

# Intel<sup>®</sup> IP Network Server NSC2U

Configuration Guide System / Spares / Accessories List

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March 2008  
Rev 2.2

Reference guide to assist customers and the field in ordering the servers,  
accessories and spares

**~Subject to Change Without Notice~**

March 2008

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## Revision History

Revision	Date	Comments
1.0	June 2007	Initial Production version
2.0	March 2008	Updated to reflect added support for Xeon 5400 processor series; updates to spares section; format/structure changes.
2.1	March 2008	Includes ordering details for L5410 processor (NDA).
2.2	March 2008	Updated for public availability of L5410 processor support.

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# I. Introduction

## Product Description:

The Intel® IP Network Server NSC2U system is the second generation product of 2U Intel® IP Network Server products, having long product life and 20-inch depth chassis. This server combines network port density and processor performance in a compact 2U package. The NSC2U supports a number of processor speeds for the Quad-Core Intel® Xeon® 5300 and 5400 series processors, coupling high performance with power efficiency to provide improved performance-per-watt over previous-generation rack-mount servers. The NSC2U also supports a number of processor speeds for the Dual-Core Intel® Xeon® 5100 series processors.

The NSC2U is an excellent choice for network data applications with large I/O requirements, while providing extended lifecycle support, DC power capabilities, compact form factor, and the ruggedness found on carrier-grade servers. Ideal for network security, it is an excellent choice for intrusion detection/intrusion prevention, VPN/firewall, and unified threat management solutions. In addition, it is a valuable platform for running Telco SoIP, including IMS, IPTV, Video on Demand (VoD), SIP application servers, IP-PBX, and IP-PSTN Gateways. Other network applications well-suited for this platform are enterprise application acceleration and content caching.

More product information is available at the following websites:

### NSC2U Product Overview:

<http://www.intel.com/design/telecom/products/cbp/ipserver/NSC2U/overview.htm>

### NSC2U Product Support:

<http://www.intel.com/support/telecom/computeboards/nsc2u/>

## Purpose of this Document:

This document provides details on what parts are available for ordering of the Intel® IP Network Server NSC2U production systems. This includes PID and MM# information for System SKUs, Accessories & Spares, as well as other Intel parts that are supported by the NSC2U product.

Supported third-party components are not covered by this document, and may be found in the Tested Hardware and Operating System List (THOL) for this product.

## II. Production System SKUs

The NSC2U Production System SKUs that can be ordered are listed below:

Product Identification Code	Description	MM#	Min. Order Qty.
NSCA0201W	Intel® IP Network Server NSC2U, Base Model 0 with <b>AC Power Supply</b>	889358	1
NSCD0201W	Intel® IP Network Server NSC2U, Base Model 0 with <b>DC Power Supply</b>	889357	1

See the **NSC2U Base Model 0 Configuration** table further down in this section for a list of components included in each base model 0 SKU.

Production SKUs are offered as either an AC or DC version. The Product Identification code, or PID, of all SKUs contains either the letter "A" for AC or "D" for DC as the 4<sup>th</sup> digit of the PID.

Both Production SKUs are base model 0 SKUs, (no processor, heatsink, memory, hard drive, power cord, operating system, or plug-in adapters are provided). Those components must be ordered separately as Accessories from Intel or from third party vendors listed in the Tested Hardware and Operating System List (THOL).

Power Cords are not included with the Mod 0 system. For AC Power cords, order the NA - North American power cord below. This power cable is RoHS-compliant.

PID	MM#	Comments
PWRCABLEUS	816324	This AC power cable can be ordered by North America (NA) customers. International customers should procure their specific power cords directly.

Note: Ensure that customers have the appropriate technical support and contact before placing their first order.

## NSC2U Base Model 0 Configuration:

All Production SKUs are base model 0 SKUs (no processor, heatsink, memory, hard drive, power cord, operating system, or plug-in adapters are provided). Those components must be ordered separately as Accessories from Intel or from third party vendors listed in the Tested Hardware and Operating System List (THOL).

The table below lists which components are included in the base model 0 SKUs and which ones must be ordered separately or as optional accessories.

