Anue Net Tool Optimizer® 5293

Carrier-Grade, High-Availability Network Monitoring Switch

High-Availability Features

- NEBS Level 3 Certified Product
- Redundant, Hot-Swappable Power Supply / Fan Modules
- -48V DC or 120-240VAC Power Input
- Front to Back Air Flow
- Local and Remote Alarm Relay Support
- Redundant Management Ports
- Craft Interface for Emergency Out-of-Band Reset

Performance

- 100GE, 40GE, 10GE, 1GE Ethernet support
- Non-blocking architecture; 640Gbps total bandwidth
- Full line-rate across all ports with filtering enabled
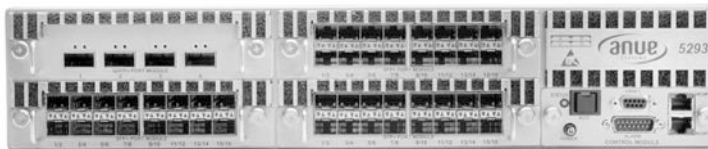- Port reconfiguration with no performance impact

Overview

As telecommunication and mobile carrier networks continue to evolve and become more complex, so too have the systems and processes to monitor them. Monitoring is vital to quality of service and customer support. The ongoing challenge is to reduce network monitoring complexity and streamline access to all network monitoring technologies. The Anue Net Tool Optimizer® (NTO) 5293 is a carrier-grade, high-density network monitoring switch that helps mobile carrier network engineers efficiently connect multiple network monitoring tools to a large number of 100GE, 40GE, 10GE, and 1GE interfaces, facilitating end-to-end visibility into the packet network.

The Anue NTO 5293 has a 640Gbps, non-blocking backplane for up to 4 100GE ports, 16 40GE ports, or up to 64 10GE ports in a space efficient 2-RU chassis. The NEBS Level 3 certified NTO 5293 includes features such as redundant management ports, power supplies and fan trays, and delivers uninterrupted access to network traffic for monitoring tools in the telecommunication environment, where high-availability is required. The NTO 5293 is able to filter the traffic to the monitoring tools based on tunneled traffic while preserving original encapsulation.

Port Flexibility

- Up to 64 ports available
  - Up to 64 1GE Copper (SFP)
  - Up to 64 1GE (SFP)
  - Up to 64 10GE (SFP+)
  - Up to 16 40GE (QSFP+)
  - Up to 4 100GE (CFP)
- Ingress/egress port programmability
- Software port licensing
- Timestamping (local, NTP, GPS)*
- Burst Protection*
- Port tagging
- Monitoring tool port load balancing (up to 32 ports)

Management

- SNMP v1, v2, v3 support
- Supports IPv4 or IPv6
- Local, RADIUS, and TACACS+ support (members and groups)
- Granular access control features
- Event logging
- Syslog
- SSL Encryption
- IT automation control (RESTful API)
- Dual IP-based management ports (RJ45 – 10/100/1000)

Filtering

- Centralized filter templates
- Custom dynamic filtering
- Overlapping filter engine
- Filter parameters (Layer 2-4)
  - MAC source/destination addresses
  - VLAN and Ethertypes
  - IP protocol and DSCP/TOS
  - GTP and MPLS
  - Source/destination IP (IPv4/IPv6)
  - UDP, TCP ports
- Protocol stripping (GTP, MPLS, VLAN, VNTAG)*
- Packet trimming*
- Packet deduplication*

* Requires optional Advanced Features Module.

Physical Specifications

Size and Weight

- 2U high rack mountable enclosure
- Dimensions: 17.5W x 19.125L x 3.5H (inches)
- Weight: 35.0 lb (16 kg)

Power AC

- Input AC voltage: 90-240 VAC RMS auto-switching
- Frequency: 50-60Hz
- Nominal power requirement: 2.36A @ 110 VAC, 260W
- Maximum power requirement: 5A @ 110 VAC, 550W
- Heat/power dissipation for system with all 64 ports on the front panel at 100% traffic load: nominally 260W/887 BTU/hour

Power DC

- Operating input voltage: 36 to 75 VDC
- Maximum operating input current: 11.46A @ 48 VDC, 550W
- Nominal current: 5.41A @ 48 VDC, 260W
- Heat/power dissipation for system with all 64 ports on the front panel at 100% traffic load: Nominally 260W/887 BTU/hour

Operating Specifications

Operational Environment

Temperature

- Operating: 5°C to 40°C
- Short-term*: -5°C to 55°C (*not to exceed 96 consecutive hours)
- Short-term* with fan failure: -5°C to 40°C (*not to exceed 96 consecutive hours)

Humidity

- Operating: 5% to 85%, (non-condensing)
- Short-term*: 5% to 90% (non-condensing, *not to exceed 96 hours)

Mean Time Between Failures (MTBF) Prediction

- 125,000 hours

Regulatory/Safety

North American Safety

UL 60950-1, 2nd Edition

CSA C22.2 No. 60950-1, 2nd Edition

GR-1089-CORE, Issue 6, May 2011

European Safety

EN60950-1

International Safety

CB Scheme: IEC 60950-1:2nd Edition

RoHS Compliant

EMI/EMC

North American EMC

FCC part 15, Class A (USA)

ICES-003 Issue 4, Class A (Canada)

