

Overview

Alcatel-Lucent Remote Replication Solution

The Alcatel-Lucent 1830 Photonic Service Switch (PSS) supports next-generation WDM multiservice transport from access to core. The scalable switch drives lower TCO and extends network life cycles. The 1830 PSS transforms traditional WDM into a flexible transport layer with managed agile photonics, multilayer switching and services, plus network intelligence.

Support for solutions that offer both low latency and zero data loss, protection from disasters, and that can span wide geographical areas (a cyclone for example) is expensive because they generally require extremely large replication links (high speed) with high recurring monthly costs due to carrier service providers. HPE 3PAR Remote Copy can help limit these costs with our Synchronous Long Distance topology where data is replicated to a nearby data center in synchronous replication mode using **Alcatel Lucent Photonic Switch PSS 1830**. The distances can now be extended up to 130 Km.

Hewlett Packard Enterprise is making available 4 Alcatel-Lucent solution sets:

- Alcatel-Lucent Assured 20G 1830 PSS4 40G 75km Remote Replication Solution (A20G)
- Alcatel-Lucent Redundant 20G 1830 PSS4 80G 75km Remote Replication Solution (R20G)
- Alcatel-Lucent Assured Xlong 20G 1830 PSS16 40G 130km Remote Replication Solution (XLA20G)
- Alcatel-Lucent Redundant Xlong 20G-1830-PSS16 200G 130km Remote Replication Solution (XLR20G)
- Each of these Solutions include a Main and a Remote bundle and both have to be ordered for the solution to operate.

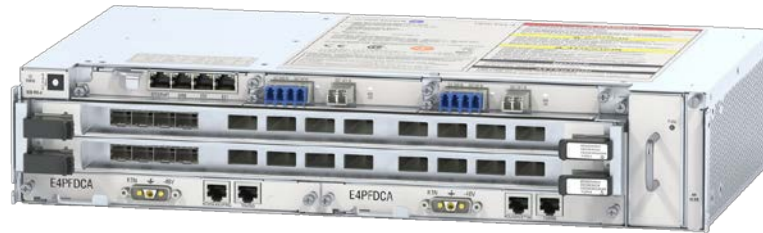


Figure 1. Alcatel-Lucent PSS-4



Overview

Figure2. Alcatel Lucent PSS-16

Alcatel-Lucent PSS Models

We have designed four unique solutions built for scaling in terms of bandwidth, distance and encryption requirement:

- Alcatel-Lucent Assured 20G 1830 PSS4 40G 75km Remote Replication Solution (A20G)**
 The A20G is a starting configuration that includes one PSS-4 on each end of the Solution. Designed for cost optimization it scales to 75KM of distance and 40G bandwidth. Assured – Single Chassis, redundant power, capacity split between active service blades, mux/demux and network connections.
- Alcatel-Lucent Redundant 20G 1830 PSS4 80G 75 km Remote Replication Solution (R20G)**
 The R20G is a redundant configuration that includes two PSS-4 on each end of the Solution. Designed for maximum redundancy it scales to 75KM of distance and 80G bandwidth. Redundant – Dual Chassis, redundant power, capacity split between chassis' and active service blades, mux/demux and network connections
- Alcatel-Lucent Assured Xlong 20G 1830 PSS16 40G 130km Remote Replication Solution (XLA20G)**
 The XLA20G is a starting configuration for longer distances that includes one PSS-16 on each end of the Solution. It scales to 130 KM of distance and 40G of bandwidth. Assured – Single Chassis, redundant power, capacity split between active service blades, mux/demux and network connections.
- Alcatel-Lucent Redundant Xlong 20G-1830-PSS16 200G 130km Remote Replication Solution (XLR20G)**
 The XLR20G is a redundant configuration that includes two PSS 16 on each end of the Solution. Designed for maximum redundancy it scales to 130KM of distance and 200G bandwidth. Redundant – Dual Chassis, redundant power, capacity split between chassis' and active service blades, mux/demux and network connections.



Service and Support

Service and Support

Service and Support is included for 3 Years. Service and Support is provided directly by Alcatel Lucent. For installation and integration services referring to initial setup of the solutions please refer to the Service SKU's in each of the Solution SKU sections.

