

Acterna DTS MPEG over Gigabit Ethernet Analysis

Realtime Monitoring and Testing

Network operators and broadcasters are increasingly migrating to high bandwidth digital networks to carry bandwidth intensive services like Video on Demand (VOD) and High Definition Television (HDTV). These new networks bring a significant increase in the volume and complexity of broadcast equipment. Additionally, network maintenance is more critical as delivering high quality service is key to retaining subscribers. One such newly emerging technology allows Digital Video signals carried within MPEG-2 transport streams to be carried over Gigabit Ethernet networks. To aid in understanding this new digital technology, and to make test and monitoring easier, Acterna has designed the Gigabit Ethernet interface to their DTS product line to be intuitive, flexible and easy to use.

The Gigabit Ethernet (GbE) Interface module provides the required interface to the DTS product line to analyze/monitor MPEG streams encapsulated within Gigabit Ethernet traffic. This interface provides insight into the entire bandwidth of a Gigabit Ethernet network at full wire speed. In fact,

Acterna's Gigabit Ethernet interface is the only product in the market to allow users to view all the MPEG-2 streams within the Gigabit Ethernet network and pick the transport stream of interest for analysis. With easy-to-use displays, a user can plug in the instrument at the Point of Interest and be up and running quickly and find issues within a matter of minutes. In addition, the Gigabit Ethernet Interface module also provides very useful Ethernet Layer statistics that can be used by the operator to troubleshoot any IP layer issues. Since the Digital content traversing through a System Operators' internal network is converging to an IP routed multicast/unicast system, the ability to quickly identify routing problems is also critical to quick troubleshooting. With the Source and Destination information of each Transport Stream within a Gigabit Ethernet network being easily viewable within the Transport Stream Auto Detect (TAD™) view of the DTS Gigabit Ethernet Module finding and fixing common routing problems become as easy as 1-2-3.

Call Acterna today for a demonstration or for more product information.

Highlights

- Full line rate traffic recognition to display 1000-Mbps Ethernet interfaces
- Complete real-time analysis and monitoring to verify stream contents, service plans, PIDs, rates, timing parameters, and TR101 290. Event logs, triggers and reports for baselining and comprehensive monitoring
- Many encapsulation methods supported (UDP/IP, RTP/UDP/IP)
- Analysis of link performance based on filter characteristics in Terminate, Monitor, or Pass Through mode
- Various 1000-Mbps interfaces (Optical/Electrical) available adapts flexibly to varying needs
- Monitor both sides of your "edge" devices (i.e. GbE & QAM) with same equipment
- Identify problems and collect evidence of faulty equipment or content to maximize response and resolution from vendors and content providers

Specifications

General Gigabit Ethernet Interface Specifications

Interface Type	GBIC Based Interface (SX,LX, ZX, TX)
Duplex Modes	Full/Half
Modes of Operation	Terminate(Auto/No-Auto Negotiate),Monitor, PassThrough
Traffic Filter	Source and destination MAC, IP address, UDP Port, Type of Encapsulation, and VLAN ID

Key IP Layer Results

Link Status	Loss of Signal, Link Active, Frame Detected
Auto-negotiation status	Link Config ACK
Link/Frame statistics	Bandwidth Utilization, Frame Length, Total Frame Rate, Jumbo Frames, Pause Frames, FCS Errored Frames, Jabbers, Runts, Undersize Frames, Oversize Frames
Packet testing in Conformance with	IETF RFC 1242, RFC 2544
IP Traffic Info	Display the source and destination info (MAC, IP address, Port, Encapsulation) for every Transport Stream in the IP network
TS IP Layer Info	Min, Max, Mean, and Std. Deviation of Inter-Frame Delay and Frame Count of TS

Key MPEG Results

As specified in the main DTS product literature

Ordering Information

Gigabit Ethernet Application Module

DTS-200 GbE Analysis Module	7553/91.19
DTS-300 GbE Analysis Module	7551/92.80

DTS Packages with Gigabit Ethernet Option

DTS-200 w/ GbE & ASI Analyze(Adv)	7553/40
DTS-200 w/ GbE Analyze(Adv) and ASI Analyze(Adv) & Record	7553/41
DTS-200 w/ QAM & ASI Analyze/Record(Adv),GbE Analyze(Adv), & ASI Play	7553/42
DTS-200 w/ QAM Analyze(Adv) and GbE Analyze(Adv)	7553/60
DTS-200 w/ QAM Analyze/Record(Adv) & GbE Analyze(Adv)	7553/61
DTS-200 w/ QAM Analyze/Record(Adv),GbE Analyze(Adv),&ASI Play	7553/62
DTS-200 w/ QAM & ASI Analyze/Record(Adv),GbE Analyze(Adv), & ASI Play	7553/68
DTS-200 w/ QAM & ASI Analyzer/Record(Adv), GbE Analyze(Adv)	7553/69

