

DATA SHEET

5171



Ciena's 5171 Platform empowers advanced access networks with 100GbE services beyond the Central Offices and POP sites, enabling deployment into street cabinets and other uncontrolled locations. The 5171 addresses the increasing need for 100GbE services and high-density 10GbE aggregation and delivers high-bandwidth enterprises, MBH, and MSO services with WaveLogic™ 5 DWDM.

Driving the industry toward 10GbE and 100GbE service delivery

Continued annual growth in metro network bandwidth demand is driving a change in the mix of connections and services, from 1GbE aggregation to 10GbE, and 10GbE aggregation to 100GbE. In addition, demand for high-speed 100GbE UNI services and the shift from 10GbE to 25/50GbE server connections is steadily increasing. This shift toward higher-bandwidth services means metro and regional Ethernet networks, once optimized for lower 1GbE rates, are no longer aligned to changing metro network traffic trends.

Dense, compact form-factor platform

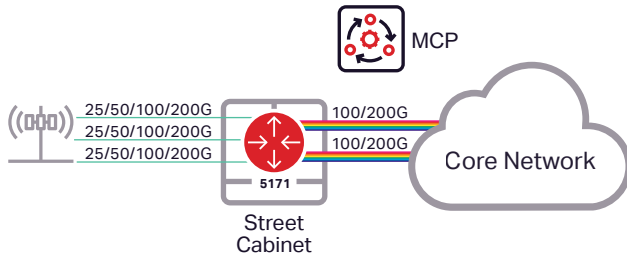
Efficient use of real estate assets is a growing concern for network operators, who either host their own network equipment or lease power and space in collocation facilities. As services multiply, operators have been forced to stack 10G-capable equipment, incurring additional collocation rental and power costs. The 5171's sleek, shallow depth and front access enable cabinet and controlled environmental vault deployment. In addition, extended temperature range can be used for uncontrolled environments for outdoor aggregation of 1/10/25/50/100/200GbE, enabling high capacity at the outdoor edge.

Space is increasingly limited and expensive, and network operators face substantial capital expenditures to activate new locations or must retire active equipment to free space for service delivery. Addressing bandwidth demand growth by deploying more and larger equipment is simply not

Features and benefits

- Temperature-hardened (-40°C to +65°C) with 10"/254mm depth for temperature-challenged or space-constrained locations
- Two flexible slots provide maximum port speeds and capacities – 200G, 100G, and 40G
- 5171-910/900:
4 x 1GbE/10GbE/25GbE SFP28 and 36 x 1GbE/10GbE SFP+ fixed ports
- 5171-920:
8 x 10GbE/25GbE/50GbE SFP56 and 32 x 1GbE/10GbE/25GbE SFP28 fixed ports
- Hardware-assisted OAM scaled to deliver 100GbE services with guaranteed SLA differentiation
- Advanced QoS with Hierarchical Egress Shaping and Ingress Metering
- Carrier Ethernet, IP routing, and MPLS
- Secure Zero-Touch Provisioning (SZTP) for rapid, secure, and error-free turn-up of services
- Advanced Synchronization including built-in GPS receiver
- Built-in RFC2544 and Y.1564 SAT with 100 Gb/s traffic generation and analysis
- Ciena's MCP multi-layer support for end-to-end network management control and planning
- Low power consumption
- Redundant or simplex AC or DC power

100G Cell Router



Remote Aggregation

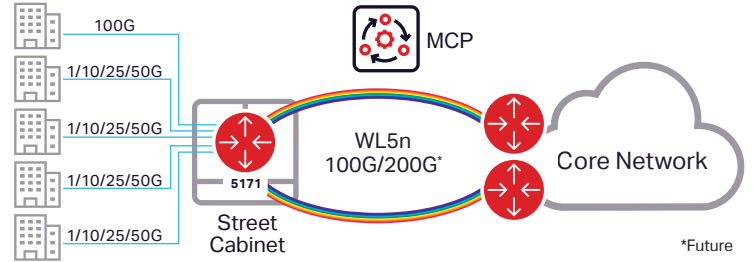


Figure 1. 5171 Outside service delivery and aggregation functions

a sustainable business model—economically or environmentally. Ciena’s 5171 cost-effectively offers dense 100GbE service delivery in 2RU, 254mm deep, fixed form factor with dual pluggable power supplies, optics, and coherent optics to minimize any downtime.

