NetQuest
Monitoring Access Solutions

T-Series OptiCop Signalling Converger®

OVERVIEW

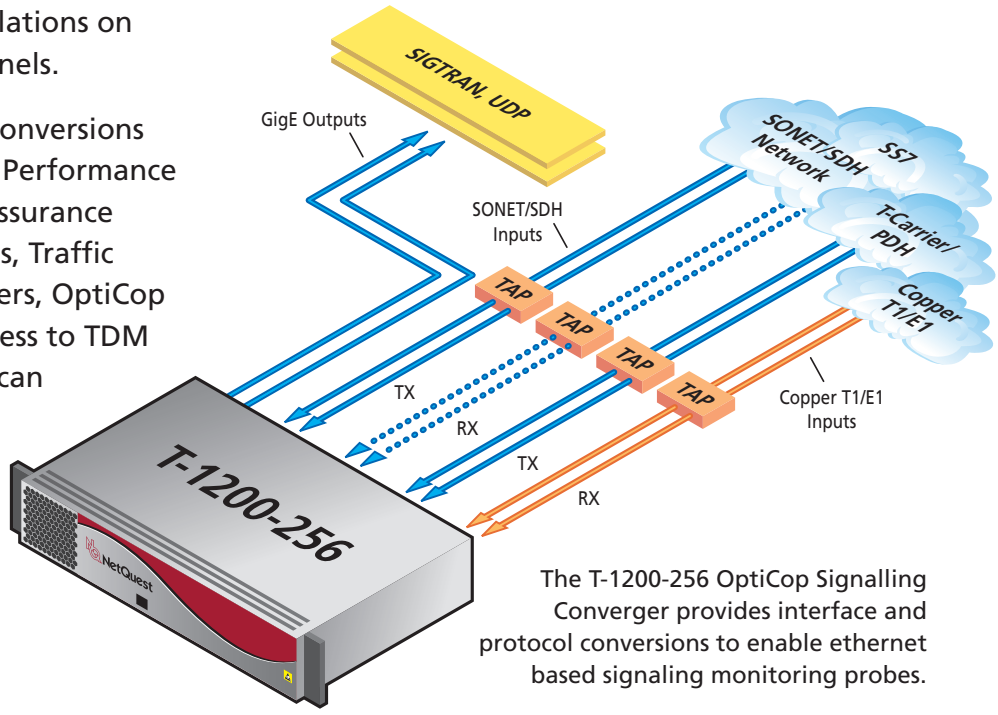
NetQuest's T-Series OptiCop Signalling Converger provides monitoring access for today's telecom signalling networks in fixed and mobile service provider installations. The T-1200-256 delivers non-intrusive access, aggregation and multi protocol conversion capabilities to optimize application layer probe port utilization and enable network operators to implement management and assurance strategies related to the overall performance of the services being delivered, all without degrading the service or distorting the results.

The T-1200-256 comes equipped with both deeply channelized optical OC-3/STM-1 and copper T1/E1 input interfaces that can be used simultaneously to monitor a variety of signalling protocols and encapsulations on more than 2000 concurrent channels.

By providing network interface conversions to GigE monitoring tools such as Performance Management Probes, Revenue Assurance Systems, Lawful Intercept Systems, Traffic Analyzers, and Bulk Data Recorders, OptiCop Converger provides real-time access to TDM network traffic. The TDM traffic can be translated into standard or proprietary Gigabit Ethernet traffic at full line rate without loss of data. OptiCop Converger's flexible interfaces, unique traffic handling capabilities, high port density, and powerful parallel processing functions set a new standard for monitoring access to converged IP networks.

BENEFITS

- Access concentration of up to 2048 independent signaling channels
- Interface & Protocol conversions to leverage Ethernet based monitoring tools
- Automated discovery of signaling content and provisioning
- Remote monitoring and tool sharing to reduce probe CAPEX



The T-1200-256 OptiCop Signalling Converger provides interface and protocol conversions to enable ethernet based signaling monitoring probes.

