

AGING COMMUNICATIONS SYSTEMS: RISKS AND OPPORTUNITIES

A TACTICAL APPROACH TO ENTERPRISE COMMUNICATIONS TRANSFORMATION

STRATEGIC WHITE PAPER

After several years of little to no investment in IT infrastructure, enterprise communications equipment is aging: performance is degrading and operations-support costs are increasing. Aging communications systems cannot support the video, mobility and unified communications and collaboration capabilities that enterprises may require.

Alcatel-Lucent helps businesses transition to new enterprise communications systems. Working with Alcatel-Lucent, enterprises identify reusable components of their in-service system and make strategic investments in technologies that meet business and user needs.

The Alcatel-Lucent OpenTouch™ Suite allows enterprises to reuse many components of their legacy PBX infrastructure when they transition to a new communication platform, such as IP telephony and SIP-based multimedia communications – and to transition at their own pace. The OpenTouch Suite offers multimedia services, including video, mobility, and unified communications and collaboration, to meet the communication demands of today's businesses.



TABLE OF CONTENTS

The state of IP telephony in the enterprise / 1

The myth that old systems are inexpensive / 2

What enterprises need to do / 2

The strategic approach / 3

The Alcatel-Lucent Proposition / 5

CONCLUSION / 8

ACRONYMS / 9

REFERENCES / 9

THE STATE OF IP TELEPHONY IN THE ENTERPRISE

Enterprise telephony systems are aging but the current economy does not make replacements or upgrades easy. After a dramatic decrease in 2009, IT spending worldwide is now on the upswing. However, revisions in forecasts to the overall GDP growth rate for the coming years suggest this recovery is fragile¹.

The private branch exchange (PBX) and office phone-set markets are experiencing the same trend, with an overall compound annual growth rate (CAGR) of less than four percent expected from 2012 to 2016². This market was expected to shift rapidly from TDM to IP; however, the transition has stalled over the past five to ten years.

The average enterprise telecommunications system life cycle is five to seven years, starting in 2000 (with the Y2K issue). The last five years were predicted to be one of the most active for telecommunications renewals, corresponding with trends such as bring your own device (BYOD), “appification³”, “softwarization⁴” and new go-to-markets based on cloud technologies.

Even though the adoption of new technologies based on unified communications and collaboration (UC&C), video and mobility has been increasing since 2011⁵, this move did not occur as fast as expected because:

- The transition was viewed as complex, requiring multiple technologies that are sometimes costly and difficult to integrate.
- There was no firm proof that deploying UC&C would provide a return on investment (ROI).
- Many organizations delayed making capital investments to their networks during the poor and uncertain economic conditions of recent years.

For several years, during difficult economic times, many organizations have challenged their IT organization’s requests to invest in new equipment to keep pace with the evolution of networking. Businesses have shown reluctance to introduce new innovations in their network, preferring to work with the existing infrastructure. Consequently, many enterprise communications systems are ageing to the extent they are impacting business operations.

1 Gartner, *Forecast Overview: IT Spending, Worldwide, 2009-2016, 1Q12 Update*, May 2012.

2 Dell’Oro, *ET24A Enterprise Telephony Forecast Report*, January 12, 2012 and ET01A Enterprise Telephony Report 1Q12 for updates and growth rates revision.

3 Appification is the growing trend to create applications to respond to needs and opportunities.

4 The PBX industry is transforming from offering dedicated hardware and proprietary software, embedded in the network, to providing pieces of software that can be deployed on industry-standard servers, and eventually, virtualized on virtual machines. This process is called softwarization.

5 According to IDC, 49 percent of enterprises have adopted unified communications. Sources: IDC, *Unified Communications 2012 Top Predictions*, 2011 EMEA Attitudes Towards Managed Unified Communications WAN Manager Survey, 2012 EMEA Unified Communications and Collaboration Technology Maturity Bell Curve.

THE MYTH THAT OLD SYSTEMS ARE INEXPENSIVE

Many believe there is no need to replace aging systems as long as they are operational. This view neglects changes to business needs since the initial technical investments were made. Also, IT departments must try to provide new services using the older technologies that were not designed to support them.

This perspective does not take into account changes to the business and new demands those changes make on the technology infrastructure. IT departments are faced with trying to roll out new services on aging equipment that was not designed to support them.

