

CM500™ Enterprise Storage Security System

The new standard for scalable, enterprise-class storage security



KEY BENEFITS

Modular platform for SAN-aware storage security services scales from

16 to 256 ports to meet the needs of the largest IT environments

Fully integrated, line-speed AES-256 encryption scales easily across enterprise-class storage environments

Simplified, single pane of glass management of all security policies and encryption keys

Carrier-class Fibre Channel switching functionality scales from 16 up to 256 ports

Fully redundant, highly reliable design supports automatic fault detection and recovery for non-stop computing

CipherMax Enterprise Architecture

CipherMax's CM500 Enterprise Storage Security System is the industry's most scalable, network-based platform for delivering intelligent, SAN-aware storage security from within the storage network. The CM500 supports from 16 up to 256 FC ports on modular line cards with a scalable switching fabric to create a system that can meet the needs of the most demanding enterprise storage environments. The CM's Intelligent Line Cards (ILCs) are equipped with high-speed encryption engines that provide line-speed processing of AES-256 data encryption for multiple connections. This integrated encryption processing enables the delivery of scalable, cost-effective storage security services for complex, high port-count storage environments.

For large-sized IT environments, this approach offers enormous benefits, such as simplified application management, higher performance, improved reliability, and dramatically reduced total cost of ownership. Combined with a single central management interface for system administration and key management, CipherMax delivers the only practical, manageable and affordable solution for securing sensitive data throughout heterogeneous, multi-tiered or distributed storage environments.

Flexible Deployment Options

Like all CipherMax systems, the CM500's multi-mode configuration options provide flexible deployment options to suit the requirements of individual locations. Configuration options include: Switching Mode that supports deployment as a full-featured core switching fabric; Discovery Mode that uses FSPF trunking to connect to the edge of an existing SAN fabric while automatically detecting

all devices, LUNs and zones within the SAN for easy configuration; and Controller Mode, which allows transparent connectivity and operation for easy installation and the highest level of interoperability.

High Availability and Performance

The CipherMax CM500 is equipped with fully redundant, hot-swappable elements to ensure uninterrupted operation. Its embedded system software supports non-disruptive software and hardware upgrades, and high availability clustering. Its carrier-class design provides redundant System Control Cards (SCCs), Switch Fabric Cards (SFCs), power supply modules and fans. Modular expansion slots support up to sixteen ILCs and 256 FC switch ports.

The CM500 chassis construction is designed to NEBS standards and provides full protection from EMI emissions. Each of the system's two active-active power modules can provide sufficient power to operate the system. Each system fan tray has sufficient capacity to cool a fully loaded system. All components are hot-pluggable and easily serviced from the front of the system.

Simplifying Management

The CM's GUI-based SANcruiser secure network management software has a powerful, feature-rich set of tools. The ability to easily manage all CM installations from a single pane of glass interface enables convenient deployment into remote locations without incurring any additional management resource overhead. SANcruiser software allows the entire SAN, including third-party interconnect devices, to be centrally viewed and managed. The intuitive and comprehensive UI allows the upgrades

of operating system, firmware, and BIOS of remote systems to be performed from a single location. SNMP-based communication and

industry-standard MIBs communicate with existing enterprise management software.

CM500 Enterprise Secure Security System Specifications

Components and Options

Base system chassis includes passive backplane, two power modules, two fan trays (six fans per tray), two System Control Cards (SCCs), and two Switch Fabric Cards (SFCs) with an optional third Switch Fabric Card. All cards and modules are front-loading and hot-swappable. Sixteen slots for Intelligent Line Cards.

I/O Connectivity

- **Intelligent Line Card ILC1612:** Sixteen 1-2Gbps Fibre Channel ports, up to 256 per chassis
- Self configuring ports (F_Port, E_Port, N_Port modes supported)
- **Media type:** Small Form Factor Pluggable (SFP) LC transceivers
- **Cabling:** Short wave (SW) and long wave (LW) SFP transceivers with multi-mode (50um and 62.5um) and single mode (9um) optical cabling respectively

System Control Connectivity

- 10/100BaseTX Ethernet port on front panel for system configuration
- One RS-232 serial port accessible on front panel

Security

- 256-bit AES encryption for disk security supports up to four 2Gb FC connections at full line-speed
- Software data recovery utility
- Simple and secure key management operations, including random key generation, secure key storage with integrity check and secure key backup and system recovery operations

Software

- Local console port with CLI for SAN and security administration
- Fibre Channel standard compliant services: Distributed name server, fabric services and FSPF protocol, hard and soft zoning, management server, distributed lock manager, zone server, fully distributed trunking
- Any number of ports can be grouped into interswitch link trunks
- FSPF trunking software ensures proper frame ordering with dynamic load balancing
- SAN access control with optional LUN masking and re-mapping functions
- SNMP agent and subagents including standard MIBs
- Remote console and CLI via SSH over 10/100BaseT management port
- Secure audit logging of configuration changes and policy violations with export via SFTP or syslog
- Audit log integrity check

- System and security events alerts via SMTP
- Non-disruptive software upgrades

System Monitoring

- Five temperature sensors on ILC and three on SCC and SFC card
- Fan and power module status detection circuitry
- Card ejector and SFP transceiver status monitoring

Management

SAN*Cruiser* SAN management software features with discrete interfaces for storage and security administration

Key Management

Key*Cruiser* key lifecycle management system for secure, automated backup and storage of automated backup of encryption keys and security configurations

Fault Management

Fault detection, notification and automatic recovery

Form Factor

20U enclosure, installable into standard 19" racks

Environmental

Operating temperature: -5°C to 40°C

Storage temperature: -25°C to 70°C

Relative humidity: 5% to 95% non-condensing

Weight and Dimensions

Base System Weight: 141 lbs (64 kg)

Line Card Weight: 4.4 lbs (2 kg)

Base System Dimensions: 35 in H 17.5 in W x 23 in L

Line Card Dimensions: 17 in W x 20 in L

Power

- Operating voltage: 200 to 240 volts AC; Current: 20 amps max; Power: 4000 watts max
- Requires two dedicated 220V, 30A circuits (NEMA L6-30R) for full redundancy
- System includes two NEMA connectors with mating cables

Regulatory

UL, FCC Part 15 Subpart B Section 15.109 Class A, CE (EN55024(1998), EN61000-3-2 (2001), EN61000-3-3 (1995 w/A1:98), EN55022 (1998) Class A, AS/NZS3548 (1995 w/A1 & A2:97) Class A, CISPR 22 (1997) Class A), BSMI (Taiwan), CB (IECEE)

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