

# HP Server Automation

for the HP-UX, IBM AIX, Red Hat Enterprise Linux, Solaris, SUSE Linux Enterprise Server, VMware, and Windows® operating systems

Software Version: 7.84

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## Release Notes

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### Document Changes

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	August 2010	Document Created
Title	October 2010	Removed references to ESX 4.1, changed the date to November 2010, updated trademark information

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# 1 New in SA 7.84

## Critical Defect Fixes

The following defects were fixed in SA 7.84:

**Table 1 Critical Defect Fixes in SA 7.84**

QCCRID	Description
80816	All servers are displayed in the Servers and Device Groups panel of the Reboot Server task window, instead of just the servers selected for a scheduled or completed job.
89291	Need a utility to add an index on the COMPLIANCE_DETAIL table.
90265	The Managed Boot Clients (MBC) took long time to process input.
93589	When users modify a powered-on virtual machine on a VMWare Hypervisor, they can add a disk but cannot change the size of that new disk or change the datastore once it is selected. Consequently, available free space might be less than the default value (4GB).
94191	You should be able to generate reports as a user other than the SuperAdmin user.
94324	When you select a pre- or post-remediate script, the name of the script is truncated and only the text after the dot (".") is displayed. For example, if the script name is helloworld.conf, the name is displayed as 'conf'.
96520	<b>Storage ► Summary ► Database Storage</b> section displays incorrect database information.
96568	When try to duplicate a zip package, the package is duplicated without a path, and you receive the following error: You do not have permission to view details of this policy item.
96616	LUN report displays incorrectly.
96862	When importing newer Linux or VMware ESX OS media using <code>import_media</code> , some packages fail to upload to the SA Software Repository with an error similar to: Uploading Packages: [###37% ] An exception was raised (upload attempt 1): Error uploading package. lsi.rpm: Invalid Parameters
96947	Software policies cannot be added or removed if the sequence is using an unassigned customer OS profile (customer 'not assigned').

**Table 1 Critical Defect Fixes in SA 7.84 (cont'd)**

<b>QCCRID</b>	<b>Description</b>
97716	Remote Type for VM Guest is not available when selecting DAS as the Storage Type from the drop-down menu.
97724	An update is required to support VMware VMs in reports.
98509	Update required to support Oracle ASM in reports.
100055	The SAS Web Client user profile sometimes appears blank.
100620	The OS Sequence pre and post-remediate script user name, password, and domain fields should not be editable after selecting 'root' for the username and saving the OS Sequence.
100677	Wordcache uses an invalid SSL context when attempting to access a peer.
102121	The Add to Patch Policy should be enabled when you select a Solaris patch or patch cluster using the SA client library (Library - By Type -> Patches -> Solaris -> SunOS 5.x).
103070	Sometimes, when you enter a valid description into the description field of a script and then makes a change to the script or the description, the revision is not visible in its entirety.
104966	SA should show Windows 2008 R2 as the OS Version in the server record.
106099	When you look up install software or uninstall software jobs, the scroll bar for the window that displays options for running a script does not function.
106811	The <code>solpatch_import</code> command overrides existing patch options.
107439	<p><b>Description:</b> When users (logged on as channel administrators) perform a <code>show_labels</code> command, they are unable to see channels known to exist on the Satellite that is to be used for SA patching. Users only see default channels that Red Hat publishes.</p> <p>Previously, the only way to import packages and errata from a custom channel was to move the custom channel as a child of one of the existing supported standard channels. For this release, support was added for custom channels as parents. This change introduces a new parameter (see below) that can be added in each channel section in the configuration file that associates a custom channel with a platform. This allows you to import the packages and errata associated with the custom channel. The channel now acts as a parent channel.</p> <p>New parameter:</p> <pre>[testchannel] enabled=1 platform=Red Hat Enterprise Linux Server 5 X86_64</pre>
107854	SA users cannot create a new Hyper-V partition on Windows 2008 SP2 virtual machines.
107935/ 108377	Compliance dashboard takes a long time to load and there is high CPU load on the database server.

**Table 1 Critical Defect Fixes in SA 7.84 (cont'd)**

<b>QCCRID</b>	<b>Description</b>
108120	OS provisioning on larger scales causes buildmgr to crash with out of memory errors.
108377/ 107935	Compliance dashboard takes a long time to load and there is high CPU load on the database server.
108910	When an agent conducts a hardware scan of the tape devices, the backup tape operation fails.
109686	The archived audit results display an error.
110105	In SA version 7.81, the Python Opsware API access software is unavailable for Oracle Enterprise Linux 5 (x86_64).
110310	Performance of the SESSION_SERVICE_INSTANCES table is poor because garbage collection is not working properly on the table.
110354	When you upload a file to a custom field in the Custom Field Extension of the Web Command Center, you might see a 403 AuthorizationDeniedException error.
110414	Configuration compliance scanning sometimes returns a status of in compliance for random servers that are known to be out of compliance.
110789	The Managed Boot Clients (MBC) should not show decommissioned facilities as a choice for facility to provision servers
110894	Agent fails to install when deployed from the SA Client on a Red Hat Enterprise Linux 5 server, or, if the agent succeeds in the installation, the server will not be displayed in the managed servers list.
110954	Imported or exported RPM packages change name during the import or export.
111003	Default documents list is returned as a string.
111262	If you use <code>rhn_import</code> (version 37.0.0.0.5.1) to populate Red Hat Network satellite channels, child channels are marked 'Always install' but should be marked 'Only install where prior version of software exists on the server'.
111440	Dormant agent fails to connect to core.
111567	You cannot add a Solaris patch to a patch policy from within the Patch Policy view.
111601	When you install bundles, all bundles with new names show an erroneous status of Will Not Install.
111642	When you run the System Diagnostic test on your core, you might see the following error:  Test Name: Model Repository Schema  Test Results:  The following tables differ between the Data Access Engine and the Model Repository: <code>local_data_centers</code> .

**Table 1 Critical Defect Fixes in SA 7.84 (cont'd)**

<b>QCCRID</b>	<b>Description</b>
111664	The agentcache component fails to restart after a slice component bundle upgrade and the following error is displayed:  Address already in use
111692	SA will not allow you to import an updated version of a bundle until you manually delete the older version from the core.
111695	Users should be able to add 10Gig Network drives to the WinPE images so they can register a server on the 10Gig network.
111721	When you run an install OS Sequence job with numerous servers and you select a server in the active job window, the details panel below it closes
111722	Confusing error messages are displayed during the 7.83 and 7.82 patch content installation.
111797	Assertion error is displayed when you import a bundle.
111863	Manage Boot Clients utility (MBC): sequence_id and MAC link was not removed for Solaris10x86 provision done by MBC.
111903	The solpatch import script does not handle the tar.gz file correctly.
111971	An error is displayed when you perform a remediation of a simultaneous attachment and detachment.
112123	Exporting all results using a download script with .csv output format fails with errors
112209	System displays a channel_name key error when you run the rhn_import command against an Red Hat Network satellite.
112211	Users cannot grant OGFS permissions if a user name includes a dash (-) in it.
112286	An application configuration cannot be assigned to a software policy even when they share at least one platform.
112426	When you provision a VMWare ESX server, the agent reachability test does not always show completed results successfully.
112539	In a Windows Server 2008 R2 server, if you select Windows Device Manager, the following message is displayed:  Could not determine a valid Win version
112570	The Windows Server 2008 R2 (x86_64) is not on the list of supported IIS 7 SMOs, but it is present as a separate platform.
112759	The details_url should be a configurable parameter in the configuration file.
112874	Agent does not distinguish between CPU family names.
113204	Windows XP agent does not register the default gateway properly.

**Table 1 Critical Defect Fixes in SA 7.84 (cont'd)**

QCCRID	Description
113564	User permissions disregard group permissions because of the creation order.
113588	The <code>solpatch_import</code> filter option excludes recommended patches that are also obsolete.
113782	The host operating system might still report a stale LUN as having a Root service type because the system could not detect storage changes.
114280	Scalability regression occurs when viewing the library by folder.

## Supported Operating Systems

For a complete list of supported platforms for SA 7.84 Cores, Agents, and Satellites, see *SA Supported Platforms* provided with the SA documentation. You can find updated versions of the *SA Supported Platforms* document on the HP Self Solve website. For information about deprecated operating systems, see your 7.80 *SA Simple/Advanced Installation Guide* or *SA Upgrade Guide*.

## Revised Sizing Guidelines

SA 7.80 and later have increased memory demands on the Slice Component bundle host(s). [Table 2](#) and [Table 3](#) provide the revised sizing guidelines:

**Table 2 Small-to-Medium SA Deployment (SA 7.80 and later)**

Managed Servers	SA Component Distribution by Server		
	Server 1*	Server 2*	Server 3**
500	MR, Infra, Slice 0, OS Prov	N/A	N/A
1000	MR	Infra, Slice 0, OS Prov	N/A
	N/A	N/A	MR, Infra, Slice 0, OS Prov

\* Server Configuration: 4 CPU cores, 8 GB RAM, 1 GB/s network

\*\* Server Configuration: 8 CPU cores, 16 GB RAM, 1 GB/s network

**Table 3 Medium-to-Large SA Deployment (SA 7.80 and later)**

Managed Servers	SA Component Distribution by Server				
	Server 1*	Server 2*	Server 3*	Server 4*	Server 5*
2000	MR	Infra, Slice 0, OS Prov	N/A	N/A	N/A
4000	MR	Infra, Slice 0, OS Prov	Slice 1	N/A	N/A
6000	MR	Infra, Slice 0, OS Prov	Slice 1	Slice 2	N/A
8000	MR	Infra, Slice 0, OS Prov	Slice 1	Slice 2	Slice 3

\* Server Configuration: 8 CPU Cores, 8 GB RAM, 1 GB/s network

## New Memory Requirement for Solaris x86\_64 VM PXE Booting

In order to PXE boot Solaris x86\_64 VMs, you must assign the Solaris VM one gigabyte memory or more.

## SA Cores on VMs Support

SA 7.80 added support for running SA Core Components within VMWare ESX Virtual Machine (VM) environments.

In the SA 7.80 release notes, HP recommended that the Model Repository not be deployed to a VM and that the only supported installations were those in which the VM which supports the SA Core infrastructure was the sole VM.

The intent was to ensure that in conditions where overall performance was potentially a factor, SA performance could be isolated from the environmental impact of resource contention caused by other VMs. However, it was not intended to require that all SA Core on VM installations would always have exclusive domain of the ESX container.

To clarify:

- SA Core components are supported when executed within VMs provided you follow VMWare's best practices for managing resource allocation and overall workload to ensure that other VMs sharing the same ESX container do not significantly impact the performance available to the VM hosting the SA Core Components.
- To facilitate support of Infrastructure and Slice Component bundles on VMs, HP reserves the right to ask you to replicate any potentially performance related issues in an environment where the VM supporting the SA Core Components is the sole VM active within the ESX container.

- To facilitate support of the Model Repository on a VM, HP reserves the right to ask you to replicate any issues in an environment where the Model Repository is installed on a supported physical platform. Any issues resulting from interactions between the Oracle Database and the VM platform requiring interaction with Oracle technical support are your responsibility.

## New in 7.84

### New Supported Platforms — Managed Servers

- SUSE Linux Enterprise Server 10 SP3 - zSeries
- SUSE Linux Enterprise Server 11 SLES 11 SP1- ZSeries
- SUSE Linux Enterprise Server 11 SP1 Power
- Red Hat Enterprise Linux 5.4, 5.5 -zSeries
- Red Hat Enterprise Linux 4.8 - Power
- CentOS 5.5 (i386, x86\_64)
- Cisco Switch Support
- Chinese support for Windows Server 2008, 2003, 2008 R2, 2003 R2
- Oracle 11.2 support



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SA 7.80 adds support for IP Multipathing and NIC bonding support for core and satellites and SAN support for SA Cores.

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### New Supported Platforms — Virtualization

- Windows Server 2008 R2 x86\_64 Hyper-V
- Japanese Windows Server 2008 x86\_64 Hyper-V

### HP-UX Patch Management and OS Provisioning Support

This release provides support for HP-UX Patch Management and for OS Provisioning. The documentation for these features is contained in separate white papers that you can download from the HP Self Solve web site:

<http://support.openview.hp.com/selfsolve/manuals>

This site requires that you register for an HP Passport and sign in. To register for an HP Passport ID, go to:

<http://h20229.www2.hp.com/passport-registration.html>

Or click the New users - please register link on the HP Passport login page.

The documents are titled:

- *HP-UX Software and Patch Management*
- *HP-UX Provisioning for HP Server Automation*

## Windows Server 2008 R2 Support

This release adds support for Windows Server 2008 R2. If you plan to provision or manage Windows Server 2008 R2 hosts, there are certain additional steps you must take during the patch installation process to ensure full compatibility and support for existing configurations (application configuration, software policies, and so on). See [Chapter 2, Installing SA 7.84](#), on page 43 of this guide.

## Model Repository Database on HP-UX and IBM AIX Supported

As of this release, SA supports installation of the Oracle database for the Model Repository on the HP-UX and IBM AIX platforms supported by Oracle. The installation procedure is the same as that described for remote databases in the *SA Simple/Advanced Installation Guide*, Appendix A: Oracle Setup for the Model Repository.

## Veritas File System Support

As of SA 7.84, the Veritas File System (VxFS) is supported for SA Cores on Red Hat Enterprise Linux and Solaris 10 U6. For more information, see the *SA Supported Platforms* in the documentation directory of your SA installation.

## Simplified Database Schema Update Script

SA 7.84 provides a new, simplified database schema update script, `patch_database.sh`, that combines the multiple scripts that were previously required to be run before patch installation.

## Sunsolve Website Rebranding and the `solpatch_import` Script

Oracle Corp. has rebranded the Sunsolve website therefore, before running `solpatch_import -action=create_db` as described in the *SA User's Guide: Server Automation*, you must log in to your Sunsolve account and subscribe to *patch download automation*. For more information, see:

<http://support.openview.hp.com/selfsolve/document/KM961930>

## Red Hat Enterprise Linux 4.x PPC64 and 5.x PPC64 OS Provisioning

While most OS Provisioning procedures are the same for Red Hat Enterprise Linux 4.x PPC64 and 5.x PPC64 as documented in the *SA Policy Setter's Guide* and the *SA User's Guide: Server Automation*, there are certain differences.

Red Hat Enterprise Linux 4.x PPC64 and 5.x PPC64 Kickstart files should be specified similarly to that shown in the sample files below:



## Red Hat Enterprise Linux 4.x PPC64 Sample Kickstart File

```
lang en_US.UTF-8
timezone --utc US/Pacific
reboot
text
install
bootloader --location=partition --driveorder=sda,sdb --append="console=hvsi0
rhgb quiet"
#zerombr yes

clearpart --drives=sda --initlabel
part prepboot --fstype "PPC PReP Boot" --size=4 --ondisk=sda
part /boot --fstype ext3 --size=100 --ondisk=sda
part pv.3 --size=0 --grow --ondisk=sda
volgroup VolGroup00 --pesize=32768 pv.3
logvol / --fstype ext3 --name=LogVol100 --vgname=VolGroup00 --size=1024 --grow
logvol swap --fstype swap --name=LogVol101 --vgname=VolGroup00 --size=1000
--grow --maxsize=5888

authconfig --enablesshadow --enablemd5
rootpw opsware

firewall --disabled
selinux --disabled

skipx

%packages
@Base
```

## Red Hat Enterprise Linux 5.x PPC64 Sample Kickstart File

```
lang en_US.UTF-8
timezone --utc US/Pacific
reboot
text
install
bootloader --location=partition --driveorder=sda,sdb --append="console=hvsi0
rhgb quiet"
#zerombr yes

clearpart --drives=sda --initlabel
part prepboot --fstype "PPC PReP Boot" --size=4 --ondisk=sda
part /boot --fstype ext3 --size=100 --ondisk=sda
part pv.3 --size=0 --grow --ondisk=sda
volgroup VolGroup00 --pesize=32768 pv.3
logvol / --fstype ext3 --name=LogVol100 --vgname=VolGroup00 --size=1024 --grow
logvol swap --fstype swap --name=LogVol101 --vgname=VolGroup00 --size=1000
--grow --maxsize=5888

authconfig --enablesshadow --enablemd5
rootpw opsware
```

```

firewall --disabled
key --skip
selinux --disabled

skipx

%packages
@Base

```

## DHCP Configuration For PowerPC

PowerPC machines must be booted using BOOTP which requires that the `dhcpcdtool dynamic-bootp` flag is enabled in each range statement in the `dhcpcd_subnets.conf` file.

The `dynamic-bootp` usage is:

```
range [ dynamic-bootp ] low-address [ high-address ];
```

For more information about `dhcp.conf` statement usage, see:

<http://www.daemon-systems.org/man/dhcpcd.conf.5.html>

## Network Booting Red Hat Enterprise Linux 4.x or 5.x PPC64 Servers

- 1 Mount the new PowerPC server in a rack and connect it to the network. The installation client on this network must be able to communicate with the SA DHCP server on the SA Core network. If the installation client is running on a different network than the SA Core network, your environment must have a DHCP proxy (IP helper).
- 2 Use the SMS menu to configure the server to boot from the hard disk on which the operating system will be installed because the OS Provisioning process requires several reboots that default to the local disk.
- 3 Start Open Firmware.
- 4 Use the boot command to boot the server over the network. This command requires the Open Firmware path to the device you are booting from. You can specify device aliases to a device's Open Firmware path. If you configured the boot order with the SMS menu you can use the `printenv` and `devalias` commands to create the alias.

For example:

```

printenv boot-device
boot-device /pci@800000020000002/pci@2,4/pci1069,b166@1/scsi@1/sd@5,0
/pci@800000020000002/pci@2/ethernet@1:speed=auto,duplex=auto,
192.168.157.2,,192.168.157.25,192.168.157.1

devalias net /pci@800000020000002/pci@2/ethernet@1

```

- 5 After you have set the net device alias, issue the following command:

```
boot net:[SERVER_IP],[IMAGE_FILE],[CLIENT_IP],[GW_IP] [ARGUMENTS]
```

You need only specify the `IMAGE_FILE` argument, for example:

```
boot net:,yaboot,,
```

Executing this command retrieves the bootloader (`yaboot`) and displays the server boot options. Press Enter to boot the default option (`linux5`) or wait for the boot to occur automatically.

- 6 The Red Hat Anaconda installer starts. If your server has multiple network interfaces, the installer may prompt you to specify the interface to use.

- 7 After the booting process finishes successfully, a message appears on the console indicating that the server is ready for OS provisioning. Since the OS Build Agent was installed, the server now appears in the SAS Web Client Server Pool list.
- 8 *(Optional)* Record the MAC address and/or the serial number of the server so that you can locate the server in the SAS Web Client Server Pool list or in the SA Client Unprovisioned Servers list.
- 9 Verify that the server appears in the SA Client Unprovisioned Server list and is ready for OS installation. For more information, see the *SA User's Guide: Application Automation*.

## SUSE Linux Kernels and PPC Architecture

When installing SUSE Enterprise Linux on PPC architectures, consoles may not work after the operating system loads during the boot process. Therefore, when provisioning or reprovisioning a server with SUSE Enterprise Linux on PPC architectures, you could lose console access to the server being provisioned.

## New JDK Version Required for the DCML Exchange Tool (DET)

As of SA 7.80, the DCML Exchange Tool (DET) requires jdk 1.6.

## Support for Multiple Database Instances on the Model Repository Host

SA now supports multiple database instances on the database server where one of the instances is the SA Model Repository instance. The requirements, configuration and procedures for adding instances is the same as shown in the *SA Simple/Advanced Installation Guide*, Appendix A: Oracle Setup for the Model Repository.

## New in 7.83

### New Supported Platforms — Managed Servers

- Red Hat Enterprise Linux 5.5 x86/x86\_64, Itanium 64-bit, PowerPC
- SUSE Linux Enterprise Server 10 U3 PowerPC
- SUSE Linux Enterprise Server 11 PowerPC
- CentOS 5.4 x86, x86\_64
- Novell Open Enterprise Server 2 SP2 for x86, x86\_64
- VMware ESX 3.5 U5
- Simplified Chinese Locale support for Windows Server 2000, 2003, and 2003 R2.

### New Supported Platforms — SA Cores and Satellites

- Red Hat Enterprise Linux 5.4 x86\_64
- Core and Satellite running on ESX 3.5 U5



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SA 7.80 adds support for IP Multipathing and NIC bonding support for core and satellites and SAN support for SA Cores.

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## New Supported Platforms — Virtualization

- VMware ESX 3.5 U5

## New Product Integration

- SE 6.2.1 connector
- BSAE 2.0

## Red Hat Enterprise Linux 4.x PPC64 and 5.x PPC64 OS Provisioning

While most OS Provisioning procedures are the same for Red Hat Enterprise Linux 4.x PPC64 and 5.x PPC64 as documented in the *SA Policy Setter's Guide* and the *SA User's Guide: Server Automation*, there are certain differences.

Red Hat Enterprise Linux 4.x PPC64 and 5.x PPC64 Kickstart files should be specified similarly to that shown in the sample files below:

### Red Hat Enterprise Linux 4.x PPC64 Sample Kickstart File

```
lang en_US.UTF-8
timezone --utc US/Pacific
reboot
text
install
bootloader --location=partition --driveorder=sda,sdb --append="console=hvsi0
rhgb quiet"
#zerombr yes

clearpart --drives=sda --initlabel
part prepboot --fstype "PPC PReP Boot" --size=4 --ondisk=sda
part /boot --fstype ext3 --size=100 --ondisk=sda
part pv.3 --size=0 --grow --ondisk=sda
volgroup VolGroup00 --pesize=32768 pv.3
logvol / --fstype ext3 --name=LogVol100 --vgname=VolGroup00 --size=1024 --grow
logvol swap --fstype swap --name=LogVol101 --vgname=VolGroup00 --size=1000
--grow --maxsize=5888

authconfig --enablesshadow --enablemd5
rootpw opsware

firewall --disabled
selinux --disabled

skipx

%packages
@Base
```

## Red Hat Enterprise Linux 5.x PPC64 Sample Kickstart File

```
lang en_US.UTF-8
timezone --utc US/Pacific
reboot
text
install
bootloader --location=partition --driveorder=sda,sdb --append="console=hvsi0
rhgb quiet"
#zerombr yes

clearpart --drives=sda --initlabel
part prepboot --fstype "PPC PReP Boot" --size=4 --ondisk=sda
part /boot --fstype ext3 --size=100 --ondisk=sda
part pv.3 --size=0 --grow --ondisk=sda
volgroup VolGroup00 --pesize=32768 pv.3
logvol / --fstype ext3 --name=LogVol100 --vgname=VolGroup00 --size=1024 --grow
logvol swap --fstype swap --name=LogVol101 --vgname=VolGroup00 --size=1000
--grow --maxsize=5888

authconfig --enablesshadow --enablemd5
rootpw opsware

firewall --disabled
key --skip
selinux --disabled

skipx

%packages
@Base
```

## DHCP Configuration For PowerPC

PowerPC machines must be booted using BOOTP which requires that the `dhcpdtool dynamic-bootp` flag is enabled in each range statement in the `dhcpd_subnets.conf` file.

The `dynamic-bootp` usage is:

```
range [ dynamic-bootp ] low-address [ high-address ];
```

For more information about `dhcp.conf` statement usage, see:

<http://www.daemon-systems.org/man/dhcpd.conf.5.html>

## Network Booting Red Hat Enterprise Linux 4.x or 5.x PPC64 Servers

- 1 Mount the new PowerPC server in a rack and connect it to the network. The installation client on this network must be able to communicate with the SA DHCP server on the SA Core network. If the installation client is running on a different network than the SA Core network, your environment must have a DHCP proxy (IP helper).
- 2 Use the SMS menu to configure the server to boot from the hard disk on which the operating system will be installed because the OS Provisioning process requires several reboots that default to the local disk.
- 3 Start Open Firmware.

- 4 Use the boot command to boot the server over the network. This command requires the Open Firmware path to the device you are booting from. You can specify device aliases to a device's Open Firmware path. If you configured the boot order with the SMS menu you can use the `printenv` and `devalias` commands to create the alias.

For example:

```
printenv boot-device
boot-device /pci@800000020000002/pci@2,4/pci1069,b166@1/scsi@1/sd@5,0
/pci@800000020000002/pci@2/ethernet@1:speed=auto,duplex=auto,
192.168.157.2,,192.168.157.25,192.168.157.1

devalias net /pci@800000020000002/pci@2/ethernet@1
```

- 5 After you have set the net device alias, issue the following command:

```
boot net:[SERVER_IP],[IMAGE_FILE],[CLIENT_IP],[GW_IP] [ARGUMENTS]
```

You need only specify the `IMAGE_FILE` argument, for example:

```
boot net:,yaboot,,
```

Executing this command retrieves the bootloader (`yaboot`) and displays the server boot options. Press Enter to boot the default option (`linux5`) or wait for the boot to occur automatically.

- 6 The Red Hat Anaconda installer starts. If your server has multiple network interfaces, the installer may prompt you to specify the interface to use.
- 7 After the booting process finishes successfully, a message appears on the console indicating that the server is ready for OS provisioning. Since the OS Build Agent was installed, the server now appears in the SAS Web Client Server Pool list.
- 8 (*Optional*) Record the MAC address and/or the serial number of the server so that you can locate the server in the SAS Web Client Server Pool list or in the SA Client Unprovisioned Servers list.
- 9 Verify that the server appears in the SA Client Unprovisioned Server list and is ready for OS installation. For more information, see the *SA User's Guide: Application Automation*.

## SuSE Linux Kernels and PPC Architecture

When installing SUSE Enterprise Linux on PPC architectures, consoles may not work after the operating system loads during the boot process. Therefore, when provisioning or reprovisioning a server with SUSE Enterprise Linux on PPC architectures, you could lose console access to the server being provisioned.

## New JDK Version Required for the DCML Exchange Tool (DET)

As of SA 7.80, the DCML Exchange Tool (DET) requires `jdk 1.6`.

## New in 7.82

### New Supported Platforms — Managed Servers

SA 7.82 added support for the following managed server operating systems:

- Red Hat Enterprise Linux 5.4
- Red Hat Enterprise Linux 5.2-5.4 Power
- Solaris 10 U8
- SuSE Linux Enterprise Server 10 SP3
- VMware ESX 4 U1

### New Supported Platforms — SA Core and Satellite

Core and Satellite components are now supported on SuSE Linux Enterprise Server 10 SP3.



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For more detailed information on the latest supported platforms for the Server Automation product, see the HP software manuals site at <http://h20230.www2.hp.com/selfsolve/manuals>.

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### Oracle Real Application Clusters (RAC) Support

Concurrent with the release of version 7.82, SA provided support for Oracle RAC in 7.82 and later. In order to configure SA for Oracle RAC support, you must perform a fresh installation of SA 7.80, configured for Oracle RAC, then upgrade to SA 7.82 or later. For more information about configuring SA for Oracle RAC support, see [Oracle RAC Support: Oracle Setup for the Model Repository/SA Planning and Installation Guide, Appendix A](#) on page 142 of these release notes.

### Solaris Patching Supports Patch Bundles

Version 7.82 of HP Server Automation adds support for Solaris patch bundles.

- You can download Solaris patch bundles and import them into the SA library using the `solpatch_import` command. You can import each part of a bundle separately, but you cannot install the bundle until all the parts have been imported into the SA library. The Contents view in the SA Client displays the parts in the bundle. The bundle icon in the SA Client will be grayed out until all the parts have been imported. Note that you cannot import patch bundles using the Import Software menu item in the SA Client.
- You can install Solaris patch bundles directly on managed servers or on all servers in a device group or you can add Solaris patch bundles to a Solaris patch policy (or to a software policy), attach the policy to managed servers or device groups and then remediate the servers against those policies. When you remediate the servers or device groups, the Solaris patches specified in the attached policy are automatically installed on the managed servers.
- All `solpatch_import` actions, except the policy action, now can be performed with patch bundles.

- When you import a bundle, SA updates the metadata in the SA Library with all the patches contained in the bundle. Depending on the number of patches in your SA Library, the bundle import may take some time.
- Deleting a patch bundle from the SA Library or by using the `solpatch_import` command deletes all the parts of the bundle.
- The default reboot settings for patch bundles are listed below. You can change these settings by opening the patch bundle in the SA Client, selecting the Properties view and editing the Install Parameters.
  - Reboot Required: Yes – This setting indicates the managed server will be rebooted when the patch bundle is successfully installed.
  - Install Mode: Single User Mode – This setting indicates that the patch bundle will be installed in single user mode. Note that the Solaris system is rebooted to single user mode, then the patch bundle is installed, then the system is rebooted to multiuser mode.
  - Reboot Type: Reconfiguration – This setting indicates that a reconfiguration reboot will be performed after installing the patch bundle.
  - Reboot Time: Immediate – This setting indicates that the server will be rebooted immediately after installing the patch bundle.
- A Solaris patch compliance scan will indicate that the server is out of compliance even though the patch bundle installed successfully if one or more patches in the bundle were not installed because a required prerequisite patch was not installed. For details on what patches in the patch bundle were not installed, see the log file for the patch bundle installation job.

