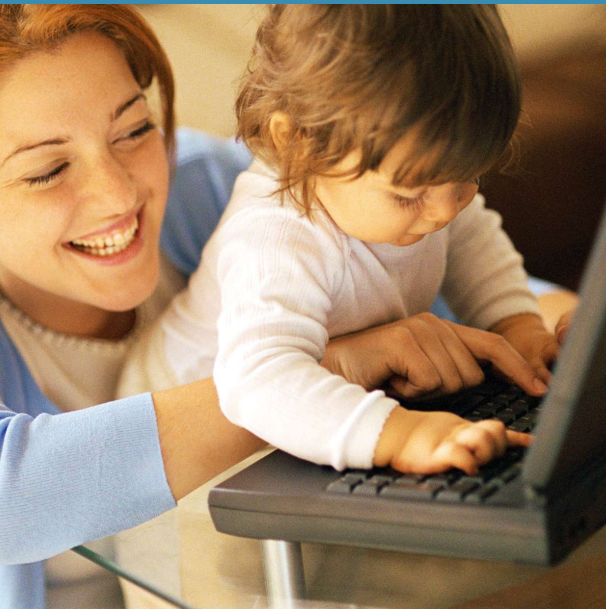


XDM®



# XDM-300

## Flexible MSPP For Metro Aggregation Applications

- **Compact multi ADM-64** – maximized capacity, minimized footprint, with unique high fan-out nonblocking HO/LO central matrix
- **Efficient data handling** – carrier-class Ethernet services with L1, L2, and MPLS-based offerings
- **Significant savings** – supporting a multitude of technologies, cost-effectively adapting to market demands
- **Versatile and comprehensive** – a full range of CWDM/DWDM, ATM, SDH, PDH, and Ethernet interfaces
- **Broad scaling capabilities** for growing metro-edge and metro-access aggregation and cellular sites
- **XDM modularity** – I/O card interchangeability with XDM-100 and XDM-50, for reduced OPEX





## BREAKING THE BARRIER

Introducing a unique architectural concept and design, the XDM-300 is the most flexible and optimized platform for operator metro networks. The XDM-300 breaks the barrier between metro-edge and metro-access functionality. It is a powerful platform for all metro and access applications, featuring:

- High-density metro aggregation for hub sites
- High capacity and compact MADM-16/64
- Metro traffic backhauling to core networks

**The XDM-300 provides an extremely attractive combination of cost-effective yet high performance carrier-class Ethernet, SDH /SONET, PDH, and CWDM/DWDM services. This high adaptability and build-as-you-grow™ architecture leads to considerable savings in OPEX and CAPEX.**

## AGGREGATION WITHOUT AGGRAVATION

The great challenge that operators are currently facing is how to handle the growing demands for STM-1/OC-3 and STM-4/OC-12 interfaces delivered from access rings, customer premises equipment, and BTS/NB cells. This rise is being driven by the increasing demand by business customers for higher bandwidth to support voice, data, and video services. In response, operators are replacing traditional customer location equipment, mostly based on old PDH platforms, in order to manage miniature MSPPs. This trend is becoming more and more ubiquitous and the influence on access networks is significant.

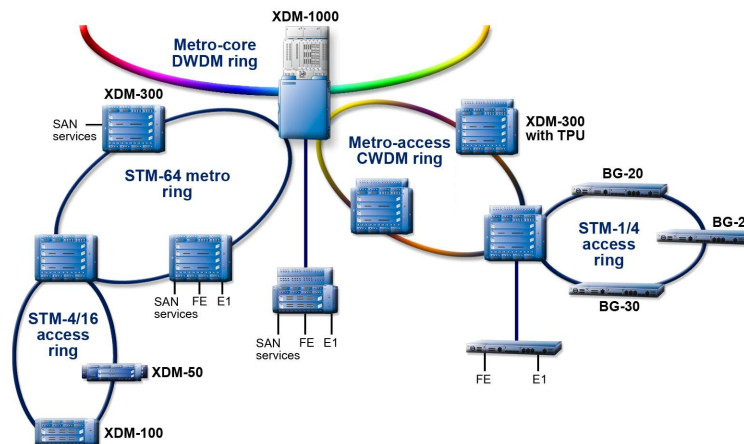
**The superior XDM-300 fan-out is the key for meeting the growing metro and access interface aggregation demands covering a wide range of services over a variety of technologies and infrastructures. This affords smooth and easy integration with existing, as well as future, network applications.**

## SERVICES WITH A SMILE

The XDM-300 is based on a novel approach to MSPP for metro applications. It supports scalable STM-1/4/16/64/OTU2 (OC-3/12/48/192) aggregates and flexible access topologies. Designed and developed to provide a quick response to evolving networking requirements, this platform brings new levels of flexibility to metropolitan/access transport, cellular, and access ring-type architectures.

