DATA SHEET

3903

Ciena's 3903 Platform offers advanced Ethernet business demarcation in a compact form factor.

The 3903 is designed for small and medium business applications requiring reliable GbE services that comply with the latest MEF CE2.0 certifications to ensure Service Level Agreements (SLAs) that meet the industry's latest service standards. Based on the widely deployed Service-Aware Operating System (SAOS) used across Ciena's service delivery and aggregation switches, the 3903 provides operational efficiency and consistent system and service attributes that minimize the effort of deployment and operation.

Dual GbE NNI ports allow dual homing or ring-based deployments that minimize downtime in business-critical installations, and remain cost-effective as bandwidth requirements grow. The small size and quiet operation permit deployment in even the closest of quarters. The deployment flexibility afforded by Zero-Touch Provisioning (ZTP) translates into quick activation and enhanced customer satisfaction.

The 3903 includes Ciena's performance test hardware engine to provide RFC 2544 and Y.1564 benchmark performance test capabilities, enabling full line-rate, customer traffic measurements end to end across the Ethernet Virtual Circuit (EVC). This dramatically lowers OPEX by eliminating the need for on-site personnel and adjunct test equipment. Performance testing also improves end-customer satisfaction by enabling the Network Operations Center (NOC) to be very responsive to SLA impacts and increasing the performance metrics available for end-customer SLA reporting. Coupled with Ciena's ZTP, the 3903 optimizes first-in cost as well as TCO.

Customer benefits

Ciena's 3903 provides a single-box solution for access, service delivery, and in-depth management. Positioned at the customer demarcation point, it allows service providers to efficiently create, deploy, manage, and maintain the services their customers increasingly demand, all while reducing Capital Expenditures (CAPEX). It enables quick deployment, high reliability, and the ultimate in Carrier Ethernet service quality.

The small, slim design enables the 3903 to be deployed in a variety of indoor environments as determined by end-user circumstances, while delivering the small

Features and Benefits

- Provides advanced Carrier Ethernet services for small and medium business applications, powered by Ciena's SAOS
- Supports two 100/1000 Base-X SFP ports and a combo port supporting 100/1000 Base-X SFP and RJ-45 10/100/1000 Base-T
- Enables dual-homed or ring-based topologies for highly reliable MEF CE2.0 services
- Delivers lowest Total Cost of Ownership (TCO) with ZTP features
- Incorporates on-board RFC 2544 performance benchmark testing capabilities, enabling end-to-end SLA verification without a truck roll
- Includes sophisticated OAM capabilities:
  - RFC 2544 Generator and Reflector for Performance Measurement
  - IEEE 802.3ah Link Layer OAM
  - IEEE 802.1ag Connectivity Fault Management
  - ITU-T Y.1731 Performance Monitoring: Delay, Jitter, Loss
  - IETF RFC 5618 TWAMP Sender and Responder for L3 SLA Monitoring
- Offers dual built-in AC or DC power supplies in a space-efficient 1RU package and is desk-, wall-, or rack-mountable

