OVERTURE

Overture 600 Series

Overture's 600 series delivers carrier class DS1/E1, and high-speed Ethernet services over the existing copper infrastructure to the cell tower and to the customer premise. The 600 series is a cost effective solution that quickly and economically delivers up to 60 Mbps of services over 4 copper pairs, essentially extending the optical service area to the those locations that are only served with copper.

Predicting the future bandwidth requirements for TDM, and Ethernet is simply not feasible. The 600 series delivers all of these services in an economical package that easily scales in capacity. The 600 series supports Overture's patented Pseudowire-Plus (PWE3-plus.) PWE3-plus enables Carriers to dynamically assign bandwidth to each application as simply as turning a knob. T1/E1 and Ethernet services are natively supported over the PWE3-plus , delivering a carrier-class service.

The 600 series addresses the synchronization issues that are prevalent with emulated T1/E1 services. The 600 series delivers a synchronization solution that is fast, reliable, and accurate. With the 600 series, every T1/E1 and PWE3-plus interface can be synchronized to a reference clock, and these same interfaces can serve as a clock source. This enables an extremely flexible and resilient sync-in sync-out architecture.

The 600 series enables Carriers to deploy an unlimited portfolio of native TDM and Ethernet services over their copper network. For Ethernet, it supports a robust suite of traffic shaping and policing, 8 COS, 4 queues, QOS, and VLAN stacking. For T1/E1, these services are natively supported (not emulated) which insures that the cell towers and the legacy PBXs will receive a T1/E1 with the required technical specifications that are needed for a seamless delivery of T1/E1 services. For those instances when an emulated T1/E1 is desired, the 600 series will deliver this as well.

With the 600 series, a carrier can quickly deliver a new service. Provisioning is easy and fast because the Overture central office platforms will automatically configure the 600 series CPE in a plug-and play manner. It also automatically configures the modulation on the bonded-pair to obtain the highest data rate.

The 600 series is NEBS level 3 certified, temperature-hardened, and has full front access to all of its cables and plug in modules. Its 1 RU-high chassis can be deployed in a central office, a controlled environmental vault, an outside plant remote-terminal, a customer's premise, and a cell site.

The 600 series enables the proactive monitoring of service variables such as uptime, latency, and jitter. The 600 series allows carriers to use familiar CFM tools to troubleshoot the service path, such as PING, TRACE ROUTE, loop backs and performance monitoring.

With Overture's 600 series, carriers can cost-effectively and simultaneously deploy native DS1/E1, high-speed Ethernet, and PWE3 services to business sites and cell towers that do not have access to fiber.

APPLICATIONS
- Mobile Wireless Backhaul
- Fixed Wireless Backhaul
- Ethernet Business Services
- Transparent LAN Services
- T1/E1 Legacy PBX
- Dedicated Internet Access
- Private Line Ethernet Services
- Layered VoIP Transport
- Multi-Tenant T1/E1 Services

KEY FEATURES:
- 4 Ports of Native T1/E1
- 2 Ports of Native Ethernet (includes an Optical Version)
- 4 Pairs of Bonded Copper (PWE3-plus)
- Spectrally compliant for all markets
- Compatible with 6100, 4000, and Repeaters
- Up to 15 Mbps per copper pair
- Advanced QoS
- Extensive SLA Management
- Robust Security
- EEE 802.3ah Certified
- MEF 9, 14, 21 Certified
- NEBS level 3 Certified
- Carrier-Class OAM
- 99.999% Availability
- CPEs managed by CO device
- Environmentally Hardened

CARRIER ETHERNET
MEF
Certified Compliant

TECHNICAL SPECIFICATIONS

INTERFACES:

- 4 Copper Pair Pseudowire-Plus supporting IEEE 802.3ah, 2BASE-TL, ITU-T G.991.2.bis (Annex A, B, F, & G). ANSI T1.417 Spectral compliance and UK ANFP Spectral compliance. 2 RJ-45 Ports. Sealing current applied to all PWE3-plus copper pairs.
- High Performance Modems that use 16/32/128 TC-PAM to deliver speeds up to 15 Mbps per pair
- 4 Port DS1/E1 that is software definable to support Native DS1/E1. RJ-45 connectors.
- 2 Ports IEEE 802.3 10/100 BASE-TX via RJ-45 connectors or 1 Port 100 BASE-FX & 1 Port 10/100 BASE-TX
- Craft Interface RS-232 via RJ-45 connector

ETHERNET & ROUTING FEATURES:

