NerveCenter 6.1 Release Notes

Windows and UNIX
Version 6.1

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NerveCenter 6.1 Release Notes

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

An existing site can move directly to NerveCenter 6.1 from any NerveCenter 4.1, 5.0, 5.1, 5.2, or 6.0 release, patch, or hotfix. NerveCenter version 6.1 is not compatible with prior releases in that the NerveCenter 6.1 Server needs to interact with the matching NerveCenter 6.1 Desktop toolset.

Please read **New Features** for information about the changes found in NerveCenter 6.1.

NC6.1 is a new release as of April 2014. All accumulated patches following the release of NC6.1 are included in this release.

To upgrade from versions prior to 4.1, contact LogMatrix. (techsupport@logmatrix.com)

Availability

The NerveCenter Server is provided as an installable software package consisting of the NerveCenter Desktop toolkit plus the Server, a library of sample NerveCenter Models, and network management platform integration components. This package is available for Linux and Solaris.

The NerveCenter 6.1 Desktop toolset is available for the Linux, Solaris and Windows operating systems. The Desktop toolkit is included within the NerveCenter Server product for Linux and Solaris and also available as an independent software package – not bundled within the NerveCenter Server software package – for the Windows operating system.

The NerveCenter 6.1 Desktop toolkit is provided as an installable software package consisting of the NerveCenter Client and Administrator applications, NerveCenter Command (a command-line utility), documentation and the mibTool MIB Compiler.

Requirements

This section describes the hardware and software requirements to install NerveCenter 6.1.

Software Requirements

This section describes the operating system and software requirements for NerveCenter 6.1.

Linux Requirements

Table 1: Linux Platform Requirements

Linux Component		NerveCenter Component	
		Server	**Desktop**
Operating System	RedHat Enterprise Linux 6.x 32- or 64-bit (x86 or x86-64) RedHat Enterprise Linux 5.x 32- or 64-bit (x86 or x86-64) RedHat Enterprise Linux 4.x 32- or 64-bit (x86 or x86-64) RedHat Enterprise Linux 3.x 32-bit (x86) CentOS 5.x or 6.x 32- or 64-bit (x86 or x86-64) Oracle Linux 5.x or 6.x 32- or 64-bit (x86 or x86-64)	Required	Required
Graphical Desktop	GNOME	Required	Required
IP Addressing	Fixed IPv4 address and hostname	Required	N/A
Network Management (optional)	HP OpenView NNM 7.53	Optional	N/A
PDF Reader (optional)	Adobe Acrobat Reader 7+	N/A	Optional
Office Suite (optional)	LibreOffice or OpenOffice	N/A	Optional

For X Windows System ["X11"] software to run the following NerveCenter components: Client, Administrator, IPSweep and SerializeDB, an X11 Server must be installed but does not have to be running.

The DISPLAY environment variable must be set and point to a valid X11 display for the following NerveCenter components: Client, Administrator, and SerializeDB (not IPSweep). The GNOME desktop included as part of the required RedHat Enterprise Linux distributions satisfies this requirement. GNOME is an X11 environment and provides the required X11 software.

NerveCenter requires the following RPMs from the Linux release media: libXt, libX11, libSM, libICE, libXext, libXau and libXdmcp; all of which are part of the GNOME distribution.

NOTE: NerverCenter 6.1 requires an expanded MIB format that structures traps. All sites are required to compile their site specific MIBs using the NerveCenter MIB

The process /usr/sbin/rpcbind must be running for NerveCenter to start.

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

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.

Solaris Requirements
Table 2: Solaris Platform Requirements

Solaris Component		NerveCenter Component	
		Server	Desktop
Operating System	Solaris11.2/SPARC, or Solaris10/SPARC	Required	Required
Graphical Desktop	Java Desktop, or GNOME, or CDE	Optional	Required
IP Addressing	Fixed IPv4 address and hostname	Required	N/A
Network Management (optional)	HP OpenView NNM 7.53 IBM Tivoli Netcool/OMNIbus	Optional (Solaris 10 11/06 Edition recommended for use with NNM)	N/A
PDF Reader (optional)	Adobe Acrobat Reader 7+	N/A	Optional
Office Suite (optiona)	LibreOffice or OpenOffice	N/A	Optional

For X Windows System ["X11"] software to run the following NerveCenter components: Client, Administrator, IPSweep and SerializeDB, an X11 Server must be installed but does not have to be running.
The DISPLAY environment variable must be set and point to a valid X11 display for the following NerveCenter components: Client, Administrator, and SerializeDB (not IPSweep). The CDE, GNOME or Java Desktop desktop included in these Solaris 10 distributions satisfies this requirement. Each is an X11 environment and provides the required X11 software.
NerveCenter requires the following Solaris software packages from the Solaris 10 release media: SUNWxwplt, SUNWxwice, and SUNWmfrun.

