Scorpio 1000 Universal Sub-Rack System

Descriptions

The Scorpio 1000 is an access shelf that provides full coverage in the last mile with a variety of rates and interfaces. It implements the G.shdsl Modem functions and provides G.703, V.35 and LAN interfaces to accommodate different applications in a single universal rack. The system can be easily and flexibly managed through the built-in SNMP agent. Each of the ANSI and ETSI shelves has 14 and 16 card slots and can accommodate up to 28 or 32 G.shdsl modem ports respectively. Within this universal rack the user can create a high port-density configuration for data and voice services at the Central-Office (C.O).

The Scorpio 1000 complies with FCC, CE marking and the corresponding international ITU standards. Using such technologies as 16 TC-PAM line coding, equalization, adaptive filtering and echo-cancellation, the Scorpio 1000 provides high-speed, symmetric data transmissions over a single twisted copper pair and allows multiple xDSL lines to coexist on the same cable bundle.

Features

- G.SHDSL fully comply with ITU-T G.991.2 and G.994.1
- Versatile interface available: T1, E1, V.35, V.36, EIA-530, X.21, Ethernet
- Accommodates any combination of up to 14/16 cards
- Dual G.SHDSL modem per card can accommodate up to up to 28/32 modems per chassis
- Out-of-band management via V.24 port using PPP protocol or via Ethernet port
- Redundant power supply and common logic
- Hot swappable for all modem card
- Controller failure and replacement don't interrupt all other working modem card
- Modem configuration parameters auto recover from controller and controller configuration parameter auto recover from modem card or Tainet's UNMS
- Embedded operations channel (EOC) for control and diagnostics of both CO and CPE
- Embedded SNMP agent supporting SNMP base management
- Remote firmware upgrade capability
- System clock support for network synchronization
- Built-in loop-test by push button on front panel and test pattern generator/detector

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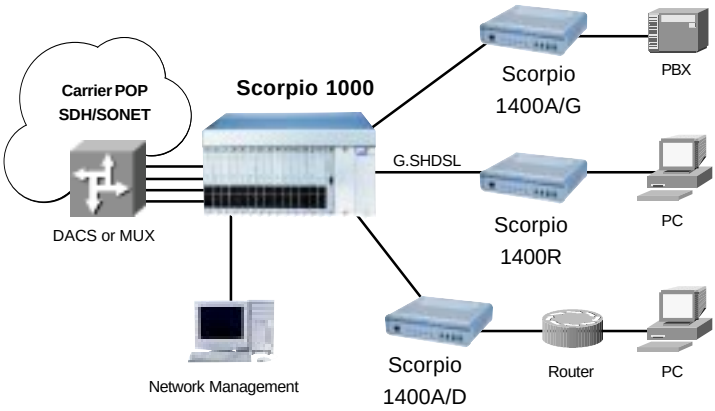
Application Diagram



Technical Specifications

SHDSL Interface
- Line rate: Nx64 Kbps (N=3~32, 36)
- Line impedance: Balance 135 ohms
- Connector: RJ-45 connector
- Compliance: Relevant to all ITU-T G.991.2
- Status LED indicator: Power, Self Test, Loop Sync Loss/Alert Alarm, Loopback

E1 Interface
- Line rate: 2.048 Mbps
- Line coding: HDB3
- Framing: G.704 or Unframed G.703
- Line impedance: 120 ohms (balance) or 75 ohms (unbalance)
- Connector: RJ-48C (balance) or BNC (unbalance)
- Compliance: ITU-T G.703, G.704, G.706, G.732
- Jitter performance: compliant with ITU-T G.823

T1 (DS1) Interface
- Line rate: 1.544Mbps
- Line coding: AMI, B8ZS
- Framing: SF, ESF or Unframed
- Line impedance: 100 ohms
- Connector: RJ-48C
- Compliance: ITU-T G.703, G.824, ANSI T1.403
- Jitter performance: compliant with ITU-T G.824

Universal Data Interface
- V.35, V.36, X.21, EIA-530 (software configurable)
- Data Rate: N x 64 Kbps (N=1~36)
- Physical: DB-25 (female)