Component Description	AC Mod 0 Configuration	DC Mod 0 Configuration
AC power supply (600 W)	1 included	-
DC power supply (600 W)	-	1 included
Filler Panel in 2 <sup>nd</sup> power supply bay	1 included	
Chassis (bezel, sheet metal, top cover, PCI carrier)	1 included	
Server Board T5000PAL	1 included	
Bezel (gray)	1 included	
PCI Riser FH-FL (two PCI-Express and one PCI-X slots)	1 included	
PCI Riser LP (two PCI-Express slots)	1 included	
FB-DIMM slots (memory not included)	8 included	
Trays for hot-swap 2.5" SAS Hard Disk Drives	6 included	
Filler Panel in optical device bay	1 included	
Rear Panel GbE NIC (Cu) ports (via Server Board)	2 included	
Server Deployment Toolkit (CD)	1 included	
Quick Start Guide	1 included	
Power Cable	Purchase separately <sup>1</sup>	
SW RAID 0/1/10	Included	
HW RAID 5	Optional Accessories <sup>2</sup>	
Intel® Z-U130 Value Solid State Drive	Optional Accessory <sup>2</sup>	
Mounting kit for Intel® Z-U130 Value Solid State Drive	Optional Accessory <sup>2</sup>	
Remote Management Module 2	Optional Accessory <sup>2</sup>	
PCI-X FH-FL Riser (3 PCI-X slots)	Optional Accessories <sup>2</sup>	
Ethernet I/O Module (dual Gigabit rear ports)	Optional Accessory <sup>2</sup>	
SAS I/O Expansion Module (x4 external rear port)	Optional Accessory <sup>2</sup>	
Rack Mount Kits	Optional Accessory <sup>4</sup>	
Processor (refer to "Details on Ordering Processors")	Purchase separately <sup>5</sup>	
Heatsink	Accessory or purchase separately	
Memory	Purchase separately <sup>5</sup>	
Hard Disk Drive	Purchase separately <sup>5</sup>	
Optical Drive	Purchase separately <sup>5</sup>	
<b>Accessories for NIC-in-Front Capability<sup>3</sup></b>		
Quad Port Bypass Adapter (Copper)	Optional Accessory <sup>3</sup>	
Quad Port Bypass Adapter (Fiber)	Optional Accessory <sup>3</sup>	
Quad NIC-in-Front Mounting Kit (Copper)	Optional Accessory <sup>3</sup>	
Quad NIC-in-Front Mounting Kit (Fiber)	Optional Accessory <sup>3</sup>	

<sup>1</sup>Refer to AC power cord accessory in this section

<sup>2</sup>Refer to "Production Spares/Accessories List" in section III

<sup>3</sup>Refer to "Quad Port Bypass NIC Capability" in section IV

<sup>4</sup>Refer to "Rack Mounting Options" in the Appendix

<sup>5</sup>Should be purchased separately (parts not listed in this document)

## Notes on the NSC2U Model 0 Configuration and Options:

- **PCI Risers**
  - The base configuration comes standard with two PCI Risers supporting up to five PCI slots. These include:
    - One low-profile riser supporting two PCI-Express (PCIe) slots
    - One full-height, full-length riser supporting three slots: two PCIe x4 and one PCI-X.
  - Additional full-height, full-length risers (below) are supported and available as accessories (*refer to "Production Spares/Accessories List" in section III*).
    - PCI-X (active): three independent PCI-X, each with maximum 133 MHz
    - PCI-X (passive): two PCI-X with maximum 100 MHz and one PCI-X (66 MHz) all on a shared PCI bus
  
- **HW RAID**
  - While SW RAID 0/1/10 is supported on the base configuration, HW RAID 5 support can be enabled via a set of optional accessories (*refer to "Production Spares/Accessories List" in section III*).
  - Components required are **NSCRAID01W** (NSC2U RAID5 Kit - includes the I-Button (license), battery cable) and the **AXXMINIDIMM** (128 MB Mini DIMM registered DDR-2 for RAID cache.)
  - An additional option is the **AXXRSBBU3** (Intel® RAID Smart Battery Backup module provides up to 72 hours of cache memory retention when used with AXXMINIDIMM). The cable to connect the battery is included in the NSCRAID01W kit.
  
- **Intel® Z-U130 Value Solid State Drive**
  - Support for the Intel® Z-U130 Value Solid State Drive is available via a selection of optional accessories (*refer to "Production Spares/Accessories List" in section III*).
  - Components required are an Intel® Z-U130 Value Solid State (select desired capacity) as well as a mounting kit (**TMWVSSDRIVE01W**) to mount it inside the chassis.
  - Solid state drives are available in several sizes, enabling an array of product customization options. These drives securely mount inside the chassis offering
    - Storage: independent of traditional disk drives
    - Boot OS from solid state drive; store data on hard drive
    - Store backup image of boot drive
    - Add a server partition to the server
    - Any other customer design options

- **IO Option Modules**

- These modules, available as optional accessories, attach to the system board via a proprietary connector, and provide additional IO through the rear bulkhead.
  - The **AXXGBIOMO** option module provides two Gigabit Ethernet NICs.
  - The **AXXSASIOMOD** option module provides one x4 external SAS port.
- *For ordering details, refer to “Production Spares/Accessories List” in section III.*

- **Quad Port Bypass NIC Capability**

- The NSC2U is capable of supporting up to eight ports of front or rear-accessible Gigabit Ethernet (either Copper or Fiber) using Quad NIC adapters designed by Intel. Optional accessories are available to enable these features. *For more information and ordering details, refer to “Quad Port Bypass NIC Capability” in section IV.*

For more detailed information on the NSC2U, refer to the web links below.

#### **Additional Product Details**

Check the following web site for more information on the NSC2U:

<http://www.intel.com/design/telecom/products/cbp/ipserver/NSC2U/overview.htm>

#### **Support.Intel.Com Users**

Product information including specifications, compatibility, user’s guides, drivers, firmware, and software associated with the Intel® Network Server NSC2U is available from Intel Customer Support.

#### **Intel® Network Server NSC2U Support Web Site**

<http://www.intel.com/support/telecom/computeboards/nsc2u/>

If you can not access the documents using the links provided, please contact your FAE/FSE for assistance.



