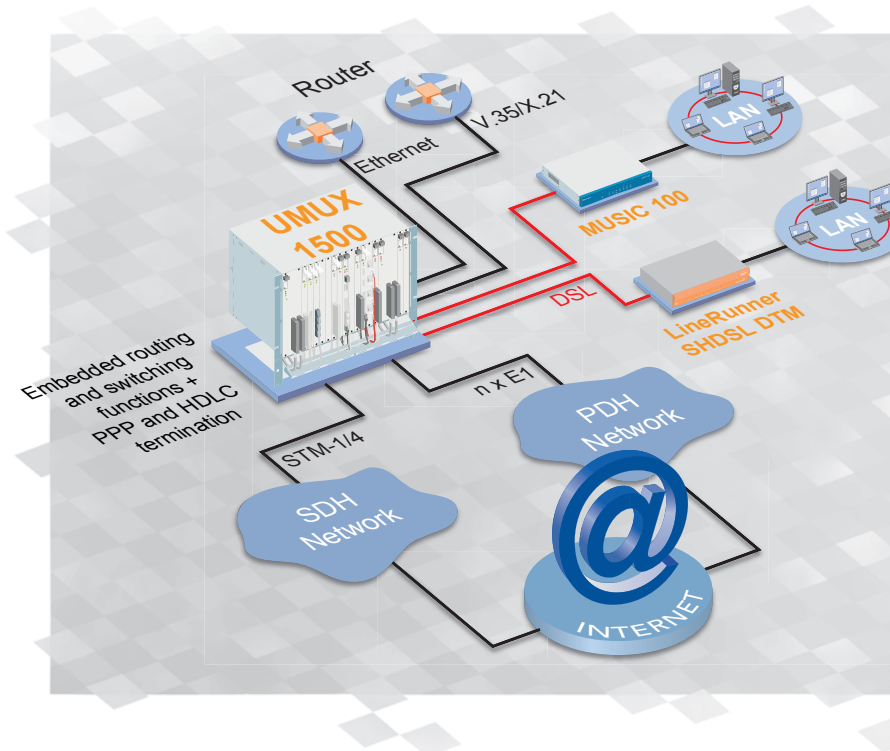


UMUX Ethernet Aggregation Unit ETER1

ETER1 provides efficient aggregation of Ethernet traffic connected to TDM interfaces on UMUX service units or its front Ethernet ports



- PPP and HDLC termination/encapsulation
- Aggregation of n x 2Mbps channels using MLPPP
- Layer 2 and Layer 3 based packet forwarding
- Multiple VLAN aware switch instances

ETER1 provides the UMUX platform with the ability to aggregate Ethernet traffic, using its Layer 2 and Layer 3 functionality. It terminates PPP and HDLC encapsulated traffic from local and remote units, and also provides 10/100BaseT Ethernet front ports for direct connection to Ethernet networks or devices. Several 2Mbps channels of Ethernet traffic can also be bundled on a single logical channel using Multi-Link Point-to-Point Protocol (MLPPP).

■ Ethernet traffic aggregation in UMUX

With the advent of Ethernet based services, many networks require upgrades to Ethernet user and network interfaces. However, due to the ongoing use of the reliable SDH or PDH services, or to the necessity to reuse installed infrastructure; Ethernet services must be transported using existing TDM infrastructure.

With ETER1, the UMUX platform continues to improve already supported Ethernet aggregation Layer 2 and 3 functionalities.

ETER1 comes as a significant enhancement to these features, enabling larger bandwidth for Ethernet services, as well as better performance. The ETER1 consolidates Ethernet services provided with UMUX units, and works as a gateway for these services towards the network. ETER1 also allows several 2 Mbps channels to be bundled into one single logical channel using MLPPP. ETER1 is compatible with all of the PDH UMUX units providing Ethernet services, including remote devices like the LineRunner DTM and MUSIC 100.

Naturally, its front Ethernet ports can also be used in conjunction with the Ethernet ports of any of the UMUX units.

TDM protection mechanisms like 1+1 path protection and Sub-Network Connection Protection (SNCP) are supported in the unit in order to make it compatible with protection mechanisms in existing networks.

■ PPP and HDLC termination

The ETER1 unit terminates PPP encapsulated traffic from the following units: DATAx, LAWA4 and LEMU6; as well as HDLC encapsulated traffic from LineRunner DTM. The traffic terminated from these units can be then switched or routed towards the network.

■ Switching functionality

ETER1 provides switching functionality towards the backplane for Ethernet traffic serviced

from other UMUX units or from any of its front ports.

ETER1 allows the creation of various independent switch instances with VLAN support, therefore allowing the creation of separate L2 networks, and also the separation of traffic into different TDM or SDH channels. Rapid Spanning Tree Protocol (RSTP) is supported on each of the switch instances.

■ Routing functionality

ETER1 also provides layer 3 routing functionality with support of Open shortest Path First (OSPF) protocol. This feature allows the ETER1 to be used to separate L2 networks as well as to provide an IP interface towards the network.

Virtual Router Redundancy Protocol (VRRP) is implemented in order to increase the availability of the default gateway servicing hosts on the same subnet.

Some of the main applications with ETER1 are:

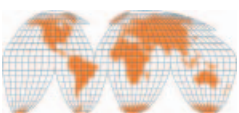
- Aggregation of local Ethernet traffic from other UMUX units: DATAx, LAWA4
- Aggregation of remote Ethernet service provided via xDSL: STICx ↔ LineRunner DTM, and LEMU6 ↔ MUSIC100
- Transport of Ethernet services over n x 2 Mbps, over PDH or SDH, channels using MLPPP
- Creation of Ethernet L2 and L3 networks transported over PDH or SDH

■ Management System

The UMUX management and the variety of services are administered centrally by UCST/UNEM. Operators save cost and accelerate the provisioning process with only one element manager for all service types.

Technical Data

General	
Number of ports	4 x 10/100BaseT
Backplane	16 x P12 (2Mbps)
Supported Standards	
Protection	1+1 path protection, SNCP
Layer 2 Features	
PPP	RFC 3518
HDLC	LineRunner DTM compatible
VLAN support	VLAN tagging (IEEE 802.1Q), port based VLAN
Spanning tree	RSTP (IEEE 802.1w)
MLPPP	RFC 1990
QoS	Packet classification and marking Forwarding service fairness
Layer 3 Features	
Routing (available on ETER1 Release 2)	OSPF v2 (RFC 2328), Static routing, Unnumbered links, VRRP (RFC 2338)
Management	
UCST	For local management
UNEM	For central management
Operation Environment	
Temperature range and humidity	According to UMUX environmental specifications



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