Cisco Transaction Encryption Device (TED) IV

The Cisco® Transaction Encryption Device IV (TED IV) server provides a security feature for the Cisco Digital Network Control System (DNCS) that allows selective access to secured services such as broadcast video, impulse pay-per-view (IPPV), reservation pay-per-view (RPPV), and video-on-demand (VOD). This security feature, known as PowerKEY® Conditional Access, ensures the delivery of secure and authenticated services within service provider networks. Using the TED IV and PowerKEY encryption techniques, a service provider can secure the transmission of the content throughout the network and allow only the authorized subscriber to access the service.

PowerKEY is initialized on the DNCS and the TED IV server to validate access to secured services. Platform and application security is enhanced by the following features: TED IV a) does not deploy with a keyboard or monitor, b) is directly connected to the DNCS (TED IV has no network access), c) is not designed as a multi-user platform, and d) is accessible only by gaining Administrator or Security role on the DNCS. At power up, the TED IV will boot and run its application without user intervention.

The TED IV is built from a Cisco UCS C200 M2 server and includes the nCipher nShield 6000e hardware security module (HSM). TED IV servers run on Red Hat Enterprise Linux operating system version 5.5.

Figure 1. TED IV (image may vary from actual product and specification)

Figure 2. TED IV Front Panel with Closed Bezel (image may vary from actual product and specification)

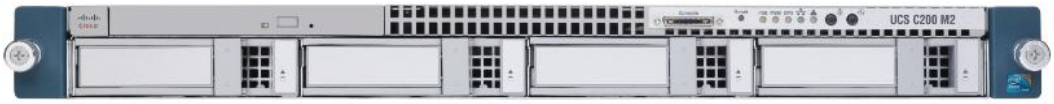

Table 1. Front and Top Panel Features with Closed Bezel

Feature	Description
Drives	Slim-line 24x SATA DVD-RW, 3x SAS/SATA 3.5 in. Hard Disk Drive
Indicators	System Status LED Panel, Operator Indicator Panel

Figure 3. TED IV Back Panel (image may vary from actual product and specification)

Table 2. Back Panel Features

Feature	Description
Connections-Interactive	10/100 Management Port (RJ-45), Serial Port (DB9), PCIe Low-Profile Slot, PCIe Standard Slot, Two USB 2.0 Ports, VGA port, Two 1 GBE (1000BASE-T)
Power Supplies	Two 650 W Power Supplies Power Cord: 125 VAC 13A NEMA 5-15 Plug, North America

Product Specifications

Table 3. Product Specifications

Specification	Value
Platform	Cisco UCS C200 M2 Server w/2 650W PSU, DVD-RW
Memory/Storage	
RAM	16 GB (4 x 4 GB DDR3-1333 MHz RDIMM/PC3-10600/single rank/Low-Dual voltage)
Hard Drive	3 x 450 GB SAS 15 K RPM 3.5 in. HDD, hot plug, 2 disk RAID + hot spare.
Processors	
CPU	Intel Xeon X5675 3.06 GHz /6 core/95W/12 MB cache/DDR3-1333 MHz
Mechanical Specifications	
Product Dimensions (H x W x D)	1RU: 1.7 in. x 16.92 in. x 27.8 in. (4.32 cm x 43.0 cm x 70.60 cm)
Mounting Rail Kit	Cisco R2XX-G31032RAIL rail kit works in racks with square holes or 10-32 round holes and measures 23.5 inches to 36 inches in length.
Product Weight	33 lbs (14.97 kg)
Environment Specifications	
Power Dissipation	For configuration specific power specifications, use the Cisco UCS Power Calculator: https://express.salire.com/Modules/Analyses/Edit/Analysis.aspx. As an example, using the calculator, we can determine the approximate power for the following C200 M2 server configuration: • Voltage = 115 VAC • Power Supplies = 2 • Processors = 1 CPU (Intel Xeon X5675 3.06 GHz) • Memory DIMMs = 4 x 4 GB • Disk Drives = 3 x 450 GB • RAID Card = 1 • PCIe Cards = Hardware Security Module (add 10W) The resulting power calculations are: • Idle Power = 172 W • 50% Load Power = 245 W • Max Power = 326 W
Temperature operating	10°C to 35°C (50°F to 95°F)
Temperature nonoperating	-40°C to 65°C (-40°F to 149°F)
Altitude operating	0 to 3,000 m (0 to 10,000 ft.); maximum ambient temperature decreases by 1°C per 300m
Humidity nonoperating	5 to 93%, noncondensing
Vibration nonoperating	2.2 Grms, 10 minutes per axis on each of the three axes
Shock operating	Half-sine 2 G, 11 ms pulse, 100 pulses in each direction, on each of the three axes
Shock nonoperating	Trapezoidal, 25 G, two drops on each of six faces ΔV: 175 inches per second ec on bottom face drop, 90 inches per second ec on other five faces
Safety	• UL 60950-1 No. 21CFR1040 • CAN/CSA-C22.2 No. 60950-1 • IRAM IEC60950-1 • CB IEC60950-1 • EN 60950-1 • IEC 60950-1 • GOST IEC60950-1 • SABS/CB IEC6095-1 • CCC*/CB GB4943-1995 • CNS14336 • CB IEC60950-1 • AS/NZS 60950-1 • GB4943

Specification	Value
Emissions	• 47CFR Part 15 (CFR 47) Class A • AS/NZS CISPR22 Class A • CISPR2 2 Class A • EN55022 Class A • ICES003 Class A • VCCI Class A • EN61000-3-2 • EN61000-3-3 • KN22 Class A • CNS13438 Class A
Immunity	Verified to comply with EN55024, CISPR 24, KN 61000-4 Series, KN 24
Electrostatic discharge	Tested to ESD levels up to 15 kilovolts (kV) air discharge and up to 8 kV contact discharge without physical damage
Acoustic	• Sound power: 54.7 dBA (5.7 Bels) at ambient temperature 23° C measured using the Dome Method • GOST MsanPiN 001-96

Ordering Information

Table 4. Ordering Information

Model	Description	Part Number
TED IV	Transaction Encryption Device IV for PowerKEY	DBDS-4042136

Notes:

1. Compatible with DNCS environments. TED IV requires SR 4.2 SP3 or later for North American Digital Broadband Delivery Systems, and i4.4.0.7p4 or i4.4.1.4p1 or later for International PowerKEY DVB systems.
2. Initialization of a new or replacement TED IV server requires that a Cisco employee must be on site to complete initialization procedures. Contact your account representative for charges or fees associated with this service.

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