openservice™
making network security secure

NerveCenter 5.0.00 Release Notes

Windows and UNIX
Version 5.0.00

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NerveCenter 5.0.00 Release Notes

OpenService NerveCenter™ is a proactive event correlation application that intelligently filters network events, automates corrective actions, and forwards important events to a network management platform.

A site can move directly to NerveCenter 5.0.00 from any NerveCenter 3.8, 4.0, or 4.1 release, patch, or hotfix. Please read *New Features and Fixes on page 14* for information about what new features NerveCenter 5.0.00 contains.

Read This First

Disclaimer: These release notes are for use with NerveCenter 5.0.00 and supersede all existing documentation. The models provided with NerveCenter 5.0.00 are for demonstration use only, and are not intended for production.

NerveCenter and IPv6

NerveCenter supports networks with devices running the IPv6 protocol within the following guidelines only:

- ◆ Your network must support the IPv6 protocol. If IPv6 devices reside on different network than the NerveCenter management node, your routers must support IPv6 routing.

- ◆ You must configure the SNMP Agent on your IPv6 devices to support all SNMP requests on IPv6.

- ◆ You must choose NerveCenter as your Trap Source in order to accept IPv6 SNMP notifications.

- ◆ You must have a working DNS, NIS, or other server properly configured to use name resolution for IPv6 addresses.

- ◆ You must install the NerveCenter server on a machine with IPv6 and IPv4 stack support.

While NerveCenter supports monitoring IPv6 networks, it has the following limitations:

- ◆ Communication between the NerveCenter server, the Administrator, and the Client does *not* support IPv6.

- ◆ Communication between NerveCenter and network management platforms such as HP Openview does *not* support IPv6.

- ◆ The IPSweep alarm does *not* support IPv6.

- ◆ When using Perl, commands generated by NerveCenter work with IPv6. However, all Perl network packages do not support IPv6. For example, GET or SET commands in the NEW::SNMP package do not work with IPv6.

Requirements

This section describes the hardware and software requirements to install NerveCenter 5.0 and contains the following:

- *Software Requirements*
- *Hardware Requirements*

Software Requirements

This section describes the operating system requirements to install NerveCenter, and the version requirements for integration with Network Management platforms such as Hewlett-Packard OpenView.

- *Operating System*
- *Network Management Platforms*
- *Web Servers*
- *Web Browsers*

Operating System

NerveCenter 5.0 works with the following operating systems. See the following sections for details about operating system requirements:

- *HP-UX*
- *Linux*
- *Solaris*
- *Windows*

HP-UX

- HP-UX 11i v1 (B.11.11) with the following recommended patches:

    - TOUR 2.5 on HP-UX 11i v1, which requires the following software patches:

    (as listed in the release notes for TOUR 2.5)

        - March 2003 or later HP-UX 11i Support Plus (Quality Pack) (GOLDQPK11i) (B.11.11.0212.5 or later)

        - PHCO_24287 (or later) - Patch for syslogd (1M)

        - PHNE_27796 (or later) - libnss_dns DNS backend patch

        - PHNE_28895 (or later) - Cumulative ARPA Transport patch

        > ✎ **NOTE**
        > After TOUR 2.5 is installed, the Transport Cumulative patch level is equivalent to the PHNE_31247 patch. This is because the modules included in the regular ARPA/Transport patch are replaced by the modules included in TOUR.

        - PHKL_29696 (or later) - Needed for STREAMS patch

        - PHCO_29287 (or later) - libc cumulative patch

        - PHCO_29328 (or later) - libc manpage cumulative patch

        - PHNE_30450 (or later) - nettl patch (recommended, but not required for install)

        - PHNE_30367 - STREAMS patch (you have to remove any later version patch first, if already installed)

    > ⚠ **CAUTION**
    > For HP-UX 11.i you must increase file handles to 200.

- NerveCenter requires a CDE desktop installed

- The machine should have a fixed IP address and hostname

- You must upgrade your browser to at least Netscape 7 or Mozilla 1.6

- To view the online help, you must specify a path to a supported web browser when installing NerveCenter (see *Installing NerveCenter on UNIX in Installing NerveCenter* for details)

Linux

- RedHat Enterprise Server 3.0 with the most recent recommended patches

- RedHat Enterprise Server 4.0 with the most recent recommended patches

- X-Windows software with Motif or CDE to run the following NerveCenter components: Client, Administrator, and SerializeDB

  An X server must be installed but does not have to be running to run the following NerveCenter components: Server, Command Line Interface (CLI), Importutil, and IPSweep.

  The DISPLAY variable must point to a valid X display for the following NerveCenter components: Client, Administrator, IPSweep, and SerializeDB.

- NerveCenter requires a Gnome desktop installed

- The machine should have a fixed IP address and hostname

- You must upgrade your browser to at least Firefox 1.5, Netscape 7, or Mozilla 1.6

- To view the online help, you must specify a path to a supported web browser when installing NerveCenter (see *Installing NerveCenter on UNIX in Installing NerveCenter* for details)

Solaris

◆ Solaris 8 with the most recent recommended patch bundle

🖉 **NOTE**

NerveCenter no longer functions after applying the Solaris 8 Recommended Patch Bundle dated June 27, 2003. The following error message appears in the ncserver.log file in the /tmp directory located in NerveCenter home directory.

Assertion failed: 0, file ../lnk/throw.cc, line 366

If you have not yet installed this patch bundle, you can comment out patch 109147-24 from the patch_order file that is processed by the install_cluster script. If you have installed this patch bundle, back out patch 109147-24. For further information about patch 109147-24, please visit Sun's website.

