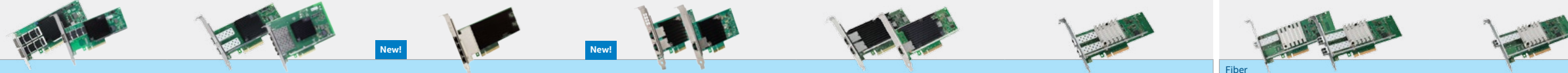


## 10/40GbE for Servers and Workstations



	Copper						Fiber	
<b>Brand Name</b>	Intel® Ethernet Converged Network Adapter XL710-QDA1 & XL710-QDA2	Intel® Ethernet Converged Network Adapter X710-DA2 & X710-DA4FH	Intel® Ethernet Converged Network Adapter X710-T4	Intel® Ethernet Converged Network Adapter X550 Series	Intel® Ethernet Converged Network Adapter X540 Series	Intel® Ethernet Converged Network Adapter X520-DA2	Intel® Ethernet Converged Network Adapter X520-SR1 & X520-SR2	Intel® Ethernet Converged Network Adapter X520-LR1
<b>Product Code(s)</b>	XL710QDA1, XL710QDA1BLK XL710QDA2, XL710QDA2BLK	X710DA2, X710DA2BLK X710DA4FH, X710DA4FHBLK	X710T4 X710T4BLK	X550T1, X550T1BLK X550T2, X550T2BLK	X540T1, X540T1BLK X540T2, X540T2BLK	E10G42BTDA E10G42BDTABLK	E10G41BFSR, E10G41BFSRBLK E10G42BFSR, E10G42BFSRBLK	E10G41BFLR E10G41BFLRBLK
<b>Intel® Ethernet Controller</b>	XL710	X710	XL710 X557	X550	X540	82599ES	82599ES	82599ES
<b>Connector &amp; Cable Medium</b>	QSFP+ Direct Attach Copper	SFP+ Direct Attach Copper	RJ-45 Copper	RJ-45 Copper	RJ-45 Copper	SFP+ Direct Attach Copper	LC Fiber Optic	LC Fiber Optic
<b>Cabling Type</b>	QSFP+ Direct Attach Twinaxial Cabling up to 10 m	SFP+ Direct Attach Twinaxial Cabling up to 10 m	Category 6 up to 55 m Category 6A up to 100 m	Category 6 up to 55 m Category 6A up to 100 m	Category 6 up to 55 m Category 6A up to 100 m	SFP+ Direct Attach Twinaxial Cabling up to 10 m	MMF 62.5/50 µm up to 300 m	SMF up to 10 km
<b>Slot Type, Maximum Bus Speed &amp; Slot Width</b>	PCI Express® 3.0 8.0 GT/s, x8 Lane	PCI Express® 3.0 8.0 GT/s, x8 Lane	PCI Express® 3.0 8.0 GT/s, x8 Lane	PCI Express® 3.0 8.0 GT/s, x4 Lane Operable in x8 and x16 slots	PCI Express® 2.1 5.0 GT/s, x8 Lane	PCI Express® 2.0 5.0 GT/s, x8 Lane	PCI Express® 2.0 5.0 GT/s, x8 Lane	PCI Express® 2.0 5.0 GT/s, x8 Lane
<b>Connection Speed</b>	10GbE / 40GbE	1GbE / 10GbE	100Mb / 1GbE / 10GbE	100Mb / 1GbE / 10GbE	100Mb / 1GbE / 10GbE	1GbE / 10GbE	1GbE / 10GbE	1GbE / 10GbE
<b>Ports</b>	Single and Dual Port	Dual and Quad Port	Quad Port	Single and Dual Port	Single and Dual Port	Dual Port	Single and Dual Port	Single Port
<b>Supported Slot Height(s)</b>	Low Profile and Full Height	Low Profile (DA2 only) and Full Height	Low Profile and Full Height	Low Profile and Full Height	Low Profile and Full Height	Low Profile and Full Height	Low Profile and Full Height	Low Profile and Full Height
<b>Intelligent Offloads</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Server Virtualization</b>	On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable	On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable	On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable	On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable	On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable	On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable	On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable	On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable
<b>Network Virtualization Acceleration</b>	VXLAN, NVGRE, Geneve	VXLAN, NVGRE, Geneve	VXLAN, NVGRE	VXLAN, NVGRE	VXLAN, NVGRE	VXLAN	VXLAN	VXLAN
<b>Optimized for Intel® Data Plane Development Kit (DPDK)¹ &amp; Intel® Ethernet Flow Director</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Storage over Ethernet</b>	iSCSI, NFS, SMB	iSCSI, NFS, SMB	iSCSI, FCoE, NFS, SMB	iSCSI, FCoE, NFS, SMB	iSCSI, FCoE, NFS, SMB	iSCSI, FCoE, NFS, SMB	iSCSI, FCoE, NFS, SMB	iSCSI, FCoE, NFS, SMB
<b>Accessory Options</b>	Intel® Ethernet QSFP+ Twinaxial Cables Intel® Ethernet QSFP+ Breakout Cables Intel® Ethernet QSFP+ Optics	Intel® Ethernet SFP+ Twinaxial Cables Intel® Ethernet SFP+ Optics	N/A	N/A	N/A	Intel® Ethernet SFP+ Twinaxial Cables Intel® Ethernet SFP+ Optics	Intel® Ethernet SFP+ Twinaxial Cables Intel® Ethernet SFP+ Optics Single Port: Ships with Qty 1 E10GSFSPR Dual Port: Ships with Qty 2 E10GSFSPR	Intel® Ethernet SFP+ Twinaxial Cables Intel® Ethernet SFP+ Optics Ships with Qty 1 E10GSFPLR

