

HP Network Automation

For the Windows[®], Linux, and Solaris operating systems
Software Version 9.21

Release Notes

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Acknowledgements

This product includes software developed by the Apache Software Foundation.

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Documentation Updates

This guide's title page contains the following identifying information:

- Software Version number, which indicates the software version.
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Introduction

These release notes include important information regarding HP Network Automation Software (NA) version 9.20. For assistance, contact HP Support at http://support.openview.hp.com/contact_list.jsp.

To report product issues, go to <http://support.openview.hp.com/>.

Note: NA 9.20 ships with the January 2012 driver pack. Newer driver packs are compatible with this version of NA.

This document is updated as new information becomes available. To check for recent updates, or to verify that you are using the most recent edition of a document, go to:

<http://h20230.www2.hp.com/selfsolve/manuals>

For more information, see Documentation Updates on page 3.

What's New in NA 9.21

NA 9.21 includes the following new features and enhancements:

- Improved task scheduling:
 - Monitoring
 - Stability
 - Task Load page
 - Task cancellation
 - Memory-management
 - New task search options, including task timing and failure types
- Improved Horizontal Scalability:
 - Reserve one or more NA cores for user interaction
 - Automated task failover in Horizontal Scalability environments
 - Task-related pages include the NA core name
 - Core List page shows core status

For more information, see version 9.21 of the *NA Horizontal Scalability Guide*.

- Improved performance for comparing large device configurations
- Optimized snapshot task
- Optimized VLAN diagnostics task

For a list of what's been fixed in NA 9.21, see the NA 9.21 patch `readme.txt` file.

What's New in NA 9.20

NA 9.20 includes the following features:

- HP NNMi–HP NA Integration improvements:
 - The integration now supports SSL connections between NA and NNMi.
 - The NNMi nodes, interfaces, and incidents forms include new tabs containing NA data (current device configuration, configuration history, and interface configuration) in the analysis pane.

For information on the HP NNMi–HP NA integration, see the *HP Network Node Manager i Software—HP Network Automation Integration Guide*.

- Import user data — You can now import user and user group definitions from CSV files.
- Import device data improvements — You can now import custom attributes for devices and device groups from CSV files.
- Task completion notification — You can now configure tasks to send email messages upon completion.
- Support for Oracle RAC.
- Improved searching:
 - Case-insensitive search for most fields with Oracle databases. (Microsoft® SQL Server and MySQL database searches are case-insensitive by default.)
 - Faster search for device configurations using the “contains (full text)” operator.
- Improved database pruning gradually reduces the size of the NA database.
- Updated PCI (formerly Visa CISP) compliance report.
- Performance improvements, including reduced data storage
- New deployment architecture for disaster recovery using Oracle GoldenGate. For information, see the *NA Disaster Recovery Configuration Guide*.
- Driver improvements:
 - Support for additional virtual devices
 - Additional IPv6 support
 - PERL API support for JavaScript drivers
 - SFTP client support
 - Ability to enforce the saving of configurations on a per-task basis
 - Support for directory structures for the filesystem diagnostic and Software Center
 - DSD_Feature_Index.html, a list of all drivers with each driver's feature matrix and a link to each driver's individual DSD
 - DSD_SYSOID_Mapping_Index.html, a master list of all supported / tested sysOIDs by driver package / driver name / driver description

What's Been Fixed in NA 9.20

The following issues have been fixed in NA 9.20.

Issue Number	Summary
QCCR1B100260	License server does not start on Windows Server 2008 64-Bit
QCCR1B102294	Document a procedure to migrate NA to 64-bit from 32-bits platform
QCCR1B85695	Do not require Adobe Flash to use the user interface
QCCR1B86526	SSH exception/disconnection occurs while handling more prompts during new CLI discovery
QCCR1B86581	Per task credentials shouldn't be editable by other users
QCCR1B86915	"System hangs and becomes non-responsive, requires restart to restore service - Dynamic device group calculation problem multiple dynamic group threads (stability)"
QCCR1B87510	Replication issue between cores (scheduler)
QCCR1B88380	Optional-binary snapshots are always stored even when the configuration is unchanged
QCCR1B89790	SSH Proxy connection should not be interrupted when special characters - üäöÜÄÖ are typed
QCCR1B92556	Unable to run database upgrade script
QCCR1B93239	Logged On Users does not list any users at all
QCCR1B93977	Password and Enable Password not saved if using newer versions of Firefox
QCCR1B97130	NCM Diagram Failure
QCCR1B98846	Cisco Catalyst 2960 - NCM reloads device with running configuration instead of startup
QCCR1D100383	Viewing sub tasks of a Multi-task job deletes the Multi-task
QCCR1D108962	Port usage documentation is out of date
QCCR1D112649	JavaScript driver (NDS) allows the customer to capture extremely large configurations
QCCR1D115410	Cannot increase ssh connection/socket timeouts with Cisco GSS driver
QCCR1D116089	Context Devices cannot be edited / no IP address assigned
QCCR1D19252	HP NA SCP Client doesn't work with NetScreen devices
QCCR1D86144	OutOfMemoryError on Recent Tasks (all) page (scheduler)
QCCR1D87086	Clarify LDAP integration for Multidomain AD environments
QCCR1D93101	NA keeping session open when interrogating the configuration on Cisco 7600's
QCCR1D95654	Command Scripts (line by line) fails to execute Write Mem
QCCR1D99616	com.mysql.jdbc.PacketTooBigException

