

HP NonStop Open System Management (OSM) – Configuration and Best Practices

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NonStop Manageability Architect, HP



Agenda

- OSM overview
- OSM requirements
- OSM architecture
- OSM configuration
- OSM performance
- OSM scalability
- OSM migration
- Maintenance LAN and remote service
- OSM and ISEE
- OSM and HP SIM
- OSM features to maximize IT efficiency
- Other best practices
- OSM documentation
- OSM latest news
- OSM future plans



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What is OSM?

- ❑ Real-time system health monitoring application for both Integrity NS-Series and S-Series systems
- ❑ Single pane-of-glass for all hardware on NonStop systems
- ❑ Application to perform troubleshooting and diagnosis when there are hardware problems
- ❑ Management application to perform service procedures
- ❑ Application to look at EMS events in real-time or for troubleshooting a past problem
- ❑ Required for loading a NonStop system
- ❑ Way to report customer problems to HP support center
- ❑ HP's window into customer system
- ❑ NonStop implementation of WBEM (Web-Based Enterprise Management) server
- ❑ Way to integrate with HP Systems Insight Manager (SIM) and Instant Support Enterprise Edition (ISEE)



OSM components

| Component | Delivery platform | Functionality |
|---------------------------------------|------------------------|---|
| OSM Service Connection (T0682) | HP Integrity NonStop | Up-system health monitoring and troubleshooting |
| OSM Event Viewer (T0682) | HP Integrity NonStop | EMS event viewing |
| OSM Low-Level Link (T0633) | NonStop System Console | System load and down-system troubleshooting |
| OSM Notification Director (T0632) | NonStop System Console | Problem notification and remote access |
| OSM Console Tools (T0634) | NonStop System Console | Migration and other tools |
| NSC Software Master Installer (T0354) | NonStop System Console | Master installer for all NSC (console) software |

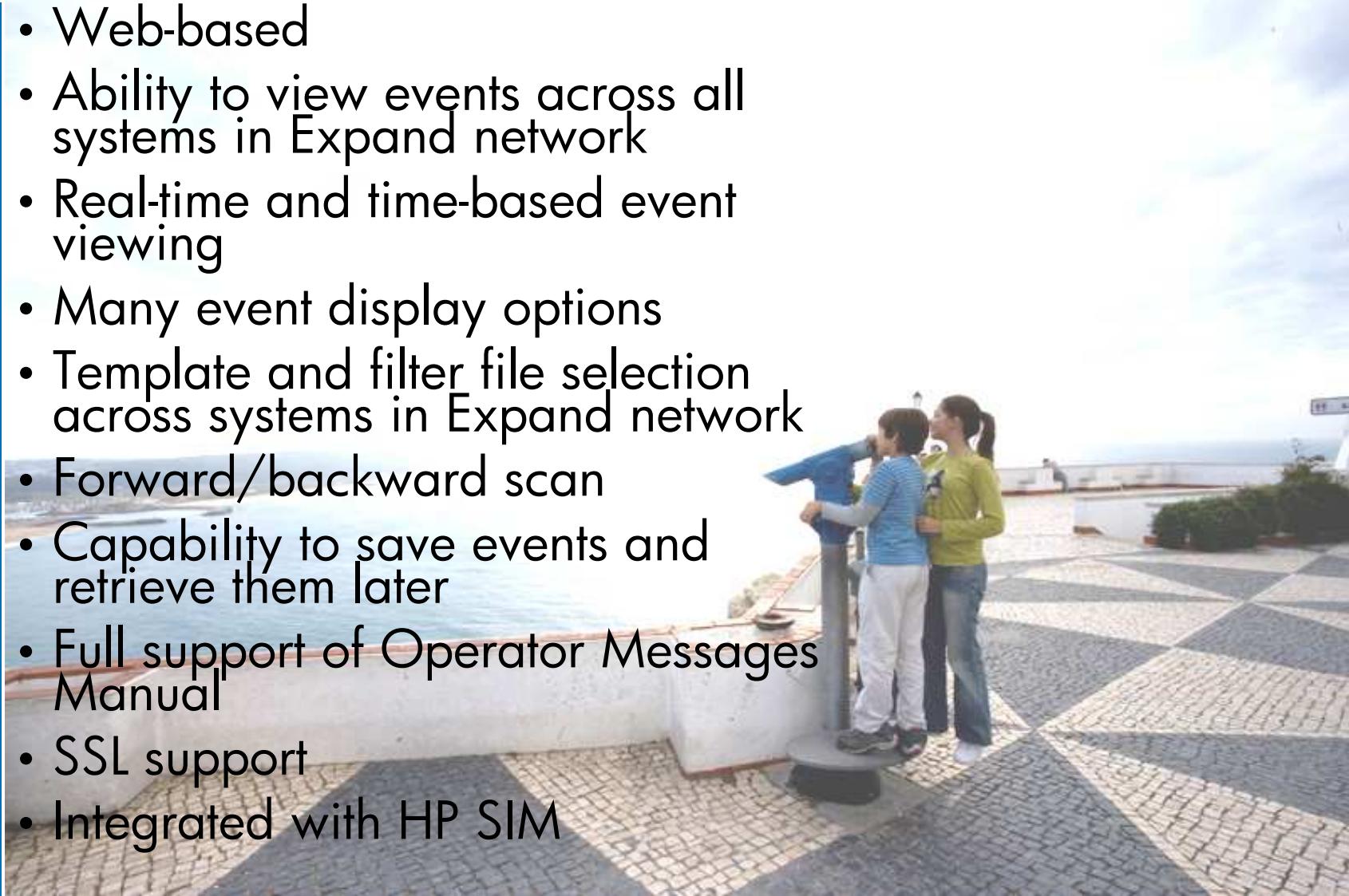


OSM Service Connection features

- Web-based
- Based on DMTF WBEM and CIM
- Color-coded, accurate, and timely display of system health
- Views to display physical arrangement, ServerNet connections, and inventory
- Right click access to attributes, alarms, actions
- Fault diagnosis up to FRU level
- Recommended detailed repair actions
- Firmware update capability
- Simultaneous action on multiple resources
- Interactive actions and guided procedures to perform complex service tasks
- Alarm and state propagation suppression capability
- Summary of problems at a glance
- System status spin-off to ease multiple system management
- SSL support
- Integrated with HP SIM

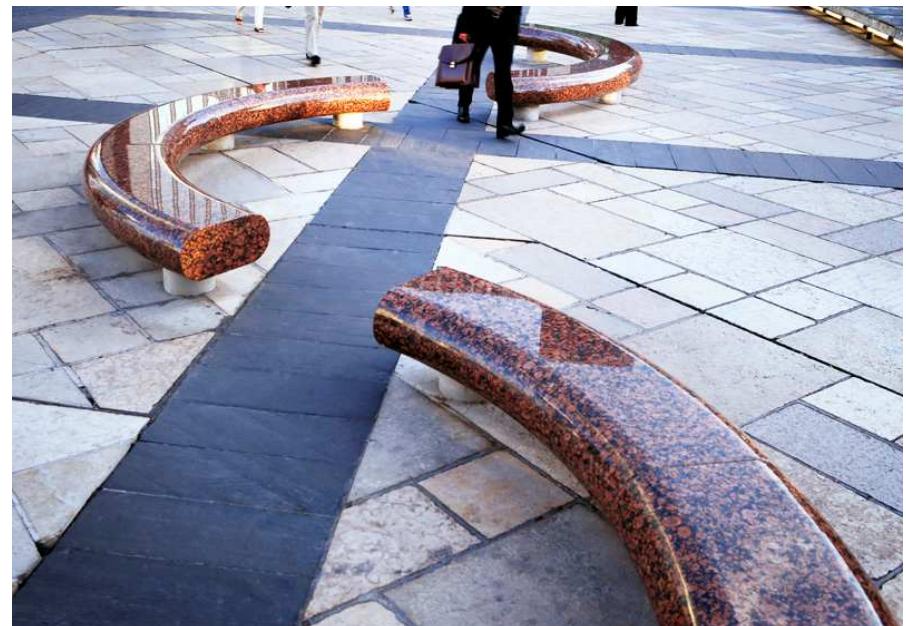
OSM Event Viewer features

- Web-based
- Ability to view events across all systems in Expand network
- Real-time and time-based event viewing
- Many event display options
- Template and filter file selection across systems in Expand network
- Forward/backward scan
- Capability to save events and retrieve them later
- Full support of Operator Messages Manual
- SSL support
- Integrated with HP SIM



OSM Low-Level Link features

- Down-system support
- Right click access to attributes and actions
- Real-time processor status
- Maintenance LAN network and user configuration
- Logon using IP address or host name
- Start up of the system or an individual processor
- Preparation of modular enclosures to be integrated with the system



OSM Notification Director features



- Display and control of problem and periodic incident reports
- Dial-out and dial-in configuration
- SSL support
- Integrated with HP ISEE

Why use OSM?

Available

OSM server a NonStop fault-tolerant process pair

OSM Notification Director a Windows service

Scalable

Extremely scalable object cache in client and server

Able to manage modular resources and clustered systems

Secure

Secure Sockets Layer encryption support in OSM Service Connection, Event Viewer, and Notification Director

Fast to install

OSM Service Connection and OSM Event Viewer run on system console but delivered on NonStop platform

Integrated

OSM Service Connection and Event Viewer work with SIM

OSM Notification Director works with ISEE

Required

Required for Integrity NonStop NS-Series commercial and Telco servers

Required for all new hardware

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NonStop System Console (NSC) minimum requirements for OSM

- Windows XP or Windows 2003 server
 - OSM Service Connection qualified for Vista
- At least 512 MB of memory
 - 1 GB recommended
- Internet Explorer 6.0

HP offers Windows XP upgrade kit and separate
memory upgrades for customers running Windows
2000-based NSC

Requires minimum of 500 MHz CPU



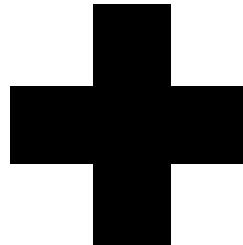
NonStop System Console Package S7X-NSC7 or S7X-NSC7NM



DC7700 running
Windows XP Professional SP2

Hardware includes:

- 3 GHZ Pentium w/1GB of RAM
- Several USB Ports
- 80 GB Hard drive
- Dual NIC cards
- Keyboard, mouse
- Internal DVD-RW+/-
- Optional flat screen monitor



S7X-SWV2
HP NonStop System Console SW

DVD Software Installed:

- Open System Management (OSM)
- comForte MR-Win6530
- Adobe Acrobat
- Microsoft NetMeeting/Remote Desktop

No Longer included:

- CrystalPoint OutsideView 7.3
- TSM



HP Systems Insight Manager 5.1
HP Instant Support Enterprise Edition 3.0



NonStop System Console Package

NSCR3

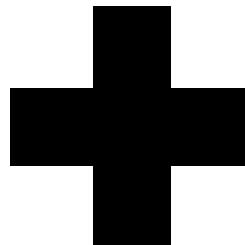


Rackmounted DL320G
Running Windows Server 2003

Hardware includes:

- 3 GHZ Pentium w/1GB of RAM
- Three USB Ports
- Two Ethernet interfaces
- 80 GB Hard drive
- Dual NIC cards
- Keyboard, mouse
- Internal DVD-RW+/-

Rack-mounted Monitor w/keyboard mouse
ordered separately – S7x-RACKMN2



HNSC-SWV2
HP NonStop System Console SW

DVD Software Installed:

- Open System Management (OSM)
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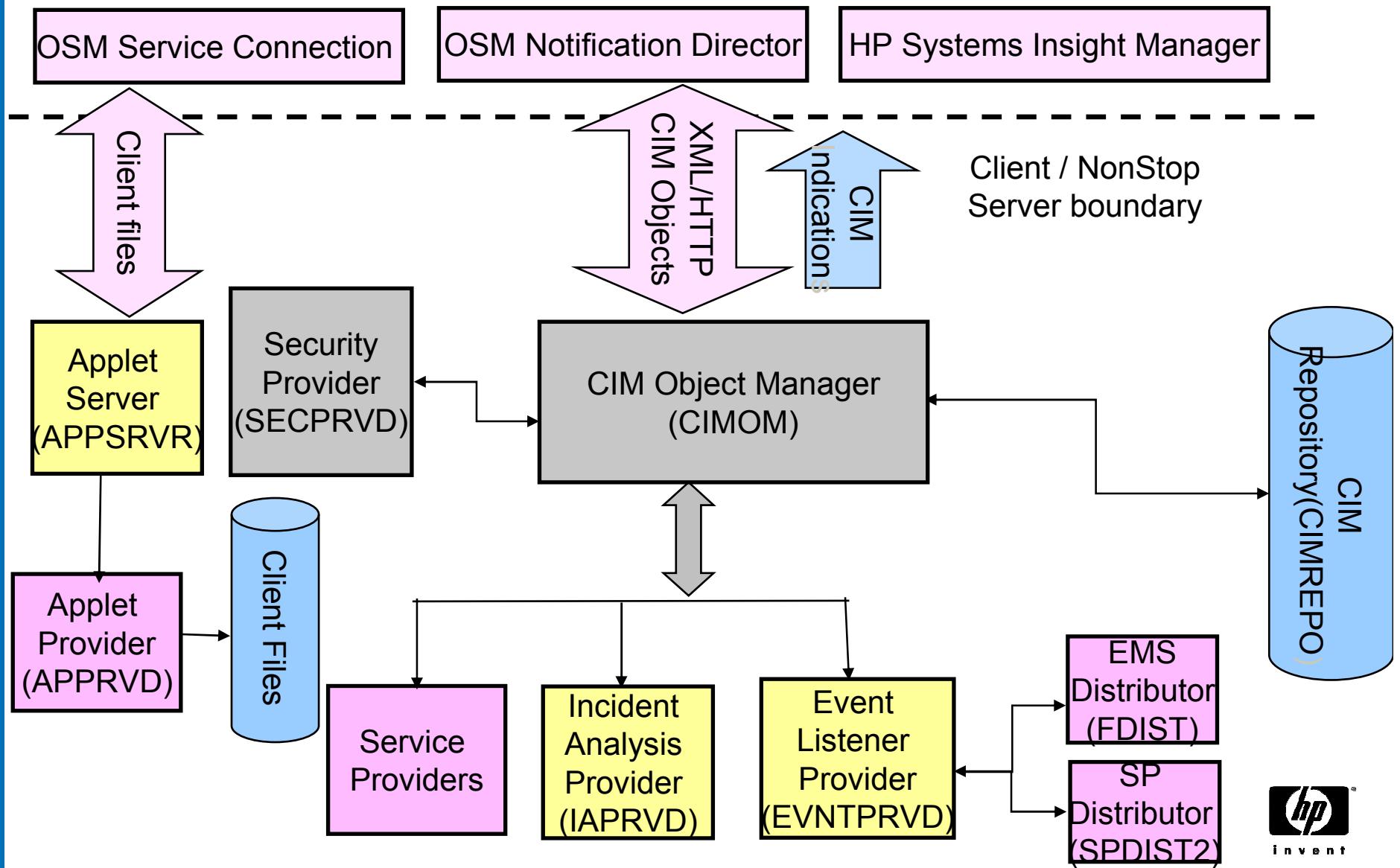


