



Setting the stage for operational excellence



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Introduction

The new deal

New priorities are emerging for enterprises as a result of the recent unprecedented period of global economic chaos. To thrive and remain competitive, organisations need to rethink the way they operate, and optimise technology advantages to accelerate the shift to digitalise their services, processes and workspaces. In the past, enterprises may have focused on creating a digital workplace with critical applications and services being moved to the cloud. However, it's now time for organisations to maximise the impact of technology on the operational model by tackling areas which will ultimately improve execution with the same budget and take them to the next stage of transformation.

Industry analysts suggest, in order to improve capabilities and streamline operations, organisations should concentrate on the following topics:

- **IT simplification and automation:** IT teams will need to prioritise their investments in technologies that cut costs amid robotic process automation (RPA), Artificial Intelligence (AI), data, analytics and cloud optimisation
- **Cybersecurity:** Cyberattacks and data breaches will not take a break. Businesses must invest in solutions that protect their key assets and ensure compliance with regulations
- **Budget optimisation:** Implementing Cloud and “as a Service” financial model
- **Sustainable development:** According to Gartner¹, sustainable development will be part of the CTO agenda in 2023. Technology will have a role in environmental sustainability, seeking best practices in energy reduction, analytics and renewable energy traceability.

The above initiatives are aimed at helping organisations on their journey toward operational excellence by delivering tangible outcomes to employees and customers, while controlling costs and accelerating their digital transformation to create a competitive business.

¹ [Top 10 strategic technology trends for 2023: Gartner](#). CIO, September 2022

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IT simplification and automation

The next digital turnaround

Over the last 10 years, with the advent of the cloud, technology has been used to support the first phase of any digital transformation. This has enabled the implementation of the digital workplace demanded by employees working from multiple locations. It has also established cloud models beyond the early application domains, making pay-per-use the norm. We are now entering the next phase of digital transformation, targeting the IT operational model.

This second phase will implement state-of-the-art technologies to simplify and automate tasks and processes. The objective is to raise user satisfaction by improving response times, as well as concentrate human resources on value-added tasks, where robots or automats can be implemented to take over mundane or repetitive tasks which can account for 60-70% of their jobs. At the centre of the evolution, is the cloud, AI, data analytics and APIs to interconnect systems as part of the workflow.

Efforts to simplify and automate IT enable enterprises and public organisations to reap tangible business benefits (or digital dividends) in three core areas:

IT operations: Cloud-based architecture and technology are used to streamline processes, automate tasks and centralise management of distributed applications and systems.

Employee experience: Self-provisioning, simplification and role-based rights management enable end users to be autonomous, making them more agile and empowered. Cloud-based collaboration solutions seamlessly complement existing communications services, without the hassle of maintenance and upgrades.

Customer experience: Automation of customer service applications, with the increased use of AI-enabled intelligent robots for self-service (such as chatbots for websites and voicebots for IVRs), reduces the total cost of service and improves customer satisfaction, loyalty and experience.

While web-based technology has primarily been used for end user applications, we are now entering a second phase where the cloud is becoming the cornerstone for new services, aimed at automating IT services such as management and provisioning. This is creating opportunities to rethink entire processes such as book-to-bill, enabling organisations to offer innovative services, as well as enabling new financial models such as pay-per-use or pay-per-user (subscription model). The combination of new services and underlying financial model brings flexibility and budget spending trust. It empowers people (users and customers) with responsibility for their own activities and provisioning according to their needs, when they need it.



Cybersecurity

The rapid shift to work from home has extended organisations' network perimeters, and as a consequence, it has increased their attack surface. Additionally, geopolitical tensions are contributing to a significant increase in cyber crimes, and ransomware attacks targeting companies of any size, in any sector, with complete disregard to the casualties they can cause when, for example, they block the entire communications infrastructure of a hospital or public emergency services. In fact, cybercrime is estimated to have cost the global economy \$5 trillion in 2021, and it is expected to double by 2025². This increase is driving enterprises and public organisations to minimise security risks while continuing to digitally transform their workplaces. End-to-end security requires:

- **A secure by design methodology**, which takes security into account during every step of product development, including hardened hardware and operating systems and built-in Denial of Service (DoS) protection. Solutions should implement industry-standard cybersecurity best practices, including confidentiality and resilience as is required for homeland security communications, for example. It's also important to note that security-driven designs have replaced feature-driven designs.
- **Zero Trust Network Access (ZTNA)**, which trusts no user, no device and no application, no matter where it is located — on premises, hybrid or in the cloud. ZTNA's five assertions include:
 1. The network is hostile
 2. External and internal threats are always present
 3. Location is not enough to determine trust
 4. Every device, user, network flow must be authenticated and authorised
 5. Policies must be dynamic and use as many data sources as possible

² [New European Union cybersecurity proposal takes aim at cybercrime](#). World Economic Forum, September 2022.