A software compliance scan will similarly indicate the server is out of compliance if the patch bundle is included in the software policy and the same scenario occurs.

To bring the server into compliance, place the relevant patches into a patch policy, resolve the dependencies on the policy to place all required patches in the policy and remediate the policy on the server.

- You must set the “Manage Packages” permission to “Read and Write” to use the `solpatch_import` command. This is in addition to the permissions described in “Patch Management for Solaris” in the *SA User’s Guide: Application Automation*. For details on permissions, see the *SA Administration Guide*.
- If you encounter errors when importing Solaris patch bundles, perform the following troubleshooting steps.
  - a Log in as root to an SA core where the SA 7.82 patch has been installed.
  - b Locate the log file from the 7.82 patch install which is typically under `/var/log/opsware/install_opsware/patch_opsware.<time stamp>.log`
  - c Search this log file for a message with “update\_supplements.” For example, you could use the following `grep` command:
 

```
grep update_supp patch_opsware*
```
  - d The result should be a log message with “update\_supplements successfully completed”. However, if the message indicates the update\_supplements failed, update the Solaris patch supplement file manually as follows.
  - e Log in as root to an SA core system where the `solpatch_import` command is installed.



- f Change to the directory where the `solpatch_import` command is, `/opt/opsware/solpatch_import/bin`.
- g Run the following command:  

```
./solpatch_import -a update_supplements
```
- h Try importing Solaris patch bundles again.

For more information, see “Patch Management for Solaris” in the *SA User’s Guide: Application Automation*.

## Solaris Patching and Benign Error Codes

Installing Solaris patches sometimes results in benign error codes. A benign error code is an error code that does not reflect a true error situation. For example, a patch installation may fail because the patch is already installed or because a superseding patch is installed, resulting in a benign error code. The exit code from the Solaris `patchadd` command would indicate an error, when in reality the patch was not installed for a valid reason.

When a patch does not install because of a true error situation such as the server being out of disk space, SA reports the error and the valid error code.

SA detects benign error codes and reports success in most cases. In the following two cases, however, Solaris cannot detect benign error codes:

- Solaris Deferred-Activation Patches
- Any patches installed on Solaris Global Zones where Local Zones are defined.

You can configure SA to detect benign error codes in these cases by performing the following steps.

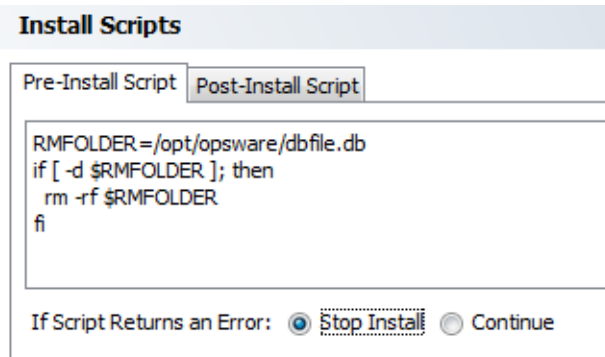
- 1 Install the following patches on all your servers running Solaris 10:
  - 119254-36 (sparc)
  - 119255-36 (i386)
- 2 Run the SAS Web Client and log in as a user with “Configure Opsware” permission.
 

The Configure Opsware permission is given by default to the “SA/Opware System Administrators” group. You can locate and set it in the SAS Web Client by selecting **Administration > Users & Groups**, select the Groups tab, select the “SA/Opware System Administrators” group and select the Features tab.
- 3 Under the Administration node, select System Configuration.
- 4 Select Command Engine.
- 5 In the configuration parameters table, locate the line “`way.remediate.sol_parse_patchadd_output`”.
- 6 Select “Use value:”.
- 7 Enter the number 1 in the edit field.
- 8 Select the Save button.

## Behavior when a Pre-Install Script Fails

You can specify pre-install scripts in patches, packages and software that run before the patch, package or software is installed on a server. For each pre-install script, you can specify the behavior if the pre-install script fails. The following shows a pre-install script and the error setting.

**Figure 1 Error Behavior Setting for a Script**



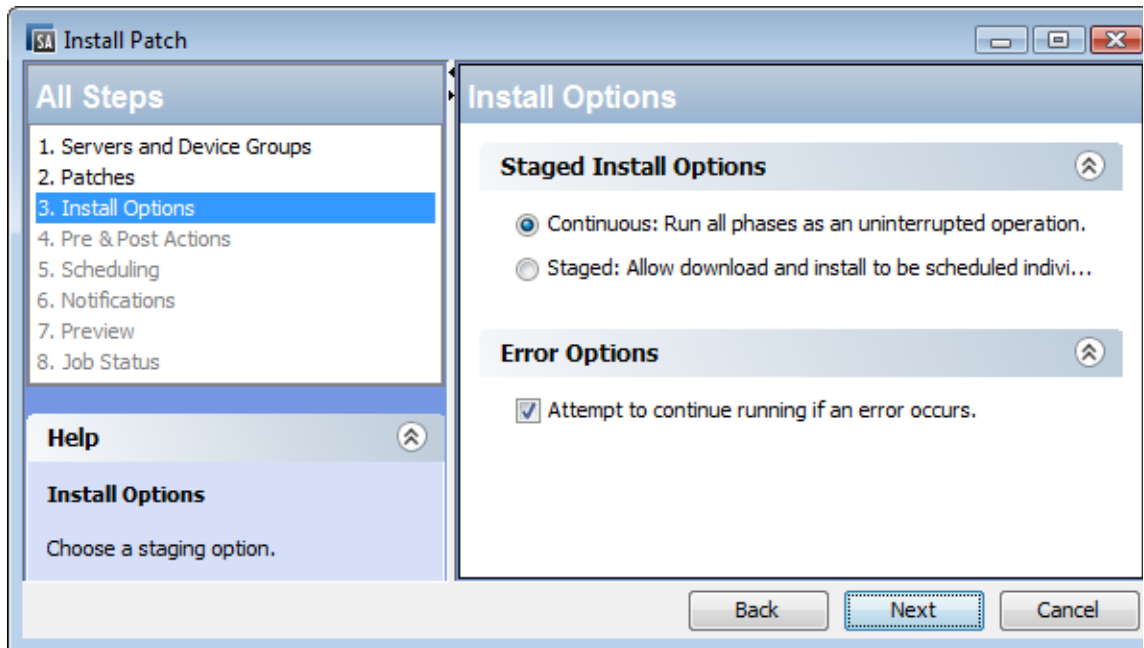
The screenshot shows a dialog box titled "Install Scripts" with two tabs: "Pre-Install Script" (selected) and "Post-Install Script". The "Pre-Install Script" tab contains the following script:

```
RMFOLDER=/opt/opsware/dbfile.db
if [ -d $RMFOLDER ]; then
  rm -rf $RMFOLDER
fi
```

Below the script, there is a section labeled "If Script Returns an Error:" with two radio button options: "Stop Install" (selected) and "Continue".

When you initiate a remediate job or an install job that installs patches, packages or software, you can specify the behavior if any part of the job fails. The following shows an Install Patch job and the setting that controls the behavior when any part of the job fails.

**Figure 2 Error Behavior Setting for an Install Patch Job**



The screenshot shows a dialog box titled "Install Patch" with a sidebar on the left and a main content area on the right. The sidebar lists "All Steps" with 8 items: 1. Servers and Device Groups, 2. Patches, 3. Install Options (selected), 4. Pre & Post Actions, 5. Scheduling, 6. Notifications, 7. Preview, and 8. Job Status. Below the sidebar is a "Help" section and an "Install Options" section with the text "Choose a staging option." The main content area is titled "Install Options" and contains two sections: "Staged Install Options" with two radio button options: "Continuous: Run all phases as an uninterrupted operation." (selected) and "Staged: Allow download and install to be scheduled indivi..."; and "Error Options" with a checked checkbox labeled "Attempt to continue running if an error occurs." At the bottom of the dialog are three buttons: "Back", "Next" (selected), and "Cancel".

Before SA 7.82, if the error setting for the job specified “Attempt to continue running if an error occurs” and the error setting for the pre-install script specified “Stop Install” and an error occurred in the pre-install script, the job would ignore the script’s error setting and continue running.

As of SA 7.82, if this situation occurs, the error setting for the pre-install script applies and the patch or package or software will not be installed. The job will continue running and attempt to install the remaining patches, packages or software.

To retain the pre-SA 7.82 behavior, simply change the error setting on the pre-install script to “Continue”.

## Approving Blocked Jobs that Run SA Extensions

Job Approval Integration in SA allows you to block certain SA jobs from running until they are verified and unblocked. The typical method of unblocking these blocked jobs is by using HP Operations Orchestration (OO). SA 7.82 provides a way to unblock jobs that run program APXs (Automation Platform Extensions) without requiring HP Operations Orchestration. For more information on Job Approval Integration, see the *SA Platform Developer’s Guide*.

In releases prior to SA 7.82, the only way to unblock blocked jobs was by calling an OO flow. The OO flow performed the appropriate checks and unblocked the job, allowing it to run.

SA 7.82 adds the ability to verify and unblock jobs that run program APXs without requiring HP Operations Orchestration.



This applies only to “Run Program Extension” jobs, which are jobs that run a program APX. APXs are extensions to SA. For more information on APXs, see “Creating Automation Platform Extensions (APX)” in the *SA Platform Developer’s Guide*.

With SA 7.82, you can create a specifically named program APX that will run without blocking. This allows you to write a program APX that can unblock other APX jobs, without the control APX itself being blocked. To specify an APX to unblock jobs, set the following system configuration parameters in the SAS Web Client.

**Table 4 System Configuration Parameters for an APX to Unblock Jobs**

System Configuration Parameter	Value
approval_integration.apx.enabled	0 (default) disables the ability to unblock jobs with an APX. 1 enables unblocking jobs with an APX.
approval_integration.apx.uniquename	Specifies the name of the program APX that will handle blocked jobs.

### Enabling Job Approval for APXs

You must have the appropriate permissions to make changes to System Configuration parameters. For more information on permissions, see the *SA Administration Guide*.

To create this type of APX, perform the following steps:

- 1 Write a program APX that checks the blocked jobs and unblocks them using the SA API methods `approveBlockedJob()`, `updateBlockedJob()`, `cancelScheduledJob()` and `findJobRefs()`. These methods are the callbacks into SA that enable job approval integration. For details on writing APXs see “Creating Automation Platform Extensions (APX)” in the *SA Platform Developer’s Guide*.
- 2 Log in to the SAS Web Client. For more information on the SAS Web Client, see the *SA User’s Guide: Server Automation*.
- 3 In the navigation pane, select Administration System Configuration. This displays the subcomponents of the SA platform.
- 4 Under “Select a Product:”, select Opsware. This displays the system configurations you can modify.

- 5 Locate the entry for `approval_integration.apx.enabled`.
- 6 Under the Value column, select the “Use value” button.
- 7 In the text box next to the “Use value” button, enter a 1.
- 8 Locate the entry for `approval_integration.apx.uniquename`.
- 9 Under the Value column, select the “Use value” button.
- 10 In the text box next to the “Use value” button, enter the unique name of your program APX that checks and unblocks blocked jobs.
- 11 Select the Save button at the bottom of the page.
- 12 Set up a mechanism to run this APX. For example, you could schedule this APX to run periodically to check for blocked APXs.

## Disabling Job Approval for APXs

You must have the appropriate permissions to make changes to System Configuration parameters. For more information on permissions, see the *SA Administration Guide*.

To disable the unblocking APX, set the value of `approval_integration.apx.enabled` to 0. For details on setting this system configuration value, see [Enabling Job Approval for APXs](#) on page 35.

## Restricting Access to RPM Folders

In SA 7.82, you can ensure that your Linux managed servers only have access to the set of RPMs in the SA Library that apply to each server. You simply specify in a custom attribute the folders in the SA Library that the server has access to. All other folders will be inaccessible to the server. This section describes how to set up these restrictions.

With this new mechanism, you can mimic the common Redhat systems administration paradigm of having multiple, distinct yum (Yellowdog Updater, Modified) repositories. This gives you folder-level control over which versions of RPMs can be applied to a given server, allowing you to precisely manage platform update versions, for example Redhat Advanced Server AS4 Update 5 versus Update 6.

This is not intended as a user-level access control mechanism, but rather to restrict the library and folder view of a managed server from access to the full set of RPMs in the SA Library. For information on user level folder access controls and folder permissions in the SA Library, see the *SA Administration Guide*.

## How the RPM Folder Restrictions Work

During remediation, if a server has one or more of these custom attributes defined, SA reads the custom attribute values and only allows the managed server access to the RPMs in the SA Library folders specified in the custom attributes and their subfolders. Subfolders of all the specified folders are recursively searched for RPMs. All other folders are not accessible to the server.

## Enabling RPM Folder Restrictions

To restrict a server or group of servers to a subset of RPMs in the SA Library, set a custom attribute in the format described below on your managed server or at a location that will be inherited by the server such as a device group, a software policy, a customer, a facility and so forth.

These custom attributes follow the custom attribute inheritance rules. For example, if you set a custom attribute at the facility level, the servers in that facility will inherit the custom attributes.

SA does not validate the SA Library folder paths you specify in these custom attributes so make sure the folder paths you specify are correct.

For more information about custom attributes, see the *SA User's Guide: Application Automation*.

## Custom Attribute Format

The custom attributes that restrict access to RPMs must be in the following format:

```
repo.restrict.<name>
```

Where <name> is any user-defined alphanumeric string. Specify a <name> that is descriptive and helps you remember the purpose of the custom attribute. You can define multiple custom attributes as long as each <name> is unique.

## Examples

The following defines custom attributes that grant access only to the SA Library directories /Redhat/AS4/en/x86\_64/U5 and /Oracle/10/AS4/x86\_64:

```
repo.restrict.as4u5=/Redhat/AS4/en/x86_64/U5
repo.restrict.oracle_updates=/Oracle/10/AS4/x86_64
```

The custom attribute value can be multiple lines. The following defines custom attributes that grant access only to the SA Library directories listed:

```
repo.restrict.as4u5=/Redhat/AS4/en/x86_64/U5
                    /Redhat/AS4/en/x86_64/U5-extras
repo.restrict.s5u3=/Redhat/5Server/en/x86_64/U3
                    /Redhat/5Server/en/x86_64/U3-extras
                    /Redhat/5Server/en/x86_64/U3-VT
                    /Redhat/5Server/en/x86_64/U3-Cluster
```

## Troubleshooting Errors

If you attempt to remediate a software policy that contains RPMs that are not accessible to the server, the following error message will be given:

```
The metadata needed to install this package is missing.
```

This indicates that SA was unable to access the RPM because the server does not have access to the RPM in the SA Library. To resolve this error, check the folder locations you have set in your custom attributes to ensure they are correct.

# New in SA 7.81

## Microsoft Hyper-V Virtual Machine Enhancements

This version of HP Server Automation significantly improves and expands your ability to manage Hyper-V hypervisors and virtual machines (partitions). With this version of SA you can create and provision Hyper-V virtual machines with these operating systems:

- Windows Server 2008 x86\_64 and x86
- Windows Server 2003 x86
- Windows Server 2000
- Windows XP Professional x86 SP 2 or SP 3
- SUSE Linux Enterprise Server 10 with Service Pack 2 (x86 or x86\_64 Edition)
- SUSE Linux Enterprise Server 10 with Service Pack 1 (x86 or x86\_64 Edition)

You can also modify and delete Hyper-V VMs. You can add, delete and modify the following on Hyper-V VMs:

- Legacy Network Adapters
- Network Adapters
- SCSI Controllers
- Virtual Hard Disks
- DVDs

You can also modify the following on Hyper-V VMs:

- Memory size
- The number of virtual processors
- BIOS order
- VLAN and MAC address configuration of network adapters
- Media specification for DVDs
- Controller and location for virtual hard disks

For complete information, see “Microsoft Hyper-V Partition Management” in the *SA User’s Guide: Server Automation*.

## Solaris Patching Enhancements

This version of HP Server Automation significantly improves the process of keeping your Sun Solaris servers running with current patches. With this version of SA you can:

- Determine which patches your managed servers need.
- Download Solaris patches and patch clusters and store them in the SA library.
- Create Solaris patch policies from downloaded Solaris patches and patch clusters.
- Resolve all the dependencies for a set of patches including required patches, obsolete patches, superseding patches, incompatible and withdrawn patches.

- Install patches and patch clusters by remediating patch policies on managed Solaris servers. Remediation automatically handles various patch reboot settings including single-user mode, reconfiguration reboot and reboot immediate.

For complete information, see “Patch Management for Solaris” in the *SA User’s Guide: Application Automation*.

## New Platform Support for Managed Servers

Table 5 lists all new operating system support for managed servers in SA 7.81.

For more detailed descriptions of supported system configurations, see the SA 7.81 Supported Platforms Matrix.

**Table 5 Platform Support for Managed Servers in SA 7.81**

Operating System	Version
Windows	Windows Server 2008 R2 (Standard, Enterprise, Datacenter) Windows Server 2008 (Standard, Enterprise, Datacenter, Web)
CentOS	CentOS 5
Oracle	Oracle Enterprise Linux 5
Linux	SuSE Linux Enterprise Server 11
Sun	Solaris 10 U7
VMware	ESX Server 4.0 ESXi Server 4.0 Embedded ESXi Server 4.0 Installable

## Windows Agent Deployment Helper Obsolete

In SA 7.84, the *Windows Agent Deployment Helper (WADH)* is no longer required to manage Windows servers with SA and has been removed from the SA distribution. The process of bringing Windows servers under SA management is now the same as for any other platform.



After you install this patch on all your core and satellite servers and are certain that you will not need to roll back the 7.84 patch, you can redeploy the Windows server that hosted the WADH.

The removal of WADH obsoletes the following sections in the SA 7.80 documentation set:

- The WADH installation instructions described under “Enabling ODAD for Windows Servers” on pages 118-119 of the 7.80 *SA Simple/Advanced Installation Guide* are no longer required.

- The bullet on page 35 of the *SA Policy Setter’s Guide* that reads:

The folder contains the tools required to install the Windows Agent Deployment Helper and upload ISMs to SA.

See the *SA Simple/Advanced Installation Guide* for more information about Windows Agent Deployment Helper. See the *SA Content Utilities Guide* for more information about ISMs.

is no longer valid. This change also affects online help.

- Step 1 under “Discovery and Agent Deployment” on page 28 of the 7.80 *SA Administration Guide* is no longer required.
- Step 6a under the heading “For Windows:” on page 28 of the 7.80 *SA Administration Guide* is no longer required.
- On page 208 of the 7.80 *SA Administration Guide* the permissions requirements should be:
  - Read access to facilities where you will scan for servers and manage servers.
  - **Features > Managed Servers and Groups** must be enabled.
  - **Client Features > Unmanaged Servers > Allow Manage Server** set to Yes.
  - **Client Features > Unmanaged Servers > Allow Scan Network** set to Yes.
  - Read access must be set to customer Opaware.

The last five Read permissions listed on page 208 are no longer required.

- The WADH permissions listed in Table 31: “Default Top-Level Folder Permissions of the Predefined User Groups” on page 262 of the 7.80 *SA Administration Guide* are no longer required.
- The section “Prerequisite Setup for Discovery and Agent Deployment” on page 88 of the 7.80 *SA User’s Guide: Server Automation* and in the SA online help is no longer required.
- In the 7.80 *SA User’s Guide: Server Automation* section titled “Creating Reports on Agent Installation,” the Example Report on page 95 is no longer valid.
- The requirement to install a WADH displayed in the section “Deploying Server Agents on Unmanaged Servers” in the SA online help is no longer valid.

## Agent Deployment Tool (ADT) Behavior in a Mixed-SA Version Environment

When you run the Agent Deployment Tool (ADT) from a 7.84 SA Client session (the SA version of the core the SA Client session is logged in to), Windows agent deployment from that session is supported only to realms also running SA 7.84; deployment to realms running earlier SA versions is not supported.

If the SA Client session is logged into a pre-7.84 core (for example, 7.80, 7.50.03, etc.) as long as that SA core has a properly configured Windows Agent Deployment Helper server, you can deploy Windows agents from that session to realms running SA 7.84 as well as earlier versions.

## Storage Visibility and Automation Feature

For Server Automation 7.84, the following changes were made to the Storage Visibility and Automation feature:

- Added new platforms that support the Storage Host Agent Extension component.
- Added new storage reports and moved these reports and the corresponding user documentation to the BSA Essentials Network (BSAEN) for delivery.



- Updated the storage compliance functionality and moved the corresponding user documentation for storage audits to the BSA Essentials Network (BSAEN) for delivery.
- Fixed and described product defects.
- Identified and described known product defects.

See the *Storage Visibility and Automation 7.81 Release Notes* for detailed information about these changes.

## Documentation for SA 7.84

The following documentation is provided with this patch release:

- *SA Release Notes for 7.84*
- *SA Supported Platforms*

The following SA 7.80 documents are still valid for this patch release:

- *SA Simple/Advanced Installation Guide*
- *SA Upgrade Guide*
- *SA Oracle Setup for the Model Repository*
- *SA Administration Guide*
- *SA Policy Setter's Guide*
- *SA User's Guide: Application Automation*
- *SA User's Guide: Server Automation*
- *SA Platform Developer's Guide*
- *SA Content Utilities Guide*
- *SA Content Migration Guide*
- *SA Open Source and Third-Party Software Acknowledgements*



## 2 Installing SA 7.84

This section describes the SA 7.84 installation procedure.

### General Information

- SA 7.84 can be rolled back, but only to the previous full release, SA 7.80.
- The `patch_opsware.sh` script is used both for installing and for uninstalling SA 7.84.
- There's no need to supply a response file with `patch_opsware.sh`.
- **[New]** The `patch_database.sh` script is used both for installing and rolling back database schema changes required for SA 7.84.
- **[New]** You must run the `patch_database.sh` script on all Model Repository hosts in the First Core and all Secondary Cores. Note that the Oracle database can exist on a different host than the Model Repository host.
- **[New]** The response file used to last install/upgrade of the SA Core must be supplied when invoking `patch_database.sh`.
- This patch includes updated Server Agents that will be uploaded to the Software Repository. However, no agents will be upgraded on core machines (that is, in the Model Repository) or on Managed Servers without manual intervention
- SA 7.84 can only be installed on systems running SA versions with a Build ID of `opsware_37.0.3006.*`.

If any installed SA components (other than a previously installed patch) have a different build ID, you won't be allowed to install this patch.

To determine the build ID for a core machine, open the file:

```
/var/opt/opsware/install_opsware/inv/install.inv
```

and find the section beginning with `%basics_`. Under this line, find the `build_id`. For example:

```
%basics_linux  
build_id: opsware_37.0.3006.*
```

When you install an SA patch, the patch installation updates the `install.inv` file to record the patch installation and the patch build ID. For example:

```
%opsware_patch  
build_id: opsware_37.0.3826.0
```

- Before a patch operation (such as install/upgrade/uninstall), all core/satellite services must be up and running. If any services are stopped or dysfunctional (as reported by the `/etc/init.d/opsware-sas status` command), the patch operation will terminate.

- Upon completion of a patch operation, all services on the core/satellite machine should be up and running.
- If you are patching a multi-host core/satellite, you must patch each core and satellite host separately, one at a time.
- If you are patching a Multi-master mesh, HP recommends that you patch the primary core first, followed by secondary cores and satellites, thus ensuring that the primary core is at a higher version (such as SA 7.84 or higher) than the secondary cores.

If you must roll back the SA 7.84 patch in a Multi-master Mesh, HP recommends that you roll back the secondary cores and satellites first, then the primary core.

- Mixed version core environments are not supported. However, during the patch upgrade, a transitory mixed core version environment is supported. For example, while the patch upgrade is in progress, cores at different patch levels can temporarily coexist in a Multimaster Mesh.
- In order to patch and/or roll back Wayscripts, the `spog.pkcs8` certificate must exist under `/var/opt/opsware/crypto` (typically the certificate is installed with the Shell, SAS Web Client, or Build Manager). If the certificate does not exist, the patch operation will fail with the following error:

```
Could not find spog.pkcs8 /var/opt/opsware/crypto
```

Please copy the certificate from another core machine (for example, `occ`) to `/var/opt/opsware/crypto/oi` and retry this operation.

If this error is encountered, simply copy the certificate from another core machine to your core server and retry the operation.

- In order to patch and/or roll back Software Repository (`word`) updates, the `spin.srv` certificate must exist under `/var/opt/opsware/crypto` (typically the certificate is installed with the Web Services Data Access Engine (`spin`)). If the certificate does not exist, the patch operation will fail with the following error:

```
Could not find spin.srv under /var/opt/opsware/crypto.
```

Please copy the certificate from another core machine (such as `occ`) to `/var/opt/opsware/crypto/oi`

and retry this operation.

- The following error may occur during upgrade on cores on which Solaris patching has not yet been set up:

```
You don't have permission to update the patch meta database in HP SA.
Please re-run this command with a proper hpsa_user and hpsa_pass.
The hpsa_user needs permission to write the folder
"/Opsware/Tools/Solaris Patching" and the Package Management
Client Feature, "Manage Package" permission set "Read & Write".
There was a problem with running update_supplements.
Please refer to section Patch Management for Solaris of the Users Guide:
Application Automation manual for details on how to set up Solaris patching
on your core.
```

You can safely disregard this error.

## MBSA 2.1.1 Supported for SA 7.84 and Later

Obtain the required Windows patch management files by performing the following tasks:

1 Obtain the following files from Microsoft:

- `mbsacli.exe` (**version 2.1.1**)

This file is packaged with the MBSA 2.1.1 setup file, `MBSASetup-x86-EN.msi`, that you must download by searching for “MBSA 2.1.1” at <http://www.microsoft.com>.

After the download, on a Windows machine run `MBSASetup-x86-EN.msi` to install MBSA 2.1.1. In the directory where you installed MBSA 2.1.1, locate the `mbsacli.exe` file. By default, the file is installed here:

```
%program files%\Microsoft Baseline Security  
Analyzer 2\mbsacli.exe
```

- `wusscan.dll`

The `wusscan.dll` file is in the directory where you installed MBSA 2.1.1. By default, the file is here:

```
%program files%\Microsoft Baseline Security  
Analyzer 2\wusscan.dll
```

2 Import the files you just downloaded into SA:

- a Log in to the SA Client.
- b Navigate to **Administration** ► **Patch Settings** ► **Windows Patch Utilities**.
- c Select the Windows Patch Utility.
- d Select the Utility name in the table.
- e Select the Import Utility Update button to open the Import Patch Utility file picker.
- f Select one of the files (`mbsacli.exe` or `wusscan.dll`) that you downloaded from Microsoft.
- g Click the Import button.
- h Repeat steps d through g for the second file.

These patch management files will be copied to all managed Windows servers during software registration.

For more information on Windows Patch Management, see the *SA User's Guide: Application Automation*.

## Script Running Order

The pre-patch, database update and patch install scripts must be run in the following order:

**Table 6 SA 7.84 Script Running Order**

Upgrade From	To	Script Running Order
7.80	7.84	1 prepatch.sh 2 patch_database.sh 3 patch_opsware.sh 4 patch_contents.sh
7.8x (7.81, 7.82, etc.)	7.84	1 patch_database.sh 2 patch_opsware.sh 3 patch_contents.sh
Rollback From	To	
7.84	7.80	1 patch_opsware.sh 2 patch_database.sh



When upgrading from 7.8x, it is unnecessary to run `prepatch.sh` since it should already have been applied during the upgrade to 7.8x.

## Pre-Patch Procedure

You must complete the following pre-patch procedure before applying the SA 7.84 patch.

### Managed Platform Update

You must install an SA update on 7.80 cores before installing the SA 7.84 patch. If you are upgrading from SA 7.81 or 7.82, this update will have already been installed. This update enables the SA Core to handle new supported managed platforms introduced in CORD patch releases by ensuring mesh compatibility between a First Core patched with SA 7.84 and unpatched Secondary Cores.

The update should be applied to each Slice Component bundle host in all secondary cores and only needs to be applied once during the lifetime of the SA 7.80 server. If for some reason you have not applied the update, the CORD installation will automatically install the update before installing the CORD release.



This update cannot be rolled-back.

