



## Let's Install the HMC Workplace

**WAVV – Chattanooga, TN  
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IBM System z Software – Strategy and Design**

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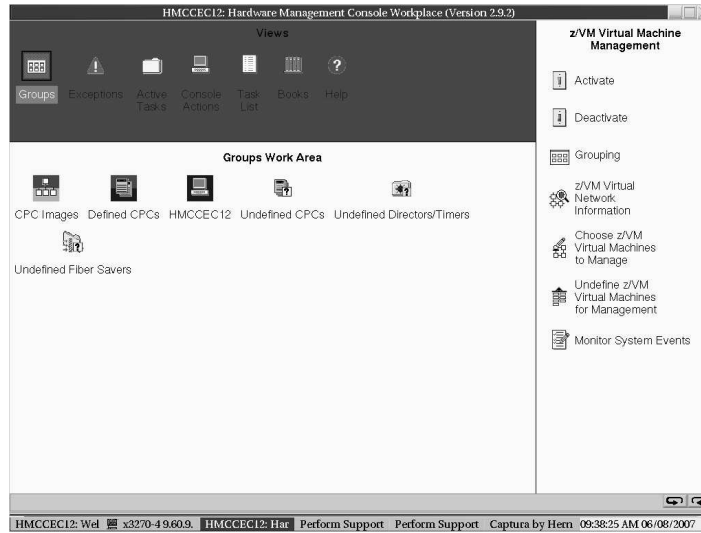
## Agenda

- **z/VM Integrated Systems Management**
- **Examples**
- **Architecture**
- **Requirements**

## z/VM Integrated Systems Management

- **HMC recognizes z/VM logical partition**
- **Extends management to virtual machine level**
  - ▶ **Select guests to manage**
  - ▶ **Display guest configuration**
  - ▶ **Display status**
  - ▶ **Display Guest LAN and Virtual Switch configurations**
  - ▶ **Activate guest**
  - ▶ **Deactivate guest**
  - ▶ **Grouping**
  - ▶ **Event monitoring**

## Examples

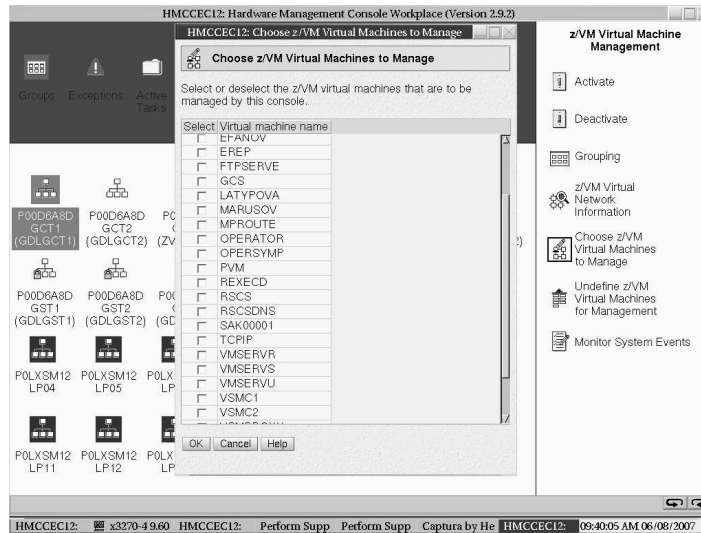


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## Examples ...

