



# THE COST-EFFECTIVE, APPLICATION FLUENT APPROACH TO NETWORK CONVERGENCE

ALCATEL-LUCENT CONVERGED NETWORK SOLUTION



## THE CORPORATE NETWORK IS UNDER PRESSURE

Today, corporate networks are facing unprecedented challenges caused by three trends: the need to deliver mission-critical, real-time applications; the explosion of new devices such as IP desk phones, video surveillance smart boards, — and integration of employee devices not under corporate control; and virtualization technologies on the desktop, in the data center and in the cloud.

All three drive up bandwidth demands, pushing legacy networks to their limit. New smart devices combined with mobility increase the pressure, making it difficult to predict bandwidth consumption, and virtualization squeezes the network from the inside. As IT groups consolidate servers to save costs, it creates increased demand for raw bandwidth and requires the network to automatically react to the needs of virtualized systems — something legacy networks were never designed to do.

These issues have highlighted the need for a new approach to create a network that can:

- Deliver a high-quality user experience for voice and video through a resilient architecture, with fast reconvergence time, minimal jitter and latency, and the ability to selectively allocate bandwidth to specific applications
- Accommodate user and device mobility with a high degree of integration between the wired and wireless LAN
- Free the IT staff from the daily struggle by being far easier to manage and maintain than legacy networks
- Handle all these challenges in a cost-effective way

## THE ALCATEL-LUCENT APPLICATION FLUENT CONVERGED NETWORK SOLUTION

Alcatel-Lucent Enterprise brings its application fluent approach to provide a complete converged network solution that includes market-leading resiliency, switching capacity, high port density and low power consumption. This enables enterprises to provide a high-quality user experience for real-time applications across all devices, and to streamline operations while significantly reducing costs.

This solution delivers innovation with a simplified, flatter network and network virtualization technology to remove complexity, improve resiliency and optimize network resource utilization. Embedded security at the edge and the network core ensures that users and corporations are secured while reducing the operational complexity associated with many security systems. Alcatel-Lucent's solution also provides a long term sustainable design, as the equipment shipped today already supports IPv6 and is ready to support 40GigE, 100GigE and the continued convergence of LAN and WLAN without any hardware change out.

As an application fluent network, this converged solution features the user network profile (uNP) which captures user and device prioritization, switch provisioning, quality of service (QoS) and security requirements. The uNP ensures the network fluently understands and dynamically controls what is needed for a secured high quality end user experience.

A high quality user experience is also achieved with the ability to recover from switch and link faults without impacting application performance, unique tuning of network performance for quality real-time application delivery, and built-in security. Streamlined operations result from low touch operations with automated provisioning of edge switches, endpoints and integrated carrier class troubleshooting tools. Reduced capital and operating costs are achieved with a flatter network that makes better use of switch and network links through network virtualization technology, requires less equipment, and lowers operational costs due to market leading low power consumption.

Let's see what this means in a typical deployment.

## DEPLOYMENT SCENARIO

Company X has a single site with less than 1000 employees, and needs to deliver voice, video and collaboration applications to a full range of devices, including employee-owned smart phones and tablets. The IT team is currently pushed to maintain a quality user experience, and the company wants to free team members up and enable better use of their time across a range of corporate priorities.

The Alcatel-Lucent converged network saves money over typical solutions from the beginning, with a simplified two-layer architecture that has only the core and access layers. A high-density 10 Gigabit Ethernet (GigE) Alcatel-Lucent switch in the network core and virtualized technologies eliminate the need for a distribution layer, which is integrated into most networks simply to overcome switching limitations.

This architecture provides a fully redundant and resilient network with a very fast reconvergence time. It is able to recognize users and devices and automatically adjust the network configuration in order to provide quality real-time application delivery. The access layer features 1 GigE switches with 10GigE uplinks. It anticipates the coming convergence of wired and wireless access with wireless access points attached to the access switches. This extends the access layer to wireless devices on each floor or building section, as needed.

