

Overview

Alcatel-Lucent 7750 Service Router Series

Models

Alcatel-Lucent 7750-SR7 Switch Fabric and Control Processor Module DC Power Chassis Starter Bundle	JL136A
Alcatel-Lucent 7750-SR12 Switch Fabric and Control Processor Module DC Power Chassis Starter Bundle	JL139A
Alcatel-Lucent 7750-SR12e Switch Fabric and Control Processor Module DC Power Chassis Starter Bundle	JL142A

Key features

- **FLEXIBLE, SCALABLE, HIGH PERFORMANCE:** delivers high bandwidth, low latency at lowest cost per bit
- **USER, CONTENT & APPLICATION INTELLIGENCE:** service differentiation with non-stop routing and services
- **FIELD PROVEN OS:** Feature-rich, fault-tolerant operating system for enterprise and cloud services
- **OPERATIONAL EFFICIENCY:** common platform with service-aware network management, operation & reporting

Product overview

The Alcatel-Lucent 7750 Service Router (SR) series delivers the performance, service richness and intelligence to drive the converged IP network edge. Leveraging 400 Gb/s FP3 network processing (NP) silicon technology, the portfolio scales capacity up to 9.6 Tb/s and delivers up to 36 x 100GE, 60 x 40GE or 360 GE ports. With support for a comprehensive suite of Layer 2 and Layer 3 routing capabilities, advanced traffic management, Hierarchical Quality of Service (H-QoS) and specialized service-aware application processing, this feature-rich multiservice routing platform enables the full range of advanced business, residential and mobile services without sacrificing performance. It integrates IPv4/IPv6, MPLS, Ethernet, Provider Backbone Bridge (PBB), and MPLS - Transport Profile (MPLS-TP) protocols with a broad range of Ethernet and multiservice interfaces. The 7750 SR platform supports redundant system hardware and line card redundancy for high availability and resilience. The comprehensive feature set enables a best-of-breed multiservice edge router that supports end-user, business, cloud and data center interconnect services for HPE's target large enterprise and cloud service provider markets.

Features and benefits

Quality of Service (QoS)

- **Hierarchical QoS (HQoS)**
provides a built-in QoS engine that supports hierarchical QoS (HQoS) and can implement a hierarchical scheduling mechanism based on ports, user groups, users, and user services; also cooperates with MPLS traffic engineering (TE) to implement bandwidth reservation and scheduling based on tunnels and services
- **Weighted random early detection (WRED)/random early detection (RED)**
delivers congestion avoidance capabilities through the use of queue management algorithms
- **Advanced classifier-based QoS**
classifies traffic using multiple match criteria based on Layer 2, 3, and 4 information; applies QoS policies such as setting priority level and rate limit to selected traffic on a per-port or per-VLAN basis
- **Bandwidth shaping**
 - **Port-based rate limiting**
provides per-port ingress-/egress-enforced increased bandwidth
 - **Classifier-based rate limiting**
uses an access control list (ACL) to enforce increased bandwidth for ingress traffic on each port
 - **Reduced bandwidth**
provides per-port, per-queue egress-based reduced bandwidth
- **Traffic policing**
supports Committed Access Rate (CAR) and line rate

Overview

Virtual private network (VPN)

- **Layer 2 Tunneling Protocol (L2TP)**
an industry standard-based traffic encapsulation mechanism supported by many common operating systems; will tunnel the Point-to-Point Protocol (PPP) traffic over the IP and non-IP networks; may use the IP/UDP transport mechanism in IP networks
- **Generic Routing Encapsulation (GRE)**
transports Layer 2 connectivity over a Layer 3 path in a secured way; enables the segregation of traffic from site to site

Management

- **Command authorization**
leverages RADIUS to link a custom list of CLI commands to an individual network administrator's login; an audit trail documents activity
- **Command-line interface (CLI)**
provides a secure, easy-to-use CLI for configuring the module via SSH or a switch console; provides direct real-time session visibility
- **FTP, TFTP, and SFTP support**
offers different mechanisms for configuration updates; FTP allows bidirectional transfers over a TCP/IP network; trivial FTP (TFTP) is a simpler method using User Datagram Protocol (UDP); Secure File Transfer Protocol (SFTP) runs over an SSH tunnel to provide additional security
- **Network management**
SNMP v2c/v3 MIB-II with traps
- **Remote monitoring (RMON)**
uses standard SNMP to monitor essential network functions; supports events, alarm, history, and statistics group plus a private alarm extension group
- **SNMPv1, v2, and v3**
provide complete support of SNMP; provide full support of industry-standard Management Information Base (MIB) plus private extensions; SNMPv3 supports increased security using encryption

Layer 3 routing

- **Layer 3 IPv4 routing**
provides routing of IPv4 at media speed; supports static routes, RIP and RIPv2, OSPF, IS-IS, and BGP
- **Layer 3 IPv6 routing**
provides routing of IPv6 at media speed; supports static routes, RIPng, OSPFv3, IS-ISv6, and MP-BGP
- **Dual IP stack**
maintains separate stacks for IPv4 and IPv6 to ease the transition from an IPv4-only network to an IPv6-only network design
- **Equal-Cost Multipath (ECMP)**
enables multiple equal-cost links in a routing environment to increase link redundancy and scale bandwidth
- **IPv6 tunnels over IPv4**
allows IPv6 infrastructure to be connected over legacy IPv4 networks
- **MPLS support**
provides extended support of MPLS, including MPLS VPNs and MPLS Traffic Engineering (MPLS TE)
- **Multiprotocol Label Switching (MPLS) Layer 3 VPN**
allows Layer 3 VPNs across a provider network; uses MP-BGP to establish private routes for increased security; supports RFC 2547bis multiple autonomous system VPNs for added flexibility
- **Multicast VPN**
supports Multicast Domain (MD) multicast VPN, which can be distributed on separate service cards, providing high performance and flexible configuration
- **Multiprotocol Label Switching (MPLS) Layer 2 VPN**
establishes simple Layer 2 point-to-point VPNs across a provider network using only MPLS Label Distribution Protocol (LDP); requires no routing and therefore decreases complexity, increases performance, and allows VPNs of non-routable

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protocols; uses no routing information for increased security; supports Circuit Cross Connect (CCC), Static Virtual Circuits (SVCs), Martini draft, and Kompella-draft technologies

- **Virtual Private LAN Service (VPLS)**
establishes point-to-multipoint Layer 2 VPNs across a provider network
- **Multiprotocol Label Switching Traffic Engineering (MPLS TE)**
Traffic Engineering (TE) is used to enhance traffic over large MPLS networks based on type of traffic and available resources; TE dynamically tunes traffic management attributes and enables true load balancing; MPLS TE supports route backup using Fast Reroute (FRR)
- **VPLS support**
provides extended support of VPLS for data center to data center communication at Layer 2; provides support of hierarchical VPLS for scalability

