IQ 710

Intelligent Frame Relay Bandwidth Management

Product Features

- Layer 1-7 performance monitoring and shaping
- Automatic discovery of Application Layer protocols
- Modular network interface-56/64K, T1/FT1, T1 Probe and T1/FT1 with DSX-1
- Safe-T-Net dial backup support
- Embedded Java applet, N-Formant for GUI configuration and real time monitoring
- Complete N-Form network management software support
- Real-time measurement of throughput, bandwidth utilization, bursting, congestion, and network delay on each PVC
- Bandwidth utilization and response time by application
- End-to-end network roundtrip delay measurements for network optimization
- True non-intrusive in-band transmission of statistics
- Easy configuration from N-Form, Telnet, VT100, front panel, or Internet browser
- Industry-leading five-year North American warranty

The IQ™ Series from ADTRAN provides intelligent traffic management so users can make the most of existing bandwidth. This series includes features ranging from performance monitoring and traffic shaping to standard Frame Relay circuit management and trouble-shooting. The IQ 710™ is a modular device with interface options for 56/64K, T1/FT1, T1 Probe and T1/FT1 with DSX-1 voice capability. It offers complete visibility from the Physical to the Application Layer, maintaining an extensive list of network statistics that aid in planning and trouble-shooting.

The IQ 710 automatically identifies over 300 applications such as Citrix™, HTTP, Napster™, and AOL Instant Messenger™. Once network issues have been pinpointed, the IQ 710 traffic shaping feature can be used to limit bandwidth abusers and guarantee bandwidth for mission-critical applications. This intelligent solution for managed Frame Relay access allows you to enjoy the monetary savings of Frame Relay without giving up management visibility and control.

Optional dial backup functionality is available for network contigency planning using Safe-T-Net™. Safe-T-Net is ADTRAN's technology that provides dial backup for network recovery of Frame Relay Traffic.

The IQ 710 provides two expansion slots for network interface and dial backup cards and features a 10BaseT Ethernet port for management applications. This product provides up to a full T1 of access and gathers information from all seven layers of the network. The IQ 710 uses industry-leading technology to perform seven-layer monitoring and traffic shaping, and includes the necessary software to capture and report network information.

Application monitoring in the IQ 710 includes the usage examination of: FTP, Telnet, e-mail, databases, corporate-wide ERP systems, Real-Audio®, MPEG web traffic, and hundreds more. These Layer 7 metrics are used to evaluate application utilization and through-put; top application bandwidth consumers; network efficiency due to packet retransmission; as well as individual application response times and delays.

Once network trends have been identified and analyzed, traffic shaping within the IQ 710 allows IT managers to control bandwidth consumption by application. Allocating bandwidth per application guarantees necessary bandwidth for business critical applications while allowing less critical applications to utilize the remaining bandwidth.

The measurement of these Layer 7 metrics, in addition to real time monitoring of the Frame Relay circuit, is crucial for pinpointing specific traffic demands and problem sources in the network. In addition, these metrics are also used to analyze traffic patterns and for general maintenance and troubleshooting. The IQ 710's Frame Relay metrics include statistics on throughput and utilization (per port and per PVC), availability, utilization by protocol, top talkers, lost packets, PVC state, excess bursting above CIR, network congestion (FECN, BECN, and DE), and end-to-end delay on any or all PVCs. N-Formant , an embedded web-based Java™ applet provides a GUI interface for Real-time monitoring and configuration

The IQ 710 is complemented by a network management software suite from ADTRAN called N-Form®. N-Form is a modular, Java-enabled, Windows-based platform combining the features of a complete SNMP management platform with a network trend analysis tool in one easy-to-use, cost-effective package. With N-Form, the IQ 710 can be remotely configured through a graphical interface. N-Form also allows the IQ 710 to monitor alarm conditions and report on both Frame Relay and application monitoring metrics in either graphical or tabular formats.

