



ULC-1000AN

Multi-Service Access Node

Description

Keeping with the current trend of full integration in the migration of IP and broadband, OPNET Technologies presents ULC-1000AN, Multi-Services Access Node. It can be configured to deploy a wide range of narrowband and broadband voice and data applications, to subscribers over a copper wireline network infrastructure.

The ULC-1000AN can be deployed in central office as well as remote outdoor node applications. It enables migration from legacy TDM network to IP-based Next Generation Network. It provides operators with maximum flexibility for service access, enabling efficient and effective deployment of new services without the need for additional investment in infrastructure.

- ◆ Combination of Traditional TDM Services and IP-based NGN Services in a Single Universal Platform
- ◆ Integrated High speed and Reliable Transmission System
- ◆ Flexible and Scalable Modularized System Design
- ◆ Comprehensive NMS Features for Access Network Management
- ◆ An easy way of migration from TDM network to NGN network
- ◆ Key applications critical to consumers by a single platform
- ◆ Protect the values of existing equipment investment
- ◆ Lower capital investment and network operation cost

Main Feature

◆ TDM-based Features:

- Open PSTN interfaces: V5.2 or 2-wire analog, connections to any LE for POTS applications
- Analog Leased Line with or without E&M Signaling
- Multi-rates Data Leased Line with different kind of interface, V.11, V.28, V.35, OCU-DP, or G.SHDSL
- DS0 level fully non-blocking cross-connect and grooming

◆ Broadband Access Features:

- Variety of xDSL Access Interfaces: ADSL / ADSL2 / ADSL2+ / G.SHDSL
- Variety of Network Interface: Fast Ethernet (FE) or Gigabit Ethernet (GE) for IP-based Network
- Integrated L2 Switch Features for Advanced Data Services
- Built-in POTS Splitter on board to simplify MDF cross-connection

◆ VoIP Access Features:

- Comply with standardized IP-based control protocols, H.248 / MGCP / SIP
- Bi-directionally convert voice formats between TDM-based PCM payload and IP-based G.711, G.723, G.726 or G.729 payload
- Voice Activation Detection (VAD)
- Comfort Noise Generation (CNG)
- T.38 Fax over IP functionality

◆ Integrated Transmission System

- Variety of Transmission Interfaces: E1, G.SHDSL Electrical, STM-1/4 Optical, or GE Optical
- Variety of Network Topologies: Point-to-point, Linear, Star, Ring or Hybrid
- Fast Recovery from Network Fault by Network Protection Switch

◆ Scalable System Capacity from Small, Medium to Large Network Management and Maintenance

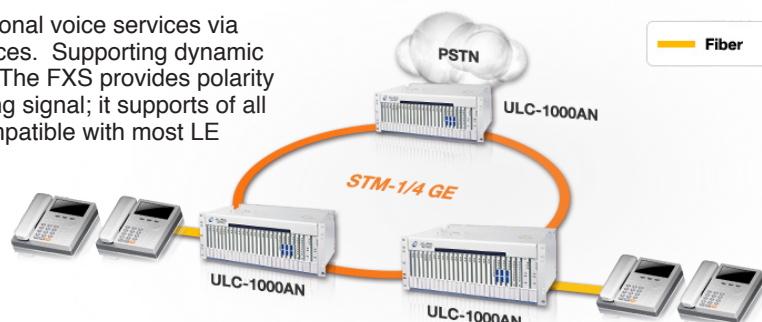
- Comprehensive Network Management Features: CM, PM, FM, SM and Inventory
- Management for overall Access Network
- Integrate Line Testing Features for easy maintenance
- Scalable Management Capacity for Different size of Access Network
- User Friendly Interface for easy operation



Application

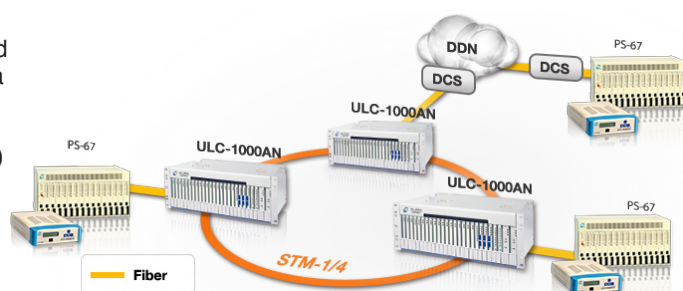
Traditional and V5 DLC

ULC-1000AN provides traditional voice services via V5.2 or 2-wire analog interfaces. Supporting dynamic random concentration ratio. The FXS provides polarity reverse or 12/16 kHz metering signal; it supports of all switch service types and compatible with most LE switch System.



