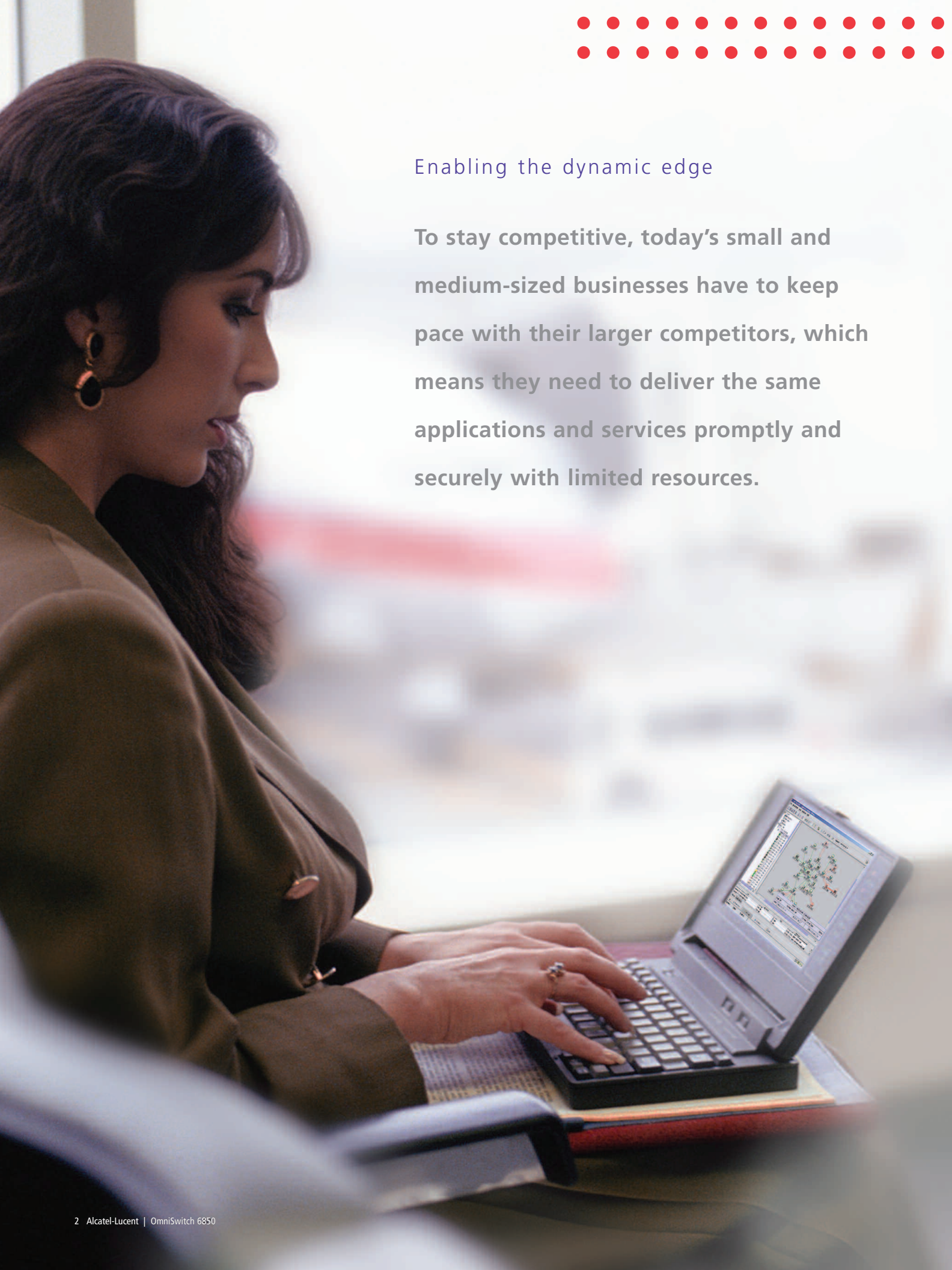


Alcatel-Lucent OmniSwitch 6400

Stackable Gigabit LAN Switch Family





Enabling the dynamic edge

To stay competitive, today's small and medium-sized businesses have to keep pace with their larger competitors, which means they need to deliver the same applications and services promptly and securely with limited resources.

Small enterprise network infrastructure needs are not much different than for large enterprises. However, the solutions implemented by large enterprise businesses often do not scale down. Smaller businesses want to deliver the latest services, but their network infrastructure is not up to the task and they are limited by budget, staff, and physical space for equipment.