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OSM architecture



OSM-related generic processes

| Symbolic name | Process | Associated file |
|------------------------|----------------|-------------------------|
| \$ZZKRN.#OSM-CIMOM | \$ZCMOM | \$SYSTEM.SYSnn.CIMOM |
| \$ZZKRN.#OSM-APPSRVR | \$ZOSM | \$SYSTEM.SYSnn.APPSRVR |
| \$ZZKRN.#OSM-OEV | \$ZOEV | \$SYSTEM.SYSnn.EVTMGR |
| \$ZZKRN.#OSM-SNMPTMUX | \$ZTMUX | \$SYSTEM.SYSnn.SNMPTMUX |
| \$ZZKRN.#OSM-CONFLH-RD | \$ZOLHD | \$SYSTEM.ZOSMLH.INITRD |
| \$ZZKRN.#SP-EVENT | \$ZSPE | \$SYSTEM.SYSnn.ZSPE |
| \$ZZKRN.#ZLOG | \$ZCLOG | \$SYSTEM.SYSnn.EMSACOLL |
| \$ZZKRN.#ZTCP0 | \$ZTCP0 | \$SYSTEM.ZOSM.CTCPIPO |
| \$ZZKRN.#ZTCP1 | \$ZTCP1 | \$SYSTEM.ZOSM.CTCPIP1 |
| \$ZZKRN.#SSH-ZPTY | \$ZPTY | \$SYSTEM.ZSSH.STN |
| \$ZZKRN.#SSH-ZTCP0 | \$ZSSPO | \$SYSTEM.ZSSH.SSH2 |
| \$ZZKRN.#SSH-ZTCP1 | \$ZSSP1 | \$SYSTEM.ZSSH.SSH2 |



Ports used by OSM

| Port | User |
|-------------|-------------------------------------|
| 9990 | OSM web server (\$ZOSM) |
| 9991 | OSM Event Viewer server (\$ZOEV) |
| 5988 | OSM CIMOM (\$ZCMOM) in non-SSL mode |
| 5989 | OSM CIMOM (\$ZCMOM) in SSL mode |
| 162 | SNMPTMUX (\$ZTMUX) |
| 22 | SSH servers (\$ZSSPO, \$ZSSP1) |

Recommendation: If the firewall is enabled, ensure the exceptions are correctly configured.

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OSM optional configuration

OSM optimized to provide most functionality and performance

- Optional configuration can be specified in \$SYSTEM.ZSERVICE.OSMCONF
- Copy \$SYSTEM.ZSERVICE.OSMINI to \$SYSTEM.ZSERVICE.OSMCONF and update this copy
- DO NOT UPDATE \$SYSTEM.ZSERVICE.OSMINI
 - Will be overwritten when new OSM SPR is installed
- Many updates can take effect by issuing “Reload Configuration Settings” from OSM Service Connection Tools menu
 - To be sure that new settings take effect, restart \$ZZKRN.#OSM-CIMOM, \$ZZKRN.#OSM-APPSRVR, and \$ZZKRN.#OSM-OEV processes via SCF



Configuration of OSM over non-dedicated maintenance LAN

Usage

- By default, OSM Service Connection and OSM Event Viewer communicate with OSM server using TCP/IP stacks - \$ZTCP0 and \$ZTCP1.
- This restricts OSM to be used in dedicated maintenance LAN only.
- Configure OSM server over other TCP/IP stacks in order to:
 - Increase performance,
 - Run OSM Service Connection and OSM Event Viewer from outside maintenance LAN,
 - Use HP SIM to manage NonStop system.

OSMCONF Settings

stack = <TCPIP Process Name>

stack = <TCPIP Process Name>

evtstack = <TCPIP Process Name>

evtstack = <TCPIP Process Name>

Consideration

These settings do not affect communicating with OSM Notification Director on the NSC.



Periodic power scrub configuration

Usage

- By default, OSM runs periodic power scrub on S-Series enclosures between 2 AM and 3 AM.
- Configure OSM to run the periodic power scrub at any other hour, if some other time is the most quiet time for your environment.

OSMCONF Setting

HourToStartScrubTesting = <Hour>

Consideration

The periodic power scrub will start sometime during the hour of <Hour> and <Hour> + 1.

Automatic diagnostic data collection configuration

Usage

- By default, OSM collects diagnostic data in \$SYSTEM, with every problem IR, and persists it for 28 days.
- Configure OSM to:
 - Change the diagnostic data collection volume, if some other volume is desirable
 - Change the time period to persist diagnostic data, if disk storage is a problem
 - Disable the diagnostic data collection altogether, if it affects the performance

OSM Service Connection Actions on System Object

Set Data Collection Volume

Set Days to persist for Diagnostic Data

Enable/Disable Automation of Data Collection

Consideration

Disabling diagnostic data collection affects HP Support's ability to diagnose the problem.

Periodic inventory file creation configuration

Usage

- By default, OSM creates inventory files with every periodic incident report (IR).
- Configure OSM to disable the creation of inventory files with every periodic IR, if needed for performance reasons.

OSMCONF Setting

Inventory_State = Off

Consideration

The performance impact of inventory file creation is minimal.

ServerNet Cluster problem IR configuration

Usage

- By default, OSM detects the same ServerNet Cluster switch problem from all nodes connected to that switch. Although it tries to create problem IRs only from one of the nodes, it is possible that multiple nodes create IRs and dial-outs for timing reasons.
- Configure OSM to not create problem IRs and dial-outs for ServerNet cluster switch problems, detected from particular nodes.

OSMCONF Setting

SuppressServerNetClusterAlarm = On

Consideration

Ensure that at least two nodes connected to every ServerNet Cluster switch are allowed to dial-out.

Security configuration

Usage

- By default, SSL is not enabled for the communication between OSM server and OSM Service Connection and Notification Director, and between OSM Event Viewer server and client.
- Configure SSL communication in order to:
 - Ensure secure, encrypted communication between OSM server and OSM Service Connection and Notification Director, and between OSM Event Viewer and client,
 - Use HP SIM to manage NonStop system.

OSMCONF Setting

UseSSL = On

Consideration

There is minor performance impact of enabling SSL.

Security configuration

Usage

- By default, when SSL is enabled, OSM uses HP-supplied certificate.
- Configure OSM to use your own signed certificate and key password to enhance security.

\$SYSTEM.ZSERVICE Files to Overwrite

CACERT

SERVCERT

SERVKEY

OSMCONF Setting

SERVKEYPASS = <key password>

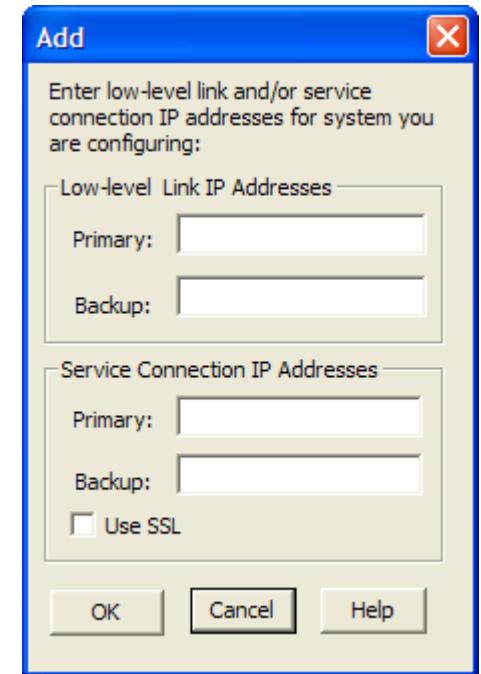
Consideration

Secure \$SYSTEM.ZSERVICE.OSMCONF to be able to be read by super.super only to secure key password.

Security configuration

Usage

- By default, OSM Service Connection and OSM Event Viewer client work seamlessly when SSL is enabled on the server.
- Configure OSM Notification Director to use SSL communication with OSM server by selecting the option “Use SSL” while adding a system.



Consideration

This option has to be selected for OSM Notification Director to communicate with OSM server when SSL is enabled.

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OSM performance update



- Improvements added in each release since G06.25
 - Faster status and alarm updates
 - Fixed problems where the OSM Service Connection hangs
 - Made guided replacement procedures more robust and faster
- CPU utilization now within 25% of TSM usage with the old heap manager
- Performance now on par or better than TSM with the new heap manager

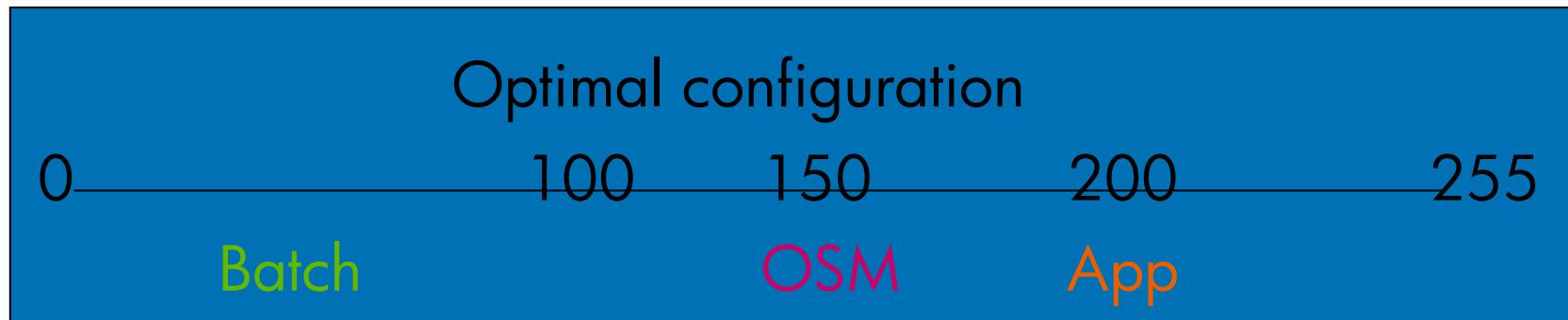
In-built dropping of OSM priority

- OSM server processes drop to lower priority when they have to perform a processor-intensive activity triggered by:
 - A processor halt,
 - A processor reload,
 - More than 20 EMS or SP events queued up,
 - OSM backup process start,
 - IAPRVD process start,
 - Initial incident analysis.
- Priority drops to half of current priority or 75, whichever is larger.
- Priority reverts back when event queue has less than 20 items.



Performance recommendation # 1

- Configure important application processes at higher priority than OSM processes (higher than 150)



Performance recommendation # 2

- Control default priority of OSM processes

SCF ABORT PROCESS \$ZZKRN.#OSM-CIMOM

SCF ALTER PROCESS \$ZZKRN.#OSM-CIMOM, PRIORITY <max-priority>

SCF START PROCESS \$ZZKRN.#OSM-CIMOM

- Use this option if application processes run at priority < 150

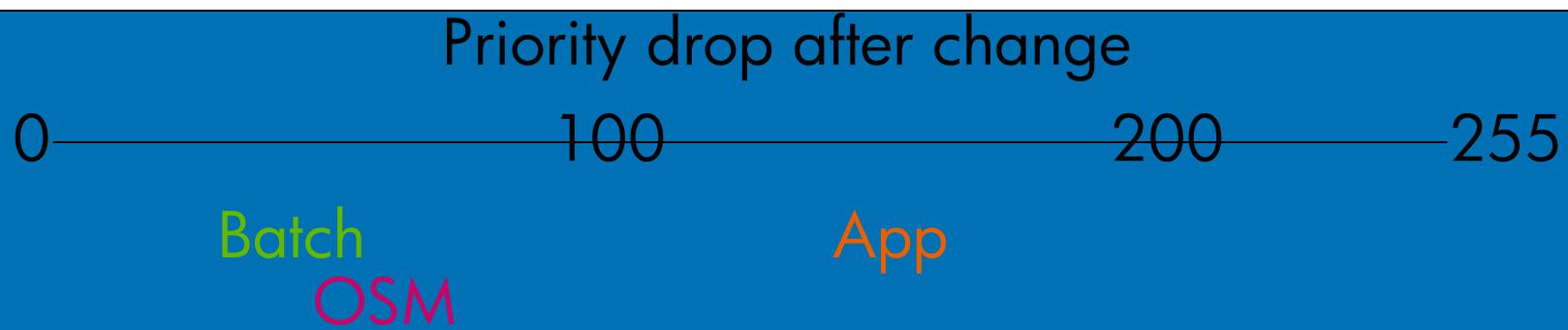


Performance recommendation # 3

- Control priority of OSM processes when it drops its priority to go below 75

OSMCONF Setting

Lowest_OSM_Priority = <priority>



Considerations of running OSM at lower priority

- Running OSM at lower priority does not stop status updates on OSM Service Connection.
- Status updates may be delayed.



