Network Advisor 14.2.2 Release Notes

Contents of this file:

HPE B-series Network Advisor 14.2.2 Release Notes

Brocade Network Advisor 14.2.2 Release Notes v1.0

HPE B-series Network Advisor Enterprise, Professional Plus, and Professional 14.2.2 Release Notes

Description

HPE B-series Network Advisor Release Notes have been posted on HPE's web site at the HPE Support Center.
See the Brocade Network Advisor Release Notes for general information and details on fixes as well as other important information pertinent to this release. The HPE B-series Network Advisor Release Notes only contain HPE specific information related to this release.

Update recommendation

HPE strongly recommends that you upgrade to this version as soon as possible to take advantage of the latest fixes and features.

To access NA software and Release Notes:

- *Go to* http://www.hpe.com.
- Select **Support** from the drop-down menu in the top right corner of the home page.
- Under Product Support, click **HPE Support Center.**
- Log into the HPE Support Center with your HPE Passport information.
- Enter your B-series switch (i.e. SN6600B) into the search box, and you will be presented with a list of models associated with this switch. Click on the link for your model.
- Click **Drivers & Software.**
- Select "HPE SAN Network Advisor **Application Version: v14.2.2"**
- To read Release Notes, click on the **Release Notes** link

Standards compliance

This software conforms to the FC standards and accepted engineering practices and procedures. In certain cases, HPE might add proprietary supplemental functions to those specified in the standards. For a list of standards conformance, see the HPE website: http://www.HPE.com.

Supported product models

For the latest product support information, see the Single Point of Connectivity Knowledge (SPOCK) on the HPE website: http://www.HPE.com/storage/spock. Under "Other Hardware", select "Switches". You must sign up for an HPE Passport to access this website.

Fibre Channel and Fibre Channel Routing scalability

For the latest information about Fibre Channe and Flibre Channel Routing (FCR) scalability support, see the *HPE StorageWorks SAN Design Reference Guide*, available on the HPE website, at:
http://www.HPE.com/go/sandesignguide.

January 5, 2018

Brocade Network Advisor 14.2.2

GA Release Notes v1.0

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Document history

Version	Summary of changes	Publication date
1.0	Initial document	01/05/2018

Preface

Contacting Brocade Technical Support

As a Brocade customer, you can contact Brocade Technical Support 24x7 online or by telephone. Brocade OEM customers should contact their OEM/solution provider.

Brocade customers

For product support information and the latest information on contacting the Technical Assistance Center, go to www.brocade.com and select Support.

If you have purchased Brocade product support directly from Brocade, use one of the following methods to contact the Brocade Technical Assistance Center 24x7.

Online	Telephone
Preferred method of contact for non-urgent issues: • My Cases through MyBrocade • Software downloads and licensing tools • Knowledge Base	Required for Sev 1-Critical and Sev 2-High issues: • Continental US: 1-800-752-8061 • Europe, Middle East, Africa, and • Asia Pacific: +800-AT FIBREE • (+800 28 34 27 33) • For areas unable to access toll free number: +1-408-333-6061 • Toll-free numbers are available in many countries.

Brocade OEM customers

If you have purchased Brocade product support from a Brocade OEM/solution provider, contact your OEM/solution provider for all of your product support needs.

- OEM/solution providers are trained and certified by Brocade to support Brocade® products.
- Brocade provides backline support for issues that cannot be resolved by the OEM/solution provider.
- Brocade Supplemental Support augments your existing OEM support contract, providing direct access to Brocade expertise. For more information, contact Brocade or your OEM.
- For questions regarding service levels and response times, contact your OEM/solution provider.

Related documentation

Visit the Brocade website to locate related documentation for your product and additional Brocade resources.

White papers, data sheets, and the most recent versions of Brocade software and hardware manuals are available at www.brocade.com.

Product documentation for all supported releases is available to registered users at MyBrocade. Click the Support tab and select Document Library to access documentation on MyBrocade or www.brocade.com You can locate documentation by product or by operating system.

Release notes are bundled with software downloads on MyBrocade. Links to software downloads are available on the MyBrocade landing page and in the Document Library.

Document feedback

Quality is our first concern at Brocade, and we have made every effort to ensure the accuracy and completeness of this document.

However, if you find an error or an omission, or you think that a topic needs further development, we want to hear from you. You can provide feedback in two ways:

- Through the online feedback form in the HTML documents posted on www.brocade.com
- By sending your feedback to documentation@brocade.com

Provide the publication title, part number, and as much detail as possible, including the topic heading and page number if applicable, as well as your suggestions for improvement.

Overview and Software Features

Brocade Network Advisor Version 14.2.2

Brocade Network Advisor 14.2.2 is a software maintenance release based on Brocade Network Advisor 14.2.1. This release addresses the Java signing certificate expiry issue.
All hardware platforms and features supported in Brocade Network Advisor 14.2.1 are also supported in Brocade Network Advisor 14.2.2.

New Enhancements in 14.2.2

- Java signing certificate has been renewed
- Defect fix

Note. The GA build number of Network Advisor 14.2.2 is bld2.

Brocade Network Advisor Version 14.2.1

Brocade Network Advisor 14.2.1 is a software maintenance release based on Brocade Network Advisor 14.2.0. All hardware platforms and features supported in Brocade Network Advisor 14.2.0 are also supported in Brocade Network Advisor 14.2.1.
The fixes included in this release are listed in the defect tables below in this document.

New Enhancements in 14.2.1

- Fabric OS platform support
    - Fabric OS 8.1.0x
- IOS Firmware support
    - FI 8.0.60
    - ICX 7150
- Network OS Firmware support
    - NOS v7.2.0
- MAPS
    - Rule on Rule monitoring (requires Fabric OS v 8.1.0a or later)
    - Deprecation of Uninstall vTap Action feature
- REST API Enhancements
    - Port Persistent Enable/Persistent Disable operation support
- EMC Call Home – Send Test functionality
- Defect fixes provided

Brocade Network Advisor Version 14.2.0

Brocade Network Advisor 14.2.0 is a major release supporting Fabric OS 8.1.0, NOS 7.1.0, FI 8.0.50, NI 6.1, VM insight, various enhancements to MAPS, Flow Monitoring, FCIP, Usability and troubleshooting areas.

This release inherited the Fabric Insight Portal web client (designed in Network Advisor 14.1.x release for AMP users only) for general SAN users to provide the user with an easy to use and intuitive interface for monitoring IO level and fabric behavior in a Brocade Fibre Channel SAN fabric. The Network Advisor Fabric Insight Portal also introduces Flow Collections and Flow Filtering for Analytics Monitoring Platform flow management, and custom Rules Sets for use with MAPS for more flexible and granular flow monitoring

New Enhancements in 14.2.0

- Fabric OS platform support
  - Fabric OS 8.1.0
  - Brocade G610 switch
- VM Insight support
  - Identify and track VMs within a fabric
  - Provide VM visibility in Fabric Vision technology for monitoring and diagnostics
  - Flow Monitoring
- Flow Vision enhancements
  - Top N Flows/Bottom N Flows – Dashboard widget - Entity ID, VM Name and Application name added to the Top N /Bottom N Flows widgets
  - Flow Vision IOS Measures support in Historical Graph and Dashboard
- MAPS Enhancements
  - VM Insight based flows
  - Alert Severity Support for MAPS Rule
  - Enhancement in MAPS Policy Creation
  - New default Rules to Monitor Rx, TX & UTIL Measures
  - New default Rules to Monitor ERR_PORTS measures
  - Fabric Performance Impact (FPI) Monitoring Feature Enhancements
  - MAPS Rule Name Limitations
  - Monitor Front end Encryption port
  - Support for uninstalling vTAPs when threshold of 250K IOPS is exceeded
  - User defined policies and rules limits
  - Quiet time support for SNMP
  - Restriction of Orphan rules creation
- Web UI Enhancements
- AMP Enhancements
- CLI Reports
  - Various reports for AMP users and general FC
- Zoning
  - Alias Support in Peer Zoning

    - Enhanced Zone Name Support
    - Zone DB size restriction based on per chassis limit
    - Alias/Zone creation by Port WWN instead of Node WWN
- Virtual Fabric
    - Offline LISL state at Logical Switch creation
    - FICON LS support
    - 16 LS support for Gen 6 chassis
- FCIP
    - 10 circuits/tunnel support
    - Circuit measures in performance graphs and dashboard
    - WAN Vision Dashboard
- COMPASS Enhancements
    - Track Switch User Accounts
    - Track Switch User Account Credential
- Web Client
    - Unified Inventory
    - PM support for NOS and IP
- Campus Enhancements
    - Campus Dashboard
    - New Syslog Formatting
    - sFlow support for Campus Fabric
    - Stack ISSU Support
- REST API
    - Port enable/disable, Port name settings
    - Peer zoning and zone alias support (Read-only)
- TRILL trunk alerting for trunk members
- Infrastructure upgrade
    - JRE upgraded to 1.8.0u112
    - PostgreSQL updated to v9.5.4
- Brocade Analytics Monitoring Platform support
    - ampos2.0.0a
- Monitor DB data migration from 14.1.x to 14.2.0

Deprecated software features

- Bottleneck detection

  For switches running FOS v8.0.0 and above Bottleneck configuration through the legacy Bottleneck Detection dialog is not allowed. For these switches Bottleneck conditions/thresholds configuration as well as bottleneck widgets and ports' bottleneck status will be supported through

MAPS FPI. Bottleneck configuration and detection dialogs will still be supported for switches running FOS version prior to v8.0.0.

- For switches running FOS v8.1.0a and above the Uninstall vTap action will not be available in MAPS Policy Actions dialog starting from Network Advisor v14.2.1.

- Starting with FOS v7.4.2 release the following switches and blades are no longer supported:
    - Brocade Encryption Switch
    - FS8-18 blade

  Therefore, in the Firmware Download dialog the Network Advisor does not list FOS versions v7.4.2 and above for the Brocade Encryption Switch. And for the director switch with FS8-18 blade the Network Advisor shows the error: "FS8-18 blade is not supported by the targeted firmware. Please remove the blade before upgrading.

RFCs and standards

This software conforms to the Fibre Channel standards in a manner consistent with accepted engineering practices and procedures. In certain cases, Brocade might add proprietary supplemental functions to those specified in the standards. For a list of FC standards conformance, visit the following Brocade Web site: http://www.brocade.com/sanstandards.

Supported OS, Browsers, JRE

Supported Operating Systems

- Windows Server 2008 R2 SP1 Datacenter, Standard and Enterprise
- Windows Server 2012 R2 Standard, Datacenter
- Windows 7 Enterprise (Client only)
- Windows 8.1 Enterprise (Client only)
- MAC OS 10.12 (Sierra) (Fabric Insight Portal only)
- Windows 10 Enterprise
- Red Hat Enterprise Linux 6.8
- Red Hat Enterprise Linux 7.1
- Red Hat Enterprise Linux 7.2
- Red Hat Enterprise Linux 7.3
- SUSE Linux Enterprise Server 11.3
- SUSE Linux Enterprise Server 12.0
- Oracle Enterprise Linux 7.1
- Oracle Enterprise Linux 7.2

- Oracle Enterprise Linux 7.3

Supported Browsers

Recommended browser versions:

- Internet Explorer 11 and later (Windows only, except Windows 8 and Windows 2012)
- Edge 13 (Windows 10 only)
- Firefox 41 and later (Linux only)
- Chrome 46 and later (Windows, MAC OS)

Supported JRE versions

Network Advisor version	JRE version supported
14.2.2	JRE 1.8u152

Note 1: Web Tools launch from Network Advisor is also supported for the above combination.
Note 2: Applicable **only to WebTools from Fabric OS releases done before 2/13/2015**. Due to java signing certificate expiration, the Web Tools launch from Network Advisor will not work with JRE 8. An attempt to launch the Web Tools will be blocked and "Failed to validate certificate. The application will not be executed" message will be shown. To work around this issue, please uninstall JRE 8, install JRE 7 updates 79/80 and set the security level to Medium. If you have JRE 7 installation, an attempt to launch the Web Tools will be blocked and "Application Blocked by Security Settings" message will be shown. To work around this issue, reduce the security level from High to Medium and continue using JRE 7 update 79/80.

Note 3: Oracle enforces the latest JRE update to be used to web start the applications. The recommended JRE versions for this release are listed in JRE Support table. Beyond JRE expiration date you will see the message "Your Java version is out of date" on attempt to launch the web client.