- a To install the pre-patch update, run the following script:

```
<distro>/opsware_installer/tools/prepatch.sh
```

- b If the patch has not been previously been applied, the following is displayed:

```
Patching /opt/opsware/occclient/ngui.jar
```

If the patch has been previously applied, the following will be displayed:

```
/opt/opsware/occclient/ngui.jar checksum = <current MD5 checksum>
```

```
Patch not applicable
```

## Database Schema Update Procedure

The script run during this procedure makes required changes to the Model Repository including adding required tables and objects. Perform the following tasks to install SA 7.84 database updates:

- 1 Mount the SA 7.84 distribution. Invoke `patch_database.sh` on the Model Repository host:

```
<distro>/opsware_installer/patch_database.sh --verbose -r <response file>
```

Where `<response file>` is the response file last used to install/upgrade the system.

**Usage:** `patch_opsware.sh [--verbose] <response file>`

`patch_database.sh` automatically detects if a database update is already installed and presents a corresponding menu:

- a If the database update has not been previously applied, you see the following:

```
Welcome to the Opsware Installer.
It appears that you do not have a database update installed on this
system.
Press 'i' to proceed with patch installation.
Press 's' to show patch contents.
Press 'q' to quit.
Selection: i
```

Enter `i` at the prompt to begin the database update.

- b If the database update has previously been applied, you see the following:

```
Welcome to the Opsware Installer.
It appears that you have installed or attempted to install a previous
version of the database update on this system.
```

```
Press 'u' to upgrade the patch to the current version.
Press 'r' to remove this patch.
Press 's' to show patch contents.
Press 'q' to quit.
```

```
Selection: u
You chose to upgrade the patch. Continue? [y/n]: y
```

Enter `u` at the prompt then `y` to begin the database update.

- 2 After you make your selection, the installer completes the new (or interrupted) installation. On completion, you see a screen similar to the following:

```
[timestamp] Done with component Opsware SQL patches.
[timestamp] #####
[timestamp] Opsware Installer ran successfully.
[timestamp] #####
```



After running the `patch_database.sh` script, you may see the following error when running the System Diagnostic test on your core:

```
Test Name: Model Repository Schema
Description: Verifies that the Data Access Engine's version of the schema
matches the Model Repository's version.
Component device: Data Access Engine (spin)
Test Results: The following tables differ between the Data Access Engine and
the Model Repository: local_data_centers, role_class_bridge.
```

This error is invalid and you can disregard it.

## Patch Installation Procedure



Before performing the tasks in this section ensure that you have completed the tasks listed in [MBSA 2.1.1 Supported for SA 7.84 and Later](#) on page 45, [Managed Platform Update](#) on page 46 and [Database Schema Update Procedure](#) on page 47.

Perform the following tasks to install SA 7.84:

- 1 Mount the SA 7.84 distribution. Invoke `patch_opsware.sh` on every host in the core/satellite facility:

```
<distro>/opsware_installer/patch_opsware.sh --verbose
```

**Usage:** `patch_opsware.sh [--verbose]`

`patch_opsware.sh` automatically detects whether or not there is a patch already installed and presents a corresponding menu:

- o *Non-upgraded System:* If your system has not been upgraded, you see the following menu:

```
Welcome to the Opsware Installer.
It appears that you do not have any patches installed on this system.
Press 'i' to proceed with patch installation.
Press 's' to show patch contents.
Press 'q' to quit.
Selection: i
```

Enter `i` at the prompt to begin the installation.



- b *Previously Upgraded System:* If an SA patch has already been installed successfully, when `patch_opsware.sh` is invoked from a newer patch release, you see the following menu:

```
Welcome to the Opsware Installer.  
It appears that you have installed or attempted to install a previous  
version of the patch on this system.  
Press 'u' to upgrade the patch to the current version.  
Press 'r' to remove this patch.  
Press 's' to show patch contents.  
Press 'q' to quit.  
Selection: u
```

Enter `u` at the prompt to begin the upgrade.

- 2 After you make your selection, the installer completes the new (or interrupted) installation.

The installer displays the following upon completion:

```
[<timestamp>] Done with component Opsware Patch.  
[<timestamp>]  
#####  
[<timestamp>] Opsware Installer ran successfully.  
[<timestamp>]  
#####
```

## Software Repository Content Upgrade

This section details upgrades to the software repository content on the upload distribution (such as agent packages to be reconciled to managed servers).

### General Information

- Upgrading software repository content data is similar to using `patch_opsware.sh` from the upload distribution, but will only update those packages that have changed since the last major version.
- If you are upgrading a core hosted on multiple servers, the Software Repository content patch must be applied to the server hosting the Software Repository Store (`word store`).
- If you are upgrading a Multimaster Mesh, the Software Repository content upgrade should only be applied to the First Core (the upgraded content will automatically be propagated to other cores in the mesh).



---

Unlike core patches, Software Repository content upgrades cannot be rolled back.

---

### Upgrading the First Core Content

- 1 On the First Core Software Repository store (`word store`) host, invoke the upgrade script:  
`<distro>/opsware_installer/patch_contents.sh --verbose -r <response file>`

where `<response file>` is the response file last used to install/upgrade the SA Core.

The following menu is displayed:

```
Welcome to the Opsware Installer.
Please select the components to install.
1 ( ) Software Repository - Content (install once per mesh)
Enter a component number to toggle ('a' for all, 'n' for none).
When ready, press 'c' to continue, or 'q' to quit.
```

Enter either 1 or a and press c to begin the installation.

- 2 If the Software Repository content image is not installed on the server, the following message will be displayed:

```
[<timestamp>] There are no components to upgrade.
[<timestamp>] Exiting Opsware Installer.
```

## Rolling Back the Upgrade

### Rolling Back the Patch

To rollback SA 7.84 to SA 7.80, invoke the script:

```
<distro>/opsware_installer/patch_opsware.sh --verbose
```

If this is a patched system, the following will be displayed:

```
Welcome to the Opsware Installer.
It appears that you have previously completed installation of this patch on
this system.
Press 'r' to remove this patch.
Press 's' to show patch contents.
Press 'q' to quit
Selection:
```

Enter `r` at the prompt to remove the patch.

### Notes:

- Rolling back SA 7.84 does not remove the Windows Server 2008 data that was created when the core was upgraded. For example, any Windows Server 2008 patches or policies created will remain. If you try to install these patches or attach the policies, an error will occur.
- Rolling back SA 7.84 does not delete any patches and policies that you have imported or created after the upgrade and these may fail with an error if you attempt to run them.

### Rolling Back the Database Schema Update

To roll back the database schema update, enter this command:

```
<distro>/opsware_installer/patch_database.sh --verbose -r <response file>
```

Where `<response file>` is the response file last used to install/upgrade the system.

If the database has been updated, you see the following:

```
Welcome to the Opsware Installer.
It appears that you have previously completed the installation of this
database update on this system.
Press 'r' to remove this patch.
Press 's' to show patch contents.
Press 'q' to quit.
Selection: r
```

Enter `r` at the prompt to begin the database schema update rollback.

## Post-Patch Installation Tasks

### Completing the Update to the Waypurge Garbage Collection procedure

When you ran the SA 7.84 `patch_database.sh` script, Garbage Collection was modified so that during the next run, the old child records are completely deleted from the `SESSION_SERVICE_INSTANCES` table to improve performance.

After you have upgraded to SA 7.84, you should perform the following tasks to delete any existing old child records in your `SESSION_SERVICE_INSTANCES` table which reduces the size of the table.



---

The following steps are optional but HP highly recommends that you perform this step, especially for large databases. If this step is not performed then nightly Waypurge Garbage Collection job will run automatically and delete the old unwanted records.

---

### Changes Made by `patch_database.sh`

When you ran the pre-patch script, `patch_database.sh`, it updated the Waypurge garbage collection PL/SQL and added a new `WAY_GC_SESSIONTREES_DELETE_MAX` to `lcrep.audit_params` table.

To view the new row you can use the following SQL\*Plus command.

```
SQLPLUS> col NAME format a30
SQLPLUS> col AUDIT_PARAM_ID format a15
SQLPLUS> col VALUE format a30
SQLPLUS> set line 100
SQLPLUS> select AUDIT_PARAM_ID, NAME, VALUE from audit_params;
```

#### Sample output:

```
AUDIT_PARAM_ID  NAME VALUE
-----
68 DAYS_WAY 30
69 DAYS_CHANGE_LOG 180
70 LAST_DATE_WAY 20-FEB-10
71 LAST_DATE_CHANGE_LOG 23-SEP-09
72 DAYS_AUDIT_LOG 180
73 LAST_DATE_AUDIT_LOG 23-SEP-09
74 WAY_GC_SESSIONTREES_DELETE_MAX 100 -----> new row
```

## Steps to Complete the Waypurge Garbage Collection Update

The following steps must be performed on all Model Repository hosts after the pre-patch script is run and the 7.84 patch is installed.

### 1 Verify how many records are expected to be deleted.

```
SQLPLUS> SELECT count(session_id) FROM sessions
        WHERE (parent_session_id IS NULL OR
              parent_session_id IN (SELECT session_id FROM sessions WHERE
              parent_session_id IS NULL AND status = 'RECURRING')) AND
              status <> 'PENDING' AND status <> 'RECURRING' AND
              trunc(nvl(signoff_dt, nvl(end_dt, start_dt))) <
              (trunc(sysdate) - (SELECT value FROM audit_params WHERE name = 'DAYS_WAY'))
              AND NOT EXISTS (SELECT reconcile_session_id FROM device_role_classes
              WHERE reconcile_session_id IS NOT NULL AND
              reconcile_session_id = sessions.session_id);
```

### 2 Run the WAYPURGE.GC\_SESSIONS dba\_job manually.

```
sqlplus "/ as sysdba"
SQLPLUS> grant create session to gcadmin;
SQLPLUS> connect gcadmin/<password_for_gcadmin>
SQLPLUS> col schema_user format a10
SQLPLUS> col what format a50
SQLPLUS> set line 200
SQLPLUS> select job, schema_user, last_date, this_date, next_date, broken, what from user_jobs where what LIKE
'%WAYPURGE%';
```

#### Sample output:

```
      JOB SCHEMA_USE LAST_DATE THIS_DATE NEXT_DATE BRO WHAT
-----
189 GCADMIN 14-APR-10 15-APR-10 N WAYPURGE.GC_SESSIONS;----> note job number

SQLPLUS> exec dbms_job.run(189);
```

Note the time taken by the manual job run and increase the value of WAY\_GC\_SESSIONTREES\_DELETE\_MAX accordingly. WAY\_GC\_SESSIONTREES\_DELETE\_MAX value should be gradually increased and the time taken to run the job should be monitored. WAY\_GC\_SESSIONTREES\_DELETE\_MAX can be increased to say 300, 500, 1000, 3000 and so on.

```
sqlplus "/ as sysdba"
SQLPLUS> grant create session to lcrep;
SQLPLUS> connect lcrep/<password for lcrep>
SQLPLUS> UPDATE audit_params SET value = 1000 WHERE name =
'WAY_GC_SESSIONTREES_DELETE_MAX';
SQLPLUS> commit;
```

Step 2 can be run to monitor the number of records that need to be cleaned up.

- 3 The Waypurge job can be run manually or the nightly dba\_job can delete the child records. Note that the GC nightly DBA job is run only once a day, so it may take several days for it to delete all the child records. A combination of manual and nightly job run is recommended.
- 4 After all child records are removed, delete the WAY\_GC\_SESSIONTREES\_DELETE\_MAX value from the AUDIT\_PARAMS table.

```
sqlplus "/ as sysdba"
SQLPLUS> grant create session to lcrep;
SQLPLUS> connect lcrep/<password for lcrep>
SQLPLUS> DELETE FROM audit_params WHERE name =
'WAY_GC_SESSIONTREES_DELETE_MAX';
SQLPLUS> Commit;
SQLPLUS> select AUDIT_PARAM_ID, NAME, VALUE from audit_params; ->check that
the value was removed.
```

## Windows Server 2008 R2

SA 7.84 and later provides improved support for Windows Server 2008 R2 x64. Windows Server 2008 R2 x64 now appears with its own entries in the SA Client rather than as a subset of Windows Server 2008.

However, there are some tasks you must perform in order to migrate any Software Policies, Application Configurations, packages (units), Patch Policies and/or OS Provisioning objects you may already have set up for your server(s).

This section describes how to set up SA support for Windows Server 2008 R2 x64.

Migrating Software Policies, Application Configurations and/or Patch Policies is handled by running a script, `windows_2008_R2_fix_script.py`, provided with SA 7.84 and later in the directory:

```
<distro>/opsware_installer/tools
```

The script is called `windows_2008_R2_fix_script.py` and is invoked as follows:

```
/opt/opsware/bin/python2 windows_2008_R2_fix_script.py [--force_bs_hardware] <options>
```

The script has the following options:

**Table 7 Windows Server 2008 R2 Migration Script Options**

Options	Description
<code>--force_bs_hardware</code>	Force Windows Server 2008 R2 servers to perform hardware registration. You must also specify at least one of the following options: <code>--swPolicy</code> , <code>--patchPolicy</code> , <code>--appConfig</code> , <code>--osProv</code> or <code>--all</code> .
<code>--all, -a</code>	Process Application Configurations, Software Policies, Patch Policies, and OS Provisioning objects.
<code>--appConfig</code>	Enable processing of Application Configurations.
<code>--swPolicy</code>	Enable processing of Software Policies.
<code>--patchPolicy</code>	Enable processing of Patch Policies.
<code>--unit</code>	Enable processing of Units (Packages). Works only if <code>--swPolicy</code> option is also specified.
<code>--osProv</code>	Enable processing of OS Provisioning MRLs (not including WIM-based), and link existing Installation Profiles and OS Sequences to the new MRL with updated platform.
<code>--smbPassword=&lt;SMB Password&gt;</code>	Specify a Windows Share (SMB) password (if not provided, the script will prompt for it).
<code>--wim=&lt;MRL ID&gt;</code>	Force processing of the specified WIM-based MRL ID. Works only when the <code>--osProv</code> option is also specified. Can be used multiple times. <b>Note:</b> If a server was provisioned using a WIM, you must run the script with the <code>--osProv --wim</code> options to avoid data integrity errors.
<code>--username=&lt;SA username&gt;</code>	SA username (if not provided, the script will prompt for it).

**Table 7 Windows Server 2008 R2 Migration Script Options (cont'd)**

Options	Description
<code>--password=&lt;SA password&gt;</code>	SA password (if not provided, the script will prompt for it).
<code>--debug, -d</code>	Print more information
<code>--help, -h</code>	Display this help and exit



Migrated objects other than Patch Policies are not copied, they are attached to the new Windows Server 2008 R2 x64 configuration.

For Patch Policies, Windows Server 2008 R2 x64 copies are created of Windows Server 2008 x64 Patch Policies containing R2 patches (x64 patch library).

The Windows Server 2008 x64 Patch Policies are then detached from the Windows Server 2008 R2 x64 servers and the equivalent Windows Server 2008 R2 x64 Patch Policy copies are attached to the Windows Server 2008 R2 x64 servers.



You can run `windows_2008_r2_fix_script.py` multiple times without issue. The changes made by the script cannot be rolled back.

## Requirements

- You must run the script on the Core's Software Repository (word) host.
- You must run the script on a machine that has `OPSWpytwist` installed.
- You must run the script on an active core, all SA Core Components must be running.
- You must run the script as `root`.
- You must provide SA credentials for a user that has all privileges (for example, `detuser`).
- You must run the script after the Windows Server 2008 R2 x64 server(s) has performed hardware registration and is recognized by SA as a new platform.
- You must log in to the SA Client and navigate to **Administration > Patch Settings > Windows Patch Downloads > Patch Products**. Use the Edit button and add the Windows Server 2008 R2 x64 option.
- You must re-import the latest MBSA patch database by selecting Patch Database, then the Import from Vendor button.
- If your Hyper-V servers are installed with Windows Server 2008 R2 x64, you must either run hardware registration manually or wait for the scheduled hardware registration to complete before you run:
  - Data Reload on the Hyper-V server
  - Create VM, Modify VM, Delete VM, or any control operation on a Hyper-V VM

## Software Policies

To enable Software Policy migration, the script must be run with the `--swPolicy` or `--all` option. After migration completes, the Software Policy appears in the SA Client Navigation pane under Library/By Type/Software Policies/Windows/Windows Server 2008 R2 x64 and Windows Server 2008 x64.

During migration, Software Policies are modified only if:

- The software policy is attached to a Windows Server 2008 R2 x64 server and the software policy platform list contains Windows Server 2008 x64, or
- The Software Policy is attached to a device group, the device group contains a Windows Server 2008 R2 x64 server and the software policy platform list contains Windows Server 2008 x64.

When processing policy items the script looks for the following types of objects:

- Nested Software Policies
- Units (Packages)
- Application Configurations

If the script finds a policy item that has Windows Server 2008 x64 in the platform list it will migrate that policy item to Windows Server 2008 R2 x64. However, the type must be included in the list of types that the script processes. For example, if the script is run with `--swPolicy` and `--units`, it will process Software Policies and packages included as policy items. The script will not process any application configurations (even if they are included in the policy items of a Software Policy that will be migrated).

Similarly, if the script is run only with the `--swPolicy` option, it will only process Software Policies and any policy items that are Software Policies, but policy items that are packages or application configurations will not be processed.

The order of items in the Software Policy is retained and remediation status remains unchanged.

If the script identifies an existing Software Policy as a Windows Server 2008 R2 x64 policy, it does not modify it during processing.

## Packages

To migrate packages, the script must be run with `--swPolicy` and `--units` or `--all` option. The script migrates only the packages that have Windows Server 2008 x64 in the platform list and are included as policy item inside a Software Policy that is migrated by the script.

After migration, the package will appear in the SA Client under both the Windows Server 2008 x64 and Windows Server 2008 R2 x64 folders in Library/By Type/Packages/Windows.

The script does not take into account the package type. It looks for packages included in migrated Software Policies that are attached to Windows Server 2008 x64. Server Module Result objects, Windows Registry objects and Windows Services objects cannot be migrated by the script because their platform associations cannot be changed.

Properties settings (including general, archived scripts, install parameters, install scripts, uninstall parameters, uninstall scripts) are preserved.

## Application Configurations

To migrate application configurations, the script must be run with the `--appConfig` or `--all` option. The migration script migrates an application configuration if:

- It is attached to a Windows Server 2008 R2 x64 server and has Windows Server 2008 x64 in the platform list, or
- It is attached to a device group that contains a Windows Server 2008 R2 x64 server and has Windows Server 2008 x64 in the platform list, or
- It has Windows Server 2008 x64 in the platform list and is a policy item of a Software Policy that is migrated.

During migration the script adds Windows Server 2008 R2 x64 to the application configuration's platform list. The script also inspects all application configurations' associated templates (CML templates) and if a template has Windows Server 2008 x64 in the platform list it is also migrated.

The Compliant/Non Compliant/Scan Failed compliance status is changed to `Scan Needed` after running the script.

There is no undo option.

## Patch Policies

To migrate SA Patch Policies, patch metadata and patch exceptions, the script must be run with the `--patchPolicy` or the `--all` option. During migration, the script appends R2 to the Patch Policy name. For example, for a patch policy named `2008 XYZ Policy`, the migration script creates a new Windows Server 2008 R2 x64 policy named `2008 XYZ Policy R2` if:

- There are Windows Server 2008 R2 x64 patches in `2008 XYZ Policy`.
- There does not exist any patch policy named `2008 XYZ Policy R2` that contains patches applicable to platforms other than Windows Server 2008 R2 x64.



---

If a Windows Server 2008 R2 x64 policy named `2008 XYZ Policy R2` already exists, the applicable patches will be added to it.

---

If Windows Server 2008 R2 x64 servers, or device groups containing Windows Server 2008 R2 x64 servers, are attached to Windows Server 2008 x64 patch policies, the migration script will detach these policies and attach the newly created or updated equivalent Windows Server 2008 R2 x64 policies. Applicable Patch Policy exceptions are also migrated.

If metadata associated with Windows Server 2008 R2 x64 patches has been modified (for example, install/uninstall flags, pre/post install/uninstall scripts), that metadata will be migrated.

## OS Provisioning

To migrate OS Provisioning MRLs, OS Sequences and Installation Profiles, the script must be run with the `--osProv` or the `--all` option.

During migration, the script runs `import_media` for all detected Windows Server 2008 x64 MRLs. When it detects Windows Server 2008 R2 x64, it deletes the old MRL and creates a new one with the same configuration (same MRL ID) but with the Windows Server 2008 R2 x64 platform associated.



- 
- ▶ Since `import_media` cannot detect a WIM image's platform, it cannot automatically migrate MRLs that point to this type of media. However, you can force the migration of a specific MRL that contains a WIM image by providing its MRL ID using the `--wim=<MRL ID>` option. This option can be used multiple times so multiple WIM MRLs can be migrated. If the script finds an MRL that points to a WIM image and its MRL ID was not specified using the `--wim=<MRL ID>` option, it will display a warning message and skip processing of that MRL.

If a MRL that points to a WIM image was previously used to provision a Windows Server 2008 R2 x64 machine, then the script must be run with `--wim=<MRL ID>` to avoid data integrity errors. The IDs of all WIM MRLs that were already used for provisioning should be added by running the script with the `--wim` option multiple times.

---

- ▶ If you use dynamic MRLs (the MRL path has script weaver tokens like `@mediaserver@`), the script cannot migrate such MRLs because they can't be mounted. You can temporarily specify a full URL in the MRL using the SA Client interface before running the migration script. You can then restore the dynamic MRL specification after migration if needed.

Existing Installation Profiles attached to the old (migrated) MRL are linked with the newly created MRL and the platform is changed to Windows Server 2008 R2 x64.

Any OS Sequences linked to a migrated Installation Profiles will also be updated to show the Windows Server 2008 R2 x64 platform.

---

- ▶ Software Policies attached to a migrated OS Sequence are not modified. However, if a migrated OS Sequence is used to provision a server, that server becomes identified as a Windows Server 2008 R2 x64 server and the Software Policies attached to the migrated OS Sequence are attached to the newly created Windows Server 2008 R2 x64 server. When you run the migration script again, these software policies are then migrated.
- 

## The `populate-opsware-update-library` Script

A new option, `--no_w2k8r2`, is provided and specifies that Windows Server 2008 R2 x64 patch binaries should not be uploaded. For more information about the `populate-opsware-update-library` Script, See the *SA User's Guide: Application Automation*.

## Windows Server CLI Installation

If you plan to install the SA Command-line Interface (OCLI) on a Windows Server after upgrade to SA 7.84, you must update the Agent on that server to the latest version. Errors occur during OCLI installation on Windows servers with earlier Agent versions.



## 3 Fixed in SA 7.84

### Fixed in SA 7.84

#### AAA

##### QCCR1D94191

**Description:** You should be able to generate reports as a user other than the SuperAdmin user.

**Platform:** Unix/Linux

**Subsystem:** AAA

**Symptom:** You should be able to generate reports as a user other than the SuperAdmin user, because that user is not used frequently and has limited permissions.

**Resolution:** Fixed

##### QCCR1D113564

**Description:** User permissions disregard group permissions because of the creation order.

**Platform:** Unix/Linux

**Subsystem:** AAA

**Symptom:** The device group window displays the following message:

No restriction for servers under public device groups

**Resolution:** Fixed

#### Agents

##### QCCR1D104966

**Description:** SA should display Windows Server 2008 R2 as the OS Version in the server record.

**Platform:** Windows 2008

**Subsystem:** Agent

**Symptom:** SA should display Windows Server 2008 R2 as the OS version in the server record.

**Resolution:** Fixed

## QCCR1D108910

**Description:** When an agent performs a hardware scan of tape devices, the backup tape operation fails.

**Platform:** IBM AIX

**Subsystem:** Agent

**Symptom:** When an agent performs a hardware scan of tape devices, the backup tape operation fails.

**Resolution:** Fixed

## QCCR1D110894

**Description:** Agent fails to install when deployed from the SA Client on a Red Hat Enterprise Linux 5 server, or, if the agent succeeds in the installation, the server will not be displayed in the managed servers list.

**Platform:** Red Hat Enterprise Linux 5 Server

**Subsystem:** Agent Deployment/Upgrade Backends

**Symptom:** Cannot deploy an agent on a Red Hat Enterprise Linux 5 server.

**Resolution:** Fixed

## QCCR1D111440

**Description:** Dormant agent fails to connect to core.

**Platform:** Independent

**Subsystem:** Agent Installer

**Symptom:** A newly installed agent that is initially unable to connect to the core will not start. Ordinarily it should start and go into dormant mode until it is able to contact the core.

**Resolution:** Fixed

## QCCR1D111664

**Description:** The `agentcache` component fails to restart after a Slice Component bundle upgrade and the following error is displayed:

```
Address already in use
```

**Platform:** Independent

**Subsystem:** Agent Deployment/Upgrade Backends

**Symptom:** The `agentcache` component does not start after a Slice Component bundle upgrade.

**Resolution:** Fixed

## QCCR1D112874

**Description:** Agent does not distinguish between CPU family names.

**Platform:** Linux

**Subsystem:** Agent

**Symptom:** Unlike on Windows systems, the agent that reports the `cpu_family` name on Linux does not distinguish between CPU family names of 32bit (x86) and 64bit (x86\_64).

**Resolution:** Fixed

## QCCR1D113204

**Description:** Windows XP agent does not register the default gateway properly.

**Platform:** Windows

**Subsystem:** Agent

**Symptom:** The `ServerVO getDefaultGw()` method does not report default gateway information.

**Resolution:** Fixed

## Application Configuration

### QCCR1DD110414

**Description:** Configuration compliance scanning sometimes returns a status of `in compliance` for random servers that are known to be out of compliance.

**Platform:** Independent

**Subsystem:** Application Configuration UI

**Symptom:** Configuration compliance scanning sometimes returns erroneous results.

**Resolution:** Fixed

### QCCR1D112286

**Description:** An Application Configuration cannot be assigned to a Software Policy even when they share at least one platform.

**Platform:** Independent

**Subsystem:** Application Configuration Backend

**Symptom:** An Application Configuration cannot be assigned to a Software Policy even when they share at least one platform.

**Resolution:** Fixed

## Audit and Compliance

### QCCR1D 108377/107935

**Description:** The Compliance dashboard takes a long time to load and there is high CPU load on the database server.

**Platform:** Independent

**Subsystem:** Audit and Compliance

**Symptom:** Need a new table `ROLE_CLASS_BRIDGE`, a hierarchy bridge table that will supplement the existing table `ROLE_CLASSES`. This will eliminate the need to use `START WITH... CONNECT BY` on the `role_classes` table.

**Resolution:** Fixed

### QCCR1DD109686

**Description:** Archived audit results display an error.

**Platform:** Solaris

**Subsystem:** Audit & Compliance Backend

**Symptom:** Archived audit results display an error.

**Resolution:** Fixed

## Installer

### QCCR1D111642

**Description:** When you run the System Diagnostic test on your core, you might see the following error:

Test Name: Model Repository Schema

Test Results:

The following tables differ between the Data Access Engine and the Model Repository: `local_data_centers`.

**Platform:** Independent

**Subsystem:** Installer (Data Access Engine)

**Symptom:** After you run the `truth_create_local_dc_table.sh` script, you might see a `local_data_centers error`.

**Resolution:** You can disregard this error.

## Library - Folders

### QCCR1D114280

**Description:** Performance issues occur when viewing the library by folder.

**Platform:** Independent

**Subsystem:** Library - Folders

**Symptom:** Performance issues occur when viewing the library by folder.

**Resolution:** Fixed

## Model Repository

### QCCR1D 89291

**Description:** Need a utility to add an index on the COMPLIANCE\_DETAIL table.

**Platform:** Independent

**Subsystem:** Model Repository

**Symptom:** Schema changes are needed to improve performance.

**Resolution:** Fixed

### QCCR1DD100677

**Description:** The Software Repository component wordcache uses an invalid SSL context when attempting to access a peer.

**Platform:** Independent

**Subsystem:** Model Repository

**Symptom:** Any feature that requires an agent behind a Satellite with more than one wordcache fails.

**Resolution:** Fixed

### QCCR1D 110310

**Description:** Performance of the SESSION\_SERVICE\_INSTANCES table is poor because garbage collection is not working properly on the table.

**Platform:** Independent

**Subsystem:** Model Repository

**Symptom:** Garbage collection is not fully collecting all child records, which degrades performance.

**Resolution:** Fixed

## OS Provisioning

### QCCR1DD90265

**Description:** The Manage Boot Clients utility (MBC) takes long time to process input.

**Platform:** Unix/Linux/VMware ESX

**Subsystem:** OS Provisioning Backend

**Symptom:** When inputting multiple MBC entries via CSV input, MBC sometimes takes an excessive amount of time to complete in SA Cores with a large amount of data.

**Resolution:** Fixed

## QCCR1DD94324

**Description:** When you select a pre- or post-remediate script, the name of the script is truncated and only displays the text after the dot ("."). For example, if the script name is `helloworld.conf`, the name is displayed as `'conf'`.

