tellabs®

Tellabs® Advanced Availability Software Package

Minimize annual network downtime while lowering costs, reducing human error and improving security

Overview

High availability is vital for today's modern high-performance LANs that deliver real-time services (e.g., voice, video) and critical services (e.g., ecommerce, sensitive data/files/records, security/surveillance). This is even more important with business reliance on cloud networking, big data, Internet of Everything, virtual desktop, remote employees, regional offices and international locations. Passive Optical LANs already enjoy industry-leading network uptime, and by adding Tellabs® Advanced Availability Software Package, LAN availability can be improved with:

- Advanced Availability Equipment Redundancy
- Advanced Availability Dual Homing
- Advanced Availability Redundant Passive Optical Network
- Advanced Availability Redundant Optical Line Terminals

Benefits

Real-time and critical services demand high availability, stability, and security from the networks they traverse. CIOs and IT pros know that when unplanned LAN outages occur, it costs businesses money relative to lost employee productivity, lost connectivity to corporate resources, lost connectivity to the data centers and monetary security ramifications. By deploying Tellabs Advanced Availability Software Package, enterprises can take advantage of the following benefits:

- Equipment redundancy with 50 msec side-switching, fail-over and/or card-swapping
- Protection of critical real-time services, including aggregation, resiliency and load balancing with dual homing
- Fiber route diversity across redundant Passive Optical LAN to protect real-time services and applications
- Highest level of availability, with lowest-measured LAN downtime with redundant Optical Line Terminals
- High availability means a less stressful, more productive and healthier work environment for employees
- Centralized intelligence and management for less human-to-machine actions and more machine-to-machine actions

Features and Functions

Tellabs Advanced Availability Software Package can provide Enterprise LAN with superior stability, high availability and industry-leading network uptime with the implementation of these functions:

Advanced Availability Equipment Redundancy — The first step toward high availability starts with equipping the OLT with redundant components such as Ethernet Switch Units, Common Controls (function of ESUs), Timings Source, Network Uplinks (from redundant ESUs), Power Plant and Fans. There is also the option for redundant PON Service Modules and/or whole OLT with Type-B PON redundancy, which will be discussed in more detail. With a fully equipped duplex OLT, one can benefit from non-service-affecting side-switching, fail-over and/or card-swapping measured at less than 50 msec. Any fail-over of redundantly deployed cards generates an alarm to Tellabs® Panorama™ PON Manager while service remains intact.

Advanced Availability Dual Homing with Equipment Redundancy — In the main data center of a building or campus, dual homing to the core router is ideal for high-availability services across campus and at remote buildings providing aggregation, resiliency and load balancing purposes. In this architecture, a business can achieve equipment and facility protection at the OLT. The OLT can provide this redundancy across 1 GbE and 10 GbE Ethernet uplinks. It can be deployed with any standards-based L2 switches and/or L3 routers. In this configuration, high availability is achieved with dual homing to core routers across multiple interfaces distributed across redundant ESUs.

Advanced Availability Redundant Passive Optical Network — A single OLT can be equipped with a redundant PON port or PON card serving one ONT with two paths across a redundant optical plant. This PON equipment-level redundancy, from one OLT is a means to provide fiber route diversity using the FSAN ITU standard Type-B PON redundancy option. Type-B PON

redundancy is a purely passive solution defined in principle by FSAN ITU standards and is contingent on deploying 2:x Passive Optical splitters. These highly reliable 2:x optical splitters provide both protection, redundancy and splitting functions in the optical plant. CIOs and IT pros have lots of flexibility as to where these splitters can be placed in their optical plant infrastructure. For example, the 2:x Passive Optical splitters can either be positioned for centralized (e.g., near the data center) or distributed (e.g., far from the data center) architectures. These 2:x passive optical splitters support a variety of split ratios, such as 2:8, 2:16 and 2:32, dependent on the type and number of ONTs being subtended. They can be sourced from major Layer 1 optics manufacturers.