QCCR1D115581	Policy non-compliance email messages should highlight the violations
QCCR1D118702	Out-of-memory errors
QCCR1B85988	Satellite monitor fails with com/rendition/service/UserManager error
QCCR1B86526	SSH exception/disconnection occurs while handling more prompts during new CLI discovery
QCCR1B89606	Import Diagnostics, Policies & Command Scripts issue
QCCR1B91014	Creating a group with the same name as a partition name causes exceptions
QCCR1B91254	List of command scripts does not include site information
QCCR1B91466	Limit of custom data field extensions not stated correctly in the product help
QCCR1B91615	Group list performance is poor with more than 500 groups
QCCR1B91670	Creating a 'New Event Notification & Response Rule' does not save the subsystem information
QCCR1B92142	Policy based on dynamic criteria creates database problem
QCCR1B92189	Running a show command changes the device configuration
QCCR1B92302	Telnet client converts CR to CR+LF
QCCR1B92803	Authentication failover description in help is incorrect
QCCR1B93054	Device template issue: the initial configuration is not readable
QCCR1B93055	html tags displayed in Recent/Running/Scheduled comments field
QCCR1B93263	Enabling NA 9.10.01 cross site scripting feature affects policy related user's report
QCCR1B93365	NA slow to execute scheduled child tasks from parent tasks
QCCR1B93619	Search results missing comments field
QCCR1B93677	Export/Import of command scripts truncates trailing whitespace which causes errors
QCCR1B93688	Data on user pages not aligned correctly
QCCR1B93864	Do not require Adobe Flash to use the user interface (includes QCCR1B92318)
QCCR1B93965	User ID Mismatched When Performing Device Configuration Comparisons
QCCR1B94031	Device access error in batch snapshot task but not in individual snapshot task
QCCR1B94116	CSV of compliance report displays policy compliance instead of the rule compliance
QCCR1B94258	Device Groups page takes a long time to load
QCCR1B94263	Tasks scheduled through a CSV file do not retain their configuration
QCCR1B94363	Oracle queries cannot process a large number of partitions
QCCR1B94371	Running diagnostic on Cisco firewalls yields many failures

QCCR1B94377	No device discovery hints sent from NA to NNMi for existing NA devices
QCCR1B94492	Software level violations not showing in Best Practices report
QCCR1B94740	Provide a way to resize the proxy window
QCCR1B94963	Data Pruning task fails
QCCR1B95133	Inconsistency between API commands and WSDL commands: missing input parameters: deviceid
QCCR1B95184	Displayed search results for MAC address differ from 'save as csv' results
QCCR1B95297	Custom Actions Task Failed: Could not update device status for device xyz java.lang.NumberFormatException: multiple points
QCCR1B95400	Java cannot find toolbar.png file
QCCR1B95510	NA Proxy SSH session should not break when extended ASCII or multi-byte characters are typed in the terminal
QCCR1B95629	SSH proxy no longer connects automatically to devices
QCCR1B96014	User with read-only permissions does not see policies and policy rules
QCCR1B96067	Diagnostic task clears user attribution from Change Event Data
QCCR1D72393	Provide pruning option for the RN_DEVICE_AUTH records
QCCR1D103055	NPE when running a multi-task project on IOS devices
QCCR1D111687	Device type LoadBalancer instead of Load Balancer
QCCR1D117839	"list device" API call does not return value for driverName
QCCR1D118479	Support parsing of ACS 5.x logs by NA Syslog server
QCCR1D118677	Removing an old diagnostic script should delete all related information
QCCR1D119364	Link to device in "My Favorites" is not deleted after deleting device
QCCR1D120576	Task page displays " " in the Comments field
QCCR1D121719	Module information not deleted after diagnostic history erased
QCCR1B85677	Policy rule exceptions are not applied to software policy rules
QCCR1B85901	"list image" command needs site specified, even if NA only has a single site
QCCR1B86082	Device IP addresses not updated after primary IP address change
QCCR1B86233	Policy tag feature not working properly for Full Access users
QCCR1B86996	Java API connect problems with multiple threads
QCCR1B87303	Garbage collection errors when running flows against NA
QCCR1B87505	Dynamic device group calculation problem: system becomes non-responsive, requires restart to restore service; addresses the issue of multiple threads calculating dynamic groups simultaneously
QCCR1B87506	Scripts cause a Null Pointer Exception when run in a group but not when run individually
QCCR1B87821	Test policy can fail for rule condition "must not contain"

QCCR1B88152	"list device" API call shows vendor name as status
QCCR1B88313	Update SWIM library
QCCR1B88573	View > Device > Single view page times out
QCCR1B88621	Attempt to communicate outside the time window (smStatsNotInTimeWindows error) on Diagnostic Task Detect Device Boot
QCCR1B88738	Virtual Context Firewalls not available as a type in reports and groups
QCCR1B88966	Resolve FQDN Task changes hostname to Primary IP, even though the task fails
QCCR1B89270	Diagnostics page loads slowly
QCCR1B89430	Creating a device group with the result from a search takes 15 seconds
QCCR1B89555	API/CLI: useaaaloginforproxy says (yes no) but works only for (1 0)
QCCR1B89789	SSH proxy connection should not be interrupted when special characters are typed
QCCR1B89842	Provide an option to force a save of the latest diagnostic
QCCR1B89861	Problems with advanced scripting on Windows Server 2008; problems with cross-launch to NA diagnostic results
QCCR1B90071	Syslog change detection does not behave as expected
QCCR1B90248	HP NNMI-HP NA integration: SNMP community string propagation fails
QCCR1B90513	Import/Export Scripts or Diagnostics link is enabled on Scripts or Diagnostics page for a user with no privileges
QCCR1B90518	HP NNMI-HP NA integration: Device deleted in NA is not deleted in NNMI
QCCR1B90566	Edit Device Page--NAT Interface; TFTP Server IP Address not being used when taking a snapshot from a device on the other side of a firewall
QCCR1B90815	On the Start/Stop Services page, mousing over a link changes the link color to red, not black
QCCR1B90905	Same day diagnostic data not pruned cleanly
QCCR1B91001	SyslogReader java.rmi.ServerException error; support parsing of ACS 5.x logs by NA Syslog server
QCCR1B91193	Device policy edit/view screen displays only 25 rules
QCCR1B91247	Module diagnostics fail when the Module Description is longer than 128 characters

12/14/2012: Additional Product Issue

The NA FTP Service Cannot be Controlled from the NA Console (UNIX only)

The NA FTP service does not respond to the **Start**, **Stop**, and **Restart** buttons on the Start/Stop Services page in the NA Console. QCCR1B107775

Solution: To enable these buttons, update the FTP service configuration as follows:

1. Change to the following directory:

```
<NA_HOME>/server/ext/wrapper/conf
```

2. Back up the following file to a location outside <NA_HOME>:

```
ftp_wrapper.conf
```

3. In a text editor (such as vi), open the ftp_wrapper.conf file.

4. Search for the string pid to locate the following line:

```
wrapper.pidfile=/var/run/Ftp.pid
```

5. Change the capitalization of the service name in the located line to:

```
wrapper.pidfile=/var/run/FTP.pid
```

6. Restart the NA services:

```
/etc/init.d/truecontrol restart
```

09/21/2012: Additional Product Issues

Unexpected Behavior with Multiple Web Browser Windows

When the same user is logged in to NA from multiple web browser windows on the same system, unexpected behavior might result. The cause of this behavior is that some NA components are user-based.