**Platform:** Independent

**Subsystem:** OS Provisioning - OCC - client

**Symptom:** The name of pre- or post-remediate scripts is truncated and only displays the part of the name after the dot ("").

**Resolution:** Fixed

## QCCR1DD96862

**Description:** VMware ESX 4 import media: Errors seen during import.

**Platform:** Independent

**Subsystem:** OS Provisioning Backend

**Symptom:** When importing newer Linux or VMware ESX OS media using `import_media`, some packages fail to upload to the SA Software Repository with an error similar to:

```
Uploading Packages: [###37% ] An exception was raised (upload attempt 1):  
Error uploading package. lsi.rpm: Invalid Parameters
```

**Resolution:** Fixed

## QCCR1D96947

**Description:** Software Policies cannot be added or removed if an OS Sequence is using an unassigned customer OS Profile (e.g. customer `'not assigned'`).

**Platform:** Independent

**Subsystem:** OS Provisioning - OCC - client (OS Sequence UI)

**Symptom:** Software Policies cannot be added or removed.

**Resolution:** Fixed

## QCCR1DD100620

**Description:** The OS Sequence pre and post-remediate script user name, password, and domain fields should not be editable after selecting `root` for the username and saving the OS Sequence.

**Platform:** Independent

**Subsystem:** OS Provisioning - OCC - client

**Symptom:** The OS Sequence script user name, password, and domain fields should not be editable.

**Resolution:** Fixed



## QCCR1DD108120

**Description:** OS Provisioning on larger scales causes the `buildmgr` to crash with out of memory errors

**Platform:** Independent

**Subsystem:** OS Provisioning Backend

**Symptom:** Large scale OS Provisioning job causes `buildmgr` to crash with out of memory errors.

**Resolution:** Fixed

## QCCR1DD110789

**Description:** The Manage Boot Clients utility (MBC) should not show decommissioned Facilities as a choice for Facility to Provision servers

**Platform:** Independent

**Subsystem:** OS Provisioning - MBC

**Symptom:** The Manage Boot Clients utility (MBC) should not show decommissioned Facilities as a choice for Facility to Provision servers.

**Resolution:** Fixed

## QCCR1D111695

**Description:** Users should be able to add 10Gig network drives to WinPE images so they can register a server on the 10Gig network.

**Platform:** Independent

**Subsystem:** OS Provisioning Backend

**Symptom:** Users should be able to add 10Gig network drives to WinPE images so they can register a server on the 10Gig network.

**Resolution:** Fixed

## QCCR1D111721

**Description:** When you run an install OS Sequence job with numerous servers and you select a server in the active job window, the details panel below it closes.

**Platform:** Independent

**Subsystem:** OS Provisioning - OCC – client

**Symptom:** Selecting servers in the active job window closes the details pane below.

**Resolution:** Fixed

## QCCR1D111863

**Description:** Manage Boot Clients utility (MBC): `sequence_id` and MAC link was not removed for Solaris10x86 provision done by MBC.

**Platform:** Solaris x86

**Subsystem:** OS Provisioning – MBC

**Symptom:** Manage Boot Clients utility (MBC): sequence\_id and MAC link was not removed for Solaris10x86 provision done by MBC.

**Resolution:** Fixed

## QCCR1D112426

**Description:** When you provision a VMware ESX server, the agent reachability test does not always show completed results successfully.

**Platform:** Independent

**Subsystem:** OS Provisioning Backend

**Symptom:** When you provision a VMware ESX server, the agent reachability test does not always show completed results successfully.

**Resolution:** Fixed

## Patch Management - Unix

### QCCR1D102121

**Description:** Add to Patch Policy should be enabled when you select a Solaris patch or patch cluster using the SA Client Library (**Library** ► **By Type** ► **Patches** ► **Solaris** ► **SunOS 5.x**).

**Platform:** Solaris

**Subsystem:** Patch Management – Solaris

**Symptom:** Add to Patch Policy should be enabled when you select a Solaris patch or patch cluster using the SA Client Library (**Library** ► **By Type** ► **Patches** ► **Solaris** ► **SunOS 5.x**).

**Resolution:** Fixed

### QCCR1D106811

**Description:** The `solpatch_import` command overrides existing patch options.

**Platform:** Solaris 5.10, 5.10 x86, 5.9, 5.8

**Subsystem:** Patch Management – Solaris

**Symptom:** The `solpatch_import` command overrides existing patch options.

**Resolution:** Fixed

### QCCR1D111601

**Description:** When you install bundles, all bundles with new names show an erroneous status of: Will Not Install.

**Platform:** Solaris

**Subsystem:** Patch Management – Solaris

**Symptom:** When you install bundles, all bundles with new names show an erroneous status of Will Not Install when `solpatch_import` is unable to download a bundle/cluster README.

**Resolution:** Fixed

## QCCR1D111692

**Description:** SA does not allow you to import an updated version of a bundle until you manually delete the older version from the core.

**Platform:** Solaris

**Subsystem:** Patch Management – Solaris

**Symptom:** The `solpatch_import` operation should handle bundle updates.

**Resolution:** Fixed

## QCCR1D111722

**Description:** An unnecessary error message might be displayed during the SA 7.83 and 7.82 patch content installation:

You don't have permission to update the patch meta database in HP SA. Please re-run this command with a proper `hpsa_user` and `hpsa_pass`. The `hpsa_user` needs permission to write the folder `"/Opware/Tools/Solaris Patching"` and the Package Management Client Feature, "Manage Package" permission set "Read & Write". There was a problem with running `update_supplements`.

**Platform:** Solaris 5.10, 5.10 x86, 5.9, 5.8

**Subsystem:** Patch Management – Solaris

**Symptom:** Confusing error messages are displayed during the SA 7.83 and 7.82 patch content installation.

**Resolution:** Fixed

## QCCR1D111797

**Description:** Assertion error is displayed when you import a bundle.

**Platform:** Solaris

**Subsystem:** Patch Management – Solaris

**Symptom:** When you import a bundle using the `solpatch_import` command, you receive an assertion error if any bundle parts are missing from the bundle URL location.

**Resolution:** Fixed

## QCCR1D111903

**Description:** The `solpatch import` script does not handle `tar.gz` files correctly.

**Platform:** Independent

**Subsystem:** Patch Management – Solaris

**Symptom:** The `solpatch import` script does not handle `tar.gz` files correctly.

**Resolution:** Fixed

## QCCR1D113588

**Description:** The `solpatch_import filter` option excludes recommended patches that are also obsolete.

**Platform:** Sol 5.10, 5.10 x86, 5.9, 5.8

**Subsystem:** Patch Management – Solaris

**Symptom:** The `solpatch_import filter` option excludes recommended patches that are also obsolete.

**Resolution:** Fixed

## Red Hat Network

### QCCR1DD103070

**Description:** Full descriptions of previous script revisions are sometimes not viewable.

**Platform:** Independent

**Subsystem:** DSE (UI)

**Symptom:** When you enter a valid description into the description field of a script and then makes a change to the script or the description, the revision may not be visible in its entirety.

**Resolution:** Fixed

### QCCR1DD107439

**Description:** When users (logged on as channel administrators) perform a `show_labels` command, they are unable to see channels known to exist on the Satellite that is to be used for SA patching. Users only see default channels that Red Hat publishes. The only way to import packages and errata from a custom channel is to move the custom channel as a child of one of the existing supported standard channels.

**Platform:** Linux

**Subsystem:** Red Hat Network Satellite

**Symptom:** Users are unable to retrieve content from published channels on local/client RHN satellites.

**Resolution:** Fixed.

### QCCR1D111262

**Description:** If you use `rhn_import` (version 37.0.0.0.5.1) to populate RHN Satellite channels, child channels are marked 'Always install' but should be marked 'Only install where prior version of software exists on the server'.

**Platform:** Linux

**Subsystem:** Red Hat Network Import

**Symptom:** Child channels are marked incorrectly when you use `rhn_import` to populate RHN satellite channels.

**Resolution:** Fixed

## QCCR1D112123

**Description:** Exporting all results using a download script with `.csv` output format fails with error:

```
Export All Results (Download script output) on DSE failed
```

**Platform:** Independent

**Subsystem:** DSE (UI)

**Symptom:** Exporting all results using a download script with `.csv` output format fails with errors.

**Resolution:** Fixed

## QCCR1D112209

**Description:** System displays a `channel_name` key error when you run the `rhn_import` command against an Red Hat Network Satellite.

**Platform:** Independent

**Subsystem:** Red Hat Network Import

**Symptom:** System displays a `channel_name` key error when you run the `rhn_import` command against an RHN satellite.

**Resolution:** Fixed

## QCCR1D112759

**Description:** The `details_url` should be a configurable parameter in the configuration file.

**Platform:** Linux

**Subsystem:** Red Hat Network

**Symptom:** The `details_url` should be a configurable parameter in the configuration file.

**Resolution:** Fixed

For this release, support was added for custom channels as parents. This change introduces a new parameter, called `platform` (see below) that can be added in each channel section in the configuration file that associates a custom channel with a platform. This allows you to import the packages and errata associated with the custom channel. The channel now acts as a parent channel. Use the `--show_platforms` switch to get a list of supported platforms.

Configuration Example:

```
[my_custom_channel]
enabled=1

platform=Red Hat Enterprise Linux Server 5 X86_64
```

## Reports

### QCCR1D 96616

**Description:** LUN report displays incorrectly.

**Platform:** Independent

**Subsystem:** Reports

**Symptom:** Even if a LUN is mapped to more than one host, only one row is deployed for the LUN in reports.

**Resolution:** Fixed

## SAS Web Client

### QCCR1DD100055

**Description:** The SAS Web Client user profile sometimes appears blank.

**Platform:** Independent

**Subsystem:** SAS Web Client - Other

**Symptom:** The SAS Web Client user profile sometimes appears blank.

**Resolution:** Fixed

### QCCR1DD110354

**Description:** When you upload a file to a custom field in the Custom Field Extension of the Web Command Center, you might see a 403 `AuthorizationDeniedException` error.

**Platform:** Linux

**Subsystem:** SAS Web Client - Servers

**Symptom:** You see a 403 `AuthorizationDeniedException` error when you upload a file to a custom field.

**Resolution:** Fixed

### QCCR1D112211

**Description:** Users cannot grant OGFS permissions if a user name includes a dash (-).

**Platform:** Independent

**Subsystem:** SAS Web Client – Administration

**Symptom:** Users cannot grant OGFS permissions if a user name includes a dash (-).

**Resolution:** Fixed

## Server Management - Managed Servers

### QCCR1D80816

**Description:** All servers are displayed in the Servers and Device Groups panel of the Reboot Server task window, instead of just the servers selected for a scheduled or completed job.

**Platform:** Windows

**Subsystem:** Server Management - Managed Servers

**Symptom:** All reachable servers are displayed, instead of just the servers selected for a scheduled or completed job.

**Resolution:** Fixed

## Server Module (SMO)

### QCCR1D112539

**Description:** On a Windows Server 2008 R2 server, when selecting Windows Device Manager, the following message is displayed:

Could not determine a valid Win version

**Platform:** Windows Server 2008 R2 (x86\_64)

**Subsystem:** Server Module – Backend

**Symptom:** When you select the Windows Device Manager a Windows version error occurs.

**Resolution:** Fixed

### QCCR1D112570

**Description:** Windows Server 2008 R2 (x86\_64) is not on the list of supported IIS 7 SMOs, but it is present as a separate platform.

**Platform:** Windows/Windows Server 2008

**Subsystem:** Server Module - IIS7

**Symptom:** Windows Server 2008 R2 (x86\_64) is not on the list of supported IIS 7 SMOs, but it is present as a separate platform.

**Resolution:** Fixed

## Software Management

### QCCR1D 96568

**Description:** When trying to duplicate a zip package, the package is duplicated without a path, and you receive the following error:

You do not have permission to view details of this policy item.

**Platform:** Independent

**Subsystem:** Software Management

**Symptom:** Cannot duplicate a zip package in a software policy.

**Resolution:** Fixed

### QCCR1DD106099

**Description:** When you look up install software or uninstall software jobs, the scroll bar for the window that displays options for running a script does not function.

**Platform:** Independent

**Subsystem:** Software Management - UI - Install/Uninstall/Remediate

**Symptom:** The scroll bar is not functional when you look up selected script options for certain actions.

**Resolution:** Fixed

### QCCR1DD107854

**Description:** SA users cannot create a new Hyper-V partition on Windows Server 2008 SP2 virtual machines.

**Platform:** Windows 2008

**Subsystem:** Virtualization - HyperV

**Symptom:** SA users cannot create a new Hyper-V partition on Windows Server 2008 SP2 virtual machines.

**Resolution:** Fixed

### QCCR1DD110954

**Description:** Imported or exported RPM packages change name during the import or export.

**Platform:** Independent

**Subsystem:** Software Management - UI - Package

**Symptom:** When an RPM package whose file name does not have a .rpm extension is exported from SA then re-imported, the created package should have the same name as the original if no default options have been changed during export or import.

**Resolution:** Fixed

### QCCR1D111003

**Description:** Default documents list is returned as a string.

**Platform:** Windows, Windows Server 2008

**Subsystem:** Server Module - IIS7

**Symptom:** Default documents list should be returned as a list instead of a string with default document names concatenated.

**Resolution:** Fixed



## QCCR1D111567

**Description:** You cannot add a Solaris patch to a Patch Policy from within the Patch Policy view.

**Platform:** Independent

**Subsystem:** Software Management - UI - Software Policy

**Symptom:** You cannot add a Solaris patch to a patch policy from within the Patch Policy view.

**Resolution:** Fixed

## QCCR1D111971

**Description:** An error is displayed when you perform a remediation of a simultaneous attachment and detachment.

**Platform:** Independent

**Subsystem:** Software Management - API - Software Policy

**Symptom:** An error is displayed when you perform a remediation of a simultaneous attachment and detachment.

**Resolution:** Fixed

## Virtualization

### QCCR1DD93589

**Description:** When you modify a powered-on virtual machine on a VMware Hypervisor, you can add a disk but cannot change the size of that new disk or change the datastore once it is selected. Consequently, available free space might be less than the default value (4GB).

**Platform:** VMware

**Subsystem:** Virtualization - UI

**Symptom:** You cannot change the size of a new disk or of a datastore on a VMware Hypervisor.

**Resolution:** Fixed

## Web Services Data Access Engine

### QCCR1DD110105

**Description:** In SA 7.81, the Python Opsware API access software is unavailable for Oracle Enterprise Linux 5 (x86\_64).

**Platform:** Linux

**Subsystem:** Web Services Data Access Engine

**Symptom:** In SA 7.81, the Python Opsware API access software is unavailable for Oracle Enterprise Linux 5 (x86\_64).

**Resolution:** Fixed

# Fixed in SA 7.83

## Agents

### QCCR1D 97923

**Description:** Although the agent upgrade completes successfully, the agent upgrade custom extension software returns an unsuccessful upgrade error.

**Platform:** Independent

**Subsystem:** Agent Deployment/Upgrade Backends

**Symptom:** Although the agent upgrade completes successfully, the agent upgrade custom extension software returns an unsuccessful upgrade error.

**Resolution:** Fixed

### QCCR1D 98219

**Description:** When you try to import an exported comma-separated-values (CSV) file, you get the following error:

The following input records were incorrectly formatted and were skipped.

**Platform:** Independent

**Subsystem:** Agent Deployment/User Interface Upgrade

**Symptom:** SA Client cannot import an exported CSV.

**Resolution:** Fixed

### QCCR1D 102321

**Description:** If you modify the default software policies, during a patch content upload, the Opware Agent Tools installer returns a missing software policies error instead of updating or creating the missing policy.

**Platform:** Independent

**Subsystem:** Agent Tools

**Symptom:** Opware Agent Tools installer returns a missing software policies error if you modify the default software policies.

**Resolution:** Fixed

### QCCR1D 103678/108387109467

**Description:** You cannot obtain device manufacturer/hardware information when you issue the `bs_hardware` command. Instead, the software displays the following system diagnostic message:

Hardware Stack Shape: Device IDs with unrepresented model\_type: [239580100]

**Platform:** Windows, Linux, Solaris-x86-64bit

**Subsystem:** Agent

**Symptom:** Instead of displaying device manufacturer/hardware information, the software displays a system diagnostic flag.

**Resolution:** Fixed

#### QCCR1D 104974

**Description:** SA Windows agent heartbeat thread starts later than it should.

**Platform:** All Windows

**Subsystem:** Agent

**Symptom:** SA Windows agent heartbeat thread starts later than it should.

**Resolution:** Fixed

#### QCCR1D 105363

**Description:** SA 7.8x does not currently provide support for Chinese locales.

**Platform:** Independent

**Subsystem:** Agent

**Symptom:** SA 7.8x does not currently provide support for Chinese locales.

**Resolution:** Fixed

#### QCCR1D 106327

**Description:** Remediation operation fails because of excessive operation output coupled with low caller consumption rates. An unexpected error is returned.

**Platform:** Linux, Solaris

**Subsystem:** Agent

**Symptom:** An unexpected error is returned during a dependency resolution.

**Resolution:** Fixed

#### QCCR1D 106621

**Description:** You cannot perform an agent update using the Agent Upgrade tool due to an incompatibility between the tool and the current agent versioning scheme.

**Platform:** Independent

**Subsystem:** Agent Deployment/Upgrade UI

**Symptom:** Under certain circumstances, you cannot perform an agent update using the Agent Upgrade tool.

**Resolution:** Fixed

#### QCCR1D 106761

**Description:** The software returns an unexpected traceback exception error when you set the Manage Software Policy to Read, and you use the `solpatch_import` command to create a policy.

**Platform:** Solaris

**Subsystem:** Patch Management - Solaris

**Symptom:** The software returns an unexpected traceback error when you set the Manage Software Policy to Read.

**Resolution:** Fixed

### QCCR1D 106983

**Description:** When you run a prerequisite installation check for the VMware ESXi server, the Agent performs the check and also begins to manage the server, although the Manage Server menu item is still enabled. The installation check should be disabled.

**Platform:** VMware ESXi

**Subsystem:** Patch Management

**Symptom:** The prerequisite installation check is enabled for VMware ESXi servers, it should be disabled.

**Resolution:** Fixed

### QCCR1D 107706

**Description:** An agent running Python Version 1.5 cannot download a file that is greater than 2 GigaBytes (GB).

**Platform:** HP-UX 11.23, 11.11, and 11.00

**Subsystem:** Agent

**Symptom:** You receive an error when you download depots larger than 2GB.

**Resolution:** Fixed

### QCCR1D 107958

**Description:** Cannot upgrade an agent that is installed on a Windows Server 2008 R2 (x86-64).

**Platform:** Windows 2008 R2 x86-64

**Subsystem:** CX - Agent Upgrade

**Symptom:** Cannot upgrade an agent that is installed on a Windows Server 2008 R2 (x86-64).

**Resolution:** Fixed

### QCCR1D 108800

**Description:** You cannot close the Unmanaged Servers scanning window by clicking the (X) icon in the corner.

**Platform:** Independent

**Subsystem:** Agent Deployment/Upgrade UI

**Symptom:** You cannot close the Unmanaged Servers dialog box or the Agent Deployment window by clicking the (X) in the corner.

**Resolution:** Fixed

## QCCR1D 108801

**Description:** You cannot close the Agent Deployment window by clicking the (x) icon in the corner.

**Platform:** Independent

**Subsystem:** Agent Deployment/Upgrade UI

**Symptom:** You cannot close the Unmanaged Servers dialog box or the Agent Deployment window by clicking the (x) in the corner.

**Resolution:** Fixed

## QCCR1D 109241

**Description:** The Last Deployment Attempt Message in the Summary view is blank.

**Platform:** All Windows

**Subsystem:** Agent Deployment/Upgrade UI

**Symptom:** The Last Deployment Attempt message is blank.

**Resolution:** Fixed

## Application Configuration

### QCCR1D 96141

**Description:** Editing errors occur when you create or modify rules in the Application Configuration Audit and Remediation editor.

**Platform:** Independent

**Subsystem:** Application Configuration UI

**Symptom:** Unexpected behaviors (such as duplicate entry creation) are displayed when you create/modify rules in the Application Configuration Audit and Remediation tool.

**Resolution:** Fixed

### QCCR1D 98407

**Description:** When you use the `GroupConfigurable.pushConfiguration()` API call, you receive a null pointer exception.

**Platform:** Independent

**Subsystem:** Application Configuration Backend

**Symptom:** When you use the `GroupConfigurable.pushConfiguration()` API call, you receive a null pointer exception.

**Resolution:** Fixed

### QCCR1D 102551

**Description:** In the Application Configuration Audit and Remediation tool, an entire rule is remediated if a part of that rule fails, but only the failed part should be remediated.

**Platform:** Independent

**Subsystem:** Application Configuration CML Engine

**Symptom:** When part of a rule fails, the entire rule is remediated.

**Resolution:** Fixed

### QCCR1D 105927

**Description:** The Application Configuration tool copies files to the target location instead of moving them, causing some applications to return an error when they read a 0-byte configuration file.

**Platform:** Independent

**Subsystem:** Application Configuration Backend

**Symptom:** Some applications return an error when they read 0-byte configuration files.

**Resolution:** Fixed

### QCCR1D 106965

**Description:** For partial templates, the Preserve Format menu option in the Application Defaults valueset editor only has the Yes value enabled. However, when you choose this option and save it, its value resets to a blank value.

**Platform:** Independent

**Subsystem:** Application Configuration User Interface

**Symptom:** For partial templates, the Preserve Format option limits the values you can set and automatically defaults to a blank value.

**Resolution:** Fixed

## Audit and Compliance

### QCCR1D 107794

**Description:** When you create hundreds of Register Software rules at a time during an audit, the run dialog and the audit log file display an out-of-memory (OOM) error.

**Platform:** Independent

**Subsystem:** Audit and Compliance user interface

**Symptom:** The graphical user interface (GUI) and the audit log file display an OOM error during an audit.

**Resolution:** Fixed

### QCCR1D 108376

**Description:** The HTTP server waits a few seconds before disconnecting after it has read remote configuration files. When you conduct configuration scans against a large number of servers (60 or more) with 60 or more managed configuration files, this HTTP-server behavior produces too many MAXIMUM timeouts on the individual scanned servers.

**Platform:** Independent

**Subsystem:** Audit and Compliance - Backend

**Symptom:** HTTP server disconnection lags cause a large number of MAXIMUM timeouts on the individual scanned servers.

**Resolution:** Fixed

## QCCR1D 108454

**Description:** The graphical user interface in the SA Client freezes when you try to download a large audit result. After a longer than usual time, an audit result browser eventually displays the result.

**Platform:** Independent

**Subsystem:** Audit and Compliance - UI

**Symptom:** The graphical user interface in the SA Client freezes when you try to download a large audit result.

**Resolution:** Fixed

## QCCR1D 110370

**Description:** Audit snapshot files are too large and take up too much storage room.

**Platform:** Independent

**Subsystem:** Audit and Compliance - Backend

**Symptom:** Snapshot files generated when you run multiple audit Register Software rules become very large and take up a lot of storage space.

**Resolution:** Fixed

## QCCR1D 110871

**Description:** Audit custom scripts either time out without producing a result (such as when the script is waiting for an input command) or enter an endless loops. Some compliance checks whose parameters have not been set experience the same phenomenon.

**Platform:** Independent

**Subsystem:** Audit and Compliance - Backend

**Symptom:** Custom scripts either time out without producing a result or enter an endless loop.

**Resolution:** Fixed

## Automation Platform Extensions (APX)

### QCCR1D 105597

**Description:** An Automation Platform Extensions (APX) Program fails to run (from either a group or an All Managed Servers list) after you press the Start Job button in the last step.

**Platform:** Independent

**Subsystem:** APX - Web Application

**Symptom:** Pressing the Start Job button in the last step of an Extensible Discovery APX Program run does not start the application.

**Resolution:** Fixed

## Command Center

### QCCR1D 107732

**Description:** You cannot create search criteria based on virtualization because the search text field gathers characters in reverse order.

**Platform:** Independent

**Subsystem:** OCC Client Framework

**Symptom:** Virtualization searches are invalid due to search-text field error.

**Resolution:** Fixed

## Command Engine

### QCCR1D 98445

**Description:** When you choose Tools ► Options in the SA Client, the cursor becomes unresponsive.

**Platform:** Independent

**Subsystem:** OCC Client Framework

**Symptom:** When you choose Tools ► Options in the SA Client, the cursor becomes unresponsive.

**Resolution:** Fixed

### QCCR1D 102616

**Description:** Environment variables in scripts do not always resolve as expected.

**Platform:** All Unix (AIX, HP-UX, Solaris, Linux)

**Subsystem:** Command Engine - Way

**Symptom:** Environment variables in scripts do not always resolve as expected.

**Resolution:** Fixed

With this fix the environment for UNIX will be the following:

- HOME: users home directory (new in 7.8.03)
- LOGNAME: users login name (new in 7.8.03)
- USER: same as LOGNAME (new in 7.8.03)
- TZ: time zone (not supported on Linux)
- PATH: (modified in 7.8.03 - see below)
- SHELL: /usr/bin/sh (/usr/bin/ksh on AIX /bin/sh for Linux)
- TERM: dumb



- HOSTTYPE: i386 (Linux only)
- SHLVL: 2 (Linux only)
- OSTYPE: Linux (Linux only)
- LANG: C (AIX, HP-UX)
- ODMDIR: /etc/objrepos (AIX only)
- LC\_\_FASTMSG: true (AIX only)

The values of PATH are as follows:

- Solaris: /bin:/usr/bin:/usr/sbin
- Solaris (root): /sbin:/bin:/usr/sbin:/usr/bin
- Linux: /usr/local/bin:/bin:/usr/bin
- Linux (root): /usr/local/sbin:/usr/local/bin:/sbin:/bin:/usr/sbin:/usr/bin
- AIX: /usr/bin:/usr/sbin
- AIX (root): /sbin:/bin:/usr/sbin:/usr/bin
- HP-UX: /usr/bin:/bin:/sbin:/usr/sbin
- HP-UX (root): /sbin:/bin:/usr/sbin:/usr/bin

The value of SHELL will always be set to /usr/bin/sh except on AIX and Linux. The sh script is always executed in sh (not bash or any other shell). Other shells or runtimes can be executed by adding a #!<path> at the top of the sh script.

Customers who want to have their .profile (or any other script) executed must explicitly do so in the sh script.

## Custom Extensions

### QCCR1D 108148

**Description:** There are no custom user-interface extensions (such as Change Password CX) that effect changes to the server in the Approval Integration engine.

**Platform:** Independent

**Subsystem:** Custom Extensions

**Symptom:** The Approval Integration engine does not have custom extensions that affect the server.

**Resolution:** Fixed - Added approval integration to custom extensions. In the SA Web Client, the new jobs will be listed as Run Custom Extensions and the old jobs as Run Custom Extension. This does not change previously run or scheduled jobs, only jobs created after the 7.83 patch is applied.

## DCML Tool (DET)

### QCCR1D 107377

**Description:** Recurrence of bug with DCML (DET) command line utility.

**Platform:** Linux

**Subsystem:** DCML Export Tool (DET)

**Symptom:** The CBT Import does not correctly restore command options of an Install/Uninstall Sequence Policy Item script. Instead, the import sets the same Command Options for both the install and uninstall sequences.

**Resolution:** Fixed

In order for this issue to be completely addressed, both the importing core and exporting core must be, at minimum:

**Table 8 Minimum Version Level**

Exporting Core	Importing Core
7.50.07	7.50.07
7.50.07	7.83
7.83	7.83

## Global File System

### QCCR1D 107483

**Description:** Users are not deleted from the user cache. Subsequently, those same users cannot access the OGFS because the system considers them re-created users.

**Platform:** Independent

**Subsystem:** Global Filesystem/Shell Backend

**Symptom:** Users are not deleted from the user cache.

**Resolution:** Fixed

### QCCR1D 109315

**Description:** Global File System produces an `OutOfMemoryError` (OOM) during a larger audit.

**Platform:** Independent

**Subsystem:** Global File System

**Symptom:** An audit fails with an OOM error during a larger audit.

**Resolution:** Fixed

## Model Repository

### QCCR1D 108378

**Description:** The Compliance Dashboard takes a long time to load, resulting in a high CPU load on the database server.

**Platform:** Independent

**Subsystem:** Model Repository

**Symptom:** Compliance Dashboard load time results in high CPU load.

**Resolution:** Fixed

## OS Provisioning

### QCCR1D 93355

**Description:** When you use the `import_media` command to update an operating system installation media name that is already imported, the media name is not updated in the SAS Web Client.