Performance recommendation # 4

- Migrate to new heap manager (NSK CRE/RTL - T1269) from old heap manager (Native CRE/RTL - T8431)
 - More efficient heap management in T1269
 - OSM performance better when using T1269
 - Application programs also benefit from more efficient heap management
 - Refer to S02001A for migration considerations



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OSM scalability recommendations

- Memory requirement for each OSM Service Connection session ~ 250 MB
- Do not run more than 4 simultaneous OSM Service Connection sessions on current NonStop System Console.
- Do not monitor more than 16 NonStop systems with a single OSM Notification Director
 - If more than 16 systems configured, a message box is displayed with the warning



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OSM migration recommendation

- TSM reaching End of Support Life in January, 2008
- TSM products no longer distributed on NonStop System Console G-Series DVD after May, 2007
 - TSM products downloadable from SPR Scout until January, 2008

➤ Strong recommendation: Migrate to OSM



OSM and TSM co-existence

- Both TSM and OSM can co-exist on a system.
 - OSM automatically disables the following functionality of TSM:
 - Periodic power scrubbing,
 - Processor incident analysis,
 - Automatic line hander configuration process.
- Use either OSM or TSM Notification Director, not both, to avoid duplicate dial-outs.
- Use the OSM Service Connection for all systems that are part of a ServerNet cluster.
 - OSM avoids generation of alarms and dial-outs on all nodes in the cluster, when service actions are performed on a cluster object from any node. OSM also prevents against multiple service actions on the same ServerNet Cluster switch.
- If you have written tools to look for TSM events, change them should to look for equivalent OSM events.
- Do not perform firmware updates from both TSM and OSM at the same time.

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Maintenance LAN configuration recommendations

- Use ProCurve 2524 or 2848 switches
- Use two switches for fault-tolerance
- Ensure that auto-negotiation is set to On
- Configure switches to send SNMP traps to OSM
- Configure OSM to monitor switches



OSM remote service options

| Option | Support Status |
|----------------|----------------|
| Carbon Copy | Not supported |
| NetMeeting | Supported |
| Remote Desktop | Supported |



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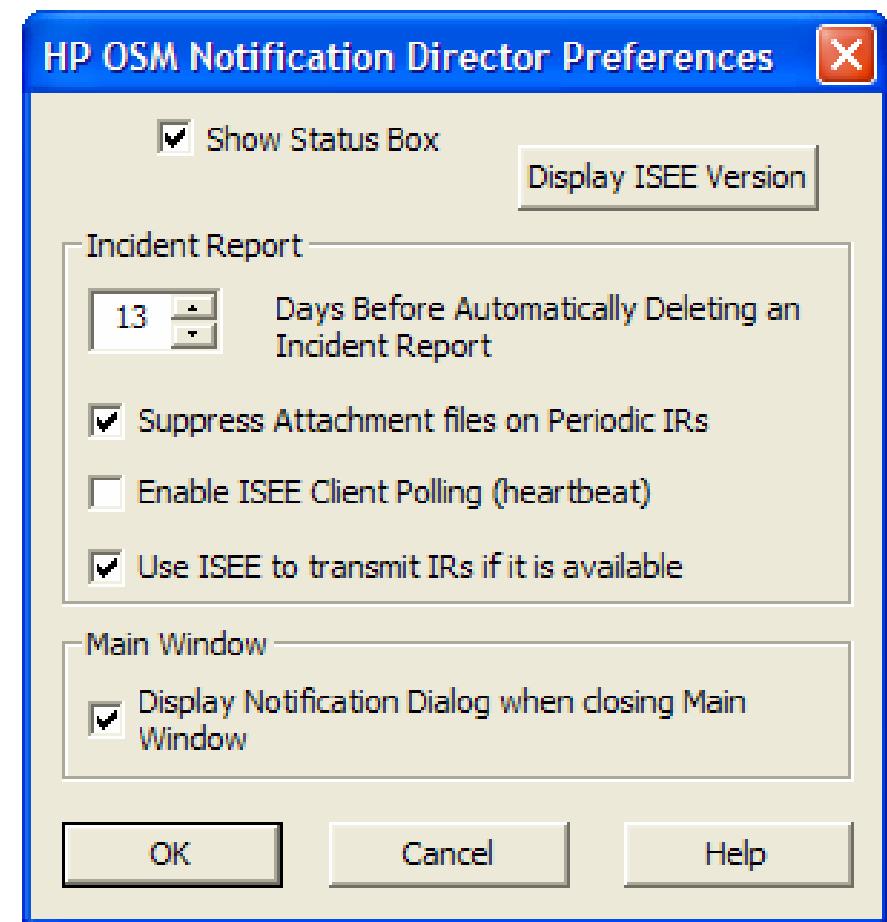
HP Instant Support Enterprise Edition (ISEE)

- Proactive, web-based, remote monitoring and diagnostic tool to manage systems and devices
- Real-time monitoring of hardware events and automated notification to HP support center
- Remote troubleshooting and repair capabilities
- Internet connectivity to HP support
- Quick and secure connection
- Support of all HP platforms



NonStop integration with ISEE

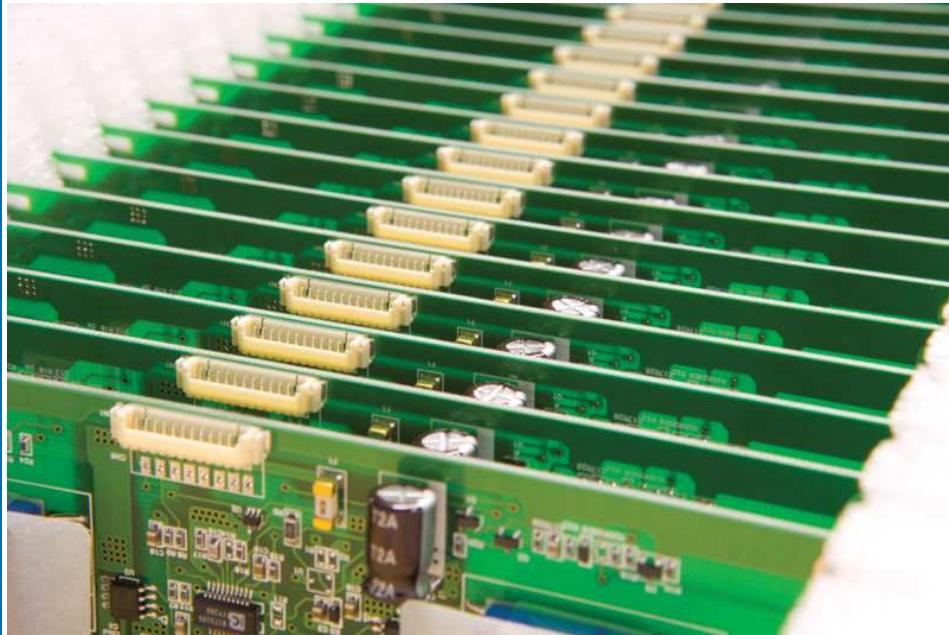
- Both notification to HP support center and remote access from HP support center available as alternatives to modem-based dial-out and dial-in
- OSM Notification Director integrated with ISEE
 - Uses ISEE to transmit Incident Reports (IRs) if enabled by customer and ISEE client is installed on NonStop System Console



Currently supported version: ISEE v3



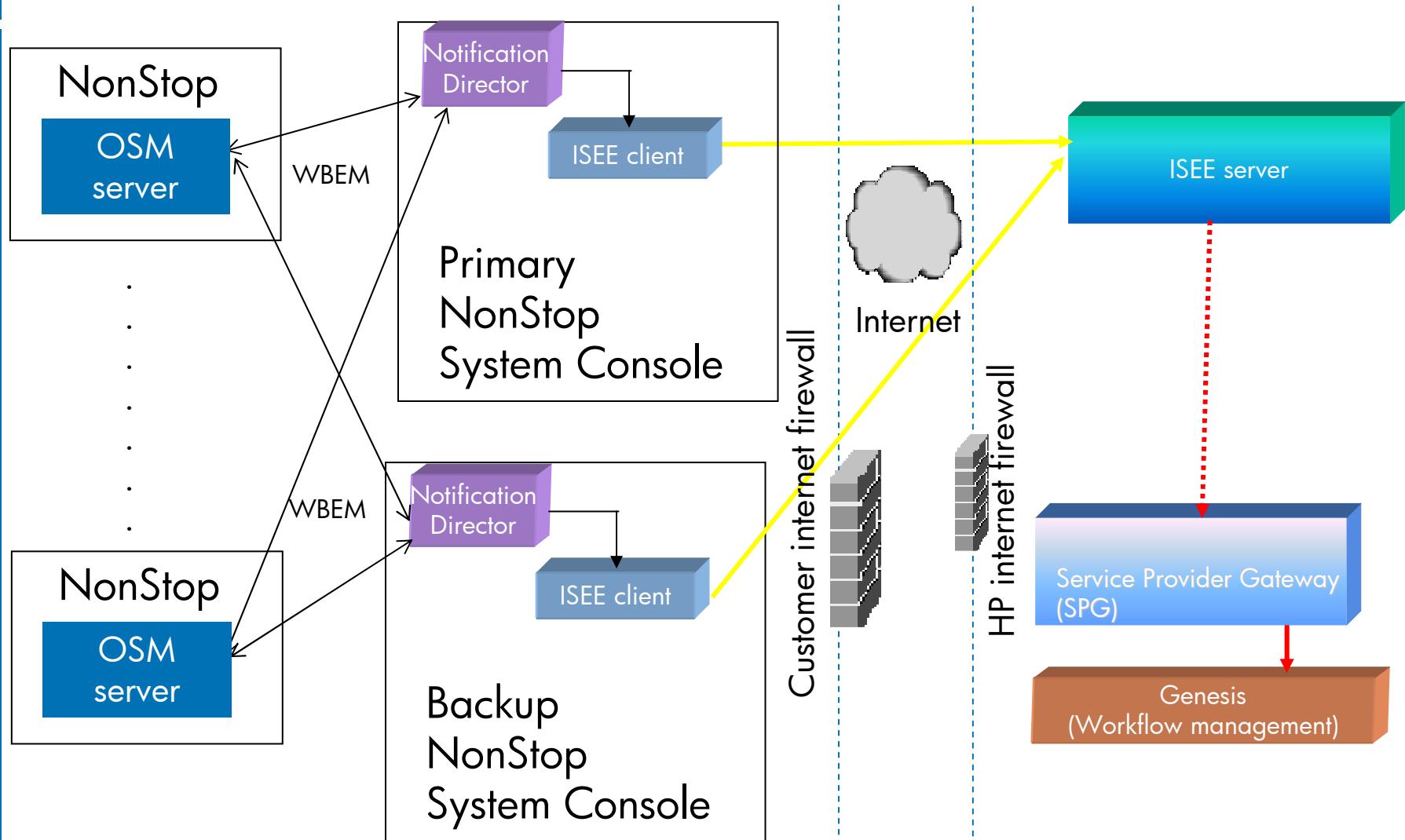
ISEE hardware requirements



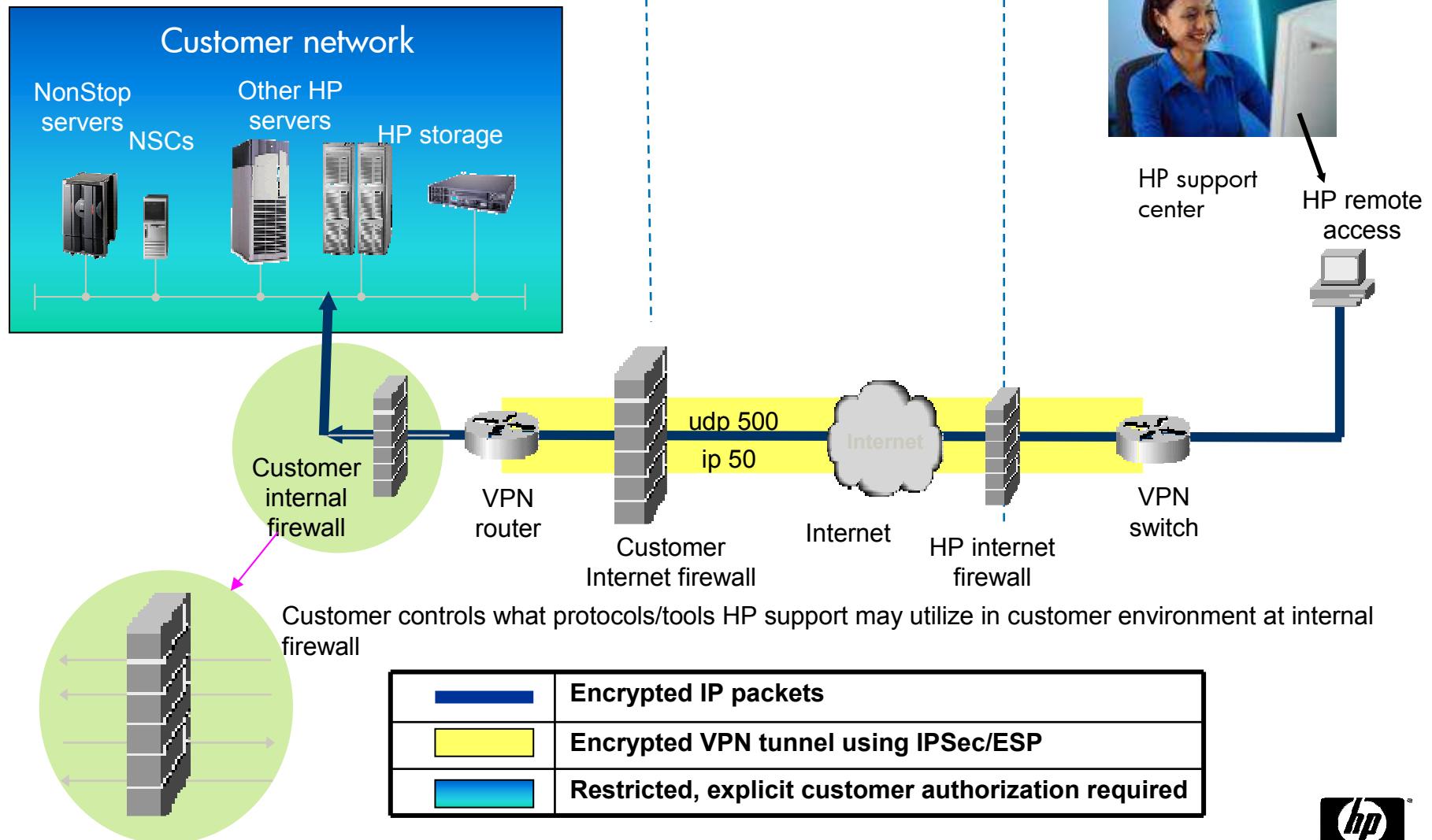
- 2 Network Interface Cards (NICs) on NonStop System Console
 - One for dedicated maintenance LAN
 - One for ISEE internet connectivity via customer's secure operations LAN
- All newly purchased consoles include two NICs
- For consoles without a built-in second NIC, a USB Ethernet adapter available to provide ISEE connectivity

Recommendation: Be aware of your network's proxy configuration when configuring Internet Explorer in conjunction with ISEE and the second NIC.