Differentiation through accelerated service velocity

Service velocity has become a critical competitive advantage for network operators. In many cases, service velocity is the determining factor in winning new service sales. The 5171 implements Ciena’s unique ZTP capabilities, allowing network operators to rapidly deploy new IP/MPLS services in a fully automated manner. By reducing or eliminating costly and time-consuming manual intervention, provisioning errors are eliminated via ZTP. Most importantly, ZTP improves service deployment velocity and delivers a significant competitive advantage.

Rich Operations, Administration, and Maintenance (OAM) suite of capabilities

As network operators and their customers increasingly rely on new IP/MPLS networks, providers must maintain guaranteed service levels. Routing and switching networks must support a broad array of OAM capabilities to ensure network operators can proactively and reactively maintain and report on the ongoing health of their metro Ethernet networks and services. The 5171 also supports a comprehensive set of hardware-assisted OAM capabilities. It is architected to power Service Level Agreement (SLA) metrics and OAM at a high scale, enabling operators to take full advantage of the port density and 800 Gb/s fabric for delivering the maximum number of services at the lowest cost. Additionally, the 5171 has an embedded line-rate Service Activation Test (SAT) engine (RFC2544, Y.1564) with traffic generation to a full 100 Gb/s to guarantee strict, market-differentiating SLAs, without relying on costly external test equipment.

Simplified multi-layer management and control

Ciena’s Manage, Control and Plan (MCP) 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.

Advanced QoS support

The 5171 supports fine-grained SLA monitoring and enforcement techniques to help operators successfully deliver on stringent SLA guarantees. These capabilities enable greater revenue generation by optimizing available asset utilization. The platform offers deep buffers managed by Ciena’s Service-Aware Operating System (SAOS) to adapt to specific application requirements. Sophisticated VLAN tag manipulation and control supports innovative customer traffic separation approaches alongside a rich set of classification-of-service flows through the platform’s fabric.

Ingress metering can be configured for packet, offering the ultimate in flexible flow control based on Layer 2, 3, and 4 classification. In addition, egress bandwidth shaping on a per-EVC basis is built to allow