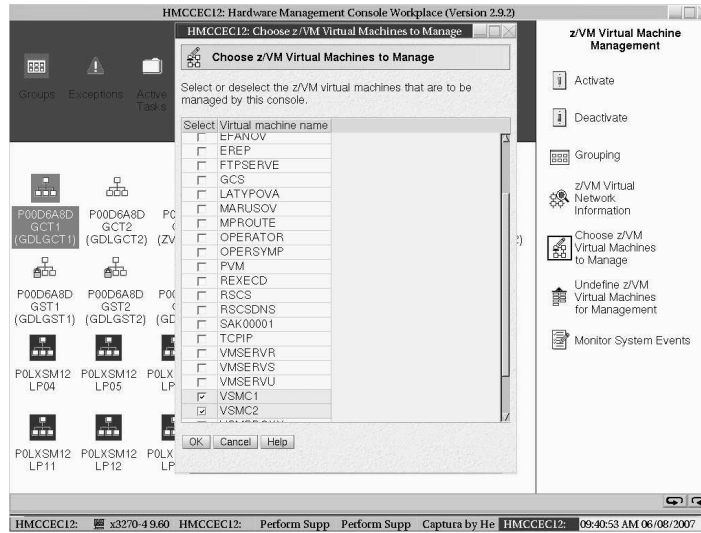


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## Examples ...

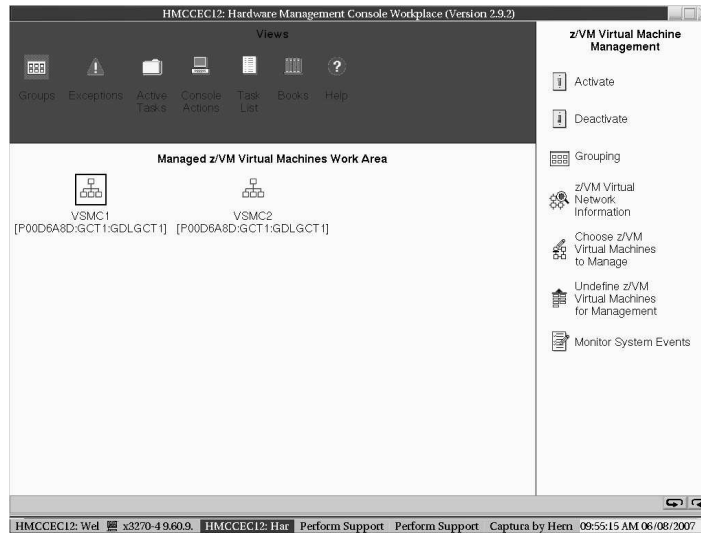


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## Examples ...



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## Examples ...

The screenshot shows the HMCCE12 Hardware Management Console Workplace (Version 2.9.2) interface. A dialog box titled "Virtual Network Information for GCT2" is open, displaying details for a Guest LAN named "HIPERA".

**Virtual Network Information for GCT2**

Guest LAN: **HIPERA**

LAN Name: HIPERA  
 LAN Owner: SYSTEM  
 LAN Type: Simulated Hipersockets  
 Connected Adapters:

Adapter	Owner	Image	Device Number
TCPIPA		AD00	
TCPIF19		1903	
TCPIF20		2003	

The background shows a tree view of hardware components including P00D6A8D GCT1 (GDLGCT1), P00D6A8D GCT2 (GDLGCT2), P00D6A8D GST1 (GDLGST1), P00D6A8D GST2 (GDLGST2), and various POLXSM12 LP units (LP04 through LP16).

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## Examples ...

The screenshot shows the HMCCE12 Hardware Management Console Workplace (Version 2.9.2) interface. A dialog box titled "Virtual Network Information for GCT2" is open, displaying details for a Virtual Switch named "VSL2SW2".

**Virtual Network Information for GCT2**

Virtual Switch: **VSL2SW2**

Virtual Switch Details:

- Transport Type: Ethernet
- Queue Memory Limit: 8
- Native VLAN ID: 1
- Switch Status: OSA Device Ready
- Real Device: 15104

Port Type: Trunk  
 Routing: Will act as a router  
 MAC ID: 02-8f-5c-00-00-03  
 GVRP Requested  
 GVRP Enabled

Real Device Details:

