System Events

Add, edit, test, enable, disable, or delete system event monitors

Event Monitor Summary

Settings

SMTP Server: 9.56.214.105

SMTP Port: *25

Minimum time between emails: *300 (in seconds, minimum of 60)

Monitors

Select	Name	Description	Last Event	Enabled
<input checked="" type="radio"/>	Availability Status Example	Example availability status monitor		<input type="checkbox"/>
<input type="radio"/>	HW Msg Example	Example hardware message monitor.		<input type="checkbox"/>
<input type="radio"/>	OS Msg Example	Example operating system message monitor.		<input type="checkbox"/>
<input type="radio"/>	Security Log Example	Example security log monitor.		<input type="checkbox"/>
<input type="radio"/>	Service Class PI Example	Example service class PI monitor		<input type="checkbox"/>
<input type="radio"/>	State Change Example	This is example of a state change monitor.		<input type="checkbox"/>
<input type="radio"/>	Virtual Server CPU Example	Example virtual server CPU utilization monitor		<input type="checkbox"/>
<input type="radio"/>	hdwmsg2		Jan 31, 2013 2:43:06 PM	<input type="checkbox"/>
<input type="radio"/>	hdwmsg3			<input type="checkbox"/>

Add... Edit... Delete

OK Test... Help

Monitor System Events (cont.)

- Manage existing monitors or click the *Add* button to create a new monitor

Event Monitor Summary

Settings

SMTP Server: 9.56.214.105

SMTP Port: * 25

Minimum time between emails: * 300 (in seconds, minimum of 60)

Monitors

Select	Name	Description	Last Event	Enabled
<input checked="" type="radio"/>	Availability Status Example	Example availability status monitor		<input type="checkbox"/>
<input type="radio"/>	HW Msg Example	Example hardware message monitor.		<input type="checkbox"/>
<input type="radio"/>	OS Msg Example	Example operating system message monitor.		<input type="checkbox"/>
<input type="radio"/>	Security Log Example	Example security log monitor.		<input type="checkbox"/>
<input type="radio"/>	Service Class PI Example	Example service class PI monitor		<input type="checkbox"/>
<input type="radio"/>	State Change Example	This is example of a state change monitor.		<input type="checkbox"/>
<input type="radio"/>	Virtual Server CPU Example	Example virtual server CPU utilization monitor		<input type="checkbox"/>
<input type="radio"/>	hdwmsg2		Jan 31, 2013 2:43:06 PM	<input type="checkbox"/>
<input type="radio"/>	hdwmsg3			<input type="checkbox"/>

Buttons: Add... Edit... Delete

Buttons: OK Test... Help

Monitor System Events (cont.)

- Enter in a name for the monitor
- Choose the event type
- Select event targets and details
- Limit to a particular schedule
- Enter in one or more email addresses to be notified when the monitor is triggered

Event Monitor Editor

Name:

Description:

Event type:

- State Changes
- Hardware Messages
- Operating System Messages
- Security Log
- CPU Utilization
- Performance Index (PI)
- Availability Status

Event targets:

Select	Object Name
<input type="checkbox"/>	P00E9EB6:MCSIMTST
<input type="checkbox"/>	P00E9EB6:VMALT1
<input checked="" type="checkbox"/>	P00E9EB6:VMALT2
<input type="checkbox"/>	P00E9EB6:ZOS
<input type="checkbox"/>	P00E9EB6:ZOS1
<input type="checkbox"/>	POLXSM28

Event pattern: *.*->Not Operating # From any state to Not Operating

Event schedule:

- Limit to times: Start Time: 9:47:49 AM End Time: 11:59:59 PM
- Limit to days: Sunday Monday Tuesday Wednesday Thursday Friday Saturday
- Limit to dates: Start Date: 7/24/14 End Date: 7/25/14

Notification list: *jstapels@us.ibm.com

OK Cancel Help

Monitor System Events (cont.)