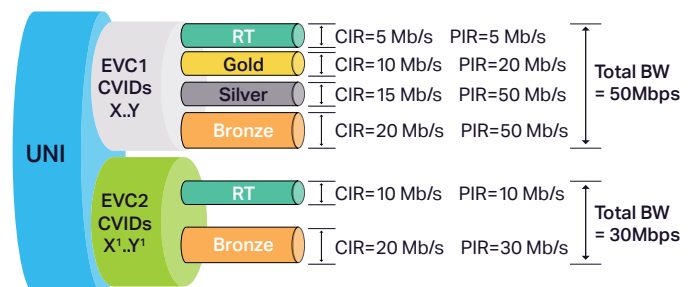


Figure 2. Hierarchical QoS supports multiple services

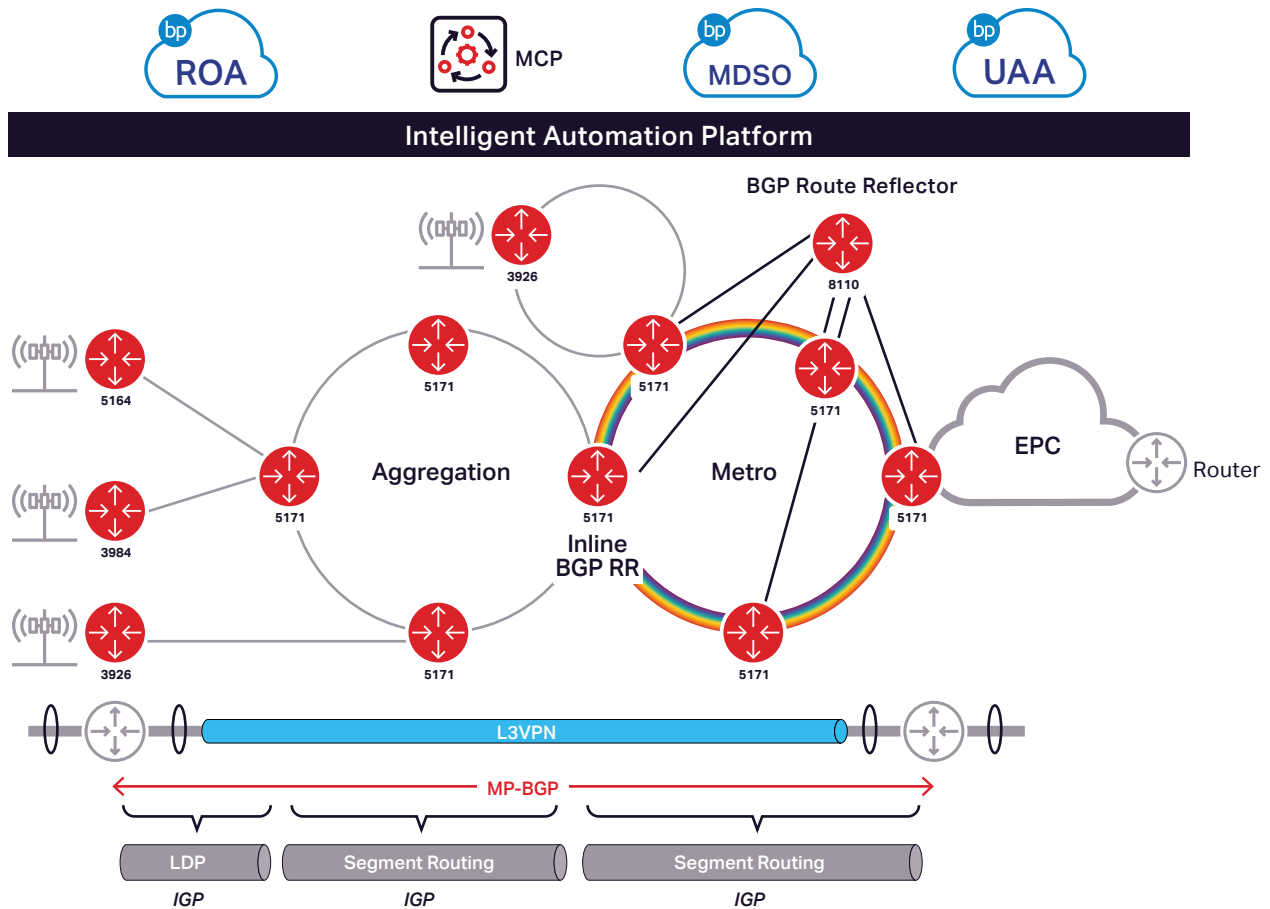


Figure 3. Ciena's Adaptive IP™ solution supporting mobile network evolution

fine-tuning delay and buffering efficiency within the platform. The 5171 also provides deep buffers to maximize traffic throughput and reliability by enabling operators to optimize and/or adjust buffer depths to match service types and SLA requirements, such as minimizing latency or maximizing service delivery.

IP Router Configuration (SAOS 10.x)

When configured with SAOS software stream 10.x, the 5171 operates as an IP router supporting NETCONF/YANG to enable an open SDN environment with full visibility via telemetry and automated provisioning using open APIs. The 5171 is purpose-built to provide Layer 2 and Layer 3 services over carrier-grade infrastructure by supporting a rich suite of Ethernet, IP/MPLS, BGP, IS-IS, OSPF, and Segment Routing.

Universal Aggregation Configuration (SAOS 8.x)

When configured with the SAOS 8.x software stream, the 5171 supports a wide range of service offerings, including MEF CE-compliant E-Line, E-LAN, E-Tree, and E-Access services, over a carrier-grade, connection-oriented infrastructure. It also supports a rich suite of L2 Ethernet, MPLS, OAM, Sync, ACL, and QoS capabilities to support a broad range of applications.

