



Intel X540-T2 Dual Port 10GBaseT Adapter for IBM System x delivers next-generation networking features

Table of contents

1 Overview	4 Publications
2 Key prerequisites	4 Technical information
2 Planned availability date	6 Terms and conditions
2 Description	6 Pricing
2 Product number	

At a glance

The Intel™ X540-T2 Dual Port 10GBaseT Adapter for IBM® System x® offers:

- 10 Gigabit Ethernet (10GbE) performance for the entire datacenter
- Standard CAT-6a and CAT-5e cabling with RJ45 connectors
- Backward compatibility with existing 1000BASE-T networks to simplify the transition to 10GbE
- Flexible I/O virtualization for port partitioning and Quality of Service (QoS) of up to 32 virtual ports
- The industry's first dual-port 10GBASE-T adapter offering a single-chip solution with integrated MAC + PHY
- Reliable and proven 10 Gigabit Ethernet technology from Intel Corporation

Overview

Features of the Intel X540-T2 Dual Port 10GBaseT Adapter for IBM System x include:

- PCI Express® 2.0 Gen 2 x8 for both 2.5 GT/s and 5 GT/s
- Standard PCIe low-profile card form factor
- Adapter mounted with a 3U bracket
- A loose 2U bracket also available in the option package
- 2 x 10Gb BASE-T (RJ45) connector ports
- Intel Virtual Technology (VT) with I/OAT and VMDq
- One-year limited warranty
- 10Gb Ethernet 802.3ae compliance
- Support for:
 - IPv4/IPv6, MSI/MSI-X, GSO, TSO, LRO, and RSS
 - Jumbo Frames
 - Both UEFI and legacy PXE boot
 - TCP/IP/UDP checksum offload (TCO)
 - Large Receive Offload (LRO) and Receive Sides Scaling (RSS)
 - VLAN and 802.1Q vLAN tagging
 - PXE boot for both legacy and UEFI for IPv4

- iSCSI and iSCSI boot as a software iSCSI initiator
- IEEE 802.1Q VLAN Tags
- IEEE 802.1p Priority Encoding
- Quality of Service (QoS)

Key prerequisites

For prerequisites, see the System x ServerProven® Plan at

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

Planned availability date

May 31, 2012

Description

Intel X540-T2 Dual Port 10GBaseT Adapter for IBM System x

The adapter has the following features:

- PCI Express 2.0 Gen 2 x8 for both 2.5 GT/s and 5 GT/s
- Standard PCIe low-profile card form factor
- Adapter mounted with a 3U bracket
- A loose 2U bracket also available in the option package
- 2 x 10Gb BASE-T (RJ45) connector ports
- Intel Virtual Technology (VT) with I/OAT and VMDq
- One-year limited warranty
- 10Gb Ethernet 802.3ae compliance
- Support for:
 - IPv4/IPv6, MSI/MSI-X, GSO, TSO, LRO, and RSS
 - Jumbo Frames
 - Both UEFI and legacy PXE boot
 - TCP/IP/UDP checksum offload (TCO)
 - Large Receive Offload (LRO) and Receive Sides Scaling (RSS)
 - VLAN and 802.1Q vLAN tagging
 - PXE boot for both legacy and UEFI for IPv4
 - iSCSI and iSCSI boot as a software iSCSI initiator
 - IEEE 802.1Q VLAN Tags
 - IEEE 802.1p Priority Encoding
 - Quality of Service (QoS)

Product number

The following features are already announced for the 2582, 2583, 3331, 6391, 7143, 7145, 7147, 7327, 7328, 7376, 7377, 7378, 7379, 7380, 7383, 7914, 7915, 7944, and 7945 machine types:

Description	MT	Model	Feature
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	2582	AC1 MC1	A2ED
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	2583	AC1 MC1	
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	3331	HC1	
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	6391	AC1	
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	7143	AC1 MC1	
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	7145	AC1 AC3 AC4 MC1 MC3 MC4	
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	7147	AC1 MC1	
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	7328	AC1 MC1	
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	7376	AC1 MC1	
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	7377	AC1 MC1	
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	7378	AC1 MC1	
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	7379	AC1 MC1	
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	7380	AC1 MC1	
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	7383	AC1 MC1	
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	7915	AC1 MC1	
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	7944	AC1 MC1	
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	7945	AC1 MC1	
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	7914	AC1 MC1	

The following feature is already announced for the 7327 machine type:

Description	MT	Model	Feature
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	7327	AC1 MC1	
Options:			
Description		SEO number	
Intel X540-T2 Dual Port 10Gbaset		49Y7970	

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.

For details on available services, contact your IBM representative or visit

<http://www.ibm.com/services/>

For details on available IBM Business Continuity and Recovery Services, contact your IBM representative or visit

<http://www.ibm.com/services/continuity>

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° to +55°C
- Storage temperature: -20° to +65°C
- Shipping conditions: -20° to +70°C
- Air flow requirement (LFPM): 45 minimum
- Wet bulb (maximum): 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 degrees 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, -3, -4, and -5

Standards

Agency Approvals

- EN55022
- EN55024
- EN60950 / CE
- EN 61000-3-2
- EN 61000-3-3
- ICES-003, Issue-004
- IEC 950 CB Scheme
- FCC 47 CFR Part 15 Class A
- UL 1950
- CSA C22.2 950-95
- VCCI
- AS/NZS CISPR 22 / C-tick
- RRL for KC
- BSMI
- UL 94-/V

Software requirements

The following network operating systems have been tested for compatibility with the Intel X540-T2 Dual Port 10GBaseT Adapter for IBM System x.

