Ciena’s 3902 Service Delivery Switch is an advanced cost-effective, single port Ethernet business demarcation device in a compact form factor. Positioned at the Ethernet demarcation point in the customer premise, the low cost 3902 offers advanced service creation, standards-based Operations, Administration and Maintenance (OAM) tools and performance monitoring.

The 3902 is based on Ciena’s field-proven True Carrier Ethernet® technology which has been deployed worldwide by hundreds of network operators. The 3902 software architecture is based on a common Service-Aware Operating System (SAOS) used in all Ciena service delivery and service aggregation switches to provide operational efficiency and consistent system and service attributes. With the 3902, operators can now deliver the wide range of carrier-class services enabled by True Carrier Ethernet and SAOS to a growing market of small and medium business customers at an attractive price point and with quick payback.

The 3902 offers a single 1 GigE Network-to-Network Interface (NNI) and a single 10/100/1000Base-TX User-to-Network Interface (UNI) in a small form factor (5.9”D x 5.96”W x 1.21” H) with front access to all power and data interfaces for easy desktop or wall-mount scenarios. The 3902 provides silent operation, enabling desktop operation. The fanless design eliminates noise and reduces power consumption to reduce energy costs.

### Features and Benefits

- Uses Ciena’s SAOS:
  - MEF EPL, EVPL and E-LAN
  - Encapsulations: 802.1Q, Q-in-Q
  - Provides comprehensive and consistent management at all customer demarcation points
- Features sophisticated OAM capabilities:
  - IEEE 802.3ah link layer OAM
  - IEEE 802.1ag Connectivity Fault Management
  - ITU-T Y.1731 Performance Monitoring: Delay, Jitter, Loss
  - RFC 2544 Reflector for Performance Measurement
- Enables a wide variety of applications:
  - Intelligent Ethernet Demarcation Device
  - Inter-Carrier Demarcation Device
  - Media Conversion Device
  - Aggregation Platform Extension Device
- Provides flexible deployment via desktop or wall-mount
- Enables ease of craft access via provided RJ-45 port or remote telnet session for configuration and management functions

### Low-Cost Solution for Carrier Ethernet Service Delivery and Management at the Edge

Business and entertainment services are more and more frequently being run over packet-based infrastructures. MEF E-Line (EPL/EVPL) and E-LAN (EP-LAN and EVP-LAN) services, video conferencing and streaming, and data center and storage networks are all now carried over Ethernet and IP/MPLS business access links, and
these must maintain the carrier-grade features, Service Level
Agreements (SLAs), and Quality of Service (QoS) expected in
metro and core networks.

Ciena’s 3902 provides a single-box solution for access, service
delivery, and in-depth management. Positioned at the
customer demarcation point, the 3902 allows service providers
to efficiently create, deploy, manage and maintain the services
their customers expect, all while reducing capital expenditures.

For business and/or wholesale services, the 3902 can transport
1 Gb/s of end-user throughput and provide sophisticated and
consistent OAM controls and management, including:

- IEEE 802.3ah link layer OAM
- IEEE 802.1ag Connectivity Fault Management
- ITU-T Y.1731 Performance Monitoring: delay, jitter, loss
- RFC 5618 TWAMP Responder, Receiver, Sender
- RFC 2544 Reflector for Performance Measurement
- ITU-T Y.1564-compliant architecture

Applications include:

- Intelligent Ethernet Demarcation Device
- Inter-Carrier Demarcation Device
- Media Conversion Device
- Aggregation Platform Extension Device

Customer Benefits

The small and slim design enables the 3902 to be deployed in
a variety of indoor environments (desktop, wall-mount, closet,
etc.) with ultimate flexibility in supporting business customers
whether in single-tenant or MTU/MDU scenarios.

The comprehensive OAM and Ciena SAOS on the 3902 enable
network operators to create and manage scalable service
offerings that leverage the cost-effectiveness of Ethernet
technology to generate maximum revenue, at any or all
epipoints in the network.
Technical Information

Interfaces
- 1 x 1000M SFP NNI port
- 1 x 1/10/100/1000M RJ-45 UNI port
- 1 x Console Port (RJ-45, EIA-561)

Ethernet
- IEEE 802.3 Ethernet
- IEEE 802.3u Fast Ethernet
- IEEE 802.3z Gigabit Ethernet
- IEEE 802.1D MAC Bridges
- IEEE 802.1Q VLANs - Including .1p Priority
- IEEE 802.1ad Provider Bridging (Q-in-Q) VLAN full S-VLAN range