Technical information (SAOS 10.x) – Router Configuration

Ethernet

- IEEE 802.1ad Provider Bridging (Q-in-Q) VLAN full S-VLAN range
- IEEE 802.1D MAC Bridges
- IEEE 802.1p Class of Service (CoS) prioritization
- IEEE 802.1Q VLANs
- IEEE 802.3 Ethernet
- IEEE 802.3ab 1000Base-T via copper SFP IEEE 802.3ad Link Aggregation Control Protocol (LACP)
- IEEE 802.3ba-2010 40GbE and 100GbE
- IEEE 802.3z Gigabit Ethernet Layer 2 Control Frame Tunneling
- Link Aggregation (LAG): Active/Active; Active/ Standby
- Jumbo frames to 9216 bytes
- VLAN tunneling (Q-in-Q) for Transparent LAN Services (TLS)

MEF CE 3.0 Compliant

- E-Access: Access EPL, Access EVPL
- E-LAN: EP-LAN, EVP-LAN
- E-LINE: EPL, EVPL
- E-Tree: EP-Tree, EVP-Tree

Carrier Ethernet OAM

- Dying Gasp with Syslog and SNMP Traps
- IEEE 802.1ab Link Layer Discovery Protocol (LLDP)
- IEEE 802.1ag Connectivity Fault Management (CFM)
- ITU-T Y.1731 Performance Monitoring (SLM; DMM)

Synchronization

External Timing Interfaces:

- ITU-T G.703 Frequency in or out (2.048MHz, and 10MHz)
- ITU-T G.703 1pps and ToD in or out
- Integrated GNSS receiver
- ITU-T G.8262/G.8264 EEC option1 and option2
- ITU-T G.8275.1 full timing support T-GM, T-BC and T-TSC
- G.8275.2 clock, Class C
- Stratum 3E oscillator

Networking Protocols

- ISO10598 IS-IS intra-domain routing protocol
- OSFP Segment Routing extension
- OSFP TI-LFA Topology Independent Fast Reroute using Segment Routing
- RFC1195 Use of OSI Is-Is for Routing in TCP/IP and Dual Environments
- RFC1997 BGP Community Attribute
- RFC2328 OSPF Version 2
- BGP Prefix Independent Convergence
- EVPN FXC draft-ietf-bess-evpn-vpws-fxc-03.txt
- RFC2698 A Two Rate Three Color Marker
- RFC2865 Remote Authentication Dial in User Service (RADIUS)
- RFC3031 Multiprotocol Label Switching (MPLS) Architecture
- RFC3032 MPLS label stack encoding
- RFC3107 Support BGP carry Label for MPLS
- RFC4271 A Border Gateway Protocol 4 (BGP-4)
- RFC4360 BGP Extended Communities Attribute
- RFC4364 BGP/MPLS IP Virtual Private Networks (VPNs)
- RFC4456 BGP Route Reflection: An Alternative to Full Mesh Internal BGP (IBGP)
- RFC4632 Classless Inter-domain Routing (CIDR): The Internet Address Assignment and Aggregation Plan
- RFC4760 Multiprotocol Extensions for BGP-4
- RFC4762 Virtual Private LAN Service (VPLS) Using Label Distribution Protocol (LDP) Signaling (HVPLS)
- RFC5004 Avoid BGP Best Path Transitions from One External to Another

- RFC5036 LDP Specification
- RFC5037 Experience with the LDP protocol
- RFC5301 Dynamic Hostname Exchange Mechanism for IS-IS
- RFC5302 Domain-Wide Prefix Distribution with Two-Level IS-IS
- RFC5303 Three-Way Handshake for IS-IS Point-to-Point Adjacencies
- RFC5309 Point-to-Point Operation over LAN in Link State Routing Protocols
- RFC5396 Textual Representation of Autonomous System (AS) Numbers
- RFC5398 Autonomous System (AS) Number Reservation for Documentation Use
- RFC5492 Capabilities Advertise with BGP-4
- RFC5561 LDP Capabilities
- RFC5668 4-Octet AS Specific BGP Extended Community
- RFC6241 Network Configuration Protocol (NETCONF)
- RFC6310 Pseudowire (PW) Operations, Administration, and Maintenance (OAM) Message Mapping
- RFC6793 BGP Support for Four-Octet Autonomous System (AS) Number Space
- RFC7432 EVPN VPWS/VPLS
- RFC7737 Label Switched Route (LSP) Ping and Traceroute Reply Mode Simplification SR-MPLS TI-LFA Topology Independent Loop Free Alternate
- Reroute using Segment Routing draft-ietf-rtgwg-segment-routing-ti-lfa-03
- RFC7911 Advertisement of Multiple Paths in BGP
- RFC8214 Virtual Private Wire Service Support in Ethernet VPN

