AN2800

HIGH-DENSITY NEXT GENERATION BROADBAND LOOP CARRIER (BLC)

SCALABLE MODULAR PLATFORM BRIDGES THE GAP BETWEEN TRADITIONAL TDM AND IP-ENABLED VOICE WHILE ENABLING INCREMENTAL DSL DELIVERY

- **UP TO 2688 POTS / XDSL PORTS PER MODULE**
- **HIGH AVAILABILITY PLATFORM**
- **DUAL REDUNDANT POWER**
- **DUAL EXTERNAL CLOCK INPUT**
- **N+1 LINE CARD REDUNDANCY**
- **MGCP / H.248 / SIP**
- **V5 TO VOIP TRANSLATION**
- **DYNAMIC CALL ROUTING BETWEEN V5 AND VOIP**
- **IDLC CONFIGURATION BASED ON V5.2 PROTOCOL**
- **IP-BASED XDSL APPLICATIONS**
- **RELIABLE GE/FE NETWORK INTERFACE FOR IP APPLICATIONS**
- **E1/T1 IMA AND STM-1 NETWORK INTERFACE FOR ATM NETWORK CONNECTIVITY**
- **INTEGRATED VOICE & DATA MODULE WITH SPLITTERS**
- **LOW BIT RATE VOICE BASED ON ITU-T G.729, G.726, G.723.1 WITH VAD, CNG AND ECHO CANCELLATION**
- **20K BHCA**

PRODUCT DESCRIPTION

Modular AN2800 integrates the standalone functionalities of a traditional Digital Loop Carrier (DLC), a next-generation Voice over IP (VoIP) Media Gateway and an IP DSLAM in a single multi-service access platform. By consolidating these three access devices, the platform frees Operators to efficiently add services and applications without incurring additional infrastructure expenses. In addition, the AN2800 enables Operators to gradually populate the platform based on subscriber demand, eliminating costly platform upgrades and providing maximum network deployment flexibility. The AN2800 presents Operators with an ideal strategy for migrating from TDM to IP-based voice, and triple-play ready data services.

APPLICATIONS

The AN2800 platform can be configured to deploy a wide range of narrowband and broadband voice and data applications, to subscribers over a wireline network infrastructure. The AN2800 platform can be deployed in central office as well as remote/building node applications using its wide range of functions. It enables migration from legacy TDM networks to next generation networks enabling IP-based voice as well as broadband data applications using either TDM or IP based transport. The AN2800 platform enables simultaneous deployment of V5.x TDM and VoIP services. When deployed in CO environments, it can connect to existing Remote Terminals (RT) via TDM while providing a VoIP uplink to the network.

FEATURES

The platform supports a wide range of customer interfaces via plug-in modules including:
- MGCP / H.248 VoIP-based supplementary and Centrex services and applications
- T.38 Fax Relay over IP
- Open PSTN interface: V5.1/V5.2, allowing seamless connections to any LE switch for TDM POTS applications Note: For Brazilian market V5.2 ABNT is available.
- V5.1/V5.2 based ISDN BRI/PRI applications
- Sub-rate / Nx64K / E1 TDM data applications through BRI/E1 or TDM-based SHDSL
- ADSL / ADSL2 / ADSL2+ support per ITU-T standards
- Annex A/ Annex B / Annex C IP-xDSL support as per regional requirements
- STM-1/STM-16 based network interface with Ethernet over SDH capabilities
- E1 / STM-1 based network interface for TDM transport
- Fast / Gigabit Ethernet network interface for IP transport
- E1/T1 IMA and STM-1 based ATM network interface
- Out-of-band management for robust security

Technical Specifications

FEATURES

Subscriber Interface Module	FXS, BRI, PRI, E1, IPADSL, IPSHDSL, IPVDSL, TDM-SHDSL IVD (Integrated POTS+ADSL)
TDM Network Interface Modules	STM-1/STM-4/STM-16 (with Ethernet over SDH capability), E1, EOE (Ethernet over E1)
IP/ATM Network Interface Modules	ICM3, ASM, VPM (voice packetization module)
Shelf Configuration	1 to 4-shelf system, 14 Universal line module slots, 2 special slots for control module, 2 special slots for IP aggregation module, 2 half-slots for power modules
System Scalability	2688 POTS/ADSL or POTS+ADSL lines
Protocols	V5.1/V5.2, PRI, Media Gateway Control Protocol (RFC3435), RTCP, H.248, SIP (planned)
Digital Signal Processing	G.711, G.726, G.729 A/B G.723.1/RFC2833 planned, Echo cancellation based on ITU-T G.168 Voice Activity Detection (VAD) and Comfort Noise Generation (CNG)
Call Features	Supplementary and Centrex features, 50K BHCA 0.1Erlangs/60s
Fax/Modem	Transparent Fax and Modem, T.38 support
Layer 2 Features	Wire-speed switching engine, Rapid Spanning tree (IEEE 802.1 W), VLAN (IEEE 802.1Q), IGMP snooping (v1/v2), MAC layer Class of Service (802.1 p), IP TOS based Class of Service, Port mirroring, Black list, MAC-based port locking
IP-xDSL	ADSL Full rate (ITU-T G992.1) and G.Lite (ITU-T G.992.2), ANSI T1.413, SHDSL (ITU-T G.991.2/ G.994.1), ADSL2/ADSL2+ (ITU-T G.992.3/G.992.5), RFC2684 multiprotocol encapsulation over AAL5
NMS	GUI based network management platform, SNMP, XML based Northbound interface
Remote Line testing	Metallic loop testing for subscriber lines
Reliability and High Availability	Hot standby, Dual clock, and Dual power

INTEROPERABILITY

VoIP	Interoperates 3rd party softswitch platforms that comply with IETF/ITU-T standards
TDM	Interoperates with all industry standard PSTN switches as per ITU-T specifications
SDH/E1	Interoperates with all industry standard equipment as per ITU-T standards
IP	Interoperates with all industry standard layer 2/3 switch equipment as per IEEE / IETF specifications

PLATFORM OPERATING POWER/VOLTAGE

Maximum Power Consumption	1650watts @ -48V for a chassis fully loaded with 48-port IPADSL modules
Maximum Current	35A @ -48V
Voltage (Battery powered)	-39VDC to -72VDC

PHYSICAL

Module PCB Size (H x D)	219 mm x 280 mm
AN2800 Shelf (H x W x D)	445 mm x 483 mm x 486 mm
AN2800 Shelf (H x W x D)	533 mm x 483 mm x 600 mm
Racks/Cabinets	1.8m/2.2m/2.6m high as per customer applications; indoor as well as outdoor cabinets.
Mounting	19" inch Rack mount (Standard) 23" inch Rack mount (with adapter)

ENVIRONMENTAL

Operational Temperature	0°C - 50°C (0°C ~ 65°C module ambient temperature)
Relative Humidity	95% non-condensing
Storage Temperature	-40° C ~ 70° C
Acoustical Noise	Less than 75 dBA

REGULATORY COMPLIANCES

FCC Part 15 Class A
EN 55022, EN 55024, EN 61000
ETSI 300-386 v2.1
CISR 22
EN 60950, UL 60950
ETSI 300-019
ITU-T K.20
VCCI Class A (Japan)
CE (Europe)