

Tellabs® 7100 Optical Transport System — True Next Generation Multiservice Delivery

An advanced services transport system that supports multiple transport protocols on any port

Overview

The Tellabs® 7100 Optical Transport System (OTS) combines the most advanced optical networking and services layer technologies on one seamless platform. The result is a transport product that supports up to 44 channels to provide services ranging from 100 Mbps to 40 Gbps. The Tellabs 7100 OTS offers unique and multi-patented system technologies that enable true next generation multiservice delivery.

The Tellabs 7100 OTS features an integrated dynamic optical core combined with an intelligent services interface that delivers Add/Drop Multiplexer (ADM) capability on a single blade. The dynamic optical core enables service providers to meet today's network needs while supporting the ability to effortlessly deploy additional nodes for future expansion via a multi-degree Reconfigurable Optical ADM (ROADM). The intelligent services interface mimics currently installed ADM rings with a simple pair of modules, eliminating the costly implementation of stacked ADM rings, back-to-back ADM boxes between rings and multiple rows of supporting equipment. Linear add/drop, ring and mesh optical network topologies are supported with the same base platform.

The Tellabs 7100 OTS not only addresses current network requirements in a cost-effective, efficient manner, but supports strategic deployment of future native packet-based solutions — simply equip the service endpoints with the appropriate interface modules. The Tellabs 7100 OTS offers a single, flexible platform that can support current ADM and Wavelength Division Multiplexing (WDM) ring capabilities and ensure a smooth migration to future packet-based services over mesh networks.

Features that Deliver Immediate and Future Benefits

Increased Network Flexibility and Service Delivery

The Tellabs 7100 OTS overcomes the shortcomings of early generation Dense Wavelength Division Multiplexer (DWDM) systems by introducing a multi-degree ROADM architecture based on Wavelength Selective Switching (WSS) technology. This architecture simplifies network engineering, solves the stranded capacity issues that can occur as a result of channel banding and eliminates re-engineering to accommodate moves and changes. New services can be added on a “point and click” basis through the Tellabs® 7194 Network Management System (NMS), enabling rapid service rollout and the quick addition of new revenue streams.



Figure 1. Tellabs 7100 Optical Transport System



The Tellabs 7100 OTS ensures maximum network availability as your service offerings expand.

Simplified Engineering & Planning

Using the Tellabs® 7196 Optical Subnet Planning (OSP) tool, both initial network design and future additions of new services can be easily planned and implemented. The planning tool can also be used to perform “what if” scenarios ahead of time, giving the network planner greater confidence that the most cost-effective solution will be deployed from the outset.

The Tellabs 7100 OTS supports hitless migration from a low-cost Optical Line Amplifier (OLA) node to a full add/drop system. OLA nodes can be placed in a span either to extend the span length or to provide a low-cost method of prepositioning for future traffic growth. Expansion of an OLA node to a full add/drop system is accomplished by simply adding a ROADM module and output amplifier for each of the two fiber directions of the node.

CapEx/OpEx Savings

With the use of ROADM network elements, transponders that tune across 44 different channels and an intelligent transport control plane, the Tellabs 7100 OTS offers significantly lower operational costs. The ADM on a single blade functionality of the 7100 OTS means that a separate ADM no longer needs to be installed and provisioned, shrinking both costs and physical footprint. These savings grow significantly when a common switch fabric is deployed, further reinforcing the “pay as you grow” architecture of the Tellabs 7100 OTS product family.