- **Macro- and micro-segmentation**, which enables secure onboarding and access to IoT devices and is essential in a world where people, applications and objects are connected. Macro-segmentation segregates users, devices and applications on the network while micro-segmentation defines how those users, devices and applications are mapped to their network segment and security policies.
- **End-to-end native encryption**, allows employees and customers to securely and confidentially communicate and collaborate using voice, video and text, no matter where they are, using solutions that are on premises or in the cloud.
- **Security and privacy certifications and accreditations**, including security standards such as ISO 27001, 27017, 27018 and Common Criteria (ISO 15408) EAL2+, vertical-specific certifications such as HIPAA in the U.S. and Health Data Hosting (HDS) in France, and government regulations such as the European General Data Protection Regulation (GDPR). Note that while some of these certifications and accreditations were initially aimed specifically at security products, they must now be applied in all types of products.
- **Continuous, specialised security testing** highlights the importance of ongoing penetration tests that are driven solely by cybersecurity requirements. These tests simulate cyberattacks to reveal security vulnerabilities so they can be addressed proactively before issues arise and are essential in an ever-evolving threat landscape.



ALE's comprehensive security strategy

ALE takes a three-phase approach to tackling security in the communications arena and addressing the previously identified requirements. These include:

- 1. Prevention.** It's all about anticipation. From the early product development phases, the objective is to ensure that communications solutions are secure by design. Potential risks are assessed by understanding use cases and situations which could emerge. This assessment helps in translating risks into features such as encryption, high resiliency and policy enforcement. Also, user training, which is often overlooked by many organisations, is also an important aspect of prevention.
- 2. Protection.** While a less visible part of the strategy, certifications and regulations ensure you are operating securely based on standards. These protections span from terminals to cloud storage, some with industry-specific requirements. Certifications such as ISO 27001, Common criteria, GDPR among others should be monitored and assessed for ongoing updates.
- 3. Reaction.** This phase is the common responsibility between communications vendors, partners and customers. It encompasses incident management, company-wide security governance incident management and recovery, as well as pen-testing and mandatory company-wide security governance such as Information Security Management System (ISMS). The reaction phase enables organisations to circle back to strengthen anticipation capabilities and prevent major issues.

Cybersecurity efforts and investments can turn into tangible outcomes for organisations. They can contribute to enhancing **employee and customer experiences**, enabling people to communicate and share information from anywhere, by providing secure, real-time communications and collaboration capabilities to a mobile workforce. A comprehensive security strategy enables organisations to reach a new level of **operational excellence** in any type of cloud environment. They are able to address industry-specific requirements such as secure, privacy-sensitive access to cloud-based applications and services in education, secure and compliant patient record storage in healthcare, confidential communications in government, and processing and analytics in transportation and education.

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Use case: Healthcare

In a medical centre environment within a hospital, communications are essential for smooth operations. Patients' lives and caregivers' efficiency depend on an "always on" communications platform. Medical devices must be interconnected to enable notification of any patient-related incident, at any time.

Today, many medical centres have been the target of cyberattacks, including the communications system which is part of the perimeter. Being on alert for potential incidents has become an ongoing challenge for hospital IT teams to ensure business continuity. To manage the persistent threat, a robust security plan that includes constant monitoring and surveillance is essential. Suspicious or unusual behaviour, security incidents, irregular IP traffic, atypical telephone activity, overuse, unauthorised access and exceeding predefined thresholds are among the triggers IT monitors. With the [Alcatel-Lucent OmniVista® 8770 Network Management System](#) and [Alcatel-Lucent Visual Notification Assistant](#), events are processed to notify the IT team by email, text-to-speech enabled calls, or even a [Rainbow™](#) by [Alcatel-Lucent Enterprise](#) bubble for a timely and appropriate call to action. Users can acknowledge the alarm and set up a conference if needed.



Budget optimisation

IT budgets continue to rise and are expected to increase by 5.1% in 2023, compared to 2022³. While this might sound reasonable, when considered in the context of today's inflation rate, which will likely remain higher, it will present a challenge. Budgets that don't keep up with inflation will result in cautious IT spending.

The cloud provides the low-hanging fruit to support remote work, the demand for more flexible work models, and better work-life balance. Business leaders must now embrace digital transformation to overcome the major challenges faced by today's organisations including: inflation, supply chain disruption, component shortage and geopolitical tensions, among others. While shrinking budgets may seem daunting, the good news is, solutions exist.

