

# Juniper Networks WX Application Acceleration Platforms



The Juniper Networks WX™ application acceleration platforms provide distributed enterprises with a cost-effective solution for accelerating business applications over the WAN. Based on the unique WX Framework, which integrates all the elements required to optimize application performance across wide-area links, the WX family helps businesses maximize WAN investments and improve application response times for branch office users.

The WX platforms improve application performance over the WAN by eliminating redundant transmissions, accelerating TCP and application-specific protocols, prioritizing and allocating access to bandwidth, and ensuring high availability at sites with multiple WAN links.

The WX products communicate constantly to provide distributed stateful intelligence about the entire network, exchanging vital information such as topology, reachability, and path-performance metrics. The WX devices also interoperate with the Juniper Networks WXC™ application acceleration platforms, contributing to a complete, integrated WAN optimization solution.

Through integrated WebView device management software, the WX platforms also provide unprecedented visibility into WAN performance. With the WebView software, managers can identify top talkers, monitor application throughput, performance and packet distribution across the WAN, review acceleration statistics, and create Executive Summary reports that provide a high-level overview of important performance characteristics.

The WX product family includes the WX 15, WX 20, WX 50, WX 60, WX 100, and WX 100 Stack. These platforms support WAN circuit speeds ranging from 64 Kbps to 155 Mbps and support two to 2,000 remote sites each. Multiple communities of WX devices can be configured to support an unlimited number of locations.

## WXOS and WX CMS Software

The WX products run the WX Operating System (WXOS™) software, which provides support for the various elements that comprise the WX Framework. These include Molecular Sequence Reduction™ (MSR™), Packet Flow Acceleration™ (PFA™), Application Flow Acceleration™ (AppFlow™), Quality of Service (QoS), and Policy-based Multipath™. Working together, these features enable the WX products to deliver LAN-like application performance over the WAN.

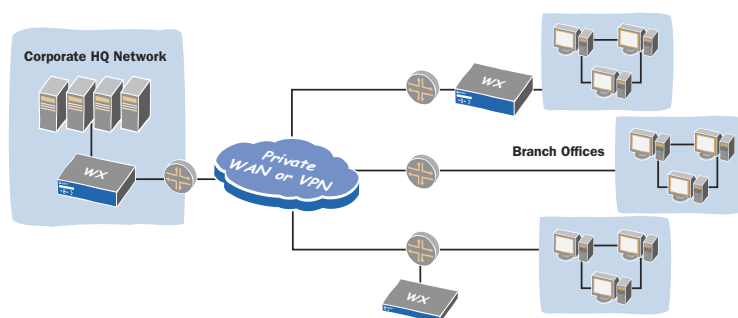
The WXOS software also provides visibility into and control over the WX devices through an embedded WebView feature and the WX Central Management System™ (CMS™) software. The WX CMS software allows IT to monitor application performance across multiple WX and WXC devices, enabling extensive configuration and management capabilities. Individual device monitoring and configuration is accomplished via the WebView device management feature or the command line interface (CLI).

## Easy Installation and Configuration

The WX platforms can be deployed and configured in just 10 minutes using a web-based installation wizard. The WXOS and WX CMS software also enable fully automated configuration; IT simply defines centralized configuration templates and, when remote WX devices boot up, they retrieve a network address via DHCP, locate the CMS software server through the domain name service (DNS), download their configuration file, and begin operation.

The WX products also support a number of redundancy features and configurations, including redundant power supplies, to ensure uninterrupted operation. In the event of any failure, the WX devices automatically convert to hardware bypass mode, allowing traffic to pass through untouched.

The WX platforms operate independently and are transparent to other network devices. WX products can be installed directly inline between a LAN switch and WAN router, or they can be deployed offline attached to an available Ethernet port on the switch or router. The WX devices also work effectively alongside VPN servers, firewalls, and other security devices, where they optimize traffic before it is encrypted.



## Juniper WX Deployment

WX platforms are deployed on the LAN side of the WAN router, supporting flexible deployment options.

