

White Paper

Task automation in the hybrid cloud

axians

Table of contents

Introduction	3
Hybrid cloud: the new standard	3
Boosting business applications	3
Task automation: a major challenge	4
Task automation: who for, what for?	5
Reducing total cost of ownership through automation	5
Becoming your own cloud service provider	5
Automating to innovate: empowering your employees	6
Automating central administrative tasks for greater availability	6
Tools and methodology	7
The importance of adopting use cases	7
One customer, one cloud	7
A generic methodology tailored to the customer and their goals	7
Sample use case: creating a virtual machine	8
From automation to orchestration	9
From orchestration to Artificial Intelligence	9
Phase 1 - The first steps of automation: a software-defined architecture	9
Phase 2 - An Artificial Intelligence-based architecture	10
Automation for the benefit of businesses	11
The human factor: the key to successful automation	11
Conclusion	12
Improving costs	12
The virtuous circle of hybrid cloud automation	12
A European issue: From datacenter to center of data	12
Giving value to employees	12
Contributors to this white paper	13
About Axians	14
The best of ICT with a human touch	14
Our rationale	14
Axians, a VINCI Energies brand	14

Introduction

54%
of workloads
will be done through
a private datacenter
in 2020

Hybrid cloud: the new standard

To date, figures vary on the use of hybrid clouds. Depending on the source, between 32% and 58% of organizations have migrated part of their IT infrastructure to hybrid clouds. Ultimately, however, almost all companies are affected: in fact, using an application in SaaS mode (such as Office 360) is already equivalent to having one foot in the cloud.

As a result, public cloud infrastructures are increasingly being adopted. Whether to promote mobility or teleworking, or to run an e-commerce site that receives a large number of queries, the reasons behind this trend are multiple.

IT is thus becoming a resource like any other (electricity, water, etc.): no matter the supplier, what counts is throughput, security and access. And all three must be continuous.



Boosting business applications

"With infrastructure and hardware now mere resources, business applications have become the new source of wealth: IT is increasingly focused on vertical applications," explains Vladimir Mlynar, COO of Axians Austria. Representing the basis of micro-services for and by businesses, these applications must be available under all circumstances and, increasingly, from any device (especially with the advent of BYOD).

In this new context, an IT system's total cost of ownership now boils down almost exclusively to the update of processes and of the business application base.

"This is even more apparent with the digitization of customer, patient or citizen processes: the front end is generally hosted in the public cloud with on-premise queries on business data." states Yves Pellemans, CTO and Innovation Director at Axians France.

Task automation: a major challenge

In this context, automating the most commonplace tasks is rapidly becoming essential for two major reasons: to reduce the IT system's total cost of ownership on the one hand, and to fall in line with security requirements on the other, especially with the implementation of Business Recovery Plans (BRPs) and Business Continuity Plans (BCPs), not to mention GDPR compliance. Given that this is about creating a basis for simplification, the goal is also to make tasks straightforward, or complex processes repeatable and executable as many times as necessary in hybrid mode.

However, the transition to hybrid cloud computing involves revolutionizing the way the information system is designed, in particular its intrinsic purpose and its operation: a new strategy must be defined (and new objectives set), all of which implies a new form of governance and a definition of the orchestration.

"This is especially challenging considering that organizations generally know how to optimize their on-site infrastructure using virtualization solutions such as VMWare, for example, but are less comfortable with hybrid clouds," adds Vladimir Mlynar.

"Automation is the keystone of the multi-cloud. Far beyond reducing ownership or operating costs when it comes to making different infrastructures work together, automation is not an option," states Hermann Dupré, Global Business Development Manager at BrandTeam, Axians.



This white paper is intended to provide you with the best practices for automation:

- **Identifying the objectives that will give you a relevant roadmap**, and understanding the ins and outs of a multi-cloud approach
- **Identifying the tasks to be automated first** to allow a maximum number of new functions
- **Defining the right methodology**

The approach to be adopted is less about a particular technology, which is constantly evolving, and more about the methodology to be used, based on experience and use cases co-developed with companies: these use cases are what will lead to relevant choices and new service offers.