- DHCP server, NAT firewall, ACLs, Static Routes, RIPv2
- IGMP Snooping
- MEF E-LINE
- 802.1q VLANs, VLAN stacking (aka Q-in-Q), S-VLAN
- 802.1p Prioritization
- 802.3x Flow Control and pause frames
- MAC Filtering
- All Ethernet Ports perform auto-negotiation, Full or half duplex
- VLAN Tag ID writing, stacking, stripping, and re-writing and VLAN Bundling and VLAN Pruning
- RFC 791 IP, RFC 792 ICMP, RFC 793 TCP,
- RFC 768 UDP, RFC 826 ARP, RFC 1122 Host Requirements
- Auto/Manual MDI/MDIX
- Local Switching between Ethernet Ports
- 2,000 Byte MTU

TRAFFIC MANAGEMENT:

- 8 COS Classifications Mapped to 4 Queues
- Queue management using Customizable Weighted Fair Queuing, Strict Priority, and Combination
- COS based upon 802.1p, VLAN ID (802.1q), DSCP, and fixed per port
- Traffic Policing with dual leaky bucket algorithm Traffic Rate Shaping
- Broadcast, Multicast, and Unknown Storm Control

DS1/E1 OPERATING MODES

- Timing: ITU G.823/E1 Interface, G.824,
- T1.101/T1 Interface
- DSX-1 Interface (Short Haul) per ANSI T1.102
- E1 Interface per G.703, Section 6
- DS1/E1 Native TDM Operating Mode:
  - Line Rate: T1: 1.544 Mbps; E1: 2.048 Mbps (software selectable)
  - Line Coding: T1: AMI, B8ZS; E1: AMI, HDB3 (software selectable)
  - Framing: T1: SF, ESF, Transparent; E1: Multiframe, CRC Multi Frame, Transparent (software selectable)
  - DS1/E1 Line Build Out (0 – 660 feet)
  - Remote and Local Loopbacks
  - Performance Monitoring
  - Internal and loop timing sources

MANAGEMENT, SECURITY, AND DIAGNOSTICS

- Craft Interface RS-232 via RJ-45 connector
- Imbedded Web GUI (WebManager), Command Line Interface, Optional EMS (Element Management System), TL1
- RMON
- IEEE 802.3ah OAM
- SNTPv3 - Time Synchronization
- Error logging and SNMP Trap alarms based on GR-474-CORE and GR-883-CORE
- SSHv2, HTTP/HTTPS, SSL
- TACACS+ and RADIUS
- Management IP Access Control List
- Audit Log, Event Log, Boot Log, and Syslog
- Link Trace, Ping, L2 Ping, Trace Route
- Test TCP, Link Loss Forwarding
- Auto Discovery
- IEEE 802.1ag CFM
- Y.156SAM

ORDERING INFORMATION

MODEL NUMBER	DESCRIPTION
604-CP-1E	4 pair CP - 1 10/100BASE-TX port and 4 T1/E1 ports with system s/w - dual 12V power feeds, Higher Rates, up to 15 Mbps per pair
604-U-2E	4 pair Universal - 2 10/100BASE-TX port and 4 T1/E1 ports with system s/w dual -48VDC power feeds, Higher Rates, up to 15 Mbps per pair
614-U-2E	4 pair Universal - 1 100BASE-X and 1 10/100BASE-TX port and 4 T1/E1 ports with system s/w - dual -48VDC power feeds ***(SFP required)***, Higher Rates, up to 15 Mbps per pair
FLTR-01	400/500/600 replacement fan filter (includes 10 fan filters)

- ITU Y.1731 ETH-OAM
- CLEI Coded
- Traffic Generator/Monitor

MECHANICAL

- Compact 1 RU size, full front access
- Dimensions: Width 8.5" (216mm); Height: 1.38" (35mm); Depth: 9.08" (231mm)
- Weight: 3.0 lbs (1.36 kg)
- Rack Mounting in 19" and 23" EIA/ANSI and WECO racks; 600mm wide ETSI racks

ELECTRICAL

- Power: 25 Watts typical at -48 VDC with Redundant Feeds
- Optional AC/DC 120/240 power supply
- Input Voltage: -48V

CERTIFICATIONS AND COMPLIANCE

- NEBS Level 3 (GR-63-CORE and GR-1089-CORE)
- IEEE 802.3ah-certified, 2BASE-TL, ITU-T G.991.2.bis (Annex A, B, F, & G). ANSI T1.417 Spectral compliance and UK ANFP Spectral compliance
- MEF Certifications: MEF 9 and MEF 14
- FCC Part 15 Class A
- EN 55022 Class A
- ITU K.20/K.21
- ETSI EN 300 386
- ETSI 300 019, T1.2, T2.2, T3.1E
- Safety: 60950-1, with CB scheme with all country deviation
- CE Mark

ENVIRONMENTAL:

- Environmentally hardened with extended temperature range, -40°C (-40°F) to +65°C (+149°F)
- Storage and Transportation Temperature: -40C (-40F) to +70C (+158F)
- Operating Humidity: 5% to 85%
- Storage and Transportation Humidity: 5% to 95% non-condensing

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