

PRODUCT BULLETIN

XOS v9.6.0

Crossbeam launches massively scalable performance through major upgrades to the X-Series platforms. XOS v9.6.0 introduces unprecedented real world performance with 140Gbps of IMIX throughput, 100 million concurrent IP connections and 640Gbps of network connectivity via the industry's highest port density of 10 Gigabit Ethernet Ports.

NEW X-SERIES PLATFORMS

Crossbeam is introducing a new X-Series Platform that is supported by the XOS v9.6.0 software release.

X50 Platform

The X50 platform is a flexible, pre-configured solution, similar to the X20 and X30, for customers who value the Crossbeam benefits, and require a 18Gbps solution with limited future growth needs. The X50 is configured at the factory with a CPM-9600, APM-50, and NPM-50 installed, providing a 18Gbps backplane performance with 16 physical network interfaces. The physical interfaces support any combination of SFP transceivers (for 1Gbps operation) and SFP+ transceivers (for 10Gbps operation). The X50 can be expanded with an additional APM-50, to either increase capacity of a single application, or to add a second application. The X50 ships complete and ready to deploy; customers only need to select the appropriate power cords and SFP/SFP+ transceivers.

NEW X-SERIES MODULES

In addition to the new X-Series Platform, Crossbeam is introducing several new modules that are supported by the XOS v9.6.0 software release.

NPM-9610 and NPM-9610-MC

The NPM-9610 is a new Network Processor Module (NPM) that is based on next generation network processing technologies, supporting 10Gbps throughput per module. The NPM-9610 has 16 physical interfaces which can be configured with any combination of SFP transceivers (for 1Gbps operation) or SFP+ transceivers (for 10Gbps operation). The NPM-9610 can be used in the X80-S and X60 platforms; when configured with a maximum complement of NPM-9610s, these platforms support up to 18M concurrent connections.

The NPM-9610-MC is a variant of the NPM-9610 with 4x the amount of on-board memory (16GB total), delivering a substantial increase in the maximum concurrent connection capacity of the X80-S and X60 platforms. Crossbeam has optimized this NPM for mobile operator and similar customer needs; a system configured with NPM-9610-MCs supports up to 100M concurrent connections.

NPM-9650 and NPM-9650-MC

The NPM-9650-MC is also a new Network Processor Module based on the latest of network processing technologies. The NPM-9650 is capable of delivering 40Gbps of throughput per module, delivering a significant boost in performance to the X80-S and X60. With a full complement of NPM-9650s, the X80-S and X60 scale to a market-leading 140Gbps and 70Gbps of throughput respectively.

Like the NPM-9610, the NPM-9650 has 16 physical interfaces which can be used for either 1Gbps operations (with SFP transceivers) or 10Gbps operations (with SFP+ transceivers) in any combination. X80-S and X60 platforms with a full complement of NPM-9650s support up to 18M concurrent connections.

This new NPM is also available as the NPM-9650-MC; similar to the NPM-9610-MC, this product has additional memory, allowing maximum system concurrent connection capacity to scale to 100M connections.

APM-50

The APM-50 is a new Application Processor Module (APM) built specifically for the X50 platform and supports all of the applications supported by the X-Series, including McAfee Firewall Enterprise. This module comes with dual hex-core CPUs and 12GB of on-board memory. Optional HDDs are also available. One APM-50 comes with an X50; a second one can be added to an X50 to increase the performance of a single application or enable a multi-application deployment.

NEW PRODUCT UPGRADE OPTIONS

Crossbeam is committed to helping customers deploy world-class security solutions while minimizing the total cost of ownership. The modularity of the X-Series Platform allows customers to invest in only the capacity needed today, while providing a seamless path to address future growth when it is required. Crossbeam is expanding on its commitment by introducing capabilities that allow X-Series hardware upgrades, unlocking additional capacities when they are required, and spreading investments over multiple years.

NPM-9610 10Gbps-to-40Gbps Throughput Upgrade

The new NPM-9610 is a 10Gbps capable NPM. XOS v9.6.0 introduces an upgrade feature that allows a customer to purchase an upgrade to increase the performance of an NPM-9610 to 40Gbps. This upgrade is applied via a software license key, allowing customers to gain increased throughput capacity when needed without costly forklift upgrades.

NPM-96x0 to NPM-96x0-MC Max Connections Upgrade

With XOS v9.6.0 you can upgrade the base NPM-9610 and NPM-9650 models to their -MC models, increasing the maximum concurrent connection capacity from 18M to 100M concurrent connections. This upgrade is also applied via a purchased software license key, and includes a kit to upgrade the memory on the NPMs to 16GB.