◆ Solaris 9 with the most recent recommended patch bundle

◆ Solaris 10 with the most recent recommended patch bundle

◆ X-Windows software with Motif or CDE to run the following NerveCenter components: Client, Administrator, and SerializeDB

An X server must be installed but does not have to be running to run the following NerveCenter components: Server, Command Line Interface (CLI), Importutil, and IPSweep.

The DISPLAY variable must point to a valid X display for the following NerveCenter components: Client, Administrator, IPSweep, and SerializeDB.

◆ NerveCenter requires a CDE desktop installed

◆ The machine should have a fixed IP address and hostname

◆ You must upgrade your browser to at least Netscape 7 or Mozilla 1.6

◆ To view the help, you must specify a path to a supported web browser when installing NerveCenter (see *Installing NerveCenter on UNIX in Installing NerveCenter* for details)

Windows

- Windows XP Professional with Service Pack 2

- Windows Server 2003 with Service Pack 1

- (Administrator and Client only) Windows 2000 Professional and Server with Service Pack 4

  You cannot install NerveCenter Server (ncserver) on Windows 2000.

- The machine should have a fixed IP address and hostname.

is also compatible with the following databases:

- MS SQL 7.0

- MS SQL Server 2000

  If NerveCenter uses a SQL Server database, the database must be case insensitive.

- Microsoft BackOffice v2.5 requires Microsoft Windows NT 4.0 Server for SQL Server

- Microsoft Access

- ODBC 3.5 and 3.6

Network Management Platforms

NerveCenter 5.0 can be used as a stand-alone system or in conjunction with the following network management platforms:

- HP OpenView Network Node Manager 7.x

  ⚠ **CAUTION**
  If you are installing NerveCenter on the same machine as OpenView, you should install and confirm OpenView is working properly before installing NerveCenter.

  📝 **NOTE**
  OVPA, the integration component of NerveCenter for HP OpenView is not supported on Linux.

- IBM Tivoli (formerly Micromuse) Netcool/OMNIbus

  For integration to be complete, Netcool/OMNIbus must include the NerveCenter probe provided by IBM Tivoli (nc probe version 64 rev 1). For more information, contact your IBM Tivoli representative.

  📝 **NOTE**
  SEMSOPCA, the tool used to integrate with HP OpenView IT/Operations A.04.00, is provided for historical purposes only. It is depreciated and not supported.

Web Servers

NerveCenter 5.0 is compatible with the following web servers:

- ◆ Apache 1.3.x and 2.0.x for Solaris and HP-UX
- ◆ Microsoft Internet Information Server (IIS) 5.0 (Windows 2000), IIS 5.1 (Windows XP) Web Browsers

The following web browsers can be used with the NerveCenter Web Collector:

- ◆ Firefox 1.5 or above
- ◆ Microsoft Internet Explorer 5.5 and 6.0 (Windows only)
- ◆ Netscape Navigator 7.0 or above

Web Browsers

To use the OpenService NerveCenter online documentation and help, you may use the following browsers:

- ◆ Firefox 1.5 or above
- ◆ Internet Explorer 4.0, 5.0 or 6.0 or above

  You must configure Active Content to run on your machine with Internet Explorer version 6. Select Tools > Internet Options > Advanced > Security. You must enable the following option for the search to work: **Allow active content to run in files on My Computer**.

- ◆ Mozilla 1.6 or above
- ◆ Netscape Navigator 7.0 or above

📝 **NOTE**
To view the help, you must specify a path to a supported web browser when installing NerveCenter on UNIX. See *Installing NerveCenter on UNIX in Installing NerveCenter* for details.

Hardware Requirements

The following table lists the minimum hardware configuration required for NerveCenter 5.0. The minimums given assume the machine is running the base operating system and NerveCenter only.

TABLE 1. Minimum Hardware Requirements

HPUX	Solaris	Linux and Windows
512 MB RAM; 1024 MB Swap	512 MB RAM; 1024 MB Swap	512 MB RAM
440-MHz PA-8500 2.0	450 MHz UltraSPARC-II module	1 GHz Intel Processor
200 MB of disk space	200 MB of disk space	200 MB of disk space
Color monitor, 1024 x 768, 256 colors	Color monitor, 1024 x 768, 256 colors	Color monitor, 1024 x 768, 256 colors

- The process /usr/sbin/rpcbind must be running on UNIX systems for the NerveCenter Server to start

- HP-UX systems also require 25 MB RAM in the /tmp directory

Installation

Installation instructions for NerveCenter can be found in the book *Installing NerveCenter*, available as install.pdf in the root directory of the release kit.

> ⚠️ **CAUTION**
> Before installing NerveCenter 5.0, you should read the sections New Features and Outstanding Issues for important information about behaviors that require additional explanation.
>
> If you are upgrading from a previous version of NerveCenter, see *Upgrading NerveCenter*.

For other information about NerveCenter see the documentation, available in the *InstallPath*/docs directory or the Client or Administrator Help.

Additional Step for First-time, OVPA-only Installs

For a first-time, OVPA-only install, users must add one or both of the following two lines to their local /etc/services file (or the /etc/services file on the NIS server, if running NIS):

- ◆ nl-nc-opc-adapt 6028/tcp
- ◆ nl-nc-plat-adapt 6024/tcp

The first line applies to Operations Center and ITO adapters. The second line applies to OpenView platform adapters. Editing the services file requires root privileges on the host platform.

If you are making these changes on an NIS server, you will need to run 'make services' from the /var/yp directory to push the changes out to NIS clients.