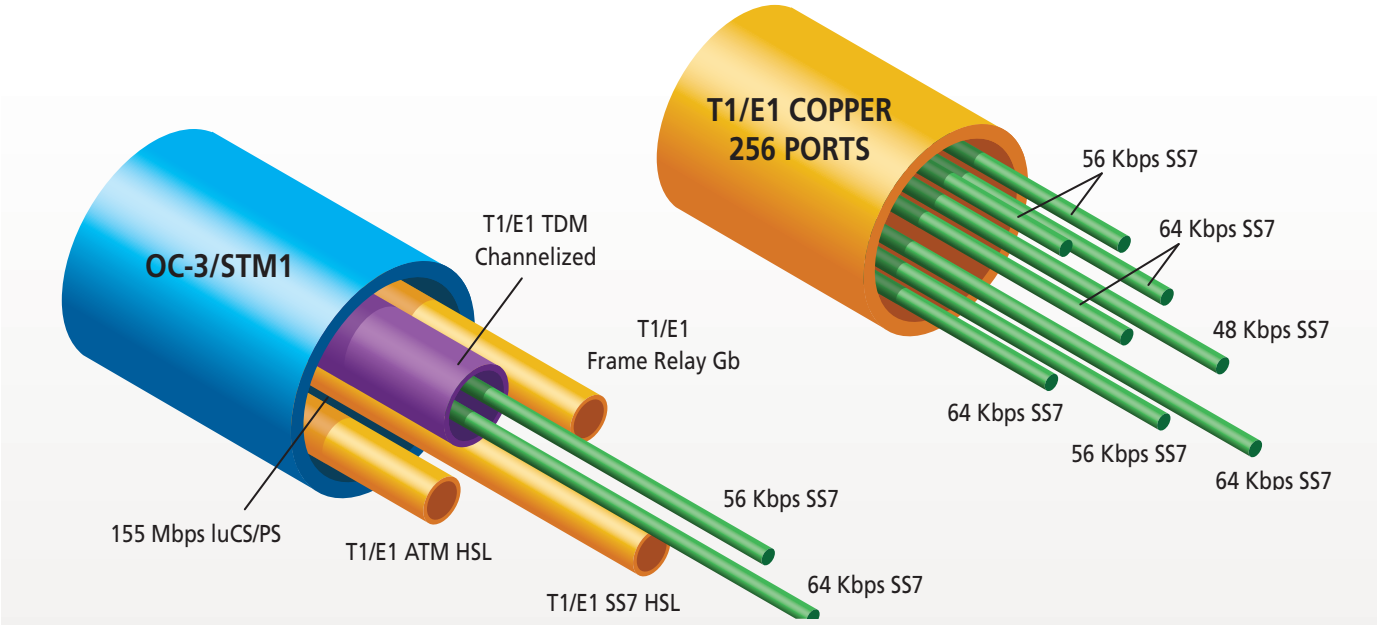
APPLICATIONS AND FEATURES

Traditionally Digital Cross Connect Systems were deployed in a TDM signalling networks, enabling engineers to groom and fill circuits for more effective use of appropriate test and monitor tools. This was a tedious and expensive endeavor of matching speeds and feeds with the network access technologies and analyzer capabilities to ensure that the various variants of signalling protocols could be monitored.

The T-1200-256 automatically discovers and provisions itself based the presence of signalling protocols, greatly reducing the initial time required to turn up the system. The auto discovery algorithms continue to run in background and will alert the user when network reconfigurations like moves and adds occur, making the configuration adjustments and eliminating interruptions in the traffic monitoring process.

The T1200-256 protocol translation and aggregation capabilities transition the data from legacy TDM circuits and encapsulate the content into standard Ethernet frames to leverage next generation tools. This process also eliminates the need to reconfigure the monitoring access networks, as protocols in the network are transitioned.

With tool constraints like port and processing limitations, interface incompatibilities, protocol-specific testing, remote monitoring, and budget constraints; features like traffic aggregation, multicasting, load balancing, filtering, and routing of IP and non-IP traffic make OptiCop Converger a powerful tool in transitioning the monitoring of today's advanced signaling networks from TDM to an unifed Ethernet IP infrastructure.

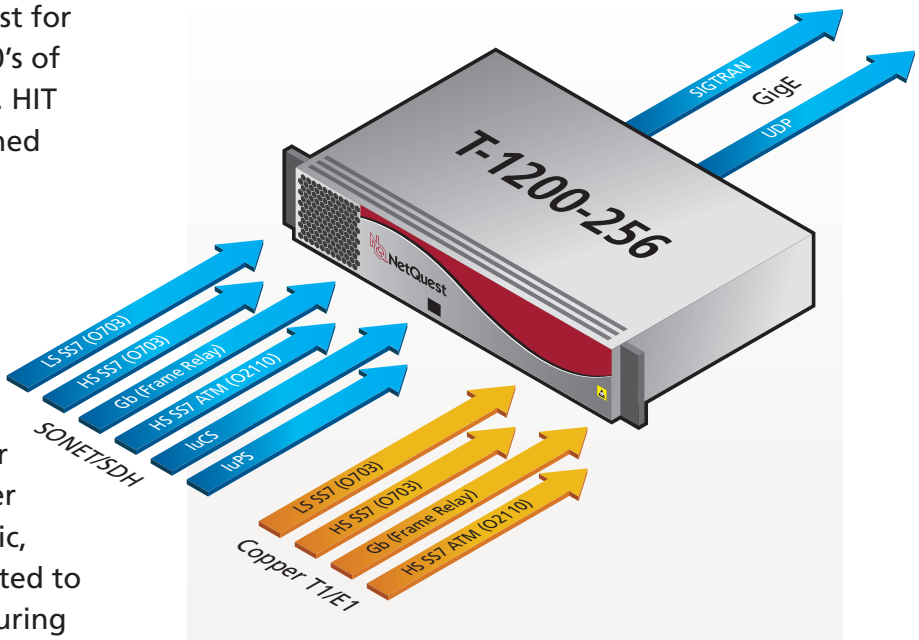


The T-1200 is equipped with 4 SONET/SDH interfaces
that are deeply channelized and 256 copper T1/E1 interfaces.

