Ever-ready infrastructure

Getting from cost burden to cost savings and thriving in the Cloud Continuum

Voices of Change

From insights to action, the path to extraordinary value starts here.

accenture

IT's staggering evolution is a double-edged sword.

Enterprise technology continues to advance at an accelerated pace. As the saying goes, "the more advanced technology gets, the quicker it becomes more advanced." [1] From multi-cloud and hybrid cloud to AI and ML to edge computing, these advances have unlocked an enormous number of new opportunities for generating business value and yielding significant cost benefits, if used correctly.

The catch? They've also left IT departments severely pressed to keep up—let alone get ahead of the technology curve.

That matters because enterprise IT infrastructure is the backbone of today's digital business. It provides the compute, network, workplace and data platform capabilities needed to empower the users and run the applications that run the business. It provides the foundation on which exceptional experiences for consumers and employees can be built. Yet this technical landscape is changing rapidly. Complexity is on the rise. Digital talent is scarce. Infrastructure is becoming code and cloud is evolving into a continuum of technologies. At the same time, a rapidly changing business landscape is demanding ever faster transformation timelines.

The combined effect?

1. IT departments are struggling to keep up

There's huge pressure on IT to support an increasingly demanding and complex set of requirements with legacy technology and skills—while doing so at a lower base cost—some of which simply can't be met with existing infrastructure environments.

Meanwhile, all this acceleration has also radically changed the way IT and infrastructure are actually delivered and operated. The shift to as-a-service and infrastructure-as-code offers the promise of more efficient, capable operations but has left many organizations with a massive technology-related headache.

2. Mounting technology and talent debt leads to spiraling costs.

Think about all the technology accumulated over the last 20 to 30 years, and all the skillsets that go with it. These once-pivotal capabilities have become increasingly burdensome and costly to maintain, creating growing technology debt and talent debt. In fact, according to recent Accenture research, "infrastructure as a bottleneck" was the top barrier to achieving cost-savings through cloud.[2]

The infrastructure workforce that was originally hired for their expertise in traditional data centers, mainframes, networks and service desk operations now find themselves displaced by cloud, AI, automation, site reliability engineering and edge computing.[3] Without proper investment and support to reskill, even such highly capable individuals struggle to stay ahead of the mounting digital skills needed to work in a modern infrastructure organization. This is reinforced by the fact that 36% of companies identify the lack of cloud skills as a top barrier to achieving expected cloud outcomes.

It's no surprise, then, that many organizations feel daunted by the prospect of unwinding their businesses from legacy infrastructure and commercial commitments (see inset). In fact, it may explain why only 12% of companies say they're currently reinventing their business with cloud.[4]

Why infrastructure evolution is a hard problem: Five common barriers





01

Traditional data centers

The purchase, maintenance and management of data centers is an expensive, long-term commitment that can block potential savings.

02

Owning hardware assets

Purchases made with three-to-five year depreciation cycles or contractual leases lock up budget that could be used to move further into the cloud and take advantage of more flexible pricing.

03

Software licenses

Many organizations spend 35 to 55 percent of their IT budgets on software. And some of this software is likely redundant, especially where the organization is siloed or lacks governance.

04

Talent debt

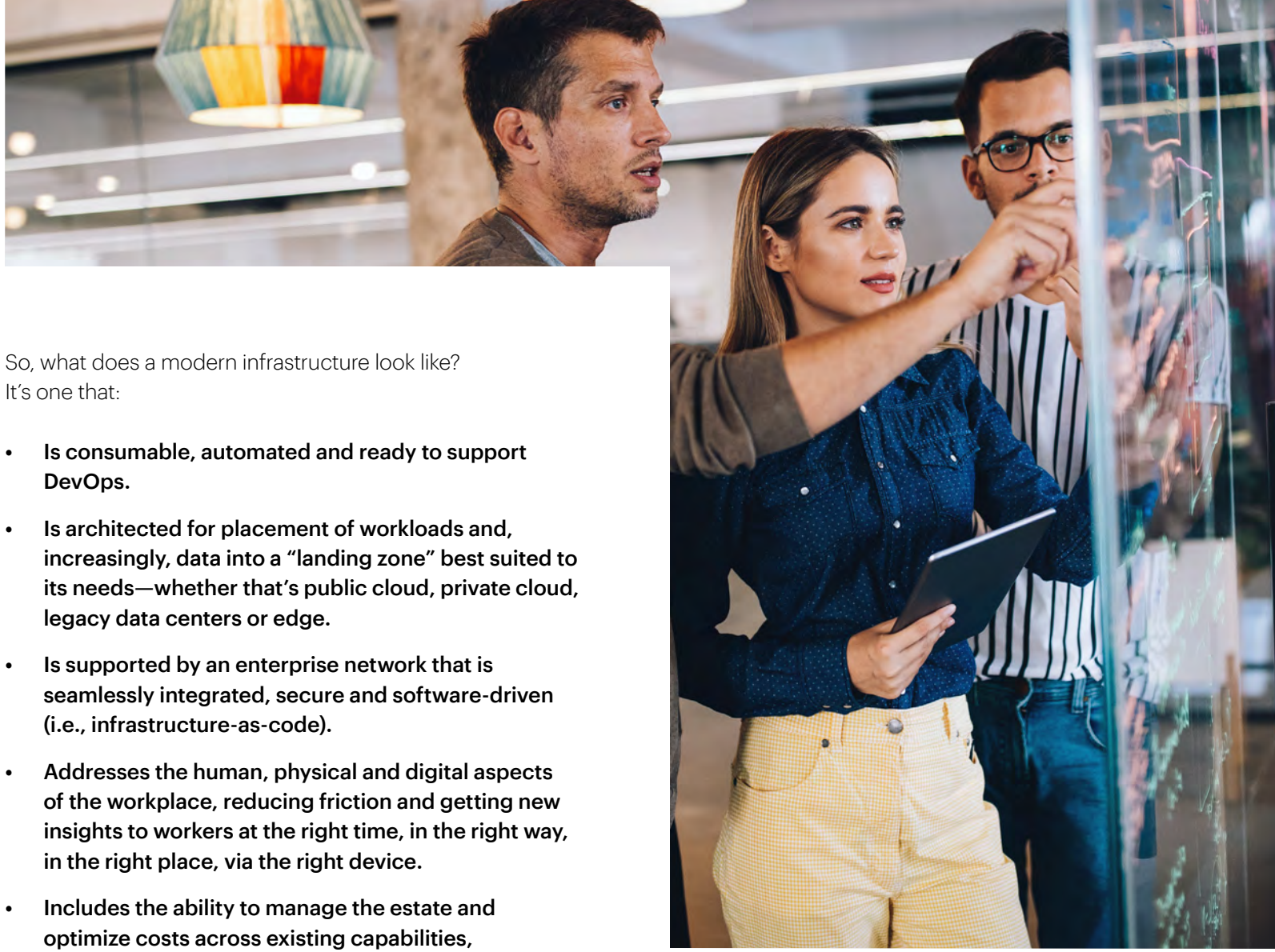
With the explosion of digital technologies, many are struggling to fill knowledge gaps on their current teams. Companies must continuously upskill and rotate their talent to stay relevant and competitive.

