



Overview

Cisco Catalyst 6500 Series: Optimize, Protect, and Grow Your Business Through Innovation Integration

The integration of advanced services and technologies within the Cisco® Catalyst® 6500 Series Switch offers innovative solutions that provide the business agility and operational efficiency you need to achieve your goals.

The Catalyst 6500 Series lays the foundation for enterprise networking innovation.

EXECUTIVE SUMMARY

Enterprise IT systems have become overly complex. As technologies and new applications have emerged over time, they have been bolted on as disparate systems, each with its own associated management and maintenance overhead. Combining this kind of complexity with the rapid pace of business evolution often leads to failure. Laying the right network foundation for integrated innovation is essential for anticipating business changes in the most efficient manner.

Businesses looking to become more competitive and productive demand their networks to be resilient and secure, and to do more with less. As requirements to protect, optimize, and grow the enterprise have extended from basic connectivity to a much higher level of intelligent service-based infrastructures, the network has evolved to provide an even greater value to the organization. The Cisco Catalyst 6500 Series provides the superior and scalable foundation to meet these requirements today and into the future.

CHALLENGE

Organizations large and small recognize that networks are the most strategic part of their IT infrastructure, but they have limited resources to keep pace with growing application requirements. As they continue to invest in costly business applications and broaden access to those assets, they run the risk of reaching the limits of a rigid network that lacks the ability to support more advanced requirements, to secure the network, and to scale new features and functionality across the network. Real-time, collaborative applications and communication tools (such as IP telephony, IP video, and e-learning) and technologies such as wireless LANs (WLANs) that expand the scope of a network offer opportunities to raise the employee productivity.

Providing greater access to more advanced applications across the extended enterprise puts new demands on the network:

- Demand for more capacity and better traffic optimization to support bandwidth-hungry applications while avoiding service degradation
- Demand for greater reach and mobility as organizations share their information assets across the extended enterprise
- Demand for greater protection against security threats at all levels

SOLUTION

Cisco Catalyst 6500 Series switches are market-leading modular LAN switches that continue to set the standard with continual innovations. The Catalyst 6500 Series integrates advanced network services and technologies to provide unmatched network resilience and nonstop innovation, two factors that strengthen, simplify, and extend the value of the network. Such network foundation promises better operational efficiency and faster response to business opportunities.

The Cisco Catalyst 6500 Series is a modular system that can grow as customer requirements expand and technology evolves, allowing businesses to upgrade and reconfigure systems by adding new modules, replacing existing modules, and adding and redeploying systems. Throughout the Cisco Catalyst 6500 Series, modules are:

- **Configurable**—Simplifying the addition of new services
- **Interoperable**—In the same chassis, providing flexible design options
- **Interchangeable**—Simplifying sparing and network expansion
- **Upgradable**—Providing investment protection

BUSINESS BENEFITS

Through a combination of hardware integration and Cisco IOS® Software, Cisco Catalyst 6500 Series switches provide a firm foundation for advanced network services. These integrated capabilities enable new applications and uses for the network, and they enable the campus LAN and data center to be more resilient, more secure, and more available. In sum, network integration contributes to optimizing, protecting, and growing your business. Compared to an aggregation of discrete devices from multiple vendors, integrated systems have been found to generate 29 percent savings in operating expense reduction, training, support, and integration (Sage Research, 2003).

ADVANCED INTEGRATED SERVICES MODULES

The Cisco Catalyst 6500 Series focuses on the following key areas for ongoing innovation with its service modules: application & content networking, seamless converged (Wired and Wireless) network, and integrated multilayer security.

Figure 1. Catalyst 6500 with VPN, Firewall, SSL, and NAM 2 Service Modules



Application and Content Networking

Application services optimize bandwidth and transactions so that employees have fast access to applications and data. Application acceleration also facilitates efficient, cost-effective companywide communications. Integrated services are a comprehensive, end-to-end strategy that can be centrally managed in the Cisco Catalyst 6500 Series.

- The Cisco Application-Oriented Networking Module can be installed in any Cisco Catalyst 6500 Series Switch to take full advantage of the switch's high availability, security, and traffic-management capabilities. It provides application-level intelligence, improves message visibility and security, and reduces total cost of ownership by consolidating elements of the network and application infrastructures and providing centralized management capabilities.
- The Cisco Content Switching Module integrates advanced content switching into the Cisco Catalyst 6500 Series to provide high-performance, high-availability load balancing of caches, firewalls, Web servers, and other network devices.