- Email contains events summary since last email

Who	Subject	Date	Size
P32HMC1_EventM	Monitor System Events, Message Count: 1	07/24/2014 10:46 AM	6K



Monitor System Events, Message Count: 1
P32HMC1_EventMonitor to: Jason Stapels

Message Number: 1 *****
 Event: 'State Change'
 Source: 'P00E9EB6 VMALT2'
 Text: 'Operating-->Not Operating'
 Time: 'Jul 24, 2014 10:46:24 AM EDT'
 Monitor:
 Name: 'z/VM Gets Deactivate'
 Description: 'z/VM Partition is no longer operating'
 Enabled: 'true'
 Regular Expression: '.*-->Not Operating # From any state to Not Operating'
 Start Time: 'unspecified'
 End Time: 'unspecified'
 Start Date: 'unspecified'
 End Date: 'unspecified'
 Active Days: '[Sun, Mon, Tue, Wed, Thu, Fri, Sat]'
 Email Addresses: 'jstapels@us.ibm.com'
 Locale: 'en_US'

Absolute Capping

Absolute Capping

- Introduced to ensure software licensing Terms and Conditions related to capacity are always met (ie. Software Pricing)
- A method to define an absolute cap for a given partition
 - If specified, always works independently of any other capping
 - Defines an absolute number of processors to cap the partition's activity to
 - Specified to hundredths of a processor (eg. 4.56 processors) worth of capacity
 - Value not tied to the LICCC processors maximum
 - A value from 0.01 to 255 valid
 - Activation profiles more portable as you migrate to higher machine capacity or newer systems
 - If you specify a value above current machine maximum or number of processors defined for an LPAR (Image), absolute capping will be ignored but other capping means will still be honored

Absolute Capping (cont.)

- Support added for:
 - Activation Profiles
 - Customize Activation Profiles
 - Classic editor
 - Profile wizard
 - Change LPAR Controls Task
 - Change LPAR Weights Scheduled Operation
 - APIs
 - SNMP APIs
 - CIMMOM APIs
 - WebServices APIs

Absolute Capping (cont.)

- Existing ways to cap the utilization of a partition
 - Dedicated processors
 - Active manipulation of LPAR weights (i.e. WLM)
 - capping via LPAR weights
 - Limit number of shared logical processors to physical capping requirement (may actually cause LPAR to have under-defined logical processors as compared to the partition's weight)

Absolute Capping (cont.)

- Potential drawbacks with methods mentioned
 - Dedicated processors
 - Not very granular, may want to cap less than one processor's worth of capacity
 - May not be possible if there aren't enough engines
 - Loses processor utilization efficiency of non dedicated processors
 - Existing non dedicated processor capping is based off of the weight of all active partitions
 - Customers may fail to compute the capacity correctly
 - Configuration change (processors add) may lead to more capacity being allocated than desired
 - If partitions are deactivated, other active partitions capping increases
 - If only one shared active partition left, result => no capping (100 % of shared pool)

Absolute Capping (cont.)

P32HMC1: Customize/Delete Activation Profiles - Mozilla Firefox

https://localhost:8443/hmc/content?taskId=100&refresh=588

Customize Image Profiles: P00E9EB6:VMALT1 : VMALT1 : Processor

Group Name <Not Assigned>

Logical Processor Assignments

Dedicated processors

Select	Processor Type	Initial	Reserved
<input checked="" type="checkbox"/>	Central processors (CPs)	8	1
<input checked="" type="checkbox"/>	System z application assist processors (zAAPs)	0	1
<input checked="" type="checkbox"/>	System z integrated information processors (zIIPs)	0	1

Not Dedicated Processor Details for :
 CPs zAAPs zIIPs

CP Details

Initial processing weight: 1 to 999 Initial capping

Enable workload manager

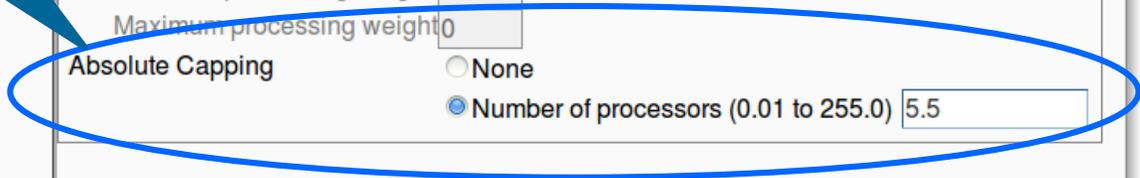
Minimum processing weight:

Maximum processing weight:

Absolute Capping: None Number of processors (0.01 to 255.0)

Buttons: Cancel Save Copy Profile Paste Profile Assign Profile Help

May be combined with traditional capping or WLM, but not both



Absolute Capping (cont.)