Security

- **Access control lists (ACLs)**
provide IPv4 and IPv6 filtering based on source/destination IP address/subnet and source/destination TCP/UDP port number
- **Network address translation (NAT)**
provides a method for translating private IP addresses to public IP addresses, reducing the number of IP addresses used, and isolates the enterprise addressing environment
- **Secure management access**
delivers secure encryption of all access methods (CLI, GUI, or MIB) through SSHv2 and SNMPv3
- **Unicast Reverse Path Forwarding (URPF)**
allows normal packets to be forwarded correctly, but discards the attaching packet due to lack of reverse path route or incorrect inbound interface; prevents source spoofing and distributed attacks; supports distributed UFPF

Resiliency and high availability

- **Graceful restart**
supports graceful restart for OSPF, IS-IS, BGP, LDP, and RSVP; the network remains stable during the active-standby switchover; after the switchover, the device quickly learns the network routes by communicating with adjacent routers; forwarding remains uninterrupted during the switchover to achieve nonstop forwarding (NSF)
- **Hot-swappable modules**
permits modules and mini-GBICs to be added or swapped without interrupting the network
- **IP Fast Reroute Framework (FRR)**
nodes are configured with backup ports and routes; local implementation requires no cooperation of adjacent devices, simplifying the deployment; solves the traditional convergence faults in IP forwarding; achieves restoration within 50 ms, with the restoration time independent of the number of routes and fast link switchovers without route convergence
- **Redundant design of main processing unit and power supply**
increases the overall system availability
- **Separate data and control planes**
provide greater flexibility and enable continual services
- **Virtual Router Redundancy Protocol (VRRP)**
allows groups of two routers to dynamically back each other up to create highly available routed environments in IPv4 and IPv6 networks
- **Assured high availability**
 - **Resilient switch fabric**
protection from a single failed fabric module, supporting total capacity by the remaining fabric module
 - **Optional redundant management**
automatic failover for active and standby management modules
 - **Modular and distributed software**
increase capability/capacity by using distributed hardware and software
 - **Optional redundant power supply**
uninterrupted power
 - **No single point of failure architecture**

Overview

separate control and management planes

- **Hitless software upgrades**
allow patches to be installed without restarting the device, increasing network uptime and simplifying maintenance

Software-defined networking

- **OpenFlow**
supports OpenFlow 1.0 and 1.3 specifications to enable SDN by allowing separation of the data (packet forwarding) and control (routing decision) paths

Multicast support

- **Internet Group Management Protocol (IGMP)**
utilizes Any-Source Multicast (ASM) or Source-Specific Multicast (SSM) to manage IPv4 multicast networks; supports IGMPv1, v2, and v3
- **Protocol Independent Multicast (PIM)**
defines modes of Internet IPv4 and IPv6 multicasting to allow one-to-many and many-to-many transmission of information; PIM Dense Mode (DM), Sparse Mode (SM), and Source-Specific Mode (SSM) are supported
- **Multicast Source Discovery Protocol (MSDP)**
allows multiple PIM-SM domains to interoperate; is used for inter-domain multicast applications
- **Multicast Border Gateway Protocol (MBGP)**
allows multicast traffic to be forwarded across BGP networks separately from unicast traffic

Configuration

Build To Order: BTO is a standalone unit with no integration. BTO products ship standalone are not part of a CTO or Rack-Shippable solution.

<p>Alcatel-Lucent 7750-SR7 Switch Fabric and Control Processor Module DC Power Chassis Starter Bundle</p> <p>Includes:</p> <ul style="list-style-type: none"> • 7750 SR 7-Slot Chassis with 7750 SR-7 175 Amp DC PEM-3 and 7750 SR-7 Enhanced Fan Tray + 7750 SR SFM5-7 + CPM5 Bundle. <p>Bundle Includes:</p> <ul style="list-style-type: none"> • (1) 3HE00272DB - CH-BN - 7750 SR-7 DC w/PEM3 + EFT • (1) 3HE09261AA - SFM - 7750 SR SFM5-7 + CPM5 • Size: 8U 	<p>JL136A</p> <p>See Configuration NOTE:1</p>
<p>Alcatel-Lucent 7750-SR12 Switch Fabric and Control Processor Module DC Power Chassis Starter Bundle</p> <p>Includes:</p> <ul style="list-style-type: none"> • 7750 SR 12-Slot Chassis with 7750 SR-12 175 Amp DC PEM-3 and 7750 SR-12 Enhanced Fan Tray + 7750 SR SFM5-12 + CPM5 Bundle. <p>Bundle Includes:</p> <ul style="list-style-type: none"> • (1) 3HE09260AA - SFM - 7750 SR SFM5-12 & CPM5 • (1) 3HE00183CA - CH-BN - 7750 SR-12 w/PEM3 + EFT • Size: 14U 	<p>JL139A</p> <p>See Configuration NOTE:1</p>
<p>Alcatel-Lucent 7750-SR12e Switch Fabric and Control Processor Module DC Power Chassis Starter Bundle</p> <p>Includes:</p> <ul style="list-style-type: none"> • 3HE07165AA - 7750 SR12e Integrated Chassis (1), • 3HE08421AA - 7750 SR12e SFM5-12e (1), • 3HE08423AA - 7750 SR CPM5 (1) • 3HE08422AA - 7750 SR12e Mini-SFM5-12e (2), • 3HE07114AA - 7x50 SR/XRS APEQ (5) • Size: 22U 	<p>JL142A</p> <p>See Configuration NOTE:1</p>

Configuration Rules:

- Note 1** Quote and Config tools: Require "Yes" and "No" Check Boxes when attempting to Configure this Switch, and force a user to pick one of the following:
- "Yes, this order is for a US Government agency." "United States Government" means any person or entity that constitutes or officially represents a federal department, agency, branch, office, or other instrumentality of the government of the United States of America, including its territories ("U.S."), whether the person or entity is located in the U.S. or elsewhere (worldwide)."
- "No, this order is not for a US Government agency." "United States Government" means any person or entity that constitutes or officially represents a federal department, agency, branch, office, or other instrumentality of the government of the United States of America, including its territories ("U.S."), whether the person or entity is located in the U.S. or elsewhere (worldwide)."
- Actions based on which Check Box is selected:
- If "Yes" is selected, display the error "HPE and HPE Partners are not authorized to sell ALU Products and/or Services directly or indirectly to the United States Government or its agencies, whether or not located in the Sales Territory. "United States Government" means any person or entity that constitutes or officially represents a federal department, agency, branch, office, or other instrumentality of the government of the United States of America, including its

Configuration

territories (“U.S.”), whether the person or entity is located in the U.S. or elsewhere (worldwide).
“and prevent the products from quoting if the checkbox is checked.

