Cisco 575 and 585 **Customer Premise Equipment** for Catalyst Long-Reach Ethernet Switches

The Cisco Long-Reach Ethernet solution meets the demands of high bandwidth applications while leveraging the existing copper wiring infrastructures. Catalyst® 2950 Long-Reach Ethernet (LRE) Series switches enables enterprise and service provider customers to extend intelligent services over existing phone and legacy wiring to distances up to 5000 feet. Cisco is the only company with the breadth of technologies that allow customers to deliver intelligent network services across any combination of wired and wireless infrastructures.

The Cisco Catalyst 2950 LRE solution delivers cost-effective, high-performance broadband access to enterprise campus environments and multi-tenant buildings (such as, hotels, apartment buildings, and office buildings). The Cisco LRE technology dramatically extends the reach of Ethernet up to 5,000 feet over existing Category 1/2/3 wiring at speeds from 2 to 15 Mbps symmetric. LRE co-exists on the same medium as Plain Old Telephone Service (POTS), digital telephone, and ISDN traffic and co-exists with asymmetric digital subscriber line (ADSL) in the same wire bundle, allowing service providers to provision LRE to buildings where broadband services already exist.

Enterprise

The Catalyst 2950 LRE enables enterprises to deploy productivity enhancing applications across their entire network without spending the time and cost of rewiring. Based on the market leading Catalyst 2950 Series, the Catalyst 2950 LRE is a familiar product for existing Cisco customers and allows networks to reach areas where it was previously not feasible due to wiring or distance limitations.

Metro Access

Ideal for metro Ethernet access in residential and small-office, home-office (SOHO) markets, the Catalyst 2950 LRE switches extend intelligence to the metro access edge, enabling service breadth, availability, security, and manageability while leveraging the existing in-building wiring. Featuring advanced rate limiting, voice virtual LAN (VLAN) support, and multicast management, these switches enable a variety of residential metro services such as Internet access, voice over IP (VoIP), and broadcast video.

Hospitality

The Catalyst 2950 LRE broadband networking solution enables hoteliers to deliver secure high-speed Internet access to guest and conference rooms to attract and retain business travelers. By deploying the Cisco LRE solution, hotel owners can future proof their buildings for a wide range of applications that will ensure operational efficiency and customer loyalty for years to come while avoiding the costs of rewiring.

Product Overview

Each LRE link is terminated with either the Cisco 575 or 585 LRE Customer Premise Equipment (CPE). Both CPEs are fully compatible with the Catalyst 2900 LRE XL and Catalyst 2950 LRE Series switches. Please refer to the Cisco Catalyst 2950 LRE, Cisco Catalyst 2900 LRE XL and Cisco LRE POTS Splitter data sheets for more information.

These compact devices bridge LRE and Ethernet, and provide one (575) or four (585) RJ-45 switched Ethernet connections and two RJ-11 connectors—one for the wall and one for a telephone. The Cisco LRE CPEs can be mounted on or under a desk, or on a wall. It ships with a mount lock-in mechanism and clip-on Ethernet cable guard to discourage theft, as well as an Ethernet cord (575 only). The Cisco LRE CPEs device supports POTS traffic—including ISDN or digital phones—that coexists over the same LRE line by splitting LRE and POTS traffic at the CPE device. A POTS Splitter is required for connectivity to the PBX and LRE switch stack.

The Cisco 575 and 585 LRE CPEs are managed remotely through Command Line Interface (CLI) on the LRE switches or through Cluster Management Suite (CMS). Ethernet statistics and Remote Monitoring (RMON) support are available from the switch for both CPEs. CPE Ethernet port configuration is readable via SNMP. The speed and duplex of the Fast Ethernet ports on the CPEs are configurable with the speed and duplex defaults set to auto-negotiate and half respectively. Both CPEs pass though 802.1Q tags but do not perform any tagging. The Cisco 575 and 585 LRE CPEs are hot-swappable without powering down the switch or disrupting the other switch ports. Customers cannot link two LRE CPEs back-to-back. Each LRE CPE must connect to an LRE switch port.

Cisco 575 LRE CPE Device

The Cisco 575 LRE CPE is a simple one-port bridge that translates LRE into Ethernet. The Cisco 575 CPE has one Fast Ethernet port and two RJ-11 connectors: one for the analog phone and one for the LRE link.

Figure 1 Cisco 575 LRE CPE Device

Cisco 585 LRE CPE Device

The Cisco 585 CPE has four switched Fast Ethernet ports allowing customers to connect multiple devices simultaneously. The 585 CPE also has two RJ-11 connectors: one for an analog phone and one for the LRE link (same as the 575 LRE). A section of the top of the 585 CPE is indented to allow customers to place customized labels, and the mounting templates on both the 585 CPE and 575 CPE are identical allowing customers to easily replace existing 575 CPEs mounted under desks with Cisco 585 CPEs.

The 585 CPE is targeted towards customers who intend to deliver converged voice, video, and data services to several devices such as computers, set-top boxes, IP phones, wireless access points, etc. In order to support converged services such as voice-over-IP and video-on-demand, the 585 CPE supports 802.1p Quality of Service (QoS) with two priority queues (threshold fixed at Class of Service [CoS] value of four) allowing voice and video traffic to be prioritized over normal data traffic. There are two queues on the switch inside the 585 CPE, and if tagged traffic is received on a Fast Ethernet port it will be placed in the high or low priority queue based upon tag. The 585 CPE does not tag any packets, and the individual Fast Ethernet ports cannot be on separate VLANs.