These entries tell the platform adapters which TCP port to open for communications with NerveCenter Servers. If the required entry or entries is absent, the platform adapter will exit on startup with an Accept Socket Error.

Upgrading to NerveCenter 5.0.00

The following is an overview of the NerveCenter 5.0.00 upgrade. OpenService strongly recommends reading *Upgrading NerveCenter* before installing NerveCenter 5.0.

> **NOTE**
> NerveCenter 4.1 introduced support for the IPv6 protocol. IPv6 has new operating system requirements listed in *Operating System on page 3*. You must meet the new operating system requirements to install or upgrade NerveCenter.

- NerveCenter 5.0 components are not compatible with older NerveCenter components. For example, a 4.0 NerveCenter client will not connect with a NerveCenter 5.0 server. You must upgrade all NerveCenter components at the same time, including integration components such as ovpa and paserver.

- You must serialize your existing database before upgrading to NerveCenter 5.0. If you do not serialize your database before installing NerveCenter 5.0, you will need to reinstall the old version of NerveCenter to serialize your database.

- You must uninstall your older version of NerveCenter before installing NerveCenter 5.0.

- New Property Groups and Properties have been added to the database for fresh installations. These Property Groups are associated with the NerveCenter SNMP Agent MIBs:

    - OPENSERVICE-NERVECENTER-CONFIG-MIB

    - OPENSERVICE-NERVECENTER-CORRELATION-MIB

    - OPENSERVICE-NERVECENTER-MONITOR-MIB

    For upgrade installations using a version 4.0 or earlier database, you need to manually import the MIBs to poll the NerveCenter SNMP Agent.

Serial Numbers (License Keys)

The serial number (license key) you will need to operate NerveCenter depends on the following scenarios:

- If you have just purchased or are evaluating NerveCenter, please use the serial number provided by your OpenService representative.

- If you are on maintenance and are upgrading from NerveCenter 3.8, your existing serial number (license key) will continue to work.

- If you are a current NerveCenter user but not on maintenance, you will need to purchase an upgrade with maintenance by calling the OpenService Customer Administration Services group at 1-888-886-1085, ext. 3.

NOTE
Four characters are not used in NerveCenter serial numbers. These characters are: 0 (zero), 1 (one), 5 (five), and Q.

NOTE
WebCollector connections to a NerveCenter Server do not require an additional client connection license.

New Features and Fixes

Version 5.0.00

NerveCenter 5.0 includes the following new features:

TABLE 2. New Features in NerveCenter 5.0

Feature	Description
Additional "out of the box" models	NerveCenter 5.0 includes the following sample models: ◆ Host Resource Models ◆ Cisco Environmental Models ◆ Catalyst Environmental Models ◆ InfoCenter Collector Event Logging Model ◆ ICMP Enhanced Processing Model See the *Behavior Models Cookbook* for additional details.
Additional "out of the box" MIBs	The MIB file distribution has been updated and expanded. Upgrades and additions have been made to RFC and Vendor MIB directories.
ThreatCenter integration	The InfoCenter Console can now receive NerveCenter informs for more centralized event presentation and management. See *Configuring ThreatCenter* for details.
	A new NerveCenter Connector allows NerveCenter to receive additional data feeds from ThreatCenter for correlation purposes (e.g., Syslog, log files, database tables, WMI, and Snort). See *Configuring ThreatCenter* for details.
Perl module upgrades	The Perl modules included with NerveCenter have been updated and expanded; these include: DBI, Net-SNMP, Net-Telnet, Net-TL1, XML-Parser, DBD-MySQLPP, and DBD-ODBC.
Perl module integration	NerveCenter 5.0 includes the complete Perl 5.8.3 environment to allow for easier installation and integration of additional Perl modules.

TABLE 2. New Features in NerveCenter 5.0 (Continued)

Feature	Description
NCCMD enhancements	The NCCMD command line utility no longer requires a client license to connect to NerveCenter Servers. Also, NCCMD can now add nodes in addition to editing their attributes or deleting them.
PAM support on UNIX/Linux	UNIX and Linux versions of the NerveCenter Server now authenticate user login requests through the host Pluggable Authentication Modules (PAM) system. See *Managing NerveCenter* for details.
Enhanced ICMP Listener	ICMP handling has been enhanced to provide better information about the network traffic layer and additional ways to monitor it.

NerveCenter 5.0.00 contains the following fixes.

TABLE 3. Fixes in NerveCenter 5.0

Issue	Description	Resolution	HP	RHEL	Sol	Win
22217	NerveCenter would not accept MD5 passwords on Solaris 10.	Added support for MD5 and Blowfish password formats in the ncsecurity utility.	✓	✓	✓	
22581	Instance Scope alarms fail to come out of Ground after occurrence.	Corrected Alarm Instance handling, allowing Instance scope alarms to come out of Ground as needed.	✓	✓	✓	✓
14250 22932	Reloading the MIB causes the NerveCenter server to exit.	The MIB can no longer be reloaded at runtime; you must now: 1. Stop ncserver. 2. Back up the current nervecenter.mib and mibnamemap.txt files (or rename them to nervecenter.mib.old and mibnamemap.txt.old). 3. Copy in the new nervecenter.mib and mibnamemap.txt files. 4. Restart ncserver.	✓	✓	✓	✓
23255	Installation fails to prepare integration between NerveCenter and IBM Tivoli Netcool/OMNIbus.	Corrected NerveCenter installer to properly add a boot script for starting the integration service (paserver).	✓	✓	✓	

Version 4.1.03

NerveCenter 4.1.03 contains the following fixes and updates.