If "No" is selected, allow the products to be quoted, if the checkbox is checked.

Chassis Expansion Kits

Alcatel-Lucent 7750 SR SFM5-7 Switch Fabric Module and CPM5 Control Processor Module Bundle

JL137A

Includes:

- 7750 SR SFM5-7 & CPM5, one (1) required per 7750 SR7 slot Shelf, up to two (2) per 7750 SR7 slot Shelf for CPU and fabric redundancy

See
Configuration
NOTE:1

Bundle includes:

- (1) 3HE08429AA - SFM - 7750 SR SFM5-7
- (1) 3HE08423AA - CPM - 7750 SR CPM5

Alcatel-Lucent 7750 SR SFM5-12 Switch Fabric Module and CPM5 Control Processor Module Bundle

JL140A

Includes:

- 7750 SR SFM5-12 & CPM5, one (1) required per 7750 SR12 slot Shelf, up to two (2) per 7750 SR12 slot Shelf for CPU and fabric redundancy

See
Configuration
NOTE:2

Bundle includes:

- (1) 3HE08428AA - SFM - 7750 SR SFM5-12
- (1) 3HE08423AA - CPM - 7750 SR CPM5

Alcatel-Lucent 7750 SR SFM5-12e Switch Fabric Module and CPM5 Control Processor Module Bundle

JL143A

Includes:

- 7750 SR SFM5-12e & CPM5, one (1) required per 7750 SR12e slot Shelf, up to two (2) per 7750 SR12e slot Shelf for CPU and fabric redundancy

See
Configuration
NOTE:3

Bundle Includes:

- 3HE08421AA - 7750 SR12e SFM5-12e (1),
- 3HE08423AA - 7750 SR CPM5 (1)

Configuration

Rules:

Note 1 This bundle is supported on this starter bundle:
JL136A - ALU 7750-SR7 Starter Bundle

Note 2 This bundle is supported on this starter bundle:
JL139A - ALU 7750-SR12 Starter Bundle

Note 3 This bundle is supported on this starter bundle:
JL142A - ALU 7750-SR12e Starter Bundle

Remarks:

Configurators: Warn that only 1 Expansion kit is supported per Router, but allow additional units for spares.

Modules

JL136A (std 0 // max 5) User Selection (min 0 // max 5)

JL139A (std 0 // max 10) User Selection (min 0 // max 10)

Configuration

JL142A (std 0 // max 9) User Selection (min 0 // max 9)

Alcatel-Lucent 7x50 1-port 100GbE CFP+ and 10-port 10GbE SFP+ IMM 8 VPRN E-LTU Bundle 1 CFP 100-GbE ports (min=0 \ max=99 CFP Transceivers) 10 SFP+ 10-GbE ports (min=0 \ max=99 SFP+ Transceivers)	JL145A See Configuration NOTE:1, 3
Alcatel-Lucent 7x50 3-port 40GbE QSFP+ and 20-port GbE SFP IMM 8 VPRN E-LTU Bundle <ul style="list-style-type: none"> • 3 QSFP+ 40-GbE ports (min=0 \ max=99 CFP Transceivers) • 20 SFP 1-GbE ports (min=0 \ max=99 SFP Transceivers) 	JL146A See Configuration NOTE:2, 4
Alcatel-Lucent 7x50 20-port 10GbE SFP+ Integrated Media Module 8 VPRN E-LTU Bundle <ul style="list-style-type: none"> • 20 SFP+ 10-GbE ports (min=0 \ max=99 SFP+ Transceivers) 	JL147A See Configuration NOTE:3
Alcatel-Lucent 7x50 12-port 10GbE SFP+ Integrated Media Module 8 VPRN E-LTU Bundle <ul style="list-style-type: none"> • 12 SFP+ 10-GbE ports (min=0 \ max=99 SFP+ Transceivers) 	JL148A See Configuration NOTE:3
Alcatel-Lucent 7x50 10-port 10GbE SFP+ and 20-port GbE SFP IMM 8 VPRN E-LTU Bundle <ul style="list-style-type: none"> • 10 SFP+ 10-GbE ports (min=0 \ max=99 SFP+ Transceivers) • 20 SFP 1-GbE ports (min=0 \ max=99 SFP Transceivers) 	JL149A See Configuration NOTE:3, 4
Alcatel-Lucent 7x50 48-port GbE SFP Integrated Media Module 8 VPRN E-LTU Bundle <ul style="list-style-type: none"> • 48 SFP 1-GbE ports (min=0 \ max=99 SFP Transceivers) 	JL150A See Configuration NOTE:4

Configuration Rules:

Note 1	The following Transceivers install into this Module:	
	Alcatel-Lucent 7x50 1-port 100GBase LR4 CFP Single Mode 10km LC Connector Transceiver	JL153A
	Alcatel-Lucent 7x50 1-port 100GBase SR10 CFP Multimode 100m MPO Connector Transceiver	JL154A
Note 2	The following Transceivers install into this Module:	
	Alcatel-Lucent 7x50 1-port 40GBase LR4 QSFP+ Single Mode 10km LC Connector Transceiver	JL155A
Note 3	The following Transceivers install into this Module:	
	Alcatel-Lucent 7x50 1-port 10GBASE-SR SFP+ Multimode 300m LC Connector Transceiver	JL156A
	Alcatel-Lucent 7x50 1-port 10GBASE-LR SFP+ Single Mode 10km LC Connector Transceiver	JL157A
Note 4	The following Transceivers install into this Module:	
	Alcatel-Lucent 7x50 1-port 1000BASE-SX SFP Multimode 550m LC Connector Transceiver	JL158A
	Alcatel-Lucent 7x50 1-port 1000BASE-LX SFP Single Mode 10km LC Connector Transceiver	JL159A
	Alcatel-Lucent 7x50 1-port 10/100/1000BASE-TX SFP RJ45 Connector Transceiver	JL160A

Remarks:

Configuration

Configurators: Do not restrict the number of transceivers quoted to a module to allow for spares.

