

DynaMate: DMT4000

Designed from the ground up to solve pressing mobile backhaul network challenges for top-tier mobile providers, the DMT4000 leverages Celtro's technology, to enable increased revenue generation, with significant savings in network CapEx and OpEx.

Celtro's new DMT4000 offers providers a robust, redundant, high-capacity one-box solution that supports all radio technologies of 2G, 2.5G, 3G, HSPA and 4G LTE/WiMAX, and all backhaul technologies of TDM, ATM, Carrier Ethernet, MPLS and IP with PWE interworking.

Celtro's DynaMate products offer application layer switching, featuring unique traffic optimization and statistical multiplexing for maximum efficiency, as well as application-aware QoS for voice, data, and signaling.



DMT4000

DMT4000, a Scalable Access Switch for Mobile Backhaul Networks

The DMT4000 is a scalable 4U member of the DynaMate family, designed specifically for aggregation sites at the mobile backhaul network. It is fully field-upgradeable, providing up to 80 E1/T1, 12 STM-1/OC-3 and 1 Gigabit Ethernet ports (as well as 1 port for redundancy). The DMT4000 employs 1:N equipment protection and link protection for each interface - delivering cost-effective, carrier-class mobile backhaul switching.

Features

- Scalable 4U access switch specially designed for the mobile backhaul
- Multi-service Layer 2-3 switching of TDM, ATM, Ethernet and IP/MPLS
- Pseudowire technology for Layer 2 interworking
- Unique application-layer switching for:
 - Improved network efficiency
 - Superior performance of 2G Abis and Ater traffic optimization
 - Application Aware QoS for voice, video and data
 - Convergence of 2G and 3G, Voice and Data with dynamic sharing of network resources
 - Data/HSPA offload for hybrid architecture
- Universal ports: E1/T1, STM-1/OC-3, GbE for carrying any Layer 2 traffic over PDH, SONET/SDH or Ethernet infrastructure
- Carrier class with equipment and network protection

Benefits

- Enhanced backhaul performance for introduction of new and lucrative broadband mobile multimedia services over existing infrastructure
- Smooth single box migration from ATM to All-IP RAN
- Protection of investment in the existing backhaul network, while enjoying better backhaul network efficiency of 2G, 3G and HSPA traffic
- Lower network OpEx and CapEx
- Maximum service delivery and revenues through dynamic sharing of backhaul resources and support for application-aware QoS for voice, video and data
- Online adaptation to traffic demand variations during network and subscriber migration from 2G to 3G
- Future-proof support for all radio and backhaul technologies
- Field proven solution with worldwide installed base

Technical Specifications

Traffic Interfaces

- E1/T1 : Up to 80
 - E1/T1 Bundling: Up to 16 links for IMA or ML-PPP
 - Ethernet: 1 X 1000 Base-T (RJ45)
Up to 10 FE/GE Interfaces (RJ45 & SFP)*
 - STM-1 / OC-3: up to 12 x STM-1 interfaces on STM-1 modules
 - STM-1 Variants: Channelized (VC12), concatenated (VC4)
 - VC12 Bundling: Up to 63E1 for IMA or ML-PPP
- * Future Support

ATM, Ethernet, MPLS and IP

Layer 2 Switch Features

- TDM Switch: 64 Kbps Non-Blocking
 - ATM Switch: VP, VC and AAL2 switching
 - Ethernet Switch: 802.1Q (VLAN) and Vlan Stackin (Q-in-Q), 802.1AD (Provider Bridge) Learning Bridge (MAC) and IP Aware Bridge.
 - MPLS Switch: FEC based labels swapping/stacking - LSR functionality MPLS with Label Distribution Protocol (Control plane) based on LDP and T-LDP (RFC 3036)
- * Future Support

ATM Features

- ATM Interfaces: Fractional-E1, E1, IMA, VC4
- I.610 OA&M
- Traffic Management - TM4.1
 - 4 Classes of Service with priority queues with WRR between the queues
 - Policing, shaping and early discard functionality
- IMA 1.1 bonding options

Ethernet Features

- 802.1 P – Priority Marking and Classification
- 802.1q (4K VLANs), (Q-in-Q)
- 802.1AD

MPLS/IP Functionality

- Control Plane based on LDP (RFC 3036)*
 - Dynamic IP Routing with OSPF IGP (RFC 2328)*
 - PWE OAM (VCCV-BFD)
 - Priority Marking (EXP) and classification
- * Future Support

Pseudo wire (PWE) Options

- ATM PWE over MPLS (RFC 4717, 1-1 /N-1 mode with VPI/VC1 replacement on ingress or egress)
 - Programmable cells/packet and timeout
 - ATM encapsulation over IP (RFC 4023-w/wout GRE)
 - Ethernet PWE (RFC4448)
 - CESoPSN (RFC5086)*
- * Future Support

Optimized Abis/Ater over Packet Network

- ATM: Optimized, packetized and AAL2-groomed into VBR VC
- PSN: Optimized, packetized and IP/MPLS encapsulated

Abis/Ater Optimization

Abis Optimization Features

- Abis optimization up to 3:1; Ater optimization up to 2:1
- Transparency to BSS vendor and release
- Silence, idle and pattern removal
- Application Aware QoS for voice, data, signaling
- All Voice Codecs: FR, EFR, HR, AMR all rates
- All Data Types: Gb, GPRS, EDGE
- Signaling: 16, 32 and 64Kbps

Remote Device Accessibility

- Outband: By means of VPN with access to the Management Port on DMT4000
- In-band management over PDH, ATM or IP
- Inband - over path used by HSDPA offload

System Attributes

Description

- Height: 178mm (4U), Width: 445mm, Depth: 245mm
- Mounting: Both 19" and ETSI
- Weight: up to 13.5 Kg
- Operating temperature: -5°C to +50°C
- Operating humidity: 5% to 95%
- Altitude: up to 4000m
- DC: -24VDC / -60VDC
- Cooling: West to East

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