

# ConSentry® LANShield™ Switch

## INTEGRATED SECURITY AND SWITCHING

ConSentry Networks delivers secure switching, enabling enterprises to control every user and secure every port on the LAN. The ConSentry LANShield platforms—the LANShield Controller and LANShield Switch—are purpose-built devices based on custom silicon, with the horsepower to provide access control on every flow. With ConSentry, IT can control who can get onto the LAN, monitor and restrict what users can do on the LAN, and prevent threats from disrupting network services or compromising data.



CS4048X LANShield Switch

The ConSentry LANShield Switch is a secure enterprise-class switch that makes it easy for IT to embed wire-speed security directly into the edge of the LAN infrastructure. It provides the full set of secure switching capabilities needed to protect enterprise assets:

- ◆ Network Admission Control (NAC)—authentication and posture check to control who can enter the LAN
- ◆ visibility—incident- and exception-based information, resolved to the username, at Layer 7 for common business protocols (e.g., file name, URL)
- ◆ identity-based control—role-based provisioning to control user activities on the LAN
- ◆ threat control—detect and block propagation of worms and other malware to prevent network meltdown

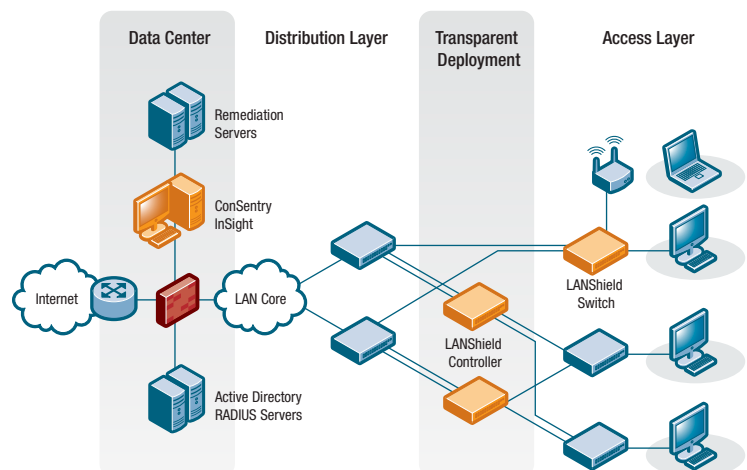
The LANShield Switch combines ConSentry’s custom LANShield silicon and security software with switching silicon to provide total per-port control and visibility without sacrificing performance. The ConSentry custom hardware includes a 128-core processor and programmable ASICs that perform deep packet inspection, provide security monitoring and control, and switch traffic at 10 Gbps. The programmability of the LANShield silicon enables ConSentry to keep pace with changes in applications and security requirements.

The LANShield inline architecture enables enterprises to monitor and control all user traffic with minimal impact on the existing infrastructure. ConSentry leverages existing OS authentication mechanisms, such as the Windows login. The LANShield devices enforce policy directly, without the need for new VLANs or ACLs in the network or new supplicants or agents on the clients.

### AN INTEGRATED APPROACH

The LANShield Switch sits in the wiring closet, connecting user machines into the core or distribution layer of the LAN. Because the switch hosts users directly, it sits in the optimal location for controlling user activities on the LAN and containing threats launched—accidentally or maliciously—from a user

The LANShield Switch is a 48-port gigabit Ethernet wiring closet switch offering per-port identity-based control.



machine. The LANShield Switch's per-port control contains peer-to-peer violations or worms to a single user rather than to all users connected to one uplink port.

The LANShield Switch provides integrated security without compromising on switch functionality. The LANShield CS4048X supports 44 copper-based gigabit ports, four SFP gigabit ports, and two 10 Gbps ports. Redundant fans and hot-swappable power supplies combined with network resiliency features such as link aggregation and rapid spanning tree ensure high availability at the edge. Optional 802.1af Power over Ethernet provides up to 15.4W of power for all ports.