Service providers, on the other hand, also face competitive challenges in the marketplace. Service providers must offer cost-effective residential and business Ethernet access services, while ensuring that their network is easy to configure, manage and troubleshoot with minimal operational intervention.



The Alcatel-Lucent OmniSwitch™ 6400 Stackable Gigabit Ethernet LAN Switch is a layer 2+ Gigabit Ethernet LAN switch for the converged voice, data and video network needs of small and medium sized businesses as well as residential and business Ethernet access service providers. The Alcatel-Lucent OmniSwitch 6400 provides: cost-effective, triple-speed user ports; an abundant feature set; sophisticated edge security for reliable service delivery; a small footprint; it's eco-friendly; and it offers easily managed resources.

Product overview

The Alcatel-Lucent OmniSwitch 6400 Stackable Gigabit LAN Switch family incorporates highly needed critical network functionality such as comprehensive redundancy, superior security and easy manageability.

COPPER MODELS



OS6400-24, OS6400-P24, and OS6400-P24H



OS6400-48, OS6400-P48, and OS6400-P48H

DIFFERENCES IN THE OMNISWITCH 6400 MODELS

Chassis	10/100/1000 or Gig	Combo Port*	10 Gig Stacking Ports	10 Gig Uplinks	Power Supplies Supported
Non-PoE Models					
OS6400-24	20 10/100/1000	4	2	-	Internal AC supply
OS6400-48	44 10/100/1000	4	2	-	Internal AC supply
OS6400-U24	22 Gig SFP **	2	2	-	Internal AC supply
OS6400-U24D	22 Gig SFP **	2	2	-	Internal AC supply
PoE Models					
OS6400-P24	20 10/100/1000	4	2	-	360W AC or 510W AC
OS6400-P48	44 10/100/1000	4	2	-	360W AC or 510W AC

FIBER MODELS



OS6400-24U and OS6400-24UD



The OmniSwitch 6400 interoperates with the Alcatel-Lucent OmniStack™ 6200 Stackable LAN Switch and the Alcatel-Lucent OmniSwitch 6850 Stackable LAN Switch product lines to create end-to-end solutions that meet the specific needs of small and medium sized businesses and service providers.

TABLE 1. COMPARISON OF SIMILAR ALCATEL-LUCENT PRODUCTS

	OmniStack 6200	OmniSwitch 6400	OmniSwitch 6850
Ports	12/24/48-port versions	24/48-port versions	24/48-port versions
Interfaces	10/1000	10/100/1000	10/100/1000
Uplinks	GigE	GigE	10 GigE
Stacking	GigE	10 GigE	10 GigE
PoE	Yes	Yes	Yes
Features	L2 Switching	L2+, Basic L3	Advanced L3

High performance and comprehensive redundancy

For a business to keep its competitive edge the network must operate continuously, reliably and securely to deliver services to employees who use it for day-to-day business functions. To ensure network resiliency, the Alcatel-Lucent OmniSwitch 6400 switches are designed with comprehensive redundancy that eliminates any single point of failure. To maintain availability the OmniSwitch 6400 is equipped with wire-rate 10/100/1000 switching and routing, redundant stacking links, and quality of service (QoS) to ensure real-time data is processed promptly.

OmniSwitch 6400 key performance and redundancy features:

- Advanced layer 2+ features with basic layer-3 routing for both IPv4 and IPv6
- Triple-speed (10/100/1000) user interfaces and Gigabit Ethernet fiber interfaces (SFP) supporting 100BaseX or 1000BaseX optical transceivers
- Wire-rate switching and routing performance
- High availability with virtual chassis concept, redundant stacking links, primary/secondary unit failover, hot-swappable power options and configuration rollback





ADVANCED SECURITY

With the rising costs of connectivity, businesses are increasingly turning to the Internet to provide connection to their remote sites and workers. When connecting to a public network such as the Internet, the business faces significant security threats from external sources. Additionally, laptops are extremely susceptible to malicious infections when used on non-corporate networks, making it easy to pollute the rest of the enterprise should a laptop become infected and reconnected.