TABLE 4. Fixes in NerveCenter 4.1.03

Issue	Description	Resolution	HP	RHEL	Sol	Win
21370	NerveCenter is not sending color changes to OV map.	Corrected the ovpa mapped severity values sent to OV map.	✓	✓	✓	
21332	SNMP Agent listens on the wrong port.	Corrected the listening port for SNMP Agent.	✓	✓	✓	
21546	Command line program caused Action manage hang.	Corrected the passing of system commands during alarm transitions.	✓	✓	✓	
21551	Reports of alarms going stale and losing SNMP connectivity.	Reworked the ICMP reply to SNMP requests for better match up.	✓	✓	✓	✓
21850	Ncserver memory leak.	Corrected memory problem in SNMP agent thread, GetBulk handling, and SNMP Response handling.	✓	✓	✓	✓
22027	ncget returning error cannot initialize the SNMP stack.	Provided default of $SR_MGR_CONF_DIR within logic.	✓	✓	✓	
22181	NerveCenter informs fail to be sent from ncserver.	Wait for connection to synchronize before sending informs.		✓		
22144	Nodes manually added to NNM don't appear in the NerveCenter Node list.	Corrected the timing and logic between NNM and ovpa.	✓		✓	✓
22527	The New Action popup menu on the Transition Definition, Action Router Rule Definition, and Correlation Expression dialog boxes can freeze the desktop if the user clicks outside the popup menu.	Replaced the popup menu with a selection list.	✓	✓	✓	✓
22848	Installation with no doc bug: default no docs index.html file missing.	Package index_nodoc.html file first. Then extract index_nodoc.html and move it to docs/index.htm.	✓	✓	✓	
22686	Ncserver is unable to generate SNMP_TIMEOUT, SNMP_NOSUCHNAME, and other internal triggers.	Preserve instance for upper layer to process error return and generate proper internal triggers.	✓	✓	✓	✓

TABLE 4. Fixes in NerveCenter 4.1.03 (Continued)

Issue	Description	Resolution	HP	RHEL	Sol	Win
10984	Technical support in Help menu goes to old web site.	Update the Help link with the latest URL.	✓	✓	✓	✓
22688	NerveCenter SNMP timeout period change needs restart of ncserver.	Changed code to allow running ncserver to update its timeout setting with brassd.	✓	✓	✓	✓
19903 19922	Polling Stuck on NC 4.1.	Corrected the ICMP and Timeout handling to prevent a polling stop.	✓	✓	✓	✓
22263	Enabling the SNMP agent will create a defunct ncserver zombie process.	Corrected the process to invoke an SNMP agent.	✓	✓	✓	
22812	The latest brassd from SNMP Research doesn't support IPv6 on RHEL v4.	Replaced with new brassd from SNMP Research.		✓		
22851	Software License Agreement is not paging during installation.	Corrected the installation script to page the license agreement.	✓	✓	✓	

Version 4.1.02

NerveCenter 4.1.02 contains the following fixes and updates:

TABLE 5. Fixes in NerveCenter 4.1.02

Issue	Description	Resolution	HPUX	RHEL	Sol	Win
#20954	NC not processing GetBulk responses appropriately.	ncserver's GetBulk response handling needed to better handle table "holes".	✓	✓	✓	✓
#20945	NC not processing SNMPv2c Traps appropriately.	ncserver's was not performing correct TrapOID and Enterprise comparisons between received Trap and user's Mask definitions.	✓	✓	✓	✓
#20831	NC not processing SNMP Traps with Enterprise OID starting with "1.3.6.1.4.1.78*"	ovtrapper has been dropping all traps with "78" starting off their enterprise. Ex: 78, 780, 781, 782 ... 7800, 7801...	✓	N/A	✓	✓

TABLE 5. Fixes in NerveCenter 4.1.02 (Continued)

Issue	Description	Resolution	HPUX	RHEL	Sol	Win
#20736	NC should forward received SNMPv2/v3 Notifications on "Send Trap" Action.	ncservers's "Send Trap" Action needed to emit a Trap regardless of the version of the received Trap. All traps are emitted using SNMPv1.	✔	✔	✔	✔
#20654	NC server was exiting abruptly at startup.	ncserver's startup SNMPv3 Get initialization query responses were not being properly handled.	✔	✔	✔	✔
#20499	Encoding's 'Filter' 'Automatic' setting does not work (on anything except maybe WinNT4.0!).	ncserver did not examine actual network interfaces on host when building set for GUI.	✔	✔	✔	✔
ENH001	ncping enhancement.	Allow ncping request timeout period to be specified as x.xx seconds.	✔	✔	✔	✔
#18255	NC did not send a Clear event to Micromuse.	Logic error in traversal of existing Inform connections list.	✔	✔	✔	✔
ENH002	Release labeling.	Centralize NC's build and version label control.	✔	✔	✔	✔
#20351	Table walks using SNMPv3.	ncserver was not traversing tables when using SNMPv3.	✔	✔	✔	✔
#20112	Cannot select non-default SNMP Trap listening port.	ncserver was able to listen for SNMP Traps at the non-default port (162/udp).	✔	✔	✔	
#20275	Only halt NC's snmpdm and mib2agt processes.	ncserver was halting wrong instances of snmpdm and mib2agt.	✔	✔	✔	
ENH003	ncget enhancement.	Allow ncget requests to non-standard SNMP ports (161/udp default).	✔	✔	✔	✔
#20218	NC does not read in XML data.	ipsweep was fumbling read of data from XML file.	✔	✔	✔	

Patch 4.1.02 installs the following files on your machine:

- ncserver
- ovtrapper

Version 4.1.01

NerveCenter 4.1.01 contained the following fixes and updates.

