



New Intel X520 Dual Port 10 GbE SFP+ Embedded Adapter for IBM System x delivers next-generation networking features

Table of contents

1 Overview	3 Publications
1 Key prerequisites	3 Technical information
1 Planned availability date	5 Terms and conditions
2 Description	5 Prices
2 Product number	

At a glance

Intel™ X520 Dual Port 10 GbE SFP+ Embedded Adapter for IBM® System x®

The Intel X520 Dual Port 10 GbE SFP+ Embedded Adapter for IBM System x is powered by an Intel Ethernet 82599 third-generation 10 Gb Ethernet Controller. This card offers full line-rate 10 Gbps performance for high-IO intensive clients, and showcases the next generation in 10 GbE networking features for the enterprise network and data center. This adapter uses IBM System x Mezzanine design, which does not use a PCIe slot.

Overview

Intel X520 Dual Port 10 GbE SFP+ Embedded Adapter for IBM System x

The new Intel Ethernet X520 Dual Port Adapter provides great networking performance, whether as a standard NIC, or with the physical port configured in an emulation mode using the virtual switch in the Virtual Machine Monitor (VMM), or directly assigned to a virtual machine. In the emulation mode, the Intel I/O technology and Virtual Machine Device Queues (VMDq) optimize network performance by offloading data sorting and copying from the software Virtual Switch in the VMM to the Intel Ethernet 82599 10-Gigabit Controller.

Feature exchange

None

Key prerequisites

For prerequisites, refer to the System x ServerProven® Plan at

<http://www-03.ibm.com/systems/info/x86servers/serverproven/compat/us/xseries/lan/matrix.html>

Planned availability date

December 15, 2012

Description

Intel X520 Dual Port 10 GbE SFP+ Embedded Adapter for IBM System x

Designed for multicore processors, the X520 Embedded adapter provides high-performance, 10-Gigabit connectivity in multicore servers. This adapter also supports technologies such as multiple queues, receive-side scaling, multiple MSI-X vectors, and Low Latency Interrupts. These technologies distribute network processing across multiple CPU cores, improving overall performance.

Features and functions:

- Based on Intel X520 2-port 10 GbE technology
- PCI Express® 2.0 Gen 2 x8 for both 2.5 GT/s and 5 GT/s
- PCI-e mezzanine card form factor for System x EP systems
- Two 10 Gb SFP+ housing cages
- Intel Virtual Technology (VT) with I/OAT and VMDq
- Support for:
 - SFP+ Short Range (SR) optical transceiver connection
 - SFP+ Direct Attach Copper (DAC) Twin-Ax connection
 - SFP+ DAC for both active DAC and passive DAC
 - IPv4/IPv6, MSI/MSI-X, GSO, TSO, LRO, RSS
 - Wake on LAN
 - NCSI
 - iSCSI software initiator as a NIC
 - Jumbo Frames
 - Both UEFI and legacy PXE boot
- One-year limited warranty

Product number

The following are features already announced for the 3331, 7912, 7914, 7915 machine types:

Description	MT	Model	Feature
Intel X520 Dual Port 10GbE SFP+ Embedded Adapter for IBM System x	3331	HC1	A3JS
Intel X520 Dual Port 10GbE SFP+ Embedded Adapter for IBM System x	7912	AC1 MC1	
Intel X520 Dual Port 10GbE SFP+ Embedded Adapter for IBM System x	7914	AC1 MC1	
Intel X520 Dual Port 10GbE SFP+ Embedded Adapter for IBM System x	7915	AC1 MC1	

Options:

Description	SEO number
Intel X520 Dual Port 10GbE SFP+ Embedded Adapter for IBM System x	49Y7980

Business Partner information

If you are a Direct Reseller - System Reseller acquiring products from IBM , you may link directly to Business Partner information for this announcement. A PartnerWorld® ID and password are required (use IBM ID).

<https://www.ibm.com/partnerworld/mem/sla.jsp?num=112-209>

Publications

None

Services

Global Technology Services

IBM services include business consulting, outsourcing, hosting services, applications, and other technology management.

These services help you learn about, plan, install, manage, or optimize your IT infrastructure to be an on-demand business. They can help you integrate your high-speed networks, storage systems, application servers, wireless protocols, and an array of platforms, middleware, and communications software for IBM and many non-IBM offerings. IBM is your one-stop shop for IT support needs.

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For details on education offerings related to specific products, visit

<http://www.ibm.com/services/learning/index.html>

Select your country, and then select the product as the category.