## Details on Ordering Processors:

The NSC2U is designed for the Quad-Core Intel® Xeon® 5400 and 5300 processor series, and also supports selected SKUs from the Dual-Core Intel® Xeon® 5100 series processors. Ordering details for the supported processors for the NSC2U are listed below. These include the choice of either Tray (for OEMs) or Boxed (Retail channel) processors.

### Intel® Xeon® Processors Supported by NSC2U:

Processor Number	Long Life	Cores	Speed	TDP	FSB	Boxed Processor		Tray Processor	
						Product Code	MM#	Product Code	MM#
<b>E5440</b>	Yes	Quad	2.83 GHz	80W	1333 MHz	BX80574E5440P	894824	EU80574KJ073N	893484
<b>L5410</b>	Yes	Quad	2.33 GHz	50W	1333 MHz	BX80574L5410P	894835	EU80574JJ053N	893491
<b>E5345</b>	Yes	Quad	2.33 GHz	80W	1333 MHz	BX80563E5345P	892334	HH80563QJ0538M	891115
<b>E5335</b>	Yes	Quad	2.00 GHz	80W	1333 MHz	BX80563E5335P	892335	HH80563QJ0418M	891116
E5320	No	Quad	1.86 GHz	80W	1066 MHz	BX80563E5320P	892337	HH80563QH0368M	891118
E5310	No	Quad	1.60 GHz	80W	1066 MHz	BX80563E5310P	892333	HH80563QH0258M	891121
5160	No	Dual	3.00 GHz	80W	1333 MHz	BX805565160P	892200	HH80556KJ0804M	891706
<b>5140</b>	Yes	Dual	2.33 GHz	65W	1333 MHz	BX805565140P	892169	HH80556KJ0534M	891730
<b>5130</b>	Yes	Dual	2.00 GHz	65W	1333 MHz	BX805565130P	884531	HH80556KJ0414M	891731
<b>LV 5128</b>	Yes	Dual	1.86 GHz	40W	1066 MHz	N/A	N/A	HH80556JH0364M	891704

#### Notes:

- Although all of the above processors have been certified on the NSC2U, Intel recommends the use of the following processors from Intel's Embedded Communications and Processor Division (ECG) for long availability and support:
  - E5440 (Quad-Core, 2.83 GHz, 1333 MHz FSB, TDP=80 W)
  - L5410 (Quad-Core, 2.33 GHz, 1333 MHz FSB, TDP=50W)
  - E5345 (Quad-Core, 2.33 GHz, 1333 MHz FSB, TDP=80 W)
  - E5335 (Quad-Core, 2.00 GHz, 1333 MHz FSB, TDP=80 W)
  - 5140 (Dual-Core, 2.33 GHz, 1333MHz FSB, TDP=65W)
  - 5130 (Dual-Core, 2.00 GHz, 1333MHz FSB, TDP=65W)
  - LV 5128 (Dual-Core, 1.86 GHz, 1066MHz FSB, TDP=40W)
- Heatsinks
  - This product requires Passive heatsinks. The boxed processors listed above include a Passive Heatsink Kit, made of aluminum. Do not use Active Fan Heatsinks, which are provided in some Retail Boxed Processors.
  - For Tray processors, you will need to procure a Heatsink for each processor (see NSCSNKCLP01 in the Spares/Accessories list below). This is a copper heatsink. There are no clips needed for this heatsink, since the heatsink includes captive screws.
  - If ordering other Boxed Processors (not listed here), do not use the fansink, which might be included.
- Note that processor product codes can change, and that the above is a snapshot current as of 3/28/2008. Please consult with your Intel representative for SSpec or MM# which might be needed for ordering the processor. Any differences in functionality are reported in the Monthly Specification updates available at <http://developer.intel.com>.

### III. Production Spares/Accessories List

Below are the Spare parts and Accessories that can be ordered with the NSC2U system. Any of these parts can be ordered as spares for part replacement purposes or as additional customer inventory. Some of the parts below are not included in the NSC2U system base model and can be ordered as accessories for purposes of upgrading the base model to include additional features.

For a listing of additional compatible accessories, such as Optical Devices for use with the CD-ROM carrier, please refer to the Tested Hardware and Operating System List (THOL).

PID Order Code	Description	Contents	Included in Base Model (Y/N)	MM#	Min. Order Qty
TLIACPSU003	TIGI2U AC Power Supply	AC power supply	Y (one in AC SKU)	880110	1
TLIDCPSU003	TIGI2U DC Power Supply	DC power supply, input power connector	Y (one in DC SKU)	880116	1
NSCSNKCLP01	NSC2U Processor Heatsink	Heat sink (copper)	N	891200	1
NSCBEZEL01W	NSC2U Bezel (Unpainted), 12-pack	Bezel, packaged in cartons of 12	Y (one bezel)	889820	12 (order in multiples of 12)
NSCESCBLNK01W	NSC2U Blank Escutcheons (unpainted) – 48 pack	Unpainted blank escutcheon panel (filler panel if front-NICs are not present)	2 blank panels installed in base model	897011	48 (order in multiples of 48)
<b>HW RAID</b>					
NSCRAID01W	NSC2U RAID5 Kit	I-Button (license), battery cable (battery or mini-DIMM not included)	N	890202	1
AXXRSBBU3	Intel® RAID Smart Battery Backup module: for use with Intel® Integrated Server RAID (requires NSCRAID01W plus mini DIMM), provides up to 72 hours of cache memory retention when used with AXXMINIDIMM.	Battery backup kit	N	883471	5 (order in multiples of 5)
AXXMINIDIMM	128 MB Mini DIMM registered DDR-2 for RAID cache. Note: enabling RAID capability also requires Intel RAID Activation Key– NSCRAID01W	Mini-DIMM	N	881258	5 (order in multiples of 5)
<b>Remote Management</b>					
AXXRMM2	Intel® Remote Management Module 2 (RMM2) - Single Pack	RMM2 with GCM (single-pack)	N	894383	1
AXXRMM2BULK	Intel Remote Management Module 2 (RMM2) – 10-Pack	RMM2 with GCM (10-pack)	N	894385	1 (specify '1' for each 10-pack)