Transceivers

SFP Transceivers

Alcatel-Lucent 7x50 1-port 1000BASE-SX SFP Multimode 550m LC Connector Transceiver	JL158A
Alcatel-Lucent 7x50 1-port 1000BASE-LX SFP Single Mode 10km LC Connector Transceiver	JL159A
Alcatel-Lucent 7x50 1-port 10/100/1000BASE-TX SFP RJ45 Connector Transceiver	JL160A

SFP+ Transceivers

Alcatel-Lucent 7x50 1-port 10GBASE-SR SFP+ Multimode 300m LC Connector Transceiver	JL156A
Alcatel-Lucent 7x50 1-port 10GBASE-LR SFP+ Single Mode 10km LC Connector Transceiver	JL157A

QSFP+ Transceivers

Alcatel-Lucent 7x50 1-port 40GBase LR4 QSFP+ Single Mode 10km LC Connector Transceiver	JL155A
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CFP Transceivers

Alcatel-Lucent 7x50 1-port 100GBase LR4 CFP Single Mode 10km LC Connector Transceiver	JL153A
Alcatel-Lucent 7x50 1-port 100GBase SR10 CFP Multimode 100m MPO Connector Transceiver	JL154A

AC Power Supplies

JL136A (std 0 // max 1) User Selection (min 0 // max 1) per switch enclosure
 JL139A (std 0 // max 1) User Selection (min 0 // max 1) per switch enclosure
 JL142A (std 0 // max 2) User Selection (min 0 // max 2) per switch enclosure

Alcatel-Lucent 7750 SR-7/12e AC Power Bundle	JL138A
<ul style="list-style-type: none"> Each AC Bundle is 1 U high (and contains 4 AC Power Supplies 2.5KW each) 	See Configuration NOTE:1
Alcatel-Lucent 7750 SR-12 AC Power Bundle	JL141A
<ul style="list-style-type: none"> Each AC Bundle is 2 U high (and contains 8 AC Power Supplies 2.5KW each) 	See Configuration NOTE:2

Configuration Rules:

Note 1 This power supply is only supported on JL136A and JL142A

Note 2 This power supply is only supported on JL139A

Remarks:

Configurator Blue Text: The AC Power bundles are external to the router chassis. They are connected to the internal power modules of JL136A, JL139A and JL142A. Routers JL136A,

Configuration

JL139A and JL142A support the use of facility DC Power as standard, and only require the AC Power Bundles if the customer desires to use AC Power.

Configurator Blue Text: For JL142A (SR12e), no more than 2 AC power bundles (JL138A) per chassis are required to power the worst case scenario with existing HPN interfaces, if AC version chosen.

Configurators: Do not restrict the number of AC Bundles quoted to a chassis to allow for spares.

Site Survey

(Switches JL136A, JL139A, JL142A) System (std 0 // max 1) User Selection (min 1 // max 1) for first switch on a multi switch configuration

Alcatel-Lucent 7750 Service Router Site Survey Service Trigger for Installation/Integration Services JL161A

Remarks:

Configurators: Only first switch in multi switch configurations should default quantity 1 JL161A

Software/Licenses

(Switches JL136A, JL139A, JL142A) System (std 0 // max 1) User Selection (min 1 // max 1) per switch

Alcatel-Lucent 7750 SR-7/12/12e Release 13.0 Operating Software E-LTU JL144AAE

Nokia 7750 SR Operating System Software LTU JL425A

(Switches JL136A, JL139A, JL142A) System (std 0 // max 10,000) User Selection (min 0 // max 10,000) per switch

Alcatel-Lucent 7750 Service Router Extended Technical Support/Return for Exchange Services JL162A

Alcatel-Lucent 7750 Service Router Installation/Commissioning/Network Design/Integration Services JL163A

Alcatel-Lucent 7750 Service Router Software Subscription Plan Service JL164A

(Modules JL145A, JL146A, JL147A, JL148A, JL149A, JL150A) System (std 0 // max 1) User Selection (min 0 // max 1) per module

Alcatel-Lucent 7x50 Integrated Media Module Full VPRN Support for up to 50Gb/s E-LTU JL151AAE
 • This is an upgrade from 8 VPRN to full VPRN capabilities. See Configuration NOTE:1

Alcatel-Lucent 7x50 Integrated Media Module Full VPRN Support for up to 200Gb/s E-LTU JL152AAE
 • This is an upgrade from 8 VPRN to full VPRN capabilities. See Configuration NOTE:2

Nokia 7x50 Integrated Media Module Full VPRN Support for up to 50Gb/s LTU JL426A
 • This is an upgrade from 8 VPRN to full VPRN capabilities. See Configuration

Configuration

Nokia 7x50 Integrated Media Module Full VPRN Support for up to 200Gb/s LTU

- This is an upgrade from 8 VPRN to full VPRN capabilities.

NOTE:1

JL427A

See
Configuration

NOTE:2

Configuration Rules:

Note 1 This LTU is only supported on JL150A

Note 2 This LTU is only supported on JL145A, JL146A, JL147A, JL148A, JL149A

Technical Specifications

Alcatel-Lucent 7750-SR7 Switch Fabric and Control Processor Module DC Power Chassis Starter Bundle (JL136A)

Included accessories	1 Alcatel-Lucent 7750 SR SFM5-7 Switch Fabric Module and CPM5 Control Processor Module Bundle (JL137A)		
I/O ports and slots	5 I/O module slots Supports a maximum of 5 100GbE ports or 15 40GbE ports or 100 10GbE ports or 240 Gigabit Ethernet ports, or a combination		
Additional ports and slots	2 Integrated SF/CPM (Switch Fabric and Control Processor Module) slots		
Physical characteristics	Dimensions	17.52(w) x 25.51(d) x 14.02(h) in (44.5 x 64.8 x 35.6 cm) (8U height)	
	Weight	90.39 lb (41 kg)	
	Full configuration weight	155.42 lb (70.5 kg)	
Memory and processor	Cavium 10-core @ 1.5 GHz, 16 GB DDR3 DIMM; storage: Default one 2GB compact flash with single SF/CPM, Maximum six 2GB compact flashes with two SF/CPMs		
Mounting and enclosure	EIA-standard 19 in. rack		
Performance	Throughput	up to 2976 Mpps	
	Routing/Switching capacity	2 Tbps	
	Switch fabric speed	2 Tbps	
	Routing table size	22000000 entries (IPv4), 12000000 entries (IPv6)	
	Forwarding table size	2000000 entries (IPv4), 1000000 entries (IPv6)	
Environment	Operating temperature	41°F to 104°F (5°C to 40°C)	
	Operating relative humidity	5% to 85%	
	Altitude	up to 13,123 ft (4 km)	
Electrical characteristics	Voltage	-40 to -72 VDC, rated	
	Current	93 A	
	Maximum power rating	3750 W	
	Notes	Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated. Optional external 200 to 240 VAC power supply (JL138A) available.	
Safety	EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; EN 60950-1; CSA; IEC 60825-1; IEC 60950-1, Second Edition; UL 60950-1 2nd Edition		
Emissions	FCC part 15 Class A; BSMI CNS 13438; FCC Part 15, Subpart B; EN 61000-3-2; EN 61000-3-3; AS/NZS CISPR 22:2009; VCCI V-4/2012.04; ETSI EN 300 386 V1.6.1(2012-09); CISPR 22:2008 Class A; EN 55022:2010 Class A; ICES-003 Issue5 Class A; VCCI V-3/2013.04 Class A		
Immunity	Generic	ETSI EN 300 386 V1.6.1	
	EN	EN 55024, CISPR 24; EN 61000-6-2:2005/AC:2005	
	ESD	EN 61000-4-2	
	Radiated	EN 61000-4-3	
	EFT/Burst	EN 61000-4-4	
	Surge	EN 61000-4-5	
	Conducted	EN 61000-4-6	