**Platform:** Independent

**Subsystem:** OS Provisioning - Backend

**Symptom:** Media name is not updated in the SAS Web Client when you update the operating system installation media.

**Resolution:** Fixed

### QCCR1D 106181

**Description:** When you select an operating system installation profile in the SAS Web Client, the WinPE attributes are not displayed.

**Platform:** Windows

**Subsystem:** OS Provisioning - SAS Web Client

**Symptom:** When you select an operating system installation profile in the SAS Web Client, the WinPE attributes are not displayed.

**Resolution:** Fixed

### QCCR1D 107291

**Description:** Customer Request: WinPE HP iLO from SSTK driver request for HP DL 380 G6.

**Platform:** Independent

**Subsystem:** OS Provisioning Backend

**Symptom:** HP iLO driver from the SmartStart Scripting Toolkit should be included in the WIMs.

**Resolution:** Fixed

### QCCR1D 108110

**Description:** If you run an Install Sequence job, scrolling is disabled in the Select Server and Preview Steps results.

**Platform:** Independent

**Subsystem:** OS Provisioning - SA Command Center - client

**Symptom:** If you run an Install Sequence job, scrolling is disabled in the Select Server and Preview Steps results.

**Resolution:** Fixed

### QCCR1D 108111

**Description:** When you run an operating system sequence job, detail panes of selected servers displayed in an active job window close unexpectedly and are difficult to reopen.

**Platform:** Independent

**Subsystem:** OS Provisioning - OCC - client

**Symptom:** Detail panes of selected servers displayed in an active job window close unexpectedly and are difficult to reopen.

**Resolution:** Fixed

### QCCR1D 108113

**Description:** When you run an Install Sequence job, you cannot sort in the resulting job-window table.

**Platform:** Independent

**Subsystem:** OS Provisioning - SA Command Center - client

**Symptom:** When you run an Install Sequence job, you cannot sort in the resulting job-window table.

**Resolution:** Fixed

### QCCR1D 109393

**Description:** For HP iLO firmware versions 1.78 and 1.79, the Manage Boot Clients (MBC) for the server with HP iLO secure socket layer connections throws connection timeout errors when it retrieves details from the iLO interface.

**Platform:** Independent

**Subsystem:** OS Provisioning - Backend

**Symptom:** The MBC throws connection timeout errors when retrieving details from the iLO interface.

**Resolution:** Fixed

## Patch Management - Solaris

### QCCR1D 102564

**Description:** When you attempt to do an attach and remediate operation without first running the `create_db` script on the core, the software compliance scan status displays a `Scan failed` error.

**Platform:** Solaris 5.10, 5.10 x86, 5.9, 5.8, 5.7, 5.6

**Subsystem:** Patch Management - Solaris Server

**Symptom:** During an attach and remediate operation, you see a `Scan failed` error in the software compliance scan-status field.

**Resolution:** Fixed

## QCCR1D 105981

**Description:** When remediating a Solaris patch bundle or a Solaris cluster, the value of the `way.remediate.action_timeout` parameter should be set to the highest value of the three values in the following parameters:

`way.remediate.solaris_cluster_package_alarm_timeout`,  
`way.remediate.action_timeout`, and `way.remediate.package_alarm_timeout`. If the value of the `way.remediate.action_timeout` parameter is less than the value of the `solaris_cluster_package_timeout`, the `way.remediate.action_timeout` expires first, causing the job to time out.

**Platform:** Solaris

**Subsystem:** Patch Management - Solaris

**Symptom:** If the value of the `way.remediate.action_timeout` is less than the value for the `solaris_cluster_package_timeout`, the `way.remediate.action_timeout` would expire first, causing the job to time out.

**Resolution:** Fixed

## QCCR1D 107130

**Description:** After a new server is assimilated into the core, the applicability calculation incorrectly reports that bundles are non-applicable to the server, despite the fact that there is no software-registration data.

**Platform:** Solaris 5.10, 5.10 x86, 5.9, 5.8, 5.7, 5.6

**Subsystem:** Patch Management - Solaris

**Symptom:** Incorrect applicability calculation reports that bundles are not applicable.

**Resolution:** Fixed

## QCCR1D 108503

**Description:** For Solaris 7.82/7.81 patches that are not yet imported, the user interface freezes when you click the Vendor Documentation link in the patch browser.

**Platform:** Solaris 5.10, 5.10 x86, 5.9, 5.8, 5.7, 5.6

**Subsystem:** Patch Management - Solaris

**Symptom:** User interface freezes when you click the Vendor Documentation link in the patch browser.

**Resolution:** Fixed

## Patch Management - Unix

### QCCR1D 107109

**Description:** During patch remediation, some AIX packages fail and display the following error:

```
ValueError: invalid literal for int(): v>3
```

**Platform:** AIX

**Subsystem:** Patch Management - Unix

**Symptom:** During patch remediation, some AIX packages fail and display invalid literal errors.

**Resolution:** Fixed

## QCCR1D 108222

**Description:** Some notes do not display in the job-status details of the SA output display when you install two patches and one patch supersedes the other.

**Platform:** HP-UX

**Subsystem:** Patch Management - Unix - UI

**Symptom:** Not all notes display in the SA output display.

**Resolution:** Fixed

## Patch Management - Windows

### QCCR1D 107897

**Description:** Windows agents fail to report installed BSA Essentials Network (BSAEN) patches that have software releases in the form: /packages/any/nt/.

**Platform:** All Windows

**Subsystem:** Patch Management - Windows - Backend

**Symptom:** Windows agents fail to report installed and recommended BSAEN patches.

**Resolution:** Fixed

## SA Client

### QCCR1D 109052

**Description:** You cannot add a device group to a User group's access-control list if the device group has the same name as an existing user for that User group.

**Platform:** Independent

**Subsystem:** Server Groups UI

**Symptom:** You cannot add a device group to a User group's access-control list if the device group has the same name as an existing user for that User group.

**Resolution:** Fixed

## SA Installer

### QCCR1D 105675

**Description:** After a rollback from SA 7.82 to 7.80, the SA version is shown incorrectly. It still shows as 7.82 instead of 7.80.

**Platform:** Independent

**Subsystem:** SA Installer

**Symptom:** SA version is not updated after a rollback is applied.

**Resolution:** Fixed

## Search

### QCCR1D 110005

**Description:** Advanced searches failed to display a list of windows services for Windows 64-bit operating systems.

**Platform:** Windows Server 2008 x86-64, Windows Server 2003 x86-64

**Subsystem:** Search

**Symptom:** Advanced search failed to display a list of windows services for Windows 64-bit operating systems.

**Resolution:** Fixed

## Server Management - Managed Servers

### QCCR1D 80776

**Description:** The Network Association box in the device group properties page appears unchecked even if the group is already associated to a network.

**Platform:** Independent

**Subsystem:** Server Management - Managed Servers

**Symptom:** The Network Association box in the device group properties page appears unchecked even if the group is already associated to a network.

**Resolution:** Fixed

### QCCR1D 107142

**Description:** You cannot change the value of the Server Use or Server Stage fields in the SA Client.

**Platform:** Independent

**Subsystem:** Server Management - Managed Servers

**Symptom:** You cannot change the value of the Server Use or Server Stage fields in the SA Client.

**Resolution:** Fixed

### QCCR1D 108074

**Description:** After you use the Manage Boot Clients (MBC) to set server stage and use fields, the SA Client displays inconsistent field information, but the SAS Web Client and the OGFS display the correct information.

**Platform:** Independent

**Subsystem:** Server Management - Managed Servers

**Symptom:** The SA Client displays inconsistent field information.

**Resolution:** Fixed

## Server Module (SMO)

### QCCR1D 101980

**Description:** If you scan a server for its runtime state, the software throws an exception and does not return any information.

**Platform:** Linux

**Subsystem:** Server Module

**Symptom:** If you scan a server for its runtime state, the software throws an exception and does not return any information.

**Resolution:** Fixed

### QCCR1D 105810

**Description:** When you perform a runtime state scan of a server, it does not display the existing logged-in users.

**Platform:** CentOS 5

**Subsystem:** Server Module

**Symptom:** Logged-in users are not displayed during a runtime state scan of the server.

**Resolution:** Fixed

## Software Management

### QCCR1D 99631

**Description:** You cannot force a server to reboot during a software remediation if the Suppress Reboot option is enabled.

**Platform:** Independent

**Subsystem:** Software Management - Backend - Remediate (Other)

**Symptom:** You cannot force the machine to reboot during a software remediation.

**Resolution:** Fixed

### QCCR1D 102471

**Description:** The server clock and the core clock are not synchronized, so reported remediation times can be inconsistent because some devices use the server clock and some the core clock.

**Platform:** Independent

**Subsystem:** Software Management - API - Package



**Symptom:** The server clock and the core clock are not synchronized.

**Resolution:** Fixed

### QCCR1D 106606

**Description:** The `import_aix_packages` utility does not always properly detect patch files.

**Platform:** AIX

**Subsystem:** Software Management - Tools

**Symptom:** The `import_aix_packages` utility does not always properly detect patch files.

**Resolution:** Fixed

### QCCR1D 106847

**Description:** You receive an endless Invalid LPP file error when you try to import an AIX patch bundle.

**Platform:** AIX

**Subsystem:** Software Management - Tools

**Symptom:** Endless Invalid LPP file error is displayed when you try to import an AIX patch bundle.

**Resolution:** Fixed

### QCCR1D 107877

**Description:** The `yum` wrapper fails to treat the `kernel-default-base` script as an install-only package.

**Platform:** SuSE 11

**Subsystem:** Software Management - Backend - Remediate (RPM packages)

**Symptom:** The `yum` wrapper fails to treat the `kernel-default-base` script as an install-only package.

**Resolution:** Fixed

### QCCR1D 108442

**Description:** The Solaris package handler does not search the full custom attribute scope when it looks for the `SolarisAdminFile` custom attribute because the file is not attached to a device.

**Platform:** Solaris

**Subsystem:** Software Management - Backend - Remediate (Other)

**Symptom:** The `SolarisAdminFile` custom attribute is not honored when it is not attached to a device.

**Resolution:** Fixed

## QCCR1D 108776

**Description:** When Python-based daemons run out of file descriptors, they stop serving requests because 32-bit programs that use standard input/output are limited to 256 file descriptors.

**Platform:** Solaris

**Subsystem:** Data Access Engine

**Symptom:** Python-based daemons run out of file descriptors and stop serving requests.

**Resolution:** Fixed

## QCCR1D 109818

**Description:** If you select the `Hold reboots until the end option`, and then echo `OPSW_REBOOT` from a script in a software policy, the managed server does not reboot.

**Platform:** Windows

**Subsystem:** Software Management

**Symptom:** Echoing `OPSW_REBOOT` in a script does not reboot the server.

**Resolution:** Fixed

## QCCR1D 110199

**Description:** The `remediate servers operation (ServerService.startFullRemediateNow())` in the SA WebServices/Data Access Engine does not work. There is no device identifier for the job, so the remediate operation to the agent does not occur.

**Platform:** All Windows

**Subsystem:** Software Management - API - Software Policy

**Symptom:** The `remediate servers operation (ServerService.startFullRemediateNow())` in the SA WebServices/Data Access Engine does not work.

**Resolution:** Fixed

## Web Services Data Access Engine

### QCCR1D 105241

**Description:** The `AuthorizationService.findAuthorizedResources()` API call/authorization service fails for the `OperationConstants.READ_USER` operation, resulting in an Oracle error.

**Platform:** Independent

**Subsystem:** Web Services Data Access Engine

**Symptom:** Under certain circumstances, the SA authorization service results in an Oracle Error.

**Resolution:** Fixed

## QCCR1D 107878

**Description:** Import/Export packages time out in the SA Client if there is no direct access to port 443 of the Core Gateway.

**Platform:** Independent

**Subsystem:** Web Services Data Access Engine

**Symptom:** Import/export packages time out in the SA Client.

**Resolution:** Fixed

## QCCR1D 109256

**Description:** Linking to RHEL audit policy throws ORA-01795: maximum number of expressions in a list is 1000

**Platform:** Linux

**Subsystem:** Web Services Data Access Engine

**Symptom:** Importing an audit policy populates the audit with all rules for the imported policy. Changing the policy requires you to delete all the old rules. As there are more than 1000 rules in the audit policy, ORA-01796 occurs when using the DELETE operation.

**Resolution:** Fixed

## QCCR1D 109318

**Description:** Audit jobs and snapshots of most of the servers are completed, but the results are not available. The audit results calculations are aborted with Oracle error: ORA-00060: deadlock detected while waiting for resource.

**Platform:** Linux Solaris

**Subsystem:** Web Services Data Access Engine

**Symptom:** Oracle deadlock errors are displayed during audit results calculations.

**Resolution:** Fixed

## QCCR1D 110459

**Description:** You might experience performance issues in the dynamic-device group membership calculation if you run a large number of servers.

**Platform:** Independent

**Subsystem:** Web Services Data Access Engine

**Symptom:** You might experience performance issues in the dynamic-device group membership calculation if you run a large number of servers.

**Resolution:** Fixed

## QCCR1D 110988

**Description:** Inefficient SQL inline views cause the Selector Manager to return SQL queries with a longer execution time than normal.

**Platform:** Independent

**Subsystem:** Web Services Data Access Engine

**Symptom:** Inefficient SQL inline views cause the Selector Manager to return SQL queries with a longer execution time than normal.

**Resolution:** Fixed

## Fixed in SA 7.82

### Agents

#### QCCR1D 98761

**Description:** If an LPP fileset is generated with a type other than “F” (fileset), for example (MF), SA installs the fileset but cannot recognize it once installed.

**Platform:** AIX

**Subsystem:** Agents

**Symptom:** If an LPP fileset is generated with a type other than “F” (fileset), for example (MF), SA installs the fileset but cannot recognize it once installed.

**Resolution:** Fixed

#### QCCR1D 101916

**Description:** SA 7.80 Agent memory faults occur on AIX servers that have ethernet aliases configured.

**Platform:** AIX

**Subsystem:** Agents

**Symptom:** No interfaces reported on AIX servers with configured ethernet aliases.

**Resolution:** Fixed

#### QCCR1D 102457

**Description:** SA should support installing packages in an alternate target root path as Solaris `pkgadd` can using the `-R` argument.

**Platform:** Solaris

**Subsystem:** Agents

**Symptom:** SA does not support installation of Solaris packages to an alternate root path.

**Resolution:** Fixed

#### QCCR1D 103666

**Description:** A route index entry for an interface not found in the device map causes `bs_hardware` to fail.

**Platform:** Windows

**Subsystem:** Agents

**Symptom:** When running `bs_hardware.bat`, you see an error similar to:

```
'errors': {'interfaces': [['Traceback (most recent call last):\n',\n ' File ".\\nt\\nt_network\\nt_interface.py", line 347, in readConfig\n',\n ' File ".\\nt\\nt_network\\nt_interface.py", line 371, in\n getPrimaryInterfaceName\n',\n 'KeyError: 1\n']]},
```

in the output.

You may also notice that information about one or more network adapters is not updated correctly in the core.

**Resolution:** Fixed

## QCCR1D 103702

**Description:** In Solaris 10 U8 **Inventory** ► **Storage** ► **Disks** panel, Local Disks are not shown.

**Platform:** Solaris

**Subsystem:** Agents

**Symptom:** Local Disks are not shown in **Inventory** ► **Storage** ► **Disks** panel.

**Resolution:** Fixed

## QCCR1D 104589

**Description:** On HP-UX managed servers, the TZ variable is not picked up correctly from default system configuration files.

**Platform:** HP-UX

**Subsystem:** Agent

**Symptom:** The time zone environment variable is not set properly on HP-UX agents.

**Resolution:** Fixed

## Audit and Compliance

### QCCR1D 102870

**Description:** The standard output from custom script rules should be persisted to the Model Repository so that the data can be included in compliance reports.

**Platform:** Independent

**Subsystem:** Audit & Compliance Backend

**Symptom:** The standard output from pluggable checks is not transferred from the SA Model Repository to OMDB for reporting purposes.

**Resolution:** Fixed

## Automation Platform Extensions (APX)

### QCCR1D 82077

**Description:** The `apxtool new` command creates a source directory before user confirms directory creation.

**Platform:** Independent

**Subsystem:** APX tool

**Symptom:** Although the user is prompted to confirm the creation of the source directory, the `apxtool new` command creates the directory regardless of the user confirmation.

**Resolution:** Fixed

### QCCR1D 91006

**Description:** Should provide the ability to mark an APX as excluded in Approval Integration.

**Platform:** Independent

**Subsystem:** APX - Other

**Symptom:** Approval Integration behavior does not currently allow APXs (such as a control APX) to be run when Approval Integration is enabled for APXs. User should be able to exclude specified APXs from Approval Integration

**Resolution:** Fixed

### QCCR1D 91231

**Description:** MBC DHCP Cleanup APX dumps traceback errors if the `dhcpd.conf` file does not exist.

**Platform:** Independent

**Subsystem:** APX - Other

**Symptom:** When the DHCPd configuration file `/etc/opt/opsware/dhcpd/dhcpd.conf` is not present on the core server, the MBC APX `dhcp_cleanup_apx` dumps traceback errors. In SA 7.82 and later, if the `dhcp.conf` file is not present the following error will be displayed:

```
Error: The DHCP config file '/etc/opt/opsware/dhcpd/dhcpd.conf' does not exist on this core.
Skipping restart of dhcpd.
```

**Resolution:** Fixed

### QCCR1D 97914

**Description:** Should be able to right-click on an APX to run it when in the Device Group view.

**Platform:** Independent

**Subsystem:** APX - WebApp

**Symptom:** In the Device Groups view, there is no `Run Extension` option.

**Resolution:** Fixed

## QCCR1D 100912

**Description:** `apxtool` should populate `apx.cfg` with "folder name" if the user provides one when creating a new APX.

**Platform:** Independent

**Subsystem:** APX tool

**Symptom:** When a new APX description is created using the `apxtool new` command, the `apx.cfg` generated by the tool does not contain a property "folder\_path" even if the folder was specified on the command line by the user. As a result the following import command will not have enough information to upload the APX to the core.

**Resolution:** Fixed

## QCCR1D 103757

**Description:** When running the Manage Boot Clients (MBC) utility with large amounts of data, it sometimes throws an error when trying to read/interpret the progress file.

**Platform:** Independent

**Subsystem:** APX - WebApp

**Symptom:** When running MBC with large amounts of data, it sometimes throws an error when trying to read/interpret the progress file.

**Resolution:** Fixed

## QCCR1D 103836

**Description:** The APX Tool doesn't allow non-interactive execution when the `USER` variable is not present, even for root.

**Platform:** Solaris

**Subsystem:** APX tool

**Symptom:** In some cases it is not possible to run the APX Tool without being prompted for your username/password. This interfere with such non-interactive processes as patching the core.

**Resolution:** Fixed

## QCCR1D 106153

**Description:** User specified folders are ignored when creating a description for a new APX using the APX Tool.

**Platform:** Independent

**Subsystem:** APX tool

**Symptom:** When a user creates a description for a new APX using the APX Tool to specify the folder, the folder is not created. Instead, the description is placed in the default folder. For example:

```
apxtool new -t script -u com.opsware.apx.program -d ApxProgramTest src -F
```

After execution of the command above, the expected folder `src` is not created. Instead, the `com.opsware.apx.program` folder is created and the APX is loaded into it.

**Resolution:** Fixed

## Command Engine

### QCCR1D 97400

**Description:** The Global Shell window can terminate when selecting **Action ► Run** to launch an OGFS script.

**Platform:** Linux/Solaris

**Subsystem:** OCC Client Framework

**Symptom:** Global Shell window terminates when launching an OGFS script.

**Resolution:** Fixed

### QCCR1D 102836

**Description:** Cannot launch SA Client under Microsoft Windows 7.

**Platform:** Windows 7

**Subsystem:** OCC Client Framework

**Symptom:** Running the SA Client launcher under Windows 7 fails (no login dialog appears).

**Resolution:** Fixed

### QCCR1D 103175

**Description:** Dragging and dropping files does not support multi-selection copying for managed servers.

**Platform:** Windows

**Subsystem:** OCC Client Framework

**Symptoms:**

1. The user can select group of files and she/he drag them, but only one of the files is copied.
2. If the first selected object is a folder, then moving a mouse just changes the selection in the pane. If the first item is a file, then that file will be drag-n-dropped.

**Resolution:** Fixed

### QCCR1D 103955

**Description:** Cannot create an SA username that consists only of numbers.

**Platform:** Independent

**Subsystem:** OCC Web - Administration

**Symptom:** SA doe not allow user creation unless the name begins with an alpha character (a-zA-Z]).

**Resolution:** Fixed



## Data Access Engine

### QCCR1D 102962

**Description:** SA does not detect the operating system of a Windows Server 2008 managed server that has been upgraded to R2.

**Platform:** Windows 2008

**Subsystem:** Data Access Engine (spin)

**Symptom:** Win2008 R2 servers are shown in the SA Client with platform Unknown.

**Resolution:** Fixed

## DCML Tool (DET)

### QCCR1D 101734

**Description:** Audit Compliance Checks can not be deprecated with cbt tool during import.

**Platform:** Independent

**Subsystem:** DCML Export Tool (DET)

**Symptom:** Audit Compliance Checks can not be deprecated with cbt tool during import.

**Resolution:** Fixed

## Distributed Scripts

### QCCR1D 82714

**Description:** After running a distributed script, exporting job output to a report is limited to 10K. Users should be able to adjust output size.

**Platform:** Linux, Solaris, Windows

**Subsystem:** Distributed Scripts (DSE) (UI)

**Symptom:** Exporting the results of job output to a report from the Run Script dialog is limited to 10K. Therefore, job output is truncated.

**Resolution:** Fixed

## Extensible Discovery

### QCCR1D 102187

**Description:** SA should support a single script that reports multiple attributes/values for Extensible Discovery.

**Platform:** Independent

**Subsystem:** Extensible Discovery

**Symptom:** When using Extensible Discovery to discovery attributes about multiple instances you must pre-define the exact list of attributes to be discovered and stored - creating a separate script for each attribute. SA should support a single script that reports multiple attributes/values.

**Resolution:** Fixed

## Global File System

### QCCR1D 92767

**Description:** An OGFS IO Error occurs on Windows Servers with character set specified as CP936.

**Platform:** Linux/Solaris

**Subsystem:** Global Filesystem/Shell Backend

**Symptom:** Accessing Windows managed server with character set specified as CP936 in the OGFS environment results in I/O error.

**Resolution:** Fixed

## Installer

### QCCR1D 100931

**Description:** A rollback from SA 7.81 to 7.80 reports the error: Failed to remove software policy 'Storage Compliance Checks' (8710001)

**Platform:** Independent

**Subsystem:** Installer

**Symptom:** During rollback from SA 7.81 to 7.80, an error is reported in the console and stored in the correspondent log-file under `/var/log/opsware/opsware_installer:`

```
Removing com.opsware.server.module.storage.compliance
This will probably take a long time.
...
Failed to remove ServerModule from servers
Traceback (most recent call last):
File "src/smtool/ServerModule.py", line 352, in remediateSoftwarePolicy
.....
File "./asynccssl.py", line 390, in _raw_recv
error: (104, 'Connection reset by peer')
Failed to remove software policy 'Storage Compliance Checks' (8710001)
ProtocolError: <ProtocolError for 192.168.161.22/cogrpc.py: 404 Not found>
```

Rollback fails to remove Storage Compliance. After reporting the error, the rollback continues to the next component and successfully completes.

**Resolution:** Fixed

## QCCR1D 101197

**Description:** While patching an SA 7.80 Core, the installer reports an error: Exception: ERROR: There is no role by the name "Opware System Administrators."

**Platform:** Independent

**Subsystem:** Installer

**Symptom:** While patching a 7.8 core the installer reports the following error:

```
Traceback (most recent call last):
  File "./oi_patch_scripts/QC96315.py", line 253, in ?
  File "./oi_patch_scripts/QC96315.py", line 241, in main
  File "./oi_patch_scripts/patchQC.py", line 61, in apply
  File "./oi_patch_scripts/QC96315.py", line 46, in doApply
  File "./oi_patch_scripts/QC96315.py", line 169, in setPermissions
  File "./oi_patch_scripts/QC96315.py", line 163, in getAAARoleId
Exception: ERROR: There is no role by the name "Opware System Administrators"
```

However the installer handles that unexpected situations and successfully patches the core.

**Resolution:** Fixed

## QCCR1D 106279

**Description:** Software repository installation fails with OptimisticConcurrencyException error.

**Platform:** Linux

**Subsystem:** Installer

**Symptom:** Software repository installation fails with OptimisticConcurrencyException error.

**Resolution:** Fixed

## OS Provisioning

### QCCR1D 82514

**Description:** The Manage Boot Clients (MBC) utility's facility dropdown box uses the display name, but the DHCPD Cleanup facility dropbox uses the short name.

**Platform:** Independent

**Subsystem:** OS Provisioning - OCC - client

**Symptom:** In the MBC General Form, the Facility Dropdown box shows the Facility Display name. However in the DHCPD Cleanup tool, the Facility dropdown box shows the Facility Short name

**Resolution:** Fixed

### QCCR1D 92597

**Description:** OS Provisioning VMWare ESX 3.5 U4 fails with a timeout due to firewall issues.

**Platform:** VMWare ESX 3.5 Update 4

**Subsystem:** OS Provisioning Backend

**Symptom:** Near the end of the OS Provisioning process for VMWare ESX 3.5 U4, the job will fail with the following error:

```
FAILED: Retry transition timed out
```

**Resolution:** Fixed

## QCCR1D 96317

**Description:** Manage Boot Clients (MBC) iLO: Server power on fails if the MAC address that belongs to a PCI/Mezzanine NIC is used instead of the built-in Server NIC.

**Platform:** All Cores with HP iLO interfaces

**Subsystem:** OS Provisioning Backend

**Symptom:** When using a PCI/Mezzanine network card, the server fails to be powered on via HP iLO with an error similar to the following:

```
Updated 1 Cust Attrs. The MAC address specified (XX-XX-XX-XX-XX-XX) doesn't
match any of the ones reported by iLO
(XX-XX-XX-XX-XX-XX,XX-XX-XX-XX-XX-XX,XX-XX-XX-XX-XX-XX,XX-XX-XX-XX-X
X-XX-XX,XX-XX-XX-XX-XX-XX), skipping iLO actions.
```

**Resolution:** Fixed

## QCCR1D 96408

**Description:** Performing OS Provisioning using the Manage Boot Clients (MBC) utility on Linux servers with multiple NICs can result in multiple server records.

**Platform:** Linux

**Subsystem:** OS Provisioning Backend

**Symptom:** On servers that have multiple NICs, using the Managed Boot Client (MBC) utility to perform OS provisioning can result in two server records for the same server if the MAC address specified in MBC is different from the MAC address of the PXE-booted network card.

**Resolution:** Fixed

## QCCR1D 97493

**Description:** WinPE-based OS provisioning can fail when editing WinPE build scripts to specify a domain, username, and password for the Windows OS Media (Samba) server.

**Platform:** Windows

**Subsystem:** OS Provisioning Backend

**Symptom:** WinPE-based OS provisioning can fail when editing WinPE build scripts to specify a domain, username, and password for the Windows OS Media (Samba) server.

**Resolution:** Fixed

## QCCR1D 98240

**Description:** The Manage Boot Clients (MBC) utility takes longer than it should when given a large number of server records to create.

**Platform:** Independent

**Subsystem:** OS Provisioning

**Symptom:** MBC Web APX times out when it must create a large number of server records.

A timeout parameter has been introduced in Multiple Client CSV form that you can use to enter a reasonable timeout value. The default value is 30 minutes.

**Resolution:** Fixed

## QCCR1D 99477

**Description:** The character set in the Manage Boot Clients (MBC) HTML should be set to `utf8`, instead of `iso-8859-1`.

**Platform:** Independent

**Subsystem:** OS Provisioning - OCC - client

**Symptom:** MBC Web APXs use the character set `iso-8859-1`. This should be changed to `utf-8` so that foreign characters are decoded correctly.

**Resolution:** Fixed

## QCCR1D 99976

**Description:** HP RAID controller configuration fails for linux5-based PXE boot with an error.

**Platform:** Linux

**Subsystem:** OS Provisioning Backend

**Symptom:** HP RAID controller configuration fails for linux5-based PXE-boot with the error:

`This version of linux is not supported`

**Resolution:** Fixed

## QCCR1D 100476

**Description:** The Manage Boot Clients (MBC) utility should handle lack of write access to server records more gracefully.

**Platform:** Independent

**Subsystem:** OS Provisioning Backend

**Symptom:** If an SA user lacks write access to server records (due to lack of `read+write` access on customers to which those servers belong), the MBC program APX outputs `trackback` errors.

**Resolution:** Fixed

## QCCR1D 102332

**Description:** The Manage Boot Clients (MBC) utility can assign a server to a customer that the user does not have write access to.