## Production Spares/Accessories List (continued)

PID Order Code	Description	Contents	Included in Base Model (Y/N)	MM#	Min. Order Qty
<b>PCI Risers and I/O Options</b>					
ASR2500FHR	SR2400 (2U) Full Height PCI-Express riser (two PCI-Express slots, one PCI-X slot)	Riser	Y	880515	1
ADRACTRIS	SR2500 (2U) Full Height PCI-X "active" high performance riser card (three PCI-X slots)	Riser	N	856546	1
ADRPCIXRIS	SR2500 (2U) Full Height PCI-X "passive" riser card (three PCI-X slots)	Riser	N	863135	1
FSR2500LPR	Two-slot Low Profile PCI-Express riser	Riser	Y	880516	1
AXXGBIOMOD	Dual Gigabit Ethernet I/O Module	Dual Gigabit rear ports	N	880518	1
AXXSASIOMOD	Four-port external SAS I/O Expansion Module	x4 external rear port	N	880517	1
<b>Solid State Drives</b>					
TMWVSSDRIVE01W	Mounting kit for Intel® Z-U130 Value Solid State Drive <i>Requires Intel® Z-U130 Value Solid State Drive (purchased separately).</i>	Interposer board, cable, mounting screws ( <i>flash drive not included</i> )	N	893165	1
SSDUSMS0001GL10	Intel® Z-U130 Value Solid State Drive - 1 GB, Low Profile Connector <i>Requires TMWVSSDRIVE01W</i>	1 GB Module – Low Profile Connector	N	890945	10
SSDUSMS0002GL10	Intel® Z-U130 Value Solid State Drive – 2 GB, Low Profile Connector <i>Requires TMWVSSDRIVE01W</i>	2 GB Module – Low Profile Connector	N	890943	10
SSDUSMS0004GL10	Intel® Z-U130 Value Solid State Drive - 4 GB, Low Profile Connector <i>Requires TMWVSSDRIVE01W</i>	4 GB Module – Low Profile Connector	N	890941	10
<b>Spares</b>					
NSCPWRDISBDW	NSC2U Power Distribution Board	Power distribution board, with integrated wire harness	Y	889805	1
NSCFPIOBDLPW	NSC2U Front Panel IO Board with LED pipe	Board, set of front panel light pipes	Y	889812	1
NSCSASBSBDW	NSC2U T5000PAL Server board	Board	Y	889828	1
NSCSASBKPLNW	NSC2U SAS Backplane	Backplane	Y	889829	1
NSCBRIDGEBDW	NSC2U Bridge board	Board, insulator	Y	889852	1

## Production Spares/Accessories List (continued)

PID Order Code	Description	Contents	Included in Base Model (Y/N)	MM#	Min. Order Qty
<b>Spares</b>					
NSCCBLMSCW	NSC2U System Interconnect Cable Kit	Flex cable (SAS interface, front panel signals), front panel power cable, serial port cable, CD-ROM cable, alarm cable, TAM module cable	Y	889819	1
NSCFANSETW	NSC2U Fan Assembly (set of four)	80 mm CPU fans (2), 40 mm PCI fans (2), plastic fasteners (8)	Y	889822	1
NSCDVDENGTABW	NSC2U DVD Drive Engagement Tab	Blue plastic engagement bracket and black plastic locking clip, screws	Y	889845	1
FXX25HDDCAR	TIGW1U SAS HDD carrier	Carrier, black plastic filler, screws (4)	Y	881681	10 <i>(order in multiples of 10)</i>

Note: There are also accessories/spares specific to Quad Port Bypass NIC capability. For these items, please refer to Section IV "Quad Port Bypass NIC Capability".

# IV. Quad Port Bypass NIC Capability

This section is intended for customers that plan to use the Quad Port NIC with Bypass capability on the NSC2U. It describes what parts must be ordered to enable this capability.

The NSC2U is capable of supporting:

- Up to eight ports of front-accessible Gigabit Ethernet (either Copper or Fiber) using Quad NIC adapters designed by Intel. The front-accessible NIC configuration also requires the purchase of an internal cabling/mounting kit including an escutcheon for securing the front ports.
- Up to eight ports of rear-accessible Gigabit Ethernet (Copper or Fiber) using Quad NIC adapters also designed by Intel.

The Quad Bypass adapters and the cabling/mounting kits come in packages of five units each. These kits include five of the NIC cables designed for the NSC2U system, as well as the escutcheons, cable management bracket, and associated screws to complete the installation of the Bypass adapter in the system. Also there are bulk pack (48 count) escutcheon kits (copper, fiber, and filler panel) available to streamline the customization and painting process of the system.