**The XDM-300 provides a data service layer that terminates WAN links and aggregates Ethernet traffic arriving from the access network. Traffic can be carried to local Gigabit Ethernet interfaces or routed to the metro-core over SDH/SONET, enabling the following services and features:**

- Carrier-class Ethernet as well as traditional SDH voice-centric services
- Gradual in-service capacity expansion based on service provisioning needs
- Nonblocking low-order/high-order cross-connect functionality
- Sublambda grooming resulting in high utilization of existing fibers and top efficiency in transmission of different types of services
- Common function redundancy and I/O interface protection
- Full compatibility with its XDM-100 and XDM-50 family counterparts (interchangeable I/O cards)



## A TOUCH OF CLASS

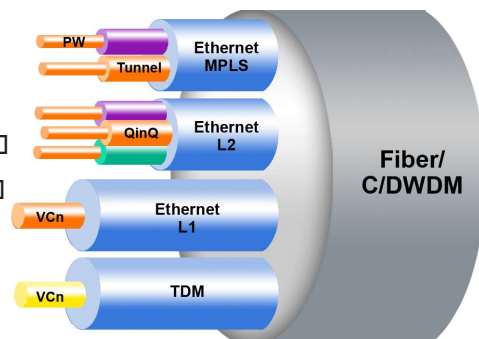
The XDM-300 is the preferred carrier-class transmission solution for emerging Ethernet-based applications. Data applications have become the driving force in the telecommunications industry, providing a new approach to data service provisioning and connectivity. These include:

- Triple Play
- Business Connectivity (Enterprise and Medium/Small Offices)
- Mobile Aggregation
- DSLAM Transport and Aggregation

The XDM-300 is equipped with a broad range of Ethernet cards to support all services with end-to-end QoS. For example, the Layer 1, Layer 2, and MPLS cards are part of the overall XDM data-aware architecture. The system supports seamless Ethernet service delivery from metro-core all the way to customer premises.

This platform is the optimal method to provide data-centric services, as follows:

- **Ethernet Line (E-Line)** for point-to-point connectivity, including:
  - Ethernet Private Line (EPL)
  - Ethernet Virtual Private Line (EVPL)
  - Virtual Private Wire Service (VPWS)
- **Ethernet LAN (E-LAN)** for multipoint-to-multipoint (any-to-any) connectivity, designed for multipoint Ethernet VPNs and native Ethernet Transparent LAN Services (TLS), such as:
  - Ethernet Private LAN (EPLAN)
  - Ethernet Virtual Private LAN (EVPLAN)
  - Virtual Private LAN Service (VPLS)
- **E-Tree (Rooted-Multipoint)** for point-to-multipoint Multicast Tree connectivity, designed for BTV/IPTV services, such as:
  - Ethernet Private Tree (EP-Tree)
  - Ethernet Virtual Private Tree (EVP-Tree)
  - MPLS Routed-P2MP Multicast Tree (Drop & Continue)





## BACKHAUL TO THE FUTURE

Mobile operators are confronted with tough competition resulting from Average Revenue Per User (ARPU) erosion (largely due to reduction in voice services), technology shifts from legacy TDM-oriented 2G/2.5G to 3G and 3.5G, as well as the introduction of wireline services (FMC/FMS). These factors are forcing operators to re-think their transport strategy in order to reduce OPEX while supporting the migration from TDM to packet-oriented networks. ECI's backhauling solution comprises two approaches, both managed under a unified management and OAM system. This allows mobile operators at different stages of infrastructure to select the most appropriate and efficient solution for their particular needs for the future.

