

Tellabs® 8620 Access Switch

Compact and fully managed IP/MPLS-based router with versatile multiprotocol support

The Tellabs® 8600 Managed Edge System is a scalable and versatile backhaul solution for evolving access networks. It is designed to meet the ever-growing requirements of data hungry mobile users. This LTE-ready platform provides an extensive Ethernet and IP feature set. Simultaneous support of MPLS, TDM, ATM and FR protects previous network investments. The Tellabs 8600 product family is fully supported by the Tellabs® 8000 Intelligent Network Manager, which is an easy to use end-to-end network management solution. The Tellabs 8000 intelligent manager minimizes operational and maintenance costs and scales up to tens of thousands of network elements.

Main Application

The Tellabs® 8620 Access Switch is a compact and cost-efficient element part of the Tellabs 8600 system solution, still relying on the unified hardware-based forwarding architecture used in all Tellabs 8600 system routing elements. The Tellabs 8620 switch offers full IP/ MPLS functionality for carrier-class operation and premium QoS features in a 19" rack-mountable or small tabletop design. It delivers real-time voice and video, QoS-aware data and best effort services offered through a wireless or wireline infrastructure.

Features and Benefits

Despite its small physical size, the Tellabs 8620 switch can be used for simultaneous delivery of multiple services or connections based on various protocols. In particular, software-configurable interface modules, IP routing and the whole range of MPLS pseudowire tunneling capabilities enable flexibility and network optimization.

The Tellabs 8620 switch has a hardware-based forwarding architecture that enables high and predictable performance despite complex service requirements. The maximum bidirectional interface capacity is 3.5 Gbps. Wire-speed operations can be achieved with any interface, regardless of the complexity of the service definition. The undoubted benefit of deploying MPLS technology and the Tellabs 8600 system platform in the access part of the network is that this enables a service provider to deliver hard QoS services.

The Tellabs 8620 switch supports the latest QoS techniques such as bandwidth control, queuing, policing and shaping, which facilitates definition and delivery of differentiated services.

Moreover, the IP/MPLS-based architecture enables advanced MPLS-based protection schemes to be used for protecting aggregated connections. The versatile synchronization support of the Tellabs



The Tellabs 8620 switch provides cost-efficient, multiple service delivery with QoS-awareness in mobile and fixed service networks

8620 switch enables the service provider to use either TDM or packet network for timing distribution.

Applications

The Tellabs 8620 switch is an optimal solution for cell site or small access aggregation locations in next generation mobile Radio Access Networks (RAN). In wireline applications, it is typically positioned as a service provider-managed device located on customer premises or for collecting traffic from multiple customers. The main advantages and key enablers for operational and capital expenditure savings in both cases are flexibility for various services and technologies and the solution's extremely efficient manageability.

In mobile RANs, the Tellabs 8600 system is truly a longterm transport solution, optimizing and transporting 2G and 3G traffic even in an all-IP environment from cell sites to the mobile core network. Through all phases of evolution, from ATM to IP traffic grooming, service quality and transport can be managed and optimized end-to-end across the same Tellabs 8600 system network. Additionally, there is an option to take the network convergence to the access level and use the same system and management tools for wireline services, which could be business-critical IP VPN or Ethernet services or bulk broadband services.

Network Management

As part of the Tellabs 8600 system, the Tellabs 8620 switch is fully managed with the Tellabs® 8000 Intelligent Network Manager. All interface, service and connection level parameters are configured remotely via the Tellabs 8000 intelligent network manager's GUI-based tools. This is the primary and easiest way to configure the unit and the network.

Specifications

Physical Dimensions

- 441 x 88 x 288 mm / 17.4 x 3.5 x 11.3 in (W x H x D)
- Standard 19-inch rack mounting
- Tabletop design
- 2RU high

Power and Cooling

- 100-240 VAC or -48 VDC with optional DC power feed redundancy
- Power consumption: typical 55W, maximum 106W
- 3 fans with reduced power consumption mode in the event of failure of all fans

Architecture

- Hardware-based forwarding

Forwarding Plane

- IPv4 routing
- MPLS switching (LSR and LER)

Functionality

- IP VPN (RFC4364)
- Ethernet/VLAN, SAToP, CESoPSN, ATM, Frame Relay and HDLC pseudowires
- Single and multi-segment pseudowires
- TDM cross connection
- ATM VP/VC switching
- ATM cell concatenation
- ATM IMA
- MC / MLPPP, PPPmux
- IP header compression
- BFD (Static routes, OSPF, ISIS, RSVP-TE)

Forwarding Capacity

- 3.5 Gbps bi-directional switching capacity

Chassis Configuration

- Two slots for IFMs
- The chassis can be equipped with an optional node timing module

Interface Modules (IFM)

- 8-Port Ethernet 10/100BASE-TX IFM
- 8-Port Ethernet 100BASE-X IFM
- 2+6-Port Ethernet 10/100/1000BASE-COMBO IFM
- 2-Port Ethernet 1000BASE-X IFM
- 8-Port Ethernet 1000BASE-X IFM
- 8-Port STM-1/OC-3 POS IFM
- 4-Port STM-4/OC-12 POS IFM
- 4-Port STM-1/OC-3 ATM IFM
- 1-Port chSTM-1/OC-3 Multiservice IFM
- 4-Port chSTM-1/OC-3 Multiservice IFM
- 24-Port chE1/T1 Multiservice IFM

Resiliency

- 1+1 MSP/APS protection
- Ethernet Link Protection
- 1:1 RSVP-TE LSP protection
- Fast Reroute (FRR)
- Pseudowire redundancy (ATM, TDM)
- IP load balancing (Equal Cost Multipath - ECMP)
- IPv4 and IP VPN load balancing to RSVP-TE tunnels

Synchronization

- ITU-T [G.813] option 1
- ITU-T [G.8262]
- Telcordia [GR-1244] Stratum-3
- Station Clock Input and Output ports
- E1/T1, SDH/SONET line synchronization
- Synchronous Ethernet
- SSM over Ethernet [G.8264]
- Adaptive synchronization from SAToP and CESoPSN pseudowires

IPv4 Routing and MPLS Label Distribution Protocols

- OSPF-TE, ISIS-TE, BGP and MP-BGP
- LDP, RSVP-TE

Traffic Management

- DiffServ support for up to 7 traffic classes
- DiffServ aware MPLS Traffic Engineering (DS-TE)
- IEEE802.1P/Q mapping for IP or MPLS
- Policing and shaping
- Strict Priority and WFQ scheduling
- Access Control Lists (ACL)
- ATM service categories: CBR, rt-VBR, nrt-VBR, UBR+, UBR
- ATM VC queuing/shaping



Management

- CLI with SSH2, FTP with SSH2
- SNMPv1 and SNMPv2 monitoring
- Tellabs® 8000 Intelligent Network Manager

Standards

- Safety: EN 60950-1:2006
- EMC: EN 300 386:2005
- RTTE Directive 1999/5/EC
- MEF 9 and 14 compliance

Environmental Conditions

- Storage: ETSI EN 300 019-1-1, Class 1.1, Temperature: -5°C to 45°C / 23°F to 113°F
- Transportation: ETSI EN 300 019-1-2, Class 2.3, Temperature: -40°C to 70°C / -40°F to 158°F
- Operating conditions: ETSI EN 300 019-1-3, Class 3.2 (non-condensing). Temperature: -40°C to 65°C / -40°F to 149°F, Relative humidity: 5% to 95% (some IFMs may limit the temperature range)

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