You can either ignore the message "Your Java version is out of date" by selecting a later option and proceed with the web start client, or install the latest released JRE patch and then web start the client. The following warning will be shown and can be ignored: "The client system has java version <Latest Installed JRE> but the recommended java version is <as noted in JRE Support table>. Do you want to continue?"

Note 4. JRE 1.8.0 update 66 and later support begins with the following Fabric OS versions:

- Fabric OS v6.4.3f
- Fabric OS v7.0.2e
- Fabric OS v7.1.1c

- Fabric OS v7.1.2
- Fabric OS v7.2.1
- Fabric OS v7.3.0
- Fabric OS v7.4.0
- Fabric OS v8.0.0
- Fabric OS v8.0.1
- Fabric OS v8.1.0x
- Fabric OS v8.1.1

- Apply the following workaround on a computer when launching WebTools using a browser or the Network Advisor Remote client for all Fabric OS versions earlier than the above listed:
    a. Navigate to the jre installation directory.
    On Windows, navigate to C:\Program Files\Java\jre8\lib\security
    On Linux, navigate to <jre install directory>/lib/security

    b. Open the java.security file and change the jdk.certpath.disabledAlgorithms=MD2, RSA keySize < 1024 value from 1024 to 256.
    For example, jdk.certpath.disabledAlgorithms=MD2, RSA keySize < 256

- Apply the following workaround on the Network Advisor server when launching Element Manager from Network Advisor client for all Fabric OS versions earlier than the above listed:
    a. Navigate to the Network Advisor installation directory.
    On Windows, navigate to <Network Advisor install directory>\jre64\lib\security
    On Linux, navigate to <Network Advisor install directory>/jre/lib/security
    b. Open the java.security file and change the jdk.certpath.disabledAlgorithms=MD2, RSA keySize < 1024 value from 1024 to 256.
    For example, jdk.certpath.disabledAlgorithms=MD2, RSA keySize < 256

Hardware support

Supported Devices

Supported SAN Devices

The following firmware platforms are supported by this release of the Network Advisor:

- Fabric OS 6.4.3 or later
- Fabric OS 7.0 or later
- Fabric OS 8.0 or later
- Fabric OS 8.1 or later

NOTE

To ensure that a configuration is fully supported, always check the appropriate SAN, storage or blade server product support page to verify support of specific code levels on specific switch platforms prior to installing on your switch. Use only Fabric OS versions that are supported by the provider.

The hardware platforms in the following table are supported by this release of the Network Advisor.

NOTE

The minimum recommended compatible version of AMP OS for sustained use is v2.0.0a. AMP OS v2.0.0 is the minimum supported version for compatibility with BNA 14.2.0. AMP OS v1.5.0 is only.

Device name	Terminology used in documentation
Brocade 300 Switch	24-port, 8-Gbps FC switch
Brocade 4012 Switch	Embedded 12-port, 4- Gbps FC switch
Brocade 4016 Switch	Embedded 16-port, 4-Gbps FC switch
Brocade 4018 Switch	Embedded 18-port, 4-Gbps FC switch
Brocade 4020 Switch	Embedded 20-port, 4-Gbps FC switch
Brocade 4024 Switch	Embedded 24-port, 4-Gbps FC switch
Brocade 5100 Switch	40-port, 8-Gbps FC switch
Brocade 5300 Switch	80-port, 8-Gbps FC switch
Brocade 5410 Embedded Switch	Embedded 12-port, 8-Gbps switch
Brocade 5424 Embedded Switch	Embedded 24-port, 8-Gbps switch
Brocade 5431 Embedded Switch	Embedded 16-port, 8-Gbps stackable switch
Brocade 5450 Embedded Switch	Embedded 16-port, 8-Gbps switch
Brocade 5460 Embedded Switch	Embedded 24-port, 8-Gbps switch
Brocade 5470 Embedded Switch	Embedded 24-port, 8-Gbps switch
Brocade 5480 Embedded Switch	Embedded 24-port, 8-Gbps switch
Brocade 6505 Switch	24-port, 16-Gbps edge switch
Brocade M6505 blade server SAN I/O module	24-port, 16-Gbps blade server SAN I/O module
Brocade 6510 Switch	48-port, 16-Gbps switch
Brocade 6520 Switch	96-port, 16-Gbps switch
Brocade 6542 blade server SAN I/O module	48-port, 16-Gbps blade server SAN I/O module

Brocade 6543 blade server SAN I/O module	24-port, 16-Gbps blade server SAN I/O module
Brocade 6545 blade server SAN I/O module	26-port, 16-Gbps blade server SAN I/O module
Brocade 6546 blade server SAN I/O module	24-port, 16-Gbps blade server SAN I/O module
Brocade 6547 blade server SAN I/O moduleh	48-port, 16-Gbps blade server SAN I/O module
Brocade 6548 blade server SAN I/O module	28-port, 16-Gbps blade server SAN I/O module
Brocade 7800 Switch	8-Gbps extension switch
Brocade 7840 Switch	16-Gbps 24-FC port, 18-GbE port switch
Brocade 8000 Switch	8-Gbps 8-FC port, 10-GbE 24-DCB port switch
Brocade 8470 FCoE Embedded Switch	FCoE embedded switch
Brocade VA-40FC Switch	8-Gbps 40-port switch
Brocade Encryption Switch	8-Gbps encryption switch
Brocade Gen 6 platform (32-Gbps) fixed-port switch (Brocade G610)	24-port, 32-Gbps switch
Brocade Gen 6 platform (32-Gbps) fixed-port switch (Brocade G620)	64-port, 32-Gbps switch
Brocade DCX Professional and Professional Plus (Trial and Licensed) versions can discover, but not manage this device. This device cannot be used as a Seed switch.	8-slot backbone chassis
Brocade DCX with FC8-16, FC8-32, and FC8-48 Blades Professional and Professional Plus (Trial and Licensed) versions can discover, but not manage this device. This device cannot be used as a Seed switch.	8-slot backbone chassis with 8-Gbps 16-FC port, 8-Gbps 32-FC port, and 8-Gbps 48-FC port blades
Brocade DCX with FC8-64 Blades Professional and Professional Plus (Trial and Licensed) versions can discover, but not manage this device. This device cannot be used as a Seed switch.	8-slot backbone chassis with 8-Gbps 64-FC port blades
Brocade DCX with FC10-6 Blades Professional and Professional Plus (Trial and Licensed) versions can discover, but not manage this device. This device cannot be used as a Seed switch.	8-slot backbone chassis with FC 10 - 6 ISL blade
Brocade DCX with FS8-18 Blades Professional and Professional Plus (Trial and Licensed) versions can discover, but not manage this device. This device cannot be used as a Seed switch.	8-slot backbone chassis with encryption blade
Brocade DCX with FX8-24 Blades Professional and Professional Plus (Trial and Licensed) versions can discover, but not manage this device. This device cannot be used as a Seed switch.	8-slot backbone chassis with 8-Gbps 12-FC port, 10-GbE ports, 2-10 GbE ports blade
Brocade DCX with FCoE10-24 Blades Professional and Professional Plus (Trial and Licensed) versions can discover, but not manage this device. This device cannot be used as a Seed switch.	8-slot backbone chassis with 10-Gbps 24-port FCoE blade
Brocade DCX-4S	4-slot backbone chassis

Brocade DCX-4S with FC8-16, FC8-32, and FC8-48 Blades	4-slot backbone chassis with 8-Gbps 16-FC port, 8-Gbps 32-FC port, and 8-Gbps 48-FC port blades
Brocade DCX-4S with FC8-64 Blades	4-slot backbone chassis with 8-Gbps 64-FC port blades
Brocade DCX-4S with FR4-18i Blades	4-slot backbone chassis with 4-Gbps router, extension blade
Brocade DCX-4S with FC10-6 Blades	4-slot backbone chassis with FC 10 - 6 ISL blade
Brocade DCX-4S with FS8-18 Blades	4-slot backbone chassis with encryption blade
Brocade DCX-4S with FX8-24 Blades	4-slot backbone chassis with 8-Gbps 12-FC port, 10-GbE ports, 2-10 GbE ports blade
Brocade DCX-4S with FCoE10-24 Blades	4-slot backbone chassis with 10-Gbps 24-port FCoE blade
Brocade DCX 8510-4	16-Gbps 4-slot backbone chassis
Brocade DCX 8510-4 with FS8-18 Encryption Blades	16-Gbps 4-slot backbone chassis with encryption blades
Brocade DCX 8510-4 with FC8-64 and FX8-24 Blades	16-Gbps 4-slot backbone chassis with 8-Gbps 64-port and 8-Gbps router extension blades
Brocade DCX 8510-4 with FC16-32 and FC16-48 Blades	16-Gbps 4-slot backbone chassis with 16-Gbps 32-port and 16-Gbps 48-port blades
Brocade DCX 8510-4 with FC8-32E and FC8-48E Blades	16-Gbps 4-slot backbone chassis with 8-Gbps 32-port and 8-Gbps 48-port blades
Brocade DCX 8510-4 with FC16-64 Blades	16-Gbps 4-slot backbone chassis with 16-Gbps 64-port blades
Brocade DCX 8510-8 Professional and Professional Plus (Trial and Licensed) versions can discover, but not manage this device. This device cannot be used as a Seed switch.	16-Gbps 8-slot backbone chassis
Brocade DCX 8510-8 with FS8-18 Encryption Blades Professional and Professional Plus (Trial and Licensed) versions can discover, but not manage this device. This device cannot be used as a Seed switch.	16-Gbps 8-slot backbone chassis with encryption blades
Brocade DCX 8510-8 with FC8-64 and FX8-24 Blades Professional and Professional Plus (Trial and Licensed) versions can discover, but not manage this device. This device cannot be used as a Seed switch.	16-Gbps 8-slot backbone chassis with 8-Gbps 64-port and 8-Gbps router extension blades
Brocade DCX 8510-8 with FC16-32 and FC16-48 Blades Professional and Professional Plus (Trial and Licensed) versions can discover, but not manage this device. This device cannot be used as a Seed switch.	16-Gbps 8-slot backbone chassis with 16-Gbps 32-port and 16-Gbps 48-port blades

Brocade DCX-8510-8 with FCoE10-24 Blades Professional and Professional Plus (Trial and Licensed) versions can discover, but not manage this device. This device cannot be used as a Seed switch.	16-Gbps 8-slot backbone chassis with 10-Gbps 24-port FCoE blade
Brocade DCX 8510-8 Professional and Professional Plus (Trial and Licensed) versions can discover, but not manage this device. This device cannot be used as a Seed switch.	16-Gbps 8-slot backbone chassis with 16-Gbps 64-port blades
Brocade X6-4 Director	32-Gbps, 4-slot backbone chassis
Brocade X6-8 Director Professional and Professional Plus (Trial and Licensed) versions can discover, but not manage this device. This device cannot be used as a Seed switch.	32-Gbps, 8-slot backbone chassis
FA4-18 Application Platform Blade	Application platform blade
FC8-16 Blade	FC 8-GB 16-port blade
FC8-32 Blade	FC 8-GB 32-port blade
FC8-32E Blade Only supported on the DCX 8510-4 and DCX 8510-8 chassis.	FC 8-GB 32-port blade
FC8-48 Blade	FC 8-GB 48-port blade
FC8-48E Blade Only supported on the DCX 8510-4 and DCX 8510-8 chassis.	FC 8-GB 48-port blade
FC8-64 Blade	FC 8-GB 64-port blade
FC10-6 Blade	FC 10 - 6 ISL blade
FC16-32 Blade	16-Gbps 32-port blade
FC16-48 Blade	16-Gbps 48-port blade
FC16-64 Blade	16-Gbps 64-port blade
FCoE10-24 Blade Only supported on the DCX, DCX-4S, and DCX 8510-8 chassis.	10-Gbps FCoE Port router blade
FS8-18 Encryption Blade	Encryption blade
FX8-24 Blade	8-Gbps extension blade
FC32-48 Port Blade	32-Gbps 48-port blade
SX6 Extension Blade	32-Gbps, router extension blade