Network Management

- Alarm Management and Monitoring Configuration
- Comprehensive Management via CLI
- Event and Alarm Notification/Generation
- gRPC base Telemetry
- IPv4 and IPv6 Management Support
- Management via NetConf/YANG Models
- RADIUS, AAA
- Remote Auto configuration via TFTP, SFTP
- Remote Link Loss Forwarding (RLLF)
- RFC1350 Trivial File Transfer Protocol (TFTP)
- RFC2131 DHCP Client
- RFC5905 NTP Client
- Secure File Transfer Protocol (SFTP)
- Secure Shell (SSHv2)
- Software upgrade via FTP, SFTP
- Syslog Accounting
- TACACS + AAA
- Zero Touch Provisioning

Technical Information (SAOS 8.x) – Universal Aggregation Configuration

Ethernet

- Hierarchical Quality of Service (HQoS) including Ingress Metering/ Egress shaping Private Forwarding Groups
- IEEE 802.1ad Provider Bridging (Q-in-Q) VLAN full S-VLAN range
- IEEE 802.1D MAC Bridges
- IEEE 802.1p Class of Service (CoS) prioritization IEEE 802.1Q VLANs
- IEEE 802.3 Ethernet
- IEEE 802.3ab 1000Base-T via copper SFP IEEE 802.3ad Link Aggregation Control Protocol (LACP)
- IEEE 802.3ba-2010 40GbE and 100GbE
- IEEE 802.3z Gigabit Ethernet
- Jumbo frames to 10,222 bytes
- Layer 2 Control Frame Tunneling
- Link Aggregation (LAG): Active/Active; Active/Standby
- MEF 10.2 Egress Bandwidth Shaping per EVC per COS
- Multi-chassis LAG (MC-LAG) Active/Standby
- Per-VLAN MAC Learning Control Private Forwarding Groups
- VLAN tunneling (Q-in-Q) for Transparent LAN Services (TLS)

MEF 3.0 Certified

- E-Access: Access EPL, Access EVPL
- E-LAN: EP-LAN, EVP-LAN
- E-LINE: EPL, EVPL
- E-Tree: EP-Tree, EVP-Tree

Carrier Ethernet OAM

- Dying Gasp with Syslog and SNMP Traps EVC Ping (IPv4)
- Generation and Reflection at 100GbE
- IEEE 802.1ab Link Layer Discovery Protocol (LLDP)
- IEEE 802.1ag Connectivity Fault Management (CFM)
- IEEE 802.3ah EFM Link-fault OAM

- ITU-T Y.1564 Ethernet Service Activation Test Methodology
- ITU-T Y.1731 Performance Monitoring (SLM; DM) with simultaneous session
- RFC2544 Benchmarking Methodology for Network Interconnect Device
- RFC5618 TWAMP Responder and Receiver TWAMP Sender

Synchronization

External Timing Interfaces:

- ITU-T G.703 Frequency in or out (2.048MHz, and 10MHz)
- ITU-T G.703 1pps and ToD in or out
- Integrated GNSS receiver
- ITU-T G.8262/G.8264 EEC option1 and option2
- ITU-T G.8275.1 full timing support T-GM, T-BC and T-TSC
- G.8275.2 clock, Class C
- Stratum 3E oscillator

Networking Protocols

- Alarm Indication Signaling (AIS) with Link Down Indication (LDI) and Remote Defect Indication (RDI)
- Control Channel types CC1, CC2, CC4
- Connectivity Verification types 1, 2
- DHCPv4 Relay Agent with Option 82
- G.8032/IGMP interworking
- DHCPv6
- IGMPv3 with SSM IGMP over MPLS-TP
- IS-IS Route Summarization
- ITU-T G.8032 v1, v2, v3 Ethernet Ring Protection Switching
- Layer 2 Control Frame Tunneling over MPLS Virtual Circuits
- LSP Dynamic provisioning 1:1 Tunnel protection
- MPLS AIS-LDI with Signal Degrade
- MPLS Label Switch Path (LSP) Tunnel Groups