Features and Benefits

Key Features and Benefits

Alcatel-Lucent PSS-4 & PSS-16

Secure Fiber Optic Data Center Interconnect

Rather than using a public carrier, the combined HPE 3PAR, Alcatel-Lucent 1830 synchronous replication solution certified by a third party, allows for DCI to DCI connections up to 130km without mid-point equipment over your dark fiber network.

The Alcatel-Lucent 1830 PSS supports an integrated Layer 1 hardware encryption option to provide secure transport for critical DCI applications. The Alcatel-Lucent 1830 PSS can manage specific physical and logical security risks regarding individual network elements, including secure device configuration, comprehensive logs with intrusion prevention alarms, optical interface redundancy options, while continuously monitoring links for unexpected loss of signal strength from unauthorized optical fiber tapping.

Very Low Latency for Synchronous Replication

Latency requirements for mission-critical applications, usually dictates the fastest and most efficient technology for transport of those applications. The 1830 PSS solution has been engineered to meet the most stringent latency requirement while providing high availability for synchronous replication applications.

In-flight hardware based L1 encryption

Using industry standard AES-256 shared key encryption of your HP3PAR synchronous replication DCI to DCI, the 1830 utilizes hardware based in flight encryption that not only reduces latency, but also provides for full payload encryption. This includes full AES-256 encryption of native headers, payload, and trailers regardless of the protocol.

While encryption in the higher layers of the Open Systems Interconnection (OSI) network stack can be effective in certain situations, such encryption can be complex — resulting in high CPU utilization, increased latency and overhead. Layer 1 (L1) physical layer encryption implemented on 1830 PSS is therefore the preferred method for securing data across the DCC WAN that adds only nanoseconds of latency. Using dedicated hardware, L1 encryption can closely couple any higher-layer data flow with its transmission medium to maximize the data center interconnection capacity and DCR performance.

The Alcatel-Lucent KMT is a secure, scalable application that supports management of the cryptographic life cycle of each wavelength service — the keys generated to perform the encryption — as well as the management of encryption key expiration, rotation and destruction.

Scalable 20-200

G+ Solution

The 1830 like the 3PAR replication solution is sized for the application and expected growth, the DCI to DCI 1830 equipment can be sized to the network distance and allows for growth starting at 20G replicated data (40G total active no fault throughput). The various solutions can allow “in chassis” growth for up to 200G of data. The solution does not have to stop there, using the virtual chassis concept, where additional chassis can be added while in service, the solution can scale to over 9 terabits without the need to change any of the hardware deployed on day one.

The 1830 PSS is a scalable, next-generation DWDM platform that provides data center aggregation for Ethernet and Fibre Channel (FC) data sources, allowing smooth in service activation of additional clients to meet current and future demand of customers BC/DR needs.

Multiprotocol support for all traffic

The 1830 equipment is non-intrusive to the native protocols, thus allowing for mix and match traffic on the common network. The solution supports 8/10G Fibre Channel, as well as 10G Ethernet. Being bit transparent, the 1830 does not change, or convert the native protocol.

Features and Benefits

Using the 1830 PSS service modules, wavelengths can be combined onto a single fiber optic pair to quickly and drastically increase overall DCC WAN capacity. Similarly, the ability to take high throughput 8G/10G FC interfaces and transport them between data centers with low latency is a key enabler for mission-critical applications.

Configuration Information

Alcatel-Lucent Assured 20G 1830 PSS4 40G 75km Replication Solution (A20G)

Step1 - Base configuration

Alcatel-Lucent Assured 20G 1830 PSS4 40G 75km Main Replication Networking Bundle

K2R30A

Alcatel-Lucent 1830 PSS-4 in a 2 RU chassis with redundant power. Service cards to provide 20G at 75 Km. Expandable to 40G. This SKU contain field replaceable units (FRU) to minimize downtime. Requires a K2R31A Remote Bundle, as well as interconnecting fiber between the switches. Designed for cost optimization, this solution does not include an encryption option.

Alcatel-Lucent Assured 20G 1830 PSS4 40G 75km Remote Replication Networking Bundle

K2R31A

Alcatel-Lucent 1830 PSS-4 in a 2 RU chassis with redundant power. Service cards, to provide 20G at 75 Km. Expandable to 40G. The field replaceable units (FRU) for this switch are contained in the K2R30A SKU. Requires a K2R30A Main Bundle, as well as interconnecting fiber between the switches. Designed for cost optimization, this solution does not include an encryption option.