Therefore, enterprises need automated, standards-based security tools and applications to be integrated in the edge switch where they can actively mitigate internal and external threats. The OmniSwitch 6400 extends comprehensive security to the edge of the network by utilizing the Alcatel-Lucent Access Guardian™ and Alcatel-Lucent OmniVista™ Quarantine Manager™, the Alcatel-Lucent multi-layered set of deterrent tools with proactive and reactive capabilities to meet these threats.



ALCATEL-LUCENT ACCESS GUARDIAN

The Alcatel-Lucent Access Guardian is a network access security framework that enables network-wide and user-based security by automatically detecting and authenticating the 802.1X and non-802.1X supplicants connected to a single port, in any combination. This provides users proactive security by preventing unauthorized network access or restricting access for remediation. In addition to improved network security, the Alcatel-Lucent Access Guardian reduces to zero the time a network administrator spends for adding or moving users.



ALCATEL-LUCENT OMNIVISTA 2770 QUARANTINE MANAGER

In addition to proactive security provided by the Alcatel-Lucent Access Guardian, the Alcatel-Lucent OmniSwitch 6400 provides reactive security by immediately notifying the Alcatel-Lucent OmniVista Quarantine Manager when an attack is detected and then swiftly handling the attacker through automatic containment and remediation as directed by the network management system.

The Alcatel-Lucent OmniSwitch 6400 key security features are:

- Auto-sensing network access control through the Alcatel-Lucent Access Guardian™ framework (802.1X, MAC, rules)
- Automated containment and quarantine with the Alcatel-Lucent Quarantine Manager integrated in Alcatel-Lucent OmniVista Network Management System (NMS)
- Advanced QoS and access control lists (ACLs) for traffic control



FLEXIBILITY AND SIMPLIFIED MANAGEABILITY

Ease of network manageability is another key factor for service providers and enterprises to make sure they can provide service-level agreement (SLA) guarantees to their customers in the most efficient, cost-effective manner. The Alcatel-Lucent OmniSwitch 6400 family of switches offers an across-the-board management solution incorporating the Alcatel-Lucent Operating System (AOS) command line interface (CLI), Alcatel-Lucent WebView™ GUI interface, and support for the Alcatel-Lucent OmniVista™ network management system (NMS). In addition, the OmniSwitch 6400 has support in the Alcatel-Lucent 5620 Service Aware Manager™ (SAM) allowing service providers to continue to manage their network from a single interface. This combination of network management support enables operational consistency, web-based configuration, and allows enterprises and service providers to automate and simplify their operational procedures for administering their networks.

The OmniSwitch 6400 key features for ease of use and deployment are:

- Choice of 24 ports, 48 ports, power over Ethernet (PoE), non-PoE and fiber models
- Scalability from 24 to 380 ports by stacking up to eight units with dedicated stacking ports
- AOS field-proven software with management through web interface (WebView), CLI and Simple Network Management Protocol (SNMP)
- Ethernet OAM support for service configuration and monitoring
- Support by Alcatel-Lucent OmniVista 2500/2700 Network Management System (NMS)
- Alcatel-Lucent 5620 SAM applications (for service providers)

With an optimized design for flexibility, scalability and low power consumption, the OmniSwitch 6400 runs the field-proven AOS, providing an outstanding edge solution for highly available, self-protective, easily managed and eco-friendly networks.



KEY BENEFITS:

- Always-on robust infrastructure, optimal response time for users and applications, investment protection
- Edge network security and control allowing business continuity and preventing network outages
- Scalable and versatile configuration with effortless deployment meeting the preferences of mid-size enterprise and branch offices, service providers and small businesses
- Insurance for interoperability, traffic optimization and SLA conformance
- Green IT - promotes eco-sustainability

APPLICATION SCENARIOS

The Alcatel-Lucent OmniSwitch 6400 Stackable Gigabit Ethernet LAN Switch is designed to fit into almost any network edge environment, providing a highly developed suite of functionality designed to transport all Ethernet traffic consistently, quickly, and securely. Solutions that will most certainly benefit from this versatile LAN switch are:

- Small business converged networks
- Mid-sized enterprise and branch office workgroups
- Residential and business Ethernet access services