P32HMC1: Change LPAR Controls - Mozilla Firefox

https://localhost:8443/hmc/wcl/T3893

Change Logical Partition Controls - P00E9EB6

Last reset profile attempted:
Input/output configuration data set (IOCDS):a0 P32VMIOC

CPs zAAPs zIIPs Processor Running Time

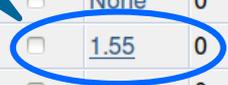
Logical Partitions with Central Processors

--- Select Action ---

Logical Partition	Active	Defined Capacity	Current	Initial Capping	Absolute Capping	Number of Dedicated Processors	Number of Not dedicated Processors
APIVM1	Yes	0		<input type="checkbox"/>	None	0	2
APIVM2	No	0		<input type="checkbox"/>	None	0	1
GDLVMBUV	No	0		<input type="checkbox"/>	None	0	1
LX1	Yes	0	<input type="checkbox"/> 10	<input type="checkbox"/> 10	None	0	4
LX2	Yes	0	<input type="checkbox"/> 10	<input type="checkbox"/> 10	None	0	4
MCSIM	Yes	0	<input type="checkbox"/> 10	<input type="checkbox"/> 10	None	0	8
MCSIMTST	No	0	<input type="checkbox"/> 0	<input type="checkbox"/> 10	None	0	4
VMALT1	Yes	0	<input type="checkbox"/> 10	<input type="checkbox"/> 10	<input type="checkbox"/> 1.55	0	2
VMALT2	Yes	0	<input type="checkbox"/> 10	<input type="checkbox"/> 10	<input type="checkbox"/> None	0	2
ZOS	No	0	<input type="checkbox"/> 0	<input type="checkbox"/> 10	<input type="checkbox"/> None	0	6
ZOS1	No	0	<input type="checkbox"/> 0	<input type="checkbox"/> 10	<input type="checkbox"/> None	0	1

Save to Profiles Change Running System Save and Change Reset Cancel Help

Click on link to make Changes to the Absolute Capping setting



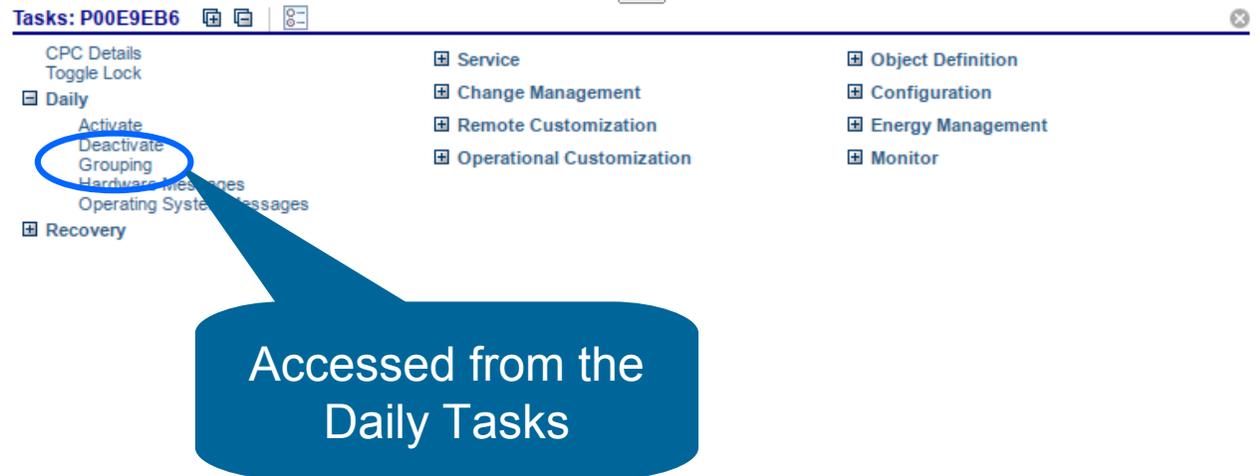
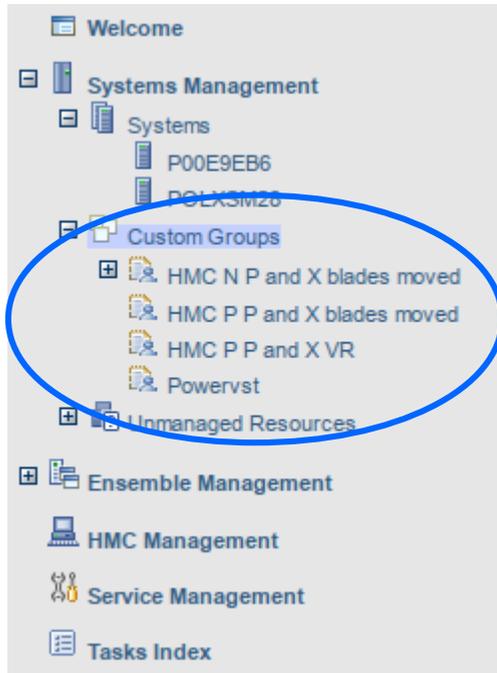
Custom Groups