Analog and Data Leased Line

Via E1 or 2/4-wires E&M interfaces, ULC-1000AN provides analog leased line to connect a private network; Via G.SHDSL interfaces, ULC-1000AN provides data leased line service to connect a digital data network (DDN) with E1 network interface; the data rate could be provisioning to E1 or Nx64K.

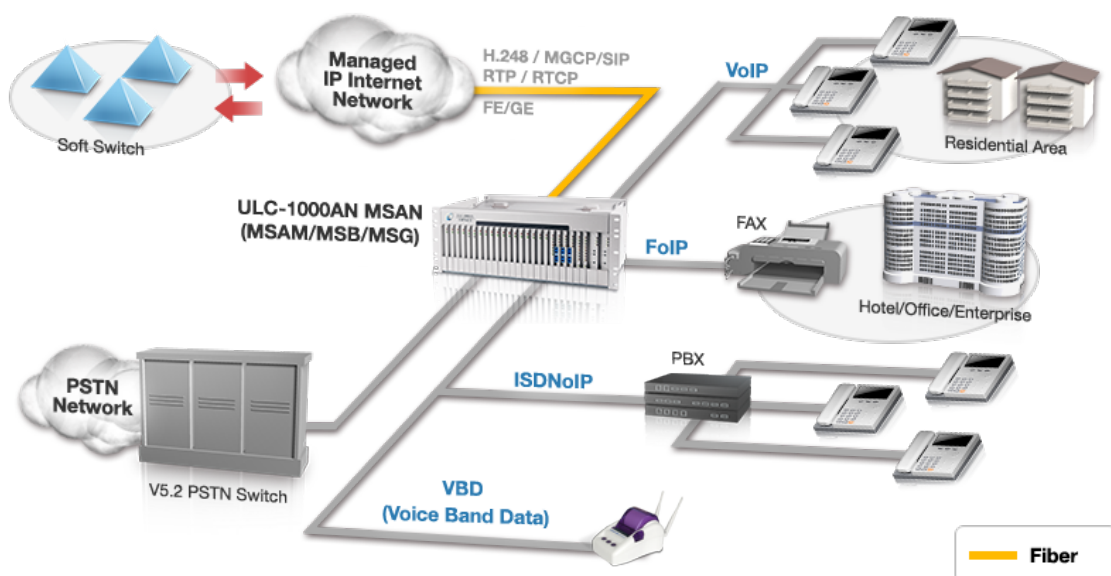


VoIP Access Gateway

ULC-1000AN provides VoIP voice access Service with the Softswitch platform. Its expansible capacity enables service operators to provide extensive local and long-haul calls on IP-based Next Generation Network, and flexibly enables fast and convenient service deployment

ULC-1000AN

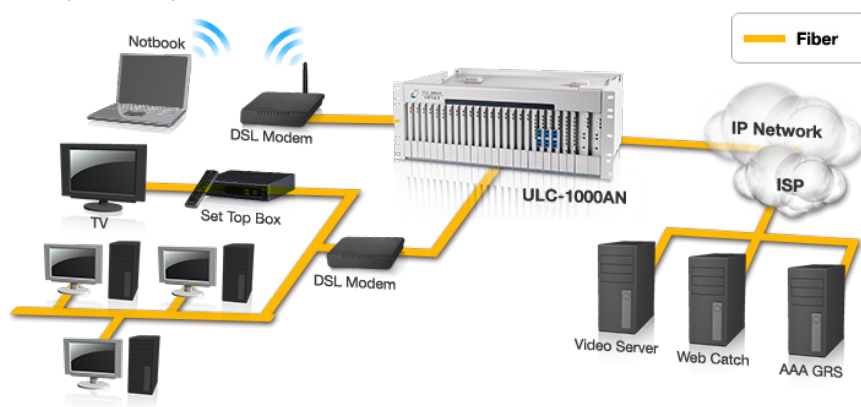
Multi-Service Access Node



ADSL/ADSL2/ADSL2+/SHDSL Broadband Access

ULC-1000AN MSAN supports variety types of DSL interfaces for broadband service access; flexibly provisioning different data-rates and services according to customer requirements