Technical Specifications

	Power frequency magnetic field	EN 61000-4-8
	Voltage dips and interruptions	EN 61000-4-11
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management	Command-line interface; Out-of-band management (serial RS-232c); Out-of-band management (RJ-45 Ethernet); SNMP manager; Telnet; FTP; In-line and out-of-band	
Notes	Safety standards and compliance agency certifications Safety • EN 60950-1 2nd Ed CE Mark • IEC 60950-1 2nd Ed CB Scheme • CSA/UL 60950-1 2nd Ed NRTL • FDA CDRH 21-CFR 1040 • IEC/EN 60825-1 • IEC/EN 60825-2 Maximum ports are calculated based on the Integrated Media Modules (IMM) which Hewlett Packard Enterprise offers. Alcatel-Lucent has other interface modules that provide higher port density and maximum ports for the system.	
Services	Refer to the Hewlett Packard Enterprise website at http://www.hpe.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office.	

Alcatel-Lucent 7750-SR12 Switch Fabric and Control Processor Module DC Power Chassis Starter Bundle (JL139A)

Included accessories	1 Alcatel-Lucent 7750 SR SFM5-12 Switch Fabric Module and CPM5 Control Processor Module Bundle (JL140A)	
I/O ports and slots	10 I/O module slots Supports a maximum of 10 100GbE ports or 30 40GbE ports or 200 10GbE ports or 480 Gigabit Ethernet ports, or a combination	
Additional ports and slots	2 Integrated SF/CPM (Switch Fabric and Control Processor Module) slots	
Physical characteristics	Dimensions	17.52(w) x 25.39(d) x 24.49(h) in (44.5 x 64.5 x 62.2 cm) (14U height)
	Weight	124.34 lb (56.4 kg)
	Full configuration weight	343.26 lb (155.7 kg)
Memory and processor	Cavium 10-core @ 1.5 GHz, 16 GB DDR3 DIMM; storage: Default one 2GB compact flash with single SF/CPM, Maximum six 2GB compact flashes with two SF/CPMs	
Mounting and enclosure	EIA-standard 19 in. rack	
Performance	Throughput	up to 5952 Mpps
	Routing/Switching capacity	4 Tbps
	Switch fabric speed	4 Tbps
	Routing table size	22000000 entries (IPv4), 12000000 entries (IPv6)
	Forwarding table size	2000000 entries (IPv4), 1000000 entries (IPv6)
Environment	Operating temperature	41°F to 104°F (5°C to 40°C)
	Operating relative humidity	5% to 85%
	Altitude	up to 13,123 ft (4 km)
Electrical characteristics	Voltage	-40 to -72 VDC, rated
	Current	162 A
	Maximum power rating	6480 W
	Notes	Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all

Technical Specifications

	modules populated. Optional external 200 to 240 VAC power supply (JL141A) available.
Safety	EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; EN 60950-1; CSA; IEC 60825-1; UL 60950-1, 2nd Edition; IEC 60950-1, Second Edition
Emissions	FCC part 15 Class A; BSMI CNS 13438; FCC Part 15, Subpart B; EN 61000-3-2; EN 61000-3-3; AS/NZS CISPR 22:2009; VCCI V-4/2012.04; ETSI EN 300 386 V1.6.1(2012-09); CISPR 22:2008 Class A; EN 55022:2010 Class A; ICES-003 Issue5 Class A; VCCI V-3/2013.04 Class A
Immunity	<p>Generic ETSI EN 300 386 V1.6.1</p> <p>EN EN 55024, CISPR 24; EN 61000-6-2:2005/AC:2005</p> <p>ESD EN 61000-4-2</p> <p>Radiated EN 61000-4-3</p> <p>EFT/Burst EN 61000-4-4</p> <p>Surge EN 61000-4-5</p> <p>Conducted EN 61000-4-6</p> <p>Power frequency magnetic field EN 61000-4-8</p> <p>Voltage dips and interruptions EN 61000-4-11</p> <p>Harmonics EN 61000-3-2, IEC 61000-3-2</p> <p>Flicker EN 61000-3-3, IEC 61000-3-3</p>
Management	Command-line interface; Out-of-band management (serial RS-232c); Out-of-band management (RJ-45 Ethernet); SNMP manager; Telnet; FTP; In-line and out-of-band
Notes	<p>Safety standards and compliance agency certifications Safety • EN 60950-1 2nd Ed CE Mark • IEC 60950-1 2nd Ed CB Scheme • CSA/UL 60950-1 2nd Ed NRTL • FDA CDRH 21-CFR 1040 • IEC/EN 60825-1 • IEC/EN 60825-2</p> <p>Maximum ports are calculated based on the Integrated Media Modules (IMM) which Hewlett Packard Enterprise offers. Alcatel-Lucent has other interface modules that provide higher port density and maximum ports for the system.</p>
Services	Refer to the Hewlett Packard Enterprise website at http://www.hpe.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office.