05

Mainframe legacy platforms

Mainframe platforms still operate some organizations' most critical business applications—adding to their accelerating technical debt. Mainframes are expensive to maintain and become ever-more difficult to modernize for the cloud.

How to solve infrastructure's Gordian Knot



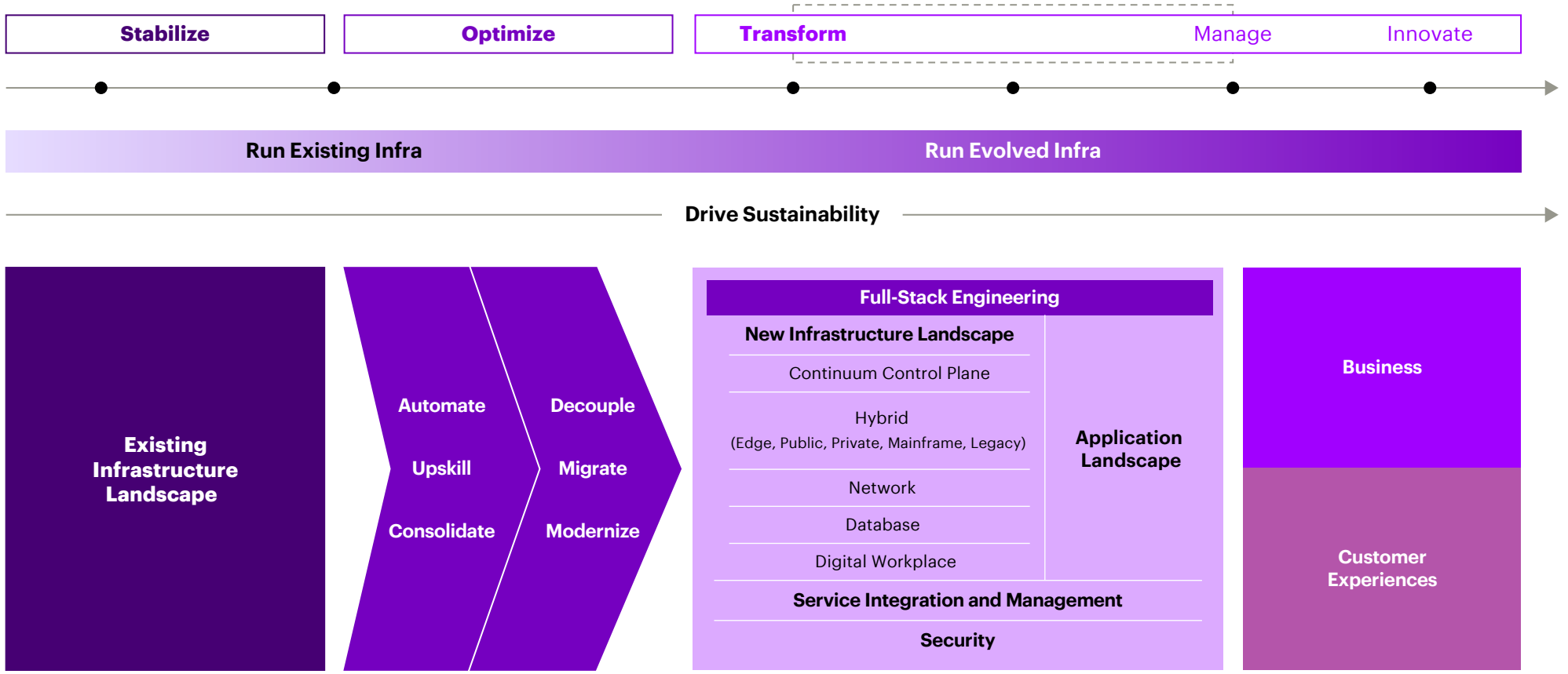
Traditional approaches to infrastructure are limiting companies' ability to adapt, innovate and compete. And the longer the delay, the bigger the burden. Organizations that fail to transform risk a slow death of rising costs and eroding competitiveness, perpetually lagging the advances of others. A new way forward is needed. That means companies need to stop spending so much to keep the lights on and dragging on opportunities to modernize.

What's needed instead is an efficient infrastructure focused on continuous innovation, automation and optimization; an infrastructure that enhances rather than diminishes competitive advantage. And this requires companies to evolve how they architect, develop and operate their infrastructure—including compute, network, workplace and data platforms (figure 1).