Running NA from multiple web browser windows for the same user is not fully supported.
QCCR1B102985

Last Successful Snapshot is Really the Last Successful Access Date

The "Last Successful Snapshot" field on the Device Details page in the NA console displays the last successful access date to the device instead the last successful snapshot date. This naming can be misleading. QCCR1B102382

Workaround: Rename the "Last Successful Snapshot" field to "Last Successful Access Date" as follows:

1. Back up the `adjustable_options.rcx` file to a location outside the `<NA_HOME>` directory.
2. In the `appserver.rcx` file, locate the following lines:

```
<option name="formatting/show device/stdout/body">Device ID :
$Device.DeviceID$
```

...

```
Last Successful Snapshot : $Device.LastAccessSuccessDate$
```

...

```
$CustomData$Comments : $Device.Comments$</option>
```

3. Copy the entire option definition from the `appserver.rcx` file to the `adjustable_options.rcx` file.
4. In the `adjustable_options.rcx` file, locate the following copied line:

```
Last Successful Snapshot : $Device.LastAccessSuccessDate$
```

5. Change the copied line to:

```
Last Successful Access Date : $Device.LastAccessSuccessDate$
```

6. Save the `adjustable_options.rcx` file.
7. Restart the NA services.

Missing Section in the Localized Report Template File

The Configuration Changes sheet of the localized report template file does not include the Device Template Configuration Changes - Last 7 Days section. QCCR1B105258

Perl SSH Times out While Waiting for Log-on Prompt

When using the NA Perl API to connect to the NA Proxy CLI using SSH, users might notice a spurious timeout error while doing the connect call. This error results from a defect in the third-party Net::SSH::Expect library. QCCR1B107878

Workaround: Wrap connect calls in a loop with several retries before declaring a connect failure. For example:

```
#Connect to the device
#
# due to issue with Net::SSH::Expect there may be random connect issues
#
my $retry=3;
while($retry) {
    if ($con->connect($myip)) {
        $retry= '0';
    }else{
        sleep 1;
        $retry--;
        unless ($retry) {
            print "Failed to connect to $myip\n";
            exit_connect();
            return (0);
        }
    }
}
```

Product Issues

The HP NNMi-HP NA integration must be enabled and disabled in the NNMi console

The Enabled/Disabled control on the 3rd Party Integrations page controls communication from NA to NNMi only. It does not fully control the HP NNMi-HP NA integration. QCCR1B102485

Workaround: Enable and disable the HP NNMi-HP NA integration on the HP NNMi-HP NA Integration Configuration form in the NNMi console.

Write memory command not included in the session log

If you select both of the "Force Save" and "Session Log" options on any device task page, you can expect to see the command used to save the running configuration to startup configuration in the task session log. For instance, for a Cisco device you can usually see the command "write memory" being sent to device in the session log. For certain tasks, you might not see the saving configuration command in the session log, notably the Run Diagnostic task. The command is sent to device but not logged. QCCR1B102502

Workaround: To confirm that the command was sent, check the jboss_wrapper log.

HP NNMi-HP NA integration: some NA interface configurations are not available in NNMi

Some NA interface configurations are available in the NA console but not in the NNMi console. For information about how NNMi interfaces are mapped to NA ports, see the *HP Network Node Manager i Software—HP Network Automation Integration Guide*. QCCR1B102518

Full-text search returns incorrect results for searches including hyphens

Full-text search queries that contain a hyphen (-) might return more results than expected. QCCR1B102520

Failure while enabling case-insensitive search (Oracle)

The `mod oraclecasesensitive -option enable` command sometimes returns an error message: `GEN_FAILURE: Failed to modify database`. In this case, case-insensitive search has not been enabled. QCCR1B102927

Workaround: Wait for few minutes, and then rerun the `mod oraclecasesensitive -option enable` command.

Autopass license overrides legacy license

Introducing an HP Autopass license key prevents NA from using a legacy license key. This issue affects customers who upgrade to NA 9.20. It can take two forms:

- A fresh installation of NA 9.20 that activates the Instant-On license during installation. In this case, the product runs fine until the Instant-On license expires. Upon expiration of the Instant-On license, NA does not recognize the legacy license, so NA is not usable.
- Application of an additional capacity Autopass license to an NA 9.20 system that was upgraded in place from a previous version of NA and is still using a legacy license. In this case, NA recognizes only the newly added capacity.

QCCR1B95407

Workaround: In either case, the solution is to remove the Autopass license key as follows:

1. Locate the Autopass license file:
 - *Windows:* <NA_HOME>\autopass\license\lickeys.dat
 - *UNIX:* <NA_HOME>/autopass/license/lickeys.dat
2. In a text editor, delete the contents of the lickeys.dat file, and then save the empty file.
3. Verify that an appropriate legacy NA license (license.dat file) exists in the NA root directory.
4. If an additional capacity Autopass license caused the issue, contact your HP Sales Representative to request a legacy format license key for the additional capacity, and then apply that key.
5. Restart the NA management engine.
NA now runs with the legacy license from the license.dat file.