Network operating systems

- Microsoft™
 - Windows™ Server 2008 x86 (all versions)
 - Windows Server 2008 x64 (all versions)
 - Windows Server 2008 R2 x64 (all versions)
 - Windows PE 3.1 and 2.1 x86 / x64
- Linux™
 - RHEL5 for x86, x64
 - RHEL6 for x86, x64
 - SLES10 for x86, x64
 - SLES11 for x86, x64

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

This option assumes the same warranty or maintenance terms as the machine in which it is installed for the remainder of the warranty or maintenance period for such machine.

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.

Pricing

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

<http://www-03.ibm.com/systems/ca/en/x/>

The following feature is already announced for the 2582 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU MES
Intel X540-T2 Dual Port 10GbBaseT Adapter for IBM System x	AC1 MC1	A2ED	Initial Initial	

The following feature is already announced for the 2583 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU MES
Intel X540-T2 Dual Port 10GbBaseT Adapter for IBM System x	AC1 MC1	A2ED	Initial Initial	

The following feature is already announced for the 3331 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU MES
Intel X540-T2 Dual Port 10GbBaseT Adapter for IBM System x	HC1	A2ED	MES	

The following feature is already announced for the 6391 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU	MES
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	AC1	A2ED	Initial		

The following feature is already announced for the 7143 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU	MES
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	AC1 MC1	A2ED	Initial Initial		

The following feature is already announced for the 7145 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU	MES
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	AC1 AC3 AC4 MC1 MC3 MC4	A2ED	Initial Initial Initial Initial Initial Initial		

The following feature is already announced for the 7147 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU	MES
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	AC1 MC1	A2ED	Initial Initial		

The following feature is already announced for the 7327 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU	MES
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	AC1 MC1	A2ED	Initial Initial		

The following feature is already announced for the 7328 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU	MES
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x					

AC1	A2ED	Initial
MC1		Initial

The following feature is already announced for the 7376 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU MES
Intel X540-T2 Dual Port 10GbASET Adapter for IBM System x	AC1 MC1	A2ED	Initial Initial	

The following feature is already announced for the 7377 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU MES
Intel X540-T2 Dual Port 10GbASET Adapter for IBM System x	AC1 MC1	A2ED	Initial Initial	

The following feature is already announced for the 7378 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU MES
Intel X540-T2 Dual Port 10GbASET Adapter for IBM System x	AC1 MC1	A2ED	Initial Initial	

The following feature is already announced for the 7379 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU MES
Intel X540-T2 Dual Port 10GbASET Adapter for IBM System x	AC1 MC1	A2ED	Initial Initial	

The following feature is already announced for the 7380 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU MES
Intel X540-T2 Dual Port 10GbASET Adapter for IBM System x	AC1 MC1	A2ED	Initial Initial	

The following feature is already announced for the 7383 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU MES
Intel X540-T2 Dual Port 10GbASET Adapter for IBM System x	AC1	A2ED	Initial	

MC1 Initial

The following feature is already announced for the 7914 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU MES
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	AC1 MC1	A2ED	Initial Initial	

The following feature is already announced for the 7915 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU MES
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	AC1 MC1	A2ED	Initial Initial	

The following feature is already announced for the 7944 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU MES
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	AC1 MC1	A2ED	Initial Initial	

The following feature is already announced for the 7945 machine type:

Description	Model number	Feature number	Initial/ MES/ Both support	RP CSU MES
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	AC1 MC1	A2ED	Initial Initial	

Option SEOs

Description	SEO number	Initial/ MES/ Both support	CSU
Intel X540-T2 Dual Port 10Gbaset Adapter for IBM System x	49Y7970	Both	Yes

Trade-marks

Intel is a trade-mark of Intel Corporation or its subsidiaries in the United States and other countries.

IBM, System x, Express and ServerProven are registered trade-marks of IBM Corporation in the United States, other countries, or both.

Microsoft and Windows are trade-marks of Microsoft Corporation in the United States, other countries, or both.

Linux is a registered trade-mark of Linus Torvalds in the United States, other countries, or both.

Other company, product, and service names may be trade-marks or service marks of others.

™ Trade-mark owned by International Business Machines Corporation and is used under license by IBM Canada Ltd.

® Registered trade-mark of International Business Machines Corporation and is used under license by IBM Canada Ltd.

(**) Company, product or service name may be a trade-mark or service mark of others.

Terms of use

IBM products and services which are announced and available in your country can be ordered under the applicable standard agreements, terms, conditions, and prices in effect at the time. IBM reserves the right to modify or withdraw this announcement at any time without notice. This announcement is provided for your information only. Additional terms of use are located at:

<http://www.ibm.com/legal/us/en/>

For the most current information regarding IBM products, consult your IBM representative or reseller, or visit the IBM worldwide contacts page

<http://www.ibm.com/planetwide/ca/>