**Platform:** Independent

**Subsystem:** OS Provisioning Backend

**Symptom:** When a user has Read Only access to a customer and MBC is run with a server record with the `customer=Read Only`, it creates the server record and assigns it to the Read-Only customer.

**Resolution:** Fixed

## QCCR1D 102341

**Description:** The Manage Boot Clients (MBC) utility web APX may fail to read the progress file when it is processing a large number of servers.

**Platform:** Independent

**Subsystem:** OS Provisioning Backend

**Symptom:** When running MBC with large amounts of data, it can throw an error when trying to read/interpret the progress file.

**Resolution:** Fixed

## QCCR1D 102449

**Description:** When provisioning Windows 2008 R2 VL, the value specified for the `ProductKey` custom attribute is not passed correctly and causes the provisioning to stall with an invalid key error.

**Platform:** Windows 2008 R2

**Subsystem:** OS Provisioning Backend

**Symptom:** OS Provisioning jobs will fail, if the user is relying on Custom Attribute substitution of the `ProductKey` element of the `unattend.xml`.

**Resolution:** Fixed

## QCCR1D 102830

**Description:** You cannot enter a timeout value for pre/post remediate scripts while creating a new OS Sequence.

**Platform:** Independent

**Subsystem:** OS Provisioning - OCC - Client

**Symptom:** The timeout value field in the OS Sequence dialog was overlaid by another field, so there was no way to enter a timeout value.

**Resolution:** Fixed

## QCCR1D 103911

**Description:** OS Provisioning should support HP Nitrogen blade servers equipped with Emulex cards.

**Platform:** Independent

**Subsystem:** OS Provisioning Backend

**Symptom:** OS Provisioning fails on HP Nitrogen blade servers equipped with Emulex HBAs. The error is seen when Flex-FC mode is enabled on the Emulex HBAs.

**Resolution:** Fixed

## QCCR1D 103913

**Description:** OS Provisioning should support Broadcom NetXtreme IITM 5708 Gigabit Ethernet NICs.

**Platform:** Windows

**Subsystem:** OS Provisioning

**Symptom:** WinPE images used for Windows provisioning need the driver for Broadcom NetXtreme IITM 5708 Gigabit Ethernet NICs.

**Resolution:** Fixed

## QCCR1D 104679

**Description:** VMWare ESX 3.5 OS Provisioning fails on certain HP ProLiant servers due to a disk device name change from `cciss/c0d0` to `sda`.

**Platform:** VMWare ESX 3.5

**Subsystem:** OS Provisioning Backend

**Symptom:** VMWare ESX 3.5 OS Provisioning fails on certain HP ProLiant servers due to a disk device name change from `cciss/c0d0` to `sda`.

**Resolution:** Fixed

## QCCR1D 104764

**Description:** Windows Server 2008 R1 provisioning should support the Abstract PRO/1000 MT Single Port Adapter.

**Platform:** Windows Server 2008 R1

**Subsystem:** OS Provisioning Backend

**Symptom:** Provisioning a Windows Server 2008 R1 fails due to no driver for the Abstract PRO/1000 MT Single Port Adapter.

**Resolution:** Fixed

## Patch Management - Solaris

### QCCR1D 102345

**Description:** During import of Solaris patches, create\_db fails with the error UnboundLocalError: local variable 'metaDataFound' referenced before assignment.

**Platform:** Solaris

**Subsystem:** Patch Management - Solaris

**Symptom:** During Solaris patch import, the error UnboundLocalError: local variable 'metaDataFound' referenced before assignment occurs and import aborts.

**Resolution:** Fixed

### QCCR1D 103604

**Description:** During Solaris patch import, show action returns a traceback error AttributeError: 'SolPatchBundle' object has no attribute platforms.

**Platform:** Solaris

**Subsystem:** Patch Management - Solaris

**Symptom:** During Solaris patch import, show action returns a traceback error AttributeError: 'SolPatchBundle' object has no attribute 'platforms'.

**Resolution:** Fixed

## Patch Management - SUSE Linux

### QCCR1D 102109

**Description:** Remediation of Software Policies and Patch Policies fails on SUSE 11x86\_64 platforms.

**Platform:** Independent

**Subsystem:** Patch Management - Suse Linux

**Symptom:** If a managed server is not configured to use a gateway, then hostnames such as "theword" do not resolve correctly.

**Resolution:** Fixed

## Patch Management - Unix

### QCCR1D 83879

**Description:** During AIX Patching, transfer of a large amount of APAR related data degrades core performance.

**Platform:** AIX

**Subsystem:** Patch Management - Unix - Backend



**Symptom:** This issue occurs during the first registration of AIX machines and when applying a substantial patch to a server that is already managed by SA. SA recognizes only individual APARs rather than bundles, products, and MLs. Since bundles, products, and especially MLs can consist of hundred or thousands of APARs, it is quite common for each AIX machine to have thousands or even tens of thousands of APARs associated with it. Each APAR registered represents a database insert and a variety of other actions on the SA core. Each insert must be sent across any mesh and each core in the mesh will also have to perform an insert. Thus, performance is degraded.

**Resolution:** Fixed

## QCCR1D 93840

**Description:** APARFilesetUnit can become incorrectly associated with both BaseFilesetUnit and UpdateFilesetUnit and cause remediation to fail.

**Platform:** AIX

**Subsystem:** Patch Management - Unix - Backend

**Symptom:** Remediation failures occur when trying to install certain APARs.

**Resolution:** Fixed

## Patch Management - Windows

### QCCR1D 102628

**Description:** The server browser does not show any patches for the server and returns an error if the count of all patches in all attached Windows patch policies is 1000 or more.

**Platform:** Independent

**Subsystem:** Patch Management - Windows - Backend

**Symptom:** The server browser does not show any patches for the server and returns the error:

`WindowsPatchService.getDevicePatches` returns an ORA-01795 error.

**Resolution:** Fixed

### QCCR1D 105637

**Description:** Windows Server 2008 R2 patching support in SA 7.5.05 and 7.82.

**Platform:** Windows Server 2008

**Subsystem:** Patch Management - Windows - Backend

**Symptom:** SA does not extract Windows Server 2008 patches in SA 7.50.05 and 7.82.

**Resolution:** Fixed

## Red Hat Network Import

### QCCR1D 105106

**Description:** Changes to the Red Hat Network caused `rhn_import` to fail while attempting to download packages.

**Platform:** Solaris, Linux

**Subsystem:** Red Hat Network Import

**Symptom:** User runs `rhn_import` and sees the following error although the RHN credentials are valid: `RHNetworkAuthError: RHN Error: Login failed - error.invalid_login.`

**Resolution:** Fixed

### QCCR1D 106016

**Description:** Red Hat Network Import fails with an Unexpected error: `AttributeError: 'int' object has no attribute 'strip'.`

**Platform:** Red Hat Enterprise Linux

**Subsystem:** RHN Import

**Symptom:** Red Hat Network Import fails with the error:

Unexpected error: `AttributeError: 'int' object has no attribute 'strip'`

**Resolution:** Fixed

## Server Module

### QCCR1D 105360

**Description:** Server Module packages and patches are not working on AIX6.1.

**Platform:** AIX 6.1

**Subsystem:** Server Module - Packages and Patches

**Symptom:** Selecting Registered Software should trigger installation of the Server Module packages and patches via:

- audit
- snapshot
- server browser (inventory)

and return all registered packages and patches on the target server but does not.

**Resolution:** Fixed

## Software Management

### QCCR1D 93946

**Description:** Software policy compliance shows an incorrect number of items when there is a Solaris patch cluster and Cluster children in the policy.

**Platform:** Solaris

**Subsystem:** Software Management - API - Compliance

**Symptom:** Policy compliance shows an incorrect number of items when there are both Solaris patch cluster and Cluster children in the policy.

**Resolution:** Fixed

## QCCR1D 94106

**Description:** During a remediation that includes a software policy created by importing AIX packages, if you select preview then start the job, the job appears to succeed but does not.

**Platform:** AIX

**Subsystem:** Software Management - Backend - Remediate (Other)

**Symptom:** Remediation fails when a software policy created by importing AIX packages is used and preview is selected before starting the job.

**Resolution:** Fixed

## QCCR1D 100046

**Description:** When `OPSWpackage_paths` is set, the agent does not attempt to download packages that are missing from the stage directory.

**Platform:** Independent

**Subsystem:** Software Management - Backend - Remediate (Other)

**Symptom:** When `OPSWpackage_paths` is set, the agent does not attempt to download packages that are missing from the stage directory.

**Resolution:** Fixed

## QCCR1D 101517

**Description:** Software compliance shown as non-compliant for some remediate jobs.

**Platform:** Independent

**Subsystem:** Software Management - API - Compliance

**Symptom:** Software compliance show as non-compliant for remediate jobs.

**Resolution:** Fixed

## QCCR1D 101673

**Description:** RPM remediation can fail if a newer version is available in the Software Repository.

**Platform:** Linux

**Subsystem:** Software Management - Backend - Remediate (RPM packages)

**Symptom:** Remediation failure with dependency resolution error.

**Resolution:** Fixed

## QCCR1D 102650

**Description:** Remediation of more than 99 servers at the same time throws an immediate error.

**Platform:** Independent

**Subsystem:** Software Management - API - Software Policy

**Symptom:** Remediation of more than 99 servers at the same time throws an immediate error.

**Resolution:** Fixed

## QCCR1D 106460/101961

**Description:** Detaching a Software policy removes the policy but does not remove the software from a server if the Remediate Now option is not selected.

**Platform:** Independent

**Subsystem:** Software Management - API - Software Policy

**Symptom:** When you detach a Software Policy from a server but do not specify Remediate Now, the policy is removed but the software remains on the server.

**Resolution:** Fixed

## QCCR1D 106463/99524

**Description:** Mismatched packages in Install/Uninstall Sequence cause remediation failure.

**Platform:** Independent

**Subsystem:** Software Management - Backend - Remediate (Other)

**Symptom:** If the packages specified in a Software Policy with a split 'Install Sequence'/'Uninstall Sequence' are not an exact match (at least that all of the packages in the install sequence are also in the uninstall sequence), a detach and remediate of the software policy will initially appear to succeed, but the software policy will remain in the view with a red x. Subsequent attempts to remediate the detached policy will fail with a `Will not remove error`, stating that the package was not installed by SA and has never been adopted.

**Resolution:** Fixed

## Virtualization

### QCCR1D 103752

**Description:** When a virtual machine is created on a VMWare ESX 3.5 server using the SA Client, with guest OS "Microsoft Windows Server 2008 (32bit)", OS installation is completed but the Agent is not installed to the server because network is not set.

**Platform:** VMWare ESX 3.5 VM with guest OS Microsoft Windows Server 2008 (32bit)

**Subsystem:** Virtualization - Backend (VMWare)

**Symptom:** When a virtual machine is created on a VMWare ESX 3.5 server using the SA Client, with guest OS "Microsoft Windows Server 2008 (32bit)", OS installation is completed but the Agent is not installed to the server because network is not set.

**Resolution:** Fixed

## Web Services Data Access Engine

### QCCR1D 104013

**Description:** SQL queries used for calculating Device Group local membership can take a long time in large scale environments.

**Platform:** Independent

**Subsystem:** Web Services Data Access Engine (Twist)

**Symptom:** SQL queries used for calculating Local membership take long time in large scale environments. Query speed can be improved by adding a cache table.

**Resolution:** Fixed

## Fixed in SA 7.81

### Agents

#### QCCR1D 82756

**Description:** Agent Deployment fails on Solaris servers when using `csch` shell.

**Platform:** Solaris

**Subsystem:** Agent Deployment/Upgrade Backends

**Symptom:** Agent cannot be deployed to Solaris servers using `csch` shell. If the shell is set to `bash` or `sh`, the agent will be deployed without a problem.

**Resolution:** Fixed

#### QCCR1D 92264

**Description:** The Agent Deployment Tool (ADT) fails on a Virtuozzo host with the error: Agent port in use.

**Platform:** Virtuozzo

**Subsystem:** Agent Deployment/Upgrade Backends

**Symptom:** ADT fails with the error: Agent port in use on Virtuozzo host which already has one of its guest container running an SA agent. ADT fails with the following error:

```
<timestamp>: Begin AgentPort test...
<timestamp>: {0} test failed
sh-3.00# \netstat -na | \grep ":1002 " | \grep LISTEN
tcp 0 0 0.0.0.0:1002 0.0.0.0:* LISTEN
```

**Resolution:** Fixed

## QCCR1D 93169

**Description:** Create Zone Agent installations fail with the error: /opt/opsware/agent/pylibs/coglib/wordclient.pyc': [Errno 2] No such file or directory.

**Platform:** Solaris 10

**Subsystem:** Agent

**Symptom:** For a Solaris 10 hypervisor whose agent is installed in a non-default directory, Create Zone job's install agent step fails with the error above.

**Resolution:** Fixed

## QCCR1D 93940

**Description:** Windows agent authentication system is missing from some Windows servers after agent is successfully installed.

**Platform:** Windows

**Subsystem:** Agent

**Symptom:** Windows agent authentication system is missing from some Windows servers after agent is successfully installed.

**Resolution:** Fixed

## QCCR1D 98995

**Description:** Need OGS/ROSH support in Solaris 8 and 9 branded zones running in Solaris 10 SPARC containers.

**Platform:** Solaris 8 & Solaris 9

**Subsystem:** Agent

**Symptom:** Need OGS/ROSH support in Solaris 8 and 9 branded zones running in Solaris 10 SPARC containers.

**Resolution:** Fixed

## QCCR1D 100053

**Description:** Solaris agent does not report MAC address.

**Platform:** Solaris

**Subsystem:** Agent

**Symptom:** Solaris agent does not report MAC address.

**Resolution:** Fixed

## Application Automation Extensions (APXs)

### QCCR1D 93600

**Description:** In a multimaster mesh in a very large Facility with a large amount server data, the MBC/DHCPD Tool takes several minutes to process input.

**Platform:** VMWare ESX/Linux/Solaris

**Subsystem:** MBC/DHCPD

**Symptom:** In a multimaster mesh in a very large Facility with a large amount server data, the MBC/DHCPD Tool takes several minutes to process input.

**Resolution:** Fixed

## QCCR1D 99364

**Description:** Manage Boot Client (MBC) DHCPd cleanup fails to load when the facility short name is different from the facility display name.

**Platform:** Independent

**Subsystem:** APX - WebApp

**Symptom:** When the DHCP cleanup form tries to load, if the facility short name and display name differ, an exception is thrown.

**Resolution:** Fixed

## Application Configuration

### QCCR1D 93633

**Description:** Snapshots size is too large.

**Platform:** Independent

**Subsystem:** Application Configuration Backend

**Symptom:** Snapshot size is too large and causes timeout errors.

**Resolution:** Fixed

## Audit and Compliance

### QCCR1D 73612

**Description:** Audit with Archive full file contents selected always checks/remediates filesize and contents.

**Platform:** Independent

**Subsystem:** Audit and Compliance - Backend

**Symptom:** The label Archive the full file contents was misleading. The label should be changed to Archive the file for remediation. By design, you can only remediate a file audit where the source file was archived and the remediate always replaces the entire file.

**Resolution:** Fixed

### QCCR1D 97634

**Description:** Reports for Application Configuration can have incorrect or mismatched session ID and Compliance Summary data.

**Platform:** Independent

**Subsystem:** Application Configuration Backend

**Symptom:** Reports for Application Configuration can have incorrect or mismatched session ID and Compliance Summary data.

**Resolution:** Fixed

### QCCR1D 90961

**Description:** Compliance Check Editor: Update cache events are not generated when compliance checks properties are modified.

**Platform:** Independent

**Subsystem:** Audit & Compliance UI

**Symptom:** No update events are generated when compliance check properties are modified.

**Resolution:** Fixed

### QCCR1D 94467

**Description:** Implement the capability to export audit results as an XML or JSON file.

**Platform:** Independent

**Subsystem:** Audit & Compliance Backend

**Symptom:** You can now open an audit result and export the data as a JSON or XML file.

**Resolution:** Fixed

### QCCR1D 98718

**Description:** Audit that prints ASCII characters > 128 to `stdout` causes exception.

**Platform:** Windows

**Subsystem:** Audit and Compliance

**Symptom:** An audit will fail with an exception caused by an ASCII codec error.

**Resolution:** Fixed

### QCCR1D 99537

**Description:** If an audit has one non-compliant setting within a rule that has multiple checks, all checks are marked as non-compliant.

**Platform:** Independent

**Subsystem:** Audit & Compliance Backend

**Symptom:** When an audit is conducted and the results are checked, it appears that one non-compliant setting within a rule that has multiple checks will cause all the checks to be marked as non-compliant.

**Resolution:** Fixed



## Command Engine (OCC)

### QCCR1D 83027

**Description:** Removing facility permissions does not reliably revoke users' ability to run a scan.

**Platform:** Independent

**Subsystem:** Command Engine - OCC Client Framework

**Symptom:** Under certain circumstances, although a user's permissions for a facility appear to have been successfully revoked, that user can still perform certain tasks as if the permissions had not been revoked.

**Resolution:** Fixed

### QCCR1D 100078

**Description:** ZIP installation paths - allow special characters in environment variables for Windows x86-64 versions.

**Platform:** Windows x86-64

**Subsystem:** OCC Client Framework

**Symptom:** The Windows x86-64 versions have environment variables for the program file directories which include special characters (parentheses). For example, the environment variable `%ProgramFiles(x86)%` represents the directory `C:\Program Files (x86)`.

SA currently doesn't allow special characters within environment variables when changing the default installation path of ZIP file packages.

**Resolution:** Fixed

### QCCR1D 84111

**Description:** In the Device Group browser, when you select Device Membership and choose the Import option to import servers through a CSV file, you are unable to change focus to another window.

**Platform:** Independent

**Subsystem:** OCC Client Framework

**Symptom:** Entire interface is locked because of the modal dialogue window which prevents users from checking data on other windows.

**Resolution:** Fixed

## Custom Extensions

### QCCR1D 92622

**Description:** SA uses the wrong IP address to contact the Core on a system with virtual IPs on same subnet.

**Platform:** Independent

**Subsystem:** Custom Extensions (CX) - Single user mode helper

**Symptom:** In single user mode, a packet to a specific IP address is assigned a different address. Currently, in this situation, SA appears to use DESTINATION GATEWAY NETMASK and, when routes are added, does not consider interfaces.

**Resolution:** Fixed

## Data Access Engine

### QCCR1D 95875

**Description:** Remote commands can take too long to initiate in a remote datacenter.

**Platform:** Independent

**Subsystem:** Data Access Engine (Spin)

**Symptom:** Remote commands can take as much as 120 seconds before they are finally initiated on the remote datacenter. Short scripts are also executed in serial instead of in parallel.

**Resolution:** Fixed

### QCCR1D 99604

**Description:** Should support Windows Server 2008 R2 as a managed platform.

**Platform:** Windows Server 2008 R2

**Subsystem:** Data Access Engine (Spin)

**Symptom:** Should support Windows Server 2008 R2 as a managed platform (OS provisioning, compatible agent and patching).

**Resolution:** Fixed

## Gateways

### QCCR1D 93982

**Description:** The Gateway (opswgw) chroot environment on Linux x86\_64 is missing the /lib64 directory.

**Platform:** Linux

**Subsystem:** Gateway

**Symptom:** When the Gateway (opswgw) is installed on a Linux x86\_64 system, the /lib64 directory is not created in the opswgw chroot environment. This can prevent the gateway from being able to properly egress proxied TCP connections, failing with a name lookup error.

**Resolution:** Fixed

## Global File System

### QCCR1D 100563

**Description:** Multiple vnodes pointing to the same inode.

**Platform:** Independent

**Subsystem:** Global Filesystem/Shell Backend

**Symptom:** Intermittent failure in `ogfs_forget()` caused by two vnodes in OGFS kernel module got mapped to same inode in the hub. This occurs when the directory `/opsw/.user` is accessed from scoped and unauthenticated sessions. The cause of the failure is identified as the 'tag' used to create unique inode does not take scope into consideration.

**Resolution:** Fixed

## Model Repository

### QCCR1D 93757

**Description:** The database user `truth` statistics collection job fails with error: `ORA-01000: maximum open cursors exceeded`.

**Platform:** Independent

**Subsystem:** Model Repository (Truth)

**Symptom:** `ORA-01000: maximum open cursors exceeded - set cursor_sharing = exact` (shell script)

**Resolution:** Fixed

### QCCR1D 110310

**Description:** In SA 9.0 the Waypurge Garbage Collection PL/SQL code was modified to fix a bug that did not delete all the child records from the `session_service_instances` table.

The CORD bug backports the changes made in SA 9.0 into SA 7.80.03.

**Platform:** Independent

**Subsystem:** Model Repository (Truth)

**Symptom:** Data in the `SESSION_SERVICE_INSTANCES` table is poor because Garbage Collection is not working properly, so the number of records increases over time.

**Resolution:** Fixed

## Networking

### QCCR1D 92622

**Description:** System uses the wrong IP address to contact the core on a system with virtual IPs on same subnet.

**Platform:** Solaris

**Subsystem:** CX - Single user mode helper

**Symptom:** System uses wrong IP address to contact core on a system with virtual IPs on same subnet

**Resolution:** Fixed

## OS Provisioning

### QCCR1D 89237

**Description:** Provisioning a VMWare ESX 3.5 VM with Windows Server 2008 fails due to permission issues.

**Platform:** Windows Server 2008/VMWare ESX

**Subsystem:** OS Provisioning - OCC - client

**Symptom:** Running a Windows Server 2008 OS Sequence on a VM server Fails with the error message: Results not Found.

**Resolution:** Fixed

### QCCR1D 90094

**Description:** New version of the HP NC-Series Broadcom 1Gb Driver for Windows Server 2003 available

**Platform:** Windows Server 2003

**Subsystem:** OS Provisioning - Backend

**Symptom:** Support needed for the HP NC-Series Broadcom 1Gb driver for Windows Server 2003.

**Resolution:** Fixed

### QCCR1D 93128

**Description:** Re-open an OS Sequence with a pre -/ post-Remediate script that is run as root. Name/Password/Domain fields become editable.

**Platform:** Independent

**Subsystem:** OS Provisioning - OCC - Client

**Symptom:** Create an OS Sequence with Remediation enabled. Specify a Saved script and to run as root without password. Save the OS Sequence and close the object window. Open the OS Sequence again and go to the Remediation task view. At this point the Name/Password/Domain fields and should not be.

**Resolution:** Fixed

### QCCR1D 93847

**Description:** Windows Server 2008 OS provisioning fails due to inability to resolve hostnames.

**Platform:** Windows Server 2008

**Subsystem:** OS Provisioning Backend

**Symptom:** When the client boots WinPE and attempts to mount the media, it cannot, because the client cannot resolve any hostnames.

**Resolution:** Fixed

## QCCR1D 95918

**Description:** The physical memory in a Windows VM created by Microsoft Hyper-V is not correctly determined.

**Platform:** Independent

**Subsystem:** OS Provisioning Backend

**Symptom:** SA does not correctly determine the physical memory in a Windows VM created by Microsoft Hyper-V.

**Resolution:** Fixed

## QCCR1D 99603

**Description:** An OS Provisioning Media Server import fails to import Windows Server 2008 SP2 media.

**Platform:** Windows Server 2008 SP2

**Subsystem:** OS Provisioning Backend

**Symptom:** When attempting to import Windows Server 2008 SP2 media to the OS Provisioning Media Server, you receive an OS detection error and the media fails to import. Windows Server 2008 SP1 media imports successfully.

**Resolution:** Fixed

## Patch Management - Solaris

### QCCR1D 90961

**Description:** A Solaris patch policy attached through a Device Group does not display an inherited icon and tooltip.

**Platform:** Solaris

**Subsystem:** Patch Management - Solaris

**Symptom:** When a software policy is attached through a Device Group, on the device's patch policy view, the policy should be shown as inherited from the group (a different icon) and tooltip on mouseover but does not.

**Resolution:** Fixed

### QCCR1D 91806

**Description:** A Solaris patch policy attached through a device group does not show inherited icon and tooltip.

**Platform:** Solaris

**Subsystem:** Patch Management - Solaris

**Symptom:** Solaris patch policies attached through device group do not show inherited icon and tooltip. For both windows patch policy and SW policy, if the policy attached through a device group, on a device's patch policy view, the policy will be shown as inherited from group (different icon) and tooltip when mouse over to this policy. This is not true for Solaris patch policy.

**Resolution:** Fixed

### QCCR1D 92173

**Description:** The DCML Exchange tool (DET/CBT) does not update platform associations for units on second import after an export using the `-incr` argument.

**Platform:** Independent

**Subsystem:** Patch Management - Solaris

**Symptom:** The platform list for a patch in the target core is not updated during a DET import with the `-incr` option.

**Resolution:** Fixed

### QCCR1D 92426

**Description:** A Solaris local zone's Server Browser Installed Patches list does not show a patch that was installed through a Patch Policy remediated at the global zone level.

**Platform:** Solaris

**Subsystem:** Patch Management - Solaris

**Symptom:** Create a patch policy applicable to both local and global zones, attach patch policy only to the global zone and remediate. The server browser does not show patches as installed for the local zone.

**Resolution:** Fixed

### QCCR1D 93225

**Description:** Modification of a platform in a Solaris patch policy is not validated against the platforms of the servers attached to the policy.

**Platform:** Solaris

**Subsystem:** Patch Management - Solaris

**Symptom:** Modification of Solaris patch policy platform does not take into account the existing attached server platforms. This can lead to errors in the compliance scan on the server.

**Resolution:** Fixed

## Patch Management - Windows

### QCCR1D 79697

**Description:** The Windows Patch Management database incorrectly identifies required patches.

**Platform:** Windows

**Subsystem:** Patch Management - Windows

**Symptom:** Compliance tests can produce a result that disagree with the Patches Needed view, and the patch remediation job. This is due to use of the <software\_release> field of the RecommendedPatch record which is a GUID for the Microsoft patch versus the Microsoft Q/KB number.

**Resolution:** Fixed

### QCCR1D 83968

**Description:** When Windows servers with no recommended patches are scanned for addition to an SA Core, they are not moved out of the Scan Needed state.

**Platform:** Windows

**Subsystem:** Patch Management - Windows - Backend

**Symptom:** Windows servers with no recommended patches do not move out of Scan Needed state after being scanned for addition to a core.

**Resolution:** Fixed

### QCCR1D 90509

**Description:** Windows patching: Right Click ► **Set Availability** doesn't save availability status

**Platform:** Windows

**Subsystem:** Patch Management - Windows - UI

**Symptom:** Right clicking on a Windows patch and selecting **Set Availability** ► **Available** to set the availability does maintain the selected state.

**Resolution:** Fixed

### QCCR1D 92308

**Description:** Software Policies that contains patches that supersede other patches in the same policy can cause remediation failures.

**Platform:** Windows

**Subsystem:** Patch Management - Windows

**Symptom:** MBSA's metadata does not declare supersedence relationships correctly, or at least how SA expects them to be declared which can cause patches that have been superseded to fail when they are installed in the wrong order.

**Resolution:** Fixed

### QCCR1D 93393

**Description:** A Patch Scan can fail if an exception for a patch exists in a policy attached to a server and the server's device group

**Platform:** Windows

**Subsystem:** Patch Management - Windows - Backend

**Symptom:** When you attach a policy to a server, attach the policy to the server's device group, set an exception for the server for a patch in the policy, and then invoke a patch compliance scan on the server, the following error occurs:

An error occurred while calculating compliance results. The Command Engine either was unable to contact the Web Services Data Access Engine (twist) or the twist returned a generic error.

**Resolution:** Fixed

## QCCR1D 93496

**Description:** The timeout for installing a Windows hotfix can be reduced from 60 minutes.

**Platform:** Windows

**Subsystem:** Patch Management - Windows - Backend

**Symptom:** A Windows hotfix installation times out after 60 minutes when it should timeout after 10 minutes.

**Resolution:** Fixed

## QCCR1D 94132

**Description:** A Windows server's **Recommended Patches** list may not display certain patches as recommended even though the patches are recommended by the patch scanning engine.

**Platform:** Windows

**Subsystem:** Patch Management - Windows - UI

**Symptom:** The **Recommended Patch** list is missing certain patches even though a patch scan on the managed server showed the patches as needed.

**Resolution:** Fixed

## QCCR1D 97792

**Description:** Reports for Patch Management can have incorrect or mismatched session ID in the compliance summary table.