## Specifications

Performance	WX 15	WX 20	WX 50	WX 60	WX 100	WX Stack
Total reduction throughput speed	64 Kbps to 1 Mbps	64 Kbps to 2 Mbps	256 Kbps to 20 Mbps	512 Kbps to 20 Mbps	1 Mbps to 20 Mbps	34 Mbps to 155 Mbps
Connections supported	Up to 2	Up to 15	Up to 120	Up to 150	Up to 320	Up to 2,000
Connections						
Number of network interfaces	Two 10/100 copper ports	Two 10/100 copper ports	Two 10/100 copper ports	Two 10/100/1000 copper ports	Two 10/100/1000 copper or LC multimode fiber ports	<b>WX Stack includes 1 WX 100 and up to 6 WX clients (excluding WX 15s and WX 20s)</b>
Cluster ports	N/A	N/A	N/A	N/A	Six 10/100/1000 copper ports	
Power						
Dual, hot-swappable power supplies	No	No	No	No	Yes	
Power requirement	110-240VAC, 47-63Hz, 50 Watts max or 170 BTU/hr.	110-240VAC, 47-63Hz, 150 Watts max or 510 BTU/hr.	110-240VAC, 47-63Hz, 150 Watts max or 510 BTU/hr.	110-240VAC, 47-63Hz, 150 Watts max or 510 BTU/hr.	110-240VAC, 47-63Hz, 250 Watts max or 850 BTU/hr.	
Dimensions and Weight						
Height	1.8 in. (45 mm): 1 rack unit	1.8 in. (45 mm): 1 rack unit	3.44 in. (88 mm): 2 rack units	3.44 in. (88 mm): 2 rack units	3.44 in. (88 mm): 2 rack units	
Width	16 in. (406 mm)	17.1 in. (435 mm)	17.1 in. (435 mm)	17.1 in. (435 mm)	17.1 in. (435 mm)	
Depth	9.5 in. (242 mm)	14.3 in. (363 mm)	16.7 in. (425 mm)	16.7 in. (425 mm)	20.6 in. (524 mm)	
Weight	4 lb. (2 kg)	19 lb. (8.6 kg)	20.2 lb. (9.2 kg)	20.2 lb. (9.2 kg)	30 lb. (13.6 kg)	

## WX Application Acceleration Platform Functions

Product Features	
Protocols supported	Any IP-based traffic (TCP, UDP, etc.)
Security	Optional IPsec encryption
Network Integration	
Inline mode	Installs inline between aggregation switch and edge router
Packet-Interception mode	Direct attachment to router or switch using RIPv2, WCCPv2, or External Mode
Device Management	
SNMP, syslog	SNMPv2c, MIB II, WX Enterprise MIB local syslog
Secure remote access	SSH and HTTPS (SSL)
Authentication, Authorization & Accounting	AAA local database and RADIUS support
WAN and Device Monitoring	
Reduction statistics	Per device, per application, and per destination; by time period
WAN performance statistics	Network latency, loss, and availability for SLA monitoring and enforcement; by time period
WAN throughput statistics	All traffic to and from the WAN, by application, destination and time period
QoS, bandwidth management	Per destination, per traffic class; by time period
Acceleration	Per destination, per application, per traffic class; by time period

## WAN and Device Monitoring (cont'd)

Data export	Packet capture, CSV format, NetFlow v5 records
Application reporting	Detail by IP addresses, port numbers, IP protocol, DSCP/ToS value; greater detail by URL element or Citrix application type, Top Talker reports by application and time period
Executive Summary report	Application Summary, Reduction Summary, Performance Summary, by destination and time period

## High Availability

Fault-tolerant non-stop operation	Automatic bypass mode on any power, hardware, or software failure
Load balancing	Active/active or active/passive, with passive in hot standby mode
Network upgradeable	Via FTP, HTTP, and TFTP

## Operating Environment

Temperature	41° F to 104° F (5° C to 40° C)
Humidity	Less than 90% relative humidity, non-condensing

## Regulations

Emissions	FCC Class A, EN 55022 Class A, EN 61000-3-2, EN 55024 Immunity
Safety	CSA C22.2 No. 950, EN 60950



CORPORATE HEADQUARTERS  
AND SALES HEADQUARTERS  
FOR NORTH AND SOUTH AMERICA  
Juniper Networks, Inc.  
1194 North Mathilda Avenue  
Sunnyvale, CA 94089 USA  
Phone: 888-JUNIPER (888-586-4737)  
or 408-745-2000  
Fax: 408-745-2100  
www.juniper.net

EAST COAST OFFICE  
Juniper Networks, Inc.  
10 Technology Park Drive  
Westford, MA 01886-3146 USA  
Phone: 978-589-5800  
Fax: 978-589-0800

ASIA PACIFIC REGIONAL  
SALES HEADQUARTERS  
Juniper Networks (Hong Kong) Ltd.  
Suite 2507-11, Asia Pacific Finance Tower  
Citibank Plaza, 3 Garden Road  
Central, Hong Kong  
Phone: 852-2332-3636  
Fax: 852-2574-7803

EUROPE, MIDDLE EAST, AFRICA  
REGIONAL SALES HEADQUARTERS  
Juniper Networks (UK) Limited  
Juniper House  
Guildford Road  
Leatherhead  
Surrey, KT22 9JH, U. K.  
Phone: 44(0)1372-385500  
Fax: 44(0)1372-385501

Copyright 2005, Juniper Networks, Inc. All rights reserved.  
Juniper Networks and the Juniper Networks logo are registered trademarks of Juniper Networks, Inc. in the United States and other countries. All other trademarks, service marks, registered trademarks, or registered service marks in this document are the property of Juniper Networks or their respective owners. All specifications are subject to change without notice. Juniper Networks assumes no responsibility for any inaccuracies in this document or for any obligation to update information in this document. Juniper Networks reserves the right to change, modify, transfer, or otherwise revise this publication without notice.