Custom Groups

- A custom group is a set of objects that have been grouped based on a specific set of criteria:
 - Group based on a name pattern
 - Group based on an object type
 - Group based on a specific selection of objects
- A convenient way to work with only the objects that you care about
- Set your group up based on a location or a environment type
- Easily run tasks against the custom group

Custom Groups

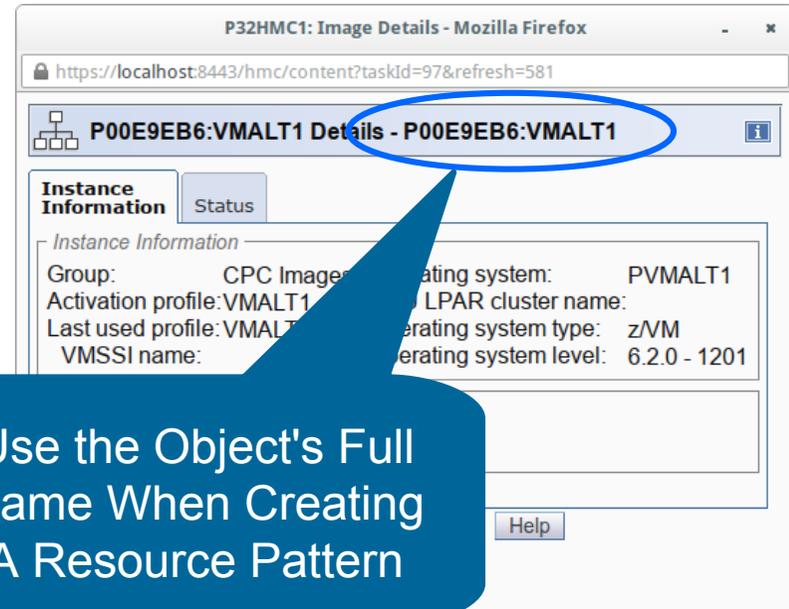
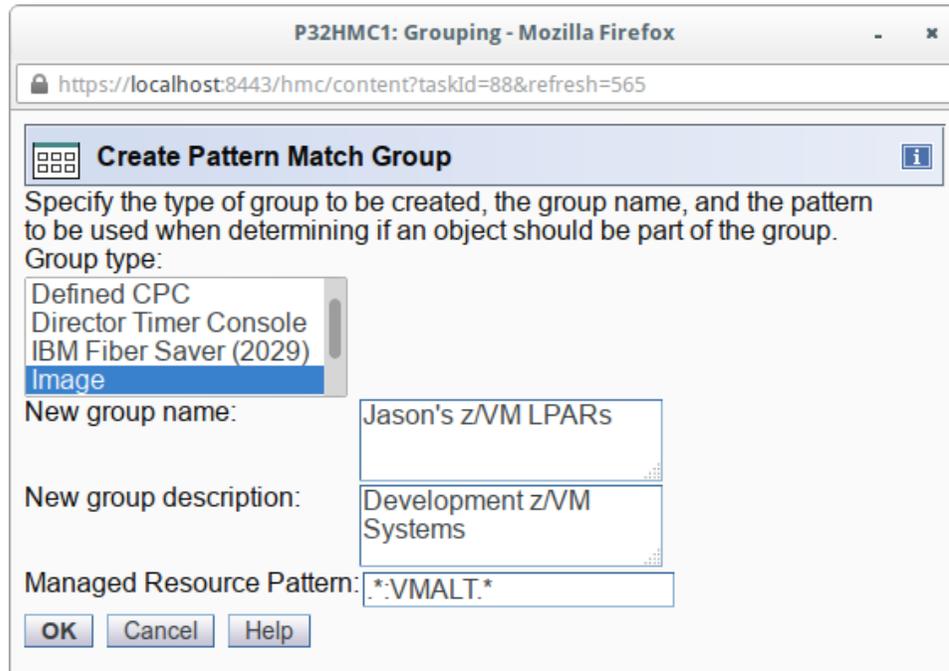
- Quickly access from the Tree Navigation pane