**DEPLOYMENT OPTIONS AND IT INITIATIVES**

The LANShield Switch and LANShield Controller provide enterprises with options for deploying secure switching. The Controller sits behind existing switches, while the LANShield Switch provides integrated secure switching.

IT can leverage the LANShield Switch to support:

- ◆ authentication and posture check (agentless)
- ◆ guest/contractor access
- ◆ control over users at offshore and outsourced locations
- ◆ LAN segmentation for role-based control without VLANs
- ◆ protection for non-user devices such as VoIP phones, printers, robotics, or medical devices
- ◆ security for wireless, conference room, and remote users
- ◆ regulatory compliance with HIPAA, PCI, or S-Ox
- ◆ anomaly detection and malware control

**ConSentry LANShield Switch Product Specifications**

**Security Features—Leveraging LANShield OS**

**User / Machine Authentication Transparent Authentication Methods**

- ◆ passive Kerberos snooping to authenticate Windows Active Directory users, and Linux, Macintosh, and Novell via PAM modules
- ◆ passive 802.1X authentication snooping (RADIUS)

**Active Authentication**

- ◆ 802.1X authentication
- ◆ MAC address – RADIUS authentication
- ◆ web authentication via captive portal

**Rich Device Authentication**

- ◆ whitelisting of MAC/IP addresses and wildcards
- ◆ reverse DNS lookup

**Role Derivation**

**Place Users into Roles Based on:**

- ◆ RADIUS attributes
- ◆ Active Directory attributes
- ◆ physical location
- ◆ DHCP attributes
- ◆ system attributes
- ◆ time
- ◆ combination of above

**Identity-based Policy and Control**

- ◆ user group
- ◆ Layer 7 application detection
- ◆ Layer 7 application decode
- ◆ select application attributes
- ◆ destination port
- ◆ resource network zone (e.g., servers)

**Host Posture Check (optional)**

- ◆ dissolvable agent
- ◆ Windows 98-Vista, Linux, Macintosh
- ◆ compliance checks against 26 major firewall and AV vendors
- ◆ malware scanner with downloadable updates
- ◆ custom rules for file, registry, and process checking

**Threat Detection / Mitigation**

- ◆ zero-hour threat detection
- ◆ Denial of Service (DoS) attack detection
- ◆ no signature updates necessary
- ◆ drops malformed packets
- ◆ block by: physical port, SRC IP, offending application

**Enforcement Actions**

**Switch Settings**

- ◆ pass through – no security applied
- ◆ monitor – no enforcement applied
- ◆ protect – full security enforcement

**Flow Treatment Options**

- ◆ permit/deny
- ◆ policy-based mirroring
- ◆ logging to InSight
- ◆ logging to syslog

**Applications Monitoring**

- ◆ ties usernames to applications and security violations
- ◆ identifies applications and application content
- ◆ 300+ at Layer 4
- ◆ 30+ at Layer 7

**Centralized Visualization and Management through ConSentry InSight**

- ◆ centralized policy and role-derivation configuration GUI
- ◆ user and application usage repository on an embedded SQL DB
- ◆ real-time alert dashboard
- ◆ fully drillable forensics capability
- ◆ reporting with scheduler

**Logging and Reporting**

- ◆ direct syslog reporting
- ◆ detailed security log messages
- ◆ formatted for SIEM integration

**Switching Features—Powered by LANShield Silicon and OS Architecture**

**Performance**

- ◆ switching capacity: 101 million packets per second
- ◆ secure switching rate: 10 Gbps
- ◆ up to 200 authenticated users

**Layer 2/3 Features**

- ◆ 4,096 VLANs and 16,000 MAC addresses
- ◆ protocol VLAN (802.1v)
- ◆ port security (MAC address locking)
- ◆ mirror/monitor ports
- ◆ IGMP v1/v2 snooping
- ◆ static L3 routing