Enabling cross-site scripting checks causes garbled characters in NA 9.10.01 on SJK systems

On a non-English system, when the "Cross site scripting check" check box is selected on the Admin > Administrative Settings > User Interface page, user-entered values, such as group, policy, and policy rule names, might include garbage characters. QCCR1B91853

Incorrect SNMPv3 Configuration Prevents Correct Device Detection

For a device whose NA configuration includes SNMPv3 settings, NA first tries to communicate with the device using SNMPv3. NA then tries the SNMPv1 or SNMPv2c settings. If the SNMPv3 settings are incorrect, NA does not recognize that the SNMPv3 connection failed and detects the device as a non-active node or an unrecognized host. Therefore, NA does not attempt SNMPv1 or SNMPv2c communication with the device. QCCR1B86730

Workaround: Correct the SNMPv3 settings or remove the SNMPv3 configuration so NA uses only SNMPv1 or SNMPv2.

Using SNMPv3 with Privacy and AES192 and AES256 Encryption

Several tasks, including Detect Network Devices and Discover Driver, do not correctly use SNMPv3 with the AES192 or AES256 encryption privacy protocol. QCCR1D88942

Workaround: Use a different encryption method, such as AES128.

SNMP Timeout Value Might Be Too Short for SNMPv3 Communications

If you encounter frequent timeouts during communications with SNMPv3 devices, increase the value of the SNMP Timeout setting on the Device Access tab of the Administrative Settings page. QCCR1B87867

Telnet and SSH Sessions (IPv6 devices)

NA does not cache telnet or SSH sessions to IPv6 devices. Therefore, these histories are not available from the device information page. QCCR1B87641

Alternate Driver Discovery (IPv6 devices)

Alternate driver discovery incorrectly interprets the first colon (:) of an IPv6 address as indicating a port on the device. QCCR1B87801

Users Without Permissions to All Partitions Might Not Be Able to Compare Device Configurations

Users with access to some, but not all, partitions do not see the options for comparing devices on the Configuration Changes tab of the Devices page. QCCR1D94263

Custom Diagnostics

NA enables you to define custom diagnostics to capture specific information that is useful in your environment. If the name of a custom diagnostic is longer than 80 characters, the Device Diagnostic page shows the content of the most recent diagnostic. However, the Diagnostics History table at the bottom of the page does not appear due to a rendering error. QCCR1B86671

Policies Page

Users with Admin permissions can view the full list of policies on the Policies page and segment policies into separate policy tags. However, users with Full Access permissions cannot filter policies based on policy tags when there is more than one site partition. QCCR1D86308

NA-NNMi Integration (IPv6 devices)

NA-NNMi integration does not support synchronizing IPv6 devices. Only IPv4 devices are supported. QCCR1B86228

Using the "mod authentication" command

When using the "mod authentication" command, if there are no device specific authentication records to modify for a device, the system reports an error: `GEN_FAILURE: The Device Password Information for Device you requested can not be found. It may have been deleted.` QCCR1D116666

Workaround: You can use the "add authentication" command to create a new entry.

Network Diagrams

Network diagrams can be viewed in either Visio, static JPEG, or interactive JPEG format. When installing NA 9.1 on Windows Server 2008, JPEG formatted network diagrams do not contain icons. QCCR1D113667

Memory Allocation Error

If you have installed NA on a Linux platform, you might see the following error in the log messages or within the results of failed NA tasks:

Caused by: java.io.IOException: error=12, Cannot allocate memory

This error occurs when the JVM (Java process) attempts to run an external shell script, such as a custom action or memory monitor. To run the external shell script, the system must fork its process--a mechanism that requires the parent process to copy itself for the child process. Making a copy of the parent process could send a request to the system kernel for more memory than the system can allocate. (Note that this can occur on either a 64-bit or 32-bit server.) QCCR1D114717

Workaround: As root, run the following command at the root shell prompt:

```
echo 1 > /proc/sys/vm/overcommit_memory
```

Uninstalling NA

If the current NA is 64-bit and was upgraded from 32-bit NA, the NA uninstaller does not work. QCCR1B103211

Workaround: If you upgrade a 32-bit NA platform to a 64-bit NA platform, check the NA install directory. If there is a directory named "jre_old", do the following before uninstalling NA:

1. Stop NA services (this includes TFTP, Syslog, SWIM, and FTP).
2. Rename *<NA install dir>/jre*.
3. Rename *<NA install dir>/jre_old* to *<NA install dir>/jre*.
4. Run the NA uninstaller.

FTP Service (Starting)

If you restart NA through the CLI on a Linux or Solaris platform, the FTP service will not start. You must start the FTP service via the NA Web UI after the NA has been started. QCCRID114411

Note that there are cases where FTP configuration is changed and the FTP service needs a restart to reflect the changes. In this case, you must do this via the NA Web UI.

FTP Accounts

The NAUserManager class utilizes a configuration option to identify the username and password of the authorized FTP account. There is only one FTP account at this time. If the NA administrator changes the configuration value in NA, the FTP server will not be aware of the change until it has been restarted because the FTP server does not reload configuration options before performing a user check. QCCR1D112098

Workaround: The FTP server runs as a separate process outside of NA and is not notified when changes to the .rcx files are made. Restart the FTP server if the FTP account username or password is changed.

CLI driver discovery via Bastion Host does not work for some devices

When configuring a device to use a Bastion Host server with SSH, the Discover Driver task fails with the following error message: `This task did not complete`

In addition, the Session Log is not stored for the failed task. QCCR1D105486

Workaround: Discover the driver without the Bastion Host or manually assign the driver.

Oracle Database Log Files

Oracle database users could encounter the following error in their log files, associated with a failed query:

```
java.sql.SQLException: ORA-00600: internal error code, arguments: [kglhdgn_1], [0xA000000], [0], [2], [], [], [], []
```

This is an Oracle internal error, normally handled by the DBA and Oracle Support. The error is shown below:

```
ORA-00600 internal error code, arguments: [string], [string], [string], [string], [string], [string], [string], [string]
```

This is the generic internal error number for Oracle program exceptions. It indicates that a process has encountered a low-level, unexpected condition. Causes of this message include:

- Timeouts
- File corruption
- Failed data checks in memory
- Hardware, memory, or I/O errors
- Incorrectly restored files

The first argument is the internal message number. Other arguments are various numbers, names, and character strings. The numbers may change meanings between different versions of Oracle. QCCR1D1114453

Workaround: Report this error to your DBA or Oracle Support Services.