Seamless Converged (Wired and Wireless) Network

Providing greater access to more advanced applications across the extended enterprise has become a requirement as organizations share their information assets wherever they may be. Integrated wired and wireless service modules ensure high security, ease of deployment, management, and control for the enterprise over both the wired and wireless infrastructure.

- The Cisco Catalyst 6500 Series Wireless Services Module (WiSM) enables pervasive, campus-wide wireless services and is a central component of the Cisco Unified Wireless Network. Integrating WiSM into the Catalyst 6500 combines the best of the wireless and wired worlds, resulting in simplified wireless deployment and management, leading wireless security, maximum wireless scalability, and the highest levels of wireless availability.
- The Cisco Catalyst 6500 Series Communication Media Module provides flexible, high-density T1 and E1 gateways, allowing organizations to connect their existing time-division multiplexing (TDM) networks to their IP Communications networks, and providing connectivity to the public switched telephone network.
- The Cisco Catalyst 6500 Series Network Analysis Modules (NAM-1 and NAM-2) provide application-level visibility into the network infrastructure for real-time traffic analysis, performance monitoring, and troubleshooting. They also perform traffic monitoring with the embedded Web-based Traffic Analyzer.

Integrated Multilayer Security

The Cisco Catalyst 6500 Series is a key foundational component of the Cisco Self-Defending Network initiative. By securing the infrastructure and protecting users, servers, and the switch itself, the integrated security of the Catalyst 6500 Series provides the network's first line of defense. The modules of the Catalyst 6500 Series security solution address the major concerns of defending against threat, establishing trust boundaries and verifying identity, and securing business communications.

- The Cisco Catalyst 6500 Series Firewall Services Module allows any port in the chassis to operate as a firewall port and integrates stateful firewall security inside the network infrastructure.
- The Cisco Catalyst 6500 Series Intrusion Detection System Services Modules (IDSM-1 and IDSM-2) take traffic from the switch backplane at wire speed, integrating IDS functions directly into the switch.
- The Cisco Catalyst 6500 Series Traffic Anomaly Detector Services Module protects against distributed denial of service (DDoS) and other online assaults by quickly detecting attacks and automatically activating the Anomaly Guard Services Module to block attacks before business is adversely affected.
- The Cisco Catalyst 6500 Series Anomaly Guard Services Module delivers a powerful, extensive, and integrated solution for defending online applications and businesses, data centers, and the network infrastructure against increasingly complex and elusive DDoS attacks.
- The Cisco Catalyst 6500 Series IPSec VPN Services Module provides infrastructure-integrated IP Sec VPN services capable of 1.9-Gbps Triple Data Encryption Standard (3DES) performance, 8000 active tunnels, and up to 60 tunnels per second.
- The Cisco Catalyst 6500 Series SSL Services Module offloads processor-intensive tasks related to securing traffic, with Secure Sockets Layer (SSL) accelerating the performance and increasing the security of Web-enabled applications.

- The Cisco Catalyst 6500 Series WebVPN Services Module is a high-speed, integrated SSL VPN services module that addresses the scalability, performance, application support, and security required for large-scale, remote-access SSL VPN deployments.

WHY CISCO

Cisco recognizes that it is not enough to have a patchwork of point products, no matter how good each piece is. Disparate niche products can lead to interoperability and integration problems. Cisco offers functional integration of advanced network solutions that make business applications run better.

With the distinctive Cisco Catalyst 6500 Series, Cisco Systems takes an integrated approach to engineering intelligence, security, and management within the network. By providing the infrastructure to rapidly and cost-effectively deploy ongoing innovation, the Catalyst 6500 Series helps you protect your business assets and optimize applications and employee performance. Having a cohesive network solution delivers a more cohesive business operation. The result puts your company in a better position to take advantage of growth opportunities and create competitive differentiation.

FOR MORE INFORMATION

For more information about the advanced services and technologies integration of the Cisco Catalyst 6500 Series, visit:

<http://www.cisco.com/go/catalyst6500modules>

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