- Controller Name: CONTROL2
- Device Status: Active
- Authorized User: LINUX5

Authorized VLAN IDs: 2NDLYR2

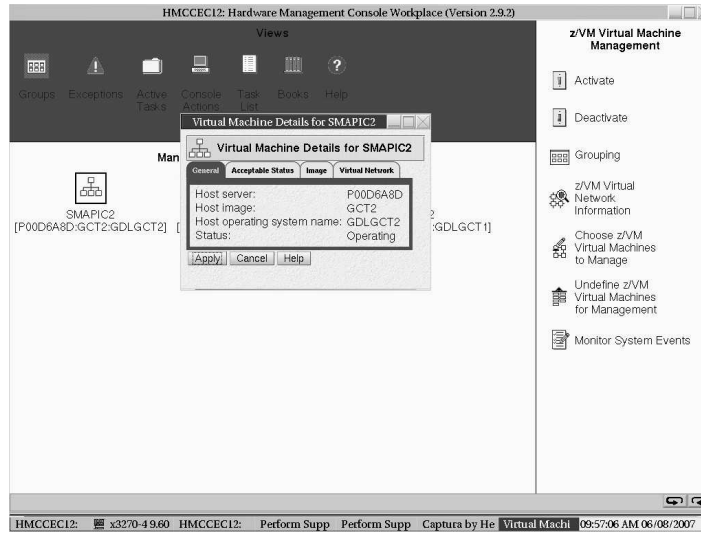
The background shows the same hardware component tree as the first screenshot.

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## Examples ...

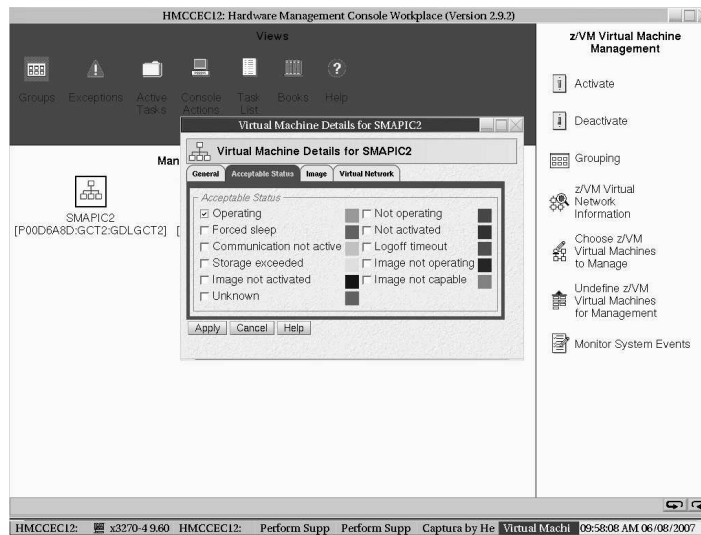


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## Examples ...



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## Examples ...

The screenshot displays the HMCCE12: Hardware Management Console Workplace (Version 2.9.2) interface. The main window is titled "Virtual Machine Details for SMAPIC2" and is divided into several sections:

- Views:** Groups, Exceptions, Active Tasks, Console Actions, Task List, Books, Help.
- Managed z/VM Virtual Machines Work Area:** Shows a tree view with SMAPIC2 [P00D6A8D.GCT2.GDLGCT2].
- Virtual Machine Details for SMAPIC2:**
  - General:** Memory Size: 64 MB, Share Type: Relative, Share Value: 100, Number of CPUs: 1.
  - CPU Information:**

ID	Number	Status	Base
FF026A8D20948000	0		
  - Device Information:**

Address	Type
0009	Console
000C	Reader
000D	Punch
000E	Print
0100	DASD
- z/VM Virtual Machine Management:**
  - Activate
  - Deactivate
  - Grouping
  - z/VM Virtual Network Information
  - Choose z/VM Virtual Machines to Manage
  - Undefine z/VM Virtual Machines for Management
  - Monitor System Events

The status bar at the bottom shows: HMCCE12: x3270-4960 HMCCE12: Perform Supp Perform Supp Captura by He Virtual Machl 09:58:32 AM 06/08/2007

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## Examples ...

The screenshot displays the HMCCE12: Hardware Management Console Workplace (Version 2.9.2) interface. The main window is titled "Virtual Machine Details for TCPIP19" and is divided into several sections:

- Views:** Groups, Exceptions, Active Tasks, Console Actions, Task List, Books, Help.
- Managed z/VM Virtual Machines Work Area:** Shows a tree view with SMAPIC2 [P00D6A8D.GCT2.G] and VSMC2 [P00D6A8D.GCT1.G].
- Virtual Machine Details for TCPIP19:**
  - General:** (Empty)
  - Acceptable States:** (Empty)
  - Image:** (Empty)
  - Virtual Network:**

The following virtual network adapters are defined for this virtual machine.