Task automation: for whom and for what?

Automating the core business tasks first and foremost makes perfectly good sense, as this is where the company's wealth lies.

Reducing total cost of ownership through automation

80% of an IT infrastructure's budget is used to run that infrastructure. This leaves a mere 20% to actually deliver the services expected of it, including innovation, through new offers or new processes.

Reducing the infrastructure's OPEX/CAPEX in order to build the service catalogue that every organization deserves is therefore essential: the architecture must be as relevant and as stable as possible in order to benefit the businesses.

Becoming your own multi-cloud service provider

By automating a large proportion of the tasks, the organization clearly moves towards an autonomous datacenter positioning, where maintenance enables operations and repairs and, if possible, maintained operational readiness, without any human intervention.

"The whole idea of an autonomous datacenter is to allow the organization to become its own cloud service provider with its own catalogue of private services, and so reduce costs. While having a tool tailored to your activity is all-important, it must also be efficient, competitive and simple!" explains Yves Pellemans.

Once automation is in place, procedures within the datacenter can quickly be replicated in any other infrastructure. Thanks to remote infrastructures (private cloud or edge computing), automation makes it possible to extend a catalogue without having to deploy other processes or infrastructures.

Automatically moving virtual machines or containers thus allows different functions to be extended to one or more other sites: as part of a Disaster Recovery Plan, this means saving an enormous amount of precious time.

according to all studies **80%** of the IT budget is used for its own TCO



Automate to innovate: empowering your employees

All engineers agree: it's high time they were relieved of tasks that offer no added value so that they can finally get to work on digital transformation projects (for which they were hired in the first place). Automation thus frees up bandwidth for innovation or digital transformation, and allows employees to at last think about new models.

"This is especially important today because all innovations now come from the cloud: applications, not hardware, drive innovation, so the cloud is the only option that provides the best possible development environment with instant scalability at an unbeatable cost," states Stefan Collet, Innovation Manager at Axians Netherlands.

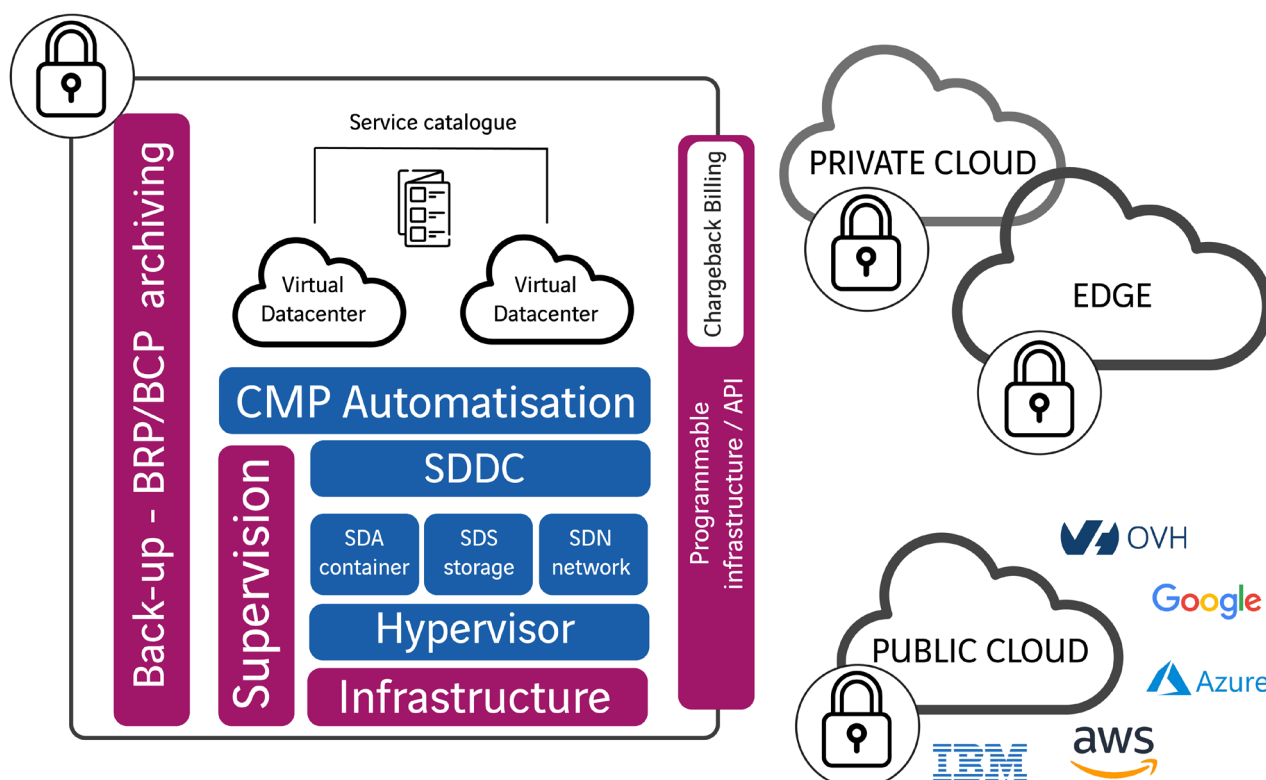
Automate central administrative tasks for greater availability