VLAN tunneling (Q-in-Q) for Transparent LAN Services (TLS)
- Per-VLAN MAC Learning Control
- Per-Port MAC Learning Control
- Jumbo Frames to 9216 bytes
- Layer 2 Control Frame Tunneling
- Carrier Ethernet OAM
- Enhanced CLI
- CLI-based configuration files
- SNMP v1/v2c/v3
- SNMPv3 Authentication and Message Encryption
- RFC 1213 SNMP MIB II
- RFC 1493 Bridge MIB
- RFC 1643 Ethernet-like Interface MIB
- RFC 1573 MIB II interfaces
- RFC 1757 RMON MIB - including persistent configuration
- RFC 2021 RMON II and RMON Statistics
- Per-VLAN Statistics
- RADIUS Client and RADIUS Authentication
- TACACS+ AAA
- RFC 2131 DHCP Client
- RFC 1305 NTP Client
- RFC 1035 DNS Client
- Telnet Server
- RFC 1350 Trivial File Transfer Protocol (TFTP)
- RFC 959 File Transfer Protocol (FTP)
- Secure File Transfer Protocol (SFTP)
- Secure Shell (SSHv2)
- Syslog with Syslog Accounting
- Port State Mirroring
- Local Console Port
- Comprehensive Management via Ethernet Services Manager
- Remote Autoconfiguration via TFTP, SFTP
- Software download/upgrade via TFTP, SFTP

Quality of Service
- 8 Hardware Queues per Port
- Committed and Excess Information Rate (CIR and EIR)
- Classification based on IEEE 802.1D priority
- VLAN, source port, destination port, TCP/UDP port
- IP Precedence and IPDSCP
- Layer 2, 3, 4 Quality of Service
- Ingress metering per-port
- Ingress metering per-port per-CoS
- Ingress metering per-port per-VLAN

- Up to 64 Ingress Meters per-port
- Up to 512 Ingress Meters per-system
- C-VLAN Priority to S-VLAN Priority Mapping
- S-VLAN Priority based on C-VLAN ID

Multicast Management
- RFC 2236 IGMPv2 Snooping
- IGMP Domains
- IGMP Message Filtering
- IGMP Inquisitive Leave
- Broadcast/Multicast Storm Control
- Unknown Multicast Filtering
- Well-known Protocol Forwarding

Network Management
- Enhanced CLI
- CLI-based configuration files
- SNMP v1/v2c/v3
- SNMPv3 Authentication and Message Encryption
- RFC 1213 SNMP MIB II
- RFC 1493 Bridge MIB
- RFC 1643 Ethernet-like Interface MIB
- RFC 1573 MIB II interfaces
- RFC 1757 RMON MIB - including persistent configuration
- RFC 2021 RMON II and RMON Statistics
- Per-VLAN Statistics
- RADIUS Client and RADIUS Authentication
- TACACS+ AAA
- RFC 2131 DHCP Client
- RFC 1305 NTP Client
- RFC 1035 DNS Client
- Telnet Server
- RFC 1350 Trivial File Transfer Protocol (TFTP)
- RFC 959 File Transfer Protocol (FTP)
- Secure File Transfer Protocol (SFTP)
- Secure Shell (SSHv2)
- Syslog with Syslog Accounting
- Port State Mirroring
- Local Console Port
- Comprehensive Management via Ethernet Services Manager
- Remote Autoconfiguration via TFTP, SFTP
- Software download/upgrade via TFTP, SFTP

Service Security
- Egress Port Restriction
- Layer 2, 3, 4 Protocol Filtering
- Broadcast Containment
- User Access Rights
- Per-port or per-VLAN Service Access Control
- Hardware-based DOS Attack Prevention

Hardware-based Access Control Lists (ACLs)

MAC Address Table Capacity
- 16,000 MAC addresses

Power Requirements
- AC Input: 100V to 240V AC
- AC Frequency: 50 to 60 Hz
- Maximum Power Input: 7 W

Agency Approvals

Agency Marks:
- NRTL (Canadian Standards Association)
- European Union, CE mark (Declaration of Conformity)
- Australia C-Tick

Emissions:
- FCC Part 15 Class B
- Industry Canada ICES-003 Class B
- VCCI Class B
- ACMA AS/NZS CISPR 22: 2006
- EMC Directive 2004/108/EC
- Environmental: RoHS 2002/95/EC; WEEE 2002/96/EC

Environmental Characteristics
- Operating Temperature: 32°F to +104°F (0°C to +40°C)
- Storage Temperature: 23°F to +140°F (-5°C to +60°C)
- Relative Humidity: 15% to 85% (non-condensing)
- Laser Safety: FDA 21 CFR 1040.10
- IEC 60825-1

Physical Characteristics
- Mounting: Wall, desktop
- Dimensions:
  - 5.9” (D) x 6.0” (W) x 1.2” (H);
  - 150mm (W) x 151mm (D) x 31mm (H)
- Weight: 0.56 lbs; 0.3 kg

Ciena may from time to time make changes to the products or specifications contained herein without notice. Copyright © 2011 Ciena® Corporation. All rights reserved. DS220 10.2011

Networks that change the way you compete.

Ciena Corporation
1201 Winterson Road
Linthicum, MD 21090
1.800.207.3714 (US and Canada)
1.410.865.8671 (outside US and Canada)
+44.20.7012.5555 (international)
www.ciena.com