NOTE: Must order one Main and one Remote Bundle for the solution to operate as a viable configuration

Step 2 - Options

Select each type of required options with quantities specified:

Power Supply Options

Alcatel-Lucent Assured A20G 2-pack Main AC Power Kit

K2R32A

Alcatel-Lucent Assured A20G 2-pack Main DC Power Kit

K2R33A

Alcatel-Lucent Assured A20G 2-pack Remote AC Power Kit

K2R34A

Alcatel-Lucent Assured A20G 2-pack Remote DC Power Kit

K2R35A

NOTE: Choose one power supply for each Main and one for each Remote Bundle

Rack Mount Options

Alcatel-Lucent A20G R20G 48cm (19in) Rack Installation Kit

K2R36A

Rack Installation Kit for K2R30A or K2R31A

Alcatel-Lucent A20G R20G 53cm (21in) Rack Installation Kit

K2R37A

Rack Installation Kit for K2R30A or K2R31A

Alcatel-Lucent A20G R20G 58cm (23in) Rack Installation Kit

K2R38A

Rack Installation Kit for K2R30A or K2R31A

NOTE: Choose one Rack Mount Kit for each Main and one for each Remote Bundle

Expansion Options

Configuration Information

Alcatel-Lucent A20G R20G 20G to 40G Configuration Expansion Kit

K2R39A

20G Expansion to increase to a 40G Configuration. Includes spares.
Order one per K2R30A. Requires K2R40A on the Remote switch

Alcatel-Lucent A20G R20G 20G to 40G Configuration Expansion Kit

K2R40A

20G Expansion to increase to a 40G Configuration
Order one per K2R31A. Requires K2R39A on the Main switch

NOTE:

If K2R39A is selected, it must be ordered in quantity of 1 per K2R30A, and cannot be used in combination with K2R73A. This is not supported on K2R31A.

If K2R40A is selected, it must be ordered in quantity of 1 per K2R31A, and cannot be used in combination with K2R74A. This is not supported on K2R30A.

Network Options

Alcatel-Lucent A20G R20G 2-pack Redundant 10GbE Ethernet/10Gb Fibre Channel Main Expansion Kit

K2R73A

Main Expansion Kit
Adds 2 protected x10GE/10GFC Expansion and spares to initial deployment of A20G

Alcatel-Lucent A20G R20G 2-pack 10GbE Ethernet/10Gb Fibre Channel Main Expansion Kit

K2R74A

Remote Expansion Kit
Adds 2 protected x10GE/10GFC Expansion to initial deployment of A20G

NOTE: If K2R73A is selected, it must be ordered in quantity of 1 per K2R30A, and cannot be used in combination with K2R39A. This is not supported on K2R31A.

If K2R74A is selected, it must be ordered in quantity of 1 per K2R31A, and cannot be used in combination with K2R40A. This is not supported on K2R30A

Services

Alcatel-Lucent Installation Service

K2R77A

This will trigger a site survey by ALU, which will determine how many K2R78A units will need to be purchased for the installation.

Alcatel-Lucent Integration Service

K2R78A

Installation service. Provided by ALU.

Alcatel-Lucent A20G 1830 PSS4 Professional Services Bundle

P4F68A

The Professional Services Bundle option provides all services necessary to successfully deploy and integrate the 1830 PSS4 bundles in a point-to-point communication between both sites of the HPE Data Replication Solution. It includes site-survey, Equipment Installation, Equipment Commissioning, Network Element Integration and associated Project Management. All these services will be led and coordinated by Alcatel-Lucent personnel and stops at connecting the 1830 PSS4 to the Fiber Channel switch but not configuring the Fiber Channel switch. If necessary any additional verification of the overall solution must be ordered separately thru HPE-TS.

NOTE: Alcatel-Lucent will perform a site survey through the Installation Service and conduct the actual integration of the bundles through the Integration Service. Quotes will include the Installation Service, and a note to customers that Integration Services will be quoted after the site survey is complete.