VLAN Searches

VLAN searches saved in NA 7.50 or earlier are not valid in NA 9.20 because of VLAN features added in NA 7.60. If you attempt to view a saved VLAN search, you could see the following error message:

```
Error executing query VLAN: PortInVlanName is not a valid field name for this query.
```

Workaround: Remove and re-create the VLAN search. QCCR1D102754

Uploading Large Image Files

Currently, NA is limited to uploading device configurations no greater than 1GB. QCCR1D99027

Provision Device Task

Although the Provision Device task enables you to select more than one device, the task only works with one device (or when using a .csv file for multiple devices). Attempting to select more than one device, or a device group, using the Device Selector will cause an error.

QCCR1D102620

Canceling Tasks

If you cancel a task that is currently communicating with a device, NA could mark subsequent attempts to run the task (or similar tasks) as "skipped". This could happen even if communication between the task and the device seem to be hung and you are waiting for a timeout.

This issue can occur because NA is looking for a clean opportunity to end communication between the task and the device before actually canceling the task. As a result, NA will continue to execute the task until that point is reached. Any attempt to rerun the task before it is canceled will appear to NA as if the task is already in progress. As a result, NA will mark the new task as "skipped". You must give NA ample time to finish with the canceled task. Once that has occurred, NA will be able to rerun the task. QCCR1D101509

Using the `$tc_device_enable_password$` variable in command scripts

When using the `$tc_device_enable_password$` variable in a command script, if the device enable password contains an at sign (@) character, the @ character will be preceded by a backslash (\) character. QCCR1D100314

Device Managed IP Addresses Page

When making changes to the Device Managed IP Address, because NA attempts to remember a connection path, the change might not take effect. QCCR1D101755

Workaround: On the Device Managed IP Addresses page, click the "Reset last used IP" link.

Setting Parent Task Priority

When changing a parent task's priority that is currently running, any existing child tasks that are in the "Pending" or "Waiting" state will appropriately change their priority to that of the parent task. However, child tasks that have not been created yet or are in another state, such as "Running" or "Paused" will retain the parent task's original priority. If a parent task is not running and its priority is changed, all of the parent task's child tasks take on the new priority. QCCR1D98393

Testing OpenLDAP User Authentication

When configuring NA to use OpenLDAP for NA user authentication, save the configuration before using the test function to verify the settings. QCCR1D99664

Using LDAP Servers

If you are using a LDAP server for external user authentication, you might need to modify certain LDAP related options in the *appserver.rcx* file. The default settings will work with the Active Directory server under most situations. However, for other types LDAP servers (depending on the LDAP schema configurations), you might need to customize the following settings if you are experiencing issues with the default settings: QCCR1D99663

```
<!-- Attribute mapping for Generic LDAP server-->
<option name="ldap_server/attr_mapping/Generic/group_search">group,organizationalunit,
container,groupOfUniqueNames</option>
<option name="ldap_server/attr_mapping/Generic/group_name">name,cn,commonName</option>
<option name="ldap_server/attr_mapping/Generic/member_search">member,uniqueMember
</option>
<option name="ldap_server/attr_mapping/Generic/username_search">samAccountName,uid,cn
</option>
```

Note: Ignore the following settings. They are not used at this time.

```
<!-- Attribute mapping for SunLDAP server-->
<!-- Attribute mapping for OpenLDAP server-->
```

The “group_search” option specifies the list of LDAP entries to search against for LDAP groups. This information is used Step 3 of the LDAP Setup Wizard, where you define the LDAP groups of which the members are allowed to login to NA. Consult with your organization’s LDAP Administrator to ensure that the list contains all necessary group attributes. For example, it might be necessary to add “groupOfName” to the list for the LDAP group search to work.

The same concept applies to “username_search” and “member_search”. Both of these are used during the NA login process to positively identify the user and to determine the user’s group memberships. If the default LDAP attribute names do not match your LDAP schema configuration, change them accordingly.

The “group_name” option specifies the attribute names that usually contain the group name. If the attribute name for the LDAP group is not “name”, “cn”, and “commonName”, you must modify them accordingly. You rarely need to change this option, however.

After you made appropriate changes, save the *appserver.rcx* file and restart the NA server.

Device Relationships

Scripting to a vSwitch is done via direct API calls to the containing ESX server. As a result, there is no way to prevent scripts from modifying ESX server settings outside those that pertain to the vSwitch. Note that this is true even in cases where MSP permissions are being granted to the vSwitch, but not the containing ESX server. QCCR1D100298

Including URLs in Policies

When creating a policy and including a vendor solution URL and/or a vendor advisory URL, the URL must start with the “http://” prefix, otherwise the link might not be correctly interpreted by the browser. Note that if the URL field is left blank, when selected, the link could open the NA Home page. QCCR1D98621

Running NA on a Solaris Platform

When starting the NA server on a Solaris platform, there is a remote chance that the NA server will crash due to an error in the native *frame_sparc.cpp* file. This is due to a bug in the Solaris JVM Biased Locking feature. QCCR1D99873

Workaround: Add the following VM argument to the *jboss_wrapper.conf* file located in `NA_INSTALLED_DIR/server/ext/wrapper/conf`:

```
wrapper.java.additional.#=-XX:-UseBiasedLocking
```

Where # is the next number in sequential order of all the parameters. For example, if the *jboss_wrapper* conf file has the following arguments, the workaround VM argument would be #6.

```
wrapper.java.additional.1=-DTCMgmtEngine=1  
wrapper.java.additional.2=-Duser.dir=C:\NA\server\ext\jboss\bin  
wrapper.java.additional.3=-Xmn170m  
wrapper.java.additional.4=-Djava.awt.headless=true  
wrapper.java.additional.5=-Dfile.encoding=UTF8  
wrapper.java.additional.6=-XX:-UseBiasedLocking
```

Viewing VLAN Information for a Port/Interface

When viewing device MAC Addresses details on the MAC Address Details page, the VLAN field is not populated. QCCR1D98139

Workaround: To display VLAN information for a port/interface, click the Port Name link for that port on the MAC Address Details page. The Interface Details page opens. Scroll down to the Member VLANs field to view VLAN information.