A task that is performed more than three times a week must absolutely be automated: it is clearly of no value to the employee performing it. Such tasks generally concern antiviral protection, security, patch management and all "morning checks" in general. These live system support actions represent 80% of datacenter tasks and are those that require control.

"This is not only about saving time by no longer having humans perform repetitive tasks without any added value, it's primarily about increasing reliability: the repetition of basic tasks puts people off guard. This in turn also slows down the resolution of the most serious incidents," adds Yves Pellemans.

Automating 50% of these daily tasks is the easiest and fastest way. The remaining 50% will require orchestration.

A successful digital transformation



Tools and a methodology

A multi-cloud strategy involves overseeing both managed services (not just core operations) and customer specific services. Successfully handling both of these together serves to define the real objectives to be achieved in order to build an environment that is both relevant and scalable.

"Well before all that, the first thing is to do is to ensure that the infrastructure is functioning properly," says Hermann Dupré.

The importance of adopting use cases

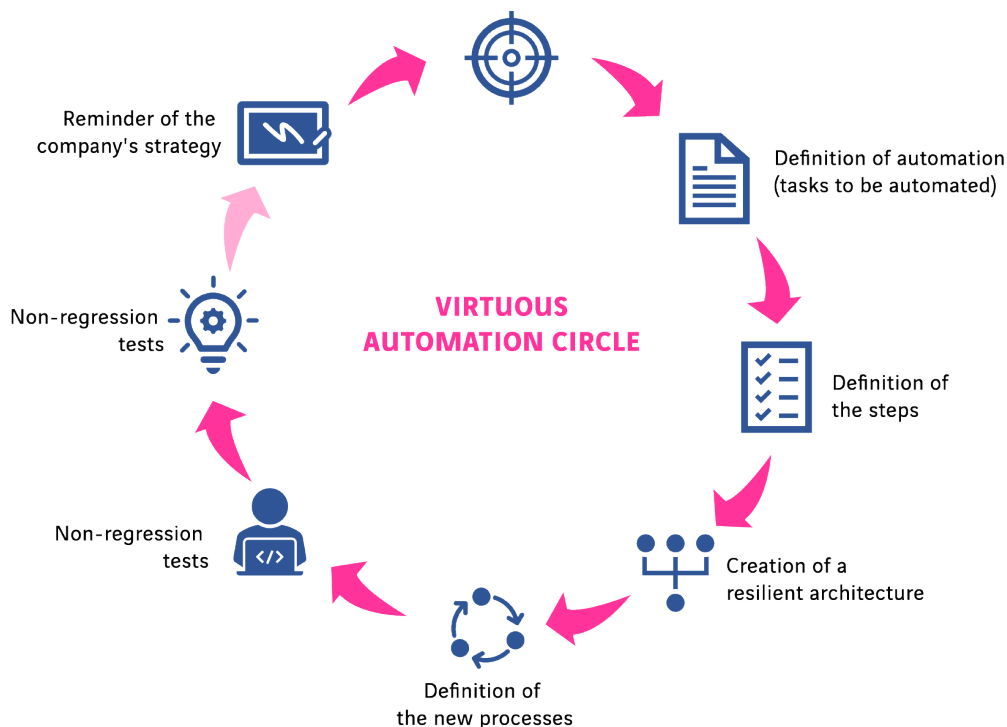
One customer, one cloud

Every company has - or will have - its own internal infrastructure and at least one cloud infrastructure of its own (The Gartner Group: CEO Agenda 2020). "Offering a packaged solution is not the answer since the organization's objectives in terms of implementing automation must be defined precisely. The key to success lies in the co-development of use cases with the organization during the consulting phase," explains Joshua Leader, Axians Austria.

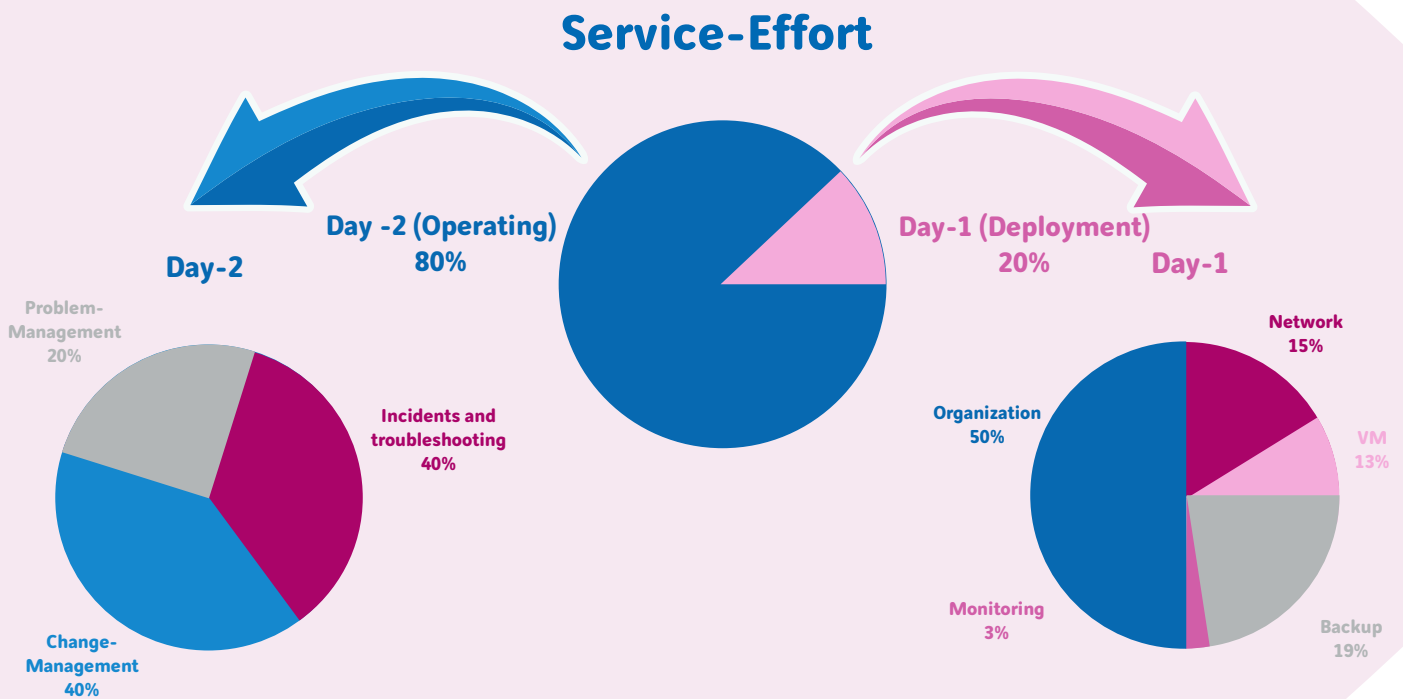
Indeed, in order to improve the lives of people and organizations, knowing how to build a close and personal relationship with customers is crucial. Using a proven methodology borne of long experience is one of the key success factors for guiding the organization in its automation choices.