**Platform:** Independent

**Subsystem:** Patch Management - Windows - Backend

**Symptom:** Reports for Patch Management can have incorrect or mismatched session ID in the compliance summary table.

**Resolution:** Fixed

## Powershell

### QCCR1D 90201

**Description:** The Powershell cmdlet fails with the error `Set-SasServer: No such operation 'update'`.

**Platform:** Windows 2003

**Subsystem:** Web Services



**Symptom:** When trying to modify the description of a server using the Powershell cmdlet error appears: Set-SasServer: No such operation 'update'

**Resolution:** Fixed

## SA Client

### QCCR1D 92982

**Description:** An Advanced Search using the Agent Discovery Date Between rule creates a dynamic group with incorrect date values.

**Platform:** Independent

**Subsystem:** Search

**Symptom:** When the user creates a dynamic server group from Advanced Search results using Agent Discovery Date Between Date1 AND Date2, the rule is changed to Between Date1-minus-1-day AND Date1.

**Resolution:** Fixed

### QCCR1D 93159

**Description:** A query on the Job Table does not return the correct results when a job ID is specified in the filter.

**Platform:** Independent

**Subsystem:** Search

**Symptom:** The query on the job table is not returning the right results when a job ID is specified in the filter.

**Resolution:** Fixed

### QCCR1D 94277

**Description:** URL for the deployed web services is invalid.

**Platform:** Independent

**Subsystem:** Web Services

**Symptom:** All deployed web services are displayed as being at *https://<hostname>/ws4ee/services*. This link stopped working in 7.8, works on pre 7.8 cores.

**Resolution:** Fixed

## SAS Web Client

### QCCR1D 70583 (159229)

**Description:** Random user actions sometimes cause HTTP Status 500 in the SA Web Client.

**Platform:** Independent

**Subsystem:** SAS Web Client

**Symptom:** In some cases, while performing basic user actions the SA Web Client produces an HTTP Status 500 error page. You will also see a `ClassCircularException` in the error page.

**Resolution:** Fixed

## Scripts

### QCCR1D 82714

**Description:** Script output to export is limited to 10Kb, need a textbox in UI to allow flexible output size.

**Platform:** Independent

**Subsystem:** DSE (UI)

**Symptom:** The script output size is limited to 10K. When output > 100K, the script output is truncated because of the UI limitation.

**Resolution:** Fixed

## Server Module

### QCCR1D 83143

**Description:** Improved error message required when the file `tadnsw.exe` is missing.

**Platform:** Independent

**Subsystem:** Server Module - Discovery Modules

**Symptom:** When `tadnsw.exe` is from a managed server and a snapshot specifications run, a stack trace is shown with a message that does not specify the name of the missing file.

**Resolution:** Fixed

### QCCR1D 92829

**Description:** A snapshot for the software discovery inventory fails on HP-UX with the error `unknown encoding: iso88591`.

**Platform:** Independent

**Subsystem:** Server Module - Backend

**Symptom:** Running a snapshot for the software discovery inventory fails on some HP-UX servers with the error:

```
OpwareError: serverCompliance.FailedToCreateSnapshot [module:  
com.opsware.compliance.server.rmi, method: createSnapshot, line: 219
```

[...]

**Resolution:** Fixed

## QCCR1D 93173

**Description:** SMO-registered software displays fewer items compared to the installed packages list for Red Hat 64-bit since some packages have both 32- and 64-bit versions but both versions are displayed as a single item.

**Platform:** Red Hat Enterprise Linux

**Subsystem:** Server Module - Packages and Patches

**Symptom:** Red Hat packages that have both 32- and 64-bit versions may incorrectly display as a single package in the SMO-registered software display.

**Resolution:** Fixed

## QCCR1D 94119

**Description:** Running a snapshot with the `Perform Inventory` option on VMWare ESX servers, an error occurs indicating that the database installation appears to be corrupted.

**Platform:** ESX

**Subsystem:** Server Module - Discovery Modules

**Symptom:** Running a snapshot with the `Perform Inventory` option on VMWare ESX servers, an error occurs indicating that the database installation appears to be corrupted.

**Resolution:** Fixed

## QCCR1D 95403

**Description:** SMOs should allow values to be added/changed for certain audit parameters, for example, `Account Lockout Threshold`.

**Platform:** Independent

**Subsystem:** Server Module - Backend

**Symptom:** Some SMOs have integer display maps but don't allow the user to input values that are not in the map.

**Resolution:** Fixed

## QCCR1D 99173

**Description:** Non-compliant audit results in the Details window are labeled with the wrong color (blue instead of red) and Java console errors occur.

**Platform:** Independent

**Subsystem:** Server Module - Backend

**Symptom:** Non-compliant audit results in the Details window are labeled with the wrong color (blue instead of red) and Java console errors occur.

**Resolution:** Fixed

## Software Management

### QCCR1D 72251

**Description:** When running remediate for a software policy containing a package the package is not installed.

**Platform:** Independent

**Subsystem:** Software Management - Backend - Remediate (Other)

**Symptom:** Remediate job completes with the message:

This software install was attempted and appeared successful, but after verification, Opsware determined that it was not actually installed.

**Resolution:** Fixed

### QCCR1D 76594

**Description:** Should allow triggering reboots immediately after running a script in a software policy.

**Platform:** Independent

**Subsystem:** Software Management - Backend - Remediate (Other)

**Symptom:** During complex software policy remediations, the user needs the ability to include a reboot during the installation process. Specifically, the ability to reboot after running a script which is not currently supported.

**Resolution:** Fixed

### QCCR1D 88615

**Description:** Remediate should handle RPM dependencies more intelligently when remediating detached software policies.

**Platform:** Linux

**Subsystem:** Software Management - Backend - Remediate (RPM packages)

**Symptom:** Since RPM dependencies are now taken into account during remediation, it possible for a user to effectively `rm -rf /` a managed server. The reason for this is that when removing an RPM, remediate also removes everything that depends upon that RPM.

For example, a customer creates a policy with a single RPM, `glibc`. They remediate, and thus SA adopts this package. They change their mind, detach the policy, and remediate again.

At this point, the dependency solver adds essentially every other RPM on the server to the remove list since almost everything depends on `glibc`.

**Resolution:** Fixed

### QCCR1D 90586

**Description:** Improve error message when an Application Installation Media (AIM) install script exits with non-zero exit code.

**Platform:** Independent

**Subsystem:** Software Management - UI - Install/Uninstall/Remediate

**Symptom:** A "Warning: could not remove the following extracted files/directories" message masks the actual third-party application error when the Install script of an Application Installation Media (AIM) package exits with a non-zero exit code. In the case where there is no error message from the third-party application installer other than the return code, it is not clear to the end user what caused the installation to fail.

**Resolution:** Fixed

## QCCR1D 93309

**Description:** After an ad hoc User Group installation, if the user group name does not follow Solaris naming conventions, the job status shows as Not Installed even though the user group has been installed.

**Platform:** Solaris

**Subsystem:** Software Management - Backend - Remediate (Other)

**Symptom:** The final job status shows the user group as not installed but it is installed/created on the server.

**Resolution:** Fixed

## QCCR1D 94127

**Description:** Software policy remediation attempts to install Windows user/group object on a Solaris server

**Platform:** Solaris

**Subsystem:** Software Management - Backend - Remediate (Other)

**Symptom:** If the platform of an object is not applicable to a server, remediation should filter out such object in preview. In the following case, software policy remediation attempts to install Windows user/group object on Solaris server and fails.

**Resolution:** Fixed

## QCCR1D 94379

**Description:** Application Configuration provisioning hangs.

**Platform:** Independent

**Subsystem:** Software Management - Backend - Remediate (Other)

**Symptom:** Running a large number of application configurations can cause an intermittent hang during provisioning and the provisioning job shows Completed with Errors.

**Resolution:** Fixed

## QCCR1D 96839

**Description:** Software compliance is always shown as Non-compliant if there is application configuration in the Software Policy.

**Platform:** Independent

**Subsystem:** Software Management - API - Compliance

**Symptom:** Software compliance is always shown as Non-compliant if there is an application configuration in the Software Policy.

**Resolution:** Fixed

### QCCR1D 97790

**Description:** Reports for Software Management can have incorrect or mismatched session ID and Compliance Summary data.

**Platform:** Independent

**Subsystem:** Software Management - API - Software Policy

**Symptom:** Reports for Software Management can have incorrect or mismatched session ID and Compliance Summary data.

**Resolution:** Fixed

### QCCR1D 100395

**Description:** Software Compliance does not work correctly when there are two RPMs with the same name but different versions on the same server.

**Platform:** Linux

**Subsystem:** Software Management - API - Compliance

**Symptom:** Software Compliance does not work correctly when there are two RPMs with the same name but different versions on the same server.

**Resolution:** Fixed

### QCCR1D 100396

**Description:** Software Compliance does not work correctly on x86\_64 platforms.

**Platform:** x86\_64 platforms

**Subsystem:** Software Management - API - Compliance

**Symptom:** Software Compliance does not work correctly on x86\_64 platforms

**Resolution:** Fixed

### QCCR1D 100417

**Description:** When there are old and new versions of the same RPM on a server, RPMs with versions in between are marked as not compliant.

**Platform:** Independent

**Subsystem:** Software Management - API - Compliance

**Symptom:** When a server has rpm-1.0, rpm-2.0, and rpm-3.0 installed, rpm-2.0, is marked as not compliant. It should be marked compliant.

**Resolution:** Fixed

## QCCR1D 100854

**Description:** Continue on Errors option does not work when remediating a Software Policy with an application configuration.

**Platform:** Independent

**Subsystem:** Software Management - Backend - Remediate (Other)

**Symptom:** Continue on Errors option does not work when remediating a Software Policy with an application configuration.

**Resolution:** Fixed

## Virtualization

### QCCR1D 83067

**Description:** Agent for VMWare ESX 4 does not read the RAM size as expected.

**Platform:** VMware

**Subsystem:** Virtualization - Backend (VMWare)

**Symptom:** For ESX 4, the agent does not read the RAM size.

**Resolution:** Fixed

### QCCR1D 89739

**Description:** Create or Modify VM not working for non-ASCII characters in the name/description.

**Platform:** VMWare

**Subsystem:** Virtualization - Backend (VMWare)

**Symptom:** After creating a VM with Japanese characters in the name and description, the hypervisor history shows that the VM was created and displays the Japanese characters correctly. However, the VI client, does not display the characters correctly.

If you create the VM from the VI client itself, using Japanese characters, they display correctly in both the UI and VI client.

**Resolution:** Fixed

### QCCR1D 93055

**Description:** In the Server Browser, the Hyper-V periodical scan history is incorrectly referred to as a VMWare ESX scan.

**Platform:** Microsoft Hyper-V

**Subsystem:** Virtualization - Microsoft Hyper-V

**Symptom:** Scanning the ESX periodically for local Virtual machines is displayed in the Server Browser history of a Hyper-V server when a periodic Hyper-V scan occurs.

**Resolution:** Fixed

## QCCR1D 93123

**Description:** When creating a VM with an old job window open, the Create VM job fails with error stating the VM name already exists.

**Platform:** VMWare

**Subsystem:** Virtualization - UI

**Symptom:** While running a Create VM job you open the an old job ID from the Jobs and Sessions list. You now have two windows open: the create VM window and the old job window. If you click on start job in the Create VM window, it fails with the above error.

**Resolution:** Fixed

## QCCR1D 93220

**Description:** After discovering a VMWare ESX VM, a virtual server refresh generates the Java console exception: AWT-EventQueue-0"

```
java.lang.ArrayIndexOutOfBoundsException: 14 > 13.
```

**Platform:** ESX

**Subsystem:** Virtualization - UI

**Resolution:** Fixed

**Symptom:** After discovering the VMWare ESX server, a scan is performed (ESX ► Virtual Servers > Refresh) and this generates the following exception in java console.

```
Exception in thread "AWT-EventQueue-0"  
java.lang.ArrayIndexOutOfBoundsException: 14 > 13
```

**Resolution:** Fixed

## QCCR1D 93703

**Description:** Attempting to create a virtual machine (VM) and provision an OS on a virtual machine without installing a network interface (NIC), SA creates multiple VMs until it runs out of resources.

**Platform:** Independent

**Subsystem:** Virtualization - Backend (VMWare)

**Symptom:** If you attempt to create a virtual machine (VM) and provision an OS on a virtual machine without installing a network interface, SA creates multiple VMs until it runs out of resources.

**Resolution:** Fixed

## QCCR1D 93756

**Description:** In a Solaris 10 hypervisor History view, a recurring scan event is not logged.

**Platform:** Solaris

**Subsystem:** Virtualization - Backend (Zones)

**Symptom:** In the History view of a Solaris 10 hypervisor, recurring scan event is not logged.

**Resolution:** Fixed



## QCCR1D 94076

**Description:** Creating or modifying multiple VMs at nearly the same time fails on VMWare ESX and ESXi.

**Platform:** ESX & ESXi

**Subsystem:** Virtualization - Backend (VMWare)

**Symptom:** Open a few create VM windows from the same hypervisor and change some data in each. All VMs are created with the same name, even when different names are specified in each window.

**Resolution:** Fixed

## QCCR1D 94207

**Description:** VMWare ESX 3.5 feature Open Console does not work.

**Platform:** VMWare ESX 3.5

**Subsystem:** Virtualization - Backend (VMWare)

**Symptom:** For VMWare ESX 3.5, right click a VM, and select the Open Console feature. This loads a page where user can login, but then issues the message: Web service is unavailable.

**Resolution:** Fixed

## QCCRID 110493

**Description:** In the SA Client, if you choose **Servers** ► **Virtual Server** panel, Solaris10 x86-64bit VMs are not listed in the Managed Server panel under their ESX servers, even if you perform a VMware VM refresh.

**Platform:** Solaris 10 x86-64bit VMs

**Subsystem:** Storage Host Agent Extension

**Symptom:** Solaris VMs are not displayed under the Managed Server panel.

**Resolution:** Fixed

## Visual Analyzer

### QCCR1D 84313

**Description:** When a Windows Server 2008 server with an IIS role enabled is visualized, it is shown as an unconnected process.

**Platform:** Windows 2008

**Subsystem:** Visual Analyzer - UI

**Symptom:** When you visualize a Windows Server 2008 server with an IIS role enabled, the IIS process is shown in the unconnected processes box instead of it's own process box on the server map.

**Resolution:** Fixed

## Web Services Data Access Engine

### QCCR1D 83222

**Description:** Conflict resolution operations should have smaller impact on performance.

**Platform:** Independent

**Subsystem:** Web Services Data Access Engine (Spin)

**Symptom:** Internal changes to improve performance required.

**Resolution:** Fixed

### QCCR1D 92819

**Description:** The Web Services Data Access Engine (twist) consumes 100% CPU.

**Platform:** Independent

**Subsystem:** Web Services Data Access Engine (twist)

**Symptom:** Web Services Data Access Engine (twist) is consuming 100% CPUs.

**Resolution:** Fixed

## 4 Known Problems, Restrictions, and Workarounds in SA 7.84

The issues in this section are identified by their Quality Center ID (QCCR1D).



For information regarding open issues for SA Storage Visibility and Automation and the Server Automation Reporter (SAR), please refer to the *Release Notes* for those products.

### Agents

#### QCCR1D 111440

**Description:** Dormant Windows Agent Fails to connect to core.

**Platform:** All Windows

**Description:** If an agent fails to contact and register with the core during installation, it will enter a "DORMANT" mode during which it attempts to finish the registration process. However, the Windows agents do not correctly register themselves and manual intervention is required.

**Workaround:**

- Login to the server, click on **Start** ► **Run** ► **enter cmd** and press enter. On the command line run:  

```
C:\Program Files\Opware\agent\pylibs\cog\bs_hardware.bat
```

or
- Go to [https://<ip\\_of\\_server>:1002/](https://<ip_of_server>:1002/) and click on the link "Attempt to contact core right now".

### Patch Management - Solaris

#### QCCR1D 114146/114153

**Description:** Users with an existing metadata database (solpatchdb) must delete the solpatchdb.zip, solpatchdb-old.zip and solpatchdb\_supplement.zip files and run create\_db to have support for recommended obsolete patches.

**Platform:** Solaris

**Subsystem:** Patch Management - Solaris

**Symptom:** The `solpatch_import -filter` option does not display recommended and/or security patches if they had previously been marked obsolete. This became an issue on June 4, 2010 when Oracle changed the criteria for recommended and security patches (described here: [http://blogs.sun.com/patch/entry/merging\\_the\\_solaris\\_recommended\\_and](http://blogs.sun.com/patch/entry/merging_the_solaris_recommended_and)).

**Workaround:** You must recreate the Solaris patch metadata database (`solpatchdb`) if the following are true:

- 1 You use the `solpatch_import -filter` option.
- 2 You have run `solpatch_import -update_db` on June 4, 2010 or later.

After you have installed SA 7.84, perform these tasks to recreate the metadata database (`solpatchdb`):

- 1 Log in to the SA Client.
- 2 Select Library in the Navigation pane.
- 3 Select By Folder.
- 4 Navigate to `/Opware/Tools/Solaris Patching`.
- 5 Delete the following files:
  - `solpatchdb.zip`
  - `solpatchdb-old.zip`
  - `solpatchdb_supplement.zip`
- 6 Follow the steps to create a new metadata database (`solpatchdb`) as described in the *SA User Guide: Application Automation, Patch Management for Solaris*.

## SA Installer

### QCCR1D 113782

**Description:** A host operating system may report a stale LUN as having a Root service type because the system could not detect storage changes.

**Platform:** Linux

**Subsystem:** Storage Host Agent Extension

**Symptom:** Host operating system cannot detect storage changes.

**Workaround:** After System reboot, the host OS detects the configuration changes correctly.

### QCCR1D 113995

**Description:** `dhcpd` stops working after patch roll back.

**Platform:** Independent

**Subsystem:** SA Installer

**Symptom:** After rolling back the SA 7.83 patch, the contents of `/etc/opt/opsware/dhcpd/dhcpd_subnets.conf` may not reflect the latest modifications done with `dhcpdtool` while SA 7.83 was installed.

**Workaround:** *This workaround will not work if SA 7.83 has already been rolled back. Before rolling back SA 7.83, perform the following tasks:*

- 1 Remove `/etc/opt/opsware/dhcpd/dhcpd_subnets.conf.CORD_BACKUP`.
- 2 Replace `range dynamic-bootp` with `range in` in `/etc/opt/opsware/dhcpd/dhcpd_subnets` by running the following command:

```
perl -pi -e 's/range dynamic-bootp/range/g' /etc/opt/opsware/dhcpd/dhcpd_subnets.conf
```

## Software Repository

### QCCRID 114135

**Description:** When you import the Word repository (found in `/var/opt/opsware/word/mmword_local/packages/any/nt/$OS_VER$`) to the non-local disk, the import takes longer than expected to complete for all mounted binaries.

**Platform:** All Core Platforms

**Subsystem:** Word (Software Repository)

**Symptom:** When you import the Word repository (found in `/var/opt/opsware/word/mmword_local/packages/any/nt/$OS_VER$`) to the non-local disk, the import takes longer than expected to complete for all mounted binaries.

**Workaround:** None

## Virtualization

### QCCRID 114273

**Description:** Hyper-V VM running W2K8 x86\_64 R2 shows up as a hypervisor

**Platform:** Windows

**Subsystem:** Virtualization

**Symptom:** A Hyper-V VM running Windows 2008 x86\_64 R2 OS displays in Virtual Servers View as a hypervisor

**Workaround:** None.



## 5 Documentation Errata

This chapter contains additional information that affects the SA 7.80 product manuals.

### SA 7.82 Release Notes

In the Pre-Patch step of the Installation Procedure, the path to the pre-patch script given as:

```
./create_local_dc_table.sh <oracle_home> <oracle_sid>
```

should be

```
./truth_create_local_dc_table.sh <oracle_home> <oracle_sid>
```

and, the path to the rollback script given as:

```
./create_local_dc_table_rollback.sh <oracle_home> <oracle_sid>
```

should be:

```
./truth_create_local_dc_table_rollback.sh <oracle_home> <oracle_sid>
```

### SA 7.83 Release Notes

As of SA 7.83, SA provided support for Red Hat Enterprise Linux 4.x PPC64 and 5.x PPC64.

The SA 7.83 Release Notes provided instructions on provisioning these platforms in Chapter 1 in the section “Red Hat Enterprise Linux 4.x PPC64 and 5.x PPC64 OS Provisioning” and also provided a sample Kickstart file.

The sample Kickstart includes the following entry:

```
%packages
@Base
```

That entry should be modified to read:

```
%packages --resolvedeps
@Base
```

This ensures that all prerequisite packages are available for provisioning.

# SA Planning and Installation Guide

The following changes should be applied to the *SA Planning and Installation Guide*.

## Chapter 1: SA Core Component Bundling (page 15)

The sentence in the first paragraph that reads:

During a Custom installation, certain components can be broken out of their bundles (such as the Command Engine, the OS Provisioning Boot Server and Media Server, among others) and installed on separate servers.

should read:

During a Custom installation, certain components can be broken out of their bundles (such as the Software Repository Store, Slice Component bundle, OS Provisioning Media Server, OS Provisioning Boot Server etc.) and installed on separate servers.

## Chapter 2: Pre-Installation Requirements (page 55)

In the section “SUSE Linux Enterprise Server 10 Package Requirements”, add the following:

The following packages *must not* be installed on a SUSE Linux Enterprise Server 10 hosting an SA Core:

- yast2-dhcp-server
- rsync
- samba
- samba-32bit
- yast2-samba-server
- yast2-tftp-server



---

These packages are reinstalled during an operating system upgrade from SP2 to SP3 and therefore must be removed for proper SA Core operation

---

## Chapter 3: Solaris Requirements (page 48)

In **Table 11: Packages Required for Solaris**, the packages marked with double asterisks indicating them as required for Solaris 8 or 9 should be ignored as Solaris 8 and 9 are not supported.

## Chapter 3: Pre-Installation Requirements, Table 18 (page 59)

**Table 18** in the SA Planning and Installation Guide correctly lists port 1521 as required to be open in your firewall configuration. However, the following information can also affect your firewall configuration:



- Port 1521 is the default Oracle listener (`listener.ora`) port, but you can specify a different port in your Oracle configuration. In case your installation has been modified to use a port other than 1521, you should verify the port number from the Oracle listener status and ensure that your firewall is configured to allow the correct port to be open for the Oracle listener.
- SA's data access layers (infrastructure) use connection pooling to the database. The connections between the database and the infrastructure layer must be maintained as long as SA is up and running. Ensure that your firewall is configured so that these connections do not time-out and terminate the connections between the database and the infrastructure layers.

## Chapter 3: SUSE Enterprise Server 10 Requirements

The following are package requirements for SUSE Enterprise Server Linux 10.

### Required SUSE Linux Enterprise Server 10 Packages

For SUSE Linux Enterprise Server 10 64-bit x\_86, an SA Core Server must have the packages listed in [Table 1](#) installed.

**Table 1 SUSE Linux Enterprise Server 10 Required Packages**

Required Packages	Architecture
binutils	x86_64
cpp	x86_64
desktop-file-utils	x86_64
expat	x86_64
gcc-c++	x86_64
gcc	x86_64
glibc	x86_64
glibc-32bit	x86_64
glibc-devel	x86_64
glibc-devel-32bit	x86_64
iptables	x86_64
kernel-smp	x86_64
kernel-source	x86_64
libaio	x86_64
libaio-32bit	x86_64
libaio-devel	x86_64
libcap	x86_64
libcap-32bit	x86_64

**Table 1 SUSE Linux Enterprise Server 10 Required Packages (cont'd)**

<b>Required Packages</b>	<b>Architecture</b>
libelf	x86_64
libgcc	x86_64
libstdc++	x86_64
libstdc++-devel	x86_64
libpng	x86_64
libpng-32bit	x86_64
libxml2	x86_64
libxml2-32bit	x86_64
libxml2-python	x86_64
make	x86_64
mDNSResponder-lib	x86_64
mkisofs	x86_64
ncompress	x86_64
nfs-utils	x86_64
patch	x86_64
popt	x86_64
popt-32bit	x86_64
readline	x86_64
readline-32bit	x86_64
rpm	x86_64
sharutils	x86_64
strace	x86_64
sysstat	x86_64
termcap	x86_64
unzip	x86_64
vim	x86_64
xinetd	x86_64
xntp	x86_64
xorg-x11-libs	x86_64
xorg-x11-libs-32bit	x86_64
xorg-x11	x86_64

**Table 1 SUSE Linux Enterprise Server 10 Required Packages (cont'd)**

Required Packages	Architecture
xterm	x86_64
zip	x86_64
zlib	x86_64
zlib-32bit	x86_64

Table 2 shows packages *must not* be installed on a SUSE Linux Enterprise Server 10 hosting an SA Core:

**Table 2 Packages Not Supported on SUSE Linux Enterprise Server 10 Core Hosts**

Package	Package
rsync	yast2-dhcp-server
samba	yast2-samba-server
samba-32bit	yast2-tftp-server



These packages are reinstalled during an operating system upgrade from SUSE Enterprise Linux SP2 to SP3 and therefore must be removed for proper SA Core operation after upgrade.

## Appendix A: Table 42 (Page 188)

In **Table 42: Supported Operating Systems and Oracle Versions**, the first entry, SunOS 10 x86\_64, should read, SunOS 10 (SPARC)-64 bit.

## Appendix A: Solaris Requirements (page 190)

In the bulleted entry that reads:

- Free /tmp space should be 400MB or more

You can use the following command to check /tmp space:

```
df -k /tmp | grep / | awk '{ print $3 }'
```

the command should read:

```
df -k /tmp | grep / | awk '{ print $4 }'
```

## Appendix A: Required and Suggested Parameters for init.ora (page 203)

The following `init.ora` parameters should have the specified required values:

## Both Oracle 10g and 11g

```
optimizer_mode=all_rows  
session_cached_cursors>=50
```

## Oracle 10g only

```
open_cursors>=300  
remote_login_passwordfile=EXCLUSIVE
```

## Oracle 11g only

```
open_cursors>=1000  
memory_target=1616M
```

## Appendix A: Changing Kernel Parameter Values for Linux (page 198)

- 1 Add the following note:



---

For Oracle 11g, the typical number of open file descriptors used under normal usage has increased. For larger systems, HP recommends that you increase the value of `fs.file-max`. The recommended value is `fs.file-max = 681574`.

---

- 2 Change the following entry in the Oracle parameter list:

```
fs.file-max=65536  
to  
fs.file-max = 681574
```

## SA Upgrade Guide

### Chapter 1: OS Provisioning Stage 2 Image Upload No Longer Required (page 8)

The sentence that reads:

*However, due to this change, any Satellites in an SA 7.80 Core must also be upgraded to release 7.80 in order to provision servers. In other words an SA 7.80 Satellite can perform OS Provisioning in an SA 7.80 Core but an SA 7.50 Satellite cannot.*

is not valid. You can perform OS Provisioning in a mixed version SA Core/Satellite environment.

### Chapter 3: Phase 1, Step 3b (page 46)

This step should read:

Select Multimaster Opsware Core - Subsequent Core

Chapter 3: Phase 6 (page 50)

A step is missing after Step 3:

**Step 4** Log on to the Slice Component bundle host, select `Slice` from the Upgrade Component menu. Press `c` to continue.

The existing Step 4 should be renumbered Step 5.

## *SA Policy Setter Guide*

In the *SA Policy Setter's Guide* "Operating System Provisioning Setup" chapter, the section titled: "Solaris Provisioning from a Boot Server on a Red Hat/SLES 10 Linux Server — Disabling NFS v3 or NFS v4" has incorrect instructions and needs to be changed.

### Incorrect Instructions:

To disable NFS v4 on an SLES 10 Boot Server host:

- 1 On the Boot Server host, create the following file:  
`/etc/sysconfig/nfs`
- 2 In the newly created NFS file, add the following line:  
`NFS4_SUPPORT="no"`
- 3 Restart NFS:  
`/etc/init.d/nfs stop`  
`/etc/init.d/nfs start`

### Correct Instructions:

To disable NFS v4 on an SLES 10 Boot Server host:

- 1 On the Boot Server host, create the following file:  
`/etc/sysconfig/nfs`
- 2 In the newly created NFS file, add the following line:  
`NFS4_SUPPORT="no"`
- 3 Restart NFS:  
`/etc/init.d/nfsserver restart`

## Users Guide: Application Automation, OS Provisioning, Manage Boot Clients (MBC)

**Required Permissions:** In addition the permissions listed for the Manage Boot Clients (MBC) utility, you also need the following permission: *Read & Write permission to customer Not Assigned.*

# Oracle RAC Support: *Oracle Setup for the Model Repository/ SA Planning and Installation Guide, Appendix A*

The following information is in addition to that found in the *SA Planning and Installation Guide: Appendix A* and the document, *Oracle Setup for the Model Repository*.

Concurrent with the SA 7.82 patch release, SA adds support for Oracle Real Application Clusters (RAC).