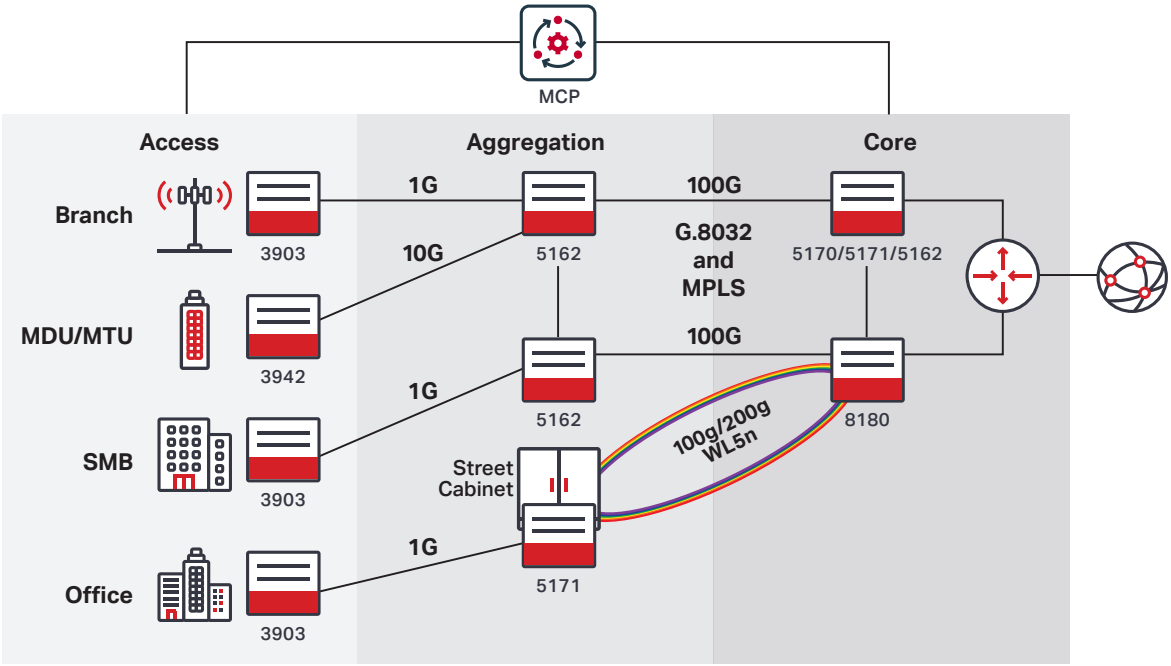

Figure 1. Example of a resilient Ethernet Business Services architecture

footprint and low noise characteristics appreciated in today's busy office environments, including single-tenant or Multi Tenant Unit or Multi Dwelling Unit (MTU/MDU) scenarios.

The comprehensive OAM and Ciena SAOS on the 3903 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 endpoints in the network.

Simplified multi-layer management and control

Ciena's Manage, Control and Plan (MCP) domain controller software offers a unique and comprehensive solution for the administration of mission-critical networks that span access, metro, and core domains, and provides unprecedented multi-layer visibility from the photonic to the packet layer. With this innovative management approach, MCP supports a programmable and automatable solution that provides a fully open approach to installing, manipulating, and monitoring service behaviors in an SDN environment.

Technical Information

Interfaces

2 x 100/1000M SFP NNI/UNI ports

1 x 10/100/1000M RJ-45; 100/1000M SFP UNI combo port

1 x Console Port (RJ-45, EIA-561)

Ethernet

IEEE 802.3 Ethernet

IEEE 802.3z Gigabit Ethernet

IEEE 802.3ab 1000Base-T

IEEE 802.3u 100Base-TX

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-Port MAC Learning Control

Rapid / Multiple Spanning Tree (RSTP/MSTP)

IEEE 802.3ad Link Aggregation Control Protocol (LACP)

ITU-T G.8032 Ethernet Rings Protection Switching

Jumbo Frames to 9216 bytes

Layer 2 Control Frame Tunneling

Private Forwarding Groups

MEF CE 2.0 Compliant

E-LINE: EPL, EVPL

E-LAN: EP-LAN, EVP-LAN

E-Access: Access EPL, Access EVPL

E-Tree: EP-Tree, EVP-Tree

Carrier Ethernet OAM

IEEE 802.1ag Connectivity Fault Management (CFM)

IEEE 802.3ah Ethernet in the First Mile (EFM)

IEEE 802.1AB Link Layer Discovery Protocol (LLDP)

ITU-T Y.1731 Performance Monitoring

RFC 2544 Performance Benchmarking Test Generation and Reflection up to 1GE

ITU-T Y.1564 Ethernet Service Activation Test Methodology

RFC 5618 TWAMP Responder and Receiver

TWAMP Sender

TWAMP +/- 1ms timestamp accuracy

Dying Gasp with Syslog and SNMP Traps

Quality of Service

8 Hardware Queues per Port

Committed, Excess Information Rate (CIR, EIR)

Classification based on

IEEE 802.1D priority

VLAN, source port, destination 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 1,000 Ingress Meters per-port

Up to 1,000 Ingress Meters per-system

C-VLAN Priority to S-VLAN Priority Mapping

S-VLAN Priority based on C-VLAN ID

Per-VLAN Classification, Metering, and Statistics

Per-port, per-VLAN QoS with CIR and EIR traffic on Egress Queues

Multicast Management

RFC 2236 IGMPv2 Snooping

IGMPv3 PDU support

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

SNMPv1/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

RFC 2866 RADIUS Accounting

TACACS+ AAA

RFC 2131 DHCP Client

RFC 3315 DHCP for IPv6 (DHCPv6)