- MPLS Label Switch Path (LSP) Tunnel
- MPLS Multi-Segment Pseudo wires
- MPLS Static VC Shaping Automatic
- MPLS Virtual Private Wire Service (VPWS)
- OSPF/IS-IS for Dynamic MPLS-TP Control Plane
- Pseudowire Reversion
- Redundancy Topology LDP
- RFC2205 RSVP IS-IS L1/L2
- RFC3031 MPLS architecture
- RFC3209 RSVP-TE: Extensions to RSVP for LSP
- RFC3630 OSPF-T
- RFC4447 Pseudo wire Setup and Maintenance using Label Distribution Protocol (LDP)
- RFC4448 Encapsulation Methods for Transport of Ethernet over MPLS Networks (PW over MPLS)
- RFC4664 Framework of L2VPN (VPLS/VPWS)
- RFC4665 Service Requirement of L2 VPN
- RFC4762 VPLS (Virtual Private LAN Service) and Hierarchical VPLS (H-VPLS)
- RFC5654 MPLS-Transport Profile (TP) LSP Static provisioning
- RFC5884 LSP Bidirectional Forwarding Detection (BFD) via GAL/G-Ach channels
- RFC6215 MPLS Transport Profile User-to- Network and Network-to-Network Interfaces
- RFC6426 MPLS On-demand Connectivity Verification and Route Tracing
- RFC6428 LSP and PW Connectivity Verification and Trace Route Static ARP and MAC Destination Address Resolution
- VCCV (Virtual Circuit Continuity Check) Ping and Trace Route VCCV BFD based PW Pseudo wire Switchover Multicast

Network Management

- Alarm Management and Monitoring Configuration
- Event and Alarm Notification/Generation
- IPv4 & IPv6 Management Support
- Integrated Firewall
- Local Console Port
- Per-VLAN Statistics Port State Mirroring
- RADIUS, AAA
- RADIUS Client and RADIUS Authentication
- Remote Auto configuration via TFTP, SFTP
- Remote Link Loss Forwarding (RLLF)
- RFC1213 SNMP MIB II
- RFC1350 Trivial File Transfer Protocol (TFTP)
- RFC1493 Bridge MIB
- RFC1573 MIB II Interfaces
- RFC1643 Ethernet-like Interfacing MIB
- RFC1757 RMON MIB-including persistent configuration
- RFC2021 RMON II and RMON Statistics
- RFC2131 DHCP Client
- RFC2877 Alarm MIB
- RFC4291 IPv6 addressing (for management plane)
- RFC4443 ICMPv6
- RFC4862 Stateless address auto-configuration
- RFC5905 NTP Client
- Secure File Transfer Protocol (SFTP)
- Secure Shell (SSHv2)
- SNMP v1/v2c/v3
- SNMP v3 authentication and Message Encryption
- Software upgrade via FTP, SFTP
- Syslog Accounting
- TACACS + AAA
- Telnet Server
- Virtual Link Loss Indication (VLLI)
- Zero Touch Provisioning

Technical information (Common)

Interfaces

5171-910/900:

- 4 x 1GbE/10GbE/25GbE SFP28+
- 36 x 1GbE/10GbE SFP+ /10G PON
- 36 x 10G PON

2 x Module Slots:

- 2 x 40GbE/100GbE QSFP28
- 1 x 40G/1GbE/10GbE/25GbE QSFP28+ 100 Gb/s CFP2
- 1 x 200G/100G CFP2
- 2 x 100G CFP2
- 8 x 25G SFP28

Other: (5171-910/900):

- 1 x 10/100/1000M RJ-45 mgmt. port
- 1 x serial console (RJ-45, EIA-561)
- 1 x USB
- 1 x RJ45 BITS
- 1 x Mini coax frequency in or out
- 1 x Mini coax 1 PPS in or out
- 1 x coax GNSS antenna

5171-920:

- 8 x 10GbE/25GbE/50GbE SFP56
- 32 x 1GbE/10GbE/25GbE SFP28

2 x Module Slots for FRU:

- FRU (2 ports)
 - 1 x 40GbE/100GbE/200GbE QSFP-DD
 - 1 x 40GbE/100GbE QSFP-DD

Other (5171-920):