Using Active Directory

If you are using Active Directory, you must modify the corresponding options in the *appserver.rcx* file to include the correct attributes in the search mapping session. QCCR199633

1. In the *appserver.rcx* file, locate `<!-- Attribute mapping for Generic LDAP server-->` session.
2. Make sure that:
 - "groupOfName" is included in the "group_search".
 - "uid" is included in the "username_search".
 - "member" is included in the "member_search".
3. Save the changes to the *appserver.rcx* file.
4. Restart the NA server.

Java Plug-in Version

If the Connect function fails and the NA server hangs, check what version of Java you have running on your Windows system. This is an issue with the Java Plug-in to your Web browser. The issue is not on the NA server.

To check what version of Java you are running:

1. Go to Start → Control Panel.
2. Double-click **Java**.
3. In the General tab, click the About... button.

If you have Version 6 Update 11 or later, you must install an older JRE on your Windows system. Version 6 Update 10 and earlier are known to work. QCCR1D88659

Using the Device Group Selector

Some Chinese characters will not be displayed when using the Device Group Selector. QCCR1D98865

Creating advanced Perl scripts

When creating an advanced Perl script, keep in mind that NA treats `$some_text$` as reserved variables. If you use `'$'` pairs in the script that are not NA variables, ensure you separate them with a space. QCCR1D101541

For example:

Incorrect: `my($host,$port,$user,$pass) = ('localhost','$tc_proxy_telnet_port$', '$tc_user_username$', '$tc_user_password$');`

Correct: `my($host, $port, $user, $pass) = ('localhost', '$tc_proxy_telnet_port$', '$tc_user_username$', '$tc_user_password$');`

Error when viewing results for diagnostics with single quotes in their name

When creating a diagnostic with single quotes in its name, such as "Ana's Diagnostic", after running the diagnostic against a device, the diagnostic results are not displayed. QCCR1D95468

Workaround: Do not use single quotes in diagnostic names.

Diagnostic Name Limit

When naming a diagnostic, you are able to enter up to 100 characters. However, when running the diagnostics, the name is limited to 50 characters. QCCR1D96090

Workaround: Limit diagnostic names to 50 or less characters.

Using SCP with devices in remote Realms

Devices in remote Realms cannot use the Secure Copy (SCP) Transfer Protocol because in most cases, the remote Gateway Satellite Agent cannot use SSH/SCP port 22, since the Gateway OS is already using the port. QCCR1D87003

Workaround: Disable SCP for devices in remote Realms.

Solaris and SecurID

Configuring NA to use SecurID as the authentication method can cause the management service to crash. The SecurID libraries provided by RSA are the source of the problem. Currently, the problem can occur on Solaris 10 with a version string of "SunOS 5.10 Generic_118833-22", while version "SunOS 5.10 Generic_120011-14" works fine. Please update your OS to at least this version if you are experiencing problems with SecurID on Solaris until this issue can be resolved. QCCR1D86370

Using SCP on Linux and Solaris

The Secure Copy (SCP) Transfer Protocol enables you to securely transfer files between a local and remote host or between two remote hosts using the Secure Shell (SSH) protocol. When using SCP on a Linux platform, you will need to modify your system's SSH daemon (SSHD) to run on an alternate port and restart the SSHD service. Port 8022 is recommended.

Once the system's SSHD is reconfigured, you can restart NA so that it can bind to Port 22. System administrators will need to 'ssh -p 8022 username@host' to login via the system's SSHD after the change is made.

Note: Use 'ssh username@host' for a direct connection to the NA proxy.

When logged-in to NA, you can navigate to the Device Access page (Admin → Administrative Settings → Device Access). Scroll down to the SSH Device Access field. Enter a SSH User and SSH Password. The device driver will use this information when copying files to the NA server.

Note: The device specific settings must be configured to enable SCP and SSH to function properly. In addition, the device and the device driver must support SCP to use the NA SSH server for SCP.

To use SCP with remote Realms, the SCP connection must be made back to the managing NA server. A SCP connection to the NA Gateway will not succeed because the NA Gateway runs the Linux and Solaris system SSHD. The NA Gateway sets the host to the NA Gateway and not the managing NA Core. This can be overridden by setting an access variable (TFTPServer) to the IP address of the managing NA Core. Refer to the *NA Satellite Guide* for detailed information. QCCR1D82379

Using SCP

The SSH protocol runs on port 22. Secure Copy (SCP) is a data transfer mechanism that uses the SSH protocol. By default, Linux and Solaris installs run on port 8022. Windows installs run on port 22. For Windows installs, if the port is switched to 8022, there could be connectivity issues. (Because most devices do not allow for the specification of an alternate port, this issue is uncommon.)

Note: SCP will not work if the device is in a remote Realm and access to the device is managed via a NA Satellite. You must run the NA SSHD proxy on port 22. If you use port 8022 on any platform, SCP copies from a device to NA will not work. Refer to the *NA Satellite Guide* for information on configuring NA Satellites. QCCR1D80180

Proxy Interface

If you login to NA as a limited access user and attempt to connect to a device via the proxy interface, the connection will be dropped at the username/password prompt. QCCR1D86391

SNMP Timeouts

Using SNMP device discovery over networks with latency can cause SNMP timeouts. To resolve this issue:

1. Login to NA.
2. On the menu bar under Admin, select Administrative Settings and click Device Access. The Administrative Settings - Device Access page opens.
3. Scroll down to the Detect Network Devices and Port Scan Task Settings section and set SNMP Timeout to a higher value, for example 2500 (milliseconds). QCCR1D75228

-sync option

When Workflow is enabled, attempting to run a CLI or API task with the `--sync` option will fail with a "No such directory" error. QCCR1D79600

Database Passwords

Any NA user input cannot contain multiple dollar signs (\$\$). As a result, if the password you use to connect to the database contains multiple dollar signs, you must modify the password before installing NA. QCCR1D61595

Installation Address

The IPv4 address range 169.254.0.0/16 is reserved for link-local usage (referred to as APIPA: Automatic Private Internet Protocol Addressing, by Microsoft) and is not applicable addressing for a network application server such as NA. For more information, refer to <http://www.ietf.org/> (rfc 3330 and rfc3927). QCCR1D78975

SSH Communication

NA 7.50 introduced a new set of keys for SSH communication. In releases earlier than NA 7.50, NA used one Digital Signature Algorithm (DSA) key for all installations. When you upgrade to NA 7.50 or NA 7.60, NA creates two, new 1024 bit keys. The first key uses the DSA algorithm. The second key uses the RSA algorithm. These keys are used when you connect to NA via SSH. QCCR1D78861

Custom Data Setup

Custom data fields enable you to assign useful data to specific devices, configurations, users, and so on. This gives you added flexibility and enables you to integrate NA with other applications.