TABLE 6. New Features of NerveCenter 4.1.01

New Feature	Description
Sun Solaris 10 Support	You can run NerveCenter on Solaris 10.
Red Hat Linux Enterprise Server 4 Support	You can run NerveCenter on Red Hat Linux Enterprise Server 4.
Support for Administrator and Client on Windows 2000	You can run NerveCenter Administrator and NerveCenter Client on Windows 2000.
SNMP SubAgent enhancement	A new table was added to the NerveCenter SNMP SubAgent, which allows you to see the IP addresses associated with each entry in the Node List table.

The following table describes the fixes in NerveCenter 4.1.01.

TABLE 7. Fixes in NerveCenter 4.1.01

Tracking Number	Description
19721	Incorrect handling of System Object Ids field on the Node Source tab of NerveCenter Administrator on UNIX ncservers. Corrected with a patch to ncserver.
19748	Unable to fully connect to NerveCenter Web Interface. Issue with the webcollector binary on HP-UX.
19838	Unable to install NerveCenter Client and Administrator on Windows 2000 systems. Issue is with the Windows installer.
19849	Installation and run-time management of paserver fails on Linux. Issue with the installer and the paserver startup/shutdown scripts on Linux.
19893	ncget utility only works when polling IPv6 addresses on all platforms.
19894	ncget utility only reports OIDs and lacks ability to report MIB entry name translations on all platforms.
19896	Timeout errors with ipsweep for all active devices.
19903	Incorrect handling of ICMP timeouts on all platforms. Issue is with ncserver.
19916	Displayed error message if either IPv4 or IPv6 hostname resolution did not complete successfully. Now, an error message only displays if neither IPv4 nor IPv6 hostname resolution complete successfully.

TABLE 7. Fixes in NerveCenter 4.1.01 (Continued)

Tracking Number	Description
19968	NerveCenter incorrectly handling ICMP responses to SNMP polls on Windows. Issue is with underlying brassd.exe.
20002	NerveCenter MIB has altered OID structure used by NerveCenter SNMP interface on all platforms.

Version 4.1

NerveCenter 4.1 contained the following features.

TABLE 8. New Features of NerveCenter 4.1

New Feature	Description
Active Directory Support	On Windows, you can connect to an Active Directory server to configure NerveCenter users.
Property Filters	You can create filters for property values to make polls more efficient. If you are polling a property with a large number of numerical values, you can limit the property values NerveCenter polls.
SNMP Agent	NerveCenter has an SNMP agent you can poll from other SNMP applications which supplies status information about NerveCenter.
New Property Groups and Properties	New Property Groups and their Properties have been added to the database for fresh installations. The Property Groups are associated with the NerveCenter SNMP Agent MIBs. The new Property Groups are: OPENSERVICE-NERVECENTER-CONFIG-MIB, OPENSERVICE-NERVECENTER-CORRELATION-MIB, and OPENSERVICE-NERVECENTER-MONITOR-MIB. For upgrade installations using a version 4.0 or earlier database, you need to manually import the MIBs to poll the NerveCenter SNMP Agent.

TABLE 8. New Features of NerveCenter 4.1 (Continued)

New Feature	Description
GetBulk Support for SNMPv2c and SNMPv3	NerveCenter utilizes the SNMP `getbulk` operation. `Getbulk` operations allow NerveCenter to retrieve large portions of a table in a single response, instead of making repeated `getnext` requests. This increases NerveCenter's polling performance on nodes possessing a large number of instances, such as a managed device with many ports or interfaces (for example, multiple ifEntry table rows).
	You do not need to make any changes to take advantage of the `getbulk` functionality; however certain criteria must be met for NerveCenter server to use `getbulk` over the standard **getnext** operation.
	◆ `Getbulk` operations are used whenever a polled Node's SNMP version is classified as v2c or v3.
	Node classification can be viewed on the Client's Node Definition dialog SNMP tab.
	◆ The property being polled must be associated with a MIB table (as opposed to a singleton object).
	◆ The property group's property must not have a filter applied, as this effectively reduces the required processing of multiple responses.
	Property filters can be viewed from the Client's Property Group List dialog.
	◆ Instance-scope and Suboject-scope alarm instances that have transitioned out of ground utilize standard individual polls to allow flexible state transitions for each unique instance.
	With these restrictions in mind, you can employ several techniques to optimize the performance of NerveCenter polling:
	◆ Classify Node versions as at least v2c if they support that level of SNMP
	◆ Utilize Property Filters only when eliminating a large range of instances from a large table
	◆ Design Alarm models that do not transition out of ground for trivial events.
IPv6 Support	NerveCenter supports networks using IPv6 protocol. See *NerveCenter and IPv6 on page 2* for more details.

The following table describes the fixes in NerveCenter 4.1.

TABLE 9. Fixes in NerveCenter 4.1

Tracking Number	Description
18500	Fixed false trigger issue in ncserver.
19143	
18961	Fixed paserver.
18522	Fixed Delay Trigger issue in ncserver.
18792	
18589	Fixed SNMP SET issue in ncserver.
18512	Fixed the way certain Perl subroutines were handled in ncserver.
18753	Fixed OVPA sending inappropriate informs.
19208	Fixed handling of ICMP responses "network unreachable" and "node unreachable" in ncserver.
18921	Fixed unmanaging multiple nodes issue in ncserver.
18679	

Outstanding Issues

The following table lists the known issues in NerveCenter 5.0.