So, what does a modern infrastructure look like? It's one that:

- **Is consumable, automated and ready to support DevOps.**
- **Is architected for placement of workloads and, increasingly, data into a "landing zone" best suited to its needs—whether that's public cloud, private cloud, legacy data centers or edge.**
- **Is supported by an enterprise network that is seamlessly integrated, secure and software-driven (i.e., infrastructure-as-code).**
- **Addresses the human, physical and digital aspects of the workplace, reducing friction and getting new insights to workers at the right time, in the right way, in the right place, via the right device.**
- **Includes the ability to manage the estate and optimize costs across existing capabilities, technologies and services.**

Figure 1:
A framework for a new modern infrastructure.



How to modernize your infrastructure and cut costs

Ever-ready infrastructure needs a solid and stable footing on which to build. That's true whether your goal is unlocking new business value and innovation today or preparing the organization to advance in the Cloud Continuum tomorrow. Either way, enterprises need to evolve away from a capital-intensive, hardware-oriented infrastructure discipline to one that is software-defined and intelligent. These changes are enabled by new operating models, new skills and new ways of working all optimized for cloud. It's also critical to have a way of orchestrating it all to lower baseline costs and optimize returns.

The key to success? Understanding that every organization has a different starting point on this journey—and different challenges to navigate. For some, it may be people and asset issues. For others, software licensing, mainframe and data center issues. Each organization needs to identify its own barriers—and chart its own path to innovation and value.

> Accenture uses a stabilize-optimize-transform approach to modernizing infrastructure that also helps companies save on costs.

By first stabilizing and optimizing the infrastructure landscape, we achieve predictable and optimized costs across the entire enterprise. This creates the foundation for further value realization in the transformation stage. The best part? The timing of each step is flexible. So, a business can realize the benefits of stabilizing and optimizing today, then kickstart a transformation at the time of its choosing.

- **Stabilize.** Introduce automation to increase quality, reduce costs and build the foundation for a multi-speed operating model capable of supporting a hybrid landscape.
- **Optimize.** Free-up funding, people and clear a path to full-stack innovation. Begin continually re-engineering the infrastructure landscape to align with strategic business goals.
- **Transform.** Continue re-engineering the infrastructure landscape while introducing new Cloud Continuum capabilities to accelerate value and unlock innovation.

A **stabilized** environment is one that operates without critical system "fire drills." This is now table stakes, whether or not the organization plans to transform further. In fact, for some companies, just stabilizing and automating operations consumes so much attention and resources that little is left to focus on transformation. As one executive described it, "We don't have enough people to do the regular work, let alone dedicate them to a transformation." At this stage, we focus on "no regrets" foundational skilling (see below). Stabilizing the environment results in a more efficient, automated, resilient and sustainable estate, which experiences fewer resource-draining incidents.

An **optimized** environment is about getting maximum horsepower out of your IT estate and people to support the business. This means better leveraging existing capacity and capability and reducing the cost of operations. It also means being able to re-engineer the infrastructure landscape as new business requirements emerge. An optimized environment also accelerates time-to-market, reduces business risk and further supports sustainability while freeing funds to pursue other value-generating activities.

Then, when the business is ready to focus on tomorrow, this stabilized and optimized environment will provide the foundation for a **transformation**. This step expands your footprint in the Cloud Continuum, seamlessly leveraging more advanced technologies and capabilities to exploit a wider variety of opportunities—helping enable greater innovation, agility and alignment to strategic business initiatives with lower risk.

The good news? It doesn't have to happen all at once. Each step forward toward transformation unlocks more of the innovative power of infrastructure.

Consider a global aerospace and defence company that needed to consolidate more than 50 data centers, replacing obsolete and fragmented infrastructure to lay the foundation for a modern software-defined estate. This included implementing disaster recovery and high-availability procedures while optimizing local site hosting proximity services and reinforcing high security standards. These efforts have resulted in a standardized, flexible and secure infrastructure that **has reduced cost and risk**—setting the groundwork for future transformation initiatives.


Take the first step towards cost-saving transformation

Once, the focus of enterprise cloud technology was all about the public cloud. But as cloud technologies and cloud operating models have matured, so have enterprise strategies. Today, cloud value comes from leveraging a continuum of capabilities—one that spans everything from multiple public clouds to on-device edge computing.

This Cloud Continuum does not have a single technology model, a single location model, or a single ownership model. Those who can harness the Continuum are using the cloud not just as a single, static destination, but as a future operating model. They do this by dynamically balancing public, private, hybrid, co-location, multi-cloud and edge with advanced practices to support the ever-changing needs of the business. By choosing the right destination for each use-case instead of defaulting to putting everything in one cloud, companies are optimizing costs and generating more value.

Even companies that don't choose to expand into the Cloud Continuum must manage their infrastructure and people in a cloud-like way. Otherwise, performance will suffer, cost will continue to rise and the ability to innovate will be limited.

For those that do choose to exploit the transformative opportunities offered by the Cloud Continuum, their landscape must be engineered to support it.

> There is no one-size-fits-all approach, but a few core elements need to be in place if you're to succeed in tapping into the value of the Continuum.

Migrating your people to the cloud. According to our research, cloud leaders who transformed their people along with their technology achieved 60% higher ROI on cloud investments than those who focused solely on the technology. However, not all people-change programs drive the same amount of value. There are three "no-regrets" people moves for the infrastructure workforce that have the biggest impact on value at any stage of your journey:

01
Alignment

Redefine the operating model for cloud or cloud-like operations, enabling seamless collaboration between IT and the business, between engineering and operations, between technology and finance, and between human and AI/machine intelligence.

02
Ability

Reskill infrastructure talent in cloud across multiple disciplines including X-as-a-Service, infrastructure-as-code, software-defined networks, security, continuous integration and development (CI/CD), finance for pay-as-you-go services, as well as self-healing and other advanced technologies.