### INTEL® ETHERNET 10/40GbE ACCESSORIES

**Intel® Ethernet SFP+ Twinaxial Cables**  
SFP+ to SFP+ copper direct attach cable  
XDACBL1M = 1 Meter  
XDACBL3M = 3 Meter  
XDACBL5M = 5 Meter

**Intel® Ethernet SFP+ Optics**  
E10GSFSPR = SFP+ SR Optic  
E10GSFPLR = SFP+ LR Optic

**Intel® Ethernet QSFP+ Optics**  
E40GSFSPR = QSFP+ SR Optic  
E40GSFPLR = QSFP+ LR Optic

**Intel® Ethernet QSFP+ Twinaxial Cables**  
QSFP+ to QSFP+ copper direct attach cable  
XLDACBL1 = 1 Meter  
XLDACBL3 = 3 Meter  
XLDACBL5 = 5 Meter

**Intel® Ethernet QSFP+ Breakout Cables**  
QSFP+ to (4) SFP+ copper direct attach breakout cable  
X4DACBL1 = 1 Meter  
X4DACBL3 = 3 Meter  
X4DACBL5 = 5 Meter

Customer may remove optics as needed.

## 1GbE for Servers and Workstations



	Copper						Fiber				Copper
<b>Brand Name</b>	Intel® Ethernet Server Adapter I210-T1	Intel® Ethernet Server Adapter I350-T4	Intel® Ethernet Server Adapter I350-T2	Intel® Ethernet Server Adapter I340-T4	Intel® Gigabit ET Dual Port Server Adapter	Intel® Gigabit ET2 Quad Port Server Adapter	Intel® Ethernet Server Adapter I350-F2	Intel® Ethernet Server Adapter I350-F4	Intel® Ethernet Server Adapter I340-F4	Intel® Gigabit EF Dual Port Server Adapter	Intel® Gigabit CT Desktop Adapter
<b>Product Code(s)</b>	I210T1 I210T1BLK	I350T4V2 I350T4V2BLK	I350T2V2 I350T2V2BLK	E1G44HT E1G44HTBLK	E1G42ET E1G42ETBLK	E1G44ET2 E1G44ET2BLK	I350F2 I350F2BLK	I350F4 I350F4BLK	E1G44HF E1G44HFBK	E1G42EF E1G42EFBLK	EXPI9301CT EXPI9301CTBLK
<b>Intel® Ethernet Controller</b>	I210	I350	I350	82580	82576	82576	I350	I350	82580	82576	82574
<b>Connector &amp; Cable Medium</b>	RJ-45 Copper Twisted Pair	RJ-45 Copper Twisted Pair	RJ-45 Copper Twisted Pair	RJ-45 Copper Twisted Pair	RJ-45 Copper Twisted Pair	RJ-45 Copper Twisted Pair	LC Fiber Optic	LC Fiber Optic	LC Fiber Optic	LC Fiber Optic	RJ-45 Copper Twisted Pair
<b>Cabling Type</b>	Category 5 up to 100 m	Category 5e up to 100 m	Category 5e up to 100 m	Category 5e up to 100 m	Category 5e up to 100 m	Category 5e up to 100 m	MMF 62.5 µm up to 275 m MMF 50 µm up to 550 m	MMF 62.5 µm up to 275 m MMF 50 µm up to 550 m	MMF 62.5 µm up to 275 m MMF 50 µm up to 550 m	MMF 62.5 µm up to 275 m MMF 50 µm up to 550 m	Category 5e up to 100 m
<b>Slot Type, Maximum Bus Speed &amp; Slot Width</b>	PCI Express® 2.1 2.5 GT/s, x1 Lane	PCI Express® 2.1 5 GT/s, x4 Lane	PCI Express® 2.1 5 GT/s, x4 Lane	PCI Express® 2.0 5 GT/s, x4 Lane	PCI Express® 2.0 2.5 GT/s, x4 Lane	PCI Express® 2.0 2.5 GT/s, x4 Lane	PCI Express® 2.1 5 GT/s, x4 Lane	PCI Express® 2.1 5 GT/s, x4 Lane	PCI Express® 2.0 5 GT/s, x4 Lane	PCI Express® 2.0 2.5 GT/s, x4 Lane	PCI Express® 1.1 2.5 GT/s, x1 Lane
<b>Ports</b>	Single Port	Quad Port	Dual Port	Quad Port	Dual Port	Quad Port	Dual Port	Quad Port	Quad Port	Dual Port	Single Port
<b>Supported Slot Height(s)</b>	Low Profile and Full Height	Low Profile and Full Height	Low Profile and Full Height	Low Profile and Full Height	Low Profile and Full Height	Low Profile and Full Height	Low Profile and Full Height	Full Height	Full Height	Low Profile and Full Height	Low Profile and Full Height
<b>Halogen Free</b>	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Intelligent Offloads</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A
<b>Intel® Virtualization Technology for Connectivity</b>	Includes Audio-Video Bridging (AVB) Support (802.1Qav)	On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable	On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable	On-chip QoS and Traffic Management, Virtual Machine Device Queues (VMDq)	On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable	On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable	On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable	On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable	On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq)	On-chip QoS and Traffic Management, Flexible Port Partitioning, Virtual Machine Device Queues (VMDq), PCI-SIG® SR-IOV capable	N/A
<b>Storage over Ethernet</b>	iSCSI, NFS, SMB	iSCSI, NFS, SMB	iSCSI, NFS, SMB	iSCSI, NFS, SMB	iSCSI, NFS, SMB	iSCSI, NFS, SMB	iSCSI, NFS, SMB	iSCSI, NFS, SMB	iSCSI, NFS, SMB	iSCSI, NFS, SMB	iSCSI, NFS, SMB
<b>Intel® Ethernet Power Management²</b>	Yes	Yes	Yes	N/A	N/A	N/A	Yes	Yes	N/A	N/A	N/A