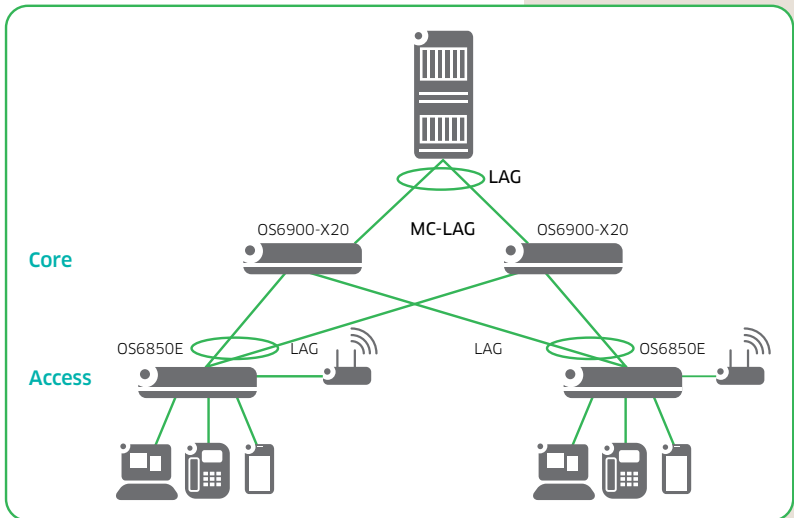
The access layer switches also include stacking technology that enables all stacked switches to be managed as a single node.

The switches used in the Alcatel-Lucent converged network feature the industry's lowest power consumption, dramatically reducing energy costs when compared to typical network solutions.

Company X is able to directly connect its 10GigE server farm to the network core, using MC-LAG for redundancy.

Energy consumption from competitors can be as high as 70% more than the Alcatel-Lucent Converged Network.

Solutions from our two largest competitors have a 40% higher cost of ownership.

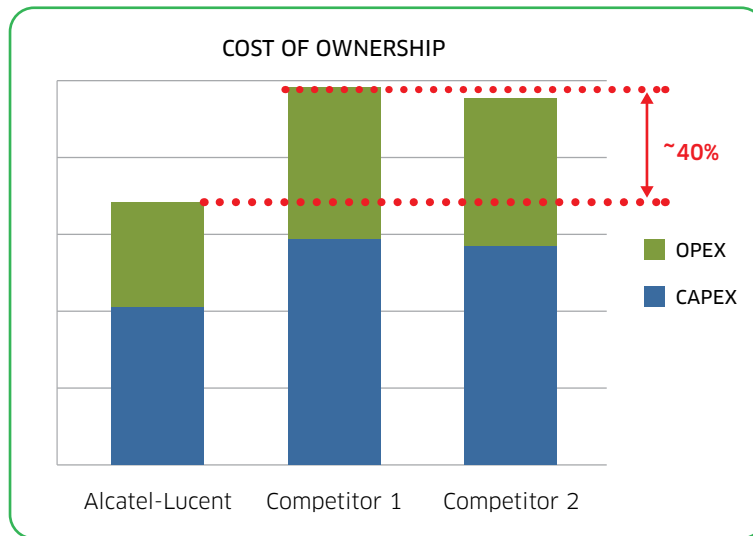


# HOW COMPANY X SAVES MONEY BY CHOOSING THE ALCATEL-LUCENT SOLUTION

Because this architecture requires less equipment than a typical converged network, the company was able to accomplish its goals with a reduced capital outlay.

With streamlined management and operations, the IT staff is available for other projects that make the business run more effectively.

This Alcatel-Lucent solution offers the lowest power consumption in the industry. If Company X choses a similarly sized solution from one of our two largest competitors, they would spend up to 70% more in energy costs.



\* Analysis based on user cases with 10GigE core, 1 GigE access and number of users ranging from 800 to 5000  
 \*\* Cost of Ownership includes equipment cost, maintenance, power & cooling over a 5-year period

Because this architecture anticipates coming changes and already supports future technologies, Company X will be able to keep up with evolving demands without changing hardware. In fact, by choosing an Alcatel-Lucent converged network solution rather than a solution from one of the two largest vendors in the market, Company X:

- gets the performance it needs
- makes the best use of all its IT and network resources
- is already prepared for the next technological advances
- achieves faster ROI

To get a solution to serve an equal number of users from a competitor, Company X would have a cost of ownership that's as much as 40% higher than the Alcatel-Lucent Converged Network Solution.

To discover a converged network that maximizes ROI and minimizes ownership costs, visit [www.alcatel-lucent.com/enterprise](http://www.alcatel-lucent.com/enterprise).

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