03
Adoption

Support infrastructure workers to embrace new ways of working, including SRE, CI/CD, product management, FinOps, full-stack accountability and DevSecOps by setting clear expectations, adjusting performance metrics, and creating incentives to align with new objectives.

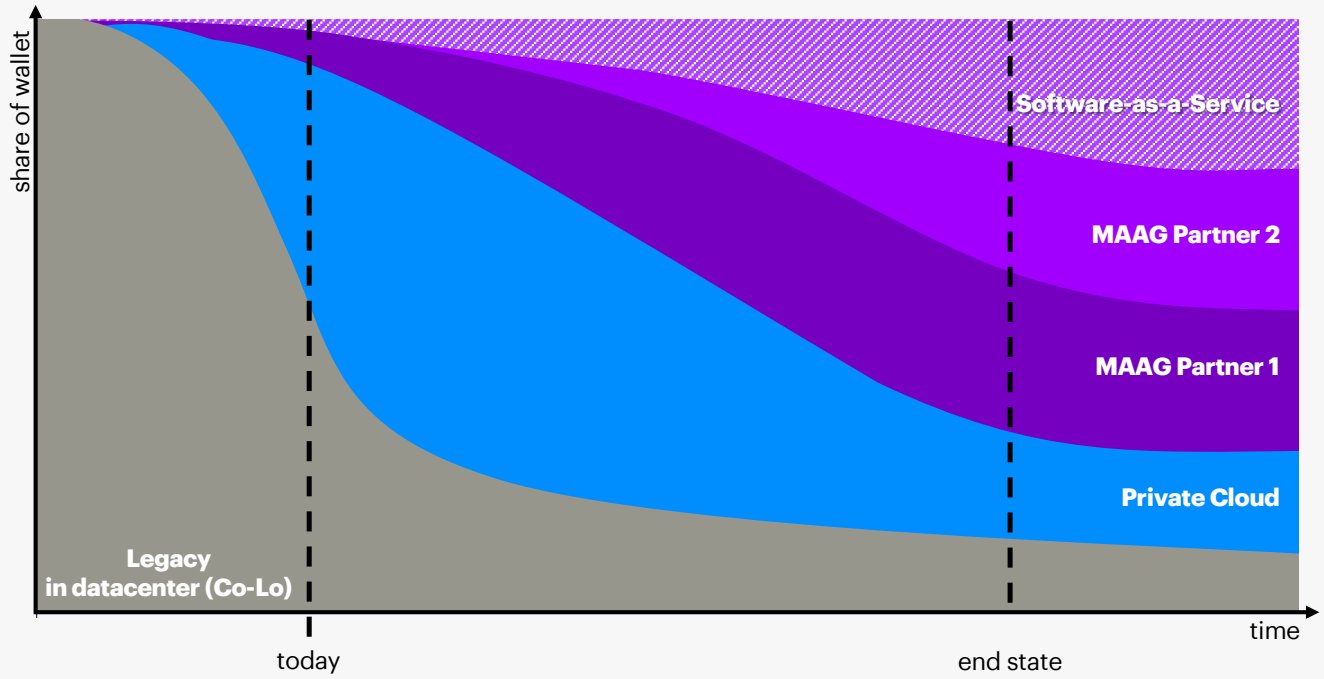
Finding the right landing zone in a new hybrid/multi-cloud world. A landing zone is a client-specific configuration within a cloud, which can be optimized for different purposes, like data center costs. In a hybrid/multi-cloud world, defining the right landing zones will be critical to optimizing infrastructure costs.

Leading organizations recognize that value doesn't come solely from the infrastructure itself, but from what it enables for the end-users of the applications that the infrastructure supports. For enterprise IT, that means taking a user-centric, application-centric and data-centric approach to infrastructure (figure 2). That way, an organization can exit the data center and define the best landing zone for each application or dataset, considering the value potential, the cost of migration and the variable cost of cloud consumption.

For example, machine learning or analytics-heavy use cases will often land in the public cloud where the most mature and high-performing data services tend to be found. On the other hand, industrial applications requiring exceptionally low latency will typically land in a private cloud or data center. Internet of Things use cases, static non-critical legacy applications, and data subject to storage sovereignty rules may all similarly dictate a non-public cloud landing zone.

Accenture's Seven Rs methodology is our framework for guiding these decisions.

Figure 2:
Hybrid infrastructure landing zones as percentage of share of wallet (illustrative). Value comes from actively shifting share of wallet in line with business needs and complexity.



Making sure security is baked-in will save costs. This is too often overlooked, with many assuming that cloud service providers will manage this crucial aspect. This is an expensive oversight. According to ITIC research, the average hourly cost of downtime due to a data breach now exceeds $300,000 for 91% of SME and large enterprises.[5]

An effective cloud security model is a shared, multi-dimensional, collaborative effort. It is secure from the start, introduces proactive compliance, leverages automated and self-healing processes, and uses accelerators to enable security capabilities that can be deployed rapidly across the estate.

Global insurer soars, thanks to cloud

Leading global insurer, QBE, knew that their IT infrastructure was inefficient, and the amount of budget needed to maintain the legacy technology was increasing every year. They also saw that moving away from on-premise data centers and harnessing the power of public cloud could help them build modern digital and data capabilities, enhanced by automation, to deliver next-generation employee and customer experiences. Accenture led a complex program to help QBE modernize its IT applications, infrastructure and technology platforms. We helped them in four key areas:

01

Exiting on-prem data centers:

We helped migrate 400 applications to Microsoft Azure to create a scalable, secure and more reliable technology ecosystem with enhanced IT process automation and security.

02

Accelerating cloud adoption:

We helped set migration priorities and worked with QBE to develop the right cloud landing zones.