X20/X30/X50 to X60 Platform Upgrades

The X20, X30, and X50 platforms are fixed-configuration systems sized to fit smaller data center and perimeter needs. XOS v9.6.0 introduces the ability to upgrade these systems, using a purchased software license, to the modular X60 if the customer encounters unexpected growth in throughput requirements. While the CPM in the X20/X30/X50 systems can be used in the X60, customers will need to replace the APMs and NPMs with models supported in the X60.

XOS v9.6.0 SOFTWARE FEATURES

Refer to the XOS v9.6.0 Release Notes and the XOS Command Reference Guide for detailed information on new and changed commands and features.

XOS v9.6.0 contains many new software features which deliver on the Crossbeam commitment to enhancing customer value. Key features include:

Automated Workflow System (AWS) Enhancements

Crossbeam XOS contains the Automated Workflow System (AWS) framework, which improves the operational value of the system by automating complex tasks.

The Greenlight Element Manager (GEM) for XOS utilizes RRDtool technology for storing data within the system. A new workflow in XOS v9.6.0 automates the process of exporting the RRDtool database, allowing customers to perform additional analysis off-line.

NetFlow Support

NetFlow is a standard protocol for monitoring and reporting on the traffic within a network. XOS v9.6.0 introduces NetFlow support on Crossbeam. NetFlow data collectors reside on each APM in the system; this data is aggregated on the CPM and sent to an external NetFlow Analyzer you provide on your network. Crossbeam has tested this implementation with the most common open-source and third party analyzers to ensure interoperability.

Application Monitoring Enhancements

XOS v9.6.0 includes several enhancements for monitoring, reporting, and recovery based on application health status information. One enhancement enables alarm triggering based on the status of the Crossbeam Routing Software (RSW) application. Another enhancement enables an APM to automatically reload upon application failure, further extending the self-healing characteristics of the X-Series.

L2 VRRP Solution Support

The X-Series enables highly reliable network solutions with Dual-Box High Availability based on the VRRP protocol. Previous releases supported DBHA solutions when the X-Series is deployed as a L3 element in the network. XOS v9.6.0 allows the X-Series to be deployed as a L2 element in the network, while still providing DBHA support to build highly reliable networks.

Policy-Based Routing

XOS v9.6.0 introduces the ability to configure and utilize policy-based routing with the X-Series. Policy-based routing enables customers to control traffic forwarding within their networks based on parameters in addition to the standard destination address, adding another layer of flexibility and value to the X-Series offering.

Security Tools for the Administrator

Several new capabilities in XOS v9.6.0 are intended to provide the system administrator with more tools to control and secure access to the X-Series platform. New commands allow the administrator to customize the banner seen by all operations users when logging in, to configure the acceptable format for user password creation, and provide greater control over who can access VAP groups for administrative purposes.

Reduction in Size of the Internal Network

The X-Series creates and uses an internal IP network for communications between modules. In these days of IPv4 address space exhaustion, minimizing the amount of address space required is essential. XOS v9.6.0 introduces the ability to minimize this internal network to a /22 address space (from a previous /16 address space), thus returning address space to customers for use elsewhere in the network.

VAP Group Operations Enhancements

A new archive capability in XOS v9.6.0 provides the ability to back up and restore either a VAP group or the entire system configuration. Additionally, new commands allow a VAP group to be re-built without deleting and re-creating the XOS configuration.

GEM Enhancements

Crossbeam is continuing to show commitment to improving and simplifying the methods for managing X-Series platforms. XOS v9.6.0 includes several enhancements to the Greenlight Element Manager (GEM), key of which is a new "Troubleshooting" section that allows for the download of log files, including the tech-support bundle, through the GEM interface. This will greatly simplify recovery of data from the X-Series during troubleshooting activities and support calls. Additional enhancements to GEM include the ability to view the status of any XOS licenses installed on the system, support for the new hardware introduced in XOS v9.6.0, an updated Flows view, and the ability to display if NetFlow is enabled on the system.

Crossbeam X-Series Management System (XMS)

XOS v9.6.0 will support communications with Crossbeam's new management offering, the X-Series Management System (XMS). XMS is ordered and delivered as a separate application from XOS and the X-Series products; it is an optional component to the overall X-Series solution.

XMS is a database application installed on a dedicated server that clients can connect to through standard browsers and see at-a-glance status of all of the X-Series platforms in the customer's network. XMS can manage up to 150 X-Series nodes and supports up to 10 simultaneous client accesses to the server.