Underestimated costs

The likelihood of equipment failures increases with aging, and failures are costly. Once equipment reaches end-of-life, no service level agreement (SLA) agreements for the equipment are available. Without a service contract, the business has no guarantee of resolution time or level of priority the equipment supplier will give if an issue arises. If the business needs to contact the supplier to resolve an issue, it will pay the highest price to open a case. Full prices in the industry can range between \$4,000 and \$10,000 per case, depending on the complexity. Therefore, operating services on equipment that has no service contract imposes unnecessary risk on the enterprise.

As new standards evolve and business systems are updated, the enterprise also runs the risk that IT will not be able to implement applications built on top of the aging system. New standards and protocols will not be compatible with the integration interface of the enterprise's aging system.

If aging systems cannot support the new features the business wants, such as personal and professional contacts integration and rich application integration, employees may begin using their corporate cell phones instead, inside the enterprise, increasing corporate expenses.

WHAT ENTERPRISES NEED TO DO

Identifying the right time to invest in new enterprise telephony equipment is a difficult task. Each enterprise will need to do a cost-benefit analysis, comparing the cost of maintaining the existing infrastructure with the cost of upgrading equipment.

We know that mission-critical systems and applications depend on the technology that operates them. Consequently, technology decisions are also crucial business decisions. Including IT personnel in the analysis and decision-making of technology-based activities can help make better, more strategic decisions for the enterprise, and reduce the risk that equipment will become obsolete.

IT teams can help enterprises select the most appropriate technologies to meet business requirements by:

- Identifying how critical the communications system is to the business. If a system is mission-critical, reliability and security will be a high priority. This is a high priority in organizations that are driven primarily by processes, such as factories.
- Defining how innovative technologies can contribute to business efficiency. This is a high priority in organizations driven primarily by the business, such as retail sales.

- Estimating how easily users will adopt the new technology. Organizations are more effective when users adopt new technologies faster. User reaction can determine a project's success. This is a high priority in creative businesses, which are driven largely by individual behaviors.

When the business and IT collaborate, they will be able to provide the enterprise with a comprehensive cost-benefit analysis of retrofitting their aging communications system.

To begin this work, we suggest you assess:

- Sustainability of existing IT communications. Identify external factors, such as new regulations, industry standards and the enterprise's contractual obligations. These changes may be achieved more efficiently or effectively with new technology, making the investment worthwhile.
- Age of the equipment. Verify if the vendor still supports the equipment, and if the hardware and software components are still compatible with each other. It may be beneficial to consider the level of risk the enterprise will tolerate.
- Service-level factors of the equipment. Determine if the network is experiencing decreased performance, availability, reliability or capacity limits; increased maintenance costs; and if it is difficult to find or retain people with the skills needed to operate the network. The number of people with expertise in those technologies decreases as people retire. And younger, new entrants to the work force have no interest in working in with aging systems. If the service levels are decreasing, the equipment's age may be preventing the IT organization from delivering the services the business needs. Other factors, such as the difficulty of recruiting and retaining people, suggest that equipment age is causing other non-technical risks to the business.

THE STRATEGIC APPROACH

Conducting the review

There are a number of factors to evaluate when performing a strategic review of the sustainability of the enterprise's telephony's system.

Identify external factors

- Does the business need to comply with regulatory and legislative changes, such as the Sarbanes-Oxley Act in the United States? These changes may require new processes and equipment.
- Does the business have new contractual obligations that may provide opportunities? For example, new contracts may require additional software licensing, making it more economical to purchase a site license than individual licenses; thereby, allowing IT to extend the software to everyone in the enterprise.
- Are any service and support contracts about to terminate? Operating without support contracts increases the risk of system outages, high service costs and delays in issue resolution.
- Is the enterprise about to embark on any new enterprise-scale projects? These projects could be the construction of a new building, a new business application deployment, a new network infrastructure or a company acquisition. Initiatives like these offer the chance to upgrade enterprise telephony equipment and offer new services, reduce costs or improve efficiencies.

Define service levels

- Are performance levels decreasing?
- Is the system performance still compliant with internal SLA levels?
- Are users noticing a reduction in performance? Data from the trouble tracking system may help to find answers to these questions. Do employees complain about not being able to call colleagues because the lines are busy? Are they easily able to call someone who is listed in the enterprise's directory of telephone and email contacts?
- Is the system operating close to system capacity — can you add dozens of new users before needing to install more hardware or software components?

Meet business expectations

- Have business conditions, requirements and expectations changed? For example, users might be using cell phones instead of desk phones. If the cell phones are not integrated with the company's communications system, the security deployed in the communications system will be bypassed, and security compromised because conversations will not be encrypted. A lack of integration can also result in higher OPEX because the enterprise will not benefit from the system's least cost routing (LCR) capabilities.
- Is the communications system meeting user expectations? Changes to the business can change users' telephony requirements. An acquisition may require people in different locations to communicate regularly. New governance models may require a larger number of people to make decisions.
- Have your competitors changed how they communicate with customers?