03

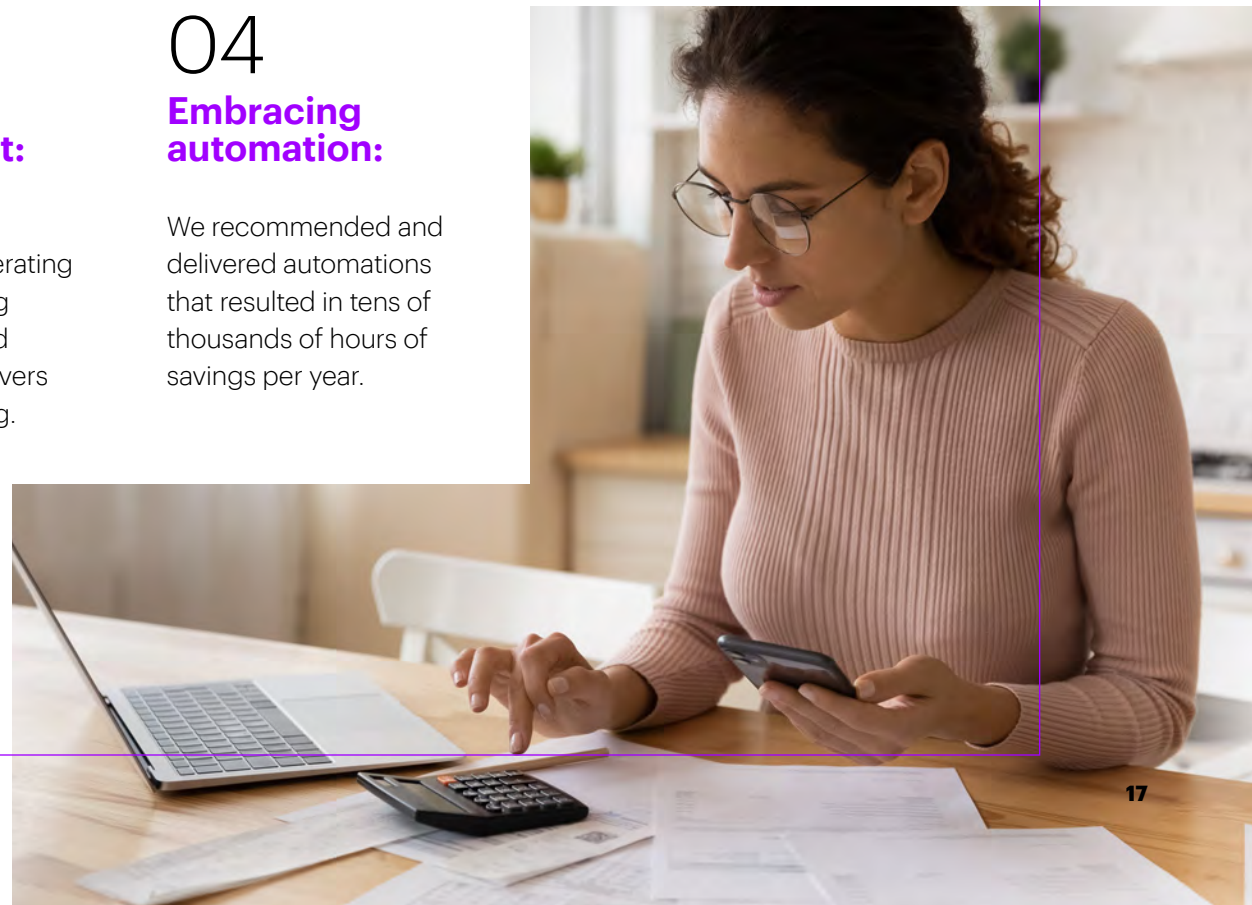
Reducing technical debt:

We helped upgrade applications and operating systems, remediating 200 applications and identifying 1,300 servers for decommissioning.