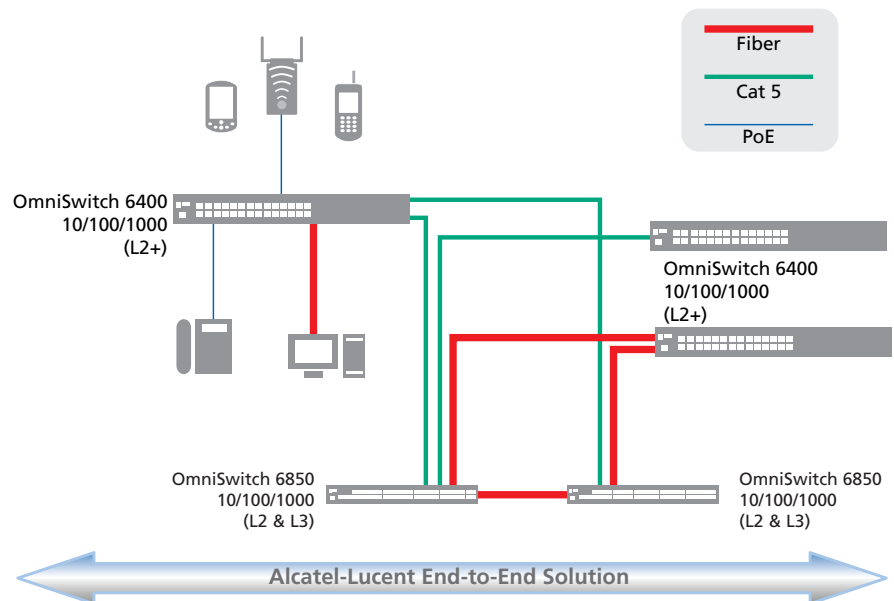
What follows are some examples of deployment scenarios.

ENTERPRISE MID-SIZED CAMPUS

In the mid-sized campus deployment scenario (Figure 1), the core of the network is built using the advanced Alcatel-Lucent OmniSwitch 6850 Stackable LAN Switch (SLS) or the Alcatel-Lucent OmniSwitch 9000 Chassis LAN Switch family, with each network leg terminated by an OmniSwitch 6400, the perfect access solution where a compact, flexible, scalable edge switch with gigabit speeds is required. Additionally the OmniSwitch 6400, along with the other Alcatel-Lucent data portfolio products, delivers advanced security such as admission control and intrusion containment at the edge when comprehensive network protection is required for each user connection. The OmniSwitch 6400 delivers end-to-end management capability with the Alcatel-Lucent recognizable CLI, web interfaces and NMS, allowing quick integration into the existing network.



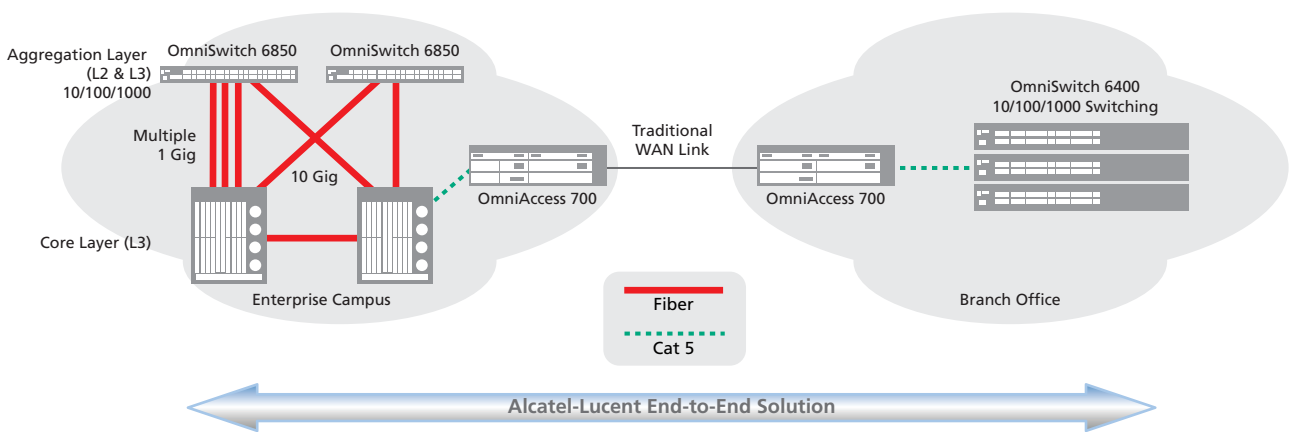
Figure 1. Mid-sized campus deployment



ENTERPRISE BRANCH OFFICE

In the enterprise branch office scenario (Figure 2), the branch office is connected to the enterprise core by being coupled with the OmniAccess™ 700 Unified Services Gateway (USG) WAN access router. The OmniAccess 700 USG provides secure connectivity back to the corporate enterprise and the OmniSwitch 6400 provides secure user access. In this scenario, the OmniSwitch 6400 distributes all business-critical end-to-end solutions for each individual located in the branch office. The OmniSwitch 6400 is again an ideal access solution where a compact, flexible, scalable switch with gigabit speeds is required.