Device	Type	Status	Number of devices	LAN name	LAN owner
1900	QDIO	Coupled and active	3	QDIOA	SYSTEM
1903	Hipersockets	Coupled but not active	3	HIPERA	SYSTEM
1906	Hipersockets	Coupled but not active	3	HIPERB	SYSTEM
- z/VM Virtual Machine Management:**
  - Activate
  - Deactivate
  - Grouping
  - Virtual work information
  - Use z/VM Virtual Machines lanage
  - Undefine z/VM Virtual Machines lanage
  - Monitor System Events

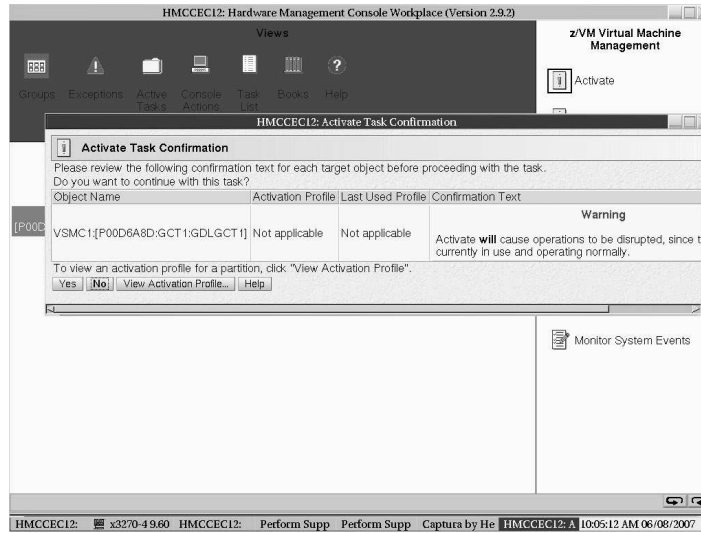
The status bar at the bottom shows: HMCCE12: x3270-4960 HMCCE12: Perform Supp Perform Supp Captura by He Virtual Machl 10:03:50 AM 06/08/2007

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## Examples ...

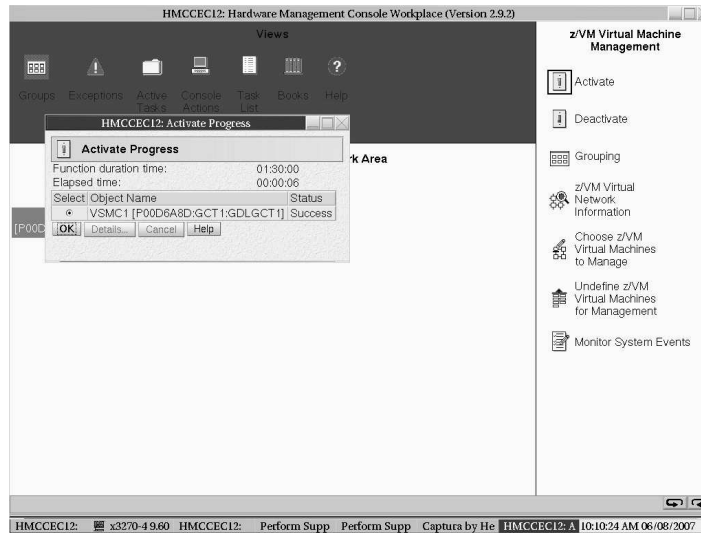


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## Examples ...



