

GW7950 Series E1/T1 TDM over IP Pseudowire Gateway



- Four or eight T1/E1 balanced ports
- Dual 1000BASE-X Ethernet ports
- Dual 1000BASE-T Ethernet ports
- Supports SAToP (unstructured pseudowire)
- Supports CESoPSN (structured pseudowire)

Overview

E1 and T1 TDM services are still in use worldwide for a range of applications. Over the years, many customers have made significant investments in equipment and processes that depend on the specific features that TDM offers, making it difficult or disruptive for them to move to alternative services. Meanwhile, telecommunications operators are moving to packet based IP/Ethernet networks as the support costs for maintaining equipment grows and service quality is difficult to guarantee on older networks. The Virtual Access GW7950 E1/T1 Series Pseudowire Gateway resolves this conflict by allowing operators to maintain TDM services over a packet mode infrastructure, thereby eliminating customer disruption.

The Virtual Access GW7950 E1/T1 Series Pseudowire Gateway is a versatile high performance platform for emulating legacy TDM services over an IP-based packet switching network.

The GW7950 is available in several models with a choice of four or eight E1/T1 ports. It has several WAN interface options with support for copper or SFP Ethernet ports.

The GW7950 Series routers are rack-mountable and incorporate integrated AC or DC power supplies for data centre environments. Optionally, dual power supplies can be supported.

SAToP Mode Pseudowire

Structure Agnostic Transport over Packet (SAToP) mode transports the raw E1/T1 bitstream over the packet network. There is no recognition of any framing in the stream.

CESoPSN Mode Pseudowire

Circuit Emulation Service over Packet Switched Network (CESoPSN) transports a structured E1/T1 circuit over the packet network. The main advantage of CESoPSN compared to SAToP is the ability to transport a fractional E1/T1 circuit without carrying the unused timeslots.

Automated Router Provisioning

The GW7950 Series offers simplicity when it comes to service provisioning. Using the centralised service management models from Virtual Access, the task of physical device configuration is minimised.

Profiles are configured centrally enabling rapid services deployment to the end-customer sites. This process offers service providers considerable business benefits in large scale router deployments.

Automated Subscriber Data Migration using OSS Integrator

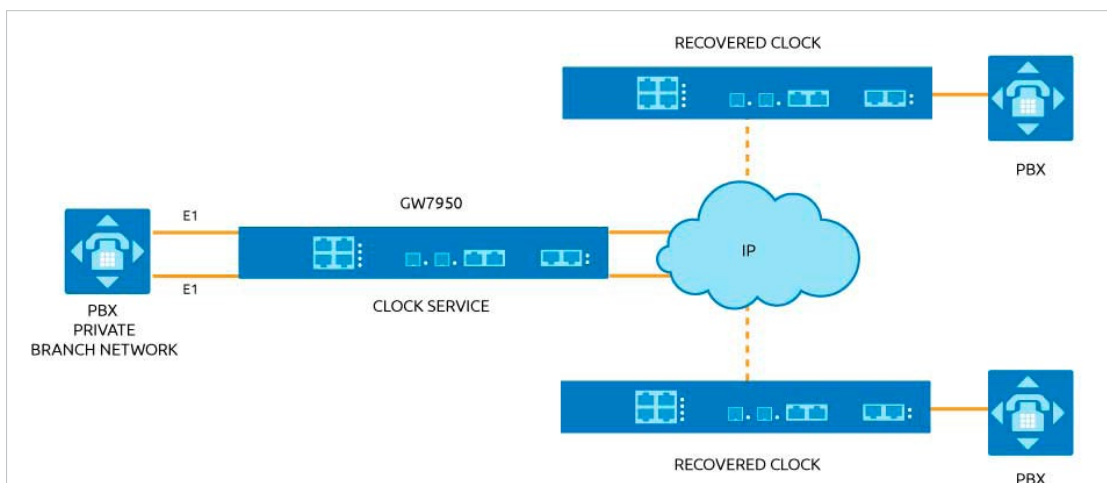
The OSS Integrator is an Activator plug-in that provides a mediation function between Activator and the service provider's Operational Support System (OSS) that allows Activator to obtain device or customer specific information from the OSS.

OSS Integrator can be used to automate the migration of the customer's subscriber data from existing systems to the new Virtual Access systems. Typically, the process is as follows:

- Virtual Access generates a specification of the subscriber data to be extracted from the database and transferred to Activator
- The subscriber configuration data is exported from the existing customer system
- The subscriber configuration data is imported to Activator
- Activator generates the configuration files and distributes them to the network

Provisioning Simplified

The network is simpler to configure than the legacy network since only the ingress and egress end points need to be configured, thereby greatly simplifying configuration and troubleshooting.



Software Features

Management

- Local and remote advanced configuration
- SNMP v1, v3
- Telnet Server
- SSH Server
- Web Server with HTTP/HTTPS support

SAToP Mode

- Supports Structure-Agnostic Time Division Multiplexing (TDM) over Packet (SAToP) RFC4553
- Simple bit-stream of full E1/T1 circuit

CESoPSN Mode

- Supports Structure-Aware Time Division Multiplexed (TDM) Circuit Emulation Service over Packet Switched Network (CESoPSN) RFC 5086
- Can transport a full or fractional E1/T1 circuit and use the bandwidth for selected timeslots only

Hardware Features

E1/T1 Interfaces

- Four or eight E1/T1 interfaces
- 120 ohm balanced
- 75 ohm available with optional balun

SFP Ethernet Interfaces

- Two Gigabit Ethernet SFP ports
- Supports copper or fibre SFPs

Copper Ethernet Interfaces

- Two 10/100/1000 Mbps copper Ethernet ports

Jitter Performance

- E1: output and tolerance according to G.823, transfer according to G.705
- T1: according to AT&T TR-62411

Management Interface

- Single 10/100 Mbps Ethernet port

Console

- Single RS232 RJ-45 port

External Clock

- Supports external telecom clock input and output
- 2 x SMA connectors at rear of unit

Network Clock Recovery

- Clock generation using:
 - IEEE1588
 - Synchronous Ethernet ITU G.8264
- Phase Locked Loop with holdover support

Service Clock Recovery

- SAToP/CESoPSN adaptive mode
- SAToP/CESoPSN differential mode

Error Correcting Code Memory

- ECC memory is used on all internal DDR memory buses to ensure data integrity

Approvals and Certificates

- EN60950 safety approval
- EN55022 and EN55024 EMC

Power

- 100V-240V AC, 30 watts
- IEC mains connector
- Dual AC power input option available

DC Power Input Option

- 36-72V DC isolated inputs
- Screw terminals
- Dual DC power input option available

Physical and Environmental

- Unit size 398W x 210D x 44H mm
- Operating temperature 0°C to 55°C
- Storage temperature -40°C to 70°C

GW7950 Series Model Table

Model	E1/T1 Ports	Cu Ethernet Ports	SFP Ethernet Ports	Management Ethernet
GW7954	4	2	2	1
GW7958	8	2	2	1