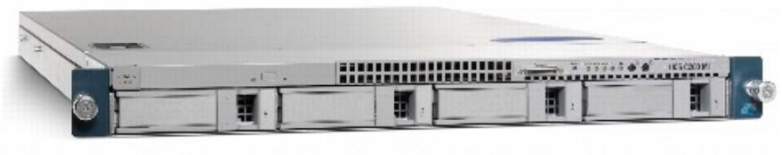
Cisco NetFlow Generation Appliance (NGA) 3140

Product Overview

The Cisco® NetFlow Generation Appliance (NGA) 3140 (Figure 1) redefines network visibility and establishes a new standard for high-performance, cost-effective solutions for flow visibility. It empowers network operations, engineering, and security teams with actionable insight into network traffic for the purpose of resource optimization, application performance improvement, traffic accounting, and security needs.

Figure 1. Cisco NetFlow Generation Appliance 3140



The product introduces a cross-device approach to NetFlow analysis, facilitating correlated hop-by-hop flow visibility. Providing granular, end-to-end visibility into the network, it allows you to significantly improve operational efficiency and effectively reinforce network security.

Features and Benefits

Cisco NGA is a purpose-built, high-performance solution for flow visibility in high throughput Gigabit Ethernet networks typical in most data centers and campus core deployments. Simplifying operational manageability, the appliances can be deployed at key observation places such as the server access layer, fabric path domains, and Internet exchange points. The power of visibility is dramatically amplified when NGA is connected to multiple network devices to analyze flows hop by hop, essential for security, capacity planning, and troubleshooting.

Designed for high performance and maximum deployment flexibility, the appliance gathers network data from platforms such as Cisco Nexus® 7000, Cisco Nexus 5000, Catalyst® 6500 Series Switches using Switched Port Analyzer (SPAN) and network taps. It implements a large active flow cache and can be configured to export NetFlow records (v5, v9, IPFIX) to multiple collectors. The NetFlow Data Export (NDE) records are exported in weighted round-robin fashion to achieve load balancing or flow replication across collectors. The exports can also be customized to meet specific management application needs using 10 filters per destination (Figure 2).

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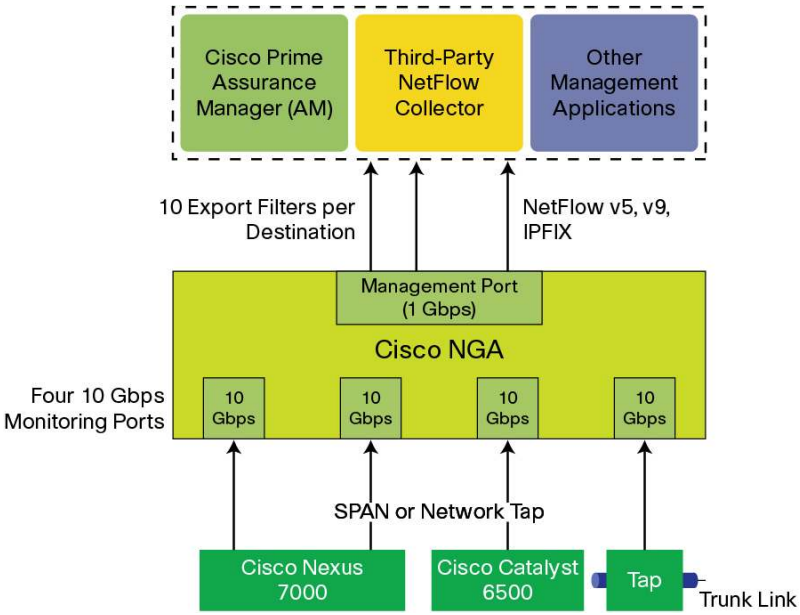
Figure 2. Cisco NGA Deployment Scenario



The key feature and benefits of Cisco NGA are described in Table 1.

Table 1. Features and Benefits

Feature	Benefit
Purpose-built, high-performance form factor	• Improved performance of forwarding device by offloading NetFlow generation function • 100 percent accuracy with full visibility into traffic flows • Cost-effective application and traffic visibility in high-throughput Gigabit Ethernet networks
NetFlow v5, v9, and IPFIX support	• Ease of integration with any standard NetFlow collector
SPAN and network tap support	• Improved return on investment (ROI) with the flexible deployment choices
Multiple collectors (up to six)	• Hop-by-hop flow visibility across multiple network tiers
Advanced filters for custom exports	• Efficient use of NetFlow information across multiple management applications for monitoring, troubleshooting, capacity planning, and security
Load balancing and flow replication across multiple collectors	• Effective network design to maximize scalability
Application awareness	• Enhanced application recognition and reporting. Cisco NGA recognizes applications on the basis of port, port ranges, and built-in heuristics
Predictable cost model	• Simplified licensing model
Embedded GUI and command-line interface (CLI) for configuration	• Ease of configuration, reduced learning curve, and improved productivity

Platform Support/Compatibility

Cisco NGA can be deployed with any Cisco network device that can be configured as a SPAN data source. To use the “managed device” feature supported with Cisco Nexus Series 7000 and Cisco Nexus Series 5000 Switches, supported Cisco Nexus OS versions on these platforms are indicated in Table 2.