ISEE notification architecture



ISEE remote access architecture



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HP Systems Insight Manager (SIM)

The foundation for unified infrastructure management

- Installs on Windows, HP-UX, and Linux
- Manages all HP servers, **including NonStop**
- Inventory, fault, and configuration management
- Secure - Role-based authorizations; OS-based authentication; SSL, SSH support
- Distributed task facility to remotely run commands, scripts, and batch files on managed systems
- Plug-in extensibility – add additional tools and applications

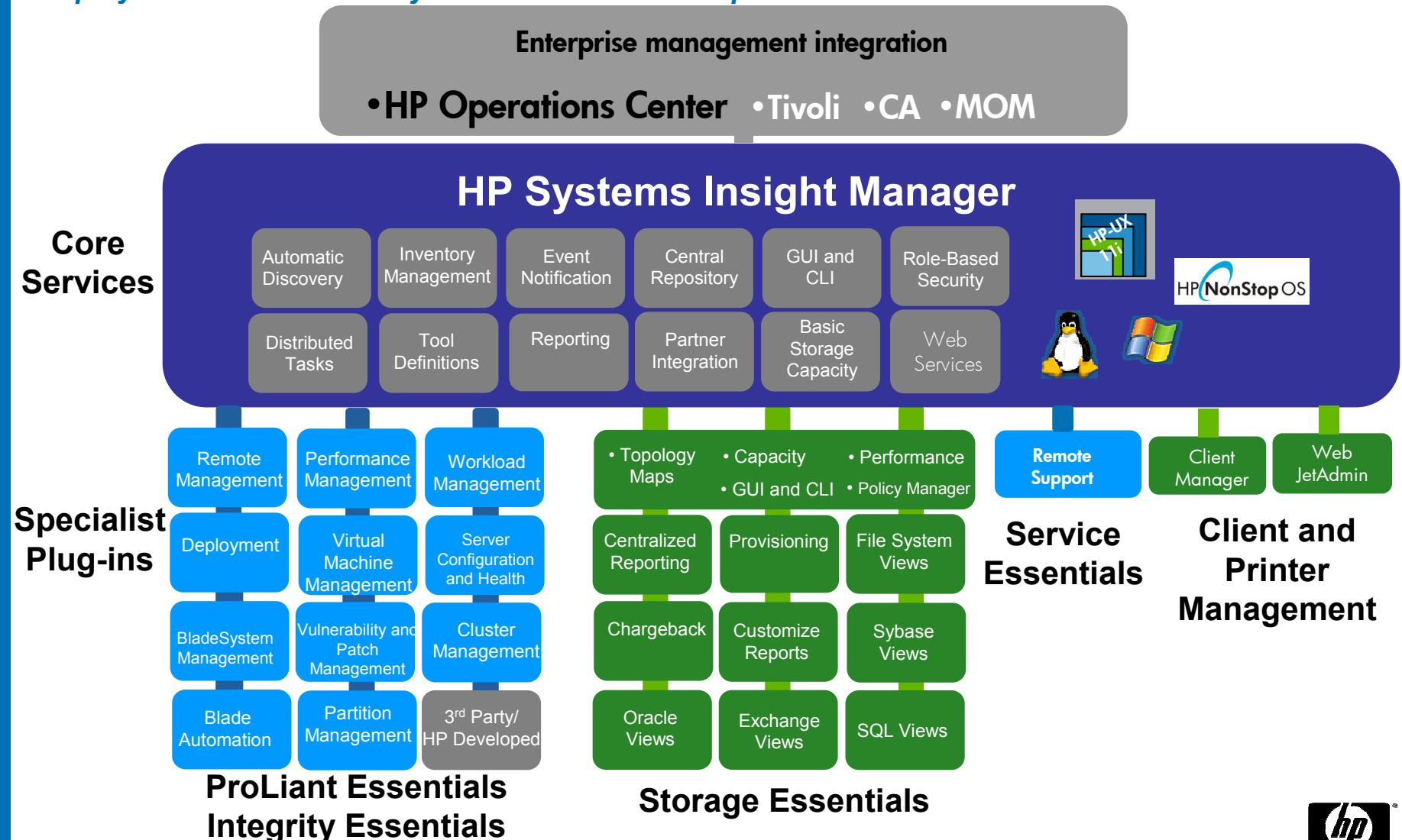
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|-------|-------|-------|-------|-----------------------------|----------------------|----------------|-------------------|
| green | | | | bl13ilo | Management Processor | 15.75.204.193 | Integrated Lights |
| green | | | | bl14ilo | Management Processor | 15.75.204.194 | Integrated Lights |
| green | | | | bl15ilo | Management Processor | 15.75.204.195 | Integrated Lights |
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| green | green | green | green | blade14 | Server | 15.75.204.154 | |
| green | green | green | green | blade16 | Server | 15.75.204.156 | Linux Server |
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HP SIM and Essentials

Breadth and Depth

Deploy – Control – Inventory – Monitor – Patch – Optimize



HP SIM CMS (Central Management Server) hardware requirements

| | Minimum | Recommended |
|-----------------|---------|-------------|
| Processor speed | 1.5-GHz | 2.4-GHz |
| Memory | 1 GB | 1.5 GB |

- Currently available NonStop System Consoles have 1GB memory
- Do not use NonStop System Console as HP SIM CMS



NonStop integration with HP SIM

- HP SIM 5.0 and later
- G06.27 and later
- H06.04 and later

OSM now integrated
with HP SIM 5.1

- Discovery and identification of NonStop systems via WBEM support provided by OSM
- OSM alarms displayed in HP SIM
- NonStop hardware devices displayed in HP SIM
- Links to OSM Service Connection and OSM Event Viewer
- HP SIM shipped free-of-charge with NonStop System Console CD suite



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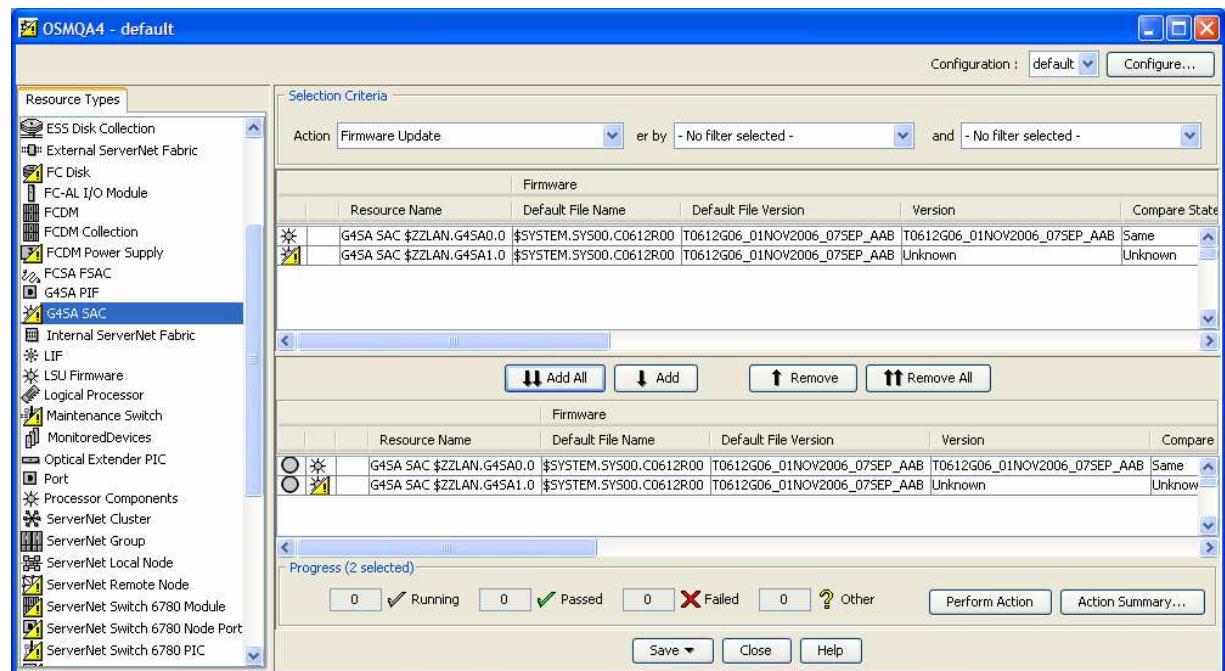
OSM features to maximize IT efficiency

- Multi-resource actions
- Integrated guided and documented procedures
- State propagation suppression
- Alarm deletion and suppression
- Dial-out suppression
- Rediscover functionality
- Physical configuration tool
- Interactive actions
- Alarm and problem summaries
- Snapshot creation
- Bookmark creation
- Inventory retrieval
- Multiple system monitoring



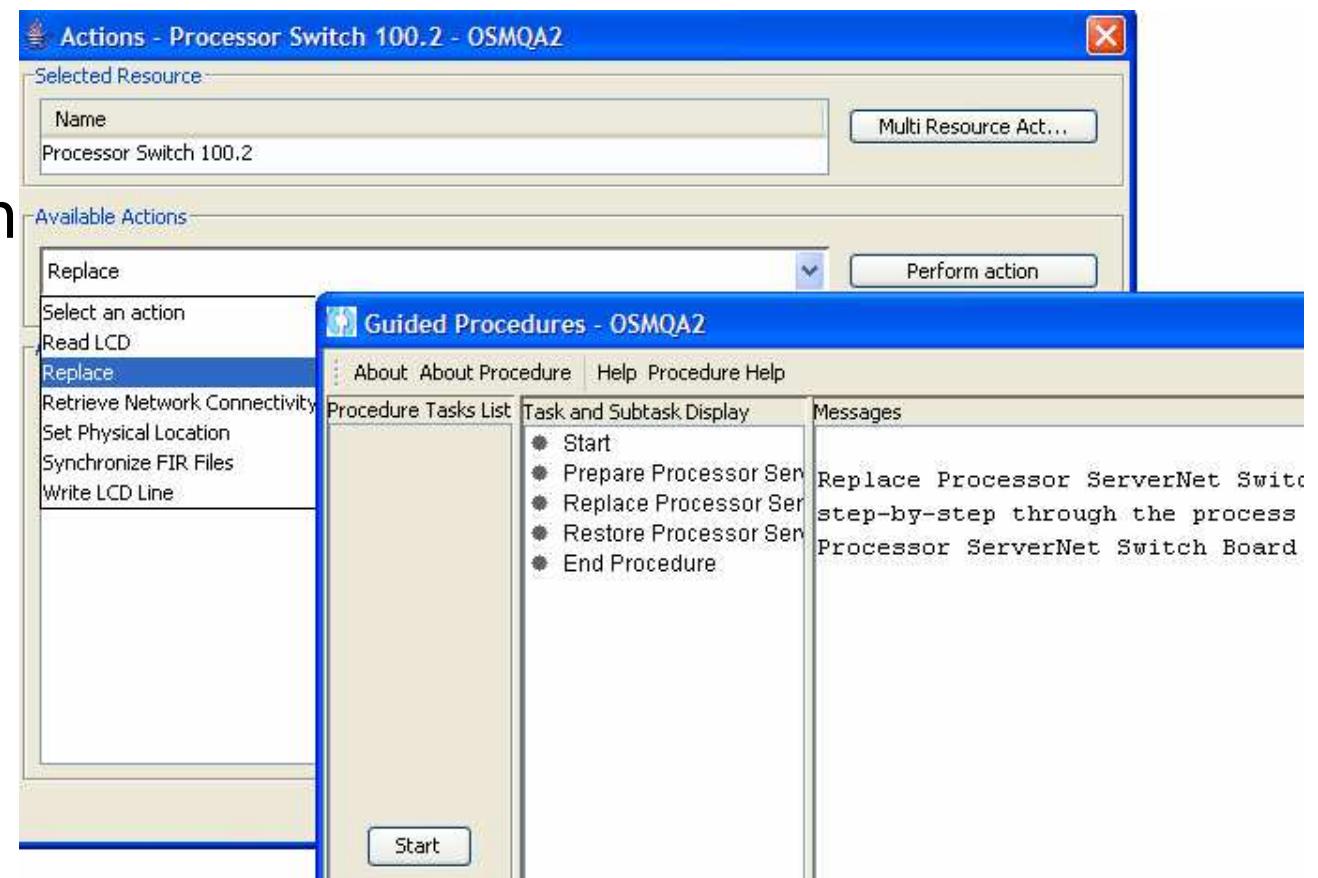
Multi-resource action capability

- Select multiple resources of any type and perform any action on them simultaneously
- Save attributes of all resources or selected resources in Excel format