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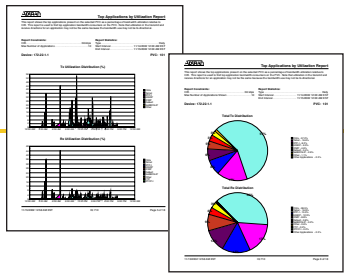

Intelligent Frame Relay Bandwidth Management

Product Specifications

Operating Modes
- 100 DLCIs monitored
- 56/64K, T1/FT1, and T1/FT1 + DSX-1 Frame Relay
- Automatic LMI detection

Access Line Statistics
- T1 BPVs, CRCs, ES, SES, UAS, %AS, %EFSEC, Alarm, Errors
- Telco loop test in progress

PVC Statistics
- PVC state
- Bytes Tx/Rx; frame Tx/Rx
- Frames with BECN/FECN/DE
- Max/Min/Avg frame size
- Throughput/Bandwidth utilization per PVC
- Lost frames/sequence check
- Continuous PVC delay measurement
- Max/Min/Avg end-to-end PVC delay
- Burst rate
- Congested seconds

Port Statistics
- Byte Tx/Rx; frame Tx/Rx
- Throughput/Utilization
- Frame size violations (invalid frames)
- CRC errors/abort frames
- Non-octet aligned frames

LMI Statistics
- LMI state/state changes
- Polls in; Responses in
- Timeouts/Link integrity frames
- Polls with protocol error

Layer 3 Statistics
- Monitor protocols on port and PVC
- Protocols supported: IP/IPX, ARP, SNA, other
- Top talkers

Layer 7 Statistics
- Utilization/Throughput per application
- Application response time
- Visited URL addresses
- Overall network efficiency
- Top talkers and listeners
- Utilization histogram

Diagnostics
Frame Relay
- PVC loopback with test pattern/sequence check
- PVC round trip delay

Network/User
- CSU loopbacks

Network Interface Options
- 56/64K Network Interface Module
- T1/FT1 Network Interface Module
- T1/FT1 + DSX-1 Network Interface Module
- T1 Probe Module

DTE Interface
- V.35 Winchester M block female
- 56 to 1.536, Nx56 or Nx64 Kbps

Configuration
- ADTRAN N-Form web-based network management suite
- Local and remote VT100 terminal via the Control port
- Remote configuration via Frame Relay network connection
- Telnet
- Front panel
- Embedded Java-based web application

Management Options
- ADTRAN N-Form web-based network management suite
- In-band access through shared or dedicated PVC
- VT100 control port
- 10BaseT Ethernet interface

Environment
- **Operating Temperature:** 0° to 50° C, (32° to 122°F)
- **Storage Temperature:** -20° to 70° C, (-4° to 158°F)
- **Relative Humidity:** Up to 95%, non-condensing

Physical
- **Dimensions:** 10" D x 8" W x 2.75" H
- **Weight:** 4.5 lbs
- **Power:** 115 VAC, 60 Hz, 7W

Product Includes
- One 8-pin to 8-pin modular cables
- CD

Ordering Information

Equipment	Part #
IQ 710 with 56/64K and Shaping	4202811L1
IQ 710 with T1/FT1 and Shaping	4202812L1
IQ 710 with T1/FT1 & DSX-1 and Shaping	4202813L1
IQ 710 with 56/64K Network Interface	4202801L1
IQ 710 with T1/FT1 Network Interface	4202802L1
IQ 710 with T1/FT1 + DSX-1 Network Interface	4202803L1
IQ 710 with T1 Probe Module	4202804L1
IQ 710 with T1 Probe and Shaping	4202814L1
56/64K Network Interface Module	1202801L1
T1/FT1 Network Interface Module	1202802L1
T1/FT1 + DSX-1 Network Interface Module	1202803L1
T1 Probe Module	1202804L1
IQ 710 Traffic Shaping Upgrade	1200810L1
IQ 710 V.34 DBU Module	1204002L3
IQ 710 ISDN BRI DBU Module	1204004L2
IQ 710 External DCE DBU Module	1204006L2
IQ 710 ISDN PRI DBU Module	1204008L2