Table 2. Platform Support for the Managed Device Feature

Platform	Cisco Nexus OS Version
Cisco Nexus Series 7000	5.2(1), 5.2(4), 6.0 and later
Cisco Nexus Series 5000	5.1(3)N2(1) and later

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Reporting and Management

Cisco Prime™ for Enterprise is an innovative strategy and portfolio of management products that empower IT departments to more effectively manage their networks and the services they deliver. Cisco Prime is built upon a network services management foundation and a set of common attributes. It delivers an intuitive workflow-oriented user experience across Cisco architectures, technologies, and networks. Cisco Prime simplifies network management, improves operations efficiency, reduces errors, and makes the delivery of network services more predictable.

Cisco Prime supports integrated lifecycle management of networks, services, and endpoints for Cisco Borderless Network, Data Center, and Collaboration architectures with end-to-end assurance. Relevant Cisco Prime management components are listed in Table 3.

Table 3. Cisco NGA Reporting and Management Options with Cisco Prime Products

Cisco Prime for Enterprise Components	Target Use Cases
Cisco Prime Assurance Manager (AM)	Offers customizable prepackaged dashboards for NetFlow analysis, along with the ability to retain raw NetFlow records and aggregated NetFlow statistics for historical reporting
Cisco Prime Network Analysis Module (NAM)	Consumes NetFlow for troubleshooting, traffic trend, and optimization analysis workflows
Cisco Prime Infrastructure	Provides management functions, namely, inventory, configuration, and image and fault management

Note that Cisco NGA supports standard NetFlow (v5, v9, IPFIX) exports. Any NetFlow collector supporting these formats can be used for visualizing NetFlow data exported by Cisco NGA.

Product Specifications

Table 4 lists the specifications of Cisco NGA 3140.

Table 4. Product Specifications

NGA 3140 Feature	Description
Chassis	Cisco UCS™ C200 M2 Server
Processor	2 Intel Xeon 5650 multicore processor
Memory	48 GB (6x8GB) industry-standard double data rate (DDR3) main memory
Hard disk drive	Two 1TB SAS drive
Optical Drive	24x CD-R/RW DVD±R/RW read/write optical drive
Monitoring ports	Two Integrated Dual Port Gigabit Ethernet (4 x 10 Gigabit Ethernet)
Management port	10/100/1000 RJ-45
Power supply	650W
Physical dimensions	1 rack unit (RU): Dimensions (H x W x D): 1.7 x 16.9 x 27.8 in. (4.32 x 42.93 x 70.61 cm); depth is without bezel or mounting hardware
Operating environment	• Operating temperature: 50 to 95 degrees F (10 to 35 degrees C) • Nonoperating temperature: -40 to 149 degrees F (-40 to 65 degrees C) • Operating humidity: 5 to 93 percent noncondensing • Non-operating humidity: 5 to 93 percent noncondensing • Operating altitude: 0 to 10,000 ft (0 to 3000m); maximum ambient temperature decreases by 1 degree C per 300m) • Nonoperating altitude: 40,000 ft (12,000m)