- 1 x 10/100/1000M RJ-45 mgmt. port 1 x serial console (RJ-45, EIA-561)
- 1 x USB-C off-switch memory
- 1 x USB-C console
- 1 x Mini coax (configurable)

Agency Approvals

- Anatel (Brazil)
- Australia RCM (Australia/ New Zealand)
- CE mark (EU)
- EMC Directive (2014/30/EU)
- ETSI 300 019 Class 1.2, 2.2, 3.2
- GR-1089 Issue 6 – NEBS Level 3, Zone 4 Earthquake
- GR-63-CORE, Issue 4 – NEBS Level 3
- LVD Directive (2006/95/EC)
- NOM (Mexico)
- NRTL (NA)
- RoHS2 Directive (2011/65/EU)
- VCCI (Japan)

Service Security

- Broadcast Containment Egress Port Restriction
- Hardware-based DOS Attack Prevention Layer 2, 3, 4 Protocol Filtering
- User Access Rights Local user authorization

Physical Characteristics

Dimensions:

- 17.5"(W) x 10"(D) x 3.5"(H);
- 444mm (W) x 254mm (D) x 88mm (H)
- Weight: 34.2 lb (15.5kg)

Power Requirements:

- Typical Power Consumption 328W (includes 2x 170-0315-900)
- Maximum Power Consumption 800W

Standards Compliance

Emissions:

- CISPR 22 Class A CISPR 32 Class A EN 300 386
- EN 55032
- FCC Part 15 Class A
- GR-1089 Issue 6
- Industry Canada ICES-003 Class A
- VCCI Class A

Environmental:

- RoHS2 Directive (2011/65/EU)
- WEEE 2002/96/EC
- GR-3108 Issue 2 Network Equipment in the Outside Plant (OSP) Class 2

Operating Temperature:

- -40°F to + 149°F (-40°C to + 65°C)

Storage Temperature:

- -40°F to + 158°F (-40°C to + 70°C)

Relative Humidity:

- Non-condensing 5% to 90%
- Immunity (EMC):
- GR-1089 Issue 6 Power:
- CISPR 24
- EN 300 386
- EN 55024

Power:

- ETSI EN 300 132-2
- ETSI EN 300 132-3

Safety:

- ANSI/UL 60950-1 2nd edition 2007
- CAN/CSA C22.2 No. 60950-1-07
- EN 60950-1
- IEC 60825-1 2nd edition (2007)
- IEC 60825-2 3rd edition (2004)

Ordering information 5171-900/910 (SAOS 10.x) – Router Configuration

Part Number	Description
170-5171-910	5171,(36)10/1G SFP+,(4)25/10/1G SFP28,(2)SLOTS, 200G MODULES,SAOS 10.X,SYNC, EXT. TEMP, (2) SLOTS AC OR DC PLUG POWER SUPPLY
170-0310-900	5171,DC PLUGGABLE POWER SUPPLY, -48V
170-0311-900	5171,AC PLUGGABLE POWER SUPPLY, WIDE RANGE 120/240V
170-0312-900	5171,MODULE, (2) 40GBE/100GBE QSFP28
170-0313-900	5171,MODULE, (2) 100GBE CFP2
170-0314-900	5171,MODULE, (1) 100/200 GB/S CFP2
170-0315-900	5171,MODULE, (1) 100 GB/S CFP2,(1)40GBE/100GBE QSFP28
170-0317-900	5171,PLUGGABLE SPARE FAN MODULE
170-0318-900	5171,FILLER COVER

Required OS Base System Perpetual Software Licenses

S75-LIC-5171EO-P	SAOS ETHERNET & OAM PERPETUAL SOFTWARE LICENSE FOR 5171
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Optional OS Applications

S75-LIC-5171MPLS-P	SAOS IP/MPLS APPLICATION PERPETUAL SOFTWARE LICENSE FOR 5171
S75-LIC-5171SYNC-P	SAOS SYNCHRONIZATION PERPETUAL SOFTWARE LICENSE FOR 5171
S75-LIC-5171100G-P	SAOS 100G PERPETUAL SOFTWARE LICENSE FOR 5171
S75-LIC-5171SEC-P	SAOS SECURITY PERPETUAL SOFTWARE LICENSE FOR 5171
S75-LIC-5171EVPN-P	SAOS EVPN SOFTWARE LICENSE FOR 5171, PERPETUAL
S75-LIC-5171MACSEC-P	SAOS MACSEC SOFTWARE LICENSE FOR 5171, PERPETUAL
S75-LIC-5171BNL01-P	SAOS AE OAM, MPLS, SYNCH, SECURITY, 100G LICENSE FOR 5171, PERPETUAL