The 585 CPE supports Private VLAN Edge that isolates the Fast Ethernet ports ensuring that traffic travels directly from the entry point to the aggregation device through a virtual path and cannot be directed to another CPE Fast Ethernet port. The speed of the four Fast Ethernet ports is set to auto-negotiate, and the duplex is set at half. The CPE Ethernet ports can be enabled or disabled on a per-port basis when used in conjunction with the Catalyst 2950 LRE switches but not the Catalyst 2900 LRE XL switches.

Figure 2 Cisco 585 LRE CPE Device

Product Specifications

(See separate Cisco Catalyst 2950 LRE, Cisco Catalyst 2900 LRE XL and Cisco LRE POTS Splitter data sheets for Catalyst 2950ST-24-LRE, Catalyst 2950ST-8-LRE, Catalyst 2924-LRE-XL, Catalyst 2912-LRE-XL, and Cisco LRE POTS Splitter product specifications.)

Feature	Description
Performance	• Configurable up to 2000 MAC addresses (CISCO585-LRE) • Configurable maximum transmission unit (MTU) of up to 1,536 bytes
Management	• IF-MIB (RFC 1573) support for CPE Ethernet ports (read-only) • RMON-MIB (RFC 1757) support for CPE Ethernet ports (read only)
Standards	• IEEE 802.3x full duplex on 10BASE-T, 100BASE-TX ports • IEEE 802.1p class-of-service (CoS) prioritization (CISCO585-LRE) • IEEE 802.3 10BASE-T specification • IEEE 802.3u 100BASE-TX specification • RMON I and II standards
Y2K	• Y2K compliant
Connectors and Cabling	• Cisco 575 LRE CPE: One 10BaseT/10BaseTX port: RJ-45 connector; Telephony ports: Two RJ-11 connectors • Cisco 585 LRE CPE: Four 10BaseT/10BaseTX ports: RJ-45 connector; Telephony ports: Two RJ-11 connectors
Indicators	*Cisco 575 LRE CPE* • READY–CPE link to switch present • ACT–Ethernet activity • ETH–Ethernet link present • POWER–Power indicator *Cisco 585 LRE CPE* • READY – CPE link to switch present • ETH1–Ethernet link present port 1 • ETH2–Ethernet link present port 2 • ETH3–Ethernet link present port 3 • ETH4–Ethernet link present port 4 • POWER–Power indicator
Dimensions and Weight (H x W x D)	*Cisco 575 LRE CPE* • 1.7” (43.2 mm) x 5.0” (127 mm) x 6.0” (152 mm) (without cable guard) • 1.7” (43.2 mm) x 5.0” (127 mm) x 6.5” (165 mm) (with cable guard) • 0.5 lb (0.2 kg) (with cable guard and no cables) *Cisco 585 LRE CPE* • 1.7” (43.2 mm) x 5.9” (150 mm) x 6.8” (173 mm) (without cable guard) • 1.7” (43.2 mm) x 5.9” (150 mm) x 7.3” (185 mm) (with cable guard) • 0.75 lb. (0.3 kg) (with cable guard and no cables)

Feature	Description
Environmental Ranges	• Operating temperature: 32 to 113 F (0 to 45 C) • Storage temperature: –13 to 158 F (–25 to 70 C) • Operating relative humidity: 10 to 85% (non-condensing) • Operating altitude: Up to 10,000 ft (3,000 m) • Storage altitude: Up to 15,000 ft (4,570 m)
Power Requirements	• CISCO575-LRE: DC input voltages 5V @1A • CISCO585-LRE: DC input voltages 12V @1A • AC input voltage/frequency: 100 to 240 VAC (auto-ranging), 50 to 60 Hz
Mean Time Between Failure (MTBF)–Predicted	• Cisco 575 CPE: 943,831 hours • Cisco 585 CPE: 990,961 hours
Regulatory Agency Approvals	
Safety Certifications	• UL 1950/CSA 22.2 No. 950 • IEC 950/EN 60950 • AS/NZS 3260, TS001 • CE mark • CCC
Electromagnetic Compatibility Certifications	• FCC Part 15 Class • EN 55022 Class B (CISPR 22 Class B) • VCCI Class B • AS/NZS 3548 Class B • CE Mark • BCIQ • CCC

Ordering Information

Model Numbers	Configuration
CISCO575-LRE	• Cisco 575 LRE CPE device: One RJ-45 Fast Ethernet port and two RJ-11 ports
CISCO575-LRE-6P	• Cisco 575 LRE CPE device: One RJ-45 Fast Ethernet port and two RJ-11 ports (6 pack)
CISCO575-LRE-24P	• Cisco 575 LRE CPE device: One RJ-45 Fast Ethernet port and two RJ-11 ports (24 pack)
CISCO585-LRE	• Cisco 585 LRE CPE device: Four RJ-45 switched Fast Ethernet ports and two RJ-11 ports
CISCO575-LRE-6P	• Cisco 585 LRE CPE device: Four RJ-45 switched Fast Ethernet ports and two RJ-11 ports (6 pack)
CISCO575-LRE-24P	• Cisco 585 LRE CPE device: Four RJ-45 switched Fast Ethernet ports and two RJ-11 ports (24 pack)

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