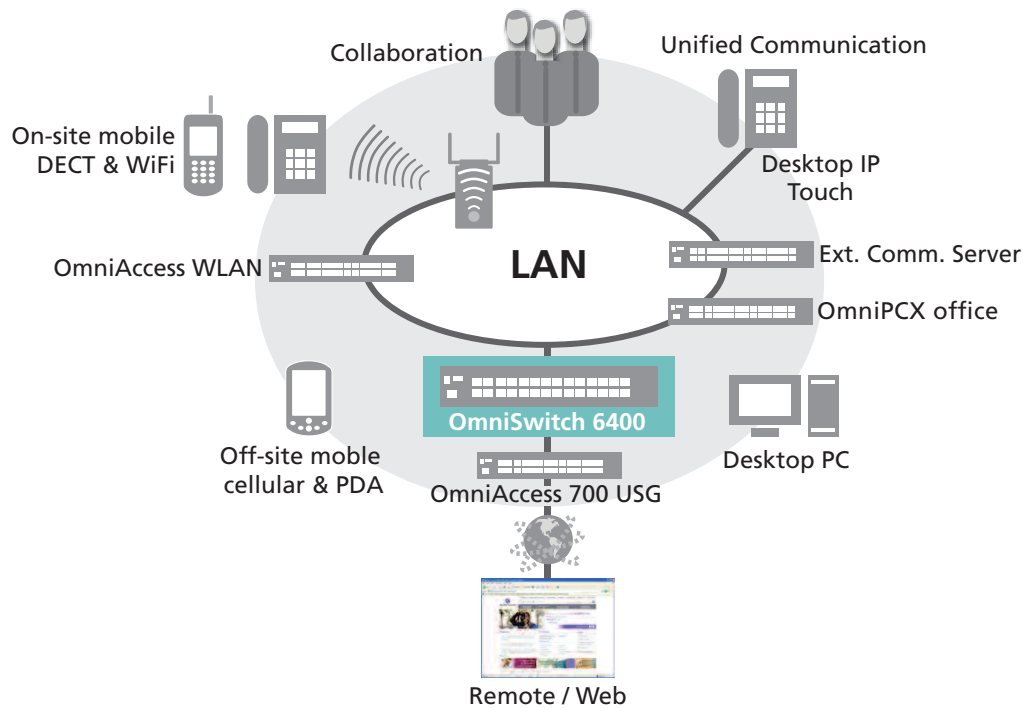
Figure 2. Enterprise branch office deployment



SMALL BUSINESS SOLUTION

The Alcatel-Lucent OmniSwitch 6400 is a cost-effective, gigabit, triple-play solution to address the worldwide needs of small- and medium-sized businesses. In the small business scenario (Figure 3), Alcatel-Lucent Office Anywhere provides enterprise networking, telephony, Internet communication, mobility and collaboration over broadband connections. Bundled with the Alcatel-Lucent OmniPCX™ Office Communications Server and other core small and medium sized business products, the OmniSwitch 6400 offers advanced layer 2+, basic routing and security features that ensure optimal delivery for converged voice, video and data services.

Figure 3. Small business deployment



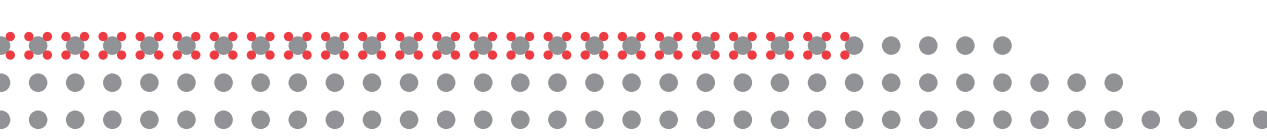
Key features for mid-size enterprise, branch or small business scenarios are:

- Path to Gigabit Ethernet at the LAN edge
- Expandable and flexible media options with PoE, non-PoE and fiber ports
- Four combo ports individually configurable for connectivity to the data center