Configuration Information

Alcatel-Lucent Redundant 20G 1830 PSS4 40G 75km Remote Replication Solution (R20G)

Step1 - Base configuration

Alcatel-Lucent Redundant 20G 1830 PSS4 80G 70km Main Replication Networking Bundle

K2R41A

Consists of two Alcatel-Lucent 1830 PSS-4 chassis with redundant power. Dual Chassis configuration for redundancy. Provides 20G at 75 Km. Capacity split between chassis' and active service blades, mux/demux and network connections. Expandable to 80G. This SKU contain field replaceable units (FRU) to minimize downtime. Requires a K2R42A Remote Bundle, as well as interconnecting fiber between the switches. Encryption option available

Alcatel-Lucent Redundant 20G 1830 PSS4 80G 70km Remote Replication Networking Bundle

K2R42A

Consists of two Alcatel-Lucent 1830 PSS-4 chassis with redundant power. Dual Chassis configuration for redundancy. Provides 20G at 75 Km. Capacity split between chassis' and active service blades, mux/demux and network connections. Expandable to 80G. Field replaceable units (FRU) are included in the K2R41A Main bundle. Requires a K2R41A Main Bundle, as well as interconnecting fiber between the switches. Encryption option available.

NOTE: Must order one Main and Remote Bundle for the solution to operate as a viable configuration

Step 2 - Options

Select each type of required options with quantities specified:

Power Supply Options

Alcatel-Lucent Redundant R20G 2-pack Main AC Power Kit

K2R43A

AC power solution for R20G Main Bundle, includes multi-nation power kits and spares. Includes 2 power supplies for redundancy for each switch

Alcatel-Lucent Redundant R20G 2-pack Main DC Power Kit

K2R44A

48V DC power supplies with power kits and spares. For R20G Main Bundle, includes 2 power supplies for redundancy for each switch

Alcatel-Lucent Redundant R20G 2-pack Remote AC Power Kit

K2R45A

AC power solution for R20G Remote Bundle, includes multi-nation power kits. Includes 2 power supplies for redundancy for each switch

Alcatel-Lucent Redundant R20G 2-pack Remote DC Power Kit

K2R46A

48V DC power supplies with power kits. For R20G Remote Bundle, includes 2 power supplies for redundancy for each switch

NOTE: Choose one power supply for each Main and one for each Remote Bundle

Configuration Information

Rack Mount Options

Alcatel-Lucent A20G R20G 48cm (19in) Rack Installation Kit	K2R36A
Rack Installation Kit for K2R41A or K2R42A	
Alcatel-Lucent A20G R20G 53cm (21in) Rack Installation Kit	K2R37A
Rack Installation Kit for K2R41A or K2R42A	
Alcatel-Lucent A20G R20G 58cm (23in) Rack Installation Kit	K2R38A
Rack Installation Kit for K2R41A or K2R42A	

NOTE: Choose one Rack Mount Kit for each Main and one for each Remote Bundle

Expansion Options

Alcatel-Lucent A20G R20G 20G to 40G Configuration Expansion Kit	K2R39A
20G Expansion to increase to 40G on the Main switch. Includes spares. Order one per K2R41A. Requires a K2R40A on the Remote switch	
Alcatel-Lucent A20G R20G 20G to 40G Configuration Expansion Kit	K2R40A
20G Expansion to increase to 40G on the Remote switch Order one per K2R42A. Requires a K2R39A on the Main switch	
Alcatel-Lucent R20G 40G to 60G Main Configuration Expansion Kit	K2R47A
20G Expansion to increase from 40 to 60G on the Main switch. Includes spares. Order one per K2R41A. Requires K2R39A to be installed on the Main switch	
Alcatel-Lucent R20G 40G to 60G Remote Configuration Expansion Kit	K2R48A
20G Expansion to increase from 40 to 60G on the Remote switch Order one per K2R42A. Requires K2R40A to be installed on the Remote switch	
Alcatel-Lucent R20G 60G to 80G Main Configuration Expansion Kit	K2R49A
20G Expansion to increase from 60 to 80G on the Main switch. Includes spares. Requires K2R47A to be installed on the Main switch	
Alcatel-Lucent R20G 60G to 80G Remote Configuration Expansion Kit	K2R50A
20G Expansion to increase from 60 to 80G on the Remote switch. Requires K2R48A to be installed on the Remote switch	

NOTE: If K2R39A is selected, it must be ordered in quantity of 1 per K2R41A, and cannot be used in combination with K2R73A. This is not supported on K2R42A.

If K2R40A is selected, it must be ordered in quantity of 1 per K2R42A, and cannot be used in combination with K2R74A. This is not supported on K2R41A.