XMS provides an overall health status of all platforms in the network and provides the ability to drill down into the detailed status information for individual platforms. Additional capabilities in the first release support inventory management and the ability to launch GEM for a more detailed view of a specific system. Refer to the Crossbeam X-Series Management System (XMS) Administration Guide for additional details.

XOS v9.6.0 SUPPORTED APPLICATIONS

New Applications Available on XOS v9.6.0 at the Time of Release:

Check Point Security Gateway R75.20
Check Point Firewall-1 GX 5.0
Routing Software (RSW) V8.1.0

Other Applications Available on XOS v9.6.0 at the Time of Release:

Check Point Security Gateway R71.10
Check Point Security Gateway R70
Check Point Security Gateway R70 IPv6 Pack
Check Point Security Gateway R75
Check Point VPN-1 VSX NGX R67
Check Point VPN-1 VSX NGX R65
Check Point Firewall-1 GX 4.0
McAfee Firewall Enterprise (MFE) 8.1.1
Actiance USG 4.2
Sourcefire 3D Sensor 4.10
Imperva SS 8.0

Other Applications that will be Available on XOS v9.6.x.x within 1-to-2 Quarters of Release:

McAfee Firewall Enterprise (MFE) 8.2.1

SUPPORTED HARDWARE:

XOS v9.6.0 MODULE SUPPORT

Module Type	Family	XOS v8.5.0.0	XOS v9.0.0.0	XOS v9.5.0.0	XOS v9.6.0
NPM	8600	✓	✓	✓	✓
	8620/8650	✓	✓	✓	✓
	9610/9650				✓
	20/30			✓	✓
	50				✓
APM	8600	✓	✓	✓	✓
	8650	✓	✓	✓	✓
	9600			✓	✓
	2030			✓	✓
	50				✓
CPM	8600	✓	✓	✓	✓
	9600			✓	✓

XOS v9.6.0 CHASSIS SUPPORT:

Chassis Type	XOS v8.5.0.0	XOS v9.0.0.0	XOS v9.5.0.0	XOS v9.6.0
X20			✓	✓
X30			✓	✓
X45 AC-3	✓	✓	✓	✓
X50				✓
X60			✓	✓
X80-S - AC	✓	✓		
X80-S-AC-2, -AC-3, and -S-AC-3	✓	✓	✓	✓
X80-S DC	✓			
X80-S-DC-2, -DC-3, and -S-DC-3	✓	✓	✓	✓

XOS v9.6.0 CHASSIS AND MODULE INTEROPERABILITY:

Module Type	X40 all versions	X45 AC-3	X60	X80-S AC and X80-S DC	X80-S AC-2 and AC-3 and X80-S DC-3	X80-S DC-2 and DC-3 and X80-S AC-3	X20	X30	X50
NPM-8600	See note 1	✓		✓	✓	✓			
NPM-8620	See note 1	✓	✓	✓	✓	✓			
NPM-8650	See note 1	✓	✓	✓	✓	✓			
NPM-9610 (see note 2)	See note 1		✓		✓	✓			
NPM-9650 (see note 2)	See note 1		✓		✓	✓			
NPM-20							✓		
NPM-30								✓	
NPM-50	See note 1								✓
APM-8600	See note 1	✓		✓	✓	✓			
APM-8650 (see note 2)	See note 1	✓	✓	✓	✓	✓			
APM-9600 (see note 2)	See note 1		✓		✓	✓			
APM-2030							✓	✓	
APM-50	See note 1								✓
CPM-8600	See note 1	✓		✓	✓	✓			
CPM-9600 (see note 2)	See note 1		✓		✓	✓	✓	✓	✓

Note 1: Support may be possible and will require an upgrade to an X80-S via an X80-S upgrade kit. Please contact your Crossbeam representative for more information.

Note 2: Use of any of the following modules - the NPM-9610, NPM-9650, APM-8650, APM-9600 and/or CPM-9600 - may require older systems to have a fan tray upgrade and/or the use of air flow panels. Please consult the XOS v9.6.0 Release Notes and related Hardware Installation Guides.