NOTE: NerverCenter 6.1 requires an expanded MIB format that structures traps. All sites are required to compile their site specific MIBs using the NerveCenter MIB Compiler, mibTool. To use the mibTool, you must install Java™ Platform, Enterprise Edition 6 or higher. (http://www.java.com/)

The process /usr/sbin/rpcbind must be running for NerveCenter to start.

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

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

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 Requirements
Table 3: Windows Platform Requirements

Windows Component		NerveCenter Component
Operating System	Windows 7 Professional / Ultimate Windows Vista Business / Ultimate SP2 Windows Server 2008 R2 Windows Server 2003 R2 Windows XP Professional SP3	Any 32- or 64-bit version
IP Addressing	Fixed IPv4 address and hostname	N/A
Network Management (optional)	HP OpenView NNM 7.53 IBM Tivoli Netcool/OMNIbus Hitachi IT Operations Analyzer	N/A
PDF Reader (optional)	Adobe Acrobat Reader 7+	Optional
Office Suite	Microsoft Office, LibreOffice or OpenOffice	Optional

NerverCenter 6.1 requires an expanded MIB format that structures traps. All sites are required to compile their site specific MIBs using the NerveCenter MIB Compiler, mibTool. To use the mibTool, you must install Java™ Platform, Enterprise Edition 5 or higher. (http://www.java.com/)

Hardware Suggested Minimums

The following tables list the suggested minimum computer hardware configuration for NerveCenter 6.1. These suggested minimums assume the machine is running the base operating system and the NerveCenter Server components only.

NerveCenter Desktop components (nccmd, client, ncadmin, mibtool, documentation) can be run on any PC meeting these suggested minimums. Recommended platforms for NerveCenter Server on Windows are: Windows Server 2003 R2, Windows Server 2008 R2 and Windows 7.

Table 4: Recommended Hardware - NerveCenter Server without Additional Pollers

	Solaris	Linux
CPU	SPARC64 VII or UltraSPARC T2 [Plus]	Intel Xeon X3400 Series @ 2.4+ GHz or AMD Opteron 6000/6100 Series
Memory	4+ GB RAM	4+ GB RAM
Disk Space	160 GB	160 GB
Swap	2 GB	2 GB

Table 5: Recommended Hardware - NerveCenter Server with One Poller Package

	Solaris	Linux
CPU	UltraSPARC T2 [Plus]	Intel Xeon X3400 Series @ 2.4+ GHz or AMD Opteron 6000/6100 Series
Memory	8+ GB RAM	8+ GB RAM
Disk Space	160 GB	160 GB
Swap	4 GB	4 GB

Installation

Installation instructions for NerveCenter can be found in the document Installing NerveCenter, available as the file **install.pdf** in the root directory of the release media or of the download. Documentation is also available online at docs.logmatrix.com

==Caution: Before installing or upgrading NerveCenter, you should review the **New Features** section.==

For other information about NerveCenter, see the documentation available in the InstallPath/docs directory of the Client or Administrator or online at docs.logmatrix.com.

Upgrading to NerveCenter 6.1

The following steps are performed when upgrading.

Confirm that the target systems meet the platform requirements described in these Release Notes.

Stop all NerveCenter applications and processes.
See "Stopping NerveCenter Processes" in **Installing NerveCenter**.

Back up any files you want to save.
See "Backing Up Your NerveCenter Database and Files" in **Installing NerveCenter**.

Upgrade or Uninstall NerveCenter.
If you are upgrading the existing NerveCenter installation, see "Installing NerveCenter on UNIX" or "Installing NerveCenter on Windows" in **Installing NerveCenter.**

If you are uninstalling NerveCenter, see "Removing NerveCenter from UNIX" in **Installing NerveCenter**.