Implications of aging equipment

- Are operational costs increasing? This is an indicator of an aging system.
- Is the number or the severity of issues increasing? The equipment may be operational but cause other networking problems. New components may not be compatible with the aging equipment. Eventually, your operating system and software will not run on servers you need to purchase.

Collecting this information is a complex activity and takes considerable effort; however, the work will provide valuable information to make strategic decisions.

Choosing the right direction

Aging systems increase operational costs and can generate new, uncontrolled costs caused by unmanaged network consumption by users. At the same time, the risk of major failures increases, leading to less availability and potential interruptions in the business. Eventually, it becomes necessary to upgrade the communications system.

A system upgrade offers an opportunity to plan and anticipate future needs, consider tools to improve productivity, and to optimize the communications infrastructure. This is an opportune time to address the business needs, such as ensuring that the solution:

- Is compliant with the company's business continuity plans
- Provides more flexible communications so users can operate multiple devices — potentially their own — and telecommute

- Delivers a rich conversation experiences while protecting previous investments
- Democratizes the use of high definition (HD) video to help a distributed organization collaborate better by providing employees with video collaboration tools, such as video conferencing for the desktop

The transformation path should offer ways to:

- Diminish the level of risk
- Decrease operational expenses
- Re-allocate operational savings to budgets for innovation
- Introduce a roadmap for evolution
- Anticipate the costs of future upgrades
- Define new models for delivering communications services to lines of business or directly to end users

The transformation strategy is a good time to define or update the IT strategy. Even enterprises whose IT organizations are focused on avoiding risk can offer strategic recommendations and introduce innovation in the communication infrastructure at this time.

THE ALCATEL-LUCENT PROPOSITION

Alcatel-Lucent Enterprise can accompany organizations through a transformation path, refreshing the components of the enterprise communications systems and meeting current business needs.

The Alcatel-Lucent OpenTouch™ Suite of solutions is flexible, allowing a company to reuse elements of the in-service system, such as a legacy PBX, and building an updated system that can last for years without becoming obsolete.

Review what's of value

Aging systems are costly, and create risks, but they may contain reusable components that can reduce transformation costs.

IP transformation makes sense for very dynamic organizations, where the savings on operational costs balances the IP investment. However, if employee moves are rare, there is no need to replace TDM phones with IP or Session Initiation Protocol (SIP) phones. It may also make sense to keep some components, such as DECT or wireless LAN (WLAN) infrastructure, and the contact center.

An enterprise needs to consider the costs of a massive rip-and-replace approach because these costs are often underestimated. The training for IT teams to be skilled on a new system can take 25 days for each engineer (industry average). Users will spend an average of three hours to learn how to use the new interface. By comparison, updating an existing system costs an average of two to five days for IT staff and has little impact to employees.

Alcatel-Lucent helps enterprises revive the components of their communications system that have value, and update only what makes sense. An existing Alcatel-Lucent system, such as the Alcatel-Lucent OmniPCX 4400 or an Alcatel-Lucent OmniPCX™ Enterprise Communication Server (CS) PBX, can be transformed to the latest version of the

OmniPCX Enterprise CS. Valuable assets such as telephone sets and existing cabling can be reused. The new system becomes the starting point for future evolution because it is the foundation of the Alcatel-Lucent OpenTouch Suite offering.

Understand what's at stake for your business

The latest version of the OmniPCX Enterprise CS guarantees high availability. Its redundancy capabilities ensure business continuity, and disaster recovery plans can be put in place to meet company standards. The solution is compliant with most industry standards and regulations. For example, it is widely used in large banks that need to comply with Sarbanes-Oxley regulations.

Enterprises can optimize deployments and data centers with the virtualization capability of the OmniPCX Enterprise CS. Its flexible architecture permits a high degree of centralization. Therefore, IT can realize substantial savings on operations by reducing the number of systems and locations. A single point of management is also provided to simplify operations.

Alcatel-Lucent can provide enterprises with a set of communications tools, such as native conferencing capabilities that support mixed media, and allow users to move freely to any device during the same conversation.

Employees will be able to collaborate from any location — home, office or on the move — using the device of their choice, without disruption or compromise to quality or security. With easy real-time access to their business community and the ability to share documents and work on them collaboratively in real time, employees will improve their productivity and be able to react more quickly to meet business requirements.