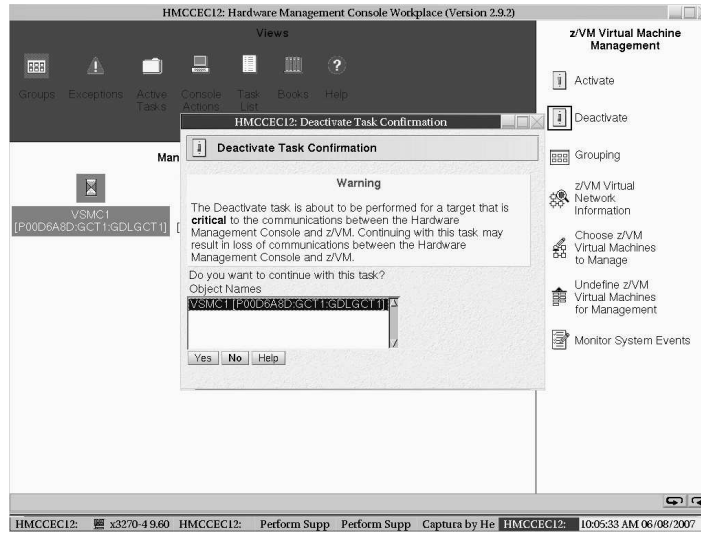
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## Examples ...

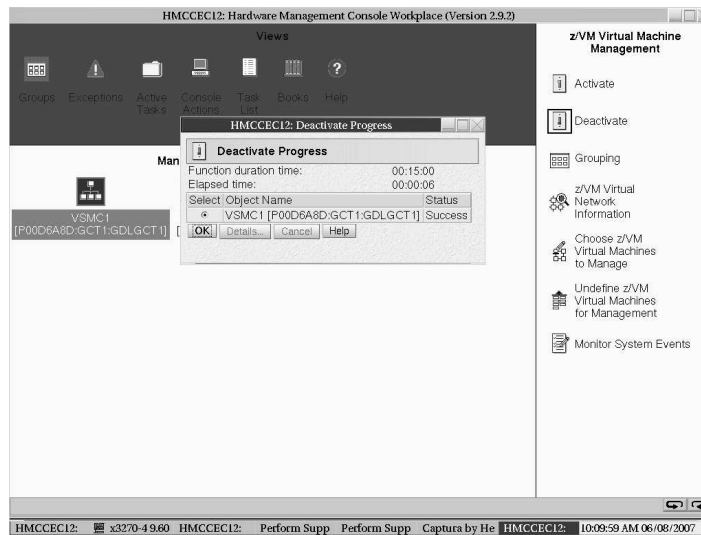


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## Examples ...

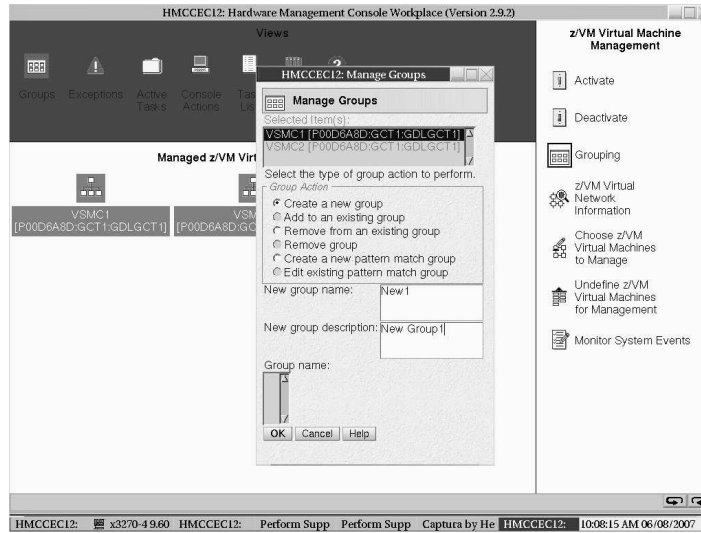


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## Examples ...