TABLE 10. Outstanding Issues in NerveCenter 5.0

Issue	Description	Win	Linux	HP-UX	Solaris
23031	NerveCenter SNMP interface: cannot read osincLogDatabaseMaxRecordCount.	✓	✓	✓	✓
23033	NerveCenter SNMP interface: osincFilters not working.	✓	✓	✓	✓
23034	NerveCenter SNMP interface: osincInform table not working correctly.	✓	✓	✓	✓
23162	NerveCenter SNMP interface: osincostnameFilters are not returned correctly on SNMP query.	✓	✓	✓	✓
PDF documentation	Links between NerveCenter documentation PDFs will not work unless the first PDF is launched from within the *install_path*/docs/pdf directory structure.	✓	✓	✓	✓
NerveCenter Administrator and Client do not display on Red Hat Linux Enterprise Server 4	The NerveCenter Administrator and Client do not display on an X (window) display directly connected to Red Hat Linux Enterprise Server 4. If you try to run the Administrator or Client you receive the following error: Wind/U X-toolkit Error: wuDisplay: Can't open display. To view the Administrator or Client, change the DISPLAY variable to **:0**. For example, in a bash shell, enter **export DISPLAY=:0**.		✓		

TABLE 10. Outstanding Issues in NerveCenter 5.0 (Continued)

Issue	Description	Win	Linux	HP-UX	Solaris

Symbolic links cause webclient to fail on Red Hat Linux Enterprise Server 4	If you have symbolic links from directories accessed by the web server, the NerveCenter web client fails with the following error: (13)Permission denied: access to /NerveCenter denied. You must use the full path to the web and cgi directories. Edit ncweb.conf located in the HTTP configuration directory (/etc/httpd/conf.d by default). Change the following lines:
	
	`ScriptAlias /NerveCenterCGI/ "/opt/OSInc/nc/web/cgi/"`
	`Alias /NerveCenter "/opt/OSInc/nc/web"`
	
	to use the full path without links. For example, if you have installed NerveCenter in /usr/opt/OSInc/:
	
	`ScriptAlias /NerveCenterCGI/ "/usr/opt/OSInc/nc/web/cgi/"`
	`Alias /NerveCenter "/usr/opt/OSInc/nc/web"`
			✓		

Compatibility issues between 4.1 and previous releases	NerveCenter 4.1 is incompatible with previous releases of NerveCenter. There are changes to the software that prevent this version from interpreting with earlier releases of NerveCenter installed on other machines. Update all systems to NerveCenter 4.1.	✓	✓	✓	✓
SNMP Agent failure	If you rapidly and repeatedly enable and disable the SNMP Agent service, the SNMP Agent may fail. You can only restart the SNMP Agent by restarting your machine.	✓			
Poll Condition text error	If you use the auto-text insertion for elapsed in a poll condition (right-click a poll condition and select Poll Condition > other functions > elapsed), NerveCenter inserts `elapsed(` instead of `elapsed`.	✓	✓	✓	✓
firetrigger $ANY changes subobject to $ANY	If you have an instance scope alarm and call firetrigger $ANY the subobject gets changed to $ANY.$ANY in the alarm view.	✓	✓	✓	✓

TABLE 10. Outstanding Issues in NerveCenter 5.0 (Continued)

Issue	Description	Win	Linux	HP-UX	Solaris
MSTRAP requires Windows XP or 2003 wsnmp32.dll	If you are using MSTRAP as your trap source, you must use the \%SystemRoot%\System32\wsnmp32.dll provided with Windows XP and Windows 2003.	✓			
Cannot fire trigger if use AssignPropertyGroup() perl function in trigger function or poll condition	Use of the AssignPropertyGroup() perl function in a mask trigger function or poll condition appears to prevent any triggers being fired in the same trigger function or poll condition for that node.	✓	✓	✓	✓
File Table Overflow error with HP OpenView 7.0	If NerveCenter is running on HP-UX 11.0, co-resident with HP OpenView Network Node Manager and you encounter the error file table overflow, you need to increase the kernel arguments nproc and nfile on the HP-UX 11.00 machine to make sure HP OpenView 7 and NerveCenter can work properly.			✓	
Client hanging or freezing	From NerveCenter client, in the Connect to Server window, after you enter the connection information (Server Name, user ID, and Password) and click Connect, the client may freeze.			✓	
	If you have autoconnection set up in client, the client may hang before you can see the Aggregate Alarm Summary window.				
The browser path must be entered correctly the first time NC is installed	When installing the NerveCenter Client and or the NCadmin the user is asked for a path to the browser. If this is not entered the during the first installation a subsequent installation will not correct the problem. The workaround is to uninstall and reinstall with the correct path the first time.		✓	✓	✓
SerializeDB import file types operate on both file types but only one is selected	The NerveCenter utility, SerializeDB, has an Import file to database option that enables you to import only .asc file types; however, SerializeDB will allow you (incorrectly) to also select .ncdb file types for import without displaying an error.	✓			
	Some users might incorrectly think that the .ncdb file SerializeDB allowed them to select was actually imported.				

