Cisco Catalyst Switching in Connected Real Estate

The Infrastructure for Building Management

At-A-Glance

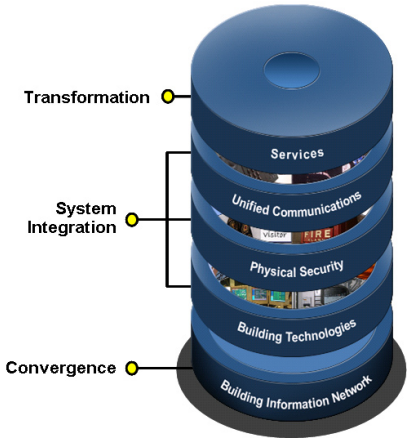
Why Should I Care About Connected Real Estate?

New trends are promoting the need for building transformation—trends such as globalization of the workforce, the drive for environmental and social responsibility, and a growing worldwide population. As user requirements evolve, buildings must adapt and change. Real estate professionals must take steps to transform the physical spaces of the future through technology innovation, delivering value-added, revenue-generating services while simplifying the processes that create buildings and developments.

Cisco® Connected Real Estate solutions benefit all stakeholders in the design, construction, and real estate industries, as well as the users and tenants of the final built environment. The network becomes an intelligent building infrastructure and the foundation for change in any development project—adding value to education, financial services, healthcare, government, commercial real estate, hospitality, and corporate real estate projects.

What Solutions Need to Be Deployed?

Figure 1: Cisco Connected Real Estate Architecture



As illustrated in Figure 1, Cisco Connected Real Estate delivers a set of transformational services to tenants of a connected building. Depending on the building's usage, these services could include such diverse use cases as virtual gate services in an airport or customized home entertainment in a multitenant apartment building.

The services are delivered on a system integration layer consisting of:

- **Unified communications:** Deploy IP telephony, video conferencing, rich media, collaboration, and productivity tools over the Cisco IP network
- **Physical security:** Deliver converged security applications, including video surveillance, access control, visitor management, and fire safety, over the Cisco IP network
- **Building management:** Monitor and administer HVAC, lighting, transportation, and energy management, wherever appropriate, over the Cisco IP network

Underlying and converging these sophisticated network services is the building information network. Typically, this network infrastructure is constructed with Cisco Catalyst® switches. The Cisco Catalyst 6500, 4500, 3750-E, and 3560-E Series Switches are important components of Cisco Connected Real Estate solutions. Table 1 illustrates some of the capabilities of these switches, which enable both the system integration and services layers.

What Are the Benefits of a Cisco Catalyst Switching infrastructure in a Connected Real Estate Network?

A Cisco Catalyst switching network can support:

- A networking infrastructure for engaging environments that inspire, provide comfort, improve productivity, and entertain
- Optimized space and physical asset utilization
- Improved infrastructure security and more scalable video surveillance systems
- Building management through tools such as Cisco EnergyWise, which can help lower energy costs

Cisco and Connected Real Estate

As the worldwide leader in business networking, Cisco provides:

- A comprehensive networking solution for all building needs
- Industry-leading partners and resellers to deploy and manage a turnkey offering
- A secure, adaptable, standards-based architecture that easily accommodates today's needs and future services while protecting network investments
- A long-term commitment to the real estate industry
- Proven best practices for deploying real estate industry network solutions, developed through close working relationships with real estate customers and industry groups

Additional Resources

Cisco Catalyst Switching: http://www.cisco.com/go/switching

Cisco Solutions for Connected Real Estate: http://www.cisco.com/web/strategy/trec/index.html

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Table 1: Relevance of Cisco Catalyst Switching to Connected Real Estate

Connected Real Estate Services	Cisco Solutions	Related Infrastructure Capabilities on Cisco Catalyst Switches
Building Services	• **Integrated Management:** simplified operations and troubleshooting to maintain network availability, reduce energy usage, and lower operational costs.	**Energy Management** • Cisco EnergyWise permits policy-based control of Power over Ethernet (PoE) devices and will be extended to control building management systems such as elevators, lighting, and HVAC. Cisco EnergyWise can potentially provide significant energy cost savings in building operations. **Device Management** • Integrated monitoring, management, and troubleshooting tools help minimize operation costs. • Embedded Event Manager to automate repetitive tasks and improve incident response time.
Physical Safety and Security	• **Identity-Based Network Security:** protected wired and wireless networks and endpoints, with Cisco Network Security embedded in all solutions. • **Wireless IP Surveillance:** integrated video surveillance, access control, and notification and response to protect people and assets.	**Integrated Network Security** • Protection for your building network from common intrusion or denial-of-service attacks with the Cisco Catalyst Integrated Security Toolkit. • Port-level identity security, restricting access to the building network to authorized and authenticated users. Can be integrated with building physical access systems. **Firewall Services Module (Cisco Catalyst 6500)** • Integrated virtual firewall services to restrict access to the building network and protect against common attacks. **Flexible Power Distribution** • Enhanced Power over Ethernet (ePoE) capabilities to provide inline Ethernet power to the newest class of IP video surveillance cameras (for higher resolution and pan/tilt/zoom) and wireless access points (for higher bandwidth and greater coverage area). Eliminates the need for costly rewiring and provides centralized power management.
Unified Communications	• **Unified Communications:** integrated voice, video, and data over a common IP infrastructure. • **Wireless Mobility:** proven mobility solutions that provide transparent connectivity through the connected building environment. • **Digital Media Systems:** centrally managed content for both administrative and security information on digital signage throughout the building.	**Optimized Intelligent Networking** • Industry-leading Cisco quality-of-service (QoS) capabilities help ensure deterministic behavior and prioritization of video, voice, and interactive traffic. • Integrated intelligence features such as SmartPorts and AutoQoS to automate prioritization of voice traffic. **High Availability for Critical Systems** • Cisco In-Service Software Upgrade and Cisco Nonstop Forwarding with Stateful Switchover on the Cisco modular switches can provide network recovery in the subsecond range to maintain the integrity of video and security systems. **Programmable Intelligent Services Accelerator (PISA – Cisco Catalyst 6500)** • Intelligent packet inspection and application recognition to help prioritize communications for building systems. **Wireless Services Module (Cisco Catalyst 6500)** • Centralized security policies; intrusion prevention capabilities; and fast, secure user session transfer between access points as users move about the building.

C45-531786-00 04/09