Below are the Accessories that may be ordered to enable the Quad Port Bypass NIC capability on the NSC2U system. *Note: For a list of other tested Network Interface Cards (NICs) refer to the Tested Hardware and Operating System List (THOL).*

PID Order Code	Description	Contents	Included in Base Model (Y/N)	MM#	Min. Order Qty
<b>Copper NIC</b>					
EXPI9014PTBLK (Bypass rear access)	Intel® PRO/1000 PT Quad Port Bypass Adapter (Copper) – 5 Pack	Quad-port design, based on two Intel® 82571GB dual-port PCI Express* GbE controllers	N	876697	5
EXPI9024PTBLK (Bypass NIC-in-front)	Intel® PRO/1000 PT Quad Port Bypass Adapter (Copper, NIC-in-Front) – 5 Pack	Quad-port design, based on two Intel® 82571GB dual-port PCI Express* GbE controllers	N	876699	5
NSCCBLFNICW	NSC2U Quad NIC-in-Front Mounting Kit (Copper) – 5 Pack	Quad NIC-in-front cable assembly, escutcheon and screws for copper ports, cable management bracket and screw	N	890325	5 <i>(order in multiples of 5)</i>
NSCESCCPR01W	NSC2U Escutcheons for Copper ports (unpainted) – 48 Pack	Unpainted escutcheons for use with NSCCBLFNICW <i>Intended for prep (painting) purposes.</i>	N <i>Note: Five escutcheons are included in NSCCBLFNICW</i>	898020	48 <i>(order in multiples of 48)</i>

PID Order Code	Description	Contents	Included in Base Model (Y/N)	MM#	Min. Order Qty
<b>Fiber NIC</b>					
EXPI9014PFBLK (Bypass rear access)	Intel® PRO/1000 PF Quad Port Bypass Adapter (Fiber) – 5 Pack	Quad-port design, based on two Intel® 82571GB dual-port PCI Express* GbE controllers	N	876696	5
EXPI9024PFBLK (Bypass NIC-in-front)	Intel® PRO/1000 PF Quad Port Bypass Adapter (Fiber, NIC-in-Front) – 5 Pack	Quad-port design, based on two Intel® 82571GB dual-port PCI Express* GbE controllers	N	876694	5
NSCCBLFNICFBRW	NSC2U Quad NIC-in-Front Mounting Kit (Fiber) – 5 Pack	Quad NIC-in-front escutcheon, and LED cable for fiber ports, cable management bracket and screw	N	897002	5 <i>(order in multiples of 5)</i>
NSCESCFBR01W	NSC2U Escutcheons for Fiber ports (unpainted) – 48 Pack	Unpainted escutcheons for use with NSCCBLFNICFBRW <i>Intended for prep (painting) purposes.</i>	N <i>Note: Five escutcheons are included in NSCCBLFNICFBRW</i>	898021	48 <i>(order in multiples of 48)</i>
<b>Miscellaneous</b>					
NSCESCBLNK01W	NSC2U Escutcheons filler panel (unpainted) – 48 pack	Unpainted blank escutcheon panel <i>(filler panel if front-NICs are not present)</i>	<i>2 blank panels installed in base model</i>	897011	48 <i>(order in multiples of 48)</i>

## Overview of Intel® PRO/1000 Quad Port Bypass Server Adapters:

The Intel® PRO/1000 PT and PF Quad Port Bypass Server Adapters provide in-line server appliances, such as Intrusion Protection Servers (IPSeS), with high-performance, low-latency, in-line connectivity, and a bypass mode to ensure business continuity. These adapters also use the PCI Express\* serial bus for greater throughput, and they support Intel® I/O Acceleration Technology (Intel® I/OAT) for further performance enhancement, including the reduced overhead so important to IPS applications.

The Intel® PRO/1000 PT and PF Quad Port Bypass Server Adapters are intended for use by equipment manufacturer hardware designers in application-specific in-line server appliances, where a bypass mode is desirable. Given that equipment manufacturers typically write specific software applications for their in-line platforms, Intel only provides open source reference drivers for these adapters. Interested hardware designers may contact their local Intel representative for additional product or purchase information.

More information on Intel® PRO/1000 Quad Port Bypass Server Adapters is available at:

[http://www.intel.com/network/connectivity/products/pro1000\\_quad\\_bypass\\_server\\_adapters.htm](http://www.intel.com/network/connectivity/products/pro1000_quad_bypass_server_adapters.htm)

## Appendix A. Rack Mounting Options for 1U and 2U Intel® Communications Rack Mount Servers

Rack mounting kits for 2-post or 4-post, 19-inch or 23-inch racks are offered for this product. Please refer to the tables below for the correct options to suit your needs.

All rack mount kits listed are suitable for 1U and 2U Intel® Communications Rack Mount Servers. Installation instructions are included in each kit.