Ethernet Interface
- 10/100 Base-T auto sensing and full/half duplex auto configurable
- Connector: RJ-45
- Compliance: IEEE 802.3 and IEEE 802.3u
- Self-learning bridge: IEEE 802.1d full protocol transparent
- At least 128 MAC address and bridge MAC filter

Clock Sources
- Selectable for DTE clock, Line clock, Internal clock

Management
- SNMP agent: RFC-1213, RFC-1215, RFC-1406/2495, RFC-3276 and Tainet private
- Console port: V.24 (RS-232), DCE, MIB, VT-100 compatible terminal (DB-9)
- Ethernet port: 10/100Base-T (RJ-45)
- PPP port: V.24 (RS-232), DTE, (DB-25)
- Status indictor on front panel (Power, Local Alarm, Remote Alarm)

Power Requirements
- AC power: 85 to 264VAC, 47~63Hz
- DC power: -48VDC (-36VDC to -72VDC)
- Full load power consumption: 180W (ANSI), 200W (ETSI)
- Two powers for load balancing and redundancy
- Status LED indicator: Power (AC)

Dimensions
- Rack mounted: 19", 23" ETSI rack
- Height: 4U (ANSI), 6U (ETSI)

Operating Environment
- Operation temperature: 0 °C ~ 45 °C (indoor)
- Storage temperature: -25 °C ~ 70 °C
- Relative humidity: up to 95% (non-condensing)

Regulatory Approval
- FCC part 68 and part 15
- ITU-T.K.20
- CE

Ordering Info

Chassis & Accessary	Description
S1000 ANSI Shelf/@/%	Scorpio 1000 basic chassis for ANSI standard, 19" wide, rack-mounted, 5U high w/ fan (ANSI 1U=44.5mm), rear access, up to 14 Line Card can be accommodated in one shelf
S1000 ETSI Shelf/@/%	Scorpio 1000 basic chassis for ETSI standard, 21" wide, rack-mounted, 16U high w/ fan(ETSI 1U=25mm), front access, up to 16 Line Card can be accommodated in one shelf
(@)Controller Module	
/S1000 MPU	Main Processor Unit for Scorpio 1000 System, one MPU is required for each S1000 Shelf
(%)Power Module	
/PSU	Power Supply Unit for Scorpio 1000 Shelf,input 100VAC ~ 240VAC
Remarks: (1) for DC -48V application, PSU is not required; (2) 2nd PSU is required for redundant AC protection	
Line Interface Modules	
SLU-E1/T1-2W-1P	SHDSL Line Unit Card w/ E1/T1 interface module, 2W SHDSL configuration, one port per card
SLU-DATA-2W-1P	SHDSL Line Unit Card w/ DATA (V.35/V.36/RS-530/X.21) interface module, 2W SHDSL configuration, one port per card
SLU-LAN-2W-1P	SHDSL Line Unit Card w/ LAN (10/100M auto-negotiation) interface module, 2W SHDSL configuration, one port per card, 2Mbps
SLU-E1/T1-2W-2P **SLU-E1/T1-4W-4P**	SHDSL Line Unit Card w/ E1/T1 interface module, configurable with 2 wires x 2 ports or 4 wires x 1 ports
SLU-DATA-2W-2P **SLU-DATA-4W-4P**	SHDSL Line Unit Card w/ DATA (V.35/V.36/RS-530/X.21) interface module, configurable with 2 wires x 2 ports or 4 wires x 1 ports
SLU-LAN-4W	SHDSL Line Unit Card w/ LAN (10/100M auto-negotiation) interface module, 4 wires SHDSL configuration for longer distance, 4Mbps
FLU-4E1	Fiber Line Unit Card w/ 4 E1 interface and one 100M Ethernet interface, two fiber configuration,1310nm for up to 40km distance
FLU-3E1/V35	Fiber Line Unit Card w/ 3 E1 interface, one V.35 interface, and one 100M Ethernet interface, two fiber configuration, 1310nm for up to 40km distance

* Specifications subject to change without notice.