Alcatel-Lucent 7750-SR12e Switch Fabric and Control Processor Module DC Power Chassis Starter Bundle (JL142A)

Included accessories	1 Alcatel-Lucent 7750 SR SFM5-12e Switch Fabric Module and CPM5 Control Processor Module Bundle (JL143A)	
I/O ports and slots	9 I/O module slots Supports a maximum of 9 100GbE ports or 27 40GbE ports or 180 10GbE ports or 432 Gigabit Ethernet ports, or a combination	
Additional ports and slots	2 Integrated SF/CPM (Switch Fabric and Control Processor Module) slots 2 Mini SFM (Switch Fabric Module) slots	
Physical characteristics	Dimensions	17.52(w) x 30(d) x 38.5(h) in (44.5 x 76.2 x 97.8 cm) (22U height)
	Weight	175.05 lb (79.4 kg)
	Full configuration weight	550.05 lb (249.5 kg)
Memory and processor	Cavium 10-core @ 1.5 GHz, 16 GB DDR3 DIMM; storage: Default one 2GB compact flash with single SF/CPM, Maximum six 2GB compact flashes with two SF/CPMs	
Mounting and enclosure	EIA-standard 19 in. rack	
Performance	Throughput	up to 10713.6 Mpps

Technical Specifications

	Routing/Switching capacity	7.2 Tbps
	Switch fabric speed	9.6 Tbps
	Routing table size	22000000 entries (IPv4), 12000000 entries (IPv6)
	Forwarding table size	2000000 entries (IPv4), 1000000 entries (IPv6)
Environment	Operating temperature	41°F to 104°F (5°C to 40°C)
	Operating relative humidity	5% to 85%
	Altitude	up to 13,123 ft (4 km)
Electrical characteristics	Voltage	-40 to -72 VDC, rated
	Current	60 A
	Maximum power rating	12000 W
	Notes	Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated. Optional external 200 to 240 VAC power supply (JL138A) available.
Safety	EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; EN 60950-1; CSA; IEC 60825-1; IEC 60950-1, Second Edition; UL 60950-1 2nd Edition	
Emissions	FCC part 15 Class A; BSMI CNS 13438; FCC Part 15, Subpart B; EN 61000-3-2; EN 61000-3-3; AS/NZS CISPR 22:2009; VCCI V-4/2012.04; ETSI EN 300 386 V1.6.1(2012-09); CISPR 22:2008 Class A; EN 55022:2010 Class A; ICES-003 Issue5 Class A; VCCI V-3/2013.04 Class A	
Immunity	Generic	ETSI EN 300 386 V1.6.1
	EN	EN 55024, CISPR 24; EN 61000-6-2:2005/AC:2005
	ESD	EN 61000-4-2
	Radiated	EN 61000-4-3
	EFT/Burst	EN 61000-4-4
	Surge	EN 61000-4-5
	Conducted	EN 61000-4-6
	Power frequency magnetic field	EN 61000-4-8
	Voltage dips and interruptions	EN 61000-4-11
	Harmonics	EN 61000-3-2, IEC 61000-3-2
	Flicker	EN 61000-3-3, IEC 61000-3-3
Management	Command-line interface; Out-of-band management (serial RS-232c); Out-of-band management (RJ-45 Ethernet); SNMP manager; Telnet; FTP; In-line and out-of-band	
Notes	Safety standards and compliance agency certifications Safety • EN 60950-1 2nd Ed CE Mark • IEC 60950-1 2nd Ed CB Scheme • CSA/UL 60950-1 2nd Ed NRTL • FDA CDRH 21-CFR 1040 • IEC/EN 60825-1 • IEC/EN 60825-2 Maximum ports are calculated based on the Integrated Media Modules (IMM) which Hewlett Packard Enterprise offers. Alcatel-Lucent has other interface modules that provide higher port density and maximum ports for the system.	
Services	Refer to the Hewlett Packard Enterprise website at http://www.hpe.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office.	

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Standards and protocols (applies to all products in series)

BGP	<ul style="list-style-type: none">RFC 1772 Application of the BGPRFC 1965 BGP-4 confederationsRFC 1997 BGP Communities AttributeRFC 2385 BGP Session Protection via TCP MD5RFC 2439 BGP Route Flap DampingRFC 2918 Route Refresh CapabilityRFC 3107 Support BGP carry Label for MPLSRFC 3392 Capabilities Advertisement with BGP-4RFC 4271 A Border Gateway Protocol 4 (BGP-4)RFC 4360 BGP Extended Communities AttributeRFC 4456 BGP Route Reflection: An Alternative to Full Mesh Internal BGP (IBGP)RFC 4486 Subcodes for BGP Cease Notification MessageRFC 4724 Graceful Restart Mechanism for BGPRFC 4760 Multiprotocol Extensions for BGP-4RFC 4893 BGP Support for Four-octet AS Number SpaceRFC 5065 Autonomous System Confederations for BGPRFC 5291 Outbound Route Filtering Capability for BGP-4RFC 5492 Capabilities Advertisement with BGP-4
Device Management	<ul style="list-style-type: none">RFC 1157 SNMPv1/v2cRFC 2452 MIB for TCP6RFC 2573 (SNMPv3 Applications)SSHv1/SSHv2 Secure ShellTACACS/TACACS+
General Protocols	<ul style="list-style-type: none">RFC 768 UDPRFC 791 IPRFC 792 ICMPRFC 793 TCPRFC 826 ARPRFC 854 TELNETRFC 951 BOOTPRFC 1058 RIPv1RFC 1332 The PPP Internet Protocol Control Protocol (IPCP)RFC 1350 TFTP Protocol (revision 2)RFC 1377 The PPP OSI Network Layer Control Protocol (OSINLCP)RFC 1519 CIDRRFC 1534 DHCP/BOOTP InteroperationRFC 1542 BOOTPRFC 1638 PPP Bridging Control Protocol (BCP)RFC 1661 The Point-to-Point Protocol (PPP)RFC 1662 PPP in HDLC-like FramingRFC 1812 IPv4 RoutingRFC 1877 PPP Internet Protocol Control Protocol Extensions for Name Server AddressesRFC 1989 PPP Link Quality MonitoringRFC 1990 The PPP Multilink Protocol (MP)RFC 1994 PPP Challenge Handshake Authentication Protocol (CHAP)RFC 2082 RIP-2 MD5 AuthenticationRFC 2131 DHCPRFC 2453 RIPv2RFC 2516 A Method for Transmitting PPP Over Ethernet (PPPoE)

Technical Specifications

RFC 2615 PPP over SONET/SDH (Synchronous Optical Network/Synchronous Digital Hierarchy)
RFC 2787 Definitions of Managed Objects for VRRP
RFC 2878 PPP Bridging Control Protocol (BCP)
RFC 3046 DHCP Relay Agent Information Option
RFC 3596 DNS Extensions to Support IP Version 6
RFC 3768 VRRP
RFC 5286 Basic Specification for IP Fast Reroute: Loop-Free Alternates
RFC 5382 The IP Network Address Translator (NAT)
RFC 5508 NAT Behavioral Requirements for ICMP
RFC 5880 Bidirectional Forwarding Detection
RFC 5881 BFD for IPv4 and IPv6 (Single Hop)
RFC 5883 BFD for Multihop Paths

