Tellabs® 6340 Switch Node

One of the first products in the industry to be generally available with Generic Framing Procedure (GFP) and Link Capacity Adjustment Scheme (LCAS), standardized methods of transporting Ethernet using SDH networks.

Lower Your Costs and Provide Cost-Efficient Grooming and Flexible Service Provisioning

The Tellabs 6340 node is a third-generation multi-service provisioning platform (MSPP) that is designed for transport and delivery of converged services (voice, high-speed data and video-on-demand). It is one of the highest density products on the market today, with a very small footprint which frees up costly central office space. Its main strength is in regional and metropolitan networks where you can use the cross-connect functionality for grooming and consolidation of traffic from various sources.

Maximise Your Network Capacity and Generate New Revenues

With Gigabit Ethernet and Fast Ethernet interfaces, the Tellabs 6340 switch node can efficiently map Ethernet into SDH using virtual concatenation of VC-12s, VC-3s and VC-4s. This enables you to offer Ethernet Private Lines scaling in steps of 100 kbit/s, with bandwidth up to 100 Mbit/s.

With Layer 2, you can offer Ethernet Private Lines with hard quality-of-service and a high number of Ethernet Private Networks. It also increases the utilization of the transmission network substantially. More than 1000 Ethernet switches can be partitioned per module. Prioritization and MPLS tagging of MAC frames are key features making it possible to offer hard Quality-of-Service (QoS) and to over-subscribe to provide more efficient use of the SDH transport network. MPLS-based Ethernet switching and scalable bandwidth provide tailored Service Level Agreements (SLAs) to subscribers.

Dynamic bandwidth also provides greater granularity when offering Local Area Network (LAN) connections to private customers. The Ethernet interface enables small and medium-sized companies to use Ethernet private lines for inexpensive connectivity between their head and branch offices — thus reducing complexity, increasing flexibility and saving money.

One Box for Multiple Applications

A typical Tellabs 6340 node ADM is configured as ADM4 or ADM16 rings to collect 2 Mbit/s traffic from the access network and deliver it to a switch in the head-end on 2 Mbit/s lines or STM-1 VC-12 channelized. Alternatively, the Tellabs 6340 node can be configured as a local cross-connect to groom traffic in the network from multiple interfaces.

The Tellabs 6340 Switch Node enables true end-to-end managed delivery of high-speed data services.

The Tellabs 6340 node also serves as a major building block for 3G mobile networks (UMTS). In 3G mobile or xDSL applications, the Ethernet interfaces provide cost-optimized cell-based transport solutions without the need for a separate IP network.

High Performance and Exceptional Scalability

Considering its capacity, the Tellabs 6340 node is a very compact system. For example, an ADM16 with drop of 252 x 2 Mbit/s is implemented in just one 450 mm high ETSI subrack with front access. This compact single subrack solution can then be expanded with up to 3 subracks without interruption of traffic to support 1008 x 2 Mbit/s. Configured as SDXC with 58 x STM-1 interfaces, the Tellabs 6340 node takes up only one subrack. The Tellabs 6340 node can easily be used as an expansionsubrack to the Tellabs® 6345 Switch Node and the Tellabs® 6350 Switch Node.

The Tellabs 6340 node was developed according to ITU and ETSI recommendations. It is managed by the open Tellabs® 6300 Network Management System, which provides automatic path set-up and grooming, synchronization and network views, plus a convenient graphic interface for configuring equipment and monitoring per-path performance.

Specifications

Interfaces

Optical SDH interface
- STM-1, STM-4 and STM-16 (155, 622, and 2488 Mbit/s)

Application codes
- S-1.1, L-1.1, L-1.2, S-4.1, L-4.1, L-4.2, S-16.1,L-16.1, L-16.2

Specifications
- According to ITU-T G.957 and ITU-T G.707

Electrical interfaces
- E-1, E-3, DS-3 and STM-1 (2, 34, 45 and 155 Mbit/s)

Transmission characteristics
- According to ITU-T G.703
- Optimal on 2 Mbit/s: ITU-T G.704

Jitter transfer
- ITU-T G.783, G.823 and G.825

Ethernet interface
- Fast and Gigabit Ethernet with a wide range of electrical and optical application. Optical codes are available for both multimode and single-mode fibers and with wavelength specific colors (CWDM).