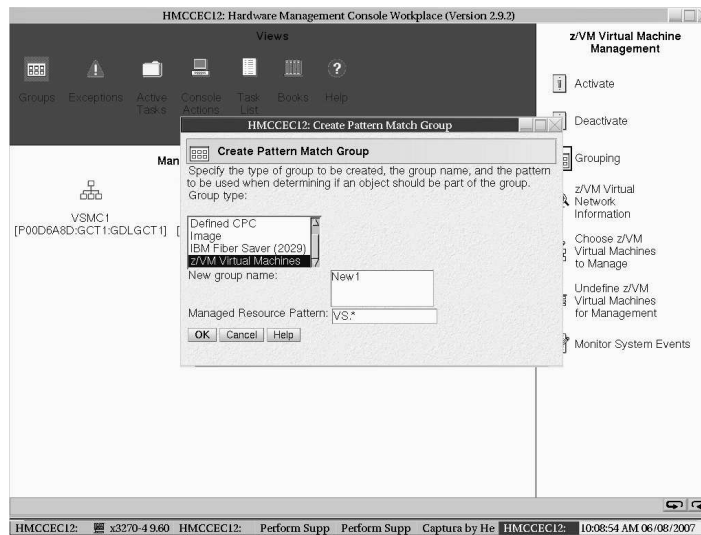


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## Examples ...

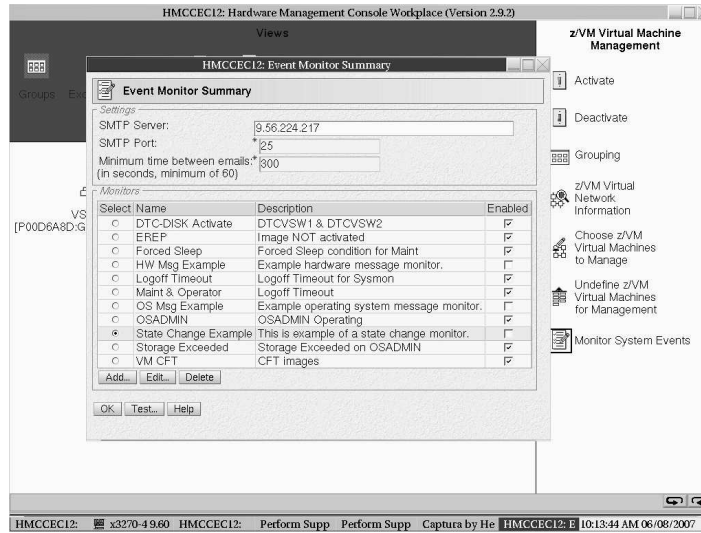


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## Examples ...

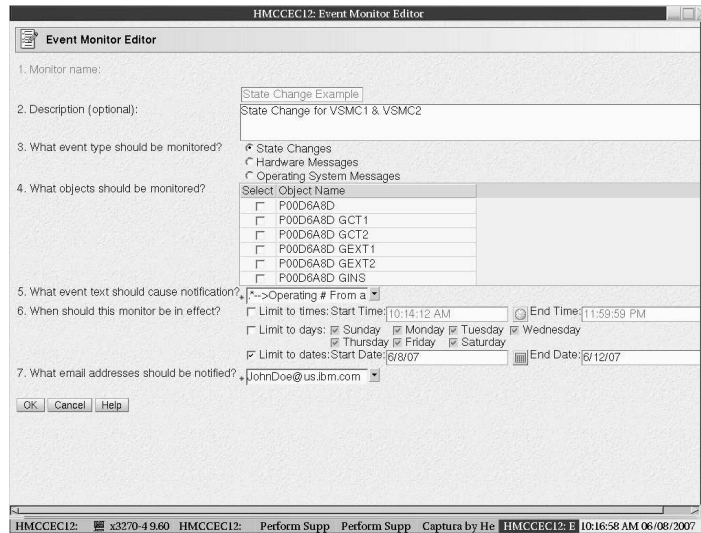


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## Examples ...