TABLE 10. Outstanding Issues in NerveCenter 5.0 (Continued)

Issue	Description	Win	Linux	HP-UX	Solaris
Error message displays when disconnecting from a remote Server	When disconnecting a NerveCenter Client from a remote connection to a Windows server running an Access database, the following error message displays on the Client: Can't remove system datasource This message has no effect on the NerveCenter database; no data is lost.	✓			
Severities of nodes in node list do not show highest severity of current alarms	Nodes appearing in the node list should reflect the highest severity level of all of the alarms that have transitioned for that node. For example, if an alarm transitions a node to a Critical Severity but then another alarm transitions the node to a Minor Severity, then the aggregate severity for the node that appears in the node list should be Critical. In reality, the aggregate severity of the node in the node list changes to Minor. NerveCenter does not correctly track terminal states of alarms when those states have no outbound transitions. The workaround is to: ◆ Create a mask with a simple trigger called No_op. ◆ Save the mask and turn it off. ◆ In all affected alarms, add a transition to the last state in the diagram. The new transition should loop back to that state on the No_op trigger (i.e., the *from* and *to* states should be the same).	✓	✓	✓	✓
Configuration settings lost during upgrades	When upgrading from NerveCenter 3.7 or 3.8 to 4.0 on UNIX systems, users (other than root) lose their Client and Administrator settings. The NerveCenter installation script does not translate user settings in the registry to an XML file, so things like autoconnect servers, alarm filters, and so on are lost for any users other than root.		✓	✓	✓

TABLE 10. Outstanding Issues in NerveCenter 5.0 (Continued)

Issue	Description	Win	Linux	HP-UX	Solaris
Server logs incorrect data for subobjects that are only partially supported in a polled agent's MIB	When NerveCenter polls an agent for more than one columnar object in a table—and the first of these objects has more instances in the table than the secondary object has—then "ghost" data for the missing instances of the second columnar object is logged to the log file if you have a Log-to-File action on the polling transition. The workaround is to create an alarm that will transition out of ground on the table's index. In this way the user can poll (either separately or together) for the other attributes (outErrors, ifdescr) and use SNMPNOSUCHNAME to determine when the poll has reached the end of a row.	✓	✓	✓	✓
NetCool probe reports "Seagate Nerve Center" instead of OpenService NerveCenter	The NetCool probe reports NerveCenter informs to NetCool as coming from Seagate NerveCenter instead of OpenService NerveCenter. This is a NetCool problem.				✓
IIS 5.0 or above issue with Web Collector.	The path to the NerveCenter CGI files is always defaulted to /program files/openservice/NerveCenter even if the user installs NerveCenter using a different path. As a result, the user is unable to connect to the Webcollector. This only happens on a machine running Microsoft Internet Information Server (IIS).	✓			
NerveCenter terminates with an error when the NerveCenter Service is stopped	When the NerveCenter Service is stopped, it terminates and sends the following message to the Windows desktop: ncserver.exe - Application Error The instruction at "0x7800d0b9" referenced memory at "0x00000005". The memory could not be "written". Click on OK to terminate the application	✓			

TABLE 10. Outstanding Issues in NerveCenter 5.0 (Continued)

Issue	Description	Win	Linux	HP-UX	Solaris
Open modal dialog boxes appear to restrict activity in Client	On UNIX, NerveCenter Client appears to lock up if you are editing an alarm transition and click elsewhere within the main window while the alarm transition dialog box is still open.		✓	✓	✓
	If you're running CDE, modify the GUI settings from the toolbar. Select Window settings, turn off "Allow primary windows on top," then respond Yes to restarting your window manager. The dialog box now remains on top, forcing you to make any changes you need and select OK before attempting to use other elements.				
Using the import model browser	If you choose to instead link the model directory to another location, make sure the other location is not a parent directory of NerveCenter (`/opt` and `/opt/OSInc` by default).		✓	✓	✓
	If this occurs, NerveCenter Client's browse feature (off of the Import Objects and Nodes dialog) will not be able to browse to your models, popping up an error dialog reading 'no files found'.				
Log To Database log maintenance is not working correctly	Truncation of records from the log tables is not occurring at a reasonable point.	✓			
CLI incorrectly displays node severity information	The NerveCenter Command Line Interface (CLI) incorrectly retrieves information about node severity. The information displayed through the CLI does not match severity information displayed in the NerveCenter Client's Node List window.	✓	✓	✓	✓
Paserver not designed to connect with OpenView	The NerveCenter Universal Platform Adapter (paserver) terminates when an OpenView Inform connection is made to it. The error is:	✓	✓	✓	✓
	Run-time exception error; current exception: xalloc No handler for exception.				
	Paserver is not designed to handle OV informs, however, it is a very easy mistake to create the inform connection in the NerveCenter Administrator and forget to click the Netcool/Tivoli radio button.				

TABLE 10. Outstanding Issues in NerveCenter 5.0 (Continued)

Issue	Description	Win	Linux	HP-UX	Solaris
NerveCenter unable to support eight-bit character sets used for internationalization	UNIX platforms require applications to set the LANG variable to a national locale for applications to be able to support eight-bit characters used in languages such as French and Spanish. However, since all OpenService NerveCenter applications, and in particular, the ncserver process, does not run if the LANG variable is set to anything other than C, the variable binding information in a trap is not interpreted correctly when there are any eight-bit characters.		✓	✓	✓
NerveCenter issues SNMP GETs for mismatches between a poll's base object and an alarm's subobject	NerveCenter issues SNMP GETs for polls even when there's a mismatch between a poll's base object and the associated alarm's subobject. When an alarm's subobject (SO) does not match the poll's base object, the relevant trigger fired from the poll will never match the alarm's SO.	✓	✓	✓	✓
CLI displays duplicate server information	When using the NerveCenter Command Line Interface (CLI) and when more than one client is connected to the same server, issuing the command: show server -c causes NerveCenter to display information about the first server twice.	✓	✓	✓	✓
Client (sometimes) abnormally terminates and dumps core when attempting to edit an alarm	When attempting to edit an alarm, upon first opening the alarm the NerveCenter Client may crash and dump core. This does not happen all of the time, but it does happen often enough to be reproducible.			✓	
Client not properly notified of AutoClassification status on server startup	When the NerveCenter Server is auto classifying nodes at the time a NerveCenter Client connects, the connecting Client does not get an `Autoclassify in progress...` status bar message.	✓	✓	✓	✓
Repeated mouse clicking causes Client to abnormally terminate	When one performs actions in the NerveCenter Client that requires repeated mouse clicks, the Client can abnormally terminate.				✓