Packet Switching Features

Ethernet Services
- Ethernet Private Lines (EPL), Ethernet Virtual Private Lines (EVPL) and Ethernet Local Area Networks (E-LAN) in accordance with MEF (MEF-9, MEF-14 certified)

Layer 3 agnostics
- IP DSCP aware QoS
- IGMP v1, v2 and v3 Snooping according to IETF RFC3376

Layer 2 – Ethernet
- IEEE 802.3, IEEE 802.1D (MAC switching), IEEE 802.1Q/1p (priority bit), IEEE 802.1ad (Q-in-Q), IEEE 802.3ah (Ethernet Link OAM), IEEE 802.3ad (Link Aggregation), IEEE 802.1s (MSTP), and IEEE 802.1w (RSTP)

Layer 2 – T-MPLS
- T-MPLS in accordance with ITU-T G.8110.1 (Architecture), ITU-T G.8112 (Interfaces), ITU-T G.8121 (Functional blocks), ITU-T Y.1711 (MPLS OAM), ITU-T Y.1720 (1:1 LSP Protection)
- Ethernet pseudowire support (PWE3)

Layer 1
- Encapsulation according to ITU-T G.7041(GFP mapping into SDH), ITU-T G.8040 (GFP mapping into PDH), Link Fault Pass-Through
- LCAS according to ITU-T G.7042 (SDH) and G.7043 (PDH)

Protection

Network protection
- SNC/I according to ETSI: EN 300 417-4-1 2
- SNC/N according to ETSI: EN 300 417-4-1 2
- Two-fiber MS-SPRing according to ITU-T G.841
- MSP 1+1 according to ITU-T G.841

Equipment protection modularity
- 1:n protection of 2 Mbit/s
- 1+1 protection of 34 and 45 Mbit/s
- 1+1 protection of STM-1 electrical
- 1+1 protection of the cross-connect synchronization function and power supplies

System Parameters

Cross-connect levels
- VC-12, VC-3 and VC-4

Cross-connect size
- 100 VC-4 external ports for higher-order matrix
- 2016 VC-12 ports for lower-order matrix

Multiplexing specification
- ETSI: ETS 300 147

Synchronization sources
- STM-N interfaces (T-1)
- 2 Mbit/s tributaries (T-2)
- 2 MHz station clock ports (T-3)

Synchronization outputs
- 2 MHz station clock ports (T-4)

User channels
- 64 kbit/s channels
- V.11/V.28 interfaces
- DTFM-EOW

Features

Synchronization management
- SSM support according to ETSI: ETS 300 417-6-1

Performance monitoring
- According to ITU-T G.784

Power Specifications

System power supply
- -48V with redundancy

Operation
- -36V to -72V DC

Environmental Conditions

Operating temperature range
- -5°C to +45°C

Environmental specifications
- ETSI: ETS 300 019-1-3 class 3.2

EMC
- According to ETSI: ETS 300 386-1

Dimensions

- From 1 to 4 ETSI/19” front access subracks; the subrack dimensions are 445 x 266 x 474 mm (WxDxH)

Management

Tellabs 6300 NMS
- Integrated Ethernet/MPLS, SDH and DWDM Network Management

Tellabs® 8100 Intelligent Network Manager
- End-to-end network manager across Tellabs 6300/8100/8600 networks

North America

Tellabs
One Tellabs Center
1415 West Diehl Road
Naperville, IL 60563
U.S.A.
+1 630 798 8800
Fax: +1 630 798 2000

Asia Pacific

Tellabs
3 Anson Road
#14–01 Springleaf Tower
Singapore 079909
Republic of Singapore
+65 6215 6411
Fax: +65 6215 6422

Europe, Middle East & Africa

Tellabs
Abbey Place
24–28 Easton Street
High Wycombe, Bucks
HP11 1NT
United Kingdom
+44 871 574 7000
Fax: +44 871 574 7151

Latin America & Caribbean

Tellabs
Rua James Joule No. 92
EDIFÍCIO PLAZA I
São Paulo – SP
04576-080
Brasil
+55 11 3572 6200
Fax: +55 11 3572 6225