2-post Rack Mounting Kit Options							
Applicable kits:	Rack width		Post depth		Rack fastener hole spacing		
	19 inch	23 inch	3 inch	5 inch	EIA-Wide	EIA-Universal	ETSI
TMLCMOUNT21	✓		✓	✓	✓	✓	
TMLPMOUNT41	✓		✓	✓		✓	
TMLPMOUNT51	✓		✓	✓	✓	✓	
TMLPMOUNT52		✓	✓	✓	✓	✓	✓

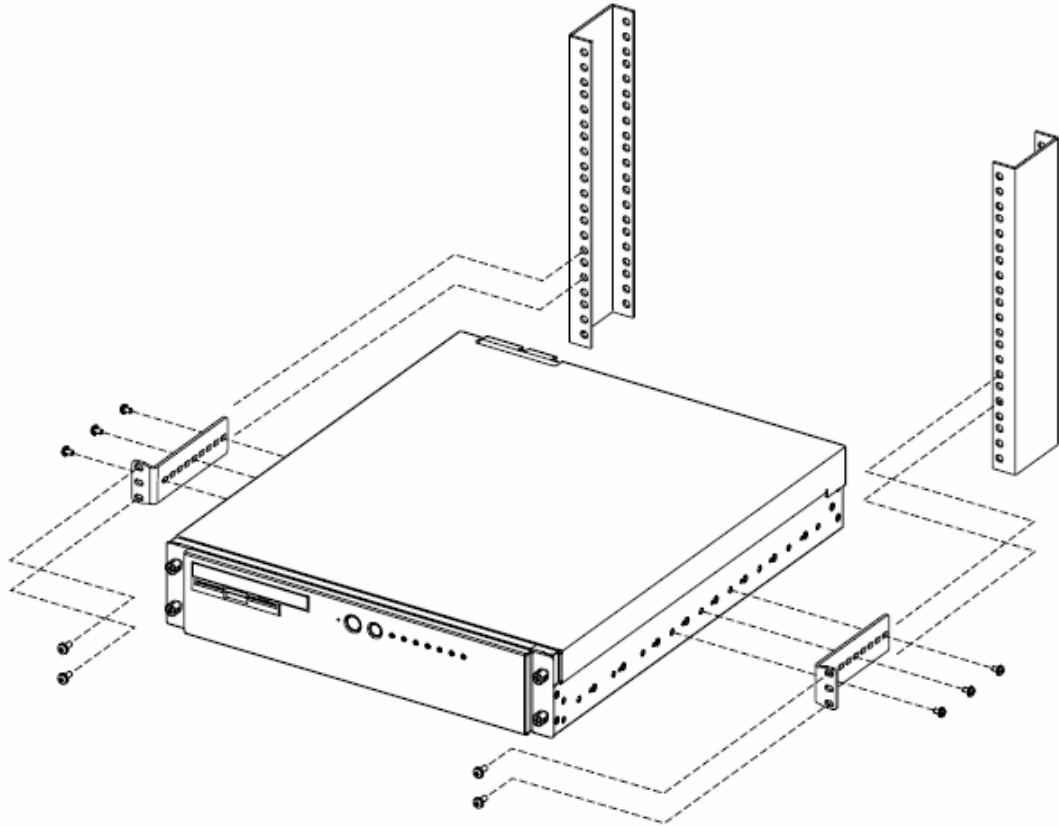
4-post Rack Mounting Kit Options							
Applicable kits:	Rack width		Front-post to rear-post distance		Rack fastener hole spacing		
	19 inch	23 inch	Min (inches)	Max (inches)	EIA-Wide	EIA-Universal	ETSI
TMLPMOUNT41	✓		20	24		✓	
TMLPMOUNT51	✓		20	24	✓	✓	
TMLPMOUNT52		✓	20	24	✓	✓	✓
TMLPSLIDE01 <sup>†</sup>	✓		22.5	28 or 34 <sup>††</sup>		✓	

<sup>†</sup>The **TMLPSLIDE01** kit contains server securing brackets. The rails and other options for mounting the server are available through other vendors such as Accuride (<http://www accuride.com/index2.php>).

<sup>††</sup>**34-inch** span requires the optional Accuride "Long Bracket" kit.

## TMLCMOUNT21

The TMLCMOUNT21 kit mounts Intel® Communication Rack Mount Servers to a 2-post, central office type, 19-inch wide rack. This kit consists of L-shaped brackets that fasten to the sides of the server and to the rack.



TMLCMOUNT21



## TMLPMOUNT41, TMLPMOUNT51 and TMLPMOUNT52

TMLPMOUNT41/51/52 series mounts Intel® Communication Rack Mount Servers to 2-post or 4-post racks.

TMLPMOUNT41 and TMLPMOUNT51 are used for mounting servers on 19-inch wide racks. These racks are considered standard EIA (universal hole spacing) racks.