IP Multicast

RFC 1112 IGMP
RFC 2236 IGMPv2
RFC 2362 PIM Sparse Mode
RFC 3376 IGMPv3
RFC 3446 Anycast Rendezvous Point (RP) mechanism using Protocol Independent Multicast (PIM) and Multicast Source Discovery Protocol (MSDP)
RFC 3618 Multicast Source Discovery Protocol (MSDP)
RFC 4601 PIM Sparse Mode
RFC 4604 Using Internet Group Management Protocol Version 3 (IGMPv3) and Multicast Listener Discovery Protocol Version 2 (MLDv2) for Source-Specific Multicast
RFC 4607 Source-Specific Multicast for IP
RFC 4608 Source-Specific Protocol Independent Multicast in 232/8 (PIM SSM)
RFC 4610 Anycast-RP Using Protocol Independent Multicast (PIM)

IPv6

RFC 1981 IPv6 Path MTU Discovery
RFC 2375 IPv6 Multicast Address Assignments
RFC 2460 IPv6 Specification
RFC 2461 IPv6 Neighbor Discovery
RFC 2462 IPv6 Stateless Address Auto-configuration
RFC 2464 Transmission of IPv6 over Ethernet Networks
RFC 2529 Transmission of IPv6 Packets over IPv4
RFC 2545 Use of MP-BGP-4 for IPv6
RFC 2710 Multicast Listener Discovery (MLD) for IPv6
RFC 2740 OSPFv3 for IPv6
RFC 3587 IPv6 Global Unicast Address Format
RFC 3810 Multicast Listener Discovery Version 2 (MLDv2) for IPv6
RFC 4007 IPv6 Scoped Address Architecture
RFC 4193, Unique Local IPv6 Unicast Addresses
RFC 4291 IP Version 6 Addressing Architecture
RFC 4443 ICMPv6
RFC 4552 Authentication/Confidentiality for OSPFv3
RFC 5072 IP Version 6 over PPP
RFC 5095 Deprecation of Type 0 Routing Headers in IPv6

MIBs

RFC 1157 A Simple Network Management Protocol (SNMP)
RFC 1215 A Convention for Defining Traps for use with the SNMP
RFC 1657 BGP-4 MIB
RFC 1724 RIPv2 MIB
RFC 1850 OSPFv2 MIB
RFC 1907 SNMPv2 MIB
RFC 2011 SNMPv2 MIB for IP

Technical Specifications

RFC 2452 IPv6-TCP-MIB
RFC 2465 IPv6 MIB
RFC 2571 SNMP Framework MIB
RFC 2572 SNMP-MPD MIB
RFC 2573 SNMP-Notification MIB
RFC 2573 SNMP-Target MIB
RFC 2574 SNMP USM MIB
RFC 2578 Structure of Management Information Version 2 (SMIv2)
RFC 2665 Ethernet-Like-MIB
RFC 2819 RMON MIB
RFC 2863 The Interfaces Group MIB
RFC 3273 HC-RMON MIB
RFC 3414 SNMP-User based-SM MIB
RFC 3418 MIB for SNMP
RFC 3826 AES for SNMP's USM MIB
RFC 4133 Entity MIB (Version 3)
RFC 4292 IP Forwarding Table MIB

MPLS

RFC 3031 Multiprotocol Label Switching Architecture
RFC 3032 MPLS Label Stack Encoding
RFC 3443 Time To Live (TTL) Processing in Multi-Protocol Label Switching (MPLS) Networks
RFC 4182 Removing a Restriction on the use of MPLS Explicit NULL

Network Management

RFC 1157 SNMPv1
RFC 1215 Convention for defining traps for use with the SNMP
RFC 2571 SNMP Management Frameworks
RFC 2572 Message Processing and Dispatching for the Simple Network Management Protocol (SNMP)
RFC 2573 SNMP Applications
RFC 2574 SNMPv3 User-based Security Model (USM)
RFC 2575 SNMPv3 View-based Access Control Model (VACM)
RFC 2576 Coexistence between SNMP versions
RFC 2578 SMIv2
RFC 2819 Remote Network Monitoring Management Information Base
RFC 3164 BSD syslog Protocol
RFC 3411 An Architecture for Describing Simple Network Management Protocol (SNMP) Management Frameworks
RFC 3412 Message Processing and Dispatching for the Simple Network Management Protocol (SNMP)
RFC 3413 Simple Network Management Protocol (SNMP) Applications
RFC 3414 SNMPv3 User-based Security Model (USM)
RFC 3418 Management Information Base (MIB) for the Simple Network Management Protocol (SNMP)
RFC 4292 IP Forwarding Table MIB

OSPF

RFC 1765 OSPF Database Overflow
RFC 2328 OSPFv2
RFC 2370 OSPF Opaque LSA Option
RFC 3101 OSPF NSSA
RFC 3137 OSPF Stub Router Advertisement
RFC 3623 Graceful OSPF Restart

Security

RFC 2138 RADIUS Authentication
RFC 2865 RADIUS Authentication

Technical Specifications

RFC 2866 RADIUS Accounting
RFC 4250 The Secure Shell (SSH) Protocol Assigned Numbers
draft-grant-tacacs-02 (TACACS)
SSHv1/SSHv2 Secure Shell

Accessories

Alcatel-Lucent 7750 Service Router Series accessories

Alcatel-Lucent 7750-SR7 Switch Fabric and Control Processor Module DC Power Chassis Starter Bundle (JL136A)

Alcatel-Lucent 7x50 1-port 100GBase LR4 CFP Single Mode 10km LC Connector Transceiver	JL153A
Alcatel-Lucent 7x50 1-port 100GBase SR10 CFP Multimode 100m MPO Connector Transceiver	JL154A
Alcatel-Lucent 7x50 1-port 40GBase LR4 QSFP+ Single Mode 10km LC Connector Transceiver	JL155A
Alcatel-Lucent 7x50 1-port 10GBASE-SR SFP+ Multimode 300m LC Connector Transceiver	JL156A
Alcatel-Lucent 7x50 1-port 10GBASE-LR SFP+ Single Mode 10km LC Connector Transceiver	JL157A
Alcatel-Lucent 7x50 1-port 1000BASE-SX SFP Multimode 550m LC Connector Transceiver	JL158A
Alcatel-Lucent 7x50 1-port 1000BASE-LX SFP Single Mode 10km LC Connector Transceiver	JL159A
Alcatel-Lucent 7x50 1-port 10/100/1000BASE-TX SFP RJ45 Connector Transceiver	JL160A
Alcatel-Lucent 7750 SR-7/12e AC Power Bundle	JL138A
Nokia 7750 SR Operating System Software LTU	JL425A
Nokia 7x50 Integrated Media Module Full VPRN Support for up to 50Gb/s LTU	JL426A
Nokia 7x50 Integrated Media Module Full VPRN Support for up to 200Gb/s LTU	JL427A
Alcatel-Lucent 7750 SR SFM5-7 Switch Fabric Module and CPM5 Control Processor Module Bundle	JL137A
Alcatel-Lucent 7x50 1-port 100GbE CFP+ and 10-port 10GbE SFP+ IMM 8 VPRN E-LTU Bundle	JL145A
Alcatel-Lucent 7x50 3-port 40GbE QSFP+ and 20-port GbE SFP IMM 8 VPRN E-LTU Bundle	JL146A
Alcatel-Lucent 7x50 20-port 10GbE SFP+ Integrated Media Module 8 VPRN E-LTU Bundle	JL147A
Alcatel-Lucent 7x50 12-port 10GbE SFP+ Integrated Media Module 8 VPRN E-LTU Bundle	JL148A
Alcatel-Lucent 7x50 10-port 10GbE SFP+ and 20-port GbE SFP IMM 8 VPRN E-LTU Bundle	JL149A
Alcatel-Lucent 7x50 48-port GbE SFP Integrated Media Module 8 VPRN E-LTU Bundle	JL150A