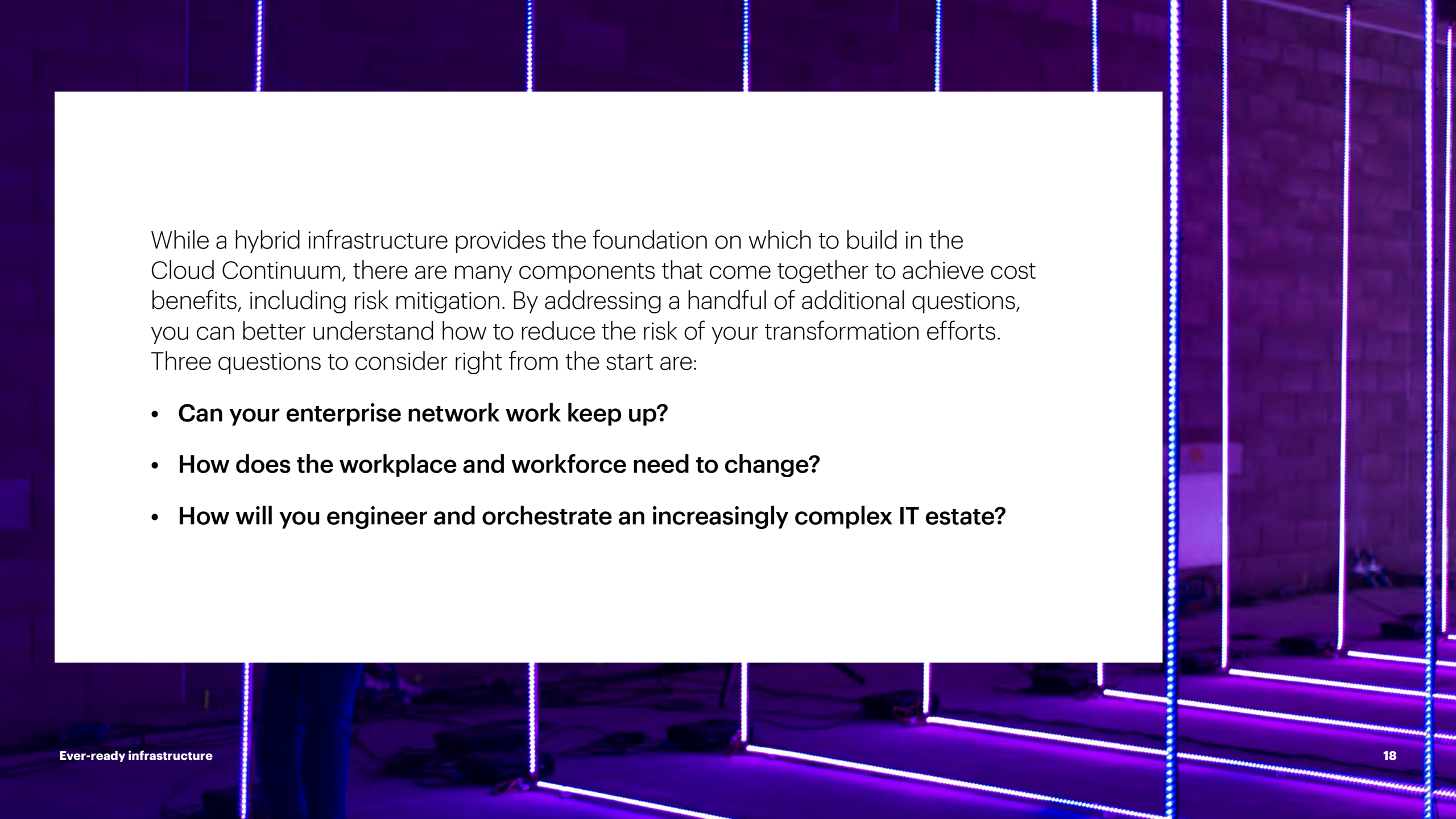
04

Embracing automation:

We recommended and delivered automations that resulted in tens of thousands of hours of savings per year.



By reducing tech debt and building a strong digital core through cloud and automation, QBE anticipates reducing IT run costs by about US$60 million per annum, freeing up much-needed budget and resources for innovation. The transformation also improved QBE's ability to respond to changing customer needs, and to deliver new products and services to market more quickly and efficiently.



While a hybrid infrastructure provides the foundation on which to build in the Cloud Continuum, there are many components that come together to achieve cost benefits, including risk mitigation. By addressing a handful of additional questions, you can better understand how to reduce the risk of your transformation efforts. Three questions to consider right from the start are:

- **Can your enterprise network work keep up?**
- **How does the workplace and workforce need to change?**
- **How will you engineer and orchestrate an increasingly complex IT estate?**

Building a network to meet your Continuum needs

For years, enterprise networks have been falling behind the curve as executives focused on the migration to cloud. With greater numbers of cloud-based workloads and ever-increasing amounts of data flowing throughout the enterprise, the network can easily become a bottleneck, choking system performance and becoming a source of frustration for every worker. Having your network in "perpetual catchup" mode can also lead to security holes and spiraling costs. In large organizations, for example, over half of the network budget can be spent on bandwidth. And with the incessant demand for new cloud services, those bandwidth needs can grow 30 percent each year, further escalating those costs.

Now, with an even greater role to play in the Continuum, the network has never been more important to the future prospects of a business. The good news is networks are becoming far more automated, integrated and software-defined. In particular, Cloud WAN technology is transforming networks into platforms, enabling them to be configured and managed with greater speed, automation, efficiency and agility.

Historically, many enterprises have been cautious about upgrading their networks to Cloud-WAN. But leading organizations recognize the technology is now mature and the organizational agility it brings is critical for success in the Cloud Continuum.

And by deploying methodologies such as "zero trust" (where all connections are treated as potentially hostile and require authentication everywhere), these leaders have resolved many of their previous security concerns.

With 5G also poised to enable radically enhanced cellular connectivity and private network capability over the next few years, enterprises will have a range of modern and agile options as they rethink their networks. And as organizations adapt to the post-COVID "everywhere, anywhere" workplace model, this agility is going to be more and more essential to protecting both productivity and profits.

Creating a workplace to thrive in the Continuum

Enterprise infrastructure has implications for all dimensions of the new hybrid workplace—the human, the physical and the digital. A modern infrastructure can breed new efficiencies in today's hybrid workplace while enabling intelligent decision-making and cost benefits. The objective is to use huge growth in compute power and data volume to reduce friction in the workplace and deliver time and cost-saving insights.

Leading organizations are already taking automation to the masses and giving more levers of control to the individual to boost productivity and reduce churn. Some are implementing low-code/no-code platforms that enable employees to augment their own decision-making, automate their own processes or solve their own business problems with data.

Others are adopting a "process improvement as a service" model through a centralized hub or external provider to cultivate productivity and efficiency through reusable solutions. For example, Microsoft Avanade's productivity studio provides a cadre of specialized process improvement talent who help create new solutions to specific business problems, which can then be spun off and reused elsewhere.

Leading organizations are also rethinking and integrating digital processes to

improve efficiency. Even today, workers are dealing with fragmented environments, with dozens of siloed solutions used for daily activities. Companies are starting to build more intelligently designed systems that give workers access to the tools they need through a primary environment (e.g., Microsoft teams or other enterprise workspaces). This can help streamline costs associated with applications that run day-to-day workstreams and processes.