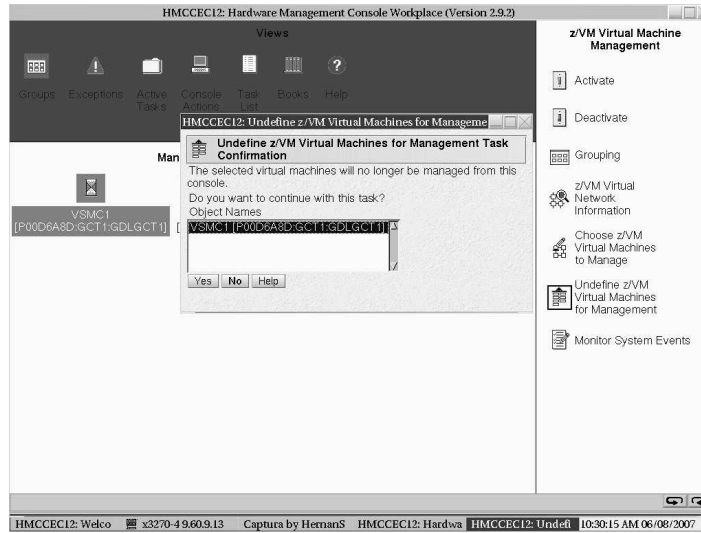


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## Examples ...

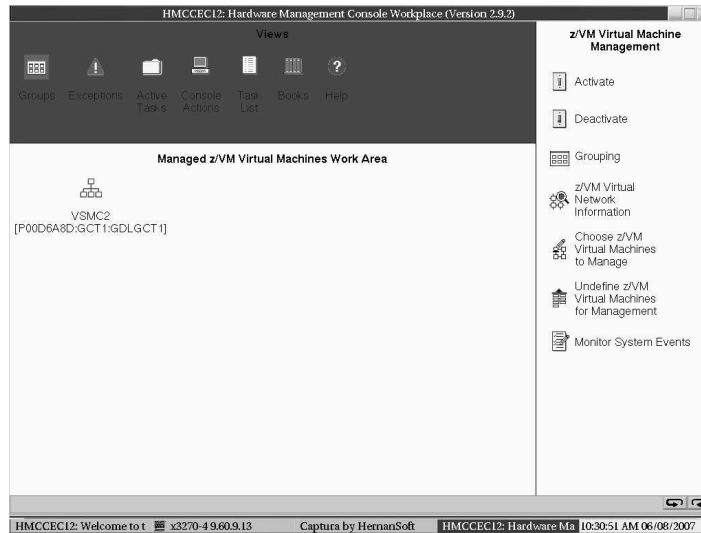


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## Examples ...