### Low to Medium 3G Penetration

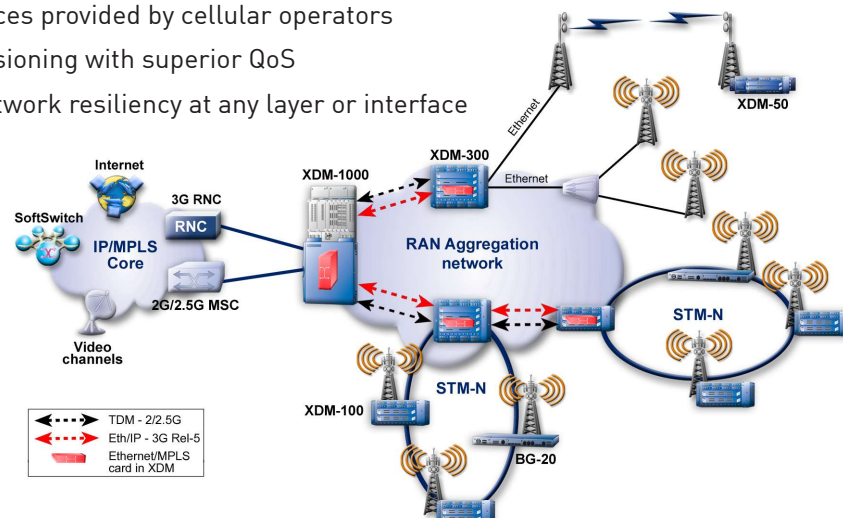
In this scenario, 2G (or TDM-oriented) services expand in parallel with the introduction of 3G packet-based (ATM and/or IP) technology. Basing the solution on ECI's leading XDM MSPP product line, the operator gains:

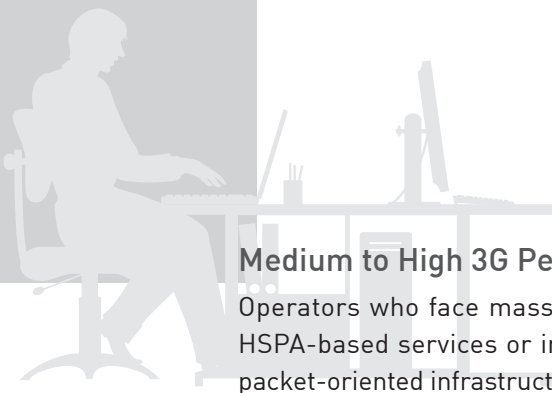
- Native support of all legacy service expansion with highest QoS
- Integrated support of ATM with highest utilization of backhaul resources
- Variety of Ethernet services over MPLS for introducing IP UTRAN and/or data applications for business services
- Integrated NG optics (ROADM) supporting both capacity expansion AND topology changes in the most flexible and efficient way

**The main benefit of this method is that it supports any stage of evolution with the most appropriate technology (and media), while allowing smooth migration towards full packet-based networks when needed.**

The XDM-300 was designed as an optimized platform to be located at HUB sites in the RAN in terms of size, functionality, and price, featuring:

- Scalable and flexible solutions for increasing traffic demands
- Higher bitrate multiple ring and link closure toward hub sites (STM-1/4/16/64 or OC-3/12/48/192 rings)
- Aggregate traffic from BTSs and Node B's from E1s to GbE
- Efficient handling of advanced data services (WLAN, IP migration) and additional data services provided by cellular operators
- Fast provisioning with superior QoS
- Higher network resiliency at any layer or interface





## Medium to High 3G Penetration (developed markets)

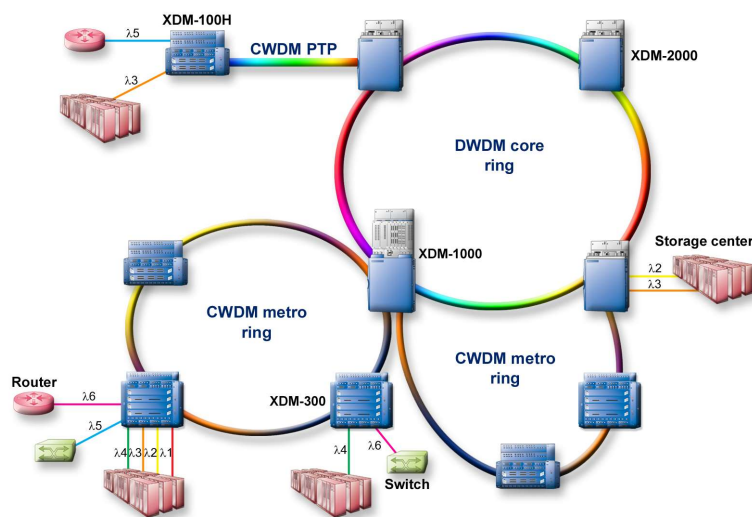
Operators who face massive increases in packet-based traffic (high penetration of HSPA-based services or introduction of mobile WiMAX in the future) require a more packet-oriented infrastructure. In most scenarios, the introduction of a new packet layer is implemented gradually, in parallel with the existing MSPP network. In this case, the interoperability and ability to create end-to-end services, as well as OAM for the services on both networks, is crucial. ECI's solution provides a unified network approach and smooth evolution from legacy to packet-based.