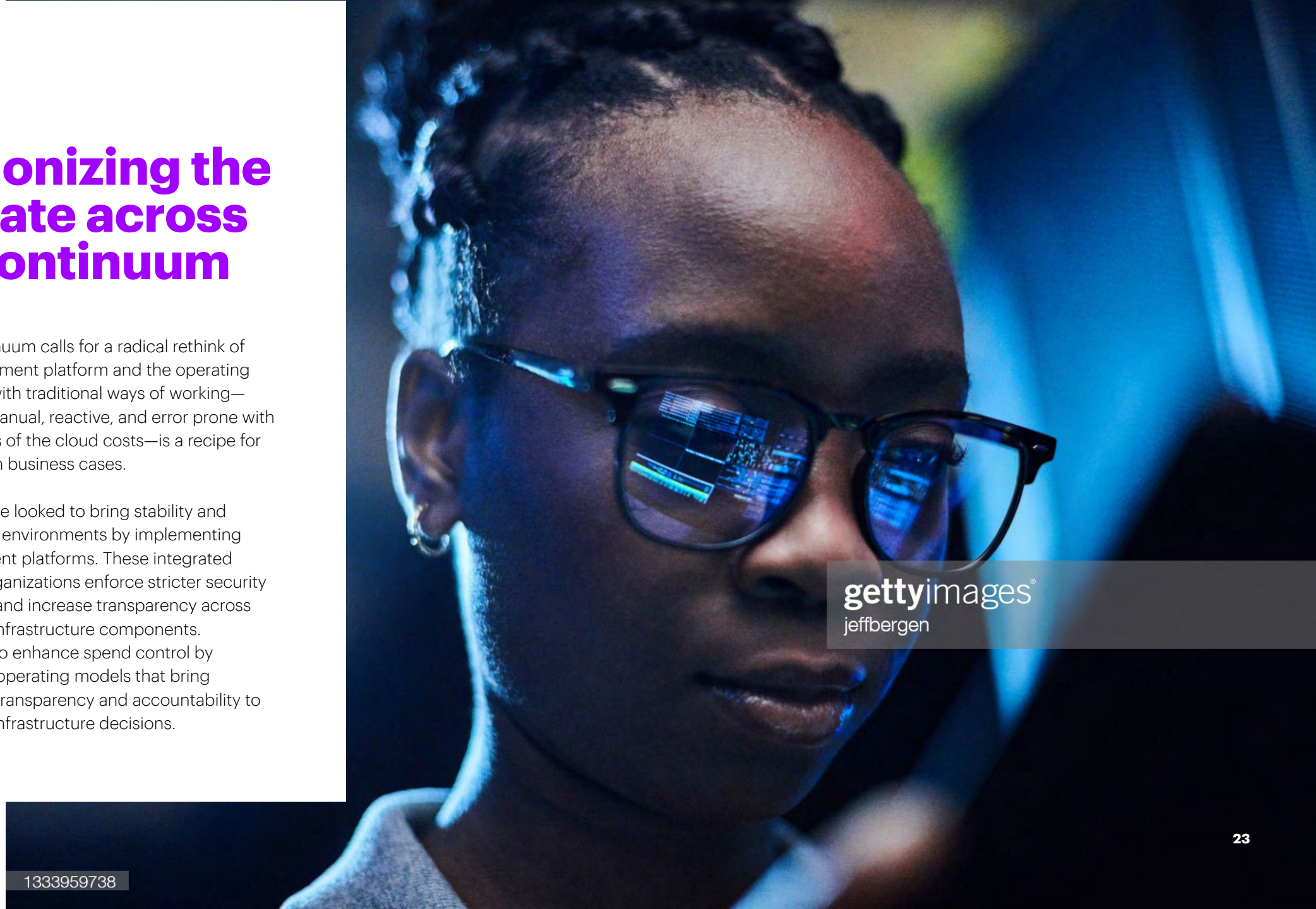
Workplaces themselves are being transformed through Cloud Continuum connectivity. Some companies are creating digital twins of their physical environments, giving them a real-time view of how the workplace is being used, not only in offices but for all front-line workers. The insights generated can have significant cost-saving implications, not only for the efficient use of physical infrastructure and employee talent, but also for other activities such as capacity planning, energy consumption and the enforcement of COVID protocols.

The Continuum can also be used to authenticate and empower individuals in a range of new ways, from smartphone-enabled access to physical and digital spaces, to augmented reality experiences for remote workers, to integrated digital workspaces that give employees everything they need to do their job, at their fingertips, in a single environment.

Harmonizing the IT estate across the Continuum

The Cloud Continuum calls for a radical rethink of both the management platform and the operating model. Sticking with traditional ways of working—typically highly manual, reactive, and error prone with lack of awareness of the cloud costs—is a recipe for chaos and broken business cases.

It's why many have looked to bring stability and control to their IT environments by implementing cloud management platforms. These integrated products help organizations enforce stricter security and compliance and increase transparency across the full range of infrastructure components. Crucially, they also enhance spend control by enabling FinOps operating models that bring greater financial transparency and accountability to individual cloud infrastructure decisions.



FinOps: The Key to Maximizing Your Cloud Infrastructure Investment

As companies move towards a cloud infrastructure, they are struggling to control their cloud expenditures and achieve the desired return on their investments. In fact, recent research showed that cost savings was the most unrealized cloud outcome, with only 39% fully achieving their expected value in that area.