Notices

NerveCenter Licensing

NerveCenter, beginning with release 5.1.00, uses a new licensing mechanism. Instead of serial numbers or license keys, you must obtain a license file for each NerveCenter server. NerveCenter Server processes cannot be started without this file.

The NerveCenter Client and Administrator, the NerveCenter Command (command-line utility) and mibTool MIB Compiler do not require a license.

You will receive a hostname.dat file for each NerveCenter server you are licensing. This license file must be copied to **/opt/OSInc/conf/** (UNIX).

Contact your LogMatrix representative to obtain any required license files.

NerveCenter and IPv6

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

> Monitored or traversed networks and devices must support the IPv6 protocol. If IPv6 devices reside on different network than the NerveCenter management node, the appropriate routers and gateways must support IPv6 routing.

> The SNMP Agents on your IPv6 devices may need to be be configured to support all SNMP requests on IPv6.

> DNS, NIS, or other network services must be properly configured to use name resolution for IPv6 addresses.

> The host for each NerveCenter server must support both IPv6 and IPv4.

While NerveCenter supports monitoring IPv6 networks, the following limitations apply:

> Communication between the NerveCenter server, the Administrator, and the Client 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.

> Communication between NerveCenter and the HP OpenView NNM and IBM Tivoli Netcool/OMNIbus network management do not support IPv6.

NerveCenter 6.1 Models

The models provided with NerveCenter are for demonstration use only, and are not intended for production.

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NerveCenter 6.1 Issues/Features

The following tables show the issues resolved by NC6.1 (by build number) and NC6.1.xx known issues.

Table 6: Issues resolved with NC6.1 by build number

Build #	Function	Description
bld23	GA	General Availability Release
Bld24	Correction	Use of 'AssignPropertyGroup($name);' crashes NerveCenter Server.
Bld24	Correction	NerveCenter SNMP Management Interface does not work.
Bld24	Correction	NerveCenter Server gets SEGV while polling.
Bld25	Enhancement	NerveCenter Client application OID-to-Property-Group dialog allows for resizing and interaction with Property Group dialog.
Bld25	Enhancement	NerveCenter Client application Property Group dialog shows additional per-BaseObject details.
Bld25	Correction	mibTool not handling table index names that contain a hypthen.
Bld25	Correction	NerveCenter SNMP Management Interface reporting incorrect sysObjectID.
Bld25	Correction	NerveCenter SNMP SubAgent not communicating with NerveCenter Server.
Bld25	Correction	NerveCenter SNMP SubAgent not communicating with NerveCenter SNMP Master Agent.
Bld25	Correction	NerveCenter Server needs to report 'delta()' of a "hole" as 0 (zero).
Bld25	Correction	NerveCenter Server not property constructing sparse rows during GetBulk processing.
Bld25	Correction	NerveCenter Server get SEGV while performing merge of Property Groups.
Bld26	Enhancement	NerveCenter ipsweep is replaced by a Perl script of the same name. The script performs the same function but can by cloned and modified to fit local node discovery environments.
Bld26	Correction	NCServer was failing to correctly process all MIB Table column definitions. Incorrectly read-in Table columns were not pollable.
Bld26	Correction	During an *import* operation NCServer would lose the BaseObject designation of Poll definitions when the definitions to be imported were from NC6.0 or prior.
Bld26	Correction	Irregularities found and resolved within the NC6.1 cross-table polling feature. Crash scenarios, row assembly issues and issues with the built-in *delta()* function were identified and resolved..

Bld26	Correction	Logins to ncserver were being hampered by a lockup between ncserver and ncsecurity.
Bld26	Correction	NCServer failed under high trap volume. Issues were identified and resolved for how the three Trap worker threads were incorrectly sharing resources.
Bld26	Correction	NCServer was improperly denying login access to nccmd.
Bld27	Correction	SEGV scenarios removed from NCServer.
Bld27	Enhancement	Ability to generate protocol layer metrics.
Bld27	Enhancement	A script, /opt/OSInc/nc/bin/nccheckdirs, to check and/or repair /var/opt/NerveCenter/ added.
Bld27	Correction	Additional diag output options provided for diagnosing issues with IBM Tivoli Netcool/OMNIbus inform handling.
Bdl28	Enhancement	Ability to generate Perl usage metrics.
Bld28	Enhancement	Support for installation and operation on Oracle Solaris11.2/SPARC.
Bld28	Correction	Repair to ICMP layer trace files. Request and Response entries reported in regular format.
Bld28	Correction	Auto generation of the Poll Manager status and state tables is disabled by default.

