

Evolution

Integrating TDM & Ethernet Over Fibre



Evolving to an integrated TDM and Ethernet network over optical fibre

Getting IP Ready

The Telecom revolution brought about a full-scale network evolution of established circuit switched Time Division Multiplexing (TDM) based infrastructure which has been the heart of the Public Switched Telephone Network (PSTN) for decades.

While much of the voice traffic is still carried over the circuit switched network, enterprises cannot ignore the fact that data now outpaces voice traffic on their network.

Some think that the days of TDM are numbered, while others believe that the reliability and longevity of this venerable technology will mean that it will co-exist alongside the Packet Switched Network (PSN) for years to come.

Enterprises are increasingly getting caught in an economic and competitive crunch. Recognizing the tremendous growth in data traffic, enterprises have started to deploy PSN networks on top of their existing circuit switched infrastructure.

This is only a short term solution!



It is becoming increasingly difficult to maintain two disparate networks for voice and data traffic, each with separate equipment, maintenance and operational philosophy.

Enterprises are fighting back and are formulating a path forward based on a single, efficient and cost effective PSN for transporting legacy TDM services together with growing IP/Ethernet services.

Avara has acknowledged the technological challenge faced by enterprises and through an extensive R&D program has developed a range of convergence products for providing circuit switched services over a packet switched network.

System solutions based on Avara products are able to provide packet interconnection for existing TDM equipment thus enabling legacy TDM data and voice traffic to move across an IP/MPLS/Ethernet network.

This enables service providers to capitalize on the revenue growth opportunities presented by the boom in Ethernet data traffic whilst maintaining the significant revenues and profit generated from existing PDH (E1/T1) services.

The products are used in the access part of the network to groom TDM and Ethernet traffic for transport over SDH/SONET or IP/MPLS based backhaul and core networks.

The challenge of transporting circuit switched services over a connectionless network has been met using Avara's next generation of products.

Avara products can transport TDM traffic over new or existing SDH, IP, Ethernet or MPLS networks along with IP based traffic whilst maintaining the required quality of service (jitter, delay, etc) mandated by E1/T1 type services.

Optical Access Point

OAP402/440

The OAP4xx is a family of highly reliable, feature rich and cost effective integrated access devices (IAD) with multiple broadband 10/100Base-T and narrow band POTS, E1/T1/J1 & serial data (X.21, RS232) interfaces for use over single mode or multi mode optical fibre cables in point to point, linear or ring network topologies.

The form factor, functionality and the port densities supported makes the OAP4xx product range ideal for implementing high availability, performance sensitive, yet flexible networks.





The use of this technology is fundamentally significant where existing revenue generating TDM type services need to be supported together with the new growth opportunity packet based services.

The OAP4xx is manageable remotely using Telnet and SNMP, thus reducing installation & maintenance time and costs and facilitates fault management and isolation. Avara's product range is the technology of choice when upgrading to next generation, fault tolerant, broadband networks where support for legacy interfaces such as E1/T1, V.11, X.21, RS485, RS232 & POTS is required together with next generation IP/Ethernet services.

SDH performance Ethernet flexibility Integrated platform

Empowering TDM Networks

DFX100/1000

The DFX100 & DFX1000 are a series of access and transport cards specifically designed to empower the Nokia Dynanet PDH multiplexer product line.

Seamlessly integrated into existing NOKIA DYNANET Sub Racks, this product provides Ethernet capability to the TDM network and effortlessly facilitates the upgrading of traditional PDH interfaces to 100Mbps or 1Gbps backbone rates. The DFX cards are SNMP managed and are easily integrated with existing NOKIA NMS thus providing savings to expanding networks.

Enterprises installing or expanding their NOKIA based TDM networks have benefited from using the DFX product line to provide advanced Ethernet capabilities, integrated management and increase their backbone bandwidth to giga-bit rates whilst minimizing cost, rack space and power usage.

Opto Hopper

EDFA & RAMAN Optical Booster Amplifiers

This advanced manageable optical amplifier plays a key role in establishing networks that require ultra long haul optical communication without the use of repeaters (active or passive).

The Opto Hopper has been designed to be easily mountable in 19" and 23" racks and are available with both EDFA (10/15/20 dBm output power) and Raman configurations. Transmission distances greater than 250km at STM16 rates has been achieved in the field using standard G.652 fibre without the need for dispersion compensation fibres or additional repeaters.



Benefits





Applications

Avara products have been installed in the most demanding applications and are continuously becoming popular with:

Network Operators wanting to provide high speed and multiple level of access services to its Customers or augment its existing network. Utility Companies such as Motorways, Railways, Power Transportation, Power Distribution, Oil & Gas, Water and Waste Water Companies, that are wanting to expand their TDM network with IP capability maintaining their legacy network or require to expand their existing networks.

Original Equipment Manufacturer (OEM) Companies, wanting specialized convergence equipment, customized to their applications to integrate TDM, Ethernet and Optical transport to their solutions offerings.



Product Line Features

- Standards compliant
- Interface diversity (electrical & optical)
- Designed to operate in harsh
 environments
- Highly flexible
- Low installation & maintenance cost
- Easy migration path for future technologies
- SNMP managed
- Designed to support future applications
- Customized products / solutions

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