Supported NOS Devices

Network OS version	NOS Device Type
Network OS v7.0.0, v7.0.1, 7.1.0x, v7.2.0	VDX 6940-144S, VDX 6740, 6740T, 8770, 6740T-1G, 6940-36Q, 2746, 2741
Network OS v6.0.1, v6.0.1x, v6.0.2, v6.0.2x	VDX 6940-144S, VDX 6740, 6740T, 8770, 6740T-1G, 2740, 6940-36Q
Network OS v6.0.0	VDX 6740, 6740T, 8770, 6740T-1G, 2740, 6940-36Q
Network OS v5.0.0, v5.0.1x	VDX 6740, 6740T, 8770, 6740T-1G, 2740
Network OS v5.0.1_tcn	VDX 2741
Network OS v4.0.1_hit1, v6.0.1 , v6.0.1x	VDX 2746
Network OS v3.0.0_dcb3, v3.0.0_dcb4, v4.1.2, v4.1.2a, v4.1.3, v4.1.3a, v4.1.3b	VDX 6746
Network OS v4.1.0, v4.1.1, v4.1.2, v4.1.3	VDX 6740, 6740T, 8770, 6710, 6720, 6730, 6740T-1G, 2740
Network OS v4.0.0 &v4.0.1	VDX 6740, 6740T, 8770, 6710, 6720, 6730
Network OS v3.0.0, v3.0.0a, v3.0.0b, v3.0.1, v3.0.1a	VDX 8770, 6710, 6720, 6730
Network OS v2.1P[1]P , v2.1.1, v2.1.1a, v2.1.1b, v2.1.2a	VDX 6710, 6720, 6730
Network OS v2.1.1_fuj, v3.0.0dcb5	VDX 2730

Supported IP Devices

FI/NI Versions	IP Device Type
8.0.60	FastIron ICX 7150
8.0.40, 8.0.40a, 8.0.50, 8.0.60	FastIron ICX 7450-32ZP, 7450, 7250, 7750
8.0.2x, 8.0.3x	FastIron ICX 7450, ICX 7750
8.0.1x	FastIron ICX 7750
2.7.02x, 2.7.03x, 2.8.x, 2.9.x	BigIron RX
7.1.x, 7.2.x	FastIron FGS, FGS-STK, FLS, FLS-STK, SuperX
7.1.x, 7.2.x, 7.3.x, 7.4.x	FESX, FWS
7.1.x, 7.2.x, 7.3.x, 7.4.x, 8.0.x	FastIron CX, FCX-STK
7.1.x, 7.2.x, 7.3.x, 7.4.x, 8.0.x	FastIron SX
8.0.xx	FastIron ICX 6610, 6450, 6430,
7.4.x, 8.0.x	FastIron ICX 6430, 6450

FI/NI Versions	IP Device Type
7.5x, 8.0.01x, 8.0.1x, 8.0.2x, 8.0.3x	Brocade 6650
5.0.x , 5.1.x, 5.2.x, 5.3.x, 5.4.x, 5.5x, 5.6.x, 5.7.x, 5.8.x, 5.9.x, 6.0.0, 6.1.0	NetIron CES, CER, MLX, XMR, MLXe
2.0.x, 2.1.x, 2.2.x	Brocade 6910
12.1. x[2], 12.2. x[2], 12.3.x, 12.4.x, 12.5.0x	ServerIron ADX
10.2.01x , 11.0.x	ServerIron
4.1.x, 4.2.x, 7.3.x, 7.4.x, 8.0.x, 8.0.01x	TurboIron 24X
4.1.x , 4.1.01x	FastIron FES

Footnotes:

[2]12.1.0f and 12.2.1 are not supported

Supported Wireless Devices

Wireless Controllers		Access Points	FW version
Ruckus	SmartZone 100 Virtual SmartZone - Essentials (vSZ-E) Virtual SmartZone – High Scale (vSZ-H) SmartCell Gateway 200 (SCG200)	ZoneFlex ZF7372 ZoneFlex ZF7982 ZoneFlex R300 ZoneFlex R310 ZoneFlex R700 ZoneFlex R710 ZoneFlex R720 ZoneFlex R500 ZoneFlex R600 ZoneFlex H500	3.5.0.0.808 3.5.0.0.1345 3.2.1.0.659 3.1.2.0.134
Aruba*	7010	AP124	6.4.1.0
	7210		6.4.2.2_46307
	7220	AP125	
	7240	AP224	
	3200XM	AP135	
	3400XM	AP225	
	3600XM	AP124	
Motorola	RFS 4000	AP7131	WiNG 5.4, 5.5
	RFS 6000	AP 7131N	
	RFS 7000	AP 5181	

* Aruba Instant Access Points are supported in Network Advisor.

Supported Adapters

For Windows, the Emulex and QLogic adapter discovery is based on Windows Management Instrumentation (WMI).

For ESXi host, the Emulex adapter discovery is based on CIM provider.
For Brocade adapters, HCM 3.2.4 version is integrated with BNA

Brocade adapters, HCM 3.2.4 version is integrated with BNA.

Adapter Types		Driver/Firmware versions
Brocade	Brocade 415,425,815,825	Driver/Firmware Versions: 1.1, 2.0, 2.1, 2.2, 3.0, 3.1, 3.2, 3.2.4 CIM Provider version: cpba3.2.3
	Brocade 804[1]	
	Brocade 1010,1020,1007[2]	
	Brocade 1741[3]	
	Brocade 1860[4]	
	Brocade 1867[5]	
	Brocade 1869[6]	
Emulex	LPe12002-M8 8Gb 2-port PCIe Fibre Channel Adapter LPe16000 16Gb PCIe Fibre Channel Adapter LPe32002-M2 32Gb 2-port PCIe Fibre Channel Adapter	Driver Versions: ESXi: 10.0.727.44 Windows: 10.0.720.0 Firmware Versions: ESXi: 1.1.43.3 Windows: 1.1.43.3 CIM Provider Version: ESXi 5.1 and 5.5: 10.0.774.0 Boot Code and Firmware Version: 11.0.243.19 (LPe32002 only)
Qlogic	QLE2562-CK 8Gb, Dual Port, FC HBA, x4 PCIe QLE2672-CK - Host bus adapter - PCI Express 3.0 x4 / PCI Express 2.0 x8 low profile - 16Gb Fibre Channel x 2 Corp ISP2532-based 8Gb Fibre Channel to PCI Express HBA QLE2742 PCIe 3.0 ×8 (dual-port) 32G FC HBA QLE2740 Single-port PCIe 3.0 x8 to 32Gb Fibre Channel Adapter – SFP+ QLE2764 Quad-port PCIe 3.0 x8 to 32Gb Fibre Channel Adapter	Boot Code Version: 01.01.38 (multi-bot image with FCode for QLE269x/27xx Series Adapters) Driver Versions: Windows: 9.1.13.20 Firmware Versions: Windows: 8.00.00 CIM Provider Version: ESX-5.5.0-qlogic-cna-provider-1.5.7

Footnotes:

[1] Requires v2.1.1.0 or later
[2] Requires v2.0 or later

[3] Requires v2.2 or later
[4] Requires v3.0 or later
[5] Requires v3.0.3 or later
[6] Requires v3.2.3 or later

Supported vCenter versions

Virtual Machine Management: vCenter and ESXi Supported Versions

ESXi	5.5, 6.0
VCenter	5.5, 6.0

Software upgrade and downgrade

Migration path

Migration to 14.4.0 is supported from the following previous releases as noted below:

Release	Version
Network Advisor 14.0.x	14.0.1, 14.0.2,14.0.3
Network Advisor 14.1.x	14.1.0, 14.1.1
Network Advisor 14.2.x	14.2.0, 14.2.1

Note 1: Network Advisor 14.0.x (14.0.0, 14.0.1, 14.0.2, 14.0.3) and 14.1.x (14.0.0, 14.1.1) running on the Linux and Windows operating systems can be upgraded to Network Advisor 14.2.x.

Note 2: All Network Advisor editions are supported only on 64-bit servers. To migrate Enterprise and Professional editions to a 64-bit server, refer to 'Pre-migration requirements when migrating from one server to another' section of the Installation and Migration Guide.

Note 3: Direct migration from pre-14.0.0 releases to 14.2.x is not supported. Refer to *Supported migration paths* in the Installation and Migration Guide for migration paths from pre-14.0.0 releases.

Note 4: Refer to *Supported migration paths* in the Installation and Migration Guide for SMI Agent only migration paths.

Note 5: SAN users may add IP management to Network Advisor 14.2.x for SAN+IP network management with the procurement of the IP functionality. Also, IP users may add SAN management to Network Advisor 14.2.x for SAN+IP network management with the procurement of the SAN functionality.

Note 6: Make sure minimum of free space is 1.5 times the size of the Network Advisor data folder (<Install_Home>\data) available for performing migration for the servers with large amount of Performance, Events, and Flow Vision data in the database.

Note 7: Network migration is **not** supported from 14.0.x releases to the 14.2.x release.

Note 8: Network migration is supported from 14.1.x to 14.2.x release.

Note 9: Cleanup the monitor entries in BNA Database during the Migration case (pre-14.1.x)

- When customer migrates from pre-14.1.x release to 14.2.x, following AMP related data would be removed in 14.2.x after migration:
  - Flows retrieved from AMP in pre 14.1.x release
  - Dropping all statistics retrieved from AMP in pre 14.1.x release
  - Out of the box dashboards, added in 12.4.2 and 12.4.3 release for AMP
    - SAN Analytics Monitoring: Top Flows
    - SAN Analytics Monitoring: Summary
- There are no changes made to the source (pre 14.1.x release) database. Customer can install respective pre 14.1 release and consume this data.

Note 10: Monitor entries migration from 14.1.x releases to 14.2.x release is supported.

Note 11: Migration/upgrade from Network Advisor v14.2.x to 14.3.0 is **not** supported. Network Advisor v14.3.0 is recommended only for customers who have Analytics Monitoring Platform (AMP) in their Fabrics.

Upgrade and downgrade considerations

If the OEM name for any of the switch models has changed from one release to another, then you will need to change the properties file after migration. To see these new names, edit the existing Model name with that of the new name in the "oem-switch-model-mapping.properties" file located in the 'conf' folder of BNA home location and restart the server for changes to take effect.

Brocade Network Advisor downgrade to previous versions is not supported.

Upgrading the License

The quickest and simplest method of moving from one package to another is to enter the new license information on the Network Advisor License dialog box. The following tables list the available upgrade paths.

SAN Upgrade Paths

Current software release	To software release
SAN Professional	SAN Professional Plus or Licensed version SAN Enterprise Trial or Licensed version SAN + IP Professional Plus Licensed version SAN + IP Enterprise Licensed version
SAN Professional Plus Licensed Version	SAN Enterprise Licensed version SAN + IP Professional Plus Licensed version SAN + IP Enterprise Licensed version
SAN Enterprise Trial	SAN Enterprise Licensed version SAN + IP Enterprise Trial or Licensed version
SAN Enterprise Licensed version	SAN + IP Enterprise Licensed version

IP Upgrade Paths

Current software release	To software release
IP Professional	IP Base Trial or Licensed version SAN + IP Professional Plus Licensed version SAN + IP Enterprise Licensed version
IP Base Trial	IP Base Licensed version SAN + IP Professional Plus Licensed version SAN + IP Enterprise Licensed version
IP Base Licensed version (lower count)	IP Base Licensed version (higher count) SAN + IP Enterprise Licensed version

SAN+IP Upgrade Paths

Current software release	To software release
SAN + IP Professional	SAN + IP Professional Plus Licensed version SAN + IP Enterprise Trial or Licensed version
SAN + IP Professional Plus Licensed version	SAN + IP Enterprise Trial or Licensed version
SAN + IP Enterprise Trial	SAN + IP Enterprise Licensed version

License Upgrade procedure in Network Advisor

1. Select Help > License.

The Network Advisor License dialog box displays.

2. Browse to the license file (.xml) and click Update.

3. Click OK on the Network Advisor License dialog box.

4. Click OK on the message.

The Client closes after updating the license successfully. Restart the Server from the Server Management Console for the changes to take effect.

5. Open the application (double-click the desktop icon or open from the Start menu).

The Log In dialog box displays.

6. Enter your user name and password.

The defaults are Administrator and password, respectively. If you migrated from a previous release, your user name and password do not change.

7. Select or clear the Save password check box to choose whether you want the application to remember your password the next time you log in.

8. Click Login.

9. Click OK on the Network Advisor Login Banner.

Downgrading the License

User can downgrade from a higher Trial configuration to a licensed version with a lower Configuration. User can perform the following types of downgrade:

- Edition
- Package
- MPLS
- IP Product Count

NOTE:

1. Downgrade to Professional Edition is not supported.
2. Downgrading to a Trial version is not supported.
3. Downgrade during migration (Configuration Wizard) is not supported.
4. License downgrade operation will not run when IP Profile discovery and Server Backup are in progress.