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NGA 3140 Feature	Description
Tested platforms	Tested with Cisco Nexus 7000 Series, Cisco Nexus 5000 Series, Cisco Nexus 3000 Series, and Catalyst 6500 Series Switches
Supported topologies and data sources	• Traffic monitoring: SPAN, RSPAN, VACL, network tap • NetFlow export: Version 5, Version 9, IPFIX
Supported interfaces	• HTTP/HTTPS with embedded web-based interface for configuration • Telnet/SSH with command-line interface • Simple Network Management Protocol version 1 (SNMPv1) and v2c
NetFlow Generation Software	• Embedded in Cisco NGA 3140 • Web-based: Requires Microsoft Internet Explorer 8 or 9 or Firefox 9 or 10; supports both English and Japanese versions • Supports Secure Sockets Layer (SSL) security with up to 256-bit encryption
MIBS	The Cisco NGA is standards-compliant and supports the following major MIB groups: • MIB-II (RFC 1213) - All groups except Exterior Gateway Protocol (EGP) and transmission • EntityMIB (RFC 2737)
Application ID	Cisco NGA identifies hundreds of unique protocols and applications. Protocols supported include (this list is not all-inclusive): • TCP and User Datagram Protocol (UDP) over IP including IPv6 • HTTP and HTTPS • VoIP including Skinny Client Control Protocol (SCCP), Real-Time Protocol/Real-Time Control Protocol (RTP/RTCP), Media Gateway Control Protocol (MGCP), and Session Initiation Protocol (SIP) • SigTran protocols • Mobile IP protocols including GPRS Tunneling Protocol (GTP) • Storage area network protocols • Database protocols • Peer-to-peer protocols • Switch and router protocols • Cisco proprietary protocols • Unknown protocols by TCP/UDP ports, Remote Procedure Call (RPC) program numbers and so on

Regulatory Standards

Table 5 lists regulatory standards compliance information.

Table 5. Regulatory Standards Compliance: Safety and EMC

Specification	Description
Safety	• UL 60950-1 No. 21CFR1040 • CAN/CSA-C22.2 No. 60950-1 • IRAM IEC60950-1 • CB IEC60950-1 • EN 60950-1 • IEC 60950-1 • GOST IEC60950-1 • SABS/CB IEC6095-1 • CCC*/CB GB4943-1995 • CNS14336 • CB IEC60950-1 • AS/NZS 60950-1 • GB4943

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Specification	Description
EMC: Emissions	• 47CFR Part 15 (CFR 47) Class A • AS/NZS CISPR22 Class A • CISPR2 2 Class A • EN55022 Class A • ICES003 Class A • VCCI Class A • EN61000-3-2 • EN61000-3-3 • KN22 Class A • CNS13438 Class A
EMC: Immunity	• EN55024 • CISPR24 • KN 61000-4 Series, KN 24

Warranty Information

You can find warranty information on Cisco.com at the Product Warranties page.

Ordering Information

To place an order, visit the Cisco Ordering Homepage. To download software, visit the Cisco Software Center. See Table 6 for NGA ordering information.

Table 6. Cisco NGA Ordering Information

Product Name	Part Number
Cisco NetFlow Generation Appliance (NGA) 3140	NGA3140-K9
NetFlow Generation Software Version 1.0	NGA-SW-NGA1.0-K9

For ordering convenience, the SFP part numbers (Table 7) are available on Cisco Ordering Homepage when ordering the Cisco NGA. Please refer to Cisco 10GBASE SFP+ Modules Data Sheet for ordering information related to these Cisco SFP+ modules and related cables.

Table 7. SFP Ordering Information

Product Name	Part Number
10G base Short-Range SFP Module (Spare)	SFP-10G-SR=
10G base Long-Range SFP Module (Spare)	SFP-10G-LR=

Cisco Services

Services from Cisco and Our Partners

Realize the full business value of your technology investments with smart, personalized services from Cisco and our partners. Backed by deep networking expertise and a broad ecosystem of partners, Cisco Services enable you to successfully plan, build, and run your network as a powerful business platform. Whether you are looking to quickly seize new opportunities to meet rising customer expectations, improve operational efficiency to lower costs, mitigate risk, or accelerate growth, we have a service that can help you. For information about Cisco Services, go to http://www.cisco.com/go/services. Table 8 shows the technical support service recommended for NetFlow Generation Appliance.

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Table 8. Cisco Technical Services

Technical Services
Cisco SMARTnet® provides: • Global 24-hour access to Cisco Technical Assistance Center (TAC) • Access to online knowledge base, communities, and tools • Hardware replacement options, including 2-hour, 4-hour, and next business day* • Ongoing operating system software updates** • Smart, proactive diagnostics and real-time alerts on devices enabled with Smart Call Home

Footnotes:

* Advance hardware replacement is available in various service-level combinations. For example, 8x5xNBD indicates that shipment will be initiated during the standard 8-hour business day, 5 days a week (the generally accepted business days within the relevant region), with next business day (NBD) delivery. Where NBD is not available, same day ship is provided. Restrictions apply; please review the appropriate service descriptions for details.

** Cisco operating system updates include maintenance releases, minor updates, and major updates within the licensed feature set.

For More Information

For more information about Cisco NetFlow Generation Appliance (NGA), visit http://www.cisco.com/go/nga, contact your local account representative, or email the Cisco NGA product marketing group at nga-info@cisco.com.

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