NC6.1.00 Patch Update	Release Date
BLD22	February 4, 2014
BLD23	March 20, 2014
BLD24	May 1, 2014
BLD25	May 27, 2014
BLD26	August 30, 2014
BLD27	September 28, 2014
BLD28	November 14, 2014

Table 7: NC6.1.xx Known Issues

Issue	Description
MIB Query Results table resizing	Table does not always resize correctly. Workaround is to export table and view the exported file.

New Features

NC6.1

NerveCenter 6.1 release contains everything included in the NC6.0.xx releases. NC6.1 adds the following additional functionality, relative to NC6.0.xx:

* Addition of Perl usage metrics (BLD28) and protocol layer metrics (BLD27). Metrics are generated upon demand or on a regular interval as set up by the NerveCenter Command (nccmd) utility.

* Support for Oracle Solaris11.2/SPARC added, starting with BLD28 (Nov.2014).

* The 'ipsweep' utility is replaced with a Perl script. The replacement is a good base to use for building customized node discovery systems.

* The NC6.1 release includes a several major updates to trap forwarding including:

- Support for incoming SNMP v1 Traps, v2c Traps, v2c Informs, v3 Traps and v3 Informs
- For SNMP v3 Traps and Informs, NerveCenter supports all three security models: Auth/Priv, Auth/NoPriv and NoAuth/NoPriv
- For SNMP v3 Traps and Informs NerveCenter supports the standard MD5 and SHA1 authentication protocols
- For SNMP v3 Traps and Informs NerveCenter supports the standard DES and AES privacy (encryption) protocols, plus AES-192, AES-256 and 3DES are added.
- Support for all the above for Forwarding of received Traps and Informs.
- Support for forwarding of already forwarded traps - NerveCenter can be involved in any step (first, middle, last) of a multiple hop forwarding situation.
- Forwarding by NerveCenter can be elected on a trap-by-trap basis using our Alarm / Mask / Trigger / Action paradigm.
- Forwarding by NerveCenter is directed on a destination-by-destination basis, allowing each destination to be set up differently (ie: forwarding of v1/v2/v3 traps to one target using, say, v1 while simultaneously supporting the forwarding of the same trap using, say, v3 Informs to another destination)
- Forwarding of any Trap or Inform can be done to _many_ destinations, where each forwarding destination is defined separately. Thus NerveCenter becomes a Trap Multiplexor.

The NC6.1 release also includes enhanced polling functionality in the form of Cross Table Polling, which allows multiple objects to be queried in a single poll, for example:

Via a poll or trap, an operator receives a notice that a link is down.

To manage the network effectively, the operator must next quickly determine the severity of the condition (Is this an active link? Is it important to a customer?)

With NerveCenter, an operator can poll basic interface data to determine if a link is down and then in that same poll look at the extended link table to get a description of the link use or customer associated with that link.

Leveraging NerveCenter's unique finite-state architecture, this can all be done "on-the-fly" - i.e. not via a database query after the fact.

❋ The NC6.1 also includes IPv6 improvements and enhancements as follows:

- Enhancement of IPv6 address handling. Enhancements made to 'ncget', 'ncping' and 'ncserver'/'ncsnmppoller'.
- Enhancements made to NCServer's support of the 'Query' and 'Ping' features found in the 'Client' application.
- Addition of several built-in triggers. These represent the error conditions that Polls might incur when performing ICMP 'ping' or SNMP query operations. These additions are sub-codes of the "Destination Unreachable" response that ICMP can be used to report.
  - ICMPV6_NO_ROUTE
  RFC4443, Section 3.1 "Destination Unreachable", Code 0: "No route to destination".
  - ICMPV6_ADMIN_PROHIBITED
  RFC4443, Section 3.1 "Destination Unreachable", Code 1: "Communication with destination administratively prohibited".
  - ICMPV6_NOT_A_NEIGHBOR
  RFC4443, Section 3.1 "Destination Unreachable", Code 2: "Beyond scope of source address".
  - ICMPV6_ADDR_UNREACHABLE
  RFC4443, Section 3.1 "Destination Unreachable", Code 3: "Address unreachable.".
  - ICMPV6_PORT_UNREACHABLE
  RFC4443, Section 3.1 "Destination Unreachable", Code 4: "Port unreachable.".