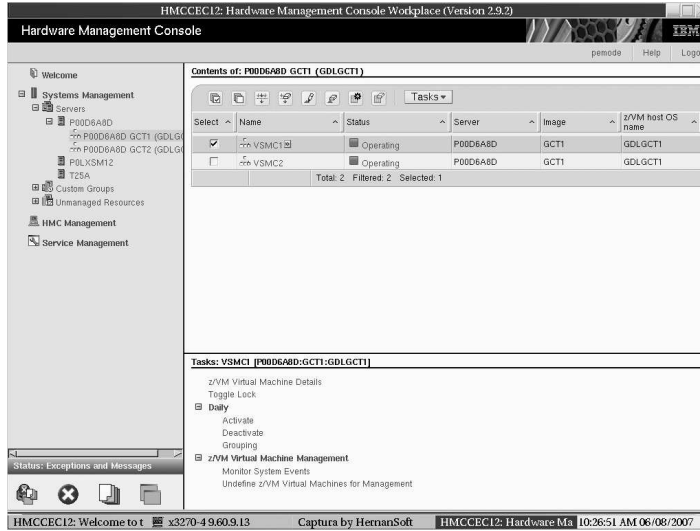


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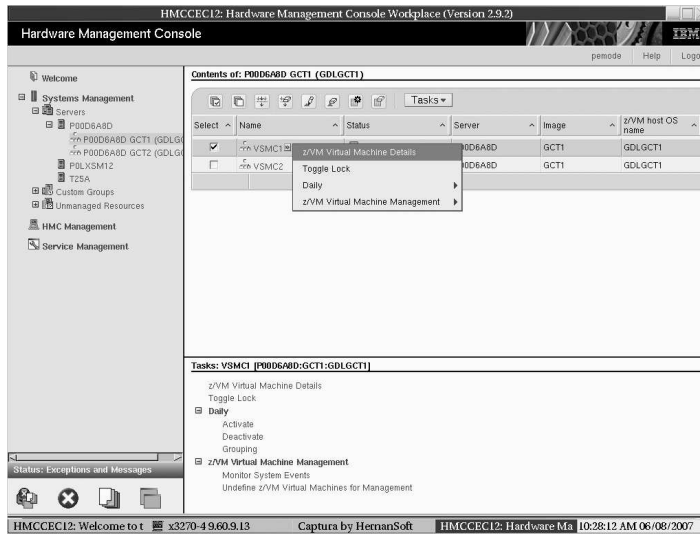
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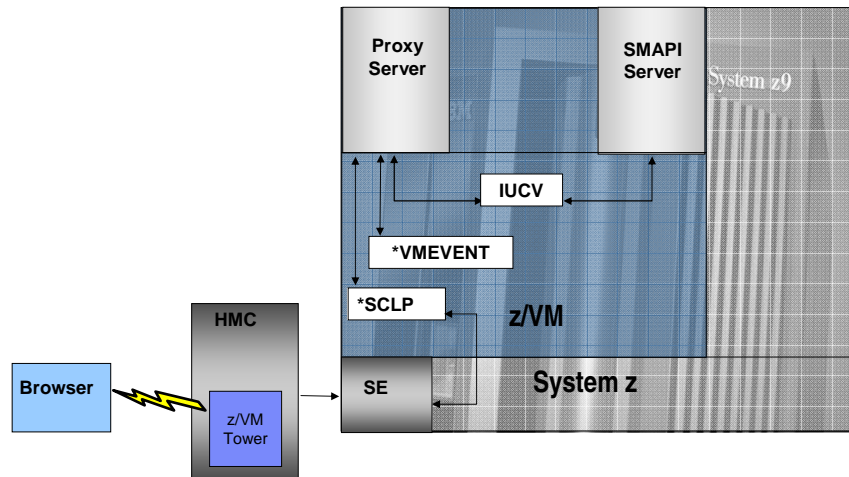
# Examples ...



# Examples ...



## Architecture



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## Architecture ...

- **Web-browser**
  - ▶ Accesses the HMC
- **HMC z/VM Tower**
  - ▶ Recognizes z/VM LPAR enabled for communication
- **SE**
  - ▶ Provides communication with z/VM LPAR

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## Architecture ...

- **CP**
  - ▶ Transports messages to guest via \*SCLP
  - ▶ Reports virtual machine state changes via \*VMEVENT
- **Proxy server**
  - ▶ Connects to \*SCLP
    - Sends z/VM Tower requests to SMAPI server
    - Returns responses
  - ▶ Connects to \*VMEVENT
    - Reports state changes to HMC

## Architecture ...

- **\*SCLP IUCV system service**
- **Enables communication between guest and HMC**
- **CONNECT registers issuer to handle events in a designated class**
  - ▶ Transmitted by CP via one-way (TYPE=1WAY) SEND
- **SEND transmits message to HMC**
  - ▶ Must be synchronous (SYNC=YES) and one-way (TYPE=1WAY)

## Architecture ...

- **\*VMEVENT IUCV system service**
- **Notifies connected users of “significant” events**
  - ▶ User LOGON
  - ▶ User LOGOFF
  - ▶ Failure conditions (those detected by protected application environment)
  - ▶ LOGOFF timeout initiated
  - ▶ Forced SLEEP initiated
  - ▶ Previous exception condition cleared
- **Notification identifies subject user and may provide additional data**
- **Any exception status reported after initial CONNECT**

## Requirements

- **No configuration or setup required**
  - ▶ May need to create HMC user and define roles
- **Supported on any System z except z800/z900**
- **HMC must be at or above level 2.9.2 (MCL G40969.050)**
- **Support Element (SE) must have**
  - ▶ MCL G40965.074 at or above 2.9.2 for System z9 EC/BC
  - ▶ MCL J13486.226 at or above 1.8.2 for z990/z890
- **Requires z/VM 5.3 PTFs for APARs VM64233 and VM64234**