- Scalable workgroups up to 384 10/100/1000 ports in a single stack
- Compact fixed form factor design suitable for closets
- Wire speed layer 2+ and basic layer-3 switching
- Intelligent, secure, and available networking for demanding applications

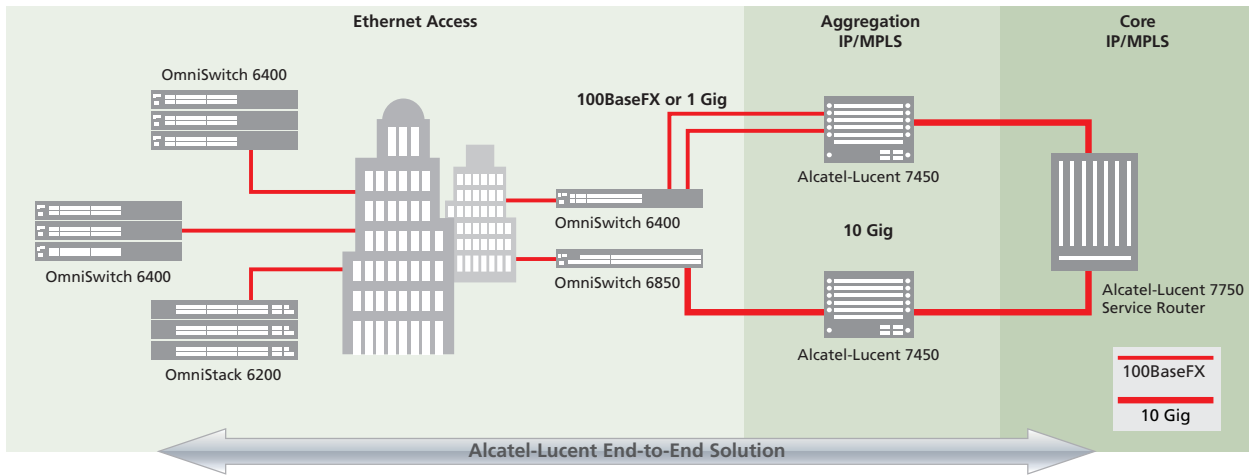
ETHERNET ACCESS - RESIDENTIAL AND BUSINESS ETHERNET SERVICES

Ethernet access service installations are on the rise globally and an increasing number of service providers are offering fully managed metro Ethernet services extended to the customer premises. The Alcatel-Lucent OmniSwitch 6400 is perfectly engineered for single and multi-tenant unit deployments. In this scenario (Figure 4), the OmniSwitch 6400 located in the intermediate distribution frame (IDF) within the multi-tenant location is coupled with the Alcatel-Lucent 7750 Service Router (SR) and the Alcatel-Lucent 7450 Ethernet Service Switch (ESS) via Gigabit Ethernet (GigE). The other OmniSwitch 6400 switches shown are deployed as customer premise equipment (CPE) or as single tenant units (STUs) or multiple tenant units (MTUs), thereby creating a total Alcatel-Lucent solution offering end-to-end transport of data, voice and video for triple-play networks in single and multi-tenant unit deployments.



The Alcatel-Lucent residential and business Ethernet services solution, which includes the OmniSwitch 6400, offers a fully managed, granular end-to-end SLA fulfillment strategy coupled with a standards-based Ethernet Operations, Administration and Management (OAM) facility extending all the way into the customer premises. The AOS features provided by the OmniSwitch 6400 offers service providers all the tools necessary to fulfill the demand for user-differentiated high-speed Internet, voice and video services, as well as, resiliency, performance, secure access and traffic control. The OmniSwitch 6400 family is MEF 9 and 14 certified, meaning these systems meet Metro Ethernet Forum (MEF) standards for end-to-end Ethernet access for residential and business deployments.

Figure 4



- The key features for residential and business Ethernet access services are:**
- Optimization for Ethernet access services
 - Virtual local area network (VLAN) stacking
 - IPTV multicast VLANs
 - Ethernet OAM support for service configuration and monitoring
 - MEF 9 and MEF 14 compliance

SERVICE AND SUPPORT

The OmniSwitch 6400 commercial models are offered with a lifetime hardware warranty limited to the original owner and up to five years after the product's End-of-Sales announcement.



Alcatel-Lucent OmniSwitch 6400



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