One thing CIOs and IT leaders should resist doing is believing that budgets are carved in stone. Budgets can definitely change over the course of the year, as was seen in 2022 where spending was cut by half at mid-year. Assuming budgets will not be touched can lead to difficult situations and a lot of frustrations, from both the IT and user perspective.

IT leaders are being asked to reprioritise budget spending regularly, which means flexibility must be considered from the beginning to avoid being trapped by intractable expenses. Transforming fixed IT spendings into flexible IT spending where possible is key.

A move to the cloud and "as a Service" models (including infrastructure, platform and software) offer a convenient way to bring flexibility into enterprise and public organisation budgets. In addition to flexibility and predictability, these models let organisations modernise and accelerate their digital transformation while mitigating risks related to budget cuts.

The caveat is that organisations must define a strategy for any move to the cloud. They should decide how much of the IT perimeter they want to migrate, which applications and services will move and how much budget

can be allocated. Additionally, they need to ensure that end users (including employees, customers and suppliers) support the proposed move to the cloud. Any shift to the cloud and to an "as a Service" model must be planned through a series of steps. Additionally, it's critical to decide which cloud model to adopt for enterprise communications, for example:

- **Private single instance:** IP-based call control (IP PBX) owned by a Service Provider with a single customer on a dedicated system. Sold as a Service.
- **Private multi-instance:** IP-based call control (IP PBX) owned by a Service Provider with each customer (enterprise, public organisation) allocated a dedicated instance with central management. Sold as a Service.
- **Public multi-tenant:** IP-based call control (IP PBX) owned by a Service Provider with multiple customers (enterprise, public organisation) on a shared platform. Sold as a Service.

Use case: Large financial IT group

This large financial IT group leveraged its IT operations automation to accelerate its digital transformation. Their ten-person team manages the private cloud communications for 70,000 banking employees. They needed to deploy work-from-home and mobile workspace communications without disruption in a short timeframe. Challenged by a shortage of resources, they needed to free up the IT team from daily operations to focus on a branch office digitalisation project. [Alcatel-Lucent OmniPCX® Open Gateway](#) APIs provided the solution. The easy-to-use open technology enabled them to operate and monitor their [Alcatel-Lucent OmniPCX® Enterprise Communication Server](#) by automating daily operations and performing preventive maintenance.

³ [Gartner Forecasts Worldwide IT Spending to Grow 5.1% in 2023](#). Gartner, October 2022



ALE offers choices

ALE provides cloud-based communications services and solutions for each of the previously identified models. But, more importantly, we enable organisations to go at their own pace in their cloud transformation with whatever cloud model meets their needs. ALE also, uniquely, offers the **hybrid cloud** model (combining an in-house communications system and cloud-based team collaboration services), whereby organisations can protect their on premises communications infrastructure investments while stepping into the cloud by adding cloud-based collaboration services (including chat, video, messaging and groups) on top of existing telephony equipment.

While all cloud-based solutions are proposed “as a Service”, which offers budget predictability and flexibility, ALE has even extended the pay-per-user model to its on premises communications offer with the newly introduced **Purple on Demand (PoD)** communications offer. Purple on Demand is a flexible enterprise telephony platform that delivers reliable, secure digital age communications.

Cloud and pay-per-use (as a Service) models in the communications arena enable enterprise and public organisations to accelerate their digital transformation without having to make compromises. This model ensures that budget is allocated to support business priorities and equip end users with the tools and applications that foster innovation, improve the customer and employee experience, and contribute to operational excellence.

Digital transformation is real

ALE is heavily involved in the digital transformation initiatives of small, medium and large customers and public organisations globally. Following are a few examples of our enduring commitment to our customers’ success and operational efficiency:

- [The Regional Council of Bourgogne Franche-Comté \(France\)](#) implemented Rainbow™ by Alcatel-Lucent Enterprise in hybrid model to complement to their legacy telephony system. They introduced softphones and collaboration tools to enable agents to easily work remotely.
- [Athens Water Supply and Sewerage Company \(Greece\)](#) set up an IP centralisation and a modern collaboration platform, upgrading and streamlining their communications infrastructure for 2,400 employees and 30 offices.
- [Hokkaido Municipality \(Japan\)](#) revolutionised its administrative services by connecting more than 10,000 elderly and rural residents with advanced cloud communications.
- [The Mayotte Hospital Centre \(France\)](#) deployed Alcatel-Lucent Enterprise communications and collaboration solutions, entirely tailored to a hospital environment, to modernise and stabilise the hospital operational capabilities, essential to continuity of care across the territory.
- [Gruppo Cremonini \(Italy\)](#) moved to a modern cloud-based communications network, simplifying intercompany communications across a multinational business of 400 sites.