Technical information

Specified operating environment

Physical specifications

Environmental requirements

- Operating temperature: 0°C to +55°C
- Storage temperature: -20°C to +65°C
- Shipping conditions: -20°C to +70°C
- Air flow requirement (LFPM): 45 minimum
- Wet bulb (max): 27°C
- Relative humidity (operating/nonoperating): 10% to 90%
- Relative humidity (shipping): 5% to 95%, no condensation
- Relative humidity (storage): 5% to 80%
- Maximum dew point (operating): 21°C
- Maximum operating altitude: 7,000 feet or 2,134 meters

- Vibration and shock: IEC 68, FCC Part 68.302, NSTA, 1A
- Electrostatic/electromagnetic susceptibility: IEC 801-2, IEC 801-3, IEC 801-4, and IEC 801-5

Standards

Agency Approvals

- EN55022
- EN55024
- EN 61000-3-2
- EN 61000-3-3
- ICES-003, Issue 5
- FCC 47 CFR Part 15 Class A
- VCCICB Scheme
- AS/NZS CISPR 22 / C-tick
- RRL for KC
- BSMI2 950-95
- EN60950-1
- IEC 60950-1 / C-tick
- UL/CSA C22.2 60950-1
- UL 94V0 Flame Rating
- EN 60825-1 (If SFP+ optical transceiver is included)

Software requirements

The following network operating systems have been tested for compatibility with the Intel X520 Dual Port 10 GbE SFP+ Embedded Adapter for IBM System x .

Network operating systems

- Microsoft™
 - Windows™ Server 2012
 - Microsoft Windows Server 2008 R2
 - Microsoft Windows Server 2008 DC, Datacenter x64 Edition
 - Microsoft Windows Server 2008 EE, Enterprise x64 Edition
 - Microsoft Windows Server 2008 Web, Enterprise x64 Edition
 - Microsoft Windows Server 2008 Standard, Enterprise x64 Edition
 - Microsoft Windows Server 2008 DC, Datacenter x86 Edition
 - Microsoft Windows Server 2008 EE, Enterprise x86 Edition
 - Microsoft Windows Server 2008 Web, Enterprise x86 Edition
 - Microsoft Windows Server 2008 Standard, Enterprise x86 Edition
 - Microsoft Windows Small Business Server 2008 PE, Premium x64 Edition
 - Microsoft Windows Small Business Server 2008 SE, Standard x64 Edition
- Linux™
 - SUSE Linux Enterprise Server 10 for AMD64/EM64T
 - SUSE Linux Enterprise Server 11 for AMD64/EM64T
 - SUSE Linux Enterprise Server 11 for x86
 - SUSE Linux Enterprise Server 11 with Xen for AMD64/EM64T
- Red Hat
 - Red Hat Enterprise Linux 5 Server with Xen x64 Edition
 - Red Hat Enterprise Linux 5 Server x64 Edition

- Red Hat Enterprise Linux 6 Server x64 Edition
- Red Hat Enterprise Linux 6 Server Edition
- VMware
 - VMware ESX 4.1
 - VMware ESXi 4.1
 - VMware vSphere 5
 - VMware vSphere 5.1

Note: For information on additional support, certification, and versions of network operating systems, visit

<http://www.ibm.com/servers/eserver/serverproven/compat/us/>

IBM makes no representation or warranty regarding third-party products, including those designated as ServerProven .

Planning information

Cable orders

None

Security, auditability, and control

The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communications facilities.

Terms and conditions

Warranty period

One year.

An IBM part or feature installed during the initial installation of an IBM machine is subject to a full warranty effective on the date of installation of the machine. An IBM part or feature which replaces a previously installed part or feature assumes the remainder of the warranty period for the replaced part or feature. An IBM part or feature added to a machine without replacing a previously installed part or feature is subject to a full warranty effective on its date of installation. Unless specified otherwise, the warranty period, type of warranty service and service level of a part or feature is the same as the machine it is installed in.

IBM hourly service rate classification

One

Customer setup

Yes

Machine code

No. All other terms and conditions are the same as those applicable to the IBM machine type in which the feature is installed.

Prices

For current prices, contact IBM at 888-Shop-IBM (746-7426) or visit

To locate the web price, search on the feature number in the Search field.

The following are features already announced for the 3331 machine type:

Description	Model Number	Feature Number	Initial/MES/Both/Support
Intel X520 Dual Port 10GbE SFP+ Embedded Adapter for IBM System x	HC1	A3JS	MES

The following are features already announced for the 7912 machine type:

Description	Model Number	Feature Number	Initial/MES/Both/Support
Intel X520 Dual Port 10GbE SFP+ Embedded Adapter for IBM System x	AC1 MC1	A3JS	Initial Initial

The following are features already announced for the 7914 machine type:

Description	Model Number	Feature Number	Initial/MES/Both/Support
Intel X520 Dual Port 10GbE SFP+ Embedded Adapter for IBM System x	AC1 MC1	A3JS	Initial Initial

The following are features already announced for the 7915 machine type:

Description	Model Number	Feature Number	Initial/MES/Both/Support
Intel X520 Dual Port 10GbE SFP+ Embedded Adapter for IBM System x	AC1 MC1	A3JS	Initial Initial

Option SEOs

Description	SEO Number	Initial/MES/Both/Support	CSU
Intel X520 Dual Port 10GbE SFP+ Embedded Adapter for IBM System x	49Y7980	Both	Yes

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