To add custom data, on the menu bar under Admin click Custom Data Setup. The Custom Data Setup page opens. Custom data field can include alphanumeric and underscores. While you can use dashes, custom data field names with dashes cannot be used with `tc_device_custom` device variables in custom scripts. QCCR1D77153

Advanced ACL Scripts

Selecting the “Update Script” button when specifying an advanced ACL script can lock-in values. As a result, running (or re-running) the script could result in variables not being updated properly. QCCR1D74295

Workaround: Avoid using the “Update Script” button with advanced ACL scripts.

Use of Dollar Signs (\$) in Scripts

If generating a script from a Telnet/SSH session log, the script will fail or perform in unexpected ways if the session contains dollar signs (\$) in the executed commands. QCCR1D69342

OS Analysis Task

When using NA in an environment with overlapping IP addresses, the OS Analysis task is not supported for devices behind remote Realm gateways. OS Analysis tasks run on devices in the locally reachable network. This could result in an image recommendation being incorrect for devices behind the gateway. Keep in mind that NA will report OS recommendations for a device in the default Realm instead of a remote Realm if they share an IP address. QCCR1D67566

Email Report Task

When scheduling an Email Report task, if you select a report other than Summary Reports in the “Reports to run” field, the task is reported as failed. However, the report is successfully emailed to the recipient. You can disregard the error message. QCCR1D69342

Template Scripts

When using template scripts (i.e., Batch insert line into ACL by handle), selecting the Run Again option will rerun the same script. Attempting to change fields will not change the script that is run. QCCR1D70552

NA Core Gateways

You cannot configure redundant NA Core Gateways in the same NA Realm as a single NA Core. QCCR1D68751

Workaround: Edit the *adjustable_options.rcx* file and add the other NA Core Gateways' IP address(es):

```
<array name="rpc/allowed_ips">  
<value>10.255.54.10</value>  
</array>
```

Oracle database errors cause failed tasks and other issues

Oracle database errors cause failed tasks and other issues due to a bug in the JDBC Oracle driver. As a result, it is possible for the driver to cause database errors—causing tasks to fail and other issues. The error message information is OALL8 is in an inconsistent state. QCCR1D69094

Workaround: It is recommended that you update your version of Oracle Database Server.

Potential for task failure when using reserved NA characters in device prompts

There are eleven characters with special meanings to NA:

- Opening square bracket ([)
- Opening round bracket and the closing round bracket (()).
- Backslash (\)
- Caret (^)
- Dollar sign (\$)
- Period or dot (.)
- Vertical bar or pipe symbol (|)
- Question mark (?)
- Asterisk or star (*)
- Plus sign (+)

If you use these characters in a device prompt, there is the possibility that null pointer exception errors could occur during tasks execution. As a result, the task will fail. QCCR1D70102

Workaround: Avoid using these characters when naming devices that interact with NA.

ACLs with the same name, but different case in NA, is not recommended

NA supports case-sensitivity in ACL names. As a result, you can have two ACLs with the same name, but different case. If you delete one of those ACLs, however, all ACLs with the same name are deleted, regardless of the case. HP does not recommend multiple ACLs with the same name, but differing case in NA. QCCR1D61744

Use of the dollar sign (\$) in Perl code

If you convert a Telnet/SSH Proxy session that contains a dollar sign (\$) to Perl (such as a script that puts a \$ in the banner), NA does not properly escape the dollar sign (\$) in the generated Perl code. QCCR1D61867

Workaround: Edit the script and put a backslash (\) in front of the dollar sign (\$).

Batch editing parent device groups or device groups

When you batch edit devices in a parent device group or in a device group or partition that has no devices, an invalid error message is displayed: `You do not have Modify Device Permission for any of the devices you selected.` QCCR1D61742

Workaround: To batch edit all devices in a parent device group, do a batch edit against each child group in the parent device group.

Downloading software images from Cisco.com

You can download software images from Cisco.com for devices that are not currently in your NA system. However, to be able to successfully deploy the software image, you may need to modify the driver and/or model information. OCCR1D66891

Workaround:

1. From the Devices menu, select Device Tools and click Software Images. The Software Images page opens.
2. In the Action column, click Edit for the software image you want modify. The Edit Software Image page opens.
3. In the Image Set Requirements field, modify the driver and/or model information to be compatible with the device in NA.
4. Click the Save Software button.

Multimaster Distributed System: Importing Devices

If you import two devices with identical IP addresses into two separate NA Cores at approximately the same time, there is currently no way to detect the possibility of a duplicated device. OCCR1D59742

Workaround: Manually run the Deduplication task after importing devices. One device will be automatically “de-duplicated” and set to “Inactive.” (Refer to Chapter 7, “Scheduling Tasks,” in the *NA User Guide* for information on running the Deduplication task.)