HIT FILTERING AND ROUTING (HIT)

The T-1200 use's unique Hybrid Inspection technology (HIT) developed by NetQuest for real time concurrent inspection of 1000's of high and low speed signaling channels. HIT logic is based on highly parallel, pipelined hardware architecture with signaling protocol-specific inspection algorithms defined by software and executed in specialized hardware.

The OptiCop T-1200-256 leverages NetQuest's HIT technology enabling the inspected data to be filtered and or routed to specific outputs based on user definable parameters. By filtering traffic, only the data of interest will be presented to the monitor system for processing, ensuring valuable processing resources are preserved. Routing of the data puts the user in control of which tool interface will receive the data, and enables network, protocol, and application partitioning to match monitoring system requirements and limitations.



The T-1200 supports a large variety SS7 signaling protocols arriving on a multitude of transmission media and can simultaneously convert up to 2048 channels to unified Ethernet/IP outputs to enable Ethernet based monitoring tools.

CONFIGURATIONS

The T-1200-256 OptiCop Converger supports up to 256 discrete T1/E1 copper input interfaces and 4 OC-3 STM-1 deeply channelized optical input interfaces respectively. The translated data is intelligently directed to GigE outputs interfaces optimizing the performance of the application specific probes. The T-1200-256 packaging is a 3RU chassis that is rack mountable and may be ordered with single or redundant power supplies with independent inputs for AC or DC sources.
The table on the next page illustrates example port configurations available.

MANAGEMENT

The OptiCop Converger can be managed locally or remotely using menu-driven screens via Telnet, SSH or a serial crafts person port. All interfaces provide secure access through a multi-level password protection system or using TACACS. An integral SNMP V1-V3 agent supports GET, SET, and TRAP functionality, while NetQuest's proprietary UDP-based control protocol, GSCP, provides for complete integration of the OptiCop Converger interface into existing management systems.

PROTOCOL SUPPORT				
PROTOCOL	INPUT			OUTPUT
	T1/E1 (ELEC)	OC-3/STM-1	SPEED	
Low Speed SS7 (Q.703)	Y	Y	48/56/64 Kbps	UDP/IP/GigE Sigtran/GigE
High Speed SS7 (Q.703)	Y	Y	1.536/2.048 Mbps	
High Speed SS7 ATM (Q.2110)	Y	Y	1.536/2.048 Mbps	
Gb (Frame Relay)	Y	Y	N x 56/64Kbps (N=1-32)	
IuCS	–	Y	155 Mbps	
IuPs	–	Y	155 Mbps	

TECHNICAL SPECIFICATIONS	
Input Interfaces	256 x T1/E1 (Electrical)
	4 x OC-3/STM-1 (Optical, SFP)
Output Interfaces	2 x GigE (Optical/Electrical, SFP)
Management	10/100 Ethernet (Telnet, SSH, SNMP, SYSLOG)
	EIA-232 Serial (Terminal, VT-100)
	Dry Contact Alarms (Critical, Major, Minor, Power)
	Visual Indicators (LED's: Major, Minor Critical, PSU1/2, Input Power, Fan, Audio)
	Audible (Via Relay Contact with remote reset)
Enclosure Size	3 Rack Units (19/23" front, center or rear mount) 5.25"H x 19"W x 17.25"D (13.9cm H x 48.3cm W x 43.8 cm D)
Enclosure Material	Aluminum with clear Iridite finish
Weight	16 pounds (7.27kg)
Input Power (Dual Redundant, Hot Swap)	100 to 240 VAC RMS 50-60hz 2.5Amps 40 to72 VDC (Neg. w/respect to Gnd) 6.25AMPS
Power Dissipation	200W max.
Operating Temp	32 – 158° F (0-70° C)
Cooling (Dual Redundant, Hot Swap)	Forced Air: (2 Trays with 2 Fans each 40CFM/Fan) Air Flow: Front to Rear Intake Filter: Replaceable
Humidity	10 – 90% non-condensing
Compliance	Safety: UL60950-1 Œ EN60950-1, CSA C22.2#60950-1, IEC60950-1 Emissions: FCC Part 15 Class A, ETSI EN300-386, Œ EN55022, EN55024 (immunity) NEBS Telcordia: GR-63-CORE, GR-1089-CORE RoHS, Reach, WEEE
For more detailed technical specifications, please email NetQuest at info@netquestcorp.com	

NetQuest Corporation • 523 Fellowship Road • Mount Laurel, NJ 08054 USA • +1.856.866.0505 • Fax: +1.856.866.2852

NetQuest Corporation designs, manufactures and markets innovative monitoring access products for applications in telecommunications service provider, government, and enterprise networks. Founded in 1987 and based in Mount Laurel, New Jersey, NetQuest is privately held and operates under the original management team. With more than a 20 year track record of providing cutting edge monitoring access solutions, NetQuest has developed a global customer base, marketing directly and through a network of value added resellers and representatives.

WWW.NETQUESTCORP.COM