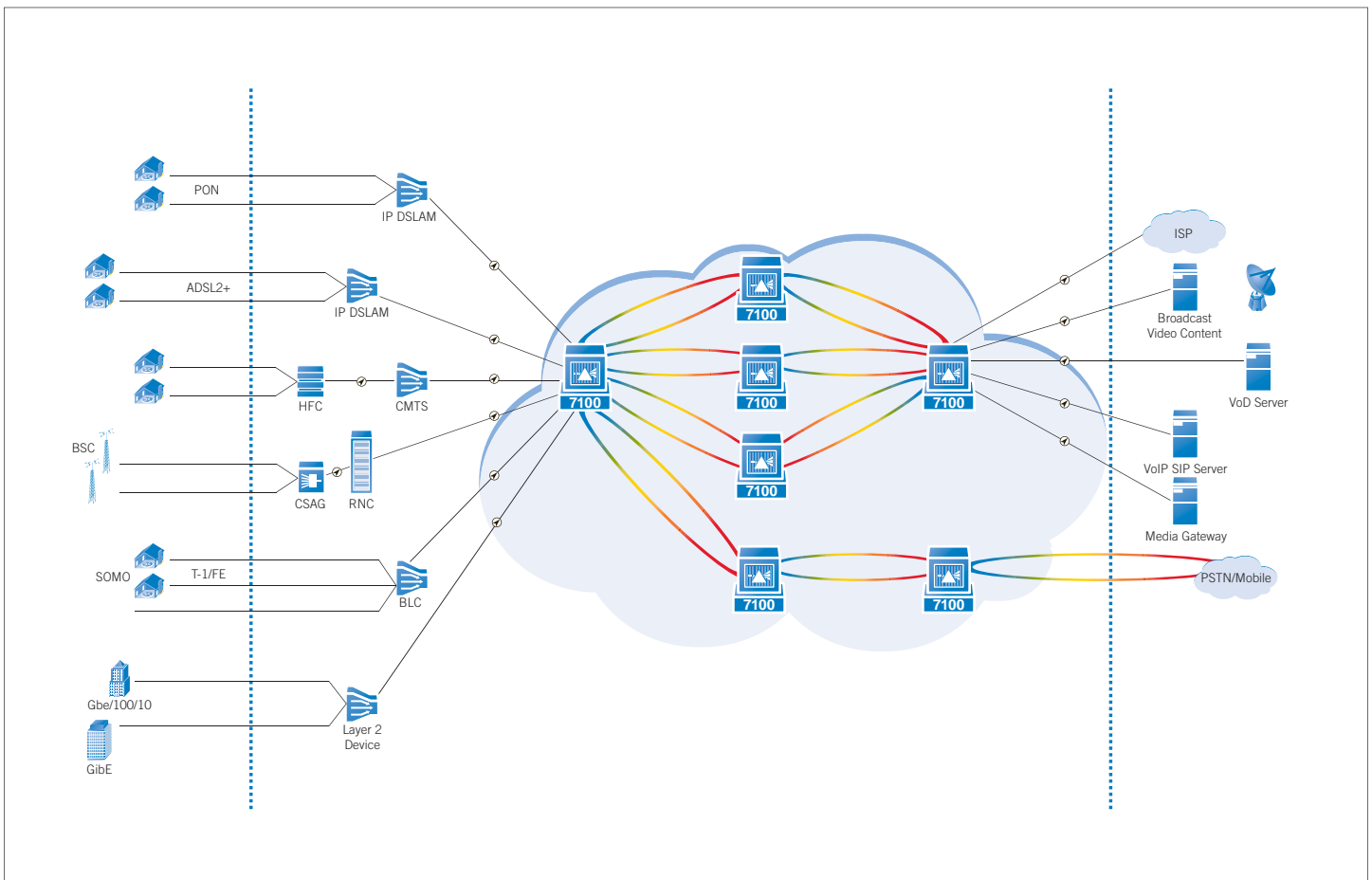


Figure 2. The Tellabs 7100 OTS seamlessly integrates ADM and Layer 2 functionality onto a single unified optical transport platform.

Key Technical Features:

Topology

- Ring
- Multi-ring interconnect
- Mesh
- Linear add/drop

Management & Planning

- Tellabs® 7194 Network Management System (NMS)
- Tellabs® 7190 Element Management System (EMS)
- Tellabs® 7191 Craft Station
- Tellabs® 7196 Optical Subnet Planning (OSP) tool

Interfaces

- 100 Base ETH
- OC-3/STM-1; OC-12/STM-4, OC-48/STM-16, OC-192/STM-64
- ESCON/SBCON, FC/2,FC/4, FC/8
- DVB-ASI
- 1-10G FC, 1-2G FICON, 1-2G ISC
- 1 GbE, 10 GbE (LAN/WAN)
- ODU1, ODU2, OTU1, OTU2

Physical

- Shelf Dimension:
 - Height: 18.7 in. (475 mm)
 - Width: 19.5 in. (600 mm)
 - Depth: 12 in. (300 mm)
- Rack Dimension:
 - U.S. NEBS rack: 84 in. H x 26 in. W x 12 in. D
 - International ETSI rack: 2,200 mm. H x 600 mm. W x 300 mm. D
- Power: -48 V DC nominal (-40 V DC to -75 V DC) voltage

Network

- Up to 44 wavelengths with 2.5 Gbps, 10 Gbps and 40 Gbps support
- Up to eight degree ROADM with WSS technology
- Full optical PM and TCA support for all 44 waves
- Auto balancing and wavelength turn-up support
- Alien wavelengths
- G.709 FEC, EFEC
- Distances in excess of 1000 km
- Transponders widely tunable across entire 44 waves
- Built-in Pseudo Random Bit Sequence (PRBS) generation with loopback capability for testing
- Up to 32 network elements per ring
- Protection:
 - UPSR
 - APS (1+1)
 - OCh-DPring
 - Packet Base ring switch (Layer 2)
 - 1:N Mesh Protection (Layer 2)

ADM Functions

- STS-1 level grooming
- Hair pinning
- 10 Gbps ADM on a blade (SONET-based or packet-based)
- Any-to-any service delivery
- Eliminates back-to-back, stacked ADM rings
- VLAN
- VLAN to a pseudowire
- MPLS traffic engineering
- Ethernet encapsulation into a pseudowire

Environmental

- Operating Temperature: 5° C to 40° C (41° F to 104° F) normal; -5° C to 50° C (23° F to 122° F) temporary
- Relative Humidity: 5–85%, noncondensing

Ordering and Availability

The Tellabs 7100 OTS is available now. Please contact your Tellabs sales representative or visit tellabs.com for more information.

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
United Kingdom
HP11 1NT
+44 870 238 4700
Fax: +44 870 238 4851

Latin America & Caribbean

Tellabs
1401 N.W. 136th Avenue
Suite 202
Sunrise, FL 33323
U.S.A.
+1 954 839 2800
Fax: +1 954 839 2828

Statements herein may contain projections or other forward-looking statements regarding future events, products, features, technology and resulting commercial or technological benefits and advantages. These statements are for discussion purposes only, are subject to change and are not to be construed as instructions, product specifications, guarantees or warranties. Actual results may differ materially.

The following trademarks and service marks are owned by Tellabs Operations, Inc., or its affiliates in the United States and/or other countries: TELLABS®, TELLABS and T symbol®, and T symbol®.

Any other company or product names may be trademarks of their respective companies.

© 2007 Tellabs. All rights reserved.
74.1693E Rev. B 1/07