Broadband Application - Triple – Play



Broadband Application - Virtual Private Network Service



ULC-1000AN

Multi-Service Access Node

Specifications



Common Unit

UNIT	UNIT DESCRIPTION
CBA-C	System Shelf , 22 Service Slots Shelf
GE-SW	Gigabit Ethernet Switch Unit
MGU	Media Gateway Unit
CPU2	Central Processing Unit v2 in MSC
L-PSU	Local Exchange Terminal Power Supply Unit
R-PSU	Remote Subscriber Terminal Power Supply Unit
ELU	Expansion Link Unit
EBC	Expansion Bank Control Unit
EBF	Expansion Bank Firber Unit
MTU	Metallic Test Unit
V5P	V5 Processing Unit
ISDN CLK	ISDN Clock Unit
TGU	Timing Generation Unit
ADP	Bus Adaptor Unit
ADCU	Async. Data Conference Unit
VCU	Voice Conference Unit
WDM2	Wave Division multiplex Unit v2
GBIS	G.SHDSL.bis Router Uint

Transceiver Unit

UNIT	UNIT DESCRIPTION
FO-XCVR	Single-mode Fiber Optic Transceiver
E1X-XCVR	E1 Transceiver
E1QX-XCVR3	Quad E1 Transceiver v3
E1TX-XCVR2	Triple E1 Transceiver Unit v2
ETH-XCVR	Ethernet Transceiver Unit
STM1-XCVR2E	STM-1 Transceiver Unit v2 w/Ethemet Channel
STM4-XCVR2E	STM-4 Transceiver Unit v2 w/Ethemet Channel
E1QX-B	Quad E1 Transceiver Unit via BNC

Broadband Unit/Network Interface Unit

UNIT	UNIT DESCRIPTION
ATMU-GE	Gigabit Ethernet Network Interface Unit

Broadband Channel Unit

UNIT	UNIT DESCRIPTION
STU-C	G.SHDSL Channel Unit
ATU-C8	ADSL2+ Terminal Unit - Central 8
ATU-C16	ADSL2+ Terminal Unit - Central 16(w/o splitter)

Network Terminating Unit

UNIT	UNIT DESCRIPTION
NTU-128	Terminating IDSL Interface
NTU-200GS	Terminating G.SHDSL Interface

Voice Channel Unit

UNIT	UNIT DESCRIPTION
LI-POTS	Local Exchange International POTS Channel Unit
RI-POTS	Remote Subscriber International POTS Channel Unit
LI-APOTS	Local Exchange International Advanced POTS Channel Unit
RI-APOTS	Remote Subscriber International Advanced POTS Channel Unit
RI-POTSG	Gain Adjustable Remote Subscriber POTS Unit
R-UVG	Subscriber Universal Voice Grade Channel Unit
MPI	Magneto Phone Interface
ITO(2W/4W)	International Transmission Only Channel Unit(2W/4W)
E&M	E&M Channel Unit 6

Data Channel Unit

UNIT	UNIT DESCRIPTION
ASDU6	Asynchronous/Synchronous Data Channel Unit
CO64	CO-directional 64Kb/s Unit
IDL-128	IDSL 128Kb/s Data Unit
L-ISDN	Local ISDN Unit
R-ISDN	Remote ISDN Unit
N64	Nx64Kb/s V.35 Unit
N64-GS2	Nx64Kb/s SHDSL Unit v2
E1V5	V5 Interface Unit
E1QAX	Quad Asynchronous E1 Transceiver Unit
DLAN	Dual-port LAN Unit
U1QX	Quad E1/T1 Line Unit