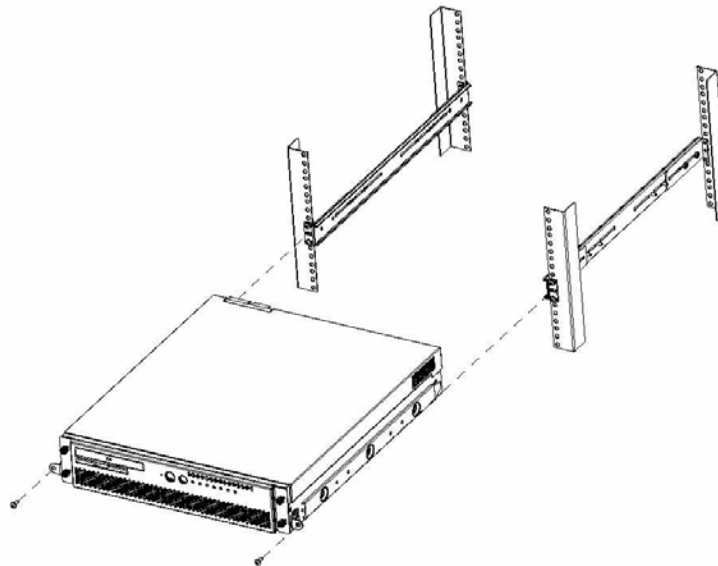
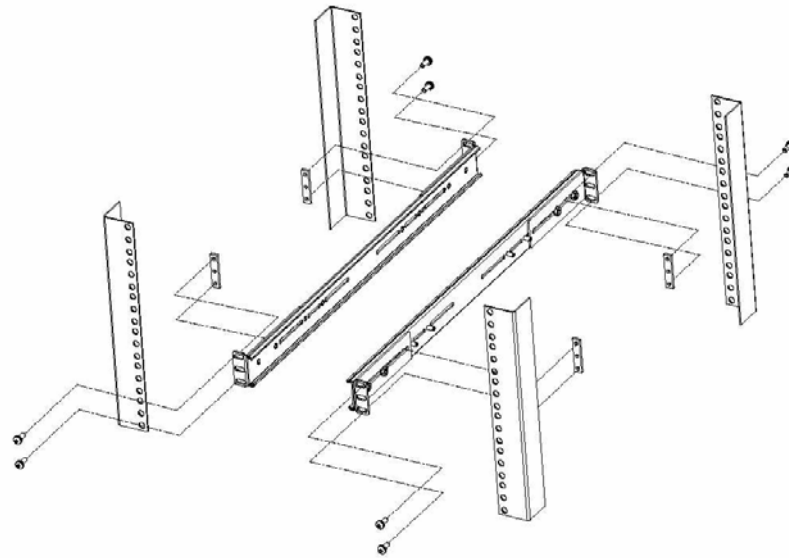
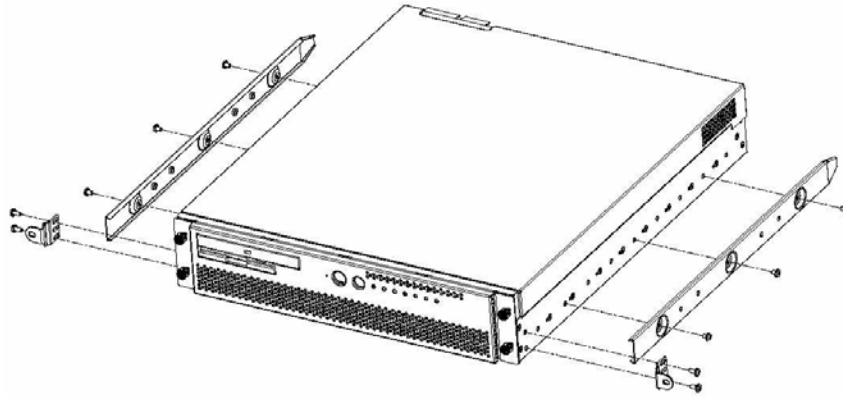
TMLPMOUNT52 is used for mounting servers on 23-inch wide racks. These racks could be standard EIA (universal or wide hole spacing) or ETSI (European) racks.

TMLPMOUNT41/51/52 series are designed with a slide-in rail-type system. Although the mounts are designed as rails, they are not sliding rails. This means the servers can be slid into the racks for installation purpose, but the rails are not designed to support a mounted server during service.

TMLPMOUNT4x/5x Feature Comparison						
	Slide pull-out locking feature	Slide interface material	4-post rack hole spacing	2U-tall nut bar	2-post chassis securing screw location	"HP Mulan rack interference"
TMLPMOUNT41	No <sup>1</sup>	Plastic strips <sup>2</sup>	EIA-Universal	Not included	Side access <sup>6</sup>	Interference
TMLPMOUNT51	Yes	Xylan coating <sup>3</sup>	EIA-Wide or EIA-Universal <sup>4</sup>	Included <sup>5</sup>	Front access	No Interference
TMLPMOUNT52	Yes	Xylan coating <sup>3</sup>	EIA-Wide, EIA-Universal or ETSI	Included <sup>5</sup>	Front access	N/A

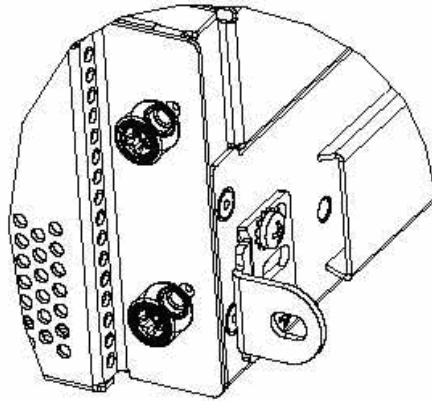
### Notes:

1. Extra care must be exercised with TMLPMOUNT41 to securely hold the server with one's hands when sliding it out of the rack; otherwise, the server could fall to the ground as it is being removed.
2. Plastic strips on TMLPMOUNT41 have peeled off in some customer installations. The result of this is that the parts are usable, but the server could have somewhat of a "scrape-in feel" rather than "slide in". Also, the rails will fit sloppier, so the side-located chassis securing screws could be difficult to align in 2-post installations. Replacement material is available from the plastic strip manufacturer.
3. Xylan is a tough, low-friction coating similar to Teflon.
4. EIA-Wide spacing doesn't have the interstitial hole that is present in EIA-Universal. TMLPMOUNT51 contains an adapter bracket to overcome this EIA-Wide issue.
5. This component (2U Nut Bar) enables installation of a rail kit into a 1U rack slot when there is already equipment installed both above and below that open slot.
6. The sides of the server must be accessible when using TMLPMOUNT41 in 2-post racks.

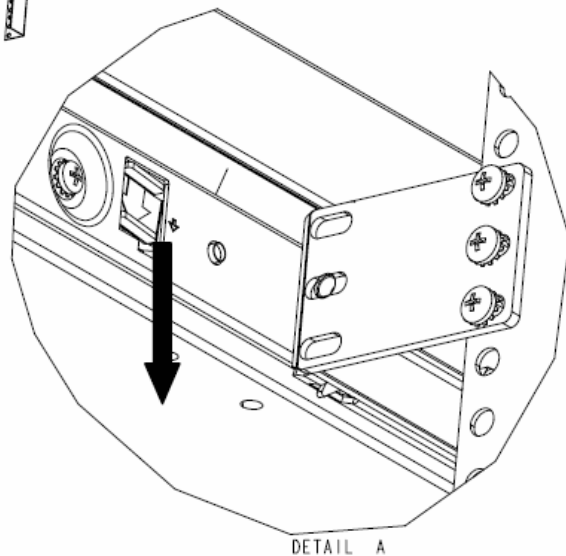
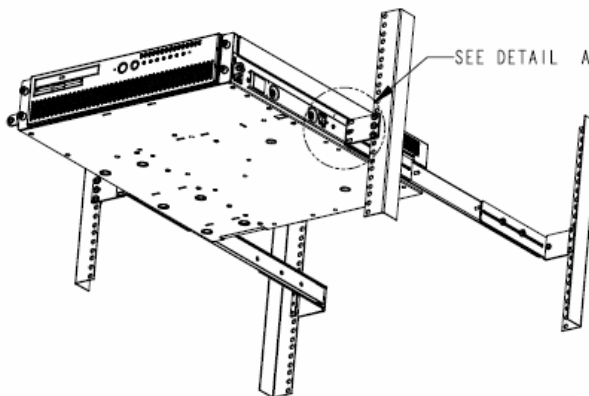


The diagrams above summarize the components and "slide-in rail-type" system of the TMLPMOUNT41. It can be adapted for a 2-post or 4-post installation.

The main difference between the TMLPMOUNT41 and TMLPMOUNT51/52 series is that the TMLPMOUNT41 series uses a screw to lock the server in place using the Universal Mounting Bracket, whilst the TMLPMOUNT51/52 series has an additional Slide Pull-Out Locking feature.



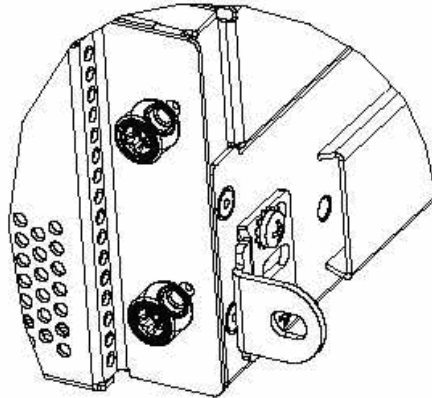
**Universal Front Mounting Bracket on the TMLPMOUNT41**



**Slide Pull-Out Locking feature on the TMLPMOUNT51/52**

## TMLPSLIDE01

The TMLPSLIDE01 is an accessory kit designed for use in conjunction with slide rails to produce a rack mounted serviceable server. The TMLPSLIDE01 kit contains two Universal Front Mounting Brackets that secure the server to the front of the rack. The sliding rails and optional mounting brackets required to mount the server must be purchased through the channel. For example, the Accuride 22-inch Model 305A-LR slide rails are designed to mount a server for "in-rack service." This example would also use an Accuride mounting bracket kit and the TMLPSLIDE01.



### Universal Front Mounting Bracket with securing tab

Note: Using slide rails could result in non-compliance with Seismic Zone 4 requirements of NEBS-3 certification.

#### Ordering Information

PID	Non-RoHS MM#	RoHS MM#	Minimum Order Quantity
TMLCMOUNT21	862501	881904	10
TMLPMOUNT41	838890	881907	10
TMLPMOUNT51	851760	881934	1
TMLPMOUNT52	851745	881935	1
TMLPSLIDE01	845583	881915	10

Customers should order RoHS items for shipments going to the European Union (EU).

Although these mounts have been designed for industry standard racks, please consult with your Intel Field Application or Sales Engineer before selecting racks for these servers.

Compatible rack mounting kits can also be obtained from 3rd party suppliers.

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