Advanced Availability Redundant Optical Line Terminals with Redundant PON — Two OLTs at geographically dispersed locations can also be configured to serve one ONT with two paths across a redundant optical plant. Thus, Type-B PON redundancy provides options for fiber route diversity to different PON ports in the same OLT, different PON cards in the same OLT, and different OLTs in geographically dispersed locations. The use of redundant OLTs in two locations represents the pinnacle of reliability being 99.9999%, as six-nines network availability is the culmination of all redundancy options, including dual homing routers, equipment redundancy and Type-B PON redundancy with fiber route diversity and geographically dispersed OLTs.

Specifications

Tellabs Advanced Availability Software Package is a specialized license of specific features and functions provided in conjunction with Tellabs Optical LAN Base Software Package and Tellabs Panorama™ PON Manager Software. Therefore, the hardware and software specifications are the same.

Solaris Operating System

Solaris			
Number of OLTs	**Number of GUIs**	**Processor**	**Memory and hard disk**
1–10	5	√ Sun SPARC T5-1B server module (3.6 GHz SPARC T5 16-Core CPU) √ Sun SPARC T4-1 (2.85 GHz SPARC T4 8-Core CPU) √ Sun SPARC T3-1 (1.65 GHz SPARC T3 16-Core CPU) √ Sun SPARC Enterprise T5120 (1.4 GHz UltraSPARC T2 8-Core CPU)	√ 8 GB RAM √ 300 GB SAS Disk
Operating System		Solaris 10 (any update) for Oracle 10g and Postgres Solaris 10 (update 6 or later) for Oracle 11g	
Database Support	64-bit Standard Edition for Oracle	√ Postgres Release 9.2 √ Oracle Database 10g Release 2 (10.2.0.1) for standard deployment √ Patch #8202632 to update to Release 10.2.0.5 for hardened deployment √ Oracle Database 11g Release 1 (11.2.0.1) for standard deployment √ Oracle Database 11g Release 1 (11.2.0.4) for hardened deployment	

Windows Operating System

Windows			
Number of OLTs	**Number of GUIs**	**Processor**	**Memory and hard disk**
1–2	2	√ 1 Intel CPU with at least 2-core	√ 4 GB RAM √ 160 GB SATA Disk
1–10	5	√ 1 Intel CPU with at least 4-core	√ 8 GB RAM √ 160 GB SATA Disk
Operating System		√ Windows 7 64-bit Professional Edition or above, SP1 for Postgres only √ Windows Server 2008 64-bit Standard Edition R2 for Oracle or Postgres	
Database Server	32-bit Standard Edition for Oracle	√ Postgres Release 9.2 √ Oracle Database 10g Release 2 (10.2.0.3) for standard deployment √ Patch #8202632 to update to Release 10.2.0.5 for hardened deployment √ Oracle Database 11g Release 1 (11.2.0.1) for standard deployment √ Oracle Database 11g Release 1 (11.2.0.4) for hardened deployment	√ Minimum RAM requirement becomes 8 GB if Oracle 11g is used

Ordering Information

Each Software Package license provides the ability to operate and manage a single OLT of the type designated by the license. Selection must include the Base Software at a minimum and Advanced Security, Advanced Availability, and Advanced Operational as optional selections. Tellabs Advanced Availability Software Package does not include hardware described in this data sheet. If additional hardware is needed, then that hardware should be purchased separately. Tellabs Advanced Availability Software Package provides the authorization and means to manage such hardware.

Tellabs Advanced Availability Software Package Part Number and Part Numbers for Other Software Packages

	1150 OLT	1150E OLT	1134 OLT	1134AC OLT	1131AC OLT
Base Software	81.SR290BASE1150	81.SR290BASE1150	81.SR290BASE1134	81.SR290BASE1134	81.SR290BASE1131
Advanced Security	81.SR290AS1150	81.SR290AS1150	81.SR290AS1134	81.SR290AS1134	81.SR290AS1131
Advanced Availability	81.SR290AA1150	81.SR290AA1150	81.SR290AA1134	81.SR290AA1134	N/A
Advanced Operational	81.SR290AO1150	81.SR290AO1150	81.SR290AO1134	81.SR290AO1134	81.SR290AO1131

For more information, please contact your local Tellabs sales representative or local Tellabs sales office at the phone numbers provided below, or visit www.tellabs.com.

Take the next step. Contact Tellabs today.

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