5. If you combine more than one downgrade option, you must meet the requirements for all downgrade options.

Edition Downgrade Paths

Current software release	To software release
Enterprise SAN + IP	Professional Plus SAN + IP Professional Plus SAN
Enterprise SAN	Professional Plus SAN + IP Professional Plus SAN

Package downgrade paths

Current software release	To software release
Enterprise SAN + IP	Enterprise SAN Enterprise IP Professional Plus SAN
Professional Plus SAN + IP	Enterprise SAN Enterprise IP Professional Plus SAN
Professional SAN + IP	Enterprise SAN Enterprise IP Professional Plus SAN

MPLS Downgrade Paths

Current software release	To software release
Enterprise SAN + IP with MPLS	Enterprise SAN + IP with fewer MPLS Enterprise SAN + IP without MPLS Enterprise IP with MPLS Enterprise IP without MPLS Professional Plus SAN + IP without MPLS Professional Plus SAN + IP with fewer MPLS
Enterprise IP with MPLS	Enterprise SAN + IP with fewer MPLS Enterprise SAN + IP without MPLS Enterprise IP with fewer MPLS Enterprise IP without MPLS Professional Plus SAN + IP without MPLS Professional Plus SAN + IP with fewer MPLS
Professional Plus SAN + IP with MPLS	Enterprise SAN + IP with fewer MPLS Enterprise SAN + IP without MPLS Enterprise IP with MPLS Enterprise IP without MPLS Professional Plus SAN + IP without MPLS Professional Plus SAN + IP with fewer MPLS

IP Product count downgrade paths

Current software release	To software release
Enterprise SAN with SMI Agent + IP	Enterprise SAN + IP with fewer products Professional Plus SAN + IP with fewer products Enterprise IP with fewer products
Enterprise IP	Enterprise IP with fewer products
Professional Plus SAN with SMI Agent + IP	Professional Plus SAN + IP with fewer products Enterprise IP with fewer products

Before Upgrading or Installing the Software

Before you install the application, make sure your system meets the minimum pre-installation requirements. Refer to "Pre-installation requirements" in Installation and Migration Guide. If you are migrating data, refer to "Data Migration" chapter.

System Requirements

Memory, host, and disk space requirements
Memory requirements are only applicable when there are no other applications running on the Network Advisor server. Paging space should be equal to or exceed the physical memory size.

Note.
When Network Advisor is installed on VM the system resources have to be dedicated to the VM.

System Requirements for Network Advisor without AMP

Below table summarizes the memory, host, and disk space requirements for a remote client.

Memory, Host, and Disk space requirements for remote client

Resources	Small	Medium	Large
Installed Memory	4 GB	4 GB	4 GB
Processor Core Count (including physical and logical cores)	2 (1 physical and 1 virtual)	4 (2 physical and 2 virtual)	4 (2 physical and 2 virtual)
Disk Space	1 GB	1 GB	1 GB

Below table summarizes the minimum system requirements for server (plus 1 client) installation.

Minimum system requirements for server (plus 1 client) installation

Resources	Professional Edition	Professional Plus or Enterprise Edition
Installed Memory	6 GB	6 GB
Processor Core Count (including physical and logical cores)	2	2
Disk Space	10GB	20GB

Below table summarizes the recommended system requirements for server (plus 1 client) installation.

Recommended system requirements for server (plus 1 client) installation

Resources	Small	Medium	Large
Installed Memory	16GB	16GB	16GB
Processor Core Count (including physical and logical cores)	2 (1 physical, 2 virtual)	4 (2 physical, 4 virtual)	8 (4 physical, 8 virtual)
Disk Space	20GB	80GB	100GB

NOTE

1. To efficiently manage more than 9000 SAN ports or 200 IP devices, the recommended memory allocation is 16 GB. The minimum memory allocation is 2GB for the client and 6GB for the server.
2. If you use sFlow, it is recommended that you add an additional 100 GB of disk space.
3. It is recommended that you add an additional 40 GB of disk space for the default temporary directory.
4. If you enable periodic supportSave or configure the Network Advisor server as the Upload Failure Data Capture location for monitored switches, you must add additional disk space. Each switch supportSave file is approximately 5 MB and each Upload Failure Data Capture file is approximately 500 KB. To determine the disk space requirements, multiply the frequency of scheduled supportSave files by 5 MB and the expected Upload Failure Data Capture files by 500 KB before the planned periodic purge activity.

System Requirements for Network Advisor with Brocade Analytics Monitoring Platform

Here is the minimum system requirements for BNA to manage AMP devices.

Minimum System Requirements

- RAM Memory: 16 GB
- Processor: 6
- Disk Space: 40 GB

Note: Minimum system requirements is to validate the functionality with 1 or 2 AMP devices and 100 to 200 flows. Performance issues (slowness) and longevity issues shouldn't be reported with this system configuration.

Recommended System Requirements

Installation resources	20K Flows	40K Flows	60K Flows	80K Flows	100K Flows
Installed Memory	32 GB	32 GB	32 GB	64 GB	64 GB

Processor Core Count (physical + logical)	24 (12 physical, 24 logical)	24 (12 physical, 24 logical)	24 (12 physical, 24 logical)	48 (24 physical, 48 logical)	48 (24 physical, 48 logical)
Disk Space (including future migration)	4 TB	8 TB	12 TB	16 TB	20 TB
Server Heap	6 GB	6 GB	6 GB	6 GB	6 GB
Client Heap	2 GB	2 GB	2 GB	2 GB	2 GB

Recommended system configuration for remote java client with AMP

This is applicable for both – desktop client and browser based web client.

Resources	Small	Medium	Large
Installed Memory	4 GB	6 GB	6 GB
Processor Core Count (including physical and logical cores)	2 (1 physical, 2 virtual)	4 (2 physical, 4 virtual)	8 (4 physical, 8 virtual)
Disk Space	10 GB	10 GB	10 GB

When BNA monitors 10 AMPs or 100000 flows, the system requirements for server (plus 1 desktop/web client) installation are:

- RAM Memory: 64 GB
- Processor: 48 core processor (24 physical, 48 virtual)
- Disk Space: 20 TB (Recommended: SSD)

When BNA monitors 10 AMPs or 100000 flows, the system requirements for the remote client (desktop or web client) are:

- RAM Memory: 6 GB
- Processor: 8 core processor (4 physical, 8 virtual)
- Disk Space: 1 GB

NOTE

1. It is recommended to use only the remote client for the Brocade Network Advisor server when managing Brocade Analytics Monitoring Platform with more than 20K flows
2. SSD storage is strongly recommended for better performance when managing Brocade Analytics Monitoring Platform. Future releases of Brocade Network Advisor when supporting Brocade Analytics Monitoring Platform will require the use of SSD and the storage space requirements may increase due to additional capabilities.
3. When managing Brocade Analytics Monitoring Platform, it is recommended to use a server with a minimum of two Processors/CPUs, with each Processor/CPU having a minimum of six Physical cores with two or more threads (logical cores) per core, resulting in a minimum total of 24 logical cores.
4. When managing Brocade Analytics Monitoring Platform, the Brocade Network Advisor supports a maximum of 8K switch ports in a fabric.

Operating system cache requirements

It is recommended that you use the System managed size (the OS allocates the required cache); however, if you choose to use a custom size, make sure you use the following memory settings for your operating system.

The virtual memory requirements for Windows system is 1 GB for minimum paging file size and 4 GB for maximum paging file size.

Linux swap space requirements

Installed physical memory (RAM) size	Recommended swap size
Greater than 6 GB and less than 8 GB	Equal to the amount of RAM
Greater than or equal to 8 GB and less than 64 GB	5 times the amount of RAM

Client and server system requirements

Note. Network Advisor is not supported in a Network Address Translation (NAT) environment where the server and client are on different sides of the NAT Server.

Network Advisor has the following client and server system requirements:

1. In the Professional edition, a single server supports a single client, which must be a local client only.
2. In Professional Plus and Enterprise editions, a single server supports a maximum of 25 clients, which can be local or remote on 64-bit servers. To support more than 8 clients, you must make the following changes to your configuration:

    a. Increase the server memory size. You can configure the server memory size from the Options dialog box, Memory Allocations pane. For instructions, refer to the *Network Advisor User Manual* or online help.

    b. Increase the PostgreSQL database shared buffers memory allocation to 1024 MB by editing the *Install_Home*\data\databases\postgresql.conf file.

Installing Network Advisor

Installation instructions are provided for the following operating systems:

1. Microsoft Windows
2. Linux

Note: The 32-Bit installer is no longer supported for any edition of the Network Advisor.

The Network Advisor Server runs as multiple services on Windows and multiple processes on Linux. They all start automatically after the installation.

To install Network Advisor on Windows (Server)

1. Download and extract the zip archive.
2. Navigate to the Windows folder.
3. Execute *install.exe.*
4. Follow the instructions to complete the installation. For details refer to the *Installation and Migration Guide*.

To install Network Advisor on Linux (Server)

1. Download and extract the tar.gz archive
2. Navigate to the Linux_64 folder.
3. Execute *Install.bin* from the File Manager window.
4. Follow the instructions to complete the installation. For details refer to the *Installation and Migration Guide*.

To launch the Network Advisor Client

To launch the Network Advisor Client on the same local machine as the Network Advisor Server, launch the client as follows:

On Windows:

- Select Start > Programs > Network Advisor 14.2.x > Network Advisor 14.2.x
- Click the Desktop icon.
- Launch command prompt, navigate to <Install Home>/bin, type dcmclient and press Enter.

On Linux:

- Click the Desktop icon.
- Launch terminal, navigate to "<Install Home>/bin, type sh dcmclient and press Enter.

To launch the Network Advisor Client from a remote host, complete the following steps.
Windows and Linux: Follow the below steps on launching the client from a web browser.

Note 1: The web start remote client is supported with JRE versions listed in JRE Support section in this document. The supported JRE version needs to be installed on the remote client system prior to establishing a server connection.

Note 2: The Remote client can be launched in the following ways

- Open a browser window and enter the Network Advisor server hostname or IP address in the **Address** field.
  For example:

  https://NetworkAdvisorServerhost1.companyname.com/
  https://192.x.y.z/

  If the Network Advisor web server port number does not use the default (443 if is SSL Enabled; otherwise, the default is 80), you must enter the web server port number in

addition to the IP address. For example, *IP_Address:Port_Number*. In the following examples, 8080 is the web server port number:

https:// NetworkAdvisorServerhost1.companyname.com:8080/
https://192.x.y.z:8080/

The web client login page displays.

- Click **Desktop Client**.
  The Network Address web start page displays.

- Choose one of the following options:
  - Click the **Web Start the Client** link.
    The Log In dialog box displays.
  - Click the **Download client bundle** (64-bit OS only) link.

To launch the Network Advisor Client from a web browser, complete the following steps.

5. Open a browser window and enter the Network Advisor IP address in the **Address** bar.
   For example:
   https://192.x.y.z/

   If the Network Advisor web server port number does not use the default (443 if is SSL Enabled; otherwise, the default is 80), you must enter the web server port number in addition to the IP address. For example, *IP_Address:Port_Number*. In the following examples, 8080 is the web server port number:
   https://192.x.y.z:8080/

   The web client login page displays with the server name and IP address in the upper left.

6. Click **Desktop Client** to launch the Java client from any page of the web client.
   The **Log In** dialog box displays.

Note 3: Launching element manager applications within Network Advisor Client is done using Java Web Start technology. This requires the local system's web browser to be able to run Java web start applications. This setting may have been turned off in the wake of recent Java zero-day vulnerabilities.

To turn on Java content in the browser, please follow the below steps:

1. Launch "Java Control Panel" (refer to http://java.com/en/download/help/win_controlpanel.xml to locate Java Control Panel application on Windows)

2. In the Java Control Panel, click on the **Security** tab.

3. Select the **Enable Java content** check box in the browser. This will enable the Java plug-in in the browser.

4. Click **Apply**. When the Windows User Account Control (UAC) dialog appears, allow permissions to make the changes. Click **OK** in the Java Plug-in confirmation window.
5. Now launch Element Manager from Network Advisor Client.

Limitations and restrictions

Scalability

All scalability limits are subject to change. The limits noted in this section apply to all the platforms listed unless otherwise specified.

Supported scalability limits by Network Advisor edition:

	Enterprise Edition			Professional Plus Edition + IP Base Edition	Professional Edition
	Small	Medium	Large		
SAN Switch Ports	2000	5000	15000	2560	300
SAN Switches and Access Gateways	40	100	400	40	15
SAN Devices	5000	15000	40000	5000	1000
SAN Fabrics	25	50	100	36	2
IP Switches*	50	200	1550 (Supported) 1200 (recommended) (with performance monitoring on up to 20000 ports)	50	50
MPLS switches	1	10	100	1	Not Supported
VDX switches	50	100	400	50	50
Managed Hosts	20	100	400	100	20
vCenters	1	5	10	5	1
VMs (includes powered down VMs)	1000	5000	10000	5000	1000
ESX Hosts	200	1000	2000	1000	200

*The IP switch count includes MPLS and VDX switches.