❋ The ncicmplistener utility is only run by the ncserver when the system has been configured to 'Process ICMP Messages as Traps' (in NCAdmin.exe)

Log file changes:

ncserver: Now writes Manager-Configuration.csv and Manager-Performance.cvs to /var/opt/NerveCenter/tables/. Manager-Performance.cvs is a table view of the most current rows of TraceQueues.log

ncicmplistener: Now writes log messages to /var/opt/NerveCenter/log/ncicmplistener.log and no longer to ncserver.log

Enhancement to the tracing of login attempts (ie: to ncserver from client, ncadmin or nccmd)

ncserver:

Continues to support "ncstart -pamdebug", which is the equivalent of "trace server logins on" - as defined in the second bullet item.

When enabled, writes traces all subsequent login authentication processing to
/var/opt/NerveCenter/log/ncsecurity.log
(formerly /opt/OSInc/tmp/ncsecurity.log)

Starts a new ncsecurity for each login attempt check.

- nccmd: New option to turn on/off tracing of login processing:

trace server logins (on | off)
When set to on, ncserver writes all subsequent login authentication tracing to
/var/opt/NerveCenter/log/ncserver.log
When set to off, ncserver ceases trace updates to
/var/opt/NerveCnter/log/ncserver.log

```
% /opt/OSInc/bin/nccmd
NC> connect -s localhost -u nervectr -p .... -n 32506
NC> trace server status all
No tracing enabled now
NC> trace server logins on
Tracing logins enabled
NC> trace server status all
Tracing enabled for
    logins
NC> trace server logins off
Disabled trace for logins
NC> trace server status all
No tracing enabled now
NC> trace server -?
Trace:   traces specified objects in the active server
Usage:
To trace logins
  trace server logins [[on/off]]
  Check file ncsecurity.log
To trace traps
 ...
NC> quit
```


- nccmd: New option '-t' to force tracing of a login attempt:

connect -s *serverhost* -n *port* -u *username* -p *password* [-t]

The '-t' is optional. If used, the '-t' forces tracing of the authentication processing for this login attempt. Using this option does not change the permanent setting of the above server logins tracing flag.
When '-t' is used, ncserver activates (if not already enabled) trace logging to /var/opt/NerveCenter/log/ncserver.log.

> % /opt/OSInc/bin/nccmd
> NC> **connect -s localhost -u nervectr -p .... -n 32506 -t**

The benefit of this option is to allow enabling the login tracing at the moment when a difficulty with gaining access is countered and tracing was not already enabled (as with using ncstart -PAMdebug or nccmd's trace server logins on). As it is already 'too late' to activate these options, the '-t' allows the tracing to /var/opt/NerveCenter/log/ncsecurity.log to be forced.

- Relational Operator Choice for Alarm Counter Action

The Alarm Counter Action allows for selection of what relation can be used. Prior to NC6.1.00, the only choice was 'equals'. This has been made selectable with a range of

- o equals
- o not equals
- o less than
- o less than or equals
- o greater than
- o greater than or equals

All Alarms inherited into NC6.1.00 will auto convert their Alarm Counter Actions to use 'equals' as the default - since that was the only prior ability.

LogMatrix Technical Support

LogMatrix is committed to offering the industry's best technical support to our customers and partners. You can quickly and easily obtain support for our NerveCenter proactive IT management software.

Professional Services

LogMatrix 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

LogMatrix 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

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

E-Email support
E-mail: techsupport@logmatrix.com.

Online Access
For additional NerveCenter support information, please go the LogMatrix website www.logmatrix.com for access to the following sections of information.

  ✳ Software Alerts – latest software alerts relative to NerveCenter.

  ✳ User Community Access You can seek as well as share advice and tips with other NerveCenter users at http://community.logmatrix.com/LogMatrix/ .

  ✳ Documentation – NerveCenter Documentation sets and other documents at http://docs.logmatrix.com/NerveCenter/

Contact Support@logmatrix.com **for:**

  ✳ Patches and Updates – latest installation files, patches and updates including documentation for NerveCenter