Configuration Information

Network Options

Alcatel-Lucent A20G R20G 2-pack Redundant 10GbE Ethernet/10Gb Fibre Channel Main Expansion Kit K2R73A

Main Expansion Kit

Adds 2 protected x10GE/10GFC Expansion and spares to initial deployment of R20G

Alcatel-Lucent A20G R20G 2-pack 10GbE Ethernet/10Gb Fibre Channel Main Expansion Kit K2R74A

Remote Expansion Kit

Adds 2 protected x10GE/10GFC Expansion to initial deployment of R20G

NOTE: If K2R73A is selected, it must be ordered in quantity of 1 per K2R41A, and cannot be used in combination with K2R39A. This is not supported on K2R42A.

If K2R74A is selected, it must be ordered in quantity of 1 per K2R42A, and cannot be used in combination with K2R40A. This is not supported on K2R41A.

Services

Alcatel-Lucent Installation Service K2R77A

This will trigger a site survey by ALU, which will determine how many K2R78A units will need to be purchased for the installation.

Alcatel-Lucent Integration Service K2R78A

Installation service. Provided by ALU.

Alcatel-Lucent R20G 1830 PSS4 Professional Services Bundle P4F69A

The Professional Services Bundle option provides all services necessary to successfully deploy and integrate the 1830 PSS4 bundles in a point-to-point communication between both sites of the HPE Data Replication Solution. It includes site-survey, Equipment Installation, Equipment Commissioning, Network Element Integration and associated Project Management. All these services will be led and coordinated by Alcatel-Lucent personnel and stops at connecting the 1830 PSS4 to the Fiber Channel switch but not configuring the Fiber Channel switch. If necessary any additional verification of the overall solution must be ordered separately thru HPE-TS.

NOTE: Alcatel-Lucent will perform a site survey through the Installation Service and conduct the actual integration of the bundles through the Integration Service. Quotes will include the Installation Service, and a note to customers that Integration Services will be quoted after the site survey is complete.

Encryption Options

Alcatel-Lucent R20G XLA20G XLR20G 20G Encryption Software L9X49A

Layer 1 hardware encryption option to provide secure transport for critical DCI applications.

Includes Encryption licenses for initial Main and Remote Bundle 20G configurations.

Includes ALUs Key Management Tool (KMT)

Alcatel-Lucent R20G XLA20G XLR20G Incremental 20G for Open Ports Encryption Software L9X50A

Provide Encryption licensing in 20G increments for both Main and Remote Bundles.

Requires L9X49A

NOTE: Each Encryption SKU enables both Main and Remote Sites. Each of these SKU's are incremental upgrades.

Configuration Information

Alcatel-Lucent Assured Xlong 20G 1830 PSS16 40G 130km Remote Replication Solution (XLA20G)

Step1 - Base configuration

Alcatel-Lucent Assured Xlong 20G 1830 PSS16 40G 130km Main Replication Networking Bundle K2R51A

Alcatel-Lucent 1830 PSS-16 in a 14" chassis with redundant power. Provides 20G at 130 Km. Expandable to 40G. This SKU contain field replaceable units (FRU) to minimize downtime. Requires a K2R52A Remote bundle, as well as interconnecting fiber between the switches. Encryption option available.

Alcatel-Lucent Assured Xlong 20G 1830 PSS16 40G 130km Remote Replication Networking Bundle K2R52A

Alcatel-Lucent 1830 PSS-16 in a 14" chassis with redundant power. Provides 20G at 130 Km. Expandable to 40G. Requires a K2R51A Main bundle, as well as interconnecting fiber between the switches. Field replaceable units (FRU) are included in the K2R51A Main bundle. Encryption option available

NOTE: Must order one Main and Remote Bundle for the solution to operate as a viable configuration

Step 2 - Options

Select each type of required options with quantities specified:

Rack Mount Options

Alcatel-Lucent XLA20G XLR20G 48cm (19in) Rack Installation Kit K2R53A

Rack Installation Kit for K2R51A or K2R52A

Alcatel-Lucent XLA20G XLR20G 53cm (21in) Rack Installation Kit K2R54A

Rack Installation Kit for K2R51A or K2R52A

Alcatel-Lucent XLA20G XLR20G 58cm (23in) Rack Installation Kit K2R55A

Rack Installation Kit for K2R51A or K2R52A

NOTE: Choose one Rack Mount Kit for each Main and one for each Remote Bundle

DMC Options

Alcatel-Lucent XLA20G XLR20G Single Mode Fiber Dispersion Compensation Module K2R56A

Must order one for K2R51A and one for K2R52A if using single mode network fiber

Alcatel-Lucent XLA20G XLR20G Leaf Fiber Dispersion Compensation Module K2R57A

Must order one for K2R51A and one for K2R52A if using Leaf network fiber

NOTE: These are required to offset the natural characteristics of the fiber being utilized. K2R56A or K2R57A must be ordered for each Main and Remote Bundle.