Alcatel-Lucent 7750-SR12 Switch Fabric and Control Processor Module DC Power Chassis Starter Bundle (JL139A)

Alcatel-Lucent 7x50 1-port 100GBase LR4 CFP Single Mode 10km LC Connector Transceiver	JL153A
Alcatel-Lucent 7x50 1-port 100GBase SR10 CFP Multimode 100m MPO Connector Transceiver	JL154A
Alcatel-Lucent 7x50 1-port 40GBase LR4 QSFP+ Single Mode 10km LC Connector Transceiver	JL155A
Alcatel-Lucent 7x50 1-port 10GBASE-SR SFP+ Multimode 300m LC Connector Transceiver	JL156A
Alcatel-Lucent 7x50 1-port 10GBASE-LR SFP+ Single Mode 10km LC Connector Transceiver	JL157A
Alcatel-Lucent 7x50 1-port 1000BASE-SX SFP Multimode 550m LC Connector Transceiver	JL158A
Alcatel-Lucent 7x50 1-port 1000BASE-LX SFP Single Mode 10km LC Connector Transceiver	JL159A
Alcatel-Lucent 7x50 1-port 10/100/1000BASE-TX SFP RJ45 Connector Transceiver	JL160A
Alcatel-Lucent 7750 SR-12 AC Power Bundle	JL141A
Nokia 7750 SR Operating System Software LTU	JL425A
Nokia 7x50 Integrated Media Module Full VPRN Support for up to 50Gb/s LTU	JL426A
Nokia 7x50 Integrated Media Module Full VPRN Support for up to 200Gb/s LTU	JL427A
Alcatel-Lucent 7750 SR SFM5-12 Switch Fabric Module and CPM5 Control Processor Module Bundle	JL140A
Alcatel-Lucent 7x50 1-port 100GbE CFP+ and 10-port 10GbE SFP+ IMM 8 VPRN E-LTU Bundle	JL145A
Alcatel-Lucent 7x50 3-port 40GbE QSFP+ and 20-port GbE SFP IMM 8 VPRN E-LTU Bundle	JL146A
Alcatel-Lucent 7x50 20-port 10GbE SFP+ Integrated Media Module 8 VPRN E-LTU Bundle	JL147A
Alcatel-Lucent 7x50 12-port 10GbE SFP+ Integrated Media Module 8 VPRN E-LTU Bundle	JL148A
Alcatel-Lucent 7x50 10-port 10GbE SFP+ and 20-port GbE SFP IMM 8 VPRN E-LTU Bundle	JL149A
Alcatel-Lucent 7x50 48-port GbE SFP Integrated Media Module 8 VPRN E-LTU Bundle	JL150A

Alcatel-Lucent 7750-SR12e Switch Fabric and Control Processor Module DC Power Chassis Starter Bundle (JL142A)

Alcatel-Lucent 7x50 1-port 100GBase LR4 CFP Single Mode 10km LC Connector Transceiver	JL153A
Alcatel-Lucent 7x50 1-port 100GBase SR10 CFP Multimode 100m MPO Connector Transceiver	JL154A
Alcatel-Lucent 7x50 1-port 40GBase LR4 QSFP+ Single Mode 10km LC Connector Transceiver	JL155A

Accessories

Alcatel-Lucent 7x50 1-port 10GBASE-SR SFP+ Multimode 300m LC Connector Transceiver	JL156A
Alcatel-Lucent 7x50 1-port 10GBASE-LR SFP+ Single Mode 10km LC Connector Transceiver	JL157A
Alcatel-Lucent 7x50 1-port 1000BASE-SX SFP Multimode 550m LC Connector Transceiver	JL158A
Alcatel-Lucent 7x50 1-port 1000BASE-LX SFP Single Mode 10km LC Connector Transceiver	JL159A
Alcatel-Lucent 7x50 1-port 10/100/1000BASE-TX SFP RJ45 Connector Transceiver	JL160A
Alcatel-Lucent 7750 SR-7/12e AC Power Bundle	JL138A
Nokia 7750 SR Operating System Software LTU	JL425A
Nokia 7x50 Integrated Media Module Full VPRN Support for up to 50Gb/s LTU	JL426A
Nokia 7x50 Integrated Media Module Full VPRN Support for up to 200Gb/s LTU	JL427A
Alcatel-Lucent 7750 SR SFM5-12e Switch Fabric Module and CPM5 Control Processor Module Bundle	JL143A
Alcatel-Lucent 7x50 1-port 100GbE CFP+ and 10-port 10GbE SFP+ IMM 8 VPRN E-LTU Bundle	JL145A
Alcatel-Lucent 7x50 3-port 40GbE QSFP+ and 20-port GbE SFP IMM 8 VPRN E-LTU Bundle	JL146A
Alcatel-Lucent 7x50 20-port 10GbE SFP+ Integrated Media Module 8 VPRN E-LTU Bundle	JL147A
Alcatel-Lucent 7x50 12-port 10GbE SFP+ Integrated Media Module 8 VPRN E-LTU Bundle	JL148A
Alcatel-Lucent 7x50 10-port 10GbE SFP+ and 20-port GbE SFP IMM 8 VPRN E-LTU Bundle	JL149A
Alcatel-Lucent 7x50 48-port GbE SFP Integrated Media Module 8 VPRN E-LTU Bundle	JL150A

Summary of Changes

Date	Version History	Action	Description of Change
09-Jan-2017	From Version 3 to 4	Added	SKUs added: JL425A, JL426A, JL427A
10-June-2016	From Version 2 to 3	Changed	Product descriptions, Technical Specifications and formatting updated.
21-August-2015	From Version 1 to 2	Changed	Changes made on Configuration Section



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