The Alcatel-Lucent OpenTouch Suite offers flexible deployment modes, so IT departments can deliver a high standard of collaboration experiences from the enterprise data center or through cloud-based services.

Move toward business efficiency

Alcatel-Lucent offers flexible scenarios to transition the enterprise communications system. The enterprise begins by updating their aging system to the latest version to provide a standard level of service that meets the expectations of the business and of IT — back to 99.999% reliability. Table 1 lists the transformation steps in the transition.

Table 1. Transition steps

Steps	Benefits
1. Move to the latest version.	
Keep what's of value.	- Total cost of ownership (TCO) - Savings on training - Has been adapted to new standards
2. Optimize the network based on the latest system version.	
- Migrate from TDM to IP when it makes sense, for example, if employees move a lot. - Reduce the number of nodes by centralizing what makes sense. - Reshape the network's infrastructure to optimize on-net and off-net traffic. - Use virtualization in data centers for better resource allocation. - Deploy a unified management platform.	- Reduced operational times (some enterprises have decreased their operations time by as much as 40% by implementing centralized management) - Simplify network management - Simplify provisioning, and moves, adds, changes and deletions (MACD) - Lower communications bills by approximately 10% to 20%
3. Innovate to improve efficiency based on the latest system version	
- Give mobile workers – home office telecommuters or road warriors – access to the same functionality offered at the office. - Enrich the employee experience with multimedia collaboration capabilities. - Deliver that experience on any device with a series of apps dedicated to each environment: desk phones, PCs, smartphones or tablets and in-room video equipment.	- A seamless experience anytime, anywhere, on any device - Wider user adoption - Simplified remote teamwork - Improved productivity that increases business efficiency

Evolve at your own pace

The Alcatel-Lucent OpenTouch Suite is composed of:

- A range of communications platforms designed to address different needs and markets, from pure IP telephony to rich, SIP-based, multimedia communications switching, in distributed or centralized modes, on customer premises equipment (CPE) or in hosted environments
- A series of communications applications to address business telephony, UC&C, mobility, video conferencing, video sharing, customer interactions and unified management needs
- A complete set of client applications and devices to deliver the conversation experience to users in the most suitable way: desk phones (TDM, IP or SIP), smart desk phones that are application capable, campus roaming solutions, dedicated video devices, interactive whiteboards, and a collection of applications dedicated to smartphones, tablets and PCs

To make the transition as smooth as possible and remove the risks of aging, Alcatel-Lucent systems are sold with multiyear evolution contracts. This allows you to choose how to evolve toward an optimization or innovation scenario, with predictable pricing, when it makes sense to your business.

CONCLUSION

After several years of little or no investment in telephony equipment, enterprise communications systems are aging to the point that performance is degrading, operational support costs are increasing, and the systems are not meeting business needs. Enterprises are finding their equipment is no longer supported by the manufacturer, further increasing business risk and expenses in the event of failures.

Businesses can prevent these risks and associated costs if IT organizations play a more strategic role in the enterprise. The key is to get the maximum use from the technology and to replace it before performance degrades beyond acceptable levels (when the equipment is no longer supported), to avoid the risk of long outages and expensive repairs.

The Alcatel-Lucent OpenTouch Suite allows you to reuse many components that are already part of the legacy PBX infrastructure. It provides a flexible transition plan to migrate to IP when it makes sense to the business, and offers multilayer evolution contracts to remove the risks of aging technologies.

The OpenTouch Suite supports a variety of platforms, such as IP telephony and SIP-based multimedia communications. It includes several multimedia applications, such as video, mobility, and unified communications and collaboration, and offers client applications and devices to meet the communication behaviors of today's businesses, including TDM, SIP and IP desk phones, video devices, and applications for smartphones, tablets and PCs.

The OpenTouch Suite also provides high availability and redundancy, to meet the enterprise's business continuity and disaster recovery plans. And because the suite is flexible, you can decide to implement features and capabilities when it makes good business sense.

ACRONYMS

BYOD	bring your own device
CAGR	compound annual growth rate
CPE	customer premises equipment
DECT	Digital European Cordless Telecommunication
GDP	gross domestic product
HD	high definition
IP	Internet Protocol
IT	information technology
LCR	least cost routing
MACD	moves, adds, changes and deletions
PBX	private branch exchange
ROI	return on investment
SIP	Session Initiation Protocol
SBC	session border controller
SLA	service level agreement
TCO	total cost of ownership
TDM	Time Division Multiplexing
UC&C	unified communications and collaboration
WLAN	wireless local area network

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