Note 1. Virtual Fabrics are counted as fabrics when calculating the managed count limits.
Note 2. SMI Agent is not supported on Professional edition.
Note 3. Professional Plus is not supported for the IP package.
Note 4. Supported network latency between Network Advisor server and client or server and devices is 100ms.

Compatibility and interoperability

Discovery of Qlogic branded Brocade adapters is not supported.

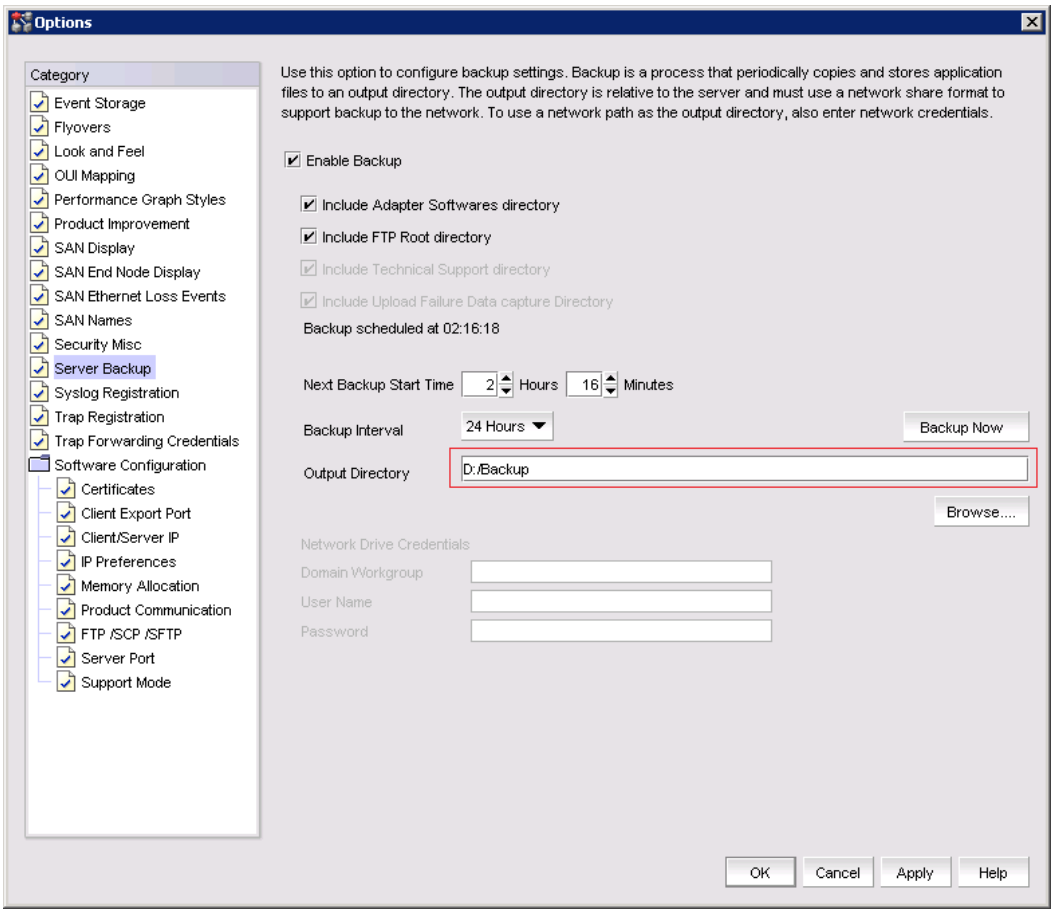
Important notes

Important Notes for managing Brocade Analytics Monitoring Platform

1. Backup and restore recommendations

a) With AMP discovered in Network Advisor, for Back up, it is recommended to use with External device with since backing up to CD is not the recommended method. The usable capacity of a CD is
   i. Approximately 700 MB and needs to be replaced when full. It is recommended that you configure the backup system to target a hard drive or a network drive.
   ii. Note that: The amount of space required for each backup is 1/10th of the size of BNA installation directory and the backup process takes about 1.5 hours for 100GB of data.

b) By default, the Network Advisor server backup is scheduled for every day - a backup every 24hrs. With AMP discovered in the Network Advisor, since the data size will be huge,
   i. If user needs better BNA performance, it is recommended to disable the default scheduled back by disabling the “Enable Backup” option (also shown in the figure below) and trigger a manual backup on a weekly basis or based on the need, by enabling the “Enable Backup” check box and selecting “Backup Now” button.
   ii. If user needs the data back up every day, then the performance of the BNA will be impacted due to the backup process. Based on the need, the backup can be planned.

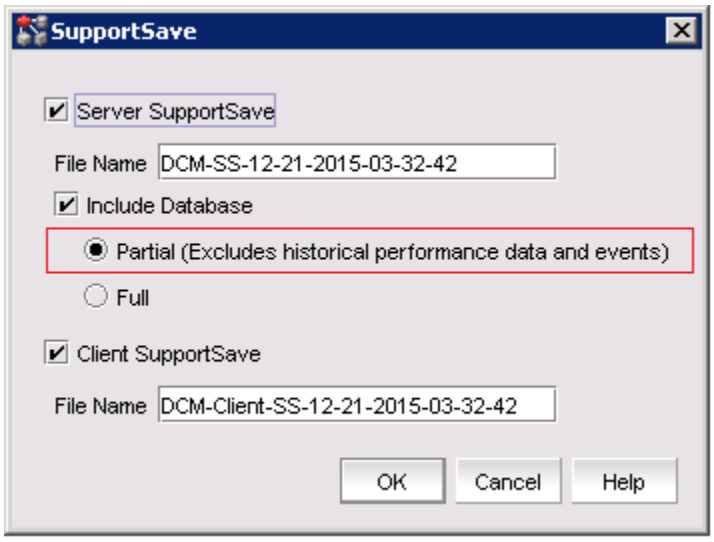


c) While migrating Network Advisor from pre-14.2.1 version to 14.2.1 or later, it may take longer time for the Source monitor DB services to stop. As a result an error is being shown in "Resource validation and data migration" screen: "Migration Failed. Network Advisor will roll back to the previous version".
When the issue happens, please do the following:

i. Rollback to the source version
ii. Open Server Management Console (SMC) and stop all the services.
iii. Then install the destination version and do the migration

2. **Support save recommendations**

a) With AMP discovered in Network Advisor, for capturing the Server and Client support save data, it is recommended to select the Partial option, this would exclude historical performance data and events from the database capture.



3. **Disk space recommendation in case of Migration**
    a) It is recommended to have free disk space of 3 times the size of "BNA installation folder/data". Note that it would take approximately 2 hours to complete the migration for 100G of data folder size.

        Example:

        Size of the "BNA installation folder/data" is – 500 GB

        Additional free disk space required is - 1000 GB (1.5 TB)

        Time that will take for completing migration would be – 10 hours approximately.

4. **Performance considerations for Dashboard**
    a) When there are more than 30k flows monitored in BNA
        i. It is recommended to select the 30 minutes or 1 hour time scope for better performance of the drill down graphs/dialogs
        ii. The drill down graph/dialog launch will take around 5 minutes when user selects 6 hours/12 hours/1 day time scope.

5. **An AMP device should be discovered by only one BNA server**

Important SAN Notes

- While pushing larger zone configurations, make sure to reserve enough space in zoneDB to accommodate hdr size of all the LS and actual committed configuration within the zoneDB max size. It is recommended to add zones gradually. Pushing Zone DB of size more than max zone DB size, will set available zone DB size to negative value which in turn causes a deadlock where any zone operation will not work.

- FOS 8.1.0x and BNA 14.2.x support a total of 16 LS on each X6 Director. For Creation, Modification, or Deletion of Logical Switches in FICON environments, it is highly recommended to limit these operations from Network Advisor's Logical Switches dialog to less than 4 LS at-a-

time to avoid timeout issues. For non-FICON environments, a limit of 8 LS at-a-time is enforced.

- Firmware Download fails if built-in SCP is used as preferred protocol. The workaround is to use the FTP/SFTP option in BNA
- SNMPv3 using AES256 algorithm may not work with certain passwords as there could be some mismatch for encryption/decryption of passwords. For example: “pass1”, “xyz12mo” fails whereas “xyz12” works. This is because AES256 algorithm is not a standard implementation
- Trying to move 200+ ports to a Logical Switch with ‘Reset to Default’ option selected, results in operation time-out.
- During installation, if Network Advisor database initialization fails on Windows Operating System, user needs to verify access to the drive on which the installation is performed. If the user “Administrator” alone has access to the drive, then required permissions should also be provided to “Authenticated Users” and then continue with the installation.
- The FCIP links will not be shown in the topology for tunnels with degraded circuits
- IP Ping, IP Route and Trace route is not supported for Brocade 7840/SX6
- Network Advisor uses SNMPv3 by default to discover SAN products. If required, user can select the ‘Manual’ option in Discovery dialog and choose SNMPv1 for discovery, as in case of AG discovery which requires use of SNMPv1 by default.
- A delay of 5 to 7 minutes is seen when Web Tools is launched on a system (through Network Advisor or directly in a web browser) where internet access is not available and the network does not return a ‘destination unreachable’ message. This issue occurs as Java tries to validate the SSL certificates with external CAs. This problem can be avoided on such systems by modifying the below Java properties:

  On Windows:
  C:\Users\<logged in username>\AppData\LocalLow\Sun\Java\Deployment\deployment.properties

  On Linux:
  home/< logged in user name>/.java/deployment/deployment.properties

  In the ‘deployment.properties’ file, edit the below parameters and set them to ‘false’. If these parameters are not present, add them and save the file. Then re-launch Web tools.

  deployment.security.validation.ocsp = false
  deployment.security.validation.crl = false

- Real time graph will not display proper data for FCIP tunnels when the polling interval is 10 sec. User need to keep 20 sec polling interval in graph to see the correct data for Brocade 7840/SX6
- Emulex: HTTPS discovery for ESXi host will work only with certificate import

  Workaround
  Perform the following two steps to work around this issue.
  Step 1) Add following line in <User Home>/.java/deployment/deployment.properties file
  deployment.expiration.check.enabled=false

For example, if the user is root then the absolute path of this file would be as below:
/root/.java/deployment/deployment.properties

Step 2) Launch the java control panel using below command and click on Ok button <Network Advisor Home>\jre\bin\jcontrol

- If Network Advisor is installed on Linux Operating System, the Fabric OS Element Manager and HCM cannot be launched when the client is launched using the dcmclient script available in Network Advisor installation folder. The Launch in Context (LIC) dialogs from SMIA configuration tool (launched from Server Management Console) also cannot be launched (e.g. Discovery Dialog, Options Dialog etc.). To use the above features on Linux machines, launch the Network Advisor client from a browser (after installing supported JRE 7 version), pointing to the Network Advisor server installed on that machine.

  Workaround

  Perform the following steps to work around this issue.

  Step 1) Add following line in <User Home>/.java/deployment/deployment.properties file

  deployment.expiration.check.enabled=false

  For example, if the user is root then the absolute path of this file would be as below:

  /root/.java/deployment/deployment.properties

  Step 2) Launch the java control panel using below command and click **OK**.

  <Network Advisor Home>\jre\bin\jcontrol

- Secure Syslog is not supported from Network Advisor
- SAN Configuration Purge Backup is being enabled automatically when “Enable Scheduled Backup” is set and remains enabled after disabling the Scheduled Backup.
- User is not recommended to perform write operations such as delete or enable/disable on FCIP tunnels which have circuits with different IDs.
- When CIMOM server is bound to host name, SLP service fails to get registered. **Workaround:** To overcome this issue user can bind the CIMOM server to IP Address instead of host name.
- Firmware upgrade will happen serially for B7840's with HA configured tunnels between them. For parallel download on B7840's use CLI.
- FCIP circuit trace route verification fails when attempted from Network Advisor
- Web tools launch is not supported for Brocade Analytics Monitoring Platform
- SAN Inventory widget in default dashboard shows ‘Error loading the data’ on creating and deleting custom dashboards inconsistently when managing more than 9000 ports. User has to re-launch the client to see the data again.
- Do not enable “Use SSL 2.0 compatible ClientHello format” setting in Java Control Panel on the Network Advisor Client machine as it will interfere with the remote client launch.
- For AMP users with scaled number of AMP flows, it is recommended that you disable daily database backups for better Network Advisor performance with the AMP case.

  If local server has JRE version 1.8u112, the links in Configure SMIA Agent dialog in Server Management Console, will not launch.

  Workaround for this issue: Uninstall the JRE version 1.8u112 or install JRE version 1.8u111.

- While generating reports from Microsoft Windows command prompt and saving the report in non-default location, the report output directory path should not end with the backslash ("\"), or the backslash character should be prefixed with forward slash ("/"). For example: *–o "c:\/"*.

- As per the Fabric OS design, all three AAA servers (RADIUS. ADLDAP, TACACS+) have to be configured together. All three AAA server settings should be present in the configuration file (from COMPASS), when we want to add any one server additionally (RADIUS, ADLDAP, TACACS+). This can be achieved in COMPASS using "Import from Switch" and "Edit" options.

  For example, let's say all the three AAA servers are configured on switch. From COMPASS, if we try to push only ADLDAP configuration during sync operation then already configured RADIUS and TACACS+ configurations on switch will get removed. The template configuration present in the configuration file will get downloaded to switch replacing the existing configuration.

- Make sure that the Management application server and the Fabric Insight Portal system clocks are synchronized even if they are in different time zone.

Display of Logical Switches

If you create Logical switches through the Logical Switch dialog box, the Logical switch displays under undiscovered Logical Switch in the existing Logical Switches Panel. You have to rediscover the newly created logical switch fabric by going to the discovery dialog and add the IP address of the chassis using the Add dialog.

SSL connections using certificates with MD5 signatures

SSL-based product communication will fail if the devices have 'weak' authentication certificates. The user will see "Fabric Discovery failed because SSL certificate of the seed switch uses a weak algorithm. Install SSL Certificate with strong authentication algorithm on the switch and try again" for devices with weak certificates. Java 1.8 used by BNA 12.x disables the use of certificates with 'weak' authentication. The certificates on such devices need to be updated to be compliant with JRE v1.8. Please refer to the 'Secure Sockets Layer protocol' section of Fabric OS Admin guide for details on updating certificates

The recommended solution is to replace the certificate on the network device with a certificate using the more secure SHA signature. If that is not practical, the Network Advisor server configuration can be changed to accept MD5 signatures. Note that accepting MD5 signatures may result in warnings from network security scanning tools.
To accept MD5 signatures, edit the following text file:

On 64-bit Windows or Linux: <install-dir>/jre64/lib/security/java.security

Remove "MD5" from the following line near the end of the file:

jdk.tls.disabledAlgorithms=MD5, DES, 3DES, RC2

The modified line should appear as:

jdk.tls.disabledAlgorithms=DES, 3DES, RC2

The change will take effect the next time the Network Advisor server is restarted.

Reset Ports operation in Logical Switches dialog

Note 1: Reset ports to default operation is applicable only when the ports are moved from one Logical Switch to another Logical Switch through the Right Arrow button i.e., from (Chassis ports Tree/Tree Table) LHS to (Logical Switches Device Tree) RHS device tree.
It is not applicable when:

a. Ports from a Logical Switch are moved to default Logical Switch through Left Arrow button, i.e., from (Logical Switches Device Tree) RHS to (Chassis ports Tree/Tree Table) LHS.
b. When a Logical Switch is deleted - its ports will not be reset to default before moving to Default Logical Switch before its deletion

Ports which are moved to the default logical switch can be reset to default, if they are moved from Chassis ports Tree/Tree Table LHS to Logical Switches Device Tree RHS device tree.

Note 2: Reset ports to default operation will not clear FCIP configurations in the following scenarios:

1. In 7800, 7840 and FX8-24, GE ports cannot be reset to default unless their corresponding VE ports are cleared of their FCIP configurations
2. Switch reset to default operation on Brocade 7840 may fail due to GE port sharing or if the associated VE port exists in another LS

Important IP Notes

Miscellaneous Important Notes that Apply to IP Installations

1. For large networks the Adaptive polling turned off by default for all IP devices (even for migrated servers).
2. SNMP write credentials will not be populated by default for NI/FI/NOS devices.
3. Each IP product has a System max value that can be configured for various parameters, such as “ip-filter-sys” for ACLs. Network Advisor deployments do not check whether the payload being sent to the device has a number greater than the system-max value. In such deployment scenarios, the deployment may report success even though the number was limited to the system-max value. To ensure successful deployments, make sure the payload being sent is no greater than System max value.
4. Syslog messages will not be received for the VDX 8770 that is configured with different IP addresses for CPs.
5. Pizza Box switches running Network OS 4.0 are displayed with ‘Product Type’ as ‘Router’ in Network Advisor, even when they do not have Layer 3 license.

6. When two ports of the same storage are connected to two VDX devices, only one of the attached ports is displayed in the Zoning dialog.
7. On VDX devices managed through in band IP address in Network Advisor, firmware download, product support save and configuration backup operations fail.
8. Fabric Watch violation can be viewed under following path Fabric Vision-->MAPS-->Violations.
9. Firmware upgrade in NetIron devices using simplified image doesn't update the boot image from NI 5.6 and above. Boot image need to deploy separately.
10. Discovery of a cluster running Network OS 6.0 and above requires addition of SNMP user settings from CLI as default user support is not available.
11. Configuration backup on MLX running 5.8.00a code using SCP fails with 'Bad client version string [Unknown cause]'. Work around is to use the TFTP, SCP then TFTP and TFTP then SCP. The issue is not seen in NI 6.0 and later.
12. In IP Address and Detailed Reports IP Management Ports will not be consistent with the CLI port naming conventions. This is caused by SNMP index and port name inconsistencies. In some cases, Management ports will not be displayed in the reports.
13. L2 topology does not show link between Ruckus Wireless Controllers and connected L2 switches as Ruckus Wireless Controllers don't support LLDP.
14. BNA would not rediscover the controller managing Access Points if there is a change detected in the MAC Address of one or more Access Points. The controller has to be deleted first, and then discovered to see the Access Points with the new MAC Address.
15. To use SSL Certificates for ServerIron products, contact your customer support representative
16. The Identifier column in the Ethernet Ports table of a detailed report shows incorrect identifier details for Control Bridge's second slot ports.
17. The Control Bridge ports of a Campus Fabric do not show role as 'SPX PORT' in device properties port tab if Campus Fabric has more than 2 Port Extenders.

Boot, Monitor, Firmware Image Updates

1. Network Advisor does not support boot and firmware upgrade and downgrade for ADX devices running 12.1 or above.
2. Firmware Download to NetIron CES devices fails via SCP with the error message "There is not enough space on MP flash". Below are the considerations before downloading the image to NI CES device.
   1) If device flash size is 32 MB, it will support either primary or secondary flash. If image is already present in primary flash and needs to download for secondary flash and vice-versa, then we should manually delete the primary and secondary flash respectively by using the command "delete primary or delete secondary" and download will be happen as expected.
   2) If it is 64 MB, it will support for both primary and secondary flash and the download will be happen successfully.

Important Notes common for SAN and IP

1. In rare cases, due to some interactions with virus scan software, Network Advisor Server Start process might go on 10 to 12 minutes, or may fail to start the server. If this happens, then configure the virus scans to skip scanning Network Advisor files.
2. 64 bit OS is required to run any edition of Network Advisor - Professional, Professional-Plus and Enterprise.
3. Network Advisor server startup and restart may take up to 10+ minutes to complete.
4. To avoid excessive telnet/ssh login messages in the Network Advisor master log and event report, and the device CLI console, disable lazy polling by un-checking the "Enable lazy polling" checkbox in IP Discovery Global Settings > Preferences Dialog.
5. Starting 12.0, the supported number of client connections has increased to 25. Please refer to the installation guide for the details. In addition to those details, the following database memory setting is required:
    - The PostgreSQL's parameter "shared_buffers" memory allocation should be increased to 1024MB. [This setting can be done by editing <installation_directory>\data\databases\postgresql.conf file.]
      Change following line: shared_buffers = 512MB
      To: shared_buffers = 1024MB
    - Server needs to be restarted.
6. In Linux 64 bit machines, connecting to the database through Open office using ODBC will not work. Solution is to connect from Windows ODBC Client to the 64 bit Linux machine where Network Advisor is running to view the Database tables.
7. Technical Support data collection for discovered Products fails through an external Linux FTP server on a Windows installation of Network advisor. To successfully collect support save data for Network OS and Fabric OS devices the below configuration needs to be done in the VSFTPD FTP server before triggering the support save by setting external VSFTPD FTP Linux server (other than BNA FTP server):

   /etc/vsftpd.conf file and set "chroot_local_user=YES"
8. Client only application can be installed on a machine other than the server (without using a web browser) by creating a client bundle on the server, then copying and installing that client on another machine. Refer to 'Client only installation' section of the Installation and Migration guide for details.
9. Intermittently HTTP 500 error message is displayed when launching the Web Client. Server restart will fix the issue.
10. User needs to run the "sanperformancestatenable" script from BNA home utilities folder to enable/disable performance statistics collection for SMIA only package installation. Below are the steps to execute the script,
    - Windows: Open cmd prompt and move to <BNA_HOME>\utilities and *run sanperformancestatsenable.bat dbusername dbpassword enable|disable*
    - Linux: Open terminal and move to <BNA_HOME>\utilities and run *sanperformancestatsenable dbusername dbpassword enable|disable*
11. REST API does not provide FCIP circuit measures for the GigE port.

12. BNA is now enforcing minimum disk space requirements during migration. When the disk space requirements are not met, BNA display a message prompting the user to use the script to delete performance data and retry migration.
13. SNMP Trap auto-registration does not happen for a discovered VCS which is configured with 'Read-Only' community string alone. Registration can be done manually post discovery through "Product Trap Recipients" dialog.
14. When Network Advisor is managing more than 1500 IP products, user might experience some performance degradations such as delays while launching some dialogs.
15. Due to Microsoft Windows operating system restriction which does not allow services logged in as Local System user to interact with the desktop, the GUI application cannot be launched using "Launch a Script" option of Add Event Action.
    Please refer the following link for more information:

    http://msdn.microsoft.com/en-us/library/windows/desktop/ms683502%28v=vs.85%29.aspx
16. During migration, if insufficient space is detected, then a warning message will be displayed with an option to rollback. If user chooses "No", then migration will be aborted. As a result, the source version services will remain uninstalled. Please refer to the Installation Guide for the instructions to install the source version services manually.
17. The ports listed in Network Advisor Installation and Migration guide need to be open bi-directionally for all the bi-directional protocols in the firewall where the server is installed.
18. If source Network Advisor has more products discovered then it is recommended to stop all the services manually from Network Advisor Server Management Console of the older version before initiating migration from the Configuration Wizard.
19. Service start up failure can be seen in Windows 2008 R2 OS and the recommendation is to apply this hot fix from http://support.microsoft.com/kb/2577795
20. If you see the following error message "Signature could not be validated" during firmware download or technical support data collection (Fabric OS and Network OS devices only) or configuration backup/restore (Network OS devices only) using SCP/SFTP, then it could be due to a mismatch in the signature key used in the ssh handshake between the switch and SCP/SFTP server. Try the following cli command work-around to address the issue:

    - **For Fabric OS devices**

      sw0:FID128:admin> sshutil delknownhost

      IP Address/Hostname to be deleted: <IP Address of SSH server to be deleted>

    - **For Network OS devices**

      Firmware version 3.0 and later

      sw0# clear ssh-key <IP Address of SSH server to be deleted>

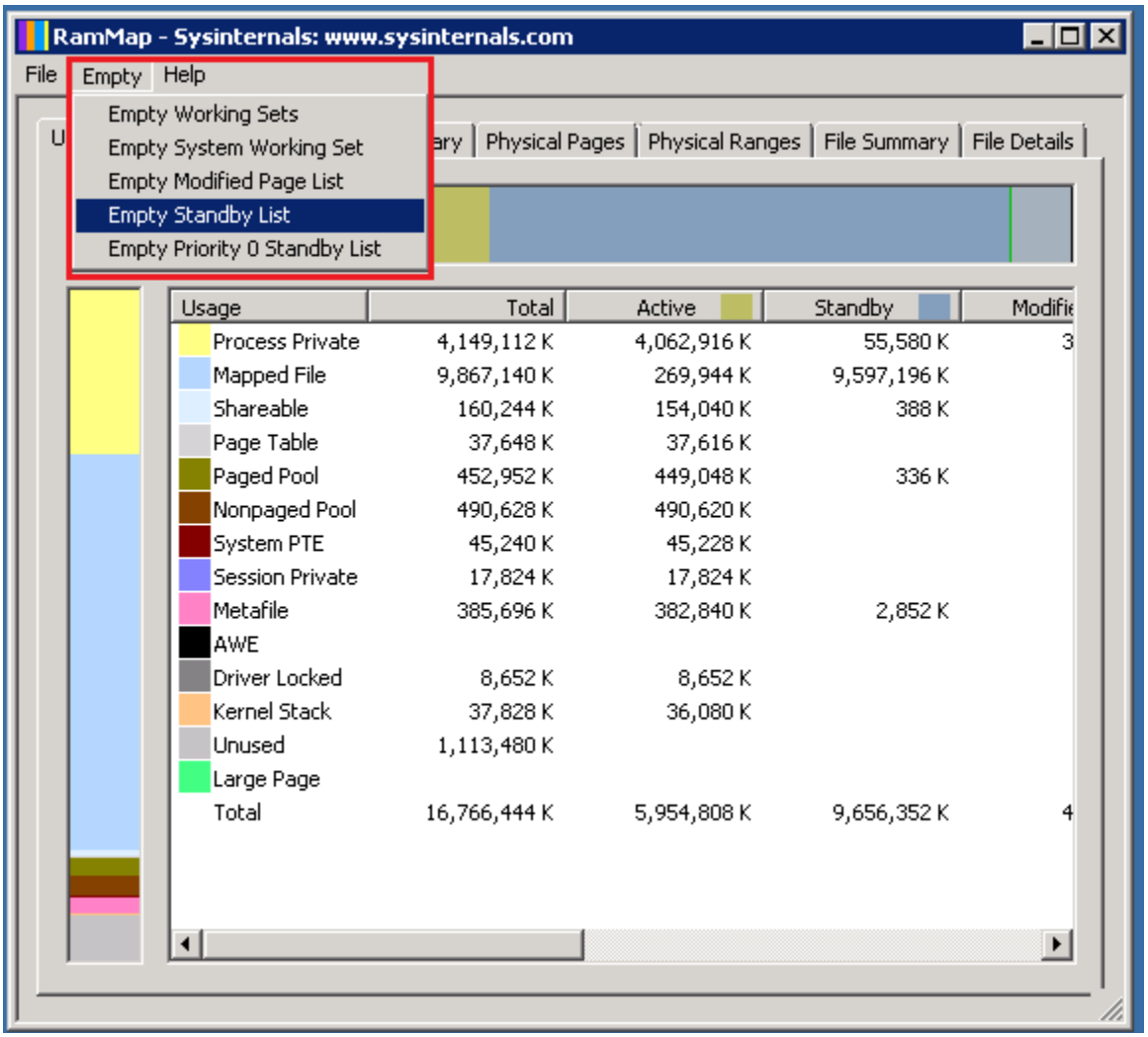
    - **Firmware version 2.1.1b**

      sw0#execute-script sshdeleteknownhost

      IP Address/Hostname to be deleted: <IP Address of SSH server to be deleted>

If the above does not work, go to Server > Options > Software Configuration > FTP/SFTP/SCP, and uncheck the SCP/SFTP option.

21. You need to use a different (non-default) name for the widget when attempting to add “Top Product Response Time” widget to avoid this error “Monitor could not be added. Duplicate monitor name”.
22. Patch Installer troubleshooting – The Patch installer may not launch if UAC is enabled on a Windows 7/8/2008/2008 R2/2012 Editions. You must first disable the UAC using the procedure provided in the “Chapter G: Troubleshooting - Patch troubleshooting” Section of the User Manual and then launch the patch installer.
23. During migration, BNA uninstallation process requires 1 GB of physical RAM. Sometimes Windows OS do not clear the released memory and keeping it in standby Memory. Use Microsoft tool like “RAM MAP” to clean up the unused RAM from standby list
    - Download RAMMap.zip file from URL - https://technet.microsoft.com/en-us/sysinternals/rammap.aspx
    - Extract the zip file and run the runmap.exe
    - Click empty menu > Empty Standby List



Domestic and International Modem based Call Home is no longer supported

Alternatively, customers using Domestic or International Call Home Modem feature can reconfigure their Call Home to utilize the Brocade Email option for continued Call Home notifications in the event of a system problem. Please refer to the Call Home section of the Brocade Network Advisor User Manual for more configuration details. Note that **EFCM** and **DCFM** customers will also be affected by this change and need to reconfigure their call home to utilize the Brocade Email option for continued Call Home notifications in the event of a system problem.

Support Saves and server backup may take a long time with large databases

As databases grow larger from Event, sFlow, and Performance Collector data, support save and server backup operation may take a long time to run. Larger databases will promote longer support save/ server backup operations.

For server backup, make sure you have free disk space equivalent to "total of twice the *<Install_Home>\data* folder (except databases folder) and 30% of *<Install_Home>\data\databases* folder".

For support save collection, make sure you have free disk space equivalent to a "total of *<Install_Home>\logs* folder and 30% of *<Install_Home>\data\databases* folder"

Note:
For networks with large amounts of data to backup, the Management application's performance is degraded during the daily scheduled backup. To avoid performance degradation, configure backup to an external hard drive or use Backup Now on demand.

Installation on Network Mounted Drives is not supported

Installation onto a windows network mounted drive is not supported but install is allowed and DB fails to start.

Client disconnects

Under heavy server load or degraded network links, there is a potential for Network Advisor client to get disconnected from the server. Work around is to restart the client.

Cross-flavor Migration

Migrating same version of BNA (14.2.1) from OEM1 version to OEM2 version

a. Partially uninstall the source BNA 14.2.1 OEM1 version
b. Now install BNA 14.2.1 OEM2 version
c. In the 'copy data and settings' page, browse to the BNA 14.2.1 OEM1 version and continue with the migration.

Migrating BNA (pre-14.2.1) OEM1 version to BNA 14.2.1 OEM2 version

d. Install the source BNA pre-14.2.1 OEM1 version
e. Now install BNA 14.2.1 OEM2 version
f. In the 'copy data and settings' page, browse to the BNA pre-14.2.1 OEM1 version and continue with the migration.

Virtual Connect Enterprise Manager (VCEM) Support

The supported and tested versions are listed below:

HP SIM Version	v7.4.0, v7.6
HP VCEM version	v7.4.1, v7.6
OA firmware	Onboard Administrator (OA) v2.41 or later
VC E-net module firmware(HP VC 8Gb 20-Port FC Module & HP VC 8Gb 24-Port FC Module)	v3.15
Hardware	HP BladeSystem c3000 or c7000
Servers	Proliant BL465c G7, Proliant BL460c G6

HBA	Brocade 804 8Gb FC HBA, Emulex LPe1205-HP 8Gb FC HBA, QLogic QLE2562 8Gb FC HBA, QLogic QLE2672-CK 16Gb FC HBA

Performance Statistics Counters - Calculation Formulae

For calculating the statistics for FC, GE, FCIP and TE port we use SNMP to query the respective OIDs, mentioned below in the table.

For calculating the HBA and CNA statistics, we use the APIs provided by HCM. And for EE monitors we use HTTP to get the TX, RX and CRC error values.

Polling interval for historical graph is 5 min and for real-time, it changes based on the granularity value selected in the Real Time graph dialog.

Name	y	d	Source value	Formula
TX	FC	SP	.1.3.6.1.3.94.4.5.1.6	TX = (Delta valueP1P / (1000 * 1000)) / (Polling intervalP2P)
RX	FC	MP	.1.3.6.1.3.94.4.5.1.7	RX = (Delta valueP1P / (1000 * 1000)) / (Polling intervalP2P)
TX	G	SP	.1.3.6.1.2.1.31.1.1.1.10	TX = (Delta valueP1P / (1000 * 1000)) / (Polling intervalP2P)
RX	GE	SNMP	.1.3.6.1.2.1.31.1.1.1.6	RX = (Delta valueP1P / (1000 * 1000)) / (Polling intervalP2P)
TX	FCIP	SNMP	.1.3.6.1.2.1.31.1.1.1.10	TX = (Delta valueP1P / (1000 * 1000)) / (Polling intervalP2P)
RX	FCIP	SNMP	.1.3.6.1.2.1.31.1.1.1.6	RX = (Delta valueP1P / (1000 * 1000)) / (Polling intervalP2P)
Uncompressed Tx/Rx MB/sec	FCIP	SNMP	.1.3.6.1.4.1.1588.4.1.1.6	(Delta valueP1P / (1000 * 1000)) / (Polling intervalP2P)
TX	EE Monitors	HTTP	PortRX (variable from the return html file)	TX = (Delta valueP1P / (1000 * 1000)) / (Polling intervalP2P)
RX	EE Monitors	HTTP	PortTX (variable from the return html file)	RX = (Delta valueP1P / (1000 * 1000)) / (Polling intervalP2P)
TX	HBA, CNA	HCM API	NA	TX = (Delta valueP1P / (1000 * 1000)) / (Polling intervalP2P)
RX	HBA, CNA	HCM API	NA	RX = (Delta valueP1P / (1000 * 1000)) / (Polling intervalP2P)
TX	TE	SNMP	1.3.6.1.2.1.31.1.1.1.10	TX = (Delta valueP1P / (1000 * 1000)) / (Polling intervalP2P)
RX	TE	SNMP	.1.3.6.1.2.1.31.1.1.1.6	RX = (Delta valueP1P / (1000 * 1000)) / (Polling intervalP2P)
TX% / RX%	FC	NA	TX = .1.3.6.1.3.94.4.5.1.6 RX = .1.3.6.1.3.94.4.5.1.7	TX% or RX% for FC = ((delta value1 of TX or RX) / ((Bytes transmitted * port speed)*(polling interval2))) * 100 where Bytes transmitted for 1G,2G,4G,8G and 16G port speed is 106250000 and Bytes transmitted for 10G port speed is 127500000. If utilization is less than 1, the value is 0.0.

TX% / RX%	GE	SNMP	TX = .1.3.6.1.2.1.31.1.1.1.10 RX =.1.3.6.1.2.1.31.1.1.1.6	TX% or RX% for FC = ((delta value1 of TX or RX) /((125000000* port speed)*(polling interval2))) * 100. If the utilization is less than 1 the value is 0.0.
TX% / RX%	FCIP	SNMP	TX = .1.3.6.1.2.1.31.1.1.1.10 RX = .1.3.6.1.2.1.31.1.1.1.6	TX% or RX% for FCIP = ((delta value1 of TX or RX) /(maximum bytes transmitted))*polling interval2))) * 100, where maximum bytes transmitted = tunnel speed
TX% / RX% (Pre 6.4.1 Edison release)	TE	SNMP	TX = .1.3.6.1.2.1.31.1.1.1.10 RX = .1.3.6.1.2.1.31.1.1.1.6	TX% or RX% for TE = ((delta value1 of TX or RX) /((125000000* 10)*(polling interval2)))* 100. If utilization is less than 1, the value is 0.0.
Cumulative Compression Ratio	FCIP		.1.3.6.1.4.1.1588.4.1.1.4	Compression Ratio = current value/ 1000 Since for compression ratio we will take the current compression ratio value
Receive EOF	TE		.1.3.6.1.2.1.16.1.1.1.5	Receive EOF = Delta valueP1P / (1000 * 1000)
Other Counters				Other counters = Delta valueP1P
Current Compression Ratio	FCIP	NA	NA	(ifHCInOctets + ifHCOutOctets) / fcipExtendedLinkCompressedBytes .

1. Delta valueP[1]P: is the difference of value retrieved between the two consecutive poling cycles.
2. Polling intervalP[2] P: duration between the two polling cycle in seconds

SMI Agent

- For Network Advisor that has more than 30K instances, the CIMOM takes more memory to generate CIM instances.
- If user performs Enumerate Instances and total number of size is more than 2 MB for all managed fabrics, it may result in out of memory issue. In this case, user has to increase the CIMOM heap size to fetch zone database size of 2 MB. Note: For 1.6 MB of zone database (144600 zone members), with 9 GB of heap size the Brocade_zonemembershipsettingdata instances are retrieved.

Indications delivery depends on SAN Size and SNMP registration

The time to deliver the indication will vary based on Network Advisor SAN size selected during installation. If large SAN size is selected, indication delivery time will be longer.