Configuration Information

Expansion Options

Alcatel-Lucent XLA20G XLR20G 2-pack 20G to 40G Configuration Expansion Kit K2R58A
20G Expansion to increase to a 40G Configuration. Includes spares. Order one per K2R51A, and one per K2R52A. Cannot be used in combination with K2R75A or K2R76A

Networking Options

Alcatel-Lucent XLA20G XLR20G 2-pack Redundant 10GbE Ethernet/10Gb Fibre Channel Main Expansion Kit K2R75A
This kit adds 2 protected x 10GE/10GFC to the hpXLR20G Main or hpXLA20G Main bundle, Order one per K2R51A, Cannot be used in combination with K2R58A.

Alcatel-Lucent XLA20G XLR20G 2-pack 10GbE Ethernet/10Gb Fibre Channel Remote Expansion Kit K2R76A
This kit adds 2 protected x 10GE/10GFC to the hpXLR20G Main or hpXLA20G Remote bundle, Order one per K2R52A, Cannot be used in combination with K2R58A

NOTE: K2R75A & K2R76A can't be used in combination with K2R58A.

Services

Alcatel-Lucent Installation Service K2R77A
This will trigger a site survey by ALU, which will determine how many K2R78A units will need to be purchased for the installation.

Alcatel-Lucent Integration Service K2R78A
Installation service. Provided by ALU.

Alcatel-Lucent XLA20G 1830 PSS16 Professional Services Bundle P4F70A
The Professional Services Bundle option provides all services necessary to successfully deploy and integrate the 1830 PSS16 bundles in a point-to-point communication between both sites of the HPE Data Replication Solution. It includes site-survey, Equipment Installation, Equipment Commissioning, Network Element Integration and associated Project Management. All these services will be led and coordinated by Alcatel-Lucent personnel and stops at connecting the 1830 PSS16 to the Fiber Channel switch but not configuring the Fiber Channel switch. If necessary any additional verification of the overall solution must be ordered separately thru HPE-TS.

NOTE: Alcatel-Lucent will perform a site survey through the Installation Service and conduct the actual integration of the bundles through the Integration Service. Quotes will include the Installation Service, and a note to customers that Integration Services will be quoted after the site survey is complete.

Encryption Options

Alcatel-Lucent R20G XLA20G XLR20G 20G Encryption Software L9X49A
Layer 1 hardware encryption option to provide secure transport for critical DCI applications. Includes Encryption licenses for initial Main and Remote Bundle 20G configurations. Includes ALUs Key Management Tool (KMT)

Alcatel-Lucent R20G XLA20G XLR20G Incremental 20G for Open Ports Encryption Software L9X50A
Provide Encryption licensing in 20G increments for both Main and Remote Bundles. Requires L9X49A

Alcatel-Lucent XLA20G XLR20G Incremental 2-pack 40G Add New Card Encryption Software L9X51A
Provide Encryption licensing for 20G increments on main and remote switches
Prerequisite: L9X49A and L9X50A
Order maximum of 4

Configuration Information

NOTE: Each Encryption SKU enables both Main and Remote Sites. Each of these SKU's are incremental upgrades.

Alcatel-Lucent Redundant Xlong 20G-1830-PSS16 200G 130km Replication Solution (XLR20G)

Step1 - Base configuration

Alcatel-Lucent Redundant Xlong 100G 1830 PSS16 200G 130km Main Replication Networking Bundle

K2R60A

Consists of two Alcatel-Lucent 1830 PSS-16 in 14" chassis with redundant power. Dual Chassis configuration for redundancy. Provides 20G at 130 Km. Capacity split between chassis' and active service blades, mux/demux and network connections. Expandable to 200G. This SKU contain field replaceable units (FRU) to minimize downtime. Requires a K2R61A Remote bundle, as well as interconnecting fiber between the switches. Encryption option available.