XOS v9.6.0 RELATED PRODUCT CODES:

Product code	Description
APM-50	APM-50 - Additional APM module for the X50 product. Two Hex Core Xeon CPUs and 12 GB DRAM. RoHS Compliant.
APM6-UPG-DRAM-4G	APM-8600 Memory Upgrade Kit. Additional 4 GB DRAM (4 x 1GB). RoHS Compliant. (4G RAM is required for XOS v9.6.0).
NPM-20	NPM-20 - spare NPM module for the X20 product. 10 x 1G SFP capable ports and 5G Throughput (Transceivers sold separately). RoHS Compliant. For sparing purposes only.
NPM-30	NPM-30 - spare NPM module for the X30 product. 10 x 1G SFP and 2 x 10G XFP capable ports and 10G Throughput (Transceivers sold separately). RoHS Compliant. For sparing purposes only.
NPM-50	NPM-50 - spare NPM module for the X50 product. 16 x SFP capable ports (for 1Gbps operation) 16 x SFP+ capable ports and 20G Throughput (Transceivers sold separately). RoHS Compliant. For sparing purposes only.
NPM-9610	10Gbps Network Processing Module w/4 GB scty proc mem (upgradable to 16 GB); 16 x 1/10 GE (SFP/SFP+) ports. SFP/SFP+ XCVRs must order sep. Upgradeable to 40Gb NPM-9650
NPM-9610-MC	10Gbps Network Processing Module w/16 GB scty proc mem and Maximum Concurrent Connection License; 16 x 1/10 GE (SFP/SFP+) ports. SFP/SFP+ XCVRs must order sep. Upgradeable to 40Gb NPM-9650
NPM-9610-MC-NEBS	NEBS certified 10Gbps Network Processing Module w/ 16GB security processor memory and Maximum Concurrent Connection License; 16 x 1/10 GE (SFP/SFP+) ports. SFP/SFP+ XCVRs must order sep. Upgradeable to 40Gb NPM-9650
NPM-9610-NEBS	NEBS certified 10Gbps Network Processing Module w/ 4GB security processor memory (upgradable to 16GB); 16 x 1/10 GE (SFP/SFP+) ports. SFP/SFP+ XCVRs must order sep. Upgradeable to 40Gb NPM-9650
NPM9610-UPG-40GB	License to upgrade the maximum throughput of an NPM-9610 from 10Gbps to 40Gbps making it an NPM-9650
NPM-9650	40Gbps Network Processing Module w/4 GB scty proc mem (upgradable to 16 GB); 16 x 1/10 GE (SFP/SFP+) ports. SFP/SFP+ XCVRs must order sep.
NPM-9650-MC	40Gbps Network Processing Module w/16 GB scty proc mem and Maximum Concurrent Connection License; 16 x 1/10 GE (SFP/SFP+) ports. SFP/SFP+ XCVRs must order sep. Upgradeable to 40Gb NPM-9650
NPM-9650-MC-NEBS	NEBS certified 40Gbps Network Processing Module w/ 16GB security processor memory and Maximum Concurrent Connection License; 16 x 1/10 GE (SFP/SFP+) ports. SFP/SFP+ XCVRs must order sep.
NPM-9650-NEBS	NEBS certified 40Gbps Network Processing Module w/ 4GB security processor memory (upgradable to 16GB); 16 x 1/10 GE (SFP/SFP+) ports. SFP/SFP+ XCVRs must order sep.
NPM96-UPG-MC	16GB memory upgrade and license to support Maximum Concurrent Connections for NPM-9610 and NPM-9650
SFPPLUS-Q1-LR	Single 10Gbps LR SFP+ Transceiver (LC Connectors) for NPM-9610 and NPM-9650
SFPPLUS-Q1-SR	Single 10Gbps SR SFP+ Transceiver (LC Connectors) for NPM-9610 and NPM-9650
SFPPLUS-Q2-LR	Two 10Gbps LR SFP+ Transceivers (LC Connectors) for NPM-9610 and NPM-9650
SFPPLUS-Q2-SR	Two 10Gbps SR SFP+ Transceivers (LC Connectors) for NPM-9610 and NPM-9650
X50	X50 Chassis with Dual 1200W PSU. Includes 1 x NPM-50 (16 SFP+ capable ports), 1xAPM-50, 1xCPM-9600. (Power Cords and SFP+ transceivers to be ordered separately). Supports up to 20Gbps Performance. RoHS compliant
X-CHASSIS-UPG-X20/30/50-TO-X60	Upgrade from X20 or X30 or X50 to X60. Assumes all modules to be used are compatible with X60. Upgrade fee does not cover module upgrade. X60 Maintenance must be purchased.
XMS-DEVICE	License to support one X-Series system with the XMS product. Purchase the appropriate quantity of licenses to manage all the X-Series devices in the network.
XOS-ARM-810CD	X-Series Routing Software version 8.1 on CD. Requires XOS v9.6.0 or higher. Includes PIM Sparse Mode, OSPFv2, RIP-II, and BPG-4, IPv6 support and IPv6 to IPv4 tunneling support. Licensed per X-Series Chassis.

ABOUT CROSSBEAM

We improve the sophisticated networks of enterprises, government agencies, and service providers by architecting platforms that are more adaptable, high-performing, reliable, and secure.