---

Oracle RAC support requires a new installation of both Oracle and SA. Therefore, in order to enable Oracle RAC support in SA, you must first install SA 7.80 and Oracle 10.2.0.4 or 11.1.0.7 configured as described in the following sections.

---

## Supported Oracle Versions Matrix

### Supported Oracle Versions:

SA support for Oracle RAC includes these Oracle Enterprise Edition versions:

- 10.2.0.4
- 11.1.0.7

### Supported Operating Systems

- Red Hat Enterprise Linux AS 4 x86\_64
- Red Hat Enterprise Linux AS 5 x86\_64

## Set up the Oracle RAC database/instances

SA supports any valid Oracle RAC configuration, such as any number of nodes, ASM or regular disks, and so on.

However, SA requires that the Oracle database be configured for use with SA. You will require your Oracle DBA's help to configure the Oracle RAC/instances, the required initialization parameters, the required tablespaces, the `opware_admin` database user, and the `listener.ora` and `tnsnames.ora` files.

You can also run the `truth_oracle_state_checker` script to check if the initialization parameters are set correctly. The `truth_oracle_state_checker` file is located in the `distribution /tools` directory.

### Create the Database with the Required Initialization Parameters

Before installing Oracle, the following scripts must be run and `init.ora` must have certain parameter values edited or added as shown in [Required and Suggested Parameters for init.ora](#) on page 143.

- 1 Create a database with the UTF8 character set (as required by SA), the data and index files, the default temporary tablespace, the undo tablespace, and the log files.

## Create the required table spaces

- 2 Create the following tablespaces that are required by SA:

```
LCREP_DATA  
LCREP_INDX  
TRUTH_DATA  
TRUTH_INDX  
AAA_DATA  
AAA_INDX  
AUDIT_DATA  
AUDIT_INDX  
STRG_DATA  
STRG_INDX
```

See “Tablespace Sizes” in the *SA Planning and Installation Guide* for additional tablespace sizing information.

## Required and Suggested Parameters for init.ora

- 3 The file `init.ora` must be edited as follows:

(Both Oracle 10g and 11g) For SA, the following `init.ora` entries are either suggested or required:

```
log_buffer>=1048576  
db_block_size>=8192  
session_cached_cursors=>50  
nls_length_semantics=CHAR  
nls_sort=GENERIC_M  
processes >=1024  
undo_management=AUTO (Suggested)  
undo_tablespace=UNDO (Suggested)  
query_rewrite_integrity=TRUSTED  
query_rewrite_enabled=true  
optimizer_mode=all_rows  
optimizer_index_cost_adj=20  
optimizer_index_caching=80  
cursor_sharing=SIMILAR (value can be set to SIMILAR(preferred) or EXACT,  
recommended only if you encounter an Oracle error)  
recyclebin=OFF  
event="12099 trace name context forever, level 1"  
_complex_view_merging=false
```

(Oracle 10g only) For SA, the following `init.ora` entries are either suggested or required:

```
open_cursors >=300  
sga_max_size >=1GB  
db_cache_size>=629145600  
shared_pool_size>=262144000  
java_pool_size>=52428800  
large_pool_size>=52428800  
job_queue_processes>=10  
sessions >=1152  
pga_aggregate_target >=104857600  
workarea_size_policy=auto  
remote_login_passwordfile=EXCLUSIVE
```

(Oracle 11g only) For SA, the following `init.ora` entries are either suggested or required:

```
memory_target=1616M
job_queue_processes>=1000 (default)
remote_login_passwordfile=EXCLUSIVE
```

## Create the User `opsware_admin`

- 4 You can use the script, `CreateUserOpsware_Admin.sql`, to create the `opsware_admin` database user and grant permissions (privileges) to the user (required by SA) or create the user manually.

If you plan to create the `opsware_admin` user manually, follow the procedure below:

### Manual Creation of the User `Opsware_Admin`

To create the `opsware_admin` user after a manual Oracle installation, log in to SQL\*Plus and enter the following:

```
# Su - oracle
# Sqlplus "/" as sysdba"
```

```
SQL> create user opsware_admin identified by opsware_admin
      default tablespace truth_data
      temporary tablespace temp
      quota unlimited on truth_data;
```

```
SQL> grant alter session to opsware_admin with admin option;
grant create procedure to opsware_admin with admin option;
grant create public synonym to opsware_admin with admin option;
grant create sequence to opsware_admin with admin option;
grant create session to opsware_admin with admin option;
grant create table to opsware_admin with admin option;
grant create trigger to opsware_admin with admin option;
grant create type to opsware_admin with admin option;
grant create view to opsware_admin with admin option;
grant delete any table to opsware_admin with admin option;

grant drop public synonym to opsware_admin with admin option;
grant select any table to opsware_admin with admin option;
grant select_catalog_role to opsware_admin with admin option;
grant query rewrite to opsware_admin with admin option;
grant restricted session to opsware_admin with admin option;
```

```
grant execute on dbms_utility to opsware_admin with grant option;
grant analyze any to opsware_admin;
grant insert, update, delete, select on sys.aux_stats$ to opsware_admin;
grant gather_system_statistics to opsware_admin;
grant create job to opsware_admin;
```

```
grant alter system to opsware_admin;
grant create role to opsware_admin;
grant create user to opsware_admin;
grant alter user to opsware_admin;
grant drop user to opsware_admin;
grant create profile to opsware_admin;
grant alter profile to opsware_admin;
grant drop profile to opsware_admin;
```



## Installing the Model Repository

In most production environments with Oracle RAC, the Model Repository installation can be done from any SA server. The database server or RAC nodes in this case are considered to be remote.

The examples used in the following sections assume this configuration:

**Two (active-active) Node RAC environment:**

```
# Public Network
192.168.173.210 rac1pub rac1pub.dev.opsware.com (instance_name=truth1,
db name=truth)
192.168.173.211 rac2pub rac2pub.dev.opsware.com (instance_name=truth2,
db name=truth)

# Private network
172.16.1.100 rac1prv rac1prv.dev.opsware.com
172.16.1.101 rac2prv rac2prv.dev.opsware.com

# Public Virtual IP (VIP)
192.168.173.212 rac1-vip rac1-vip.dev.opsware.com
192.168.173.213 rac2-vip rac2-vip.dev.opsware.com

SA server:
192.168.173.214 rac1sa.dev.opsware.com
```

### Model Repository Installation on a Remote Database (truth) RAC Server

In an Oracle RAC environment, only one of the RAC nodes is used during the SA installation/upgrade process. The SA Installer connects to only one Oracle RAC instance to install/modify the Model Repository. During the regular SA operations, all RAC nodes are used.

Perform the following tasks on the SA server on which you will run the SA Installer, for example `rac1sa.dev.opsware.com`.

#### Model Repository Hostname Resolution

- 1 On the server where you will run the SA Installer, ensure that the Model Repository hostname `truth` resolves to the remote database server, not to the server on which you will be running the SA Installer:

In `/etc/hosts`, enter the public IP address of one of the RAC nodes/instances. For example the

`/etc/hosts` file on `rac1sa.dev.opsware.com` would have the following entry:

```
192.168.173.210    truth          rac1pub        rac1pub.dev.opsware.com
```

#### Install the Oracle 11g Full Client on the SA server

- 1 The SA Installer will use the Oracle Full Client to connect to the SA server and install the Model Repository. Below are sample commands for installing the Oracle full client.

Create user `oracle` for the Oracle Full Client installation:

```
root@rac1sa ~]# mkdir -p /u01/app/oracle
root@rac1sa ~]# mkdir -p /u01/app/oraInventory
root@rac1sa ~]# groupadd oinstall
root@rac1sa ~]# groupadd dba
```

```

root@rac1sa ~]# useradd -c "Oracle Client software owner" -g oinstall -G
dba -d /u01/app/oracle -s /bin/bash oracle
root@rac1sa ~]# chown -R oracle:oinstall /u01/app
root@rac1sa ~]# chmod -R 775 /u01/app
root@rac1sa ~]# passwd oracle (change oracle user password )

```

## 2 Create the .bash\_profile file.

In /u01/app/oracle create the .bash\_profile file.



Temporarily comment out ORACLE\_HOME and ORACLE\_PATH. You will uncomment these entries after the Oracle client installation is complete.

### Sample .bash\_profile file

```

# .bash_profile

# Get the aliases and functions
if [ -f ~/.bashrc ]; then
. ~/.bashrc
fi

# User specific environment and startup programs
PATH=$PATH:$HOME/bin
export PATH

#SA-OracleRAC parameters begin
#unset USERNAME
export ORACLE_BASE=/u01/app/oracle
#export ORACLE_HOME=$ORACLE_BASE/product/11.1.0/client_1
#PATH=$ORACLE_HOME/bin:$ORACLE_HOME/OPatch:$PATH
export PATH

if [ -t ]; then
stty intr ^C
fi

umask 022
#SA-OracleRAC parameters end

```

## 3 Install the Oracle Full Client

Install the Oracle Full Client as described in your Oracle documentation. You can create a share to access the Oracle Full Client binaries.

## 4 Set Up Terminals

You will need two X window terminals to install the Oracle Full Client:

**Terminal 1:** log in as root and enter the commands:

```
Terminal 1> xhost +
```

```
Terminal 2: ssh -X oracle@<new_oracle_full_client_host>
```

## 5 Start Oracle Full Client installation

From Terminal 2 run the Oracle Universal Installer (OUI) installer. The Oracle Full Client is installed in:

```
/u01/app/oracle/product/11.1.0/client_1
```

- 6 Run the Oracle Universal Installer to install Oracle Full Client. The directories in this example assume an Oracle 11g Full Client on Linux.
  - a `cd /location_of_oracle_full_client`
  - b `/runInstaller`
  - c At the **Welcome** Screen, click **Next**.
  - d Specify the Inventory Directory and Credentials (`/u01/app/oraInventory` and `/u01/app/oinstall`)
  - e For **Select Installation Type**, choose Administrator, click **Next**.
  - f For `ORACLE_BASE` select: `/u01/app/oracle`, click **Next**.
  - g The Oracle Universal Installer performs some checks. If the checks are not successful, fix the issue and re-run this step. If the checks are successful the click on 'Next'
  - h Oracle OUI will list of products that will be installed. Click on 'Install'
  - i OUI will show the progress bar when installing
  - j On the 'Welcome to Oracle Net Configuration Assistant' window click on 'Next'
  - k Click on 'Finish' once the installation is complete.
  - l The following two configuration scripts need to be executed as "root" upon installation being complete:
    - `/u01/app/oraInventory/orainstRoot.sh`
    - `/u01/app/oracle/product/11.1.0/client_1/root.sh`

7 Verify that the `.bash_profile` file for user `oracle` is correct.

8 Uncomment `$ORACLE_HOME` and `$ORACLE_PATH`.

### **Making changes to `tnsnames.ora` on SA server**

By default the `tnsnames.ora` file is located in `/var/opt/oracle`.

1 Login as root on the SA Server.

2 Enter the command:

```
mkdir -p /var/opt/oracle
```

3 Copy `tnsnames.ora` from the remote database server to the directory you created above. For the RAC environment, copy it from RAC Node 1 (for example, `rac1pub.dev.opsware.com`).

The SA Installer puts the database in a restricted mode during the Model Repository installation. The database is removed from the restricted mode after successful installation/upgrade of the Model Repository. When the database is in restricted mode, only certain privileged users are allowed to connect to the database.

To accommodate the remote Model Repository installation process, two sets of `tnsnames.ora` are required on the SA server.

- `tnsnames.ora-install_upgrade` – this copy of `tnsnames.ora` is used during SA installation/upgrade. The file can be renamed.
- `tnsnames.ora-operational` – this copy of `tnames.ora` is used during normal SA operation. The file can be renamed.

You can use softlinks to point `tnsnames.ora` to either `tnsnames.ora-install_upgrade` or `tnsnames.ora-operational`.

```
ln -s tnsnames.ora-install_upgrade tnsnames.ora
```

### **tnsnames.ora-install\_upgrade sample file**

Make a note of the text that is in BOLD letters. The `tnames.ora` file should contain the SID and not the service name. These examples have `TRUTH` as the `truth.servicename`. Ensure that the `HOST` references the same server as the `truth` entry in `/etc/hosts` file. `truth.servicename` is case sensitive.

```
# Generated by Oracle configuration tools.
```

```
TRUTH =
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL = TCP) (HOST = rac1pub.dev.opsware.com) (PORT = 1521))
    (CONNECT_DATA =
      (SID = truth1)
    )
  )

LISTENER_TRUTH =
  (ADDRESS_LIST =
    (ADDRESS = (PROTOCOL = TCP) (HOST = rac1pub.dev.opsware.com) (PORT = 1521))
    (CONNECT_DATA =
      (SID = truth1)
    )
  )
```

Use softlinks to link the file to `tnsnames.ora.ora` file. Do this before you start the SA Model Repository installation or upgrade

```
ln -s tnsnames.ora-install_upgrade tnsnames.ora
```



During installation the SA Installer adds a SA Gateway entry into `tnsnames.ora` (linked to `tnsnames.ora.install-upgrade`) file on the primary SA Core. When installation completes, copy this entry into the `tnsname.ora.operational` file. If this entry is not present in `tnsname.ora.operational`, Multimaster Mesh transactions will not flow. Below is a sample gateway entry from `tnsnames.ora`:

```
Rac2sa_truth=(DESCRIPTION=(ADDRESS=(HOST=192.168.173.214) (PORT=20002)
(PROTOCOL=tcp)) (CONNECT_DATA=(SERVICE_NAME=truth)))
```

### **Making changes to listener.ora on one of the RAC node server (instance)**

In an Oracle RAC environment, only one of the RAC nodes or instances is used during installation/upgrade process. The SA Installer connects to only one Oracle instance to modify the Model Repository. During the regular SA operations, all the RAC nodes are used.

The SA Installer puts the database in a restricted mode during the Model Repository installation. The database is removed from the restricted mode after successful installation/upgrade of the Model Repository. When the database is in restricted mode, only certain privileged users are allowed to connect. To accommodate the remote `truth` installation process, two sets of `listener.ora` files are required on the SA server. The files can be given any name. By default the `listener.ora` files are located in `$ORACLE_HOME/network/admin`.

- `listener.ora-install_upgrade` – this copy of `listener.ora` is used during SA install/upgrade

- `listener.ora-operational` – this copy of `listener.ora` is used during normal SA operation.

You can use softlinks to point `listener.ora` to either `listener.ora.ora-install_upgrade` or `listener.ora.ora-operational`:

```
ln -s listener.ora-install_upgrade listener.ora
```

### Sample `listener.ora-install_upgrade`

This file is used during the SA installation/upgrade process. Make a note of the text that is in **BOLD** letters. The `listener.ora` file should contain the `SID_NAME` and not the service name. The `SID_NAME` is case sensitive. Ensure that the `listener.ora` changes are made on the same server that is referenced in SA servers `/etc/hosts` file.

This example uses `LISTENER_RAC1PUB` as the listener name.

```
# Generated by Oracle configuration tools.
LISTENER_RAC1PUB =
  (DESCRIPTION_LIST =
    (DESCRIPTION =
      (ADDRESS = (PROTOCOL = IPC) (KEY = EXTPROC1))
      (ADDRESS = (PROTOCOL = TCP) (HOST = rac1-vip.dev.opsware.com) (PORT =
1521) (IP = FIRST))
      (ADDRESS = (PROTOCOL = TCP) (HOST = 192.168.173.210) (PORT = 1521) (IP =
FIRST))
    )
  )

SID_LIST_LISTENER_RAC1PUB =
  (SID_LIST =
    (SID_DESC=
      (SID_NAME=truth1)
      (ORACLE_HOME=/u01/app/oracle/product/11.1.0/db_2)
    )
    (SID_DESC =
      (SID_NAME = PLSExtProc)
      (ORACLE_HOME = /u01/app/oracle/product/11.1.0/db_2)
      (PROGRAM = extproc)
    )
  )
)
```

You can use softlinks to link the file to `listener.ora`:

```
ln -s listener.ora-install_upgrade listener.ora.ora
```

Ensure that you start the listener as follows:

```
> lsnrctl start LISTENER_RAC1PUB
```

### Testing connection from SA machine to database

Before starting the Model Repository installation/upgrade, you can perform the following tests to verify that your `tnsnames.ora` and `listener.ora` files are configured correctly and if the SA Installer can connect to the database in restricted mode.

- 1 Verify that the SA server's `/var/opt/oracle/tnsnames.ora` file is configured correctly as described in [Making changes to tnsnames.ora on SA server](#) on page 147.
- 2 Verify that the database servers or RAC node's `$ORACLE_HOME/network/admin/listener.ora` file is configured correctly as described in [Making changes to listener.ora on one of the RAC node server \(instance\)](#) on page 148.

### 3 On the SA server:

- a Login as oracle or root or su - twist/spin – if these users exist
- b export ORACLE\_HOME=/u01/app/oracle/product/11.1.0/client\_1 (or where you installed the Oracle Full Client)
- c export LD\_LIBRARY\_PATH=\$ORACLE\_HOME/lib
- d export TNS\_ADMIN=/var/opt/oracle
- e set \$PATH \$ORACLE\_HOME/bin path
- f sqlplus sys/password@truth as sysdba;  
where truth is the service\_name or entry from the tnsnames.ora file
- g select logins from v\$instance;
- h alter system enable restricted session;
- i select logins from v\$instance;  
? db should be restricted
- j connect opsware\_admin/<password>@truth

If you are able to logon to the database then all files are configured correctly.

- k sqlplus sys/password@truth as sysdba
- l alter system disable restricted session;

#### SA Installer Response File

You can now start the installation of the SA Model Repository. Ensure that you have the correct parameters values for the installation interview or that you have a previous response file.

Verify the paths to the client's tnsnames.ora file (%truth.tnsdir), oracle client home (%truth.orahome), listener port (%truth.port), and so on.

- %truth.tnsdir=/var/opt/oracle
- %truth.orahome=/u01/app/oracle/product/11.1.0/client\_1
- %truth.port=1521

You can now install the SA Core as described in the *SA Planning and Installation Guide*.

## Post SA installation process

After you install the SA Core, perform the following tasks in order to use all the nodes in the Oracle RAC environment.

### Making changes to tnsnames.ora on the SA server

After SA install is complete, the tnsnames.ora file should point/link to the tnsnames.ora-operational file.

The SA Installer puts the database in a restricted mode during the Model Repository installation. The database is removed from the restricted mode after successful installation/upgrade of the Model Repository. When the database is in restricted mode, only certain privileged users are allowed to connect to the database. To accommodate the remote truth installation process, two sets of tnsnames.ora are required on the SA server.

- tnsnames.ora-install\_upgrade – this copy of tnsnames.ora is used during SA installation/upgrade. You can rename the file.
- tnsnames.ora-operational – this copy of tnames.ora is used during normal SA operation. You can rename the file.

You can use softlinks to point tnsnames.ora to either tnsnames.ora-install\_upgrade or tnsnames.ora-operational:

```
ln -s tnsnames.ora-operational tnsnames.ora
```

### **tnsnames.ora-operational sample file**

Make a note of the text that is in **BOLD** letters. This tnsnames.ora file is used during normal SA operation and contains the RAC parameters.

#This entry is for connecting to RAC virtual machines.

```
TRUTH =
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL = TCP) (HOST = rac1-vip.dev.opsware.com) (PORT = 1521))
    (ADDRESS = (PROTOCOL = TCP) (HOST = rac2-vip.dev.opsware.com) (PORT = 1521))
    (LOAD_BALANCE = yes)
    (CONNECT_DATA =
      (SERVER = DEDICATED)
      (SERVICE_NAME = truth)
      (FAILOVER_MODE =
        (TYPE = SELECT)
        (METHOD = Preconnect)
        (RETRIES = 180)
        (DELAY = 5)
      )
    )
  )
```

```
LISTENERS_TRUTH =
  (ADDRESS_LIST =
    (ADDRESS = (PROTOCOL = TCP) (HOST = rac1-vip.dev.opsware.com) (PORT = 1521))
    (ADDRESS = (PROTOCOL = TCP) (HOST = rac2-vip.dev.opsware.com) (PORT = 1521))
  )
```

#This entry is for connecting to node2 via service\_name. This entry is optional

```
TRUTH2 =
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL = TCP) (HOST = rac2-vip.dev.opsware.com) (PORT = 1521))
    (CONNECT_DATA =
      (SERVER = DEDICATED)
      (SERVICE_NAME = truth)
      (INSTANCE_NAME = truth2)
    )
  )
```

```
LISTENER_TRUTH2 =
  (ADDRESS = (PROTOCOL = TCP) (HOST = rac2-vip.dev.opsware.com) (PORT = 1521))
```

#This entry is for connecting to node1 via service\_name. This entry is optional

```
TRUTH1 =
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL = TCP) (HOST = rac1-vip.dev.opsware.com) (PORT = 1521))
```

```

(CONNECT_DATA =
  (SERVER = DEDICATED)
  (SERVICE_NAME = truth)
  (INSTANCE_NAME = truth1)
)
)
)
LISTENER_TRUTH1 =
  (ADDRESS = (PROTOCOL = TCP) (HOST = rac1-vip.dev.opsware.com) (PORT = 1521))

```

Use softlinks to link the file to `tnsnames.ora` file after SA installation is complete and you are ready to start SA in operational mode.

```
ln -s tnsnames.ora- operational tnsnames.ora
```



During installation the SA Installer adds an SA Gateway entry into `tnsnames.ora` (linked to `tnsnames.ora.install-upgrade`) file on the primary SA Core. When installation is complete, copy that entry into `tnsname.ora.operational`. If this entry is not present in the `tnsname.ora.operational`, Multimaster Mesh transactions will not flow. The following is a sample gateway entry from `tnsnames.ora`:

```
Rac2sa_truth=(DESCRIPTION=(ADDRESS=(HOST=192.168.173.214) (PORT=20002) (PROTOCOL=tcp)) (CONNECT_DATA=(SERVICE_NAME=truth)))
```

## Making changes to listener.ora on one of the RAC node server (instance)

After SA installation is complete, the `listener.ora` file should point/link to the `listener.ora-operational` file.

In an Oracle RAC environment, only one of the RAC nodes or instances is used during installation/upgrade process. The SA Installer connects to only one Oracle instance to modify the Model Repository. During the normal SA operations, all the RAC nodes are used.

The SA Installer puts the database in a restricted mode during the Model Repository installation. The database is removed from the restricted mode after successful installation/upgrade of the Model Repository. When the database is in restricted mode, only certain privileged users are allowed to connect. To accommodate the remote truth installation process, two sets of `listener.ora` files are required on the SA server. The files can be given any name. By default the `listener.ora` files can be found in `$ORACLE_HOME/network/admin`.

`Listener.ora-operational` – this copy of `tnames.ora` is used during normal SA operation.

You can use softlinks to point `listener.ora.ora` to either

`listener.ora.ora-install_upgrade` or `listener.ora.ora-operational`.

```
ln -s listener.ora-operational listener.ora.ora (before SA regular operations)
```

`listener.ora-operational` - this file is used to start the listener when SA is running in normal operational mode. Make a note of the text that is in BOLD letters.

```
# listener.ora.rac1pub Network Configuration File: /u01/app/asm/product/11.1.0/db_1/network/admin/listener.ora.rac1pub
# Generated by Oracle configuration tools.
```

```
LISTENER_RAC1PUB =
  (DESCRIPTION_LIST =
    (DESCRIPTION =
      (ADDRESS = (PROTOCOL = IPC) (KEY = EXTPROC1))

```



```

        (ADDRESS = (PROTOCOL = TCP) (HOST = rac1-vip.dev.opsware.com) (PORT =
1521) (IP = FIRST))
        (ADDRESS = (PROTOCOL = TCP) (HOST = 192.168.173.210) (PORT = 1521) (IP =
FIRST))
    )
)

```

```

SID_LIST_LISTENER_RAC1PUB =
  (SID_LIST =
    (SID_DESC =
      (SID_NAME = PLSExtProc)
      (ORACLE_HOME = /u01/app/oracle/product/11.1.0/db_2)
      (PROGRAM = extproc)
    )
  )
)

```

Use softlink to link the file to listener.ora file

```
ln -s listener.ora-operational listener.ora.ora
```

Ensure that you start the listener as follows:

```
> lsnrctl start LISTENER_RAC1PUB
```

## Vault.conf file changes

In an Oracle RAC environment, the `vault.conf` file must be modified after SA installation is complete. Modify `/etc/opt/opsware/vault/vault.conf` to specify the complete tnsname definition instead of the SID. For example:

- Before:

```
truth.sid: truth
```

- After:

```

truth.sid=(DESCRIPTION = (ADDRESS = (PROTOCOL = TCP) (HOST =
rac1-vip.dev.opsware.com) (PORT = 1521)) (ADDRESS = (PROTOCOL = TCP)
(HOST = rac2-vip.dev.opsware.com) (PORT = 1521)) (LOAD_BALANCE = yes)
(CONNECT_DATA = (SERVER = DEDICATED) (SERVICE_NAME = truth)
(FAILOVER_MODE = (TYPE = SELECT) (METHOD = Preconnect) (RETRIES = 180)
(DELAY = 5))))

```

```
truth.port: 1521
```

Restart the vaultdaemon:

```
/etc/init.d/opsware-sas restart vaultdaemon
```

## Upgrading the Model Repository

To upgrade the Model Repository in an Oracle RAC environment, follow the same procedure as [Installing the Model Repository](#) on page 145. If you are doing a remote database installation, then make sure that you modify your `listener.ora` is on one of the RAC instances and `tnsnames.ora` on the server where the SA Installer is run. It is recommended that you test the connection as suggested in section [Testing connection from SA machine to database](#) on page 149.

# Planning and Installation Guide, First Core Post-Installation Tasks (page 121)

The section below is incorrect:

---

## Edit the `jboss_wrapper.conf` File

Comment out (or delete) the three lines in `server/ext/wrapper/conf/jboss_wrapper.conf` below:

```
#Following are added for bug 150387

#wrapper.java.additional.6=-Dorg.omg.CORBA.ORBClass=com.sun.corba.se.internal
.Interceptors.PIORB

#wrapper.java.additional.7=-Dorg.omg.CORBA.ORBSingletonClass=com.sun.corba.se
.internal.corba.ORBSingleton

#wrapper.java.additional.8=-Xbootclasspath/p:/opt/NA/server/ext/wrapper/lib/
CORBA_1.4.2_13.jar
```

Since SA 7.80 does not use Java 1.4.2, these lines are no longer required.

---

The correct instructions are:

You should adjust the values for `wrapper.java.additional.x` where  $x > 8$  is consecutive.

For example:

Change this:

```
wrapper.java.additional.1=-DTCMgmtEngine=1
wrapper.java.additional.2=-Duser.dir=/opt/NA750/server/ext/jboss/bin
wrapper.java.additional.3=-Xmn170m
wrapper.java.additional.4=-Djava.awt.headless=true
wrapper.java.additional.5=-Dfile.encoding=UTF8

#Following are added for bug 150387
wrapper.java.additional.6=-Dorg.omg.CORBA.ORBClass=com.sun.corba.se.internal.
Interceptors.PIORB
wrapper.java.additional.7=-Dorg.omg.CORBA.ORBSingletonClass=com.sun.corba.se.
internal.corba.ORBSingleton
wrapper.java.additional.8=-Xbootclasspath/p:/opt/NA750/server/ext/wrapper/
lib/CORBA_1.4.2_13.jar

#Add location of keystore. This is used to make SSL request.
wrapper.java.additional.9=-Djavax.net.ssl.trustStore=/opt/NA750/server/ext/
jboss/server/default/conf/truecontrol.keystore

# Bug 171948 - Need more PermGen
wrapper.java.additional.10=-XX:MaxPermSize=80m
```

**To this:**

```
wrapper.java.additional.1=-DTCMgmtEngine=1
wrapper.java.additional.2=-Duser.dir=/opt/NA750/server/ext/jboss/bin
wrapper.java.additional.3=-Xmn170m
wrapper.java.additional.4=-Djava.awt.headless=true
wrapper.java.additional.5=-Dfile.encoding=UTF8

#Following are added for bug 150387
#wrapper.java.additional.6=-Dorg.omg.CORBA.ORBClass=com.sun.corba.se.internal
.Interceptors.PIORB
#wrapper.java.additional.7=-Dorg.omg.CORBA.ORBSingletonClass=com.sun.corba.se
.internal.corba.ORBSingleton
#wrapper.java.additional.8=-Xbootclasspath/p:/opt/NA750/server/ext/wrapper/
lib/CORBA_1.4.2_13.jar

#Add location of keystore. This is used to make SSL request.
wrapper.java.additional.6=-Djavax.net.ssl.trustStore=/opt/NA750/server/ext/
jboss/server/default/conf/truecontrol.keystore

# Bug 171948 - Need more PermGen
wrapper.java.additional.7=-XX:MaxPermSize=80m
```

