Cisco Catalyst 4900M: Midmarket Collapsed Core/Distribution and Branch Deployments
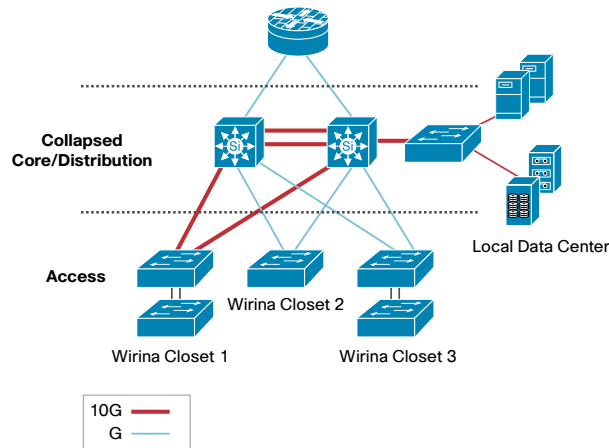
What Is the Value of the Cisco Catalyst 4900M Switch

Demands on every level of the network infrastructure are increasing. At the core of the network, bandwidth and performance demands are rapidly increasing with the deployment of media applications and centralization of data centers. The Cisco® Catalyst® 4900M provides a highly flexible, high-performance, wire-speed solution to meet these increasing network demands for a space-collapsed core, two-tier architecture in a small campus or branch office.

What Problems Does It Help Solve?

In local area networks with up to four or five wiring closets, a two-tier architecture is generally preferred. The two-tier architecture consists of an access layer and a collapsed core/distribution layer. See Figure 1.

Figure 1 Two-Tier Network Architecture

In this architecture core switches provide aggregation services and connectivity to the WAN and local data center and also provide the services typically provided by the distribution layer. This requires the core switches to be high performance, feature rich, highly reliable, and flexible to act as combined core and distribution switches.

The Cisco Catalyst 4900M

The Cisco Catalyst 4900M provides an ideal solution for space-constrained collapsed core deployments requiring a high-performance, comprehensive set of Layer 3 features; low latency; wire-speed services; high availability; and the modular flexibility for deploying Gigabit Ethernet and 10 Gigabit Ethernet, all in a small 2RU form factor.

Figure 2 Cisco Catalyst 4900M Base Unit

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The Cisco Catalyst 4900M is a two-rack-unit (2RU) semimodular switch with eight fixed wire-speed X2 ports on the base unit and two optional half-card slots for deployment flexibility and investment protection.

- **Interface flexibility:** Supports a wide range of copper and fiber Gigabit Ethernet and 10 Gigabit Ethernet connectivity, enabling customers to deploy a flexible mixed media core.

Figure 3 20-Port Wire-Speed 10/100/1000 (RJ-45) Half Card

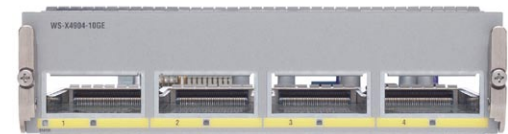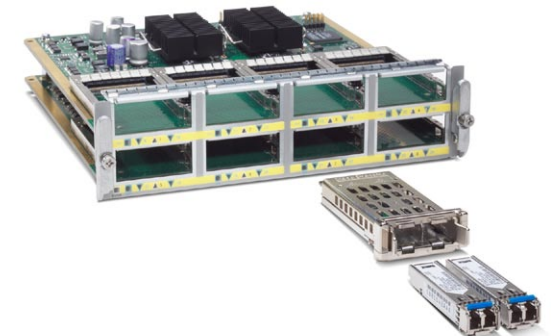
Figure 4 4-Port Wire-Speed 10 Gigabit Ethernet (X2) Half Card

Figure 5 8-Port (2:1) 10 Gigabit Ethernet (X2) Half Card (Cisco TwinGig Support up to 16GE Ports)

- **High performance:** With 320-Gbps and 250 million packets per second (mpps) forwarding capacity, the Cisco Catalyst 4900M delivers the wire-speed performance required in a collapsed core deployment. The Cisco Catalyst 4900M also offers one of the lowest switching latencies in the industry and scalable buffer memory to help ensure real time traffic does not get dropped.

- **Multilayer support:** Comprehensive set of Layer 3 Cisco IOS® Software Enterprise services and IPv6 in hardware. The Cisco Catalyst 4900M memory resources are also optimized for simultaneous IPv4/IPv6 deployment or migration.

- **High availability:** Supports extensive software high-availability features, hot line card insertion, 1+1 hot swappable AC or DC power supplies. and a field-replaceable fan tray.

Figure 6 Redundant Power Supplies

- **Simplified operations:** Supports file allocation table (FAT) file systems. System images can be updated directly through Windows-based machines with compact flash readers.

- **Investment protection:** Provides a broad range of wire-speed Gigabit Ethernet and 10 Gigabit Ethernet connectivity options to scale as business needs increase. TwinGig support provides added investment protection when migrating from Gigabit Ethernet and 10 Gigabit Ethernet.

Why Cisco?

Cisco is leading the way in providing intelligent networking solutions that better enable real-time applications such as IP communications and collaborative peer-to-peer applications. Whether in a campus of branch, Cisco Catalyst switches provide the scalability and investment protection for today's evolving customers.