Ordering information 5171-920 (SAOS 10.x) Router Configuration

Part Number	Description
170-5171-920	5171-GEN2, (32) 25/10/1G SFP28, (8)50/25/10G SFP56, (2)SLOT 200G MODULES, SAOS 10.X, SYNC, EXT. TMP, (2)SLOTS AC OR DC PLUG POWER SUPPLY
170-0310-900	5171,DC PLUGGABLE POWER -48V
170-0311-900	5171, AC PLUGGABLE POWER SUPPLY, WIDE RANGE 120/240V
170-0460-900	5171-GEN2, MODULE, (1)200/100G/40G QSFP-DD, (1)100/40G QSFP-DD
170-0461-900	5171-GEN2, PLUGGABLE SPARE FAN MODULE
170-0483-900	5171-GEN2, FILLER COVER

Required OS Base System Perpetual Software Licenses

S75-LIC-5171EO-P	SAOS ETHERNET & OAM PERPETUAL SOFTWARE LICENSE FOR 5171
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Optional OS Applications

S75-LIC-5171MPLS-P	SAOS IP/MPLS APPLICATION PERPETUAL SOFTWARE LICENSE FOR 5171
S75-LIC-5171SYNC-P	SAOS SYNCHRONIZATION PERPETUAL SOFTWARE LICENSE FOR 5171
S75-LIC-5171100G-P	SAOS 100G PERPETUAL SOFTWARE LICENSE FOR 5171
S75-LIC-5171SEC-P	SAOS SECURITY PERPETUAL SOFTWARE LICENSE FOR 5171
S75-LIC-5171EVPN-P	SAOS EVPN SOFTWARE LICENSE FOR 5171, PERPETUAL
S75-LIC-5171MACSEC-P	SAOS MACSEC SOFTWARE LICENSE FOR 5171, PERPETUAL
S75-LIC-5171BNL01-P	SAOS AE OAM, MPLS, SYNCH,SECURITY,100G LICENSE FOR 5171, PERPETUAL

Ordering information (SAOS 8.x) – Universal Aggregation Configuration

Part Number	Description
170-5171-900	5171,(36)10/1G SFP+,(4)25/10/1G SFP28,(2)SLOT 200G MOD,SAOS 8.X,SYNC, EXT.TMP, (2)SLOT AC DC PLUG PSU
170-0310-900	5171,DC PLUGGABLE POWER SUPPLY, -48V
170-0311-900	5171,AC PLUGGABLE POWER SUPPLY, WIDE RANGE 120/240V
170-0312-900	5171,MODULE, (2)40GBE/100GBE QSFP28
170-0313-900	5171,MODULE, (2) 100GBE CFP2
170-0314-900	5171,MODULE, (1) 100/200 GB/S CFP2
170-0315-900	5171,MODULE, (1) 100 GB/S CFP2,(1)40GBE/100GBE QSFP28
170-0317-900	5171,PLUGGABLE SPARE FAN MODULE
170-0318-900	5171,FILLER COVER

Required OS Base System Perpetual Software Licenses

S70-0050-900	SAOS ADVANCED ETHERNET & OAM PERPETUAL SOFTWARE LICENSE FOR 5171
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Optional OS Applications

S70-0050-902	SAOS ADVANCED MPLS APPLICATION SOFTWARE LICENSE FOR 5171, PERPETUAL
S70-0050-903	SAOS ADVANCED SYNCHRONIZATION PERPETUAL SOFTWARE LICENSE FOR 5171
S70-0050-904	SAOS ADVANCED 100G PERPETUAL SOFTWARE LICENSE FOR 5171
S70-0050-905	SAOS ADVANCED SECURITY PERPETUAL SOFTWARE LICENSE FOR USE WITH 5171

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