Multimaster Distributed System on SQL Server

If you see a conflict entry for which the *reason_text* field does not reference a constraint name, it is possible that NA automatically resolved the conflict. In which case, delete the conflict entry. If NA did not resolve the conflict, make the appropriate corrections and then delete the conflict entry. The following is an example of a *reason_text* field from a conflict that does not reference a constraint name:

```
reason_text  A row insert at 'red-dalmssql102.ds2880db2' could not be
propagated to 'RED-DALMSSQL101.ds2880db1'. This failure can be caused by a
constraint violation. The merge process was unable to synchronize the row.
```

Detect Network Devices Task

The NA system prevents you from inadvertently running more than one Detect Network Devices task concurrently. Although the Detect Network Devices task generates only a minimal level of traffic, NA provides this protection to help minimize additional traffic when running duplicate or additional Detect Network Devices tasks simultaneously.

If a second or third Detect Network Devices task is scheduled while an earlier Detect Network Devices task is running, NA will place the new task(s) in the “Waiting” state. The task(s) will run individually after the first Detect Network Devices task has completed.

Diagramming

NA applies an absolute value for the "text height" attribute for interface and port labels shown in Visio diagrams. When the Visio VDX file is loaded, Visio assigns an incorrect formula to the "text height" attribute. As a result, when you have more than two lines of annotated text (i.e. a label) for an interface or port and you attempt to copy & paste, the label of the new interface or port is displayed improperly and could hide the interface or port icon.

Workaround: Click the "Text Tool" option on the Visio tool bar and move the label so as to expose the interface or port icon.

Multimaster Distributed System Performance

When running a Distributed System, if you are deleting many objects simultaneously, the system may take a while to push transactions for large delete operations.

Multimaster Distributed System External Authentication

When using external authentication in a Multimaster Distributed System environment, the External Authentication Type, for example TACACS+ or Active Directory, is global (i.e., shared between all NA Cores). Specific authentication server information is NA Core specific.
QCCR1D53815

Workaround: Set the External Authentication Type to "None" on the Administrative Settings → User Authentication page. Configure each NA Core individually with authentication server information or Active Directory setup. After all NA Cores have been configured, set the External Authentication Type on any NA Core. The External Authentication Type setting is replicated to all NA Cores.

RADIUS External Authentication

When setting up a user to authenticate using RADIUS, if the RADIUS server does not respond, NA still authenticates the user against the NA local password, even if you instruct NA not to fail-over on external authentication. QCCR1D9099

Tasks: Running External Application tasks presents a possible security risk

All Run External Application tasks run the application with root (UNIX) or system (Windows) privileges. This is a potential security risk that should be acknowledged by the System Administrator before using the Run External Application feature. QCCR1D14089

Scripts: Output results in HTML Format

When executing an advanced script or a Run External Application task, any text that the advanced script or external application writes to 'stdout' is stored in NA as the task result. Typically, this output is treated and displayed as plaintext. As a result, before NA displays the task results, it will escape any characters that would affect the HTML rendering, for example converting `<` to `<`.

However, you may want to create an advanced script that outputs its results in HTML format. In this case, none of the output characters would be escaped, so the results displayed would include any applicable HTML formatting. To indicate to NA that your script outputs HTML results, the first item that your script writes to 'stdout' must be `<html>`. If your script output begins with anything other than `<html>`, the script results will be treated as plaintext.

QCCR1D21216

Nmap Scanning

Careful consideration should be taken when identifying the network range you are going to scan. Some network topologies can result in very long scans. In addition, it is recommended that you do not scan Internet addresses. If you think your Nmap scan will take more than a few minutes, you can use several Nmap options, for example `--max_scan_delay <milliseconds>`, setting `<milliseconds>` to a value between 1 and 1000. Nmap will throttle up to 1000ms max as packets are dropped.

Keep in mind that Nmap settings can be changed using the Administrative Settings option under Admin on the menu bar, and selecting the Device Access option. Please refer to the Nmap documentation at www.insecure.org for detailed Nmap information. QCCR1D19036

SecurID Software Token Software, Version 3.x

If the NA server is installed with the 3.x SecurID token software, turn off copy protection when exporting SecurID software token keys on the RSA server. Otherwise, NA reports an error when accessing SecurID software tokens. A patched version of the SecurID software is available at RSA's website (<http://www.rsasecurity.com>). QCCR1D18988

Canceling or Deleting Tasks

Some NA tasks will spawn external processes to run PERL or Expect scripts, or to run user-provided executables or shell scripts. Under certain circumstances, NA may not be able to kill these external processes when the spawning task is cancelled or deleted. This could include scripts that spawn sub-processes or processes that are coded to catch kill signals. QCCR1D16257

Workaround: Manually stop the external process on the NA server.

Tasks: A task scheduled for the 31st might run on the 1st

If you schedule a monthly recurring task for the 31st of every month and that task runs during a month that contains fewer than 31 days, NA will run the task on the 1st, 2nd, or 3rd day of the next month depending on how many days fewer than 31 the previous month contains. For example, if you schedule a task in February (with 28 days) for the 30th, the task will actually run on March 2nd. If you want to run the task on the last day of the month, you must set the date correctly. QCCR1D11142

Inventory: Data from device overwrites manually entered values

Certain data on the Device Details page (and other pages) is auto-populated. If you manually change the data, NA overwrites the values when the next snapshot occurs. QCCR1D11942

The automatically populated data includes:

- Domain Name
- Host Name
- Model
- Serial Number
- Location
- Vendor

Console Server: SSH access is not supported

NA does not support console server access via SSH. If you use a console server to access a device, you must use the Telnet connectivity. In other words, on the New Device page/Edit Device page, if "Use to access device" is checked in the Console Server Information section, you should make sure that the "Telnet" option in the Connection Information section is also checked. QCCR1D11402

Sending reports to external email addresses

Even though you may have properly configured NA to contact your SMTP server, for network security reasons your SMTP server could have been configured to reject messages from the NA server address. In this case, you would see the following error message, and any NA messages would not be delivered.

```
Error occurred when sending email. Please check the email address and/or your SMTP server settings.
```

If this occurs, you will need to configure the SMTP server to enable the NA server to relay email messages through it. QCCR1D15982

We appreciate your feedback!

If an email client is configured on this system, by default an email window opens when you click [here](#).

If no email client is available, copy the information below to a new message in a web mail client, and then send this message to ovdoc-nsm@hp.com.

Product name and version: NA 9.21

Document title: NA Release Notes, December 2012

Feedback: