



IBM Storage Network®

IBM Network Advisor v14.0.3 Release Notes

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Release overview

IBM Network Advisor 14.0.3 is a software maintenance release based on IBM Network Advisor 14.0.2. All hardware platforms and features supported in IBM Network Advisor 14.0.2 are supported in 14.0.3. This release supports key FC SAN features including support for FabricOS 8.0. Network OS 7.0, new Ruckus wireless devices, as well as various enhancements to MAPS, Flow Vision, and monitoring areas.

IBM Network Advisor is a software management platform for SAN networks. It provides network administrators the ability to quickly access network topology, health and performance data required to troubleshoot and remediate network issues. IBM Network Advisor is licensed and deployed to manage SAN only networks.

The fixes included in this release are listed in the defect tables at the end of this document.

Software feature overview

SAN Management feature enhancements

IBM Network Advisor 14.0.1 provided the following SAN capabilities and enhancements:

- Platform support
 - Fabric OS 8.0.1
 - SAN256B-6 switch
 - SAN512B-6 switch
 - SAN64B-6 switch
 - FC32-48 Port Blade
 - SX6 Extension Blade
- Fabric OS enhancements
 - Support Quiet Time Option for SNMP alert action
 - GigaBit Ethernet Port Monitoring
 - Security Certificate Monitoring
 - IP Extension Monitoring
 - IO Insight Real Time Monitoring
 - Switch Status Actions change
 - Support for Tunnel/Tunnel QoS on all FCIP platforms
 - Monitoring of FAN Air flow direction
 - Monitoring of Zoned device ratio
 - Run Electrical and Optical loopback test for longer duration
 - Boot LUN Zoning
 - vTap and QoS High Priority Zoning Compatibility
 - Flow Vision support for VE port
 - Flow widget for VE port
 - IOS measures support
 - SRR Frame Type Support
 - FCIP Harpoon Support
 - Load Balance support in Tunnel Advanced Settings
 - Circuit Operational Status
 - Other FCIP Enhancement
- Network OS platform support
 - Network OS 7.0.0 and 7.0.1
- Network OS enhancement
 - MAPS policy edit support

- IP Platform support
 - FI 8.0.40 and 8.0.4.0a
 - ICX 7750 and ICX 7450
- IP enhancements
 - Campus Fabric support
- Miscellaneous RFEs
 - Option to rollback in all the config wizard pages
 - Support ftp with anonymous user
 - Identify and report name of Administrator running a Support save
 - Capturing Network OS devices Support save from web client
 - ISSU support for Network OS devices in patch releases
 - VLAN configuration Match Check for VDX devices
 - User-Defined Group Support in MAPS Policy Distribution Dialog
 - Extending the Suppress policy duration in Event Action to hours
 - Adding Product Details in E-mail Action
 - Multi SIM port enable/disable
 - Send all Events to SMI clients in case of HA Failover
 - Enable/Disable AutoEnclosure
 - Peer Zoning Read and Write support for SMI Agent
 - Custom Dashboard Deletion Behavior
 - Virtual Connect Switches Behavior
 - Maps Policy Import behavior
 - Customize VerizonAclPollingInterval option in server Options
 - passwdcfg --hash option
 - Admin Domain deprecation warning
 - Ruckus wireless controller support
 - Element added in Inventory report for IBM
 - Encode Error out measure changes
- Infrastructure upgrade
 - JRE upgraded to 1.9.0u74 (server) and 1.8.0u77 (client)
- Analytics Monitoring Platform support
 - ampos1.5.0

IBM Network Advisor 14.0.2 supports the following SAN capabilities and enhancements:

- New enhancements in 14.0.2
 - JRE upgraded to 1.8.0u92
 - OpenSSL binaries removed from Network Advisor
 - Defect fixes provided

IBM Network Advisor 14.0.3 supports the following SAN capabilities and enhancements:

- New enhancements in 14.0.3
 - Defect fixes provided
- Deprecated and retired 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.

Migration Impact:

New IBM model names for the IBM switches will not be shown automatically upon 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 NA home location. Restart the server to make changes take effect.

Operating Systems supported

IBM Network Advisor 14.0.x is supported on the following operating systems.

Note: The minimum required system physical memory for running IBM Network Advisor 14.0.x (server plus one local client) for the different editions is as listed below:

- Professional Edition: 6GB (32-bit OS), 6GB (64-bit OS)
- Pro-plus and Enterprise Editions (supported on 64-bit OS only):6GB

Recommended system requirements for server (plus 1 client)

Installation resources	Professional Edition	Professional Plus or Enterprise Edition	Large
Installed Memory	6 GB	16 GB	16 GB
Processor Core Count (physical + logical)	2	4	8
Disk Space	20 GB	80 GB	100 GB
Server Heap	Default	Default	Default
Client Heap	Default	Default	Default

Notes:

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.

Recommended system requirements for server managing Analytics Monitoring Platform

Installation resources	Small	Medium	Large
Installed Memory	32 GB	32 GB	32 GB
Processor Core Count (physical + logical)	24	24	24
Disk Space	1 TB	2 TB	3 TB
Server Heap	6 GB	6 GB	6 GB
Client Heap	2 GB	2 GB	2 GB

Notes:

1. It is recommended to use only the remote client for the Network Advisor server when managing Analytics Monitoring Platform with more than 20K flows
2. SSD storage is strongly recommended for better performance when managing Analytics Monitoring Platform. Future releases of Network Advisor when supporting Analytics Monitoring Platform will require the use of SSD and the storage space requirements may increase due to additional capabilities.
3. When managing 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 Analytics Monitoring Platform, the Network Advisor supports a maximum of 8K switch ports in a fabric.

64-bitserver / client operating system support

Operating System (architecture) / Installer	Versions
Windows	<ul style="list-style-type: none"> • Windows 8.1 Enterprise • Windows 10 Enterprise
Windows Server	<ul style="list-style-type: none"> • Windows Server 2008 R2 Datacenter, Standard, and Enterprise • Windows Server 2012 and 2012 R2 Standard, Datacenter • Windows Server 2013 R2 Standard, Datacenter
Linux	<ul style="list-style-type: none"> • Red Hat Enterprise Linux 6.6, 6.7, 7.0, 7.1 • Oracle Enterprise Linux 6.6, 6.7, 7.0, 7.1 • SUSE Linux Enterprise Server 11.3, 12.0

Browser support

Recommended browser versions for Web client:

- Internet Explorer 11.0.9 update version RTM (Windows 10.0, Windows Server 2008 R2, Windows Server 2012 R2)
- Firefox 41 and later (Windows/Linux)
- Chrome 46 and later (Windows)

JRE support

IBM Network Advisor version	JRE version supported
14.0.3 and 14.0.2	JRE 1.8.u.92
14.0.1	JRE 1.8u74

Note 1: Web Tools launched from IBM Network Advisor is also supported for the above combinations.

Note 2: (Applicable only to Web Tools from FOS releases done before 2/13/2015.) Due to java signing certificate expiration, Web Tools launched from IBM Network Advisor will not work with JRE. An attempt to launch the Web Tools will be blocked and “Failed to validate certificate. The application will not be executed” message will display. To work around this issue, uninstall JRE 8, install JRE 7 updates 79/80 and set the security level to Medium.

For users with JRE 7 installation, an attempt to launch the Web Tools will be blocked and “Application Blocked by Security Settings” message will display. To work around this issue, JRE 7 users can simply 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 versions for this release are listed in the JRE support table. Beyond the JRE expiration date, users will see the message “**Your Java version is out of date**” on an attempt to launch the web client.

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

Note 4: JRE 1.7.0 update 51 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
- a. Apply the following workaround when launching Web Tools using a browser or Network Advisor Remote client for all Fabric OS versions earlier than the ones listed above:
 - On Windows:
Go to C:\Program Files\Java\jre7\lib\security
 - On Linux:
Go to <jre install directory>/lib/security
 - Edit java.security file and change the value to 256 from 1024
forjdk.certpath.disabledAlgorithms=MD2, RSA keySize< 1024
 - b. Apply the following workaround on the Network Advisor server when launching Element Manager from the Network Advisor client for all Fabric OS versions earlier than the ones listed above:
 - On Windows:
Go to <Network Advisor install directory>\jre64\lib\security
 - On Linux:
Go to <jre install directory>/lib/security
 - c. Edit java.security file and change the value to 256 from 1024
forjdk.certpath.disabledAlgorithms=MD2, RSA keySize< 1024
 - On Windows:
Go to <Network Advisor install directory>\jre64\lib\security
 - On Linux:
Go to <jre install directory>/lib/security

Device platform and firmware requirements

The following table lists the versions of software supported in this release. IBM and Brocade recommend using the latest software versions to get the greatest benefit from the network. IBM and equivalent Brocade hardware products are listed.

Operating System	IBM Switch/Director	Brocade Switch/Director
Switch (b-type and B-Model) firmware versions		
FOS v8.0.1	SAN256B-6 SAN512B-6 SAN64B-6	Brocade X6-4 Director Brocade X6-8 Director Brocade G620
FOS v8.0.0	SAN64B-6	Brocade G620
FOS 5.0.x, 5.1.x, 5.2.x, 5.3.x, 6.0.x, 6.1.x, 6.2.x, 6.3.x, 6.4.x, 7.0.x, 7.1.x, 7.2.x, 7.3.x, and 7.4.x	SAN24B-4 Express (2498-B24, -24E) SAN40B-4 (2498-B40, -40E) SAN80B-4 (2498-B80) SAN24B-5 (2498-F24, 249824G, 2498-X24) SAN48B-5 (2498-F48) SAN96B-5 (2498-F96, -N96) SAN06B-R (2498-R06) SAN 42B-R (2498-R42) IBM Converged Switch B32 (3758-B32, -L32) VA-40FC SAN384B (2499-192) SAN768B (2499-384) SAN384B-2 (2499-416) SAN768B-2 (2499-816)	Brocade 300 Brocade 5100 Brocade 5300 Brocade 6505 Brocade 6510 Brocade 6520 Brocade 7800 Brocade 7840 Brocade 8000 VA-40FC Brocade DCX-4S Brocade DCX Brocade DCX 8510-4 Brocade DCX 8510-8

Supported NOS Devices

Network OS version	NOS Device Type
Network OS v7.0.0, v7.0.1	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 , 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

Footnotes:

¹ Network OS 2.0 is not supported

Supported IP Devices

FI/NI Versions	IP Device Type
8.0.40 and 8.0.40a	FastIron ICX 7450-32ZP, 7450, 7250, and 7750
8.0.x	FastIron ICX 7450, 7250, 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.x	FastIron ICX 6610, 6450, 6430,
7.4.x, 8.0.x	FastIron ICX 6430, 6450
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	NetIron CES, CER, MLX, XMR, MLXe
2.0.x, 2.1.x, 2.2.x	Brocade 6910
12.1. x*, 12.2. x*, 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
*12.1.0f and 12.2.1 are not supported	

Supported Wireless Devices

Wireless Controllers		Access Points	FW version
Ruckus	SmartZone 100	ZoneFlex ZF7372	3.1.1.0.442 3.1.2.0.520
	Virtual SmartZone - Essentials (vSZ-E) Virtual SmartZone – High Scale (vSZ-H) SmartCell Gateway 200 (SCG200)	ZoneFlex ZF7982 ZoneFlex R300 ZoneFlex R310 ZoneFlex R700 ZoneFlex R710 ZoneFlex R500 ZoneFlex R600 ZoneFlex H500	
Aruba*	7010	AP124	6.4.1.0
	7210		6.3.1.3, 6.4.2.2_46307
	7220	AP125	
	7240	AP224	
	3200XM	AP135	
	3400XM	AP225	
	3600XM	AP124	
Motorola	RFS 4000	AP7131	4.3.1.0, WING 5.1, 5.2, 5.3, 5.4, 5.5
	RFS6000	AP7131N	
	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 NA.

	Adapter Types	Driver/Firmware versions
Brocade	Brocade 415,425,815,825	<u>Driver/Firmware Versions:</u> 1.1, 2.0, 2.1, 2.2, 3.0, 3.1, 3.2, 3.2.4
	Brocade 804 ¹	
	Brocade 1010,1020,1007 ²	
	Brocade 1741 ³	<u>CIM Provider version:</u> cpba3.2.3
	Brocade 1860 ⁴	
	Brocade 1867 ⁵	
	Brocade 1869 ⁶	
Emulex	LPe12002-M8 8Gb 2-port PCIe Fibre Channel Adapter	<u>Driver Versions:</u> ESXi: 10.0.727.44 Windows: 10.0.720.0
	LPe16000 16Gb PCIe Fibre Channel Adapter	<u>Firmware Versions:</u> ESXi: 1.1.43.3 Windows: 1.1.43.3
	LPe32002-M2 32Gb 2-port PCIe Fibre Channel Adapter	<u>CIM Provider Version:</u> ESXi 5.1 and 5.5: 10.0.774.0 <u>Boot Code and firmware version:</u> 11.0.2.243.19 (LPE32002 only)

QLogic	<p>QLE2562-CK 8Gb, Dual Port, FC HBA, x4 PCIe</p> <p>QLE2672-CK - Host bus adapter - PCI Express 3.0 x4 / PCI Express 2.0 x8 low profile - 16Gb Fibre Channel x 2</p> <p>Corp ISP2532-based 8Gb Fibre Channel to PCI Express HBA</p> <p>QLE2742 PCIe 3.0 x8 (dual-port) 32G FC HBA QLE2740 Single-port PCIe 3.0 x8 to 32Gb Fibre Channel Adapter – SFP+</p> <p>QLE2764 Quad-port PCIe 3.0 x8 to 32Gb Fibre Channel Adapter</p>	<p><u>Boot Code Version:</u> 01.01.38 (multi-bot image with FCode for QLE269x/27xx Series Adapters)</p> <p><u>Driver Versions:</u> Windows: 9.1.13.20</p> <p><u>Firmware Versions:</u> Windows: 8.00.00</p> <p><u>CIM Provider Version:</u> ESX-5.5.0-qlogic-cna-provider-1.5.7</p>
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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

Installing IBM Network Advisor

Refer to the *IBM System Storage Network Advisor Installation and Migration Guide* for complete installation instructions. The installation instructions below provide a brief overview for the following operating systems:

- Microsoft Windows
- Linux

The Network Advisor Server runs as multiple services on Windows and multiple processes on Linux; they start automatically after installation.

To install IBM Network Advisor on Windows (Server)

1. Download and extract the zip archive
2. Navigate to the **Windows** folder
3. Run *install.exe*

4. Follow the instructions to complete the installation.

To install IBM Network Advisor on Linux (Server)

1. Download and extract the *tar.gz* archive
2. Navigate to the **Linux** folder.
3. Run *Install.bin* from the **File Manager** window.
4. Follow the instructions to complete the installation.

To launch the IBM Network Advisor client

To launch the IBM Network Advisor client on the same local machine as the Network Advisor server, launch the client as follows:

Windows:

- Select: **Start > Programs > Network Advisor 14.0.x > Network Advisor 14.0.x**
- Launch the client from the desktop icon.
- Launch command prompt and go to the location "<Install location>/bin" and enter "**dcmclient**"

Linux:

- Launch the client from the desktop icon.
- Launch terminal and go to the location "<install location>/bin" and enter "**sh dcmclient**"

Web browser, Windows and Linux: Follow the steps below for launching the client from a web browser.

Note 1

The web started remote client is supported with JRE versions listed in the 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:

Remote Host:

To launch the IBM Network Advisor client from a remote host, do the following:

1. Open a browser window and type the IBM Network Advisor server hostname or IP address in the **Address** field; for example:
<https://NetworkAdvisorServerhost1.companyname.com/>
<https://192.x.y.z/>
2. If, when the Network Advisor server was installed, a Network Advisor web server HTTPS port number was specified (instead of the default 443), you must specify the port number after the hostname or IP address. 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 **Web Start the Client** link.
The Log In dialog box displays.

- Click the **Download client bundle** link.

Web browser:

To launch the Network Advisor Client from a web browser, do the following:

1. Open a browser window and enter the Network Advisor IP address in the Address bar.
For example:
<https://192.x.y.z/>
2. If, when the Network Advisor server was installed, a Network Advisor web server HTTPS port number was specified (instead of the default 443), you must specify the port number after the hostname or IP address. In the following examples, 8080 is the web server port number:
<https://192.x.y.z:8080/>
3. 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, follow the steps below:

1. Launch the "Java Control Panel"
(refer to http://java.com/en/download/help/win_controlpanel.xml to locate the Java Control Panel application on Windows)
2. In the Java Control Panel, click the **Security** tab.
3. Select the **Enable Java content in the browser** check box. This will enable the Java plug-in for 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 the IBM Network Advisor client.

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.

The following table summarizes the memory, host, and disk requirements for a 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
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Minimum system requirements for server (plus 1 client) installation

The following table summarizes the memory 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	10 GB	20 GB

Recommended system requirements for server (plus 1 client) installation

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

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

NOTES:

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 2 GB for the client and 6 GB 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 5MB 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.

Recommended system requirements for server managing Analytics Monitoring Platform

Installation resources	20K Flows	40K Flows	60K Flows
Installed Memory	32 GB	32 GB	32 GB

Processor Core Count (physical + logical)	24	24	24
Disk Space	1 TB	2 TB	3 TB
Server Heap	6 GB	6 GB	6 GB
Client Heap	2 GB	2 GB	2 GB

NOTES:

1. It is recommended to use only the remove client for the Network Advisor server when managing Analytics Monitoring Platform with more than 20K Flows.
2. SSD storage is strongly recommended for better performance when managing Analytics Monitoring Platform. Future releases of Network Advisor when supporting Analytics Monitoring Platform will require the use of SSD and the storage space requirements may increase due to additional capabilities.
3. When managing Analytics Monitoring Platform, it is recommended to use a server with a minimum of two Processors/CPU's 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 Analytics Monitoring Platform, the 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.

Upgrade and Migration considerations

Migration is supported from the following previous releases.

Pre-14.0.3 release	Versions
Network Advisor 12.4.x	12.4.0 , 12.4.1 , 12.4.2, 12.4.3, 12.4.4
Network Advisor 14.0.x	14.0.0 , 14.0.1 , 14.0.2

Network Advisor 12.4.x (12.4.0 – 12.4.4) and 14.0.x (14.0.0, 14.0.1, 14.0.2) running on the Linux and Windows operating systems can be upgraded to Network Advisor 14.0.3.

Note 1: 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 2: Direct migration from pre-12.4.0 releases to 14.0.3 is not supported. Refer to Supported migration paths in the Installation and Migration Guide for migration paths from DCFM, INM and pre-12.4.0 releases.

Note 3: Refer to Supported migration paths in the Installation and Migration Guide for SMI Agent only migration paths.

Note 4: SAN users may add IP management to Network Advisor 14.0.3 for SAN+IP network management with the procurement of the IP functionality. Also, IP users may add SAN management to Network Advisor 14.0.3 for SAN+IP network management with the procurement of the SAN functionality.

Note 5: 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 6: Network migration is not supported from 12.4.x releases to the 14.0.x release.

Migration Impact

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 NA home location and restart the server for changes to take effect.

Network Advisor downgrade to previous versions is not supported.

Configuration Considerations

Supported scalability limits by Network Advisor edition:

	Enterprise edition			Professional Plus 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.					

Notes:

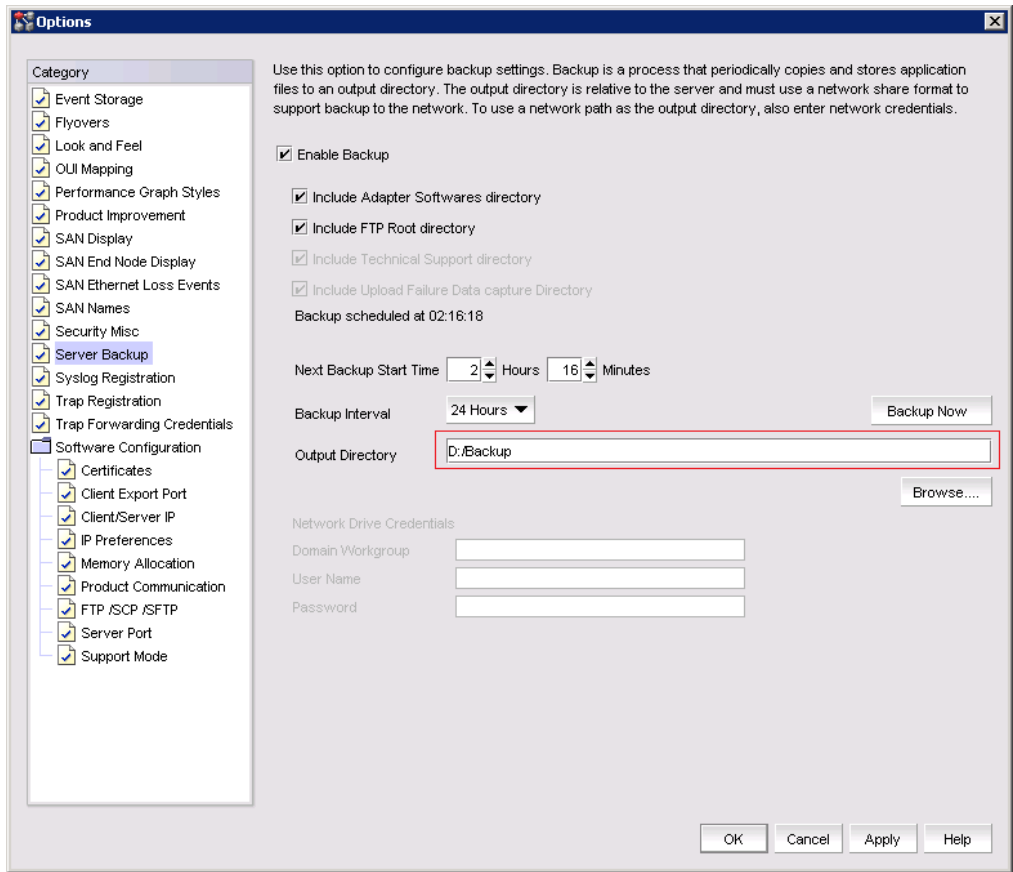
1. Virtual Fabrics are counted as fabrics when calculating the managed count limits.
2. Supported network latency between Network Advisor server and client or server and devices is 100ms.
3. Professional Plus edition is not supported for the IP package.
4. Supported network latency between Network Advisor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

Limitations and Restrictions

QLogic branded adapters are not supported for discovery.

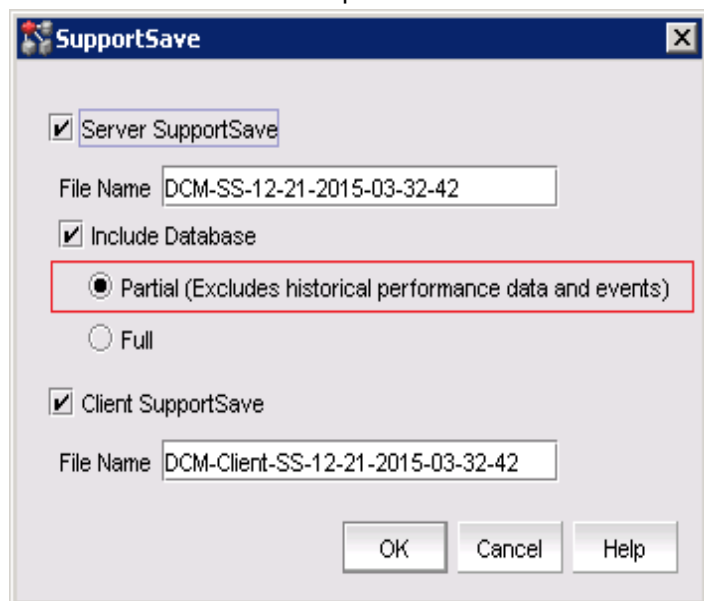
Important Notes for managing Analytics Platform (Only for AMP users)

- **Backup and restore recommendations**
 - a) With AMP discovered in NA 12.4.4, 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 NA installation directory and the backup process takes about 1.5 hours for 100GB of data.
 - b) By default, the NA server backup is scheduled for every day - a backup every 24hrs. With AMP discovered in NA 12.4.4, since the data size will be huge,
 - i. If user needs better NA 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 NA will be impacted due to the backup process. Based on the need, the backup can be planned.



- **Support save recommendations**

- With AMP discovered in NA 12.4.4, 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.



- **Disk space recommendation in case of migration**
 - a) It is recommended to have free disk space of 3 times the size of “NA 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 “NA 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.
- **Performance considerations for Dashboard**
 - a) When there are more than 30k flows monitored in NA
 - 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.
- **Any AMP device should be discovered only by one NA server**

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

Notes:

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

Defects

Open Defects in IBM Network Advisor 14.0.3

This section lists the open defects with Critical, High, and Medium technical severity as of September 9, 2016 in IBM Network Advisor 14.0.3.

Defect ID: DEFECT000575920	
Technical Severity: High	Probability: High
Product: Network Advisor	Technology: Network Advisor
Reported In Release: Network Advisor12.1.6	Technology Area: Device configuration (SAN)
Symptom: Network Advisor Encryption Targets window does not correctly display LUNs / Hosts	
Condition: Network Advisor Encryption Targets window does not correctly display LUNs / Hosts	

Defect ID: DEFECT000592092	
Technical Severity: Medium	Probability: Medium
Product: Network Advisor	Technology: Device Monitoring
Reported In Release: Network Advisor 12.4.2	Technology Area: Performance
Symptom: User not able to move ADX MIB to right hand side of the RHS in the historical collector Dialog.	
Condition: When user upload new MIB file (ASR12502f.mib) for ADX device. User cannot able to move the new measure to historical collector	

Defect ID: DEFECT000597386	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Device Monitoring
Reported In Release: Network Advisor 14.0.1	Technology Area: Flow Vision (SAN)
Symptom: Subflows for sys_gen_all_sim_ports turns inactive and lose measures	
Condition: Launch Flow Vision and move the active default flow, sys_gen_all_sim_ports from left hand panel into right hand panel. After 15-20 mins, the subflows turn inactive (yellow color) and the measures Runs completed & Percentage completed loses the count.	

Defect ID: DEFECT000598070	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Device Monitoring
Reported In Release: Network Advisor12.4.4	Technology Area: Topology Views
Symptom: Additional port info displays shows status of E-Ports for F-Ports.	
Condition: This happens intermittently when we do blade level decommission or recommission operation.	

Defect ID: DEFECT000598119	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Device Management
Reported In Release: Network Advisor 14.0.1	Technology Area: Device configuration (General)
Symptom: Troubleshooting dialog shows a popup error stating that the port is not connected to the switch when the port is actually connected	
Condition: A pair of G6 logical switches locked in a FICON secured logical fabric and traffic was running.	

Defect ID: DEFECT000599684	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Fault Management
Reported In Release: Network Advisor 14.0.2	Technology Area: Troubleshooting
Symptom: Cannot configure UFDC on the managed switches.	
Condition: When user tries to move Gen 6 switches with Marginal Status from the chassis group to right hand side in the Upload Failure Data Capture dialog, the FTP Host Status shows "Syntax error in parameters or arguments."	
Recovery: Make the switch status Healthy and try again.	

Defect ID: DEFECT000600307	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Management
Reported In Release: Network Advisor 14.0.1	Technology Area: Configuration Fundamentals
Symptom: After a F-port decommission the Logical Path is taken offline and the port has no light.	
Condition: When user try to decommission F-Port by selecting the option "Keep Switch Port Enabled", the Logical Paths are getting disabled and the switch port is going to offline. Observed on X6-8 chassis.	

Defect ID: DEFECT000600588	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Device Management
Reported In Release: Network Advisor 14.0.2	Technology Area: Flow Vision (SAN)
Symptom: Encryption devices will not be listed in the Encryption center dialog.	
Condition: Encryption switches running in Fabric OS 7.2.0 and above.	

Defect ID: DEFECT000600975	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Device Monitoring
Reported In Release: Network Advisor 14.0.2	Technology Area: Flow Vision (SAN)
Symptom: Enabling SIM mode from Network Advisor will not have any response.	
Condition: When the device was unreachable due to Authentication failure.	

Defect ID: DEFECT000601367	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Device Management
Reported In Release: Network Advisor 14.0.2	Technology Area: Device configuration (General)
Symptom: Users will get a wrong error message in Network Advisor while trying to configure STP in transparent VLAN for VCS enabled Network OS devices	
Condition: When user try to configure STP on the VLAN we are getting wrong error message. Instead of showing "STP configuration not allowed on transparent VLAN".	

Defect ID: DEFECT000601589	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Client
Reported In Release: Network Advisor 14.0.2	Technology Area: Installation and Migration
Symptom: When attempted a full uninstallation of Network Advisor, received an error "Failed to Stop Database Service".	
Condition: Observed rarely during Network Advisor uninstallation or migration, when database shutdown takes longer time.	
Recovery: Launch Server Management Console, stop all the services, and then continue with the uninstallation/migration.	

Defect ID: DEFECT000602997	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Device Management
Reported In Release: Network Advisor 14.0.2	Technology Area: Discovery
Symptom: When user tries to rediscover a SCG200 controller, it throws an exception as BatchUpdateException	
Condition: If the IP address of the connected Access Point is being acquired by different Access Point, which means the MAC address of the connected device is now changed, the controller rediscovery in Network Advisor will fail.	
Workaround: Delete the controller from the Network Advisor and discover it again.	

Defect ID: DEFECT000603621	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Device Management
Reported In Release: Network Advisor12.4.4	Technology Area: Device configuration (IP)
Symptom: Licensed features attribute in VCS properties sheet will be blank.	
Condition: VDX 6740 running Network OS 7.0.0.	

Defect ID: DEFECT000603768	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Management
Reported In Release: Network Advisor 14.0.2	Technology Area: Configuration Fundamentals
Symptom: MAPS Rules for Curcuit_IP Utilization (UTIL) for High, Medium, and Low QOS not listed in the Network Advisor MAPS policy dialog.	
Condition: Issue observed when View Policy dialog is being launched and user immediately clicks on FCIP tab, as it takes around 10 seconds to update the circuit IP rules in the dialog.	

Defect ID: DEFECT000604728	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Device Management
Reported In Release: Network Advisor 14.0.2	Technology Area: Device configuration (IP)
Symptom: Network Advisor does not display port speed of Ruckus controllers' ports in the Properties dialog.	
Condition: Port Speed for Ruckus Controllers always shows 0Mbps.	

Defect ID: DEFECT000604732	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Fault Management
Reported In Release: Network Advisor 14.0.2	Technology Area: Events
Symptom: Failed to create Port groups for the wireless controllers vSZ-E and vSZ-H.	
Condition: Issue observed when creating the port groups for the virtual wireless controllers vSZ-E and vSZ-H.	

Defect ID: DEFECT000605178	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Fault Management
Reported In Release: Network Advisor 14.0.2	Technology Area: Events
Symptom: Events report will be displayed as blank	
Condition: When Network Advisor server runs for a week and time scope is set to 6 hours for historical data.	

Defect ID: DEFECT000605379	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Device Management
Reported In Release: Network Advisor 14.0.2	Technology Area: Configuration File Management
Symptom: Network Advisor client will not update the port movement after Tunnel deletion operation.	
Condition: Intermittently moving the ports to other context immediately after deleting the tunnel.	
Workaround: Close and relaunch the Network Advisor client.	

Defect ID: DEFECT000605412	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Device Management
Reported In Release: Network Advisor 14.0.2	Technology Area: Device configuration (IP)
Symptom: Serial Number for Ruckus Virtual SmartZone - HighScale (vSZ-H) controller is blank in Properties dialog.	

Condition: Issue observed when vSZ-H controller discovered and monitored in Network Advisor.

Defect ID: DEFECT000605916	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Device Management
Reported In Release: Network Advisor 14.0.2	Technology Area: Device Configuration (IP)
Symptom: Client Count attribute is always shown as 0 in the properties of the Access Point managed by the Ruckus controller.	
Condition: Issue observed when Ruckus controller is discovered and managed by the Network Advisor.	

Defect ID: DEFECT000616533	
Technical Severity: Medium	Probability: Medium
Product: Network Advisor	Technology: Device Monitoring
Reported In Release: Network Advisor 14.0.0	Technology Area: Reports
Symptom: Customer is seeing high CPU usage on the VDX devices.	
Condition: If customer is managing the VDX devices (which has MAC table entries) using NA, then they will notice the high CPU usage on VDX device as NA is indefinitely querying the MAC address table.	

Defects closed with code change in IBM Network Advisor 14.0.3

This section lists the defects with Critical, High and Medium Technical Severity closed with a code change as of September 9, 2016 in Network Advisor 14.0.3.

Defect ID: DEFECT000569095	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Client
Reported In Release: Network Advisor 12.4.1	Technology Area: Third-party tools
Symptom: SMI Agent in Network Advisor did not notify any indication to third party SMI client about the segmentation on an E-port.	
Condition: In Network Advisor Segment an E-Port and monitor the third party SMI client about the segmentation.	

Defect ID: DEFECT000575540	
Technical Severity: Medium	Probability: Medium
Product: Network Advisor	Technology: Device Monitoring
Reported In Release: Network Advisor 12.4.3	Technology Area: Dashboards
Symptom: Dashboard Encode Error Out widget will incorrectly show "There are no values to display".	
Condition: Switch has been up for 3 days, and has encoding out errors on multiple ports.	

Defect ID: DEFECT000576035	
Technical Severity: Medium	Probability: Medium
Product: Network Advisor	Technology: Device Management
Reported In Release: Network Advisor 12.4.2	Technology Area: Discovery
Symptom: Network Advisor is polling HP-VCs, although they are not being monitored.	
Condition: Issue is observed when HP-VCs is part of SAN fabric which managed in Network Advisor.	

Defect ID: DEFECT000576566	
Technical Severity: High	Probability: Low
Product: Network Advisor	Technology: Device Monitoring
Reported In Release: Network Advisor 12.4.3	Technology Area: MAPS-Monitoring and Alerting Policy Suite
Symptom: Filter functionality is not working for port labels other than FC address.	
Condition: In flow vision dialog filter functionality is not working for port labels.	

Defect ID: DEFECT000577778	
Technical Severity: Medium	Probability: Medium
Product: Network Advisor	Technology: Device Management
Reported In Release: Network Advisor 14.0.0	Technology Area: Discovery
Symptom: When a user tries to discover a SW6549 switch, without discovering the VCEM, the status will be shown as Unreachable.	
Condition: User should discover the VCEM before discovering Virtual Connect switches like SW6549, then appropriate status will be shown.	

Defect ID: DEFECT000578562	
Technical Severity: Medium	Probability: Medium
Product: Network Advisor	Technology: Monitoring
Reported In Release: Network Advisor 12.4.2	Technology Area: Flow Vision (SAN)
Symptom: Network Advisor VLAN manager does not show port-channel interfaces of VDX fabric.	
Condition: When user launch VLAN Manager dialog getting error "Failed to load VLAN interfaces" for VDX fabric running Network OS 5.0.1a. This is seen intermittently.	

Defect ID: DEFECT000580941	
Technical Severity: Medium	Probability: Medium
Product: Network Advisor	Technology: Partner Integration
Reported In Release: Network Advisor 12.4.0	Technology Area: SMI Agent
Symptom: Storage Essentials stops receiving any events via SMI-S after NA was upgraded from v12.1.6 to v12.3.1/12.4.0.	
Condition: For storage essentials is not receiving the indication from the SMI agent when the user upgrade from 12.1.6 to 12.3.1/12.4.0	

Defect ID: DEFECT000584550	
Technical Severity: Medium	Probability: Low
Product: Network Advisor	Technology: Device Monitoring
Reported In Release: Network Advisor 12.4.2	Technology Area: Dashboards
Symptom: Customer is unable to view the Product and Port memory utilization details in the dashboard widgets.	
Condition: This issue is seen only when we migrate NA from 12.3.0 to 12.4.2.	
Workaround: Instead of migrating (upgrade), we can install NA freshly and use to avoid this.	

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Defect ID: DEFECT000576035	
Technical Severity: Medium	Probability: Medium
Product: Network Advisor	Technology: Device Management
Reported In Release: Network Advisor 12.4.2	Technology Area: Discovery
Symptom: Network Advisor is polling HP-VCs, although they are not being monitored.	
Condition: Issue is observed when HP-VCs is part of SAN fabric which managed in Network Advisor.	

Defect ID: DEFECT000576566	
Technical Severity: High	Probability: Low
Product: Network Advisor	Technology: Device Monitoring
Reported In Release: Network Advisor 12.4.3	Technology Area: MAPS - Monitoring and Alerting Policy Suite
Symptom: Filter functionality is not working for port labels other than FC address.	
Condition: In flow vision dialog filter functionality is not working for port labels.	

Defect ID: DEFECT000577778	
Technical Severity: Medium	Probability: Medium
Product: Network Advisor	Technology: Device Management
Reported In Release: Network Advisor 14.0.0	Technology Area: Discovery
Symptom: When a user tries to discover a SW6549 switch, without discovering the VCEM, the status will be shown as Unreachable.	
Condition: User should discover the VCEM before discovering Virtual Connect switches like SW6549, then appropriate status will be shown.	

Defect ID: DEFECT000578562	
Technical Severity: Medium	Probability: Medium
Product: Network Advisor	Technology: Device Management
Reported In Release: Network Advisor 12.4.2	Technology Area: Discover
Symptom: Network Advisor VLAN manager does not show port-channel interfaces of VDX fabric	
Condition: When user launch VLAN Manager dialog getting error "Failed to load VLAN interfaces" for VDX fabric running Network OS 5.0.1a. This is seen intermittently.	

Defect ID: DEFECT000580941	
Technical Severity: Medium	Probability: Medium
Product: Network Advisor	Technology: Partner Integration
Reported In Release: Network Advisor 12.4.0	Technology Area: SMI Agent
Symptom: Storage Essentials stops receiving any events via SMI-S after NA was upgraded from v12.1.6 to v12.3.1/12.4.0	
Condition: For storage essentials is not receiving the indication from the SMI agent when the user upgrade from 12.1.6 to 12.3.1/12.4.0	

Defect ID: DEFECT000584550	
Technical Severity: Medium	Probability: Medium
Product: Network Advisor	Technology: Device Monitoring
Reported In Release: Network Advisor 12.4.2	Technology Area: Dashboards
Symptom: Customer is unable to view the Product and Port memory utilization details in the dashboard widgets.	
Condition: This issue is seen only when we migrate NA from 12.3.0 to 12.4.2.	
Workaround: Instead of migrating (upgrade), we can install NA freshly and use to avoid this.	

Defect ID: DEFECT000588417	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Device Monitoring
Reported In Release: Network Advisor 12.4.3	Technology Area: Performance
Symptom: Port Traffic Time Series Performance Report Fails for port if a FCIP tunnel port is selected.	
Condition: Generate report on FCIP links between 2 DCX on FX8-24 blades using NA web client.	

Defect ID: DEFECT000588491	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Device Monitoring
Reported In Release: Network Advisor 14.0.1	Technology Area: Dashboards
Symptom: User will find the data of Out of Range violation widgets in the Analytics Health Violation widget	
Condition: Triggering an AMP health violation and monitoring it through dashboard widget.	

Defect ID: DEFECT000591193	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Client
Reported In Release: Network Advisor 12.4.2	Technology Area: Server Management Console
Symptom: Intermittently Network Advisor will not display any VIP server when launch the VIP Server dialog.	
Condition: Issue observed when attempting to launch VIP servers via Network Advisor: Configure > Application Delivery > VIP Servers	
Workaround: Close and re-open the dialog.	

Defect ID: DEFECT000592759	
Technical Severity: High	Probability: High
Product: Network Advisor	Technology: Device Management
Reported In Release: Network Advisor 14.0.1	Technology Area: Configuration Fundamentals
Symptom: Network Advisor GUI shows Firmware download fails with error stating Firmware Image download commit operation has timed out, though the operation is successful.	
Condition: Observed when firmware commit operation takes more than 20 min during the Network OS firmware upgrade on VCS.	

Defect ID: DEFECT000593989	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Device Management
Reported In Release: Network Advisor 14.0.1	Technology Area: Device Configuration (SAN)
Symptom: In Dual NIC environment, when NA is configured to use ip1 for switch-server communication then NA binds to all IP or ip2 for FTP which is incorrect.	
Condition:	
<ol style="list-style-type: none"> 1. Install NA 14.0.x in dual NIC machine 2. Configure ip1 as switch-server ip 3. Configure ip2 as client-server ip 4. Complete the installation and start the server 5. Check whether all the switch related communication including FTP is happening via ip1 or ip2 (need to be happen through ip1). 	

Defect ID: DEFECT000595238	
Technical Severity: High	Probability: High
Product: Network Advisor	Technology: Device Management
Reported In Release: Network Advisor 14.0.1	Technology Area: Device Configuration (SAN)
Symptom: User will not be able to move the GE port to another FID.	
Condition: Launch Virtual Fabric dialog and try to move the GE port alone (or) as part of a group of GE ports to another FID in Network Advisor by selecting the Reset to default checkbox. Observe that the operation fails. This will happen only GE ports has the IP interfaces	

Defect ID: DEFECT000595979	
Technical Severity: High	Probability: High
Product: Network Advisor	Technology: Fault Management
Reported In Release: Network Advisor 14.0.1	Technology Area: Events
Symptom: In Network Advisor the Security and MAPS events are not being received in Master Log for AMP devices.	
Condition: The issue exists for AMP devices that are running ampos1.5.0 version.	

Defect ID: DEFECT000596099	
Technical Severity: Medium	Probability: Medium
Product: Network Advisor	Technology: Device Monitoring
Reported In Release: Network Advisor 12.4.2	Technology Area: Dashboards
Symptom: IP Port Health and Product Status and Traffic not reflecting correctly on VDX interface data. IP Port health widgets is for FCoE device details in which the last 2 widgets alone will show the VCS details. So the name of the widget creates the confusion here.	
Condition: Discover VCS devices and after sometime view the IP Port health widget and Product Status and Traffic widget.	

Defect ID: DEFECT000596714	
Technical Severity: Medium	Probability: Low
Product: Network Advisor	Technology: Management
Reported In Release: Network Advisor 12.4.2	Technology Area: Configuration Fundamentals
Symptom: Intermittently unable to open zoning dialog from a Network Advisor remote client.	
Condition: When user tries to launch the Zoning dialog from remote client of Network Advisor the error is being shown: "javax.naming.namingException"	
Recovery: Relaunch the client when the issue is encountered.	

Defect ID: DEFECT000597061	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Device Monitoring
Reported In Release: Network Advisor 14.0.1	Technology Area: Fabric Tracking (SAN)
Symptom: Product Tree is not updated with the new E-Ports when the ports are physically moved from one port to other port in ISL Trunks group.	
Condition: Discover a Switch with ISL Trunks. Physically move the E-ports from one port to other port.	
Recovery: Exit the client and re-launch the client.	

Defect ID: DEFECT000597701	
Technical Severity: Medium	Probability: Medium
Product: Network Advisor	Technology: Management
Reported In Release: Network Advisor 14.0.1	Technology Area: Configuration Fundamentals
Symptom: RADIUS authentication not working as expected.	
Condition:	
<ol style="list-style-type: none"> 1. If Radius request fails because of "Bad Password" on 1st Radius server the request is send to 2nd radius server..And also fails (obviously) 2. Some of the other basic specific attributes which are used in radius are missing in the radius Authentication request. Like NAS Ip (attribute 4), Calling station ID (attribute 31). 	

Defect ID: DEFECT000597711	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Device Management
Reported In Release: Network Advisor 14.0.1	Technology Area: Device Configuration (SAN)
Symptom: Network Advisor does not allow X6-8 Core Blades to be moved into an FMS-enabled FID due to "port count exceeding 256"	
Condition: This issue will happen only on fully loaded G6 chassis.	

Defect ID: DEFECT000597740	
Technical Severity: Medium	Probability: Medium
Product: Network Advisor	Technology: Device Management
Reported In Release: Network Advisor 12.4.2	Technology Area: Device Configuration (General)
Symptom: Email alerts do not contain the Source IP or Name of the device.	
Condition: Recipient receives email alerts with no source IP or name. The corresponding event in master log does show the product address correctly. Problem is specific to "running configuration event" and happens to all device models including ICX7450.	

Defect ID: DEFECT000597744	
Technical Severity: Medium	Probability: Medium
Product: Network Advisor	Technology: Management
Reported In Release: Network Advisor 14.0.1	Technology Area: Configuration Fundamentals
Symptom: Network Advisor's error pop-up dialog, describing legitimate switch name parameters, does not indicate that a switch name can now begin with an alphanumeric character. The message still states that the switch name can begin with Alphabetic only character.	
Condition: Operations in Network Advisor where the error can be seen are: Configure Virtual Fabric Logical switches dialog.	

Defect ID: DEFECT000597762	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Device Management
Reported In Release: Network Advisor 14.0.1	Technology Area: Configuration Fundamentals
Symptom: Creating logical switch whose name contains period (.) fails.	
Condition: When the logical switch name contains hyphen and it is in FMS mode.	
Workaround: Use a name without hyphen or period.	

Defect ID: DEFECT000597777	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Client
Reported In Release: Network Advisor 14.0.1	Technology Area: Installation and Migration
Symptom: Network Advisor Client loses connectivity with server.	
Condition: When the JVM crashes which makes Network Advisor server to go down and comes up. The java crash hs_err file is generated in the logs folder.	
Workaround: This needs editing a sensitive configuration file. Please contact IBM Support.	
Recovery: Please contact IBM support if the issue is noticed more than once.	

Defect ID: DEFECT000597886	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Device Monitoring
Reported In Release: Network Advisor 14.0.1	Technology Area: Flow Vision (SAN)
Symptom: User unable to disable IP Extension mode for a tunnel the SAN42B-R switch.	
Condition: The issue will be seen for the switches running Fabric OS 7.4.x.	
Workaround: Disable IP Extension for tunnel via CLI.	

Defect ID: DEFECT000597912	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Management
Reported In Release: Network Advisor 14.0.1	Technology Area: Configuration Fundamentals
Symptom: ICL ports showing type as ICL-Port0 or ICL-Port1 irrespective of their QSFP location.	
Condition: The issue will be seen only with Gen-6 Chassis.	

=====

Defect ID: DEFECT000598265	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Management
Reported In Release: Network Advisor 14.0.1	Technology Area: Configuration Fundamentals
Symptom: Search is not finishing and taking long time to complete. Inconsistent issue and not seen in all the servers.	
Condition: Enter the text in search bar and click search button.	
Recovery: Re- launch the client and search the text.	

Defect ID: DEFECT000598689	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Device Monitoring
Reported In Release: Network Advisor 14.0.1	Technology Area: Dashboards
Symptom: User will not be able to view the AP status.	
Condition: Discover a Ruckus Wireless Smart cell gateway controller inS NA. Go to Dashboard --> Choose AP status and verify the AP status has AP managed by Ruckus Wireless Smart cell gateway controller	

Defect ID: DEFECT000598691	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Device Management
Reported In Release: Network Advisor 14.0.1	Technology Area: Device Configuration (IP)
Symptom: vSZ-H controller does not show managed Access Points in its Properties sheet.	
Condition: Discover a Ruckus Wireless vSZ-H controller in Network Advisor. Go to properties of the controller and verify the Access Point tab does not show the managed Access Point.	

Defect ID: DEFECT000598723	
Technical Severity: High	Probability: High
Product: Network Advisor	Technology: Device Management
Reported In Release: Network Advisor 14.0.1	Technology Area: Device Configuration (IP)
Symptom: IP and SAN+IP User Guides do not list some of supported Ruckus devices.	
Condition: IP and SAN+IP User Guides do not list some of supported Ruckus devices.	
Workaround: Refer to Network Advisor 14.0.1 Release Notes for the updated list of supported Ruckus devices.	

Defect ID: DEFECT000598728	
Technical Severity: High	Probability: High
Product: Network Advisor	Technology: Device Management
Reported In Release: Network Advisor 14.0.1	Technology Area: Device Configuration (SAN)
Symptom: Network Advisor initiated D-Port test left running for 7 hours and failed with a timeout.	
Condition: The issue is observed when run the D-Port test between two 32Gb SFPs by selecting the duration more than 1 hour	
Workaround: Restart the same D-Port test without specifying the duration	

Defect ID: DEFECT000598858	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Device Management
Reported In Release: Network Advisor 14.0.1	Technology Area: Device Configuration (IP)
Symptom: In the model number for Ruckus Smart cell Gateway controller, SCG200 is present, which is not supported in NA.	
Condition: Discover a Ruckus Wireless Smart cell gateway controller in NA and verify the model of it in Properties and IP Network Objects view.	

Defect ID: DEFECT000599326	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Device Management
Reported In Release: Network Advisor 14.0.1	Technology Area: Device Configuration (SAN)
Symptom: Device tree in Network Advisor shows duplicate entry for an ISL trunk group.	
Condition: Observed when attempting to recreate the same trunk group after it's been deleted.	

Defect ID: DEFECT000599393	
Technical Severity: Medium	Probability: High
Product: Network Advisor	Technology: Device Management
Reported In Release: Network Advisor 14.0.1	Technology Area: Discovery
Symptom: AP discovered in NA appears as a standalone devices.	
Condition: When users tries to discover AP other than R500 and R700, in some scenarios those AP will be displayed as standalone switch instead of AP.	

Defect ID: DEFECT000600194	
Technical Severity: High	Probability: Medium
Product: Network Advisor	Technology: Management
Reported In Release: Network Advisor 14.0.1	Technology Area: Configuration Fundamentals
Symptom: Creation of FCIP tunnel fails, if IPIF ports are already configured on the GE ports that are part of a non-default VF context.	
Condition: The default VF is discovered in NA and IPIF ports have already been configured.	
Workaround:	
<ul style="list-style-type: none"> • When the GE ports are part of a non-default VF context, remove the configured IPIF from CLI and deploy the tunnel by now creating the IPIF through NA. • If GE ports are used in the default VF context with IPIF configured (shared GE), this issue will not be encountered. • The user is recommended to use NA for end-to-end FCIP tunnel creation (and not a combination of NA and CLI) to avoid possible issues. Also, while deleting a tunnel, selecting the option to delete the associated interface will prevent the user from running into this issue. 	

Defect ID: DEFECT000605891	
Technical Severity: Medium	Probability: Medium
Product: Network Advisor	Technology: Device Management
Reported In Release: Network Advisor 14.0.1	Technology Area: Device Configuration (SAN)
Symptom: Network Advisor will fail to create IPv6 Tunnels.	
Condition: Issue observed when FCIP tunnel is being created with non-default IPv6 route that contains alphabetical characters.	

Defect ID: DEFECT000613737	
Technical Severity: High	Probability: High
Product: Network Advisor	Technology: Management
Reported In Release: Network Advisor 14.0.2	Technology Area: Configuration Fundamentals
Symptom: Network Advisor reports the absence of FCIP license for segmented/missing switches during tunnel creation, though the license is present.	
Condition: In the 'Add FCIP Tunnel' dialog, the switch picker lists segmented/missing switches (tagged with a minus sign), if 'Track Fabric Changes' feature is enabled for the fabric. When such switches are selected for FCIP configuration, the operation is expected to cause failures as they are no longer managed in Network Advisor. In this condition, Network Advisor displays an incorrect error message that FCIP license is missing, even though the license is present on the switch.	
Workaround:	
<ul style="list-style-type: none"> • As a best practice, always update the topology by removing missing switch entries from the Picker dialog by performing "Accept Changes" on the fabric. • Discover the switch as a separate fabric using the Discovery dialog. • After discovery, wait for the FCIP data collection to be completed for the switch (master log entry will indicate the completion of FCIP data collection) • Now, proceed with FCIP tunnel configuration. 	

Defect ID: DEFECT000620569	
Technical Severity: High	Probability: High
Product: Network Advisor	Technology: Security
Reported In Release: Network Advisor 14.2.0	Technology Area: Security Vulnerability
Symptom: FileReceiveServlet in Network Advisor is vulnerable to remote access.	
Condition: FileReceiveServlet in Network Advisor is vulnerable to remote access. Network Advisor versions prior to 14.0.3 are susceptible to this vulnerability.	

Defect ID: DEFECT000620768	
Technical Severity: High	Probability: High
Product: Network Advisor	Technology: Security
Reported In Release: Network Advisor 14.2.1	Technology Area: Security Vulnerability
Symptom: DashboardFileReceiveServlet in Network Advisor is vulnerable to remote access.	
Condition: DashboardFileReceiveServlet in Network Advisor is vulnerable to remote access. Network Advisor versions prior to 14.0.3 are susceptible to this vulnerability.	

Defect ID: DEFECT000620769	
Technical Severity: High	Probability: High
Product: Network Advisor	Technology: Security
Reported In Release: Network Advisor 14.2.0	Technology Area: Security Vulnerability
Symptom: SoftwareImageUpload servlet in Network Advisor is vulnerable to remote access.	
Condition: SoftwareImageUpload servlet in Network Advisor is vulnerable to remote access. Network Advisor versions prior to 14.0.3 are susceptible to this vulnerability.	

Defect ID: DEFECT000620770	
Technical Severity: High	Probability: High
Product: Network Advisor	Technology: Security
Reported In Release: Network Advisor 14.2.0	Technology Area: Security Vulnerability
Symptom: CliMonitorReportServlet in Network Advisor is vulnerable to remote access.	
Condition: CliMonitorReportServlet in Network Advisor is vulnerable to remote access. Network Advisor versions prior to 14.0.3 are susceptible to this vulnerability.	

Known Issues

Important SAN Notes

- If you see the following error message “Remote Host: Could not connect to remote host” during technical support data collection (Fabric OS and 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>
```

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

- Firmware Download fails if built-in SCP is used as preferred protocol. The workaround is to use the FTP option in NA
- 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 SAN42B-R
- 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 SAN42B-R
- 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 **Ok**

```
<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.
- Session timeouts observed in Reports page of the Web Client after 5 minutes. Browser refresh is required to proceed.
- 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 SAN42B-R with HA configured tunnels between them. For parallel download on SAN42B-R use CLI.
- FCIP circuit trace route verification fails when attempted from Network Advisor
- Web tools launch is not supported for Analytics Monitoring Platform
- FEC counters are not supported for SAN64B-6 in FOS 8.0
- HTTP TRACK/TRACE methods are not blocked in NA 14.0 JBoss (v 8.2) Webserver. If a web application server has TRACE enabled, attacker (Cross-Site Tracing attack) can just send Http request to the target server and in turn attackers will be able to hijack the session.
- 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.
- Quiet time with SNMP action is not supported from Network Advisor.

- 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.
- EMC Call Home center can be enabled in Network Advisor with *enableEMCcallhomeinNonCMCNE* script provided in *Install_Home\utilities* directory
- In Network Advisor 14.0.1 Flow Vision dialog, when sorting the Violation column, the filtering functionality for the Initiator and Target columns will not work for AMP flows. This is addressed by patching the Network Advisor server. Contact IBM support to get the patch with the fix for this issue to be installed during migration or installation of Network Advisor 14.0.1.
- Four servlets, that are identified to be vulnerable in pre-14.0.3 versions of Network Advisor (see DEFECT000620569, DEFECT000620768, DEFECT000620769, DEFECT000620770 in this document), are having two key issues:
 1. Accepting unauthenticated requests.
 2. Accepting malformed requests to disclose data on server or allow executing remote code.

#2 is more critical and makes BNA server vulnerable. We fixed all 4 servlets in Network Advisor 14.0.3 to make server safe. With 14.0.3, attacker cannot force server to disclose any information. Attacker cannot run any malicious program on server.

Fixing #1 needs more changes on the client and server modules, hence targeted for Network Advisor 14.2.0.

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 NA 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:

- a. In 7800, 7840 and FX8-24, GE ports cannot be reset to default unless their corresponding VE ports are cleared of their FCIP configurations
- b. Switch reset to default operation on SAN42B-R 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
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. The Ruckus Virtual SmartZone - High Scale (vSZ-H) Wireless Controller can be discovered; however, the controller does not show the connected or managed Access Points in Network Advisor.
14. L2 topology does not show link between Ruckus Wireless Controllers and connected L2 switches as Ruckus Wireless Controllers don't support LLDP.
15. NA 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.
16. To use SSL Certificates for ServerIron products, contact your customer support representative
17. Network OS v7.0.0 MAPS does not support QSFP28_SR and QSFP28_LR groups.
18. The Identifier column in the Ethernet Ports table of a detailed report shows incorrect identifier details for Control Bridge's second slot ports.
19. 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.
 - a. 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.
 - b. 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. 64 bit OS is required to run any edition of Network Advisor - Professional, Professional-Plus and Enterprise.
2. Network Advisor server startup and restart may take up to 10+ minutes to complete.

3. 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.

- 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:

```
From: shared_buffers = 512MB
To:   shared_buffers = 1024MB
```

- Server needs to be restarted.
- 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.
 - 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 NA FTP server):

```
/etc/vsftpd.conf file and set "chroot_local_user=YES"
```

- 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.
- "Server is not available" message will be displayed in the login dialog when user changes the default server port [24600] and tries to launch a remote client from client bundle. It is recommended to use the default server port.
- Intermittently HTTP 500 error message is displayed when launching the Web Client. Server restart will fix the issue.
- User needs to run the "sanperformancestatenable" script from NA 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 <NA_HOME>\utilities and run
sanperformancestatenable.bat dbusername dbpassword enable|disable

Linux: Open terminal and move to <NA_HOME>\utilities and run

sanperformancestatenable dbusername dbpassword enable|disable

- Intermittently the Port Traffic/SFP/Error Time Series Report generation may fail when the port count is greater than 50 and the Time Scope is greater than 3 days.
- REST API does not provide FCIP circuit measures for the GigE port.
- NA is now enforcing minimum disk space requirements during migration. When the disk space requirements are not met, NA display a message prompting the user to use the script to delete performance data and retry migration.
- 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.

15. MAPS Compare Help dialog is not launching, user has to search the Help contents from **Help menu > Contents**
16. When Network Advisor is managing more than 1500 IP products, user might experience some performance degradations such as delays while launching some dialogs.
17. 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>

18. 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.
19. 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.
20. 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.
21. Reports: The user is recommended to run not more than 50 schedules at the same time to avoid performance issues.
22. 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>
23. 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 sshdeletknownhost
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.

24. 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".
25. 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.

Domestic and International Modem based Call Home is no longer supported for Call Home

Home Centers in 12.x and above

Alternatively, customers using Domestic or International Call Home Modem feature can reconfigure their Call Home to utilize the Email option for continued Call Home notifications in the event of a system problem. Please refer to the Call Home section of the 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 Email option for continued Call Home notifications in the event of a system problem.

During migration, an option will be given to migrate the switches which are configured assigned to the Domestic and International call centers. Please select “No” in the config wizard when the message is displayed.

Note: EMC and IBM Call Home Centers will continue to support Modem Call Home functionality.

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>\Vogs 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 NA (14.0.3) from OEM1 version to OEM2 version:

- a. Partially uninstall the source NA 14.0.3 OEM1 version
- b. Now install NA 14.0.3 OEM2 version

- c. In the 'copy data and settings' page, browse to the NA 14.0.3 OEM1 version and continue with the migration.

Migrating NA (pre-14.0.3) OEM1 version to NA 14.0.3 OEM2 version:

- a. Install the source NA pre-14.0.3 OEM1 version
- b. Now install NA 14.0.31 OEM2 version
- c. In the 'copy data and settings' page, browse to the NA 14.0.3 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
HP VCEM version	v7.4.1
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			Source value	Formula
TX	FC	SP	.1.3.6.1.3.94.4.5.1.6	$TX = (\text{Delta valueP1P} / (1000 * 1000)) / (\text{Polling intervalP2P})$
RX	FC	MP	.1.3.6.1.3.94.4.5.1.7	$RX = (\text{Delta valueP1P} / (1000 * 1000)) / (\text{Polling intervalP2P})$
TX	G	SP	.1.3.6.1.2.1.31.1.1.1.10	$TX = (\text{Delta valueP1P} / (1000 * 1000)) / (\text{Polling intervalP2P})$
RX	GE	SNMP	.1.3.6.1.2.1.31.1.1.1.6	$RX = (\text{Delta valueP1P} / (1000 * 1000)) / (\text{Polling intervalP2P})$
TX	FCIP	SNMP	.1.3.6.1.2.1.31.1.1.1.10	$TX = (\text{Delta valueP1P} / (1000 * 1000)) / (\text{Polling intervalP2P})$

RX	FCIP	SNMP	.1.3.6.1.2.1.31.1.1.1.6	$RX = (\Delta \text{valueP1P} / (1000 * 1000)) / (\text{Polling intervalP2P})$
Uncompressed Tx/Rx MB/sec	FCIP	SNMP	.1.3.6.1.4.1.1588.4.1.1.6	$(\Delta \text{valueP1P} / (1000 * 1000)) / (\text{Polling intervalP2P})$
TX	EE Monitors	HTTP	PortRX (variable from the return html file)	$TX = (\Delta \text{valueP1P} / (1000 * 1000)) / (\text{Polling intervalP2P})$
RX	EE Monitors	HTTP	PortTX (variable from the return html file)	$RX = (\Delta \text{valueP1P} / (1000 * 1000)) / (\text{Polling intervalP2P})$
TX	HBA, CNA	HCM API	NA	$TX = (\Delta \text{valueP1P} / (1000 * 1000)) / (\text{Polling intervalP2P})$
RX	HBA, CNA	HCM API	NA	$RX = (\Delta \text{valueP1P} / (1000 * 1000)) / (\text{Polling intervalP2P})$
TX	TE	SNMP	1.3.6.1.2.1.31.1.1.1.10	$TX = (\Delta \text{valueP1P} / (1000 * 1000)) / (\text{Polling intervalP2P})$
RX	TE	SNMP	.1.3.6.1.2.1.31.1.1.1.6	$RX = (\Delta \text{valueP1P} / (1000 * 1000)) / (\text{Polling intervalP2P})$
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 = $((\Delta \text{value1 of TX or RX}) / ((\text{Bytes transmitted} * \text{port speed}) * (\text{polling interval2}))) * 100$ 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 = $((\Delta \text{value1 of TX or RX}) / ((125000000 * \text{port speed}) * (\text{polling interval2}))) * 100$. 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 = $((\Delta \text{value1 of TX or RX}) / (\text{maximum bytes transmitted})) * (\text{polling interval2})) * 100$, where maximum bytes transmitted = tunnel speed

TX% / RX% (Pre 6.4.1 Edison release)	TE	SNMP	TX = .1.3.6.1.2.1.31.1.1.1.1.10 RX = .1.3.6.1.2.1.31.1.1.1.1.6	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 + ifHCOctets) / fcipExtendedLinkCompressedBytes

1. Delta valueP¹: is the difference of value retrieved between the two consecutive polling cycles.
2. Polling intervalP²: 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 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:

Old 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
```

Current 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 findattr 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 findattr service:wbem:http://10.0.1.2:5988`

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 findattr 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 findattr service:wbem:https://10.0.1.2:5989`

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
findattr service:wbem:http://IP_Address:Port and
press Enter.
```

```
Type # Management_Application/cimom /bin/slptool
findattr 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:

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

Type `> slptool findattrs service:wbem:http://IP_Address:Port` and press **Enter**.

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.