Provider classes may take more time to update the fabric changes if the switches managed in Network Advisor are not SNMP registered. As this would cause a delay in indication delivery, all the switches managed in Network Advisor should be SNMP registered

CIMOM Heap Size

The CIMOM heap size has been increase for small, medium and Large SAN Network Sizes:

Od heap size:

small

platform.32.cimom.conf.set.MAX_HEAP_SIZE = 768m
platform.64.cimom.conf.set.MAX_HEAP_SIZE = 1024m

medium

platform.32.cimom.conf.set.MAX_HEAP_SIZE = 768m
platform.64.cimom.conf.set.MAX_HEAP_SIZE = 1536m

Large

platform.32.cimom.conf.set.MAX_HEAP_SIZE = 1024m
platform.64.cimom.conf.set.MAX_HEAP_SIZE = 2048m

Curent Heap Size:

small

platform.32.cimom.conf.set.MAX_HEAP_SIZE = 1024m
platform.64.cimom.conf.set.MAX_HEAP_SIZE = 1536m

medium

platform.32.cimom.conf.set.MAX_HEAP_SIZE = 1024m
platform.64.cimom.conf.set.MAX_HEAP_SIZE = 2048m

Large

platform.32.cimom.conf.set.MAX_HEAP_SIZE = 1024m
platform.64.cimom.conf.set.MAX_HEAP_SIZE = 3072m

Logging for CIMOM

The default logging level is "INFO" in integrated Agent. To change the logging level to DEBUG, update the "com.brocade" category value in cimom-log4j.xml file present in <Installation Dir>\conf folder.

The log file size and number of log files also can be changed by modifying the file rolling appender parameters in this cimom-log4j.xml file.

Logging Level, File size and Number of Log files can be changed by modifying the following fields: "Log Level", "File Size" and "Number of Files" from Configuration Tool through CIMOM tab.

Service Location Protocol (SLP) support

The Management application SMI Agent uses Service Location Protocol (SLP) to allow applications to discover the existence, location, and configuration of WBEM services in enterprise networks.

You do not need a WBEM client to use SLP discovery to find a WBEM Server; that is, SLP discovery might already know about the location and capabilities of the WBEM Server to which it wants to send its requests. In such environments, you do not need to start the SLP component of the Management application SMI Agent.

However, in a dynamically changing enterprise network environment, many WBEM clients might choose to use SLP discovery to find the location and capabilities of other WBEM Servers. In such environments, start the SLP component of the Management application SMI Agent to allow advertisement of its existence, location, and capabilities.

SLP installation is optional and you can configure it during Management application configuration. Once installed, SLP starts whenever the Management application SMI Agent starts.

Management SMI Agent SLP application support

Management SMI Agent SLP application support includes the following components:

- slpd script starts the slpd platform
- slpd program acts as a Service Agent (SA). A different slpd binary executable file exists for UNIX and Windows systems.
- slptool script starts the slptool platform-specific program
- slptool program can be used to verify whether SLP is operating properly or not. A different slptool exists for UNIX and Windows.

By default, the Management application SMI Agent is configured to advertise itself as a Service Agent (SA). The advertised SLP template shows its location (IP address) and the WBEM Services it supports. The default advertised WBEM services show the Management application SMI Agent:

- accepts WBEM requests over HTTP without SSL on TCP port 5988
- accepts WBEM requests over HTTPS using SSL on TCP port 5989

slptool commands

Use the following slptool commands to verify whether the SLP is operating properly.

- slptool findsrvs service:service-agent

  Use this command to verify that the Management application SMI Agent SLP service is properly running as a Service Agent (SA).

  Example output: service:service-agent://127.0.0.1,65535

- slptool findsrvs service:wbem

Use this command to verify that the Management application SMI Agent SLP service is properly advertising its WBEM services.

Example outputs:

service:wbem:https://10.0.1.3:5989,65535

service:wbem:http://10.0.1.3:5988,65535

This output shows the functionalities of Management application SMI Agent:

1. accepts WBEM requests over HTTP using SSL on TCP port 5989
2. accepts WBEM requests over HTTP without SSL on TCP port 5988
3. slptool findattrs service:wbem:http://IP_Address:Port
    a. Use this command to verify that Management application SMI Agent SLP service is properly advertising its WBEM SLP template over the HTTP protocol.
    b. Example input: slptool findattrs service:wbem:http://10.0.1.2:5988
    c. Note: Where IP_Address:Port is the IP address and port number that display when you use the slptool findsrvs service:wbem command.
4. slptool findattrs service:wbem:https://IP_Address:Port
    a. Use this command to verify that the Management application SMI Agent SLP service is properly advertising its WBEM SLP template over the HTTPS protocol.
    b. Example input: slptool findattrs service:wbem:https://10.0.1.2:5989
    c. Note: Where IP_Address:Port is the IP address and port number that display when you use the slptool findsrvs service:wbem command.

SLP on UNIX systems

This section describes how to verify the SLP daemon on UNIX systems.

SLP file locations on UNIX systems:

- SLP log—Management_Application/cimom /cfg/slp.log
- SLP daemon—Management_Application/cimom /cfg/slp.conf
- The SLP daemon can be reconfigured by modifying,
  SLP register—Management_Application/cimom /cfg/slp.reg

You can statically register an application that does not dynamically register with SLP using SLPAPIs by modifying this file. For more information about these files, read the comments contained in them, or refer to http://www.openslp.org/doc/html/UsersGuide/index.html

Verifying SLP service installation and operation on UNIX systems:

1. Open a command window.
2. Type % su root and press Enter to become the root user.
3. Type # Management_Application/cimom/bin/slptool findsrvs service:service-agent and press Enter to verify the SLP service is running as a Service Agent (SA).

4. Type # < Management_Application >/cimom/bin/slptool findsrvs service:wbem and press Enter to verify the SLP service is advertising its WBEM services.
5. Choose one of the following options to verify the SLP service is advertising the WBEM SLP template over its configured client protocol adapters.
    - Type # Management_Application/cimom /bin/slptool findattrs service:wbem:http://IP_Address:Port and press Enter.
    - Type # Management_Application/cimom /bin/slptool findattrs service:wbem:https://IP_Address:Port and press Enter.

Note: Where IP_Address:Port is the IP address and port number that display when you use the slptool findsrvs service:wbem command.

SLP on Windows systems

This section describes how to verify the SLP daemon on Windows systems.

SLP file locations:

1. SLP log—Management_Application\cimom \cfg\slp.log
2. SLP daemon—Management_Application\cimom\cfg\slp.conf
   The SLP daemon can be reconfigure the by modifying this file.
3. SLP register—Management_Application\cimom\cfg\slp.reg
   statically register an application that does not dynamically register with SLP using SLPAPIs by modifying this file. For more information about these files, read the comments contained in them, or refer to http://www.openslp.org/doc/html/UsersGuide/index.html

Verifying SLP service installation and operation on Windows systems:

2. Launch the Server Management Console from the Start menu.
3. Click Start to start the SLP service.
4. Open a command window.
5. Type cd c:\Management_Application\cimom \bin and press Enter to change to the directory where slpd.bat is located.
6. Type > slptool findsrvs service:service-agent and press Enter to verify the SLP service is running as a Service Agent.
7. Type > slptool findsrvs service:wbem and press Enter to verify the SLP service is advertising its WBEM services.
8. Choose one of the following options to verify the SLP service is advertising the WBEM SLP template over its configured client protocol adapters.

1. Type > slptool findattrs service:wbem:http://IP_Address:Port and press Enter.
2. Type > slptool findattrs service:wbem:https://IP_Address:Port and press Enter.

Note: Where IP_Address:Port is the IP address and port number that display when you use the slptool findsrvs service:wbem command.

User Guides

Note. Network Advisor 14.2.2 user manuals' version is 14.2.1 as there were no documentation changes from 14.2.1 release.

List of Documents

You can download the software and documentation from the MyBrocade website.

1. Brocade Network Advisor Installation and Migration Guide
2. Brocade Network Advisor SAN User Manual
3. Brocade Network Advisor SAN User Manual (AMP)
4. Brocade Network Advisor SAN + IP User Manual
5. Brocade Network Advisor SAN + IP User Manual (AMP)
6. Brocade Network Advisor IP User Manual
7. Brocade Network Advisor Software Licensing Guide
8. Brocade Network Advisor Port Commissioning Quick Start Guide
9. Brocade Network Advisor REST API Guide
10. Brocade Network Advisor SMI Agent Developer's Guide
11. Virtual Connect Enterprise Manager Server Guide
12. Brocade Analytics Monitoring Platform User Guide

Refer to www.brocade.com or http://my.brocade.com for latest versions of the documents.

Reporting Errors in the Guides

Send an email to documentation@brocade.com to report errors in the user guides.

Known Documentation Errors

- Network Advisor user manuals do not contain the updated OSS-TPS information.
  For OSS-TPS information refer to OSCD page http://www.brocade.com/en/support/support-tools/oscd.html

- In the Network Advisor SAN_AMP_IP User Manual 14.2.1 (Part Number: 53-1004934-02), SAN_AMP User Manual (Part Number: 53-1004935-02):
  - Firmware requirements section should read:

    "After migration from 14.0.x/14.1.x, you must enable the Monitor service for monitoring the Brocade Analytics Monitoring Platform".

  - Upgrade and Migration considerations section should show the following table:

Release	Version
Network Advisor 14.0.x	14.0.1, 14.0.2,14.0.3
Network Advisor 14.1.x	14.1.0, 14.1.1
Network Advisor 14.2.x	14.2.0, 14.2.1

  - Following NOTEs should read:

"Direct migration from pre-14.0.x releases to 14.2.x is not supported. Refer to Supported migration paths in the Installation Guide for migration paths from DCFM, INM and pre-14.0.x releases."

"SAN users may add IP management to Network Advisor 14.2.x for SAN+IP network management with the procurement of the IP functionality. Also, IP users may add SAN management to version 14.2.x for SAN+IP network management with the procurement of the SAN functionality"

"Network migration is not supported from 14.0.x releases to the 14.2.x release."

- Following NOTE should be removed from SAN_AMP_Manual and in SAN_IP_AMP_Manual: "If pre 14.1 version having AMP firmware 1.4 / 1.5, upgrade the AMP to 2.0 after migrated to 14.1 and before enabling the AMP services. Historic data for AMP flows from pre-14.1 will not be migrated to 14.1.x after migration."

- In the Network Advisor Installation and Migration Guide, 14.2.x (Part Number: 53-1004882-02), add the following details.
    g. In the section "Linux swap space requirements", change "Greater than 4 GB and less than 8 GB" to "Greater than 6 GB and less than 8 GB".
- In the Network Advisor SAN Installation and Migration Guide, 14.2.x (Part Number: GC27-6622-03), add the following details.
    - In the section "Linux swap space requirements", change "Greater than 4 GB and less than 8 GB" to "Greater than 6 GB and less than 8 GB".
- In the Network Advisor IP User Manual 14.2.1 (Part Number: 53-1004881-02)
    - Following contents should be removed under
        - Zoning Chapter:
            - Zoning Best Practices
            - From Zone database size section,
                - The supported maximum zone database size is 1 MB for fabric with minimum one pizza box and 2MB for director-only fabrics.
                - If the fabric contains only Backbone Chassis platforms, the supported maximum zone database size is 2 MB.
        - Fabric Insight Portal Chapter:
            - Under viewing port properties section, replace screenshot with IP Port Properties dialog box, currently it shows FC port properties dialog box.

Defects

Closed with code changes

This section lists software defects with Critical, High, and Medium Technical Severity closed with a code change as of 01/05/18 in Network Advisor 14.2.2.

Defect ID:	DEFECT000657589		
Technical Severity:	High	Probability:	High
Product:	Brocade Network Advisor	Technology Group:	Security
Reported In Release:	Network Advisor14.0.1	Technology:	Security Vulnerability
Symptom:	Network Advisor remote client launch will fail showing a message that certificate has expired (Application Blocked by Java Security)		
Condition:	When launching the remote client on Network Advisor 14.3.1 or earlier versions after February 18th, 2018.		
Workaround:	Users that wish to continue using a Network Advisor with an expired certificate in remote client mode can perform the following steps: • Add the Network Advisor URL to an Exception Site List under the "Security" tab of the Java Control Panel, and • Disable signed code certificate revocation checks.		

Defect ID:	DEFECT000629457		
Technical Severity:	High	Probability:	Medium
Product:	Brocade Network Advisor	Technology Group:	Partner Intergration
Reported In Release:	Network Advisor14.2.0	Technology:	SMI Agent
Symptom:	Intermittently a "java.lang.NoClassDefFoundError" is shown and indications are not received with neither http or https.		
Condition:	Issue seen when attempting to create indication subscription in SMIA client bundled within the Network Advisor.		