GR-1089-CORE, Issue 6, May 2011

European EMC

EN 55022:2006 +A1:2007 (Emissions)

EN 55024:1998 +A1:2001 +A2:2003 (Immunity)

EN 61000-3-2:2006 +A2:2009 (Harmonics)

EN 61000-3-3:2008 (Flicker)

ETSI EN 300 386:2005-4

IEC/International EMC

IEC/EN 61000-4-2:2009 Electrostatic Discharge Immunity

IEC/EN 61000-4-3:2006 +A1:2008 +A2:2010 Radiated Immunity

IEC/EN 61000-4-4:2004 +A1:2010 Transient/Burst Immunity

IEC/EN 61000-4-5:2006 Surge Immunity

IEC/EN 61000-4-6:2009 Conducted Radio Frequency Immunity

IEC/EN 61000-4-8:2010 Magnetic Field Immunity

IEC/EN 61000-4-11:2004 Voltage Dips, Interruptions and Variations

Included Accessories

- USB flash drive with activation license key
- Rack Mount Kit

Ordering Information	
Complete Systems	
SYS-5293-STD	Anue 5293 Net Tool Optimizer - base system
SYS-5293-ALL-10G	Anue 5293 Net Tool Optimizer - base system with all ports enabled: 64 1GE/10GE SFP/SFP+ ports, Includes & 4 - 16-port interface modules
SYS-5293-GIG-ALL	Anue 5293-Gig All Net Tool Optimizer - 1GE system with all ports enabled: 60 1GE SFP ports, and four 10GE SFP/SFP+ ports
Interface Modules	
MOD-529X-IFMOD-10G	Single (1) 5293 16-port interface module - supports up to 16 SFP/SFP+ ports.
MOD-529X-IFMOD-40G	Single (1) 5293 4-port interface module - supports up to 4 QSFP+ ports.
MOD-529X-IFMOD-100G	Single (1) 5293 1-port interface module — supports one 100G CFP port. Includes port license.

Ordering Information

Options, Upgrades & Accessories

MOD-529X-ACMOD	Single (1) AC power module
MOD-529X-DCMOD	Single (1) DC power module
MOD-529X-FANMOD	Single (1) fan module unit
ACC-5293-FILTER	1 year supply of air filters for the 5293 chassis
ACC-5200-RBRACKET-19	4-Post 19" Bracket Extender 30"-42". Front brackets are included with system.
ACC-5200-RBRACKET-23	4-Post 23" Bracket Extender 30"-42". Front brackets are included with system.
LIC-529X-UPGRD	Upgrades licensed and unlicensed 1G SFP ports to 1G SFP+ ports. This provides customer the ability to enable 10G SFP+ port capability if they purchase 10G/1G SFP+ licenses. This upgrade also provides the ability to install 40G QSFP+ interface modules. NOTE: 10GE SFP+ and 40GE QSFP+ licenses are NOT included.

1GE Optical Licenses

LIC-P5200-G1D	1GE SFP Port — quantity One (transceiver not included)
LIC-P5200-G4D	1GE SFP Ports — quantity Four (transceiver not included)
LIC-P5200-G8D	1GE SFP Ports — quantity Eight (transceiver not included)
LIC-P5200-G15D	1GE SFP Ports — quantity Fifteen (transceiver not included)

10GE Optical Licenses

LIC-P5200-X1D	10GE SFP+ Port — quantity One (transceiver not included)
LIC-P5200-X4D	10GE SFP+ Ports — quantity Four (transceiver not included)
LIC-P5200-X8D	10GE SFP+ Ports — quantity Eight (transceiver not included)
LIC-P5200-X15D	10GE SFP+ Ports — quantity Fifteen (transceiver not included)

40GE Optical Licenses

LIC-P5200-Q1D	40GE QSFP+ Port — quantity One (transceiver not included)
LIC-P5200-Q4D	40GE QSFP+ Ports — quantity Four (transceiver not included)
LIC-P5200-Q8D	40GE QSFP+ Ports — quantity Eight (transceiver not included)

1GE to 10GE UPGRADE LICENSE

Ordering Information	
LIC-P5200-X1D-UP	Upgrade 1GE SFP port to 10GE/1GE SFP+ port - quantity One (transceiver not included)
Cold Spare Licenses	
LIC-5288-SPARE	Anue 5288/5293 Net Tool Optimizer - Cold spare system license
TRANSCEIVERS (NEBS Level 3 Certified)	
N-MM850	1GE sfp optical transceiver — sx 850nm (550 meters)
N-SM1310	1GE sfp optical transceiver — lx 1310nm (10km)
N-CGI	1GE sfp copper transceiver
N-MM850-PLUS	10GE sfp+ optical transceiver — sr 850nm (300 meters)
N-SM1310-PLUS	10GE sfp+ optical transceiver — lr 1310nm (10km)
ADVANCED FEATURE MODULE-16 (AFM16)	
MOD-P5200-X8D-ADV	8 x 10G Optical SFP+ Ethernet Port Advanced Feature Module
MOD-P5200-X16D-ADV	16 x 10G Optical SFP+ Ethernet Port Advanced Feature Module
LIC-P5200-X8D-ADV-UP	Upgrade MOD-P5200-X8D-ADV Advanced Feature Module to MOD-P5200-X16D-ADV.