The implementation of this methodology necessarily includes the organization's employees themselves. Today, we can automate whatever we want in IT thanks to the expertise of consultants. By choosing and prioritizing, processes that are overly complex or irrelevant in relation to the objectives set can be avoided.

A methodology tailored to the customer and their goals



Sample use case: creating a virtual machine



Whether during the deployment or the operating phase, automation provides huge gains:

During deployment

Implementation time: 8 hrs before => 10 mins after
Server deployment time: 5-7 days before => 0.25 days after
Major gains!
Greater efficiency – greatly improved implementation time
More resources for complex/individual requests (increased value)

During operation

Faced with a high workload and limited resources for strategic projects and new responsibilities, automation serves to reduce regular operating tasks by 40-50%.

Major gains!
More resources for developing specific services
Adoption of new roles and responsibilities for better quality
Ability to focus on continuous service improvement

From automation to orchestration

The automation of tasks, especially central administrative tasks, helps to avoid processing errors. Previously, most of these incidents, when actually taken into account, were processed manually. Automation eliminates or resolves much of this.

"80% of known incidents (L1/L2) can be handled by automation, which avoids human error and saves a considerable amount of time in order to switch the remaining 20% to level 3 support or even Artificial Intelligence," explains Yves Pellemans.

Furthermore, while automation itself is fairly simple to implement once the objectives and tasks have been identified, hybrid cloud orchestration requires specific reflection and tools to determine the best place to deploy the instance, based on specific factors: cost, workload, performance requirements, availability and security.

Orchestration requires an overview of the environment, and the ability to make decisions based on this overview with which Artificial Intelligence, for example, can assist.

From orchestration to Artificial Intelligence

If certain tasks with no added value still remain after orchestrating the automation, a new escalation will be necessary, one which can only be completed by human intervention.

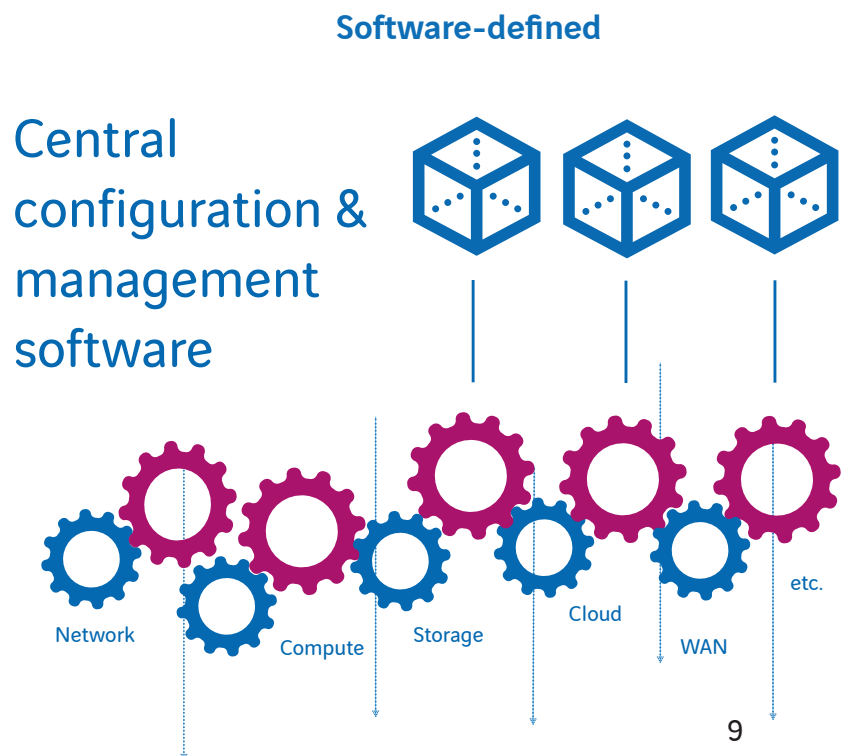
However, including an artificial intelligence-based solution may serve to skip the first two steps: if the incident persists, it must be directly escalated using a machine learning system. The concept is the same for a new escalation.