Alcatel-Lucent Redundant Xlong 100G 1830 PSS16 200G 130km Remote Replication Networking Bundle

K2R61A

Consists of two Alcatel-Lucent 1830 PSS-16 in 14" chassis with redundant power. Dual Chassis configuration for redundancy. Provides 20G at 130 Km. Capacity split between chassis' and active service blades, mux/demux and network connections. Expandable to 200G. Field replaceable units (FRU) are included with K2R60A. Requires a K2R60A Remote bundle, as well as interconnecting fiber between the switches. Encryption option available

NOTE: Must order one Main and Remote Bundle for the solution to operate as a viable configuration

Step 2 - Options

Select each type of required options with quantities specified:

Rack Mount Options

Alcatel-Lucent XLA20G XLR20G 48cm (19in) Rack Installation Kit

K2R53A

Rack Installation Kit for K2R51A or K2R52A

Alcatel-Lucent XLA20G XLR20G 53cm (21in) Rack Installation Kit

K2R54A

Rack Installation Kit for K2R51A or K2R52A

Alcatel-Lucent XLA20G XLR20G 58cm (23in) Rack Installation Kit

K2R55A

Rack Installation Kit for K2R51A or K2R52A

NOTE: Choose one Rack Mount Kit for each Main and one for each Remote Bundle

DMC Options

Alcatel-Lucent XLA20G XLR20G Single Mode Fiber Dispersion Compensation Module

K2R56A

Must order one for K2R51A and one for K2R52A if using single mode network fiber

Alcatel-Lucent XLA20G XLR20G Leaf Fiber Dispersion Compensation Module

K2R57A

Configuration Information

Must order one for K2R51A and one for K2R52A if using Leaf network fiber

NOTE: These are required to offset the natural characteristics of the fiber being utilized. K2R56A or K2R57A must be ordered for each Main and Remote Bundle.

Expansion Options

Alcatel-Lucent XLA20G XLR20G 2-pack 20G to 40G Configuration Expansion Kit

20G Expansion to increase to a 40G Configuration. Includes spares.

Order one per K2R51A, and one per K2R52A.

Cannot be used in combination with K2R75A or K2R76A

K2R58A

Alcatel-Lucent XLR20G 2-pack 40G Incremental Configuration Expansion Kit

40G Expansion kit. Provides expansion up to 200G

Order up to four per K2R60A and K2R61A.

Requires K2R58A. Cannot be used in combination with K2R75A or K2R76A

K2R59A

Networking Options

Alcatel-Lucent XLA20G XLR20G 2-pack Redundant 10GbE Ethernet/10Gb Fibre Channel Main Expansion Kit

This kit adds 2 protected x 10GE/10GFC to the hpXLR20G Main or hpXLA20G Main bundle, Order one per K2R51A, Cannot be used in combination with K2R58A.

K2R75A

Alcatel-Lucent XLA20G XLR20G 2-pack 10GbE Ethernet/10Gb Fibre Channel Remote Expansion Kit

This kit adds 2 protected x 10GE/10GFC to the hpXLR20G Main or hpXLA20G Remote bundle, Order one per K2R52A, Cannot be used in combination with K2R58A

K2R76A

NOTE: K2R75A & K2R76A can't be used in combination with K2R58A.

Services

Alcatel-Lucent Installation Service

This will trigger a site survey by ALU, which will determine how many K2R78A units will need to be purchased for the installation.

K2R77A

Alcatel-Lucent Integration Service

Installation service. Provided by ALU.

K2R78A

Alcatel-Lucent XLR20G 1830 PSS16 Professional Services Bundle

The Professional Services Bundle option provides all services necessary to successfully deploy and integrate the 1830 PSS16 bundles in a point-to-point communication between both sites of the HPE Data Replication Solution. It includes site-survey, Equipment Installation, Equipment Commissioning, Network Element Integration and associated Project Management. All these services will be led and coordinated by Alcatel-Lucent personnel and stops at connecting the 1830 PSS16 to the Fiber Channel switch but not configuring the Fiber Channel switch. If necessary any additional verification of the overall solution must be ordered separately thru HPE-TS.

P4F71A

NOTE: Alcatel-Lucent will perform a site survey through the Installation Service and conduct the actual integration of the bundles through the Integration Service. Quotes must include the Installation Service, and a note to customers that Integration Services will be quoted after the site survey is complete.