Additional Application modules available

DTS-200 ASI Analyzer	7553/91.07
DTS-200 ASI Analyzer/Recorder	7553/91.09
DTS-200 Gigabit Ethernet Analyzer	7553/91.19
DTS-200 QPSK Analyzer	7553/91.11
DTS-200 QPSK Analyzer/Recorder	7553/91.17
DTS-300 Gigabit Ethernet Analyzer	7551/92.80
DTS-300 QPSK Analyzer	7551/92.71
DTS-300 QPSK Analyzer/Recorder	7551/92.72

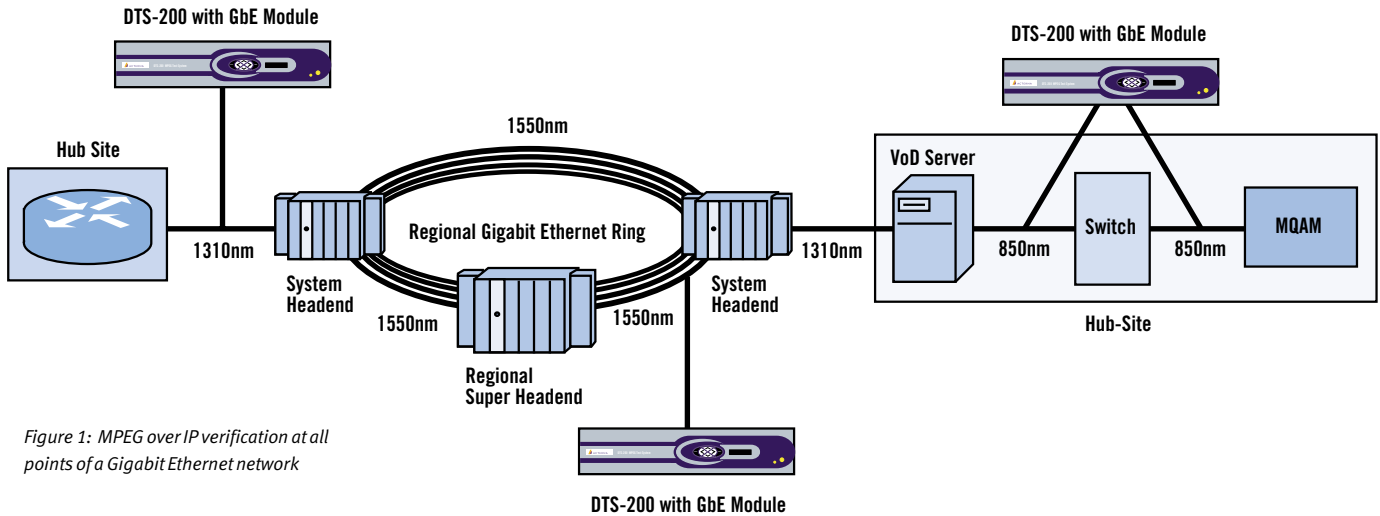


Figure 1: MPEG over IP verification at all points of a Gigabit Ethernet network

Worldwide Headquarters

One Milestone Center Court
Germantown, Maryland
20876-7100
USA

Acterna is present in more than 80 countries. To find your local sales office go to:
www.acterna.com

Regional Sales Headquarters

North America
One Milestone Center Court
Germantown, Maryland
20876-7100
USA
Toll Free: 1 866 ACTERNA
Toll Free: 1 866 228 3762
Tel: +1 301 353 1560x2850
Fax: +1 301 353 9216

Latin America
Acterna do Brasil Ltda.
Av. Eng. Luis Carlos Berrini
936 9th Floor
04571-000 São Paulo
SP-Brazil
Tel: +55 11 5503 3800
Fax: +55 11 5505 1598

Asia Pacific
Acterna Hong Kong Ltd.
Room 902, 9th Floor
Bank of East Asia
Harbour View Centre
56 Gloucester Road
Wanchai, Hong Kong
Tel: +852 2892 0990
Fax: +852 2892 0770

Western Europe
Acterna Germany GmbH
Mühleweg 5
Germany
Tel: +49 7121 86 2222
Fax: +49 7121 86 1222

Eastern Europe, Middle East & Africa
Acterna Austria GmbH
Aredstrasse 16-18
A-2544 Leobersdorf
Tel.: +43 2256 65610
Fax: +43 2256 65610-22

Acterna Moscow
Prospect Mira 25,
stroenie 5
RF-129090 Moscow
Tel.: +7 095 937 88 04
Fax: +7 095 775 26 05

© Copyright 2004
Acterna, LLC.
All rights reserved.

Acterna, Communications Test and Management Solutions, and its logo are trademarks of Acterna, LLC. All other trademarks and registered trademarks are the property of their respective owners. Major Acterna operations sites are ISO 9001 registered.

Note: Specifications, terms and conditions are subject to change without notice.