## COLOR YOUR WORLD

The XDM-300's CWDM capability makes it a natural choice for metro-edge and metro-access environments. As a powerful converged multiservice platform optimized for metro networks, **XDM-300 integrates high-capacity and cost-conscious CWDM with SDH sublambda grooming and efficient data transport, enabling smooth migration from today's SDH transmission technologies to CWDM terabit capacities.**

The compact XDM-300 shelf houses a variety of CWDM, OADM, transponder, OFA, combiner, and other optical cards and modules used to process, amplify, and monitor multichannel signals. It provides up to 16 integral slots for transponder and combiner modules for a variety of services, including:

- Lambda-based services from 100 Mbps up to 2.5 Gbps
- Data, digital video, Ethernet, and other digital services
- High-order transmission paths for IP networks



## THE 5<sup>TH</sup> DIMENSION

The remarkable LightSoft® multidimensional network management system for converged networks handles two physical layers and several technology layers, including SDH/SONET, optical, and Ethernet (data). Its advanced GUI includes flexible fault management tools, end-to-end trail definition, database backup, and sophisticated Customer Network Management (CNM) that enables monitoring and allocating available network resources to a wide variety of clients for maximum profitability. Within one integrated management system, LightSoft allows users to fully control and obtain a complete overview of all network elements.

## TECHNICAL SPECIFICATIONS

Interfaces, Topologies, and Protection			
SDH tributary and aggregate interfaces□	STM-1, STM-4, STM-16, STM-64□		
SONET tributary and aggregate interfaces□	OC-3, OC-12, OC-48, OC-192		
PDH tributary interfaces□	E1, E3, DS-3		
Data-aware interfaces□	10/100/1000 Mbps, Ethernet, IP, ATM		
Topologies□	Mesh, multi-ring, ring, star, linear		
System Capacities			
Pluggable SFP/XFP support□	Electrical, non-colored, C/DWDM		
Ethernet□	Layer 1:□ 128 x 10/100BaseT□ 64 x 10/100 FX□ 64 x 1000BaseT□ 64 x 1000 SX/LX□	Layer 2 <sup>1</sup> :□ 96 x 10/100BaseT□ 96 x 10/100 FX□ 32 x 1000 BaseT□ 32 x 1000 SX/LX□	MPLS:□ 64 x 10/100BaseT□ 64 x 10/100 FX□ 64 x 1000 BaseT□ 64 x 1000 SX/LX
SDH/SONET□	128 x STM-1/OC-3□ 64 x STM-4/OC-12□ 24 x STM-16/OC-48□ 6 x STM-64/OC-192		
PDH□	504 x E1, 48 x E3, 48 x DS-3		
CWDM Specifications			
Number of channels□	1, 2, 4, 8, 16□		
Max. distance□	Over 100 km		
Channel spacing (nm)□	20		
Continuous 2R/2R transponder□	STM-1/4/16, OC-3/12/48, digital video, Ethernet,□ Fiber Channel, ESCON, FICON, etc.□		
CWDM combiner□	2 x GbE/FC/FICON to 2.7 Gbps OTN		
Other Specifications			
Power input□	-40 VDC to -75 VDC□		
Max. power dissipation□	1600 W, 5465 BTU/h		
Operating temperature range□	-5°C to +55°C□ -23°F to +131°F		
Operating RH range□	5% to 95%		
Environmental standards□	ETS 300 019-1-3 Class 3.2□ ETS 300 019-1-1 Class 1.2□ ETS 300 019-1-2 Class 2.3		
Safety□	EN 60950-1:2006, according to LVD Directive 72/23/EEC □ EN 60825-1&2		
NEBS□	GR-63-CORE (level 3), GR-1089-CORE, UL 60950:1,□ last edition		
EMC□	EN 300 386-2, 1TR9		
Management□	End-to-end management of all layers and services		
Physical dimensions □	325 mm (H) x 443 mm (W) x 300 mm (D)□ 12.8 in (H) x 17.4 in (W) x 11.8 in (D)		

<sup>1</sup> Reaching maximum ports per shelf requires the use of DIOM cards as port extenders



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