Encryption Options

Alcatel-Lucent R20G XLA20G XLR20G 20G Encryption Software

L9X49A

Configuration Information

Layer 1 hardware encryption option to provide secure transport for critical DCI applications.
Includes Encryption licenses for initial Main and Remote Bundle 20G configurations.
Includes ALUs Key Management Tool (KMT)

Alcatel-Lucent R20G XLA20G XLR20G Incremental 20G for Open Ports Encryption Software

L9X50A

Provide Encryption licensing in 20G increments for both Main and Remote Bundles.
Requires L9X49A

Alcatel-Lucent XLA20G XLR20G Incremental 2-pack 40G Add New Card Encryption Software

L9X51A

Provide Encryption licensing for 20 G increments on main and remote switches
Prerequisite: L9X49A and L9X50A
Order maximum of 4

NOTE: Each Encryption SKU enables both Main and Remote Sites. Each of these SKU's are incremental upgrades.

Physical dimensions

1830 PSS-4

- Height: 88 mm (3.46 in.)
- Width: 440 mm (17.32 in.)
- Depth: 289.75 mm (11.41 in.)

1830 PSS-16

- Height: 355.6 mm (14 in.)
- Width: 483 mm (19 in.)
- Depth: 300 mm (12 in.)

Operating environment

1830 PSS-4

- Power: -48 V-DC or 110/220 V-AC
- Maximum power dissipation: 328 W
- Operating temperature: -40°C to +65°C (-40°F to +149°F)
- Humidity: 5% to 95%

1830 PSS-16

- Power: 48 V DC
- 400 W to 1270 W per shelf
- Operating temperature: 0°C to 50°C (32°F to 122°F)
- Humidity: 5% to 95%

High Availability Options

- Redundant, hot swappable power supplies
- Independent fan control with speed sensitive compensation
- Traffic split between independent network paths
- Traffic split between active module – 50 – 50 traffic split

Cabinet support

- 19" 21" and 23" telco/data center rack mounting options

Software Components, Standard, and Optional

- Standard - Base Chassis operating software – provides M2M interface, OA&M SNMP based
- Standard - GUI based user configuration and maintenance

Configuration Information

- Optional – per port L1 hardware based in flight encryption and integrated key management/rotation software

Warranty

3 Year Warranty on Hardware and Software directly available from Alcatel-Lucent

The Warranty Periods for the Standard Warranty for Hardware and Software delivered by Alcatel-Lucent, under the Agreement, are three (3) years, and commence on the Delivery Date.

Other Considerations

- 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 territories ("U.S."), whether the person or entity is located in the U.S. or elsewhere (worldwide). An entity that constitutes or officially represents a State government department of the United States of America, does not fall under this prohibition law.
- **The Alcatel-Lucent Remote Replication Solution interoperates with HPE 3PAR Replication Software Suite**

HPE 3PAR Replication Software Suite

The HPE 3PAR Replication Software Suite offers automatic replication, transparent failover and Point-in-Time (PIT) copies enabling seamless disaster recovery for critical data. These features provide an agile, efficient and simple solution to protect against the unpredictable. This suite is ideal for virtualized data centers demanding data availability and business continuity 24x7. Remote Copy Software dramatically reduces the cost of remote data replication and disaster recovery by leveraging thin copy technology, enabling multi-site and multi-mode replication with both midrange and high-end arrays, and reducing the need for professional services. Virtual Copy enables rapid application recovery-while containing costs with a "thin-aware" implementation that minimizes the amount of physical capacity that is actually being consumed by your data-and without sacrificing performance, availability, or versatility. HPE 3PAR Peer Persistence software enables HPE 3PAR StoreServ systems located at metropolitan distances to act as peers to each other, presenting a nearly continuous storage system to VMware vSphere hosts connected to them.

The Replication Suite includes the following functionality and features:

- HPE 3PAR Virtual Copy
- HPE 3PAR Remote Copy
- HPE 3PAR Peer Persistence
- HPE 3PAR Cluster Extension (CLX)*

* CLX is include in the Replication Suite for HPE 3PAR StoreServ 20800/20850 only

For more information on Replication Suite see

<http://h18006.www1.hp.com/storage/software/3par7000/drs/index.html>

Summary of Changes

Date	Version History	Action	Description of Change
14-Oct-2016	From Version 3 to 4	Changed	Rebranding edition
23-Oct-2015	From Version 2 to 3	Changed	Cosmetic changes, data correction, warranty info updates, added new service SKUs.
05-Jun-2015	From Version 1 to 2	Changed	Cosmetic changes to the HTML version



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