**Management and Control**

- ◆ inline and out-of-band Ethernet management
- ◆ industry-standard Command Line Interface (CLI)
- ◆ centrally managed by ConSentry InSight
- ◆ SNMP v1/v2c
- ◆ formatted syslog to multiple destinations
- ◆ Telnet / SSH / SNMP / TFTP
- ◆ administrator login through RADIUS or local DB

**Standards and Protocols**

- ◆ 802.1D Bridging
- ◆ 802.1D Spanning Tree
- ◆ 802.1Q/p VLAN Tagging and Priority
- ◆ 802.1w Rapid Spanning Tree
- ◆ 802.1S MSTP
- ◆ 802.1X Port-based authentication
- ◆ 802.3 10Base-T
- ◆ 802.3u 100Base-TX
- ◆ 802.3z 1000Base-SX/T
- ◆ 802.3ae 10 Gbps Ethernet
- ◆ 802.3af Power over Ethernet

**Physical Features—Optimized for High-Density Resilient Installation**

**Secured Interfaces**

- ◆ 44 x 10/100/1000 fixed copper ports
- ◆ four 1 Gbps SFP ports for fiber or copper links
- ◆ two XFP ports for 10 Gbps uplinks
- ◆ auto-media sense, auto-negotiate, auto-MDI/MDI-X

**Power and Management Interfaces**

- ◆ RS-232 DB9 connector management port
- ◆ RJ-45 10/100 Ethernet management port
- ◆ PoE DC power connector (on PoE model)

**Dimensions**

- ◆ 18.1 x 17.3 x 1.73 in.-1U (46 x 44 x 4.4 cm)
- ◆ rack mounting for 19-inch racks

**Weight**

- ◆ CS4048X: 21 lbs (9.53 kg)
- ◆ CS4048X-PoE: 15.94 lbs (7.23 kg)

**Operating Requirements**

- ◆ temperature: 32° to 104°F (0° to 40°C)
- ◆ humidity: 5% to 90%, non-condensing
- ◆ front-to-back airflow

**Power System—Standard**

- ◆ dual hot-swappable power supply
- ◆ 202W, 90-264VAC, 50-60Hz, auto-sensing

**Power System—PoE**

- ◆ single AC supplies both chassis and PoE power
- ◆ 470W, 90-240VAC, 50-60Hz, auto-sensing (270W available for PoE)
- ◆ Optional 470W external PoE power module

**Safety Certifications**

US: UL 60950-1; Canada: CSA C22.2 No. 60950-1, Mexico: NOM; Europe: EN 60950-1(2001); International: CB Scheme, IEC 60950-1

**Electromagnetic Emission Certifications (EMC)**

US: FCC Part 15 sub part B Class A; Europe: EN 55022 (1998) with Amendments A1 & A2(Class A), EN 55024 (1998) with Amendments A1 & A2, EN 61000-3-2, EN 61000-3-3; Japan: VCCI Class A; Australia: C-Tick; Korea MIC (EMC)

**Ordering Information**

Part No.	Description	Part No.	Description
CS4048X	44x10/100/1000 auto-sensing copper + 4 unpopulated 1 Gbps SFP cages + 2 unpopulated 10 Gbps XFP uplink cages. 2 hot-swappable AC PSUs, 1 Ethernet mgmt port, 1 serial DB9 mgmt port, 200 authenticated users.	CS4048X-POE	44x10/100/1000 auto-sensing fixed copper + 4 unpopulated 1 Gbps SFP cages + 2 unpopulated 10 Gbps XFP uplink cages. 1 AC PSU, 1 Ethernet mgmt port, 1 serial DB9 mgmt port, 200 authenticated users.
		CS-PWR-4048X	Optional— Spare hot-swappable PSU for CS4048X (not applicable to PoE version)
		CS-PWR-470	Optional— External 470W PoE power shelf for CS4048X-PoE redundancy (only applicable to PoE version)

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