However, this requires having the right data: for this purpose, implementing Big Data analytics to list all the incidents is essential.

Phase 1 - The first steps of automation: a software-defined architecture

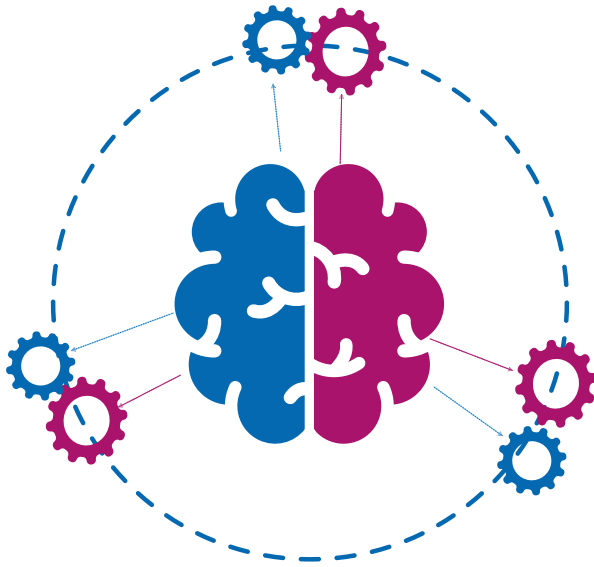
Centralization is achieved using virtual machines that consolidate the services and the hardware.

For all that, everything is managed manually.



Phase 2 - The Artificial Intelligence-based architecture

Intent-based



At this level of maturity, the focus is placed on critical applications.

"Thanks to Artificial Intelligence, the platform learns, centralizes and automates on its own, without even requiring an AI expert to run it," says Stephen Collet.

"This is also what will enable hybrid cloud 2.0 to work autonomously and thus move towards a zero touch infrastructure," adds Edwin Kanis, Brand Manager at Axians Netherlands.

The Gartner Group announces gains of 50–90% in configuration time, 50% better availability, and a 50–90% faster production start-up!

Always keep 20 core-applications high-available.
Also during network downtime and change windows.

"With automation, engineers no longer perform repetitive tasks with no added value: they build robots to do them."