1. More about the Intel® Data Plane Development Kit (DPDK) at <http://intel.ly/1nCLdxc>  
2. Intel® Ethernet Power Management includes Energy Efficient Ethernet (EEE) and DMA Coalescing.

# Intel® Ethernet Converged Network and Server Adapters

## Reliable Performance

- Broad OS support
- Optimized for Intel® architecture
- Advanced traffic steering using Intel® Ethernet Flow Director

## Best Choice for Virtualization

- Outstanding virtualization performance with Intel® Virtualization Technology for Connectivity
- Network virtualization offloads for VXLAN, NVGRE & Geneve
- Leadership in virtual system scalability with Intel® Flexible Port Partitioning (FPP) & intelligent offload
- Broad hypervisor support (VMware ESXi\*, Microsoft Hyper-V\*, and Linux\* KVM & Xen Project\*)

## Unified Networking

- Full line of 10/40GbE converged network adapters
- Fibre Channel over Ethernet
- iSCSI with trusted, native OS support
- Support for data center bridging with lossless Ethernet

## Platform Optimization

- Integrated PCI Express\*
- Optimized for Intel® Data Plane Development Kit (DPDK)
- Built-in Intel® Direct Data I/O Technology

**Compatibility tested** for trouble-free interoperability with network infrastructure elements.

**Broad selection** from 1GbE to 40GbE for copper or fiber and from BASE-T to SFP+ and QSFP+, with network reach from 1 meter to 10 kilometers, in single- to quad-port configurations. Other form factors, including custom LAN on Motherboard (LOM), mezzanine cards, and express modules, are also available through your local OEM and reseller.

Intel also offers a wide variety of 10/40GbE network accessories. Combine these with Intel® Ethernet adapters for dependable interoperability and consistent bottleneck-free performance across the network.

**Performance and reliability** backed by more than 30 years of network connectivity experience and Intel's worldwide customer support.

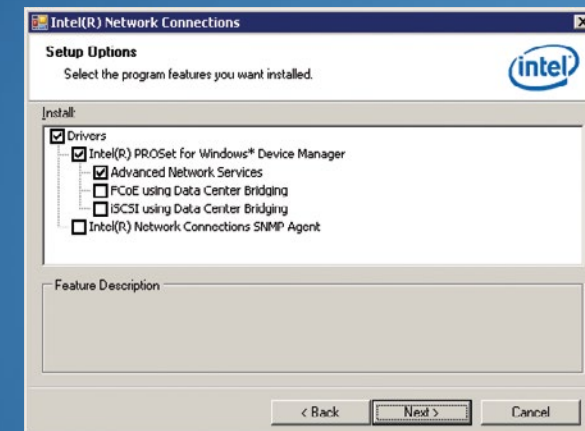
**Easy installation and management** with Advanced Network Services (ANS), Intel® PROSet for Windows\* Device Manager, and other tools.

**Worldwide availability** and environmental responsibility for compliance with global market requirements.

# Quick and Easy Converged Network and Server Adapter Management

Powerful point-and-click configuration tool for advanced adapter features, connection teaming, DCB, and VLANs with Intel® PROSet for Windows\* Device Manager.

- Convenient access to Intel® PROSet utility is now integrated in Windows Device Manager.
- Simple, integrated tools make it easy to manage and troubleshoot Ethernet connections in both servers and client computers.
- Multi-vendor teaming is supported for adapter compatibility with most on-board connections.



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with Intel® Ethernet.

[intel.com/ethernet](http://intel.com/ethernet)



# INTEL® ETHERNET CONVERGED NETWORK AND SERVER ADAPTERS

## PRODUCT SELECTION GUIDE