RFC 6221 Lightweight DHCPv6 Relay Agent (LDRA)

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

Virtual Link Loss Indication/Remote Link Loss Forwarding (VLLI/RLLF)

Dual-Stack IPv4/IPv6 management plane

Local Console Port

Comprehensive Management via Ethernet Services Manager

Remote Auto configuration via TFTP, SFTP

Software download/upgrade via TFTP, SFTP

Service Security

Common Criteria EAL2 compliant and certified

Egress Port Restriction

IEEE 802.1X Port-Based Network Access Control (RADIUS/MD5)

Layer 2, 3, 4 Protocol Filtering

Broadcast Containment

User Access Rights

Per-port or per-VLAN Service Access Control

Hardware-based DOS Attack Prevention

MAC Address Table Capacity

16,000 MAC addresses

Power Requirements

Two built-in redundant power supplies

DC Input: -48, -/+ 36, -/+24 VDC (nominal)

AC Input: 100V, 240V AC (nominal)

AC Frequency: 50/60 Hz

Maximum Power Input: 52W

Technical Information

Agency Approvals

Agency Marks:
- NRTL (Canadian Standards Association)
- CE mark (European Union)
  - EMC Directive (2004/108/EC)
  - LVD Directive (2006/95/EC)
- RoHS2 Directive (2011/65/EU)
- Australia RCM (Australia/New Zealand)
- VCCI (Japan)

Emissions:
- FCC Part 15 Class B
- Industry Canada ICES-003 Class B
- VCCI Class B
- CISPR 22 Class B
- EN 55022
- GR-1089 Issue 6

Immunity (EMC):
- CISPR 24
- EN 55024
- EN 300 386

Power: ETSI EN 300 132

Safety: EN 60950-1
- CAN/CSA C22.2 No. 60950-1-07
- UL 60950-1 2nd Ed
- IEC 60950-1

Environmental:
- RoHS2 Directive (2011/65/EU)
- WEEE 2002/96/EC

Environmental Characteristics

GR-63-CORE, Issue 4 – NEBS Level 3

ETSI 300 019 Class 1.2, 2.2, 3.1

Operating Temperature:
23°F to +113°F (-5°C to +45°C)

Storage Temperature:
-40°F to +158°F (-40°C to +70°C)

Relative Humidity:
5% to 90% (non-condensing)

Physical Characteristics

Mounting: Wall, desktop, rack

Dimensions:
8.5" (W) x 8.0" (D) x 1.5" (H)
216mm (W) x 204mm (D) x 38mm (H)

Weight: 3.0lbs; 1.4kg

Ordering Information	
Part Number	**Product Description**
170-3903-900	3903, (2) 100M/1G SFP, (1)100M/1G SFP/RJ45, Dual AC Power, Req. Power Cable
170-3903-901	3903, (2) 100M/1G SFP, (1)100M/1G SFP/RJ45, Dual DC Power
Software	
Required OS Base System Perpetual Software Licenses	
S70-0020-900	SAOS Advanced Ethernet Perpetual Software License for 3903 System
S70-0020-901	SAOS Advanced OAM Perpetual Software License for 3903 System
Optional OS Applications	
170-0204-900	SAOS Advanced Security Perpetual Software License for use with SAOS 6.X
ESM Related	
S70-0021-900	ESM Carrier ED Right to Manage Perpetual Software License for 3903
Cables	
170-0062-900	EIA-RJ45M Standard to Cisco RJ45F Serial Port Adapter, 6 in
170-0063-900	DB9F to EIA-RJ45M Standard, 6 ft Serial Console Cable
170-0064-900	DB9M to EIA-RJ45M Serial Port Adapter, 6 in
Mounting and Brackets	
170-0109-900	19 Inches Rack Mount Ears, For Use w/3903
170-0105-900	23 Inches Rack Mount Ears, For Use w/3903

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EQUIPMENT
FOR SALE

CIENA 3903 PLATFORM EQUIPMENT

ciena

3903 Platform

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