Yves Pellemans

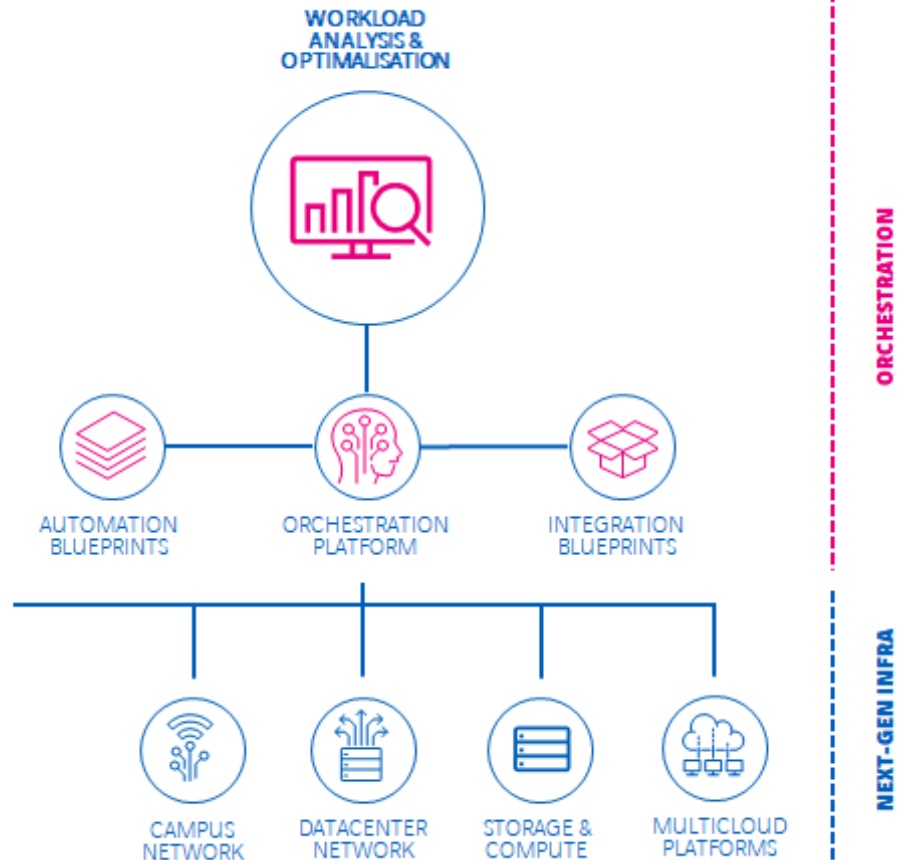


Automation for the benefit of businesses

Automation serves to develop new services whose continuity and performance must be guaranteed from end to end, regardless of the changes implemented. These services must be able to accommodate loads that increase by a factor of 1 to 10 for a faster production start-up.

Developments are therefore always aligned with business activities (DevOps concept), via a CI/CD approach, i.e. Continuous Integration/Continuous Development.

"The goal is to have applications that are permanently optimized, regardless of where they are in the cloud," concludes Yves Pellemans.



The human factor: the key to successful automation

Making use of the best technologies is vital in order for businesses to grow, remain competitive and prosper in today's rapidly changing global marketplace. However, finding a leader within the organization familiar with both the business and the infrastructure is essential in order to create and federate a group that will raise awareness, deliver best practices and train other employees.

Seeking the support of an external service provider will allow the organization to better address the objectives to be achieved and, above all, better recognize such leaders. This support can go even further by identifying those who are resistant to change, and finding them a new structure or department in which they can pursue their activity without disrupting the progress of automation in their initial structure.

Conclusion

Improving costs

Automating repetitive tasks within a hybrid cloud is no longer an option for any organization seeking not only to reduce its total cost of ownership, but also to innovate via new services. In fact, this automation is what will serve to accommodate the increased complexity of environments brought about by the multi-cloud, and, above all, improve the way employees work: hitherto restricted for lack of time, they will be able to explore new ways of thinking and new ideas.

Nevertheless, successfully automating tasks requires not only the right methodology, the right use cases and the right technologies, but also and above all, a form of change management that necessarily involves employees from the onset.

The virtuous circle of hybrid cloud automation

Automation must be considered as a veritable roadmap: the maturity of organizations in relation to business lines, processes and infrastructures will enable them to go ever further with their automation effort, leaving more room for innovation and new services.

A European challenge: *from datacenter to a center of data*

The goal is not simply to allow a company to grow on the basis of a new innovation-centric organization. The challenge is European: while the US operates on the basis of a model where 80% of data is monetized, and Asia remains confined to closed networks, Europe, through the GDPR, must guarantee the protection of data and citizens' rights. It is therefore crucial for companies to develop a private cloud which is profitable compared with market prices and with the various public clouds such as AWS or Azure, but which, ultimately, must dialogue with them.

Europe definitely needs a sovereign cloud, even more so since the signing of the C.L.O.U.D Act (Clarifying Lawful Overseas Use of Data) at the end of April 2020, which gives the US Government access to all data hosted in datacenters on US soil. The European GAIA-X project recently launched could be a very concrete lead.

In a new world order where infrastructures are certainly usage-oriented, but increasingly data-driven, the question of where to store this data has become crucial. Since data has come to represent one of any company's two key assets, defining and implementing an appropriate data management strategy is what will allow organizations to be more efficient, gain market share, or simply survive.

Keeping one's critical data on site while hosting part of the infrastructure in the cloud has led to the implementation of hybrid architectures, and their necessary automation.

Giving value to employees

Lastly, automating tasks in order to envisage new prospects for innovation within organizations will help them to retain their existing talents, i.e. their other key asset, and attract new ones: by encouraging employees to devise new projects, the company can at last tap into its employees' true brain power.



Contributors to this white paper:

Yves Pellemans has always worked in the sphere of digital and new technologies. After several years in the CAD/CAM and EDM solutions integration sector, Yves worked for a number of renowned European digital services companies before joining APX in 2004.

At the end of 2015, APX joined the VINCI Energies Group under the AXIANS brand. Since then, as CTO and Director of Strategy and Innovation for Axians, Yves' mission is to consolidate innovation around three domains (Datacenter / Multi Cloud / Data Analytics) and make Axians the French leader for digital transformation.



Vladimir Mlynara joined Axians ICT Austria in 2006 where he is COO and Manager of the Cloud Factory, Data Protection, and Audits business unit. Having worked within the IT industry for 30 years, he has acquired extensive experience in mergers and acquisitions, IT strategy, systems re-engineering, technical infrastructure, software development, and the design and implementation of technical architectures. His role includes project planning, design, development, implementation, deployment and maintenance.

He holds a degree in computer science from the Vienna University of Technology.



Joshua Leader is a member of the architecture team, which focuses on Enterprise Architecture, Automation and Multi-Cloud MGMT at Axians ICT Austria.

In collaboration with his customers, he develops holistic hybrid/multi-cloud strategies with a view to implementing resilient and sustainable IT architectures to support digital transformation. Through the "CUBID" initiative, Axians supports the implementation of fully integrated automation to ensure greater flexibility and efficiency on all clouds.



Stefan Collet is the Business Development Director at Axians Netherlands. He helps organizations use ICTs in a meaningful way. His passion: transforming valuable ideas into concrete and inspiring results.

Over the years, he has come to specialize in four areas: ICT/technology; sales; ICT strategic training; translation/practical planning and leadership/program management. His most inspiring results come from ICTs and government contracts.



Edwin Kanis is the Brand Manager at Axians Netherlands.

He combines skills in communication, marketing, partnerships and technology with a keen sense of IT strategy and innovation.

After acquiring several years' experience in IT consulting for software and IT infrastructures, sales management and business development, he now supports all the company's business units with their go-to-market activities.



Hermann Dupré is International Development Manager for the Axians brand. He works with entities to help them in their strategy and create offers based on Cloud technologies and Datacenter infrastructure. He brings a wealth of experience to creating and developing offers, managing strategic partnerships and seeking new markets. Hermann joined Axians in 2015 having worked with various integrators, including APX where, for four years, he contributed to the development of user-oriented offers. Hermann has also worked in various industries such as the pharmaceutical and automotive sectors, where he held various positions in IT operations and international project management.



About Axians

The best of ICT
with a human
touch

Our way of seeing the world

Our customers face some very considerable challenges. The world is more connected than ever before, and is changing at an astonishing pace. In all markets, companies are struggling to adapt to customer requirements that are constantly changing, not to mention ever-increasing complexity, competition and globalisation.

Operating at the heart of this ever-changing world, Axians and its teams do an outstanding job for organizations all around the world. We draw on all of our expertise to support our customers in their digital transformation, including the highest levels of security, across a wide range of industries.

We offer appropriate solutions because we understand our customers and their industry. Every business sector faces specific challenges, and we are perfectly structured to meet them. Thanks to our in-depth knowledge of our markets, we select the most appropriate technologies.

This is what we mean by "the best of ICT".

Our rationale

We utilize the best technologies to enable our customers to grow, remain competitive and prosper in a rapidly changing global marketplace. Our proximity with our customers sets us apart because we place people before technology. We help our customers to deal with the complexity of their digital transformation by reconciling the pace of technology with its successful adoption. Axians is a people-to-people organization, and that's what we mean by the "human touch".

Axians, a VINCI Energies brand

In a world undergoing constant change, VINCI Energies focuses on connections, performance, energy efficiency and data to fast-track the rollout of new technologies and support two major changes: the digital transformation and the energy transition. With their strong regional roots and agile organization, VINCI Energies' business units boost the reliability, safety and efficiency of energy, transportation and communication infrastructures, factories and buildings.

€13.75 billion in revenue (2019) // 82,500 employees // 1,800 business units // 56 countries

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