TABLE 10. Outstanding Issues in NerveCenter 5.0 (Continued)

Issue	Description	Win	Linux	HP-UX	Solaris
Custom severities are unreadable if light colors are chosen	NerveCenter uses white text automatically for all user-defined severities. If light colored backgrounds are chosen, severity text will not be readable. For pre-defined severities, NerveCenter is configured to use black text with light colored severities.	✓	✓	✓	✓
No varbinds sent when ICMP_ERROR fired	When the trigger ICMP_ERROR is fired after an SNMP poll, the trigger does not include variable bindings, such as uctype and uccode, that might be useful for determining the cause of the error. Currently, the trigger is fired along with PORT_UNREACHABLE, NET_UNREACHABLE, and/or NODE_UNREACHABLE triggers. (Varbinds are included when the trigger is fired after an ICMP poll.)	✓	✓	✓	✓
Some ICMP_ERROR codes are incorrect	When the trigger ICMP_ERROR is fired, a few of the ICMP error codes are reported in log files with the type and code pasted together. For example, a uctype=5 and uccode=2 results in an error code of 52, whereas the error code should be 2. NerveCenter concatenates values for the following types and codes: ◆ uctype = 5 with error codes 0, 1, 2, and 3 ◆ uctype = 11 with error codes 0 and 1 ◆ uctype = 12 with error codes 0 and 1 If you attempt to match nl-ping-uctype=5 and nl-ping-uccode=2 in a Perl subroutine or poll condition, the condition is not matched because NerveCenter returns an incorrect value.	✓	✓	✓	✓
Client Window menu lists non-existent untitled windows	Extra windows are listed in the NerveCenter Client's Window menu. Windows that are actually open are listed correctly after the extra ones.	✓	✓	✓	✓
Ipsweep ignores Ctrl-C	When running the ipsweep process, you must convert ipsweep to background (Ctrl Z) before you can kill the process. You can not stop ipsweep with the Ctrl C command.	✓	✓	✓	

TABLE 10. Outstanding Issues in NerveCenter 5.0 (Continued)

Issue	Description	Win	Linux	HP-UX	Solaris
Variables listed in command actions must be preceded and followed by whitespace	When creating a command action for an alarm transition, you can not include a subobject variable after a base object. Placing a punctuation mark behind the base object variable causes that variable to be left out when processing the command.	✓	✓	✓	✓
	For example: `echo $NodeName $TriggerBaseObject.$TriggerInstance > /tmp/test`				
	Should return something like the following:				
	NodeName system.0				
	Actually, it returns the following:				
	NodeName .0				
	Workarounds for this example are: `echo $NodeName $TriggerBaseObject $TriggerInstance $TriggerBaseObject >>/tmp/test1`				
	`echo $NodeName $TriggerBaseObject '.' $TriggerInstance $TriggerBaseObject >>/tmp/test1`				
Two clicks are required for commands in the Transition Definition dialog box	When creating a transition for an alarm definition, after you open the Transition Definition dialog box, you must click any button two times (New Action, OK, Cancel, Help) before the command is activated.				✓

OpenService Technical Support

OpenService is committed to offering the industry's best technical support to our customers and partners. You can quickly and easily obtain support for NerveCenter, our proactive network management software, or SMC, our security threat management suite.

Professional Services

OpenService offers professional services when customization of our software is the best solution for a customer. These services enable us, in collaboration with our partners, to focus on technology, staffing, and business processes as we address a specific need.

Educational Services

OpenService is committed to providing ongoing education and training in the use of our products. Through a combined set of resources, we can offer quality classroom style or tailored on-site training.

Contacting the Customer Support Center

For Telephone Support

Phone: 1-800-892-3646 or 1-508-597-5300

For E-mail Support

E-mail: techsupport@openservice.com.

For Electronic Support

OpenService has a Web-based customer call tracking system where you can enter questions, log problems, track the status of logged incidents, and check the knowledge base.

When you purchased your product and/or renewed your maintenance contract, you would have received a user name and password to access the OpenService Call Tracking System using TeamShare. You may need to contact your contracts or NerveCenter administrator for the username and password for your account with TeamShare.

If you have not received or have forgotten your log-in credentials, please e-mail us with a contact name and company specifics at techsupport@openservice.com.

We are committed to providing ongoing education and training in the use of our products. Through a combined set of resources, we offer quality training to our global customer base.

For Online KnowledgeBase Access

For additional NerveCenter support information, please go the OpenService website http://www.openservice.com for access to the following sections of information:

- **Patches and Updates** - latest installation files, patches, and updates including documentation for NerveCenter.

- **Software Alerts** - latest software alerts relative to NerveCenter.

- **KnowledgeBase Search** - search the NerveCenter KnowledgeBase for answers to your questions whether relating to the installation, usage, or operation of NerveCenter.

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