Integrated guided procedures

Guided service
procedures
integrated with
OSM display



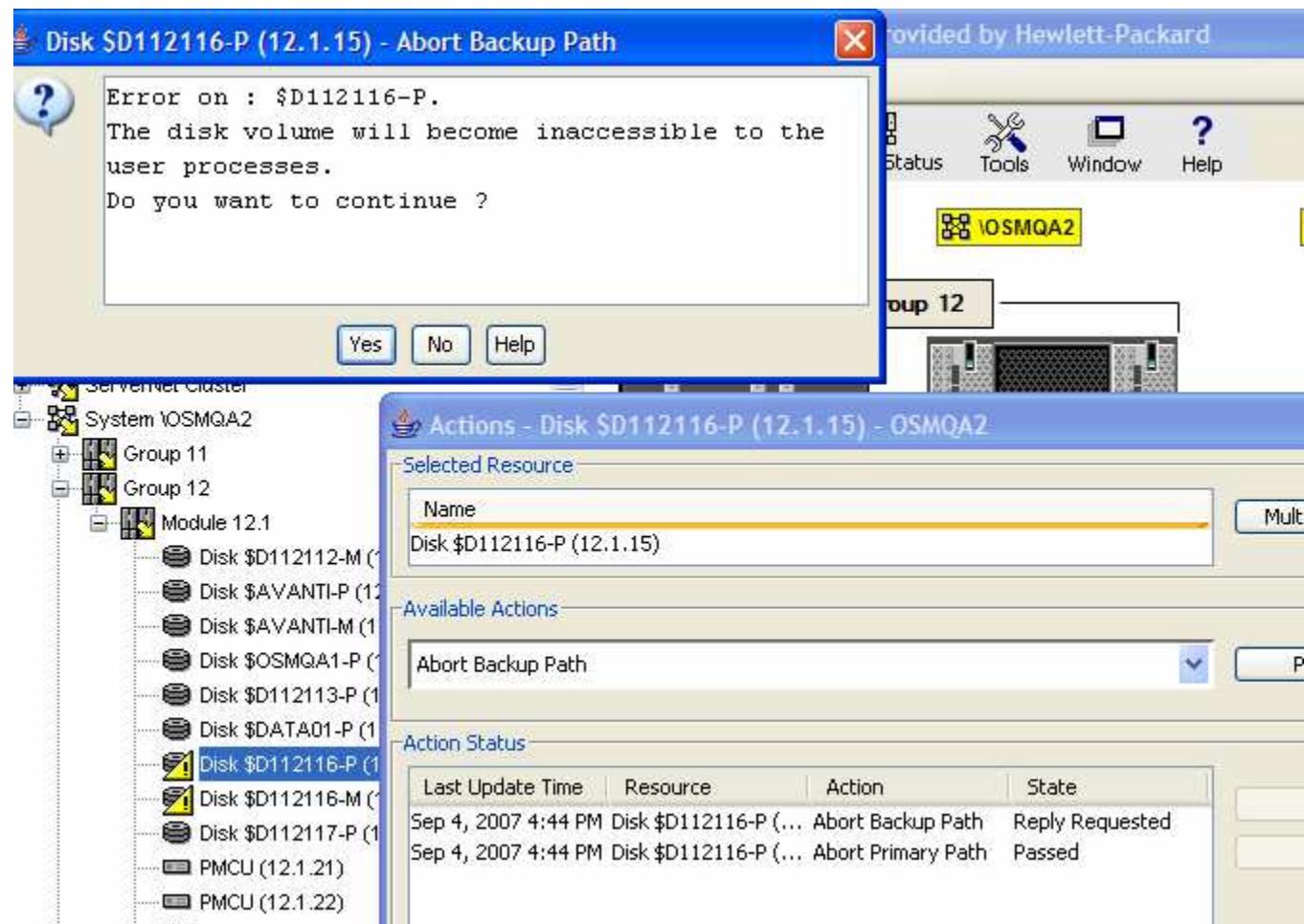
Integrated documented procedures

Documented
service
procedures
integrated with
OSM display

The screenshot illustrates the integration of service procedures with the OSM display. On the left, a Windows application window titled "Actions - Blade Element (400.1) - OSMQA2" shows a list of actions for a selected resource named "Blade Element (400.1)". The actions listed include "Replace", "Check If Safe to Replace", "Check Reintegration Status", "Disable Blade Element", "Enable Blade Element", "Power Down Blade Element", "Propagate System Name", and "Replace". The "Replace" option is currently selected. On the right, a Microsoft Internet Explorer window titled "Replacing a FRU in a NonStop Blade Element" displays a procedure for replacing a FRU. The procedure describes how to replace processor boards and front panel displays. The browser window includes a standard toolbar and address bar.

Interactive actions

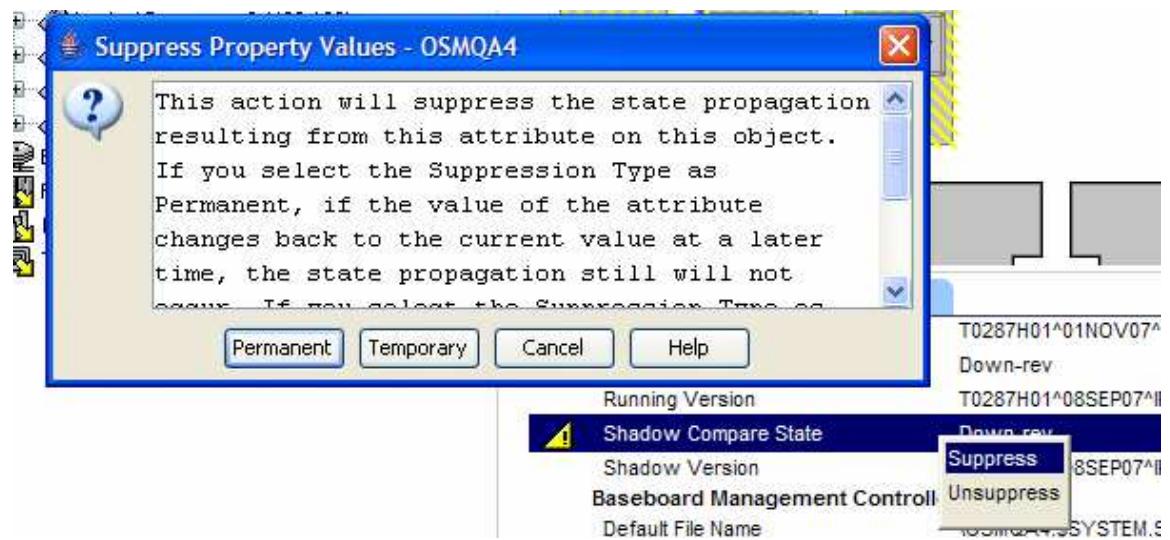
Actions that interact with user in real-time



State propagation suppression

State propagation resulting from bad attribute value

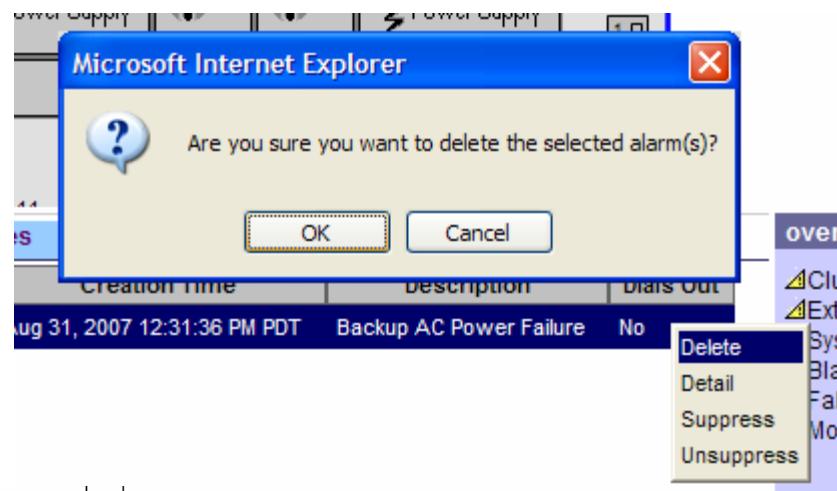
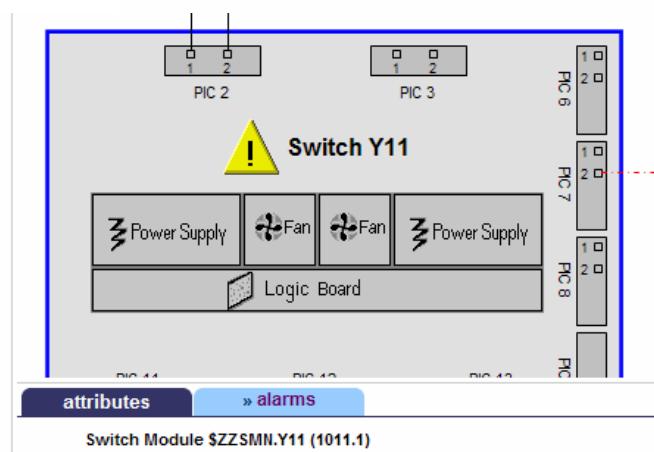
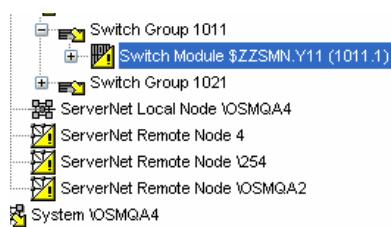
- Temporary suppression
- Permanent suppression



| attributes | » alarms |
|------------|---|
| ! | Running Compare State Running Version |
| ! | Shadow Compare State Shadow Version |
| | Baseboard Management Control Default File Name |
| | Down-rev T0287H01^08SEP07^IPF^26JUN07^AAF |
| | Down-rev T0287H01^08SEP07^IPF^26JUN07^AAF |

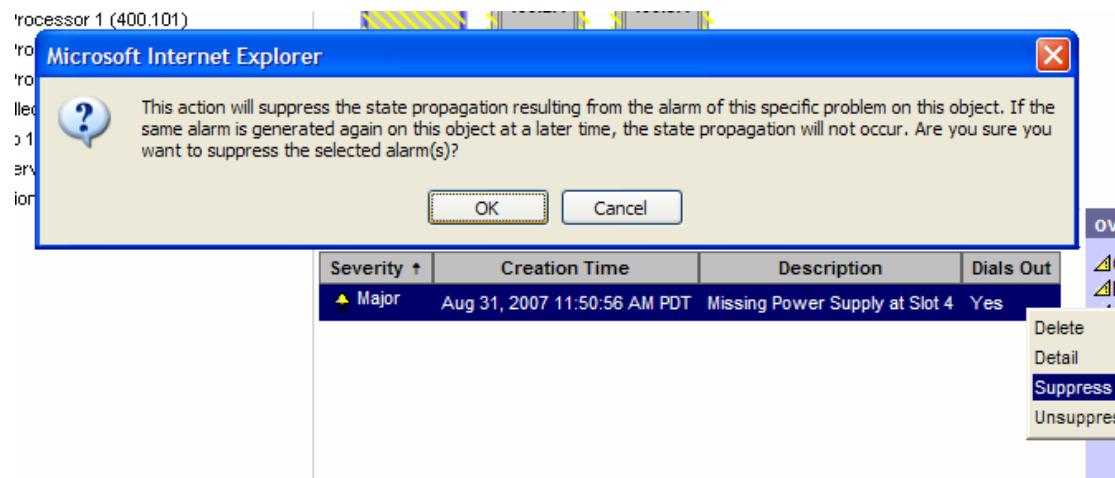
Alarm deletion

Permanently delete
the alarm and
graphical
representation



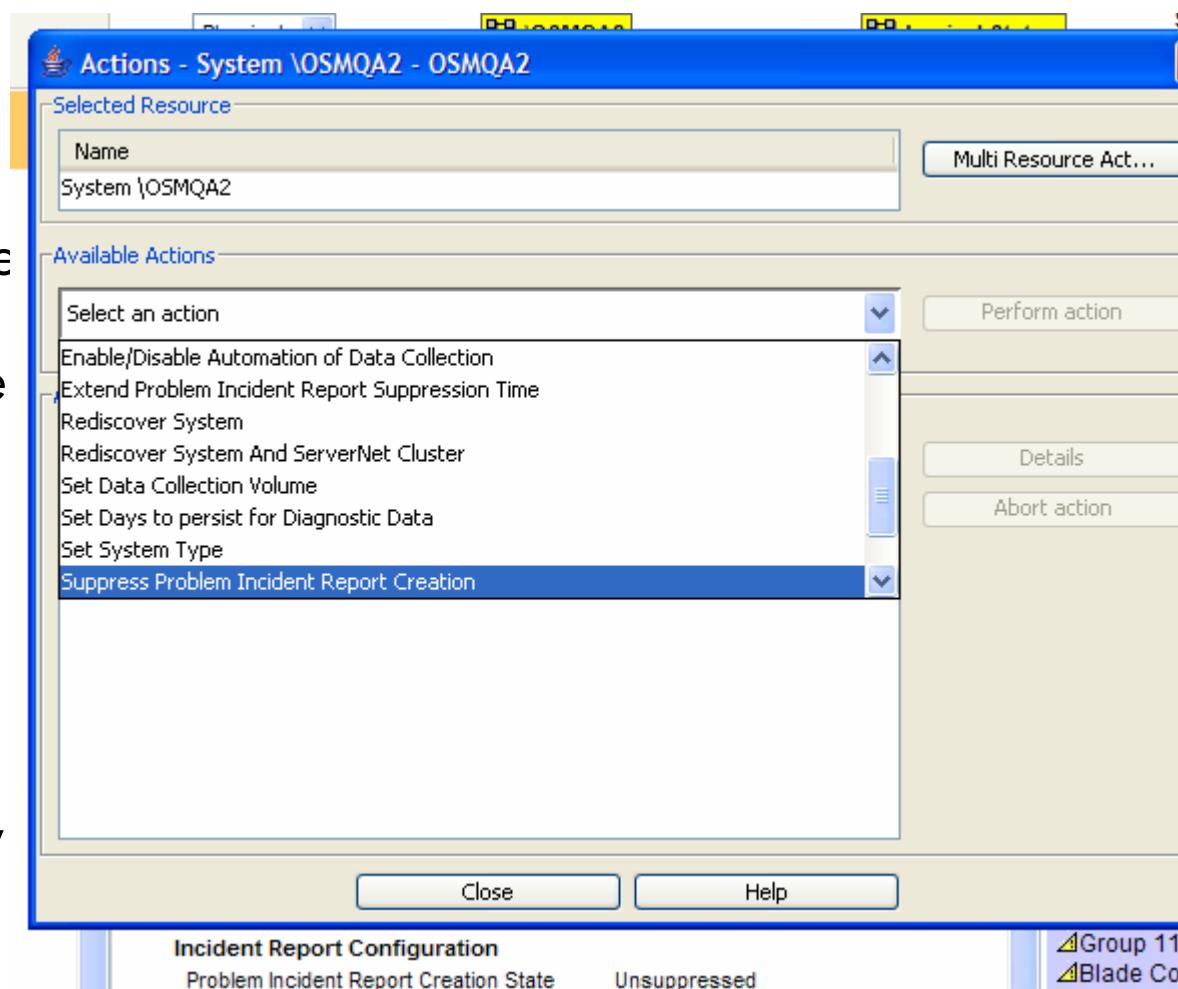
Alarm suppression

Suppression of state propagation resulting from alarm



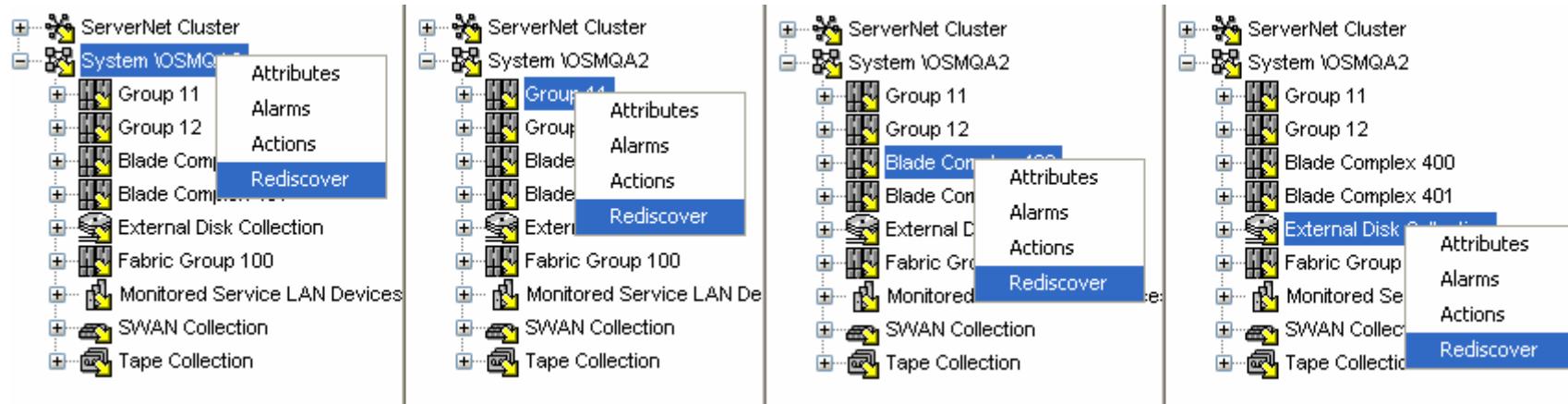
Dial-out suppression

- Actions to suppress (for 40 minutes) and unsuppress problem incident reports and dial-outs during service actions
- Attribute to display the current state of problem incident report creation
- Action to extend the problem incident report suppression time
- Dial-outs automatically suppressed by guided procedures



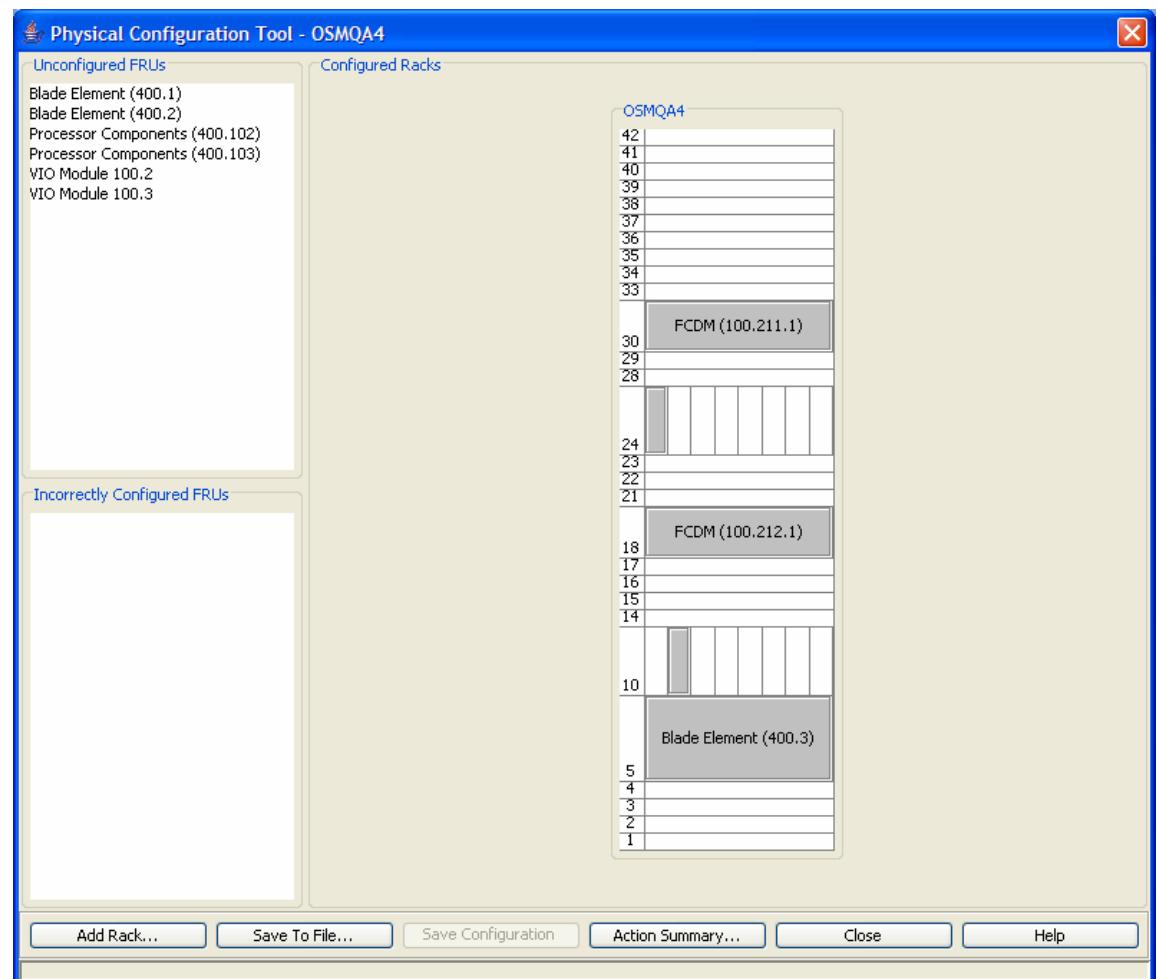
Rediscover functionality

Rediscover at various levels to not force OSM restart
in rare cases of OSM not updated dynamically



Physical configuration tool

Create and save physical configuration (rack positions) of various components on Integrity NS-Series



Alarm summary

Summary of all alarms on the system

- Get details
- Delete
- Suppress
- Unsuppress
- Save in Excel format

| Severity | Creation Time | IndicationIdentifier | Description |
|----------|------------------------------|---------------------------------------|-------------------------------------|
| Critical | Aug 31, 2007 12:30:59 PM PDT | Switch Port (1010.1.2.2) | Neighbor Switch Ports Not Connected |
| Critical | Aug 31, 2007 12:31:53 PM PDT | Switch Node Port (1011.1.7.2) | Invalid Transceiver Type |
| Critical | Aug 31, 2007 12:31:03 PM PDT | Switch Node Port (1010.1.8.2) | Invalid Transceiver Type |
| Critical | Aug 31, 2007 12:31:36 PM PDT | Switch Module \$ZZSMN.Y11 (1011.1) | Backup AC Power Failure |
| Critical | Aug 31, 2007 12:31:36 PM PDT | Switch PIC \$ZZSMN.Y21.12 (1021.1.12) | Missing Switch PIC |
| Critical | Aug 31, 2007 12:31:15 PM PDT | Switch Node Port (1020.1.8.2) | Invalid Transceiver Type |
| Critical | Aug 31, 2007 12:31:30 PM PDT | Switch Node Port (1021.1.7.1) | Invalid Transceiver Type |
| Critical | Aug 31, 2007 12:31:45 PM PDT | Switch Port (1011.1.11.4) | Missing Transceiver |
| Critical | Aug 31, 2007 12:31:03 PM PDT | Switch Node Port (1010.1.8.1) | Missing Transceiver |
| Critical | Aug 31, 2007 12:31:15 PM PDT | Switch Node Port (1020.1.7.1) | Invalid Transceiver Type |
| Critical | Aug 31, 2007 12:31:34 PM PDT | Switch Node Port (1021.1.8.2) | Invalid Transceiver Type |
| Critical | Aug 31, 2007 12:31:49 PM PDT | Switch Port (1011.1.11.1) | Missing Transceiver |
| Critical | Aug 31, 2007 12:31:07 PM PDT | Switch Port (1010.1.11.1) | Missing Transceiver |
| Critical | Aug 31, 2007 12:31:24 PM PDT | Switch Port (1020.1.12.4) | Missing Transceiver |

Problem summary

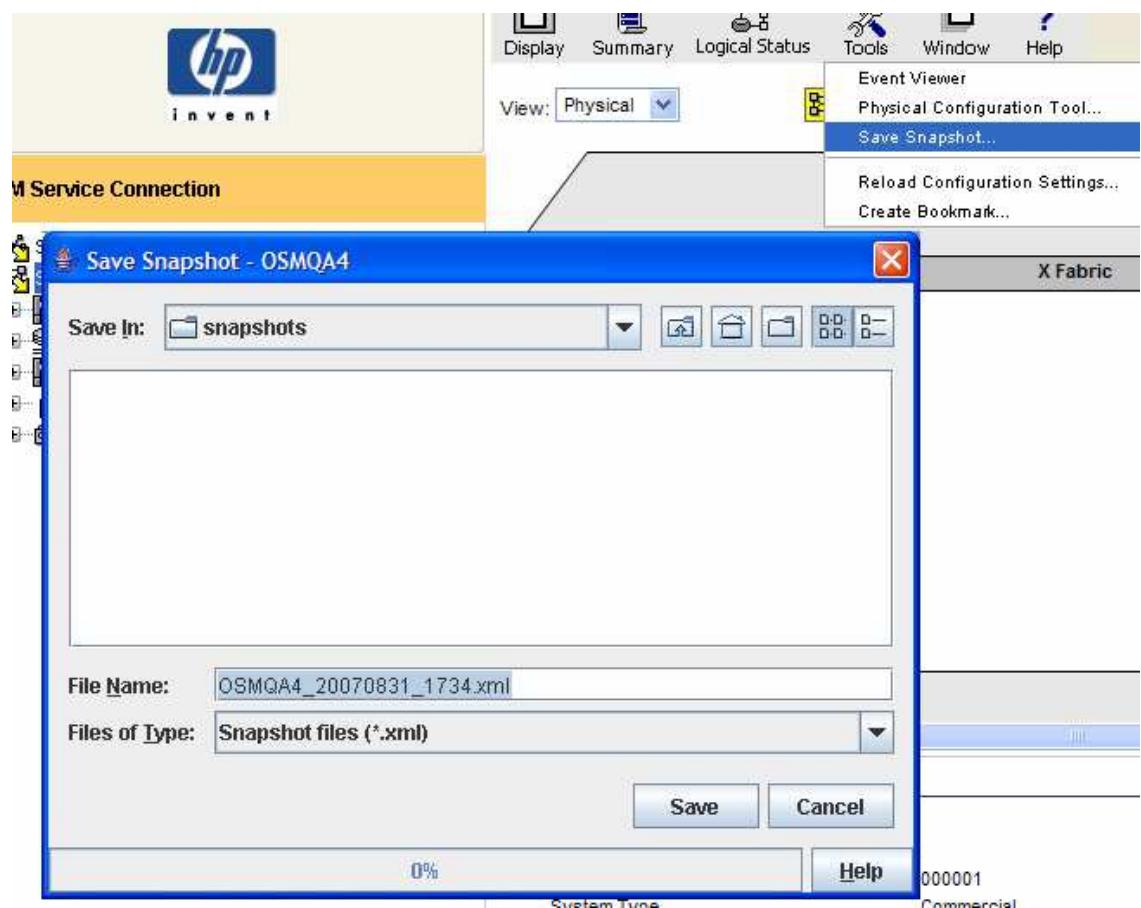
- Display of all resources that have problems
- Display of any suppressed attributes or alarms
- Save in Excel format

| Name | Service State | Problem Attribute Category | Attributes In Problem | Suppressed |
|--------------------------------------|----------------------|--|--|-------------|
| Blade Element (400.1) | Problem Acknowledged | Physical | | |
| Blade Element Firmware (400.1) | OK | Disk Boot Firmware Primitive State Firmware PAL/SAL Firmware Halted State Services Firmware | Running Compare State,Shadow Compare State Running Compare State,Shadow Compare State Running Compare State,Shadow Compare State Running Compare State,Shadow Compare State | |
| Blade Element Firmware (400.2) | OK | PAL/SAL Firmware Primitive State Firmware Halted State Services Firmware Disk Boot Firmware | Running Compare State Running Compare State,Shadow Compare State Running Compare State,Shadow Compare State Running Compare State,Shadow Compare State | Shadow Comp |
| Blade Element Firmware (400.3) | OK | Halted State Services Firmware Disk Boot Firmware PAL/SAL Firmware Primitive State Firmware | Running Compare State,Shadow Compare State Running Compare State,Shadow Compare State Running Compare State,Shadow Compare State Running Compare State,Shadow Compare State | |
| Blade Element Power Supply (400.2.3) | Attention Required | Physical | Device State | |
| Blade Element Power Supply (400.3.3) | Attention Required | Physical | Device State | |



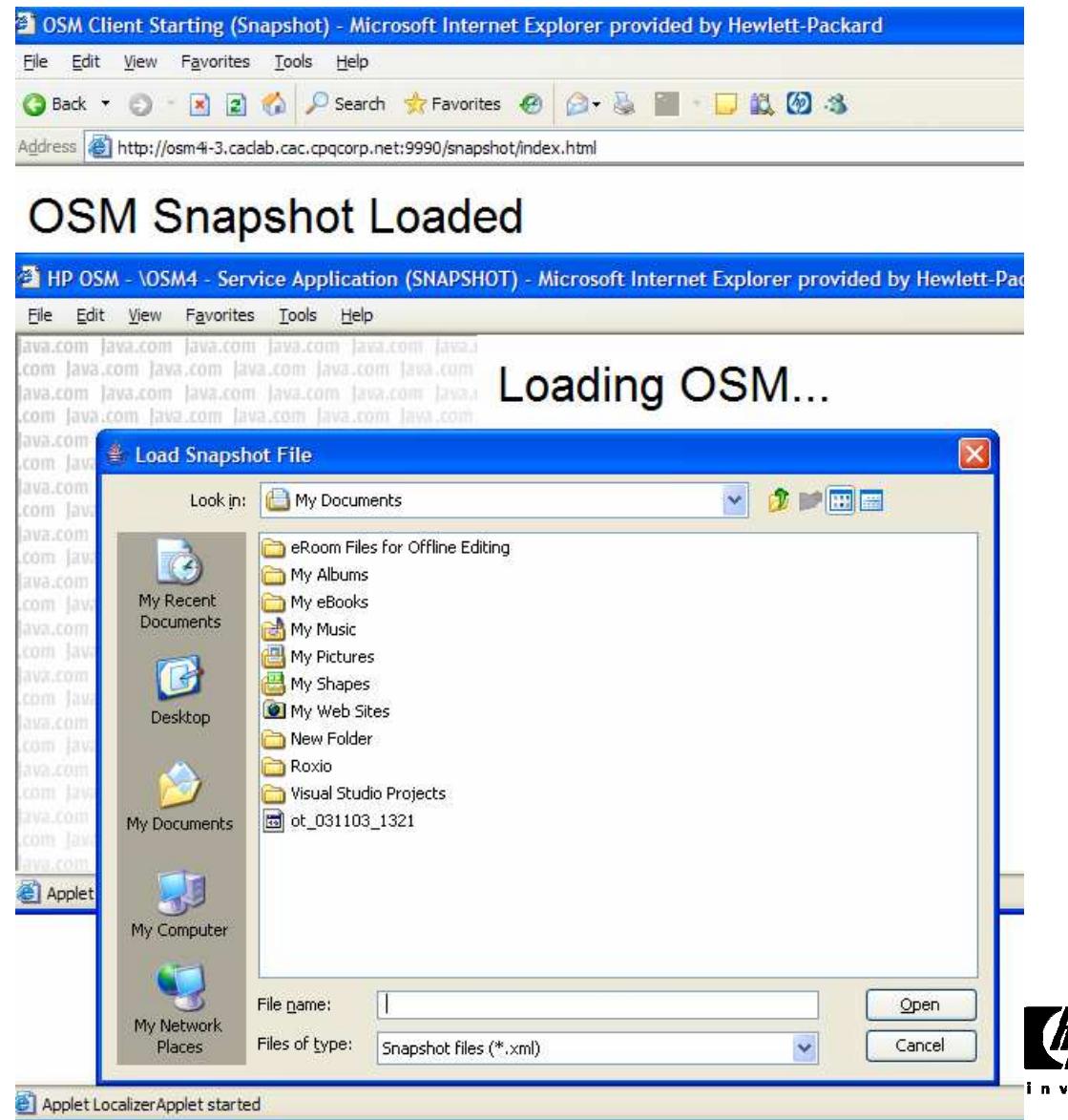
Snapshot creation

Save the
snapshot of the
system in XML
format on NSC



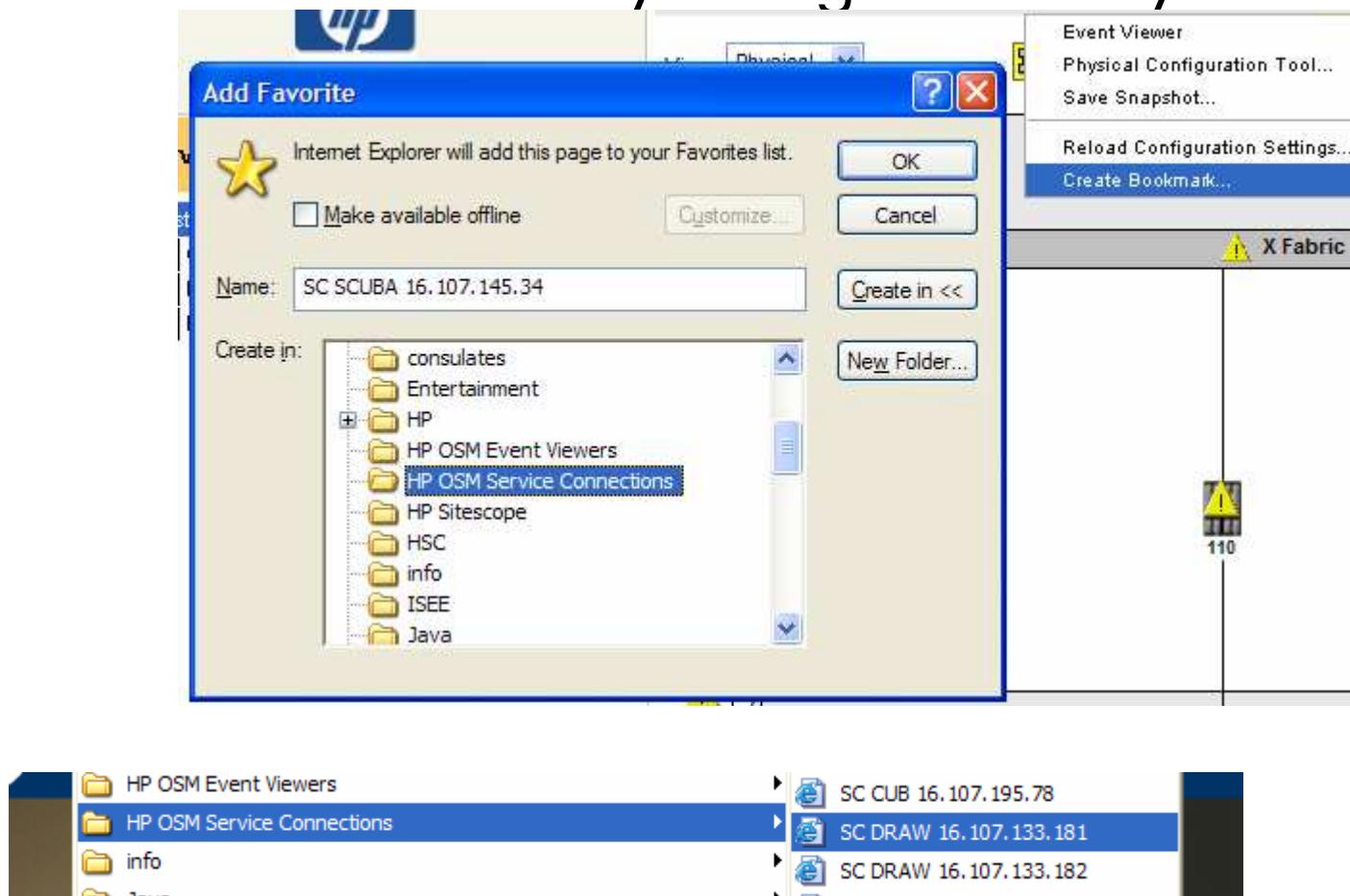
Snapshot viewing

View the snapshot later for analysis and diagnosis



Create bookmark functionality

Create bookmarks to easily navigate to a system



OSM Inventory View

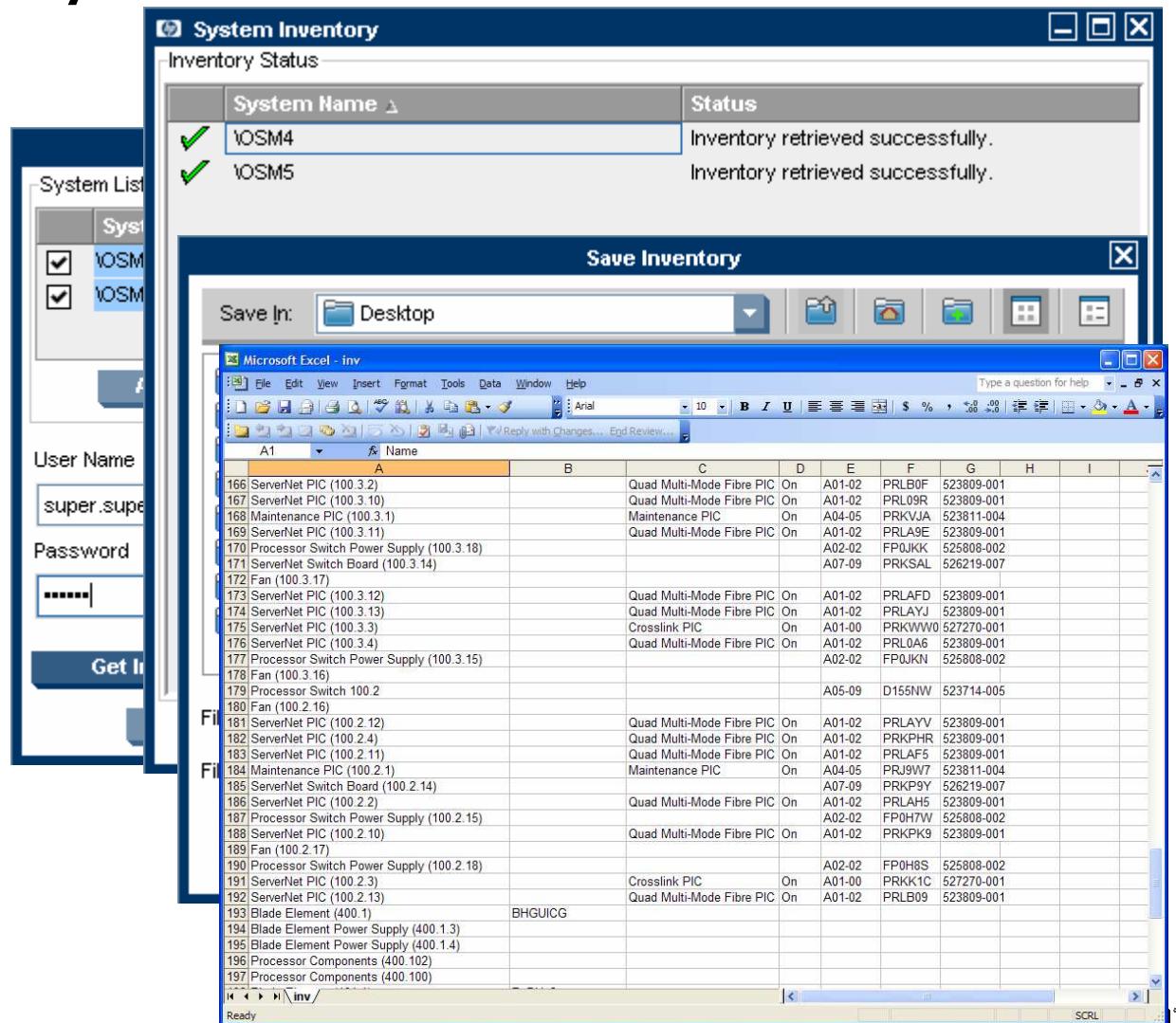
Retrieval of hardware inventory for a single NonStop system in Excel format

The screenshot shows a software interface for managing hardware inventory. At the top, there's a navigation bar with a 'View' dropdown set to 'Inventory', a search field containing '\OSMQA2', and a 'Logical Status' button. To the right, it displays 'Server Status : Disc' and 'User : super.super'. Below the header is a 'Save' button. The main area is a table with columns: Name, Serial Number, Type, Power State, and Hard. The table lists various components, many of which have yellow warning icons next to them. The data includes:

| Name | Serial Number | Type | Power State | Hard |
|---|---------------|------|-------------|------|
| ATM3SA \$ZZATM.\$AM1 (12.1.53) [Physical] | | | On | B04 |
| Battery (11.1.23) [Physical] | | | On | |
| Battery (11.1.28) [Physical] | | | On | |
| Battery (12.1.23) [Physical] | | | On | |
| Battery (12.1.28) [Physical] | | | On | |
| Blade Element (400.1) [Physical] | | | | A |
| Blade Element (400.2) [Physical] | | | | A |
| Blade Element (400.3) [Physical] | | | | A |
| Blade Element (401.1) [Physical] | | | | A |
| Blade Element Power Supply (400.1.3) [Physical] | B3827F00EB04C | | | |
| Blade Element Power Supply (400.1.4) [Physical] | B3827F00DY04C | | | |
| Blade Element Power Supply (400.2.3) [Physical] | B3827M00EP04C | | | |
| Blade Element Power Supply (400.2.4) [Physical] | B3827M00F404C | | | |
| Blade Element Power Supply (400.3.3) [Physical] | B3827D00FT04C | | | |
| Blade Element Power Supply (401.1.3) [Physical] | B3827D00FX04C | | | |
| CLIP \$ZZWAN.#SW2.1 [Physical] | | | | |

OSM Inventory Tool

Retrieval of hardware, firmware, or sensor inventory across multiple NonStop systems in Excel format



Multiple system monitoring

- System status to spin-off the aggregate system status in a little window
 - Can be used for multiple system monitoring at a glance



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- OSM overview
- OSM requirements
- OSM architecture
- OSM configuration
- OSM performance
- OSM scalability
- OSM migration
- Maintenance LAN and remote service
- OSM and ISEE
- OSM and HP SIM
- OSM features to maximize IT efficiency
- **Other best practices**
- OSM documentation
- OSM latest news
- OSM future plans



Other best practices

- Always use the latest versions of the OSM components even when running older OS versions.
- Install only those JRE versions on the NSC, which are prompted by OSM Service Connection.
- Ensure pop-ups are not blocked in Internet Explorer.
- Make sure that if anti-virus software is installed on the NSC, it does not block the sending of Internet e-mail. This will prevent dial-outs from opening cases when using modems for dial-out.
- Use “Blink” actions, if available before replacing a FRU to avoid replacing incorrect FRU.
- Use filtering capabilities of OSM Event Viewer to see only the events of interest.



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OSM documentation resources

- Online help
 - Context-sensitive (F1) help for interface elements and all system and cluster resources, attributes and actions.
 - Help button in dialog boxes
 - Integrated guided procedure help
- Manuals at <http://docs.hp.com> (no new updates in NonStop Technical Library)
 - OSM Service Connection User's Guide
 - OSM Migration and Configuration Guide
 - NonStop System Console Installer Guide
 - NonStop System Console Guide for Migrating to Microsoft Windows XP Professional
- Softdocs

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Latest OSM SPRs

| Product | SPRs |
|--------------------------------------|---|
| T0682 (OSM Service Connection Suite) | T0682H02^AAY T0682H02^AAZ T0682H02^ABC T0682G07^ABA |
| T0633 (OSM Modular Low-Level Link) | T0633G06^AAR T0633G06^AAS T0633G06^AAT T0633G06^AAU T0633G06^AAV |
| T0632 (OSM Notification Director) | T0632G07^AAU |
| T0634 (OSM Console Tools) | T0634G06^AAN T0634G06^AAO |
| T0354 (HP NSC SW Master Installer) | T0354G06^AAQ T0354G06^AAR T0354G06^AAS |



OSM Service Connection Suite H-Series latest features and fixes

- Support of Integrity NonStop NS3000AC server
- Support of HP ProCurve 2848 switch
- Support of Internet Explorer Version 7
- Inventory reporting for FRUs within processor blade elements of NS1000, NS5000T, and NS5000CG systems
- More robust monitoring of maintenance switch and UPS
- Support of aborting Validate Checksum and Clear Data actions on disk
- Full SSL support in OSM Event Viewer
- More control over duplicate dial-out avoidance time period
- Heap utilization fixes in MDEVPRVD



OSM Service Connection Suite G-Series new features and fixes

- Support of more configurations of IOAM enclosures
- Support of long passwords, including special characters
- More accurate ServerNet incident analysis
- More robust power scrub
- Halt fixes
- Abend fixes



OSM Modular Low-Level Link new features and fixes

- Support of Integrity NonStop NS3000AC server
- Configuration of VIO modules connected to IOMF2s
- Ability to save system disk configuration on NonStop System Console
- Use of MR-Win6530 terminal emulator for launching startup TACL (CLCI) and event stream (CNSL)
- Halt fixes



OSM Notification Director new features and fixes

- Enhancements to support correct transmission of unicode characters
- Fixes for abort during logon, system configuration, and alarm attachment file transfer



OSM Console Tools new features and fixes

- Tool to convert existing session files to MR-Win6530 session files on NonStop System Console
- Fixes in System Inventory Tool



New terminal emulator

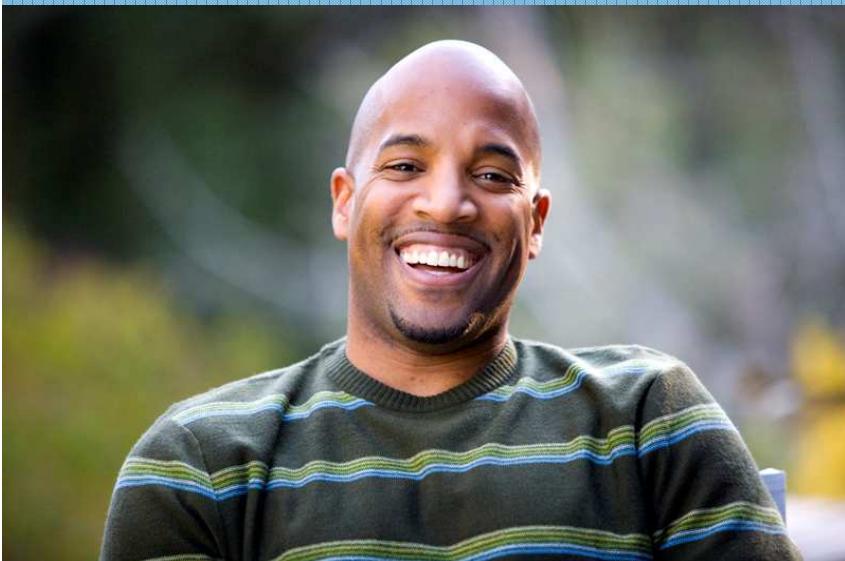
| | |
|--------------------------------------|---|
| News | OutsideView replaced with comForte MR-Win6530 as NonStop System Console terminal emulator |
| Systems affected | Both NS-Series and S-Series |
| Timeframe | May, 2007 |
| First RVU with change | H06.10, G06.31 |
| First OSM Low-Level Link with change | T0633G06^AAT |
| First console DVD with change | HNSC-SWV2 for H-series S7X-SWV2 for G-series |



Customer impact

Customers wishing to upgrade to MR-Win6530

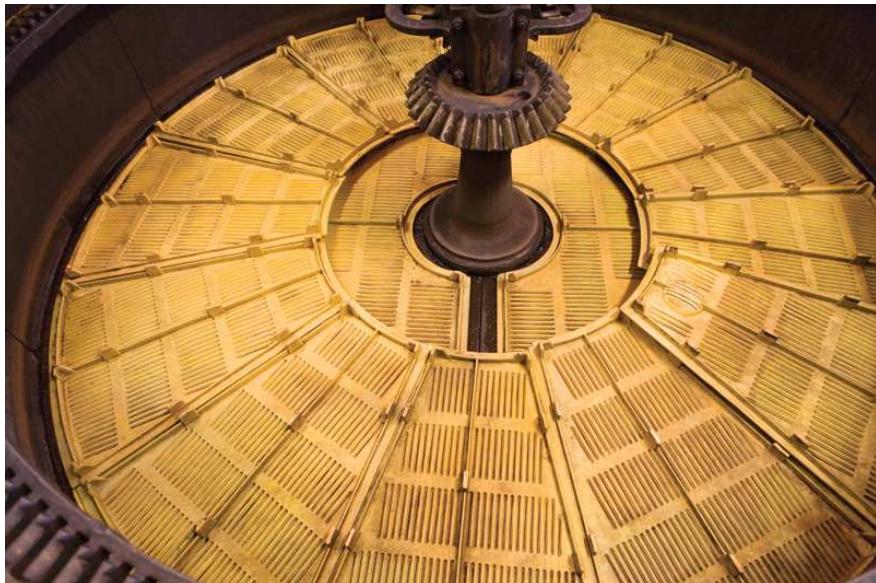
- Install latest NonStop System Console DVD
- Get all advantages of MR-Win6530 and OSM Low-Level Link seamless integration with it



Customers NOT wishing to upgrade to MR-Win6530

- Install latest NonStop System Console DVD but not install MR-Win6530
- Manually launch startup TACL (CLCI) and event stream (CNSL) using OutsideView

Migration tool



- Free of charge
- Easy to use

- Migration tool to convert existing TCP/IP 6530 terminal session files to MR-Win6530 session files on NonStop System Console
- Included in OSM Console Tools (T0634G06^AAN and later)
- Converts session files created with OutsideView Versions 7.2 and 7.3
- Does not support startup TACL and event stream sessions or VTnn terminal sessions for OSS

Support model



Support of MR-Win6530

- ✓ Through HP (normal channels)
- ✓ Through comForte (<http://www.comforte.com>)

Support of OutsideView

- ✓ Until January, 2009: Through HP for OutsideView copies sold by HP on NonStop System Consoles
- ✓ After January, 2009: Contact Crystal Point directly

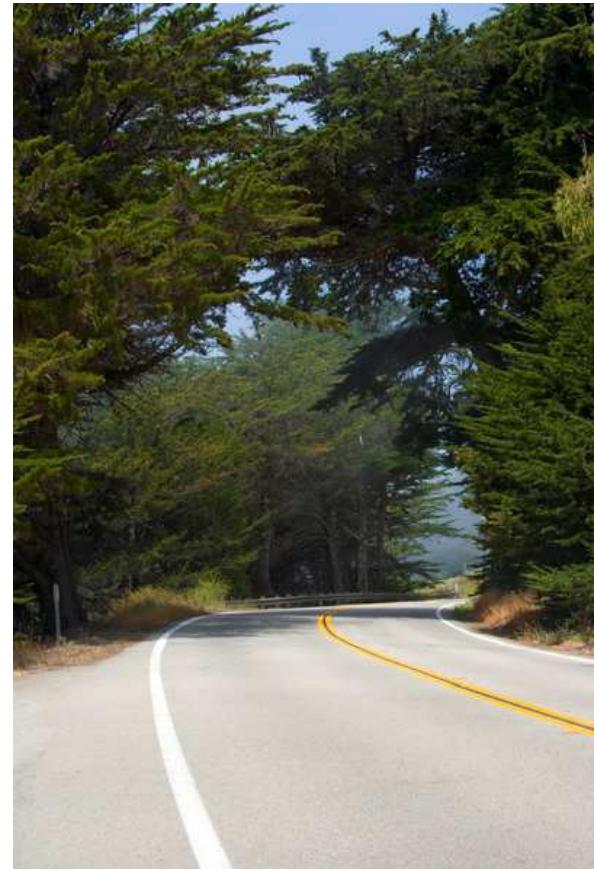
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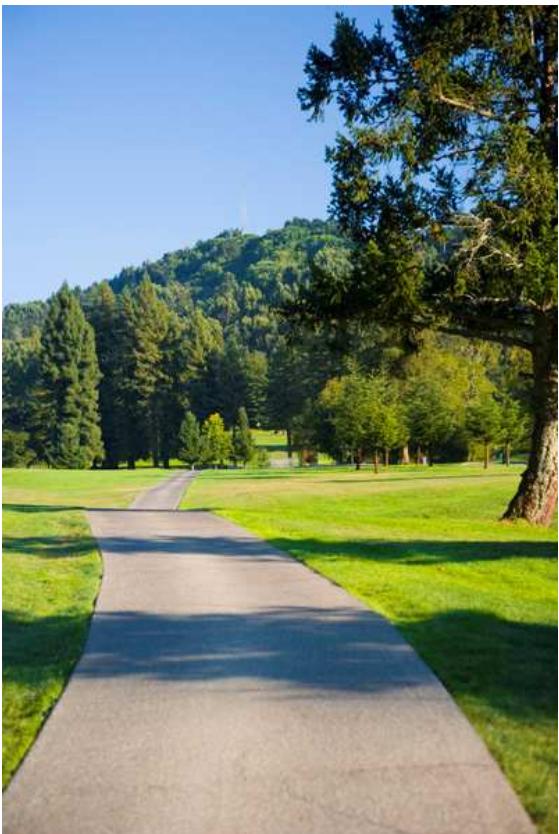
OSM plans

- Continuous support for high-end, mid-range, and entry-level Integrity NonStop servers
- Support for all new hardware on Integrity NonStop
- OSM plug-ins for extended functionality
 - SMI-S (Storage Management Initiative - Specification) support for integrated storage management using HP SIM
 - Other value-add plug-ins
- OSM WBEM SDK for provider and client development
- Integration with WEBES (Web-Based Enterprise Services)/On-Site Analyzer for Integrity server fault diagnosis



All future plans are subject to change without notice

OSM extended family plans



- New NonStop System Console rack-mount and desk-side models with more memory running Windows Server
- Support of future HP SIM releases
- NonStop Essentials plug-ins to HP SIM for
 - Heterogeneous cluster management
 - ServerNet Cluster management
 - Networking and storage management
- Service Essentials Remote Support Pack (next-generation ISEE) for NonStop
- Storage Essentials support for NonStop

All future plans are subject to change without notice