- Use the **Grouping** task to configure

Custom Groups (cont.)

- Creating a new custom group based on name filters
- Be sure to use the FULL object name



Use the Object's Full Name When Creating A Resource Pattern

Custom Groups (cont.)

- Or create a group from a selection of objects

Systems Management > Systems > P00E9EB6

Images | z/VM Virtual Machines | Topology

Filter: [] Tasks: [] Views: []

Select	Name	Status	Activation Profile	Last Used Profile	OS Name	OS Type	OS Level
<input checked="" type="checkbox"/>	APIVM1	Not Operating	APIVM1				
<input checked="" type="checkbox"/>	APIVM2	Not activated	APIVM2				
<input type="checkbox"/>	GDLVMBUV	Not activated	GDLVMBUV				
<input type="checkbox"/>	LX1	Not Operating	LX1	LX1			
<input type="checkbox"/>	LX2	Exceptions	LX2				
<input type="checkbox"/>	MCSIM	Exceptions	MCSIM	MCSIM			
<input type="checkbox"/>	MCSIMTST	Not activated	MCSIMTST				
<input checked="" type="checkbox"/>	VMALT1	Operating	VMALT1	VMALT1	PVMALT1	z/VM	6.2.0 - 1201
<input checked="" type="checkbox"/>	VMALT2	Not activated	VMALT2				
<input type="checkbox"/>	ZOS	Not activated	ZOS				
<input type="checkbox"/>	ZOS1	Not activated	ZOS1				

Max Page Size: 500 | Total: 11 | Filtered: 11 | Selected: 4

Tasks: APIVM1...

- Image Details
- Toggle Lock
- Grouping** (circled in blue)
- Hardware Messages
- Operating System Messages
- Reset Normal
- Recovery
 - Access Removable Media
 - Integrated 3270 Console
 - Integrated ASCII Console Load
 - Load from Removable Media or Ser
 - PSW Restart
 - Reset Clear
- Operational Customization
 - Configure Channel Path On/Off
 - Customize/Delete Activation Profiles
 - Logical Processor Add
 - View Activation Profiles

Select Objects Then Launch Grouping Task From Daily Actions

P32HMC1: Grouping - Mozilla Firefox

https://localhost:8443/hmc/content?taskId=90&refresh=568

Manage Groups

Selected Item(s):

- P00E9EB6 APIVM1
- P00E9EB6 APIVM2
- P00E9EB6 VMALT1 (PVMALT1)

Select the type of group action to perform.

Group Action

- Create a new group
- Add to an existing group
- Remove from an existing group
- Remove group
- Edit existing group
- Create a new pattern match group

New group name: All Jason's z/VM LPARs

New group description:

Group name:

- HMC N P and X blades moved
- HMC N P and X VRs
- Powervst

OK Cancel Help

धन्यवाद

Hindi

Kiitos

Finnish

ขอบคุณ

Thai

Спасибо

Russian

Gracias

Spanish

شكراً

Arabic

多謝

Traditional Chinese

Thank You

English

Dank U wel

Dutch

Takk

Norwegian

Tack

Swedish

Grazie

Italian

Obrigado

Portuguese

Merci

French

多谢

Simplified Chinese

நன்றி

Tamil

ありがとうございました

Japanese

Danke

German

감사합니다

Korean

Q&A



SHARE in Pittsburgh – Session 15591



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