Sustainable development

Digital transformation, and more generally the 4th industrial revolution of which it is a part, has highlighted the need for a responsible approach to transformation, where progress and planet preservation go hand-in-hand, and not at the expense of one another.

While we are all familiar with initiatives aimed at repurposing and reutilising to give buildings, clothes and objects a second life, it's now time to extend these concepts to equipment in the communications space. Sustainability has become a necessity amid the increase in energy costs and the rise of eco-responsibility conscientiousness. In fact, it comes as no surprise that Gartner⁴ list sustainability as part of their top 10 strategic technology trends for 2023.

Eco-sustainability includes a variety of initiatives, which when combined, help create what could be an archetype of a virtuous enterprise or public organisation in the near future. These include initiatives in the area of:

- **Product design:** Environmental considerations should be taken into account at its early stages including: use of recyclable materials, extended lifecycle, obsolescence timing and waste management

- **Energy consumption:** A target of 20-30% decrease, when possible, through conscientious design and electronic components selection
- **Second-hand items:** Offer customers a choice between new and remanufactured or refurbished items ensuring no difference in the customer experience
- **Circular economy:** Create an eco-recycling process that provides a second life for equipment and terminals, or the opportunity to build new equipment from existing components
- **Deployment model:** Adopt a cloud model which addresses business needs and supports Service Provider eco-sustainability efforts
- **Education:** To be successful, eco-sustainability must be understood and embraced by the entire workforce. Employees must be included in the comprehensive corporate, social and eco-responsibility education strategy

⁴ [Top 10 strategic technology trends for 2023: Gartner](#). CIO, September 2022



ALE designs with sustainability in mind

Today vendors, suppliers, distributors and end users are combining efforts to build a virtuous circle that reduces digital pollution, improves waste management and decreases energy consumption across the entire value chain — from supplier sourcing to customer deployment.

Designing technology that enables enterprise sustainability has always been at the heart of Alcatel-Lucent Enterprise, and we want to continue to improve our offering by helping customers achieve their sustainability goals. As the proud recipient of the [EcoVadis Silver Medal](#) (the World's Most Trusted Business Sustainability Ratings) for 2019, 2021 and 2022 which recognises eco-sustainability across our business and throughout our supply chain, we believe corporate, social and eco-responsibility can be a differentiator.

However, this is only the beginning of a journey that goes beyond products, encompassing everything from metal extraction to solution deployment and replacement. Innovation in the area of eco-sustainability and invention in the communications environment will be required. Organisations will need to adopt Key Performance Indicators to maintain the balance between progress and sustainability and measure operational excellence.

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Energy-conscious product and solution designs

Alcatel-Lucent Enterprise is committed to design and develop products that are energy conscious during usage. ALE products (predominantly applicable to switches) are designed to minimise power consumed during operation and to provide high-efficiency power consumption solutions. The products are designed to conform to 80 PLUS® and ENERGY STAR® requirements. Key elements in the design and operation of ALE products include:

- Power supplies in ALE products are designed to exceed the criteria defined by the 80 PLUS power supply certification. Power supplies meeting the 80 PLUS requirements deliver over 80% power efficiency. For most ALE products the power supplies conform to the 80 PLUS Silver requirements with 85%+ efficiency and some conform the 80 PLUS Gold requirements with 87%+ efficiency.
- ALE products typically support the IEEE 802.3az Energy Efficient Ethernet (EEE) standard. EEE reduces the power consumption associated with Ethernet links during periods of low data activity. The goal is to reduce energy consumption by 50%.
- Dynamic Power over Ethernet (POE) allocation ensures that POE usage only consumes the power required by the powered devices. This functionality allows for maximum efficiency in power consumption by the products.
- When possible, products (mainly switch products) have implemented Adaptive Active Cooling which allows the fan speed to vary based on the temperature inside the product and reduces energy consumed.



Conclusion

Most organisations, both private and public, have made the digital workplace a top priority to enable people to work from anywhere, anytime, as the hybrid workstyle gains ground. As they move forward and become familiar with cloud-based architectures and services, the concept of using digital technology to improve operational excellence is gaining traction. As a result, IT departments are beginning to explore the world of digital transformation and what it can mean to their operations. IT automation and simplification, cybersecurity, financial models are at the core of this next generation of IT services. It is now a top priority in many executives' minds as a means to deliver operational excellence with tangible business and financial outcomes.

Learn more about how [Digital Age Communications](#) solutions are helping customers get to the next stage of operational excellence in the enterprise communications arena, delivering better budget control, better use of resources and better customer and end user satisfaction.