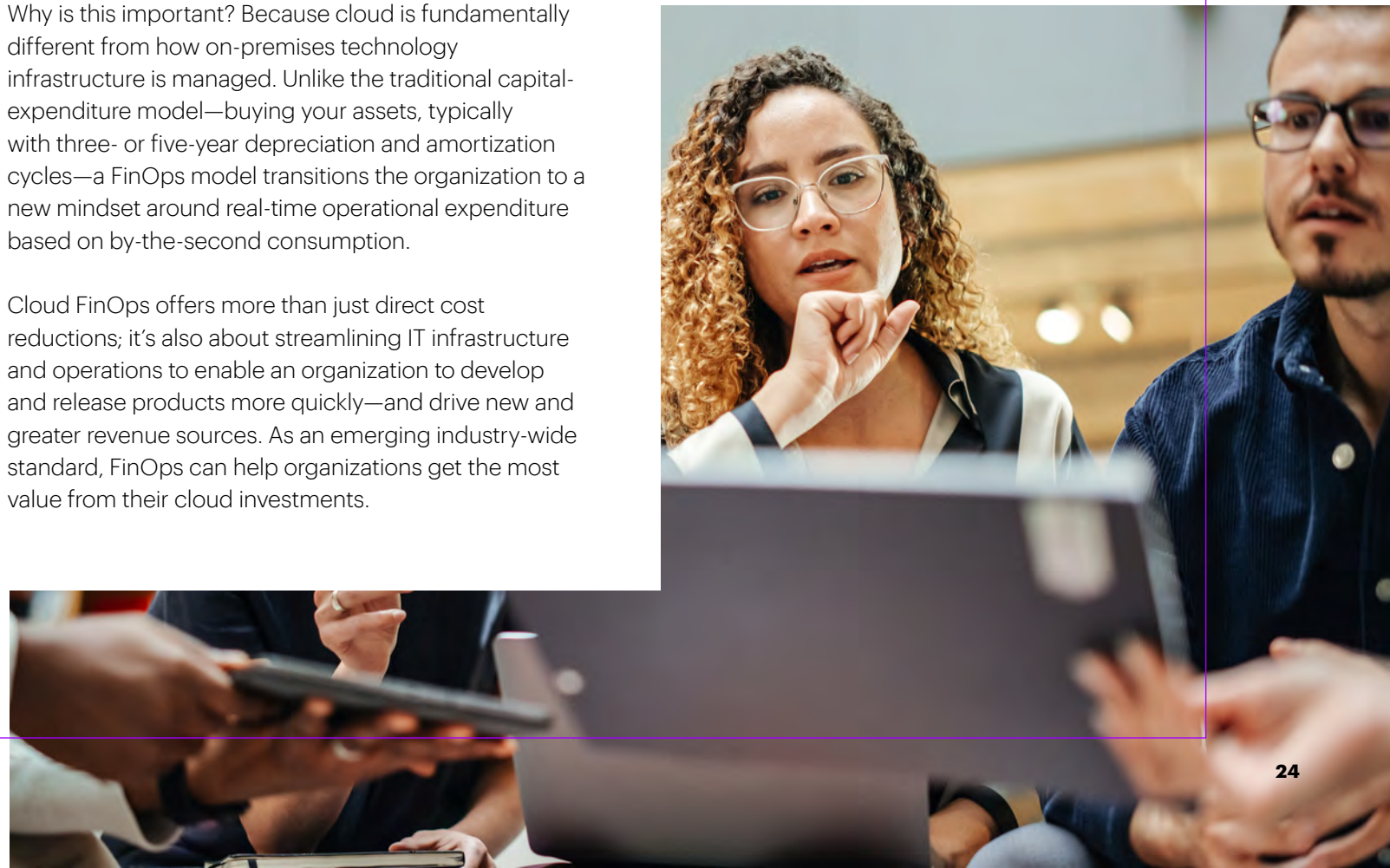
Common problems that lead to cloud overspend can include:

- **Complex pricing and billing**
- **Lack of accountability**
- **Lack of transparency**
- **Sporadic and partial optimization**
- **Reviewing supplier costs in isolation**

That's where Cloud FinOps comes in: Cloud FinOps is all about bringing greater financial accountability to managing the variable spend model of cloud, enabling distributed teams to make business trade-offs between speed, cost and quality. It's about developing the maturity surrounding the management and cost optimization of cloud spend to establish and enable effective, real-time control.

Why is this important? Because cloud is fundamentally different from how on-premises technology infrastructure is managed. Unlike the traditional capital-expenditure model—buying your assets, typically with three- or five-year depreciation and amortization cycles—a FinOps model transitions the organization to a new mindset around real-time operational expenditure based on by-the-second consumption.

Cloud FinOps offers more than just direct cost reductions; it's also about streamlining IT infrastructure and operations to enable an organization to develop and release products more quickly—and drive new and greater revenue sources. As an emerging industry-wide standard, FinOps can help organizations get the most value from their cloud investments.



As the concept of cloud expands, Accenture believes enterprises should go beyond traditional cloud management to using a **Continuum Control Plane** (see inset). With a Continuum Control Plane, an organization can extend its strategy beyond a pure technology focus to encompass the entire complexity of the enterprise. That includes the processes for building and consuming Cloud Continuum capabilities, as well as the skills and capabilities of the people that use them. With a Continuum Control Plane orchestrating across the whole of the infrastructure landscape, organizations can unlock new agile operating models that accelerate concept-to-cash cycles and enable new and better experiences for customers as well as employees.

> In short, a Continuum Control Plane provides the best of both worlds: the financial stability that's essential to controlling costs and the business agility that's critical for future growth and innovation.

Continuum Control Plane: bringing harmony to the continuum

A **Continuum Control Plane** is a holistic approach to instilling transparency, orchestrating change, driving innovation and delivering higher and more cost-effective IT performance. It's a centralized command center for operating in the Cloud Continuum—managing the estate from public to edge and everything in between, including private, hybrid, multi-cloud infrastructure, applications, data, network, people, and processes.

The Continuum Control Plane performs an orchestration role, bringing harmony to the complexity that hybrid IT can create. It is differentiated by its extensive use of automation and self-service, radically simplifying how organizations build, manage and consume services across the full range of infrastructure and Cloud Continuum capabilities.

Build ever-ready infrastructure for today—and get ready to unleash your competitiveness tomorrow

The Cloud Continuum is the natural evolution of enterprise IT. It enables companies to reimagine and reinvent their business through continuous innovation, powered by various types of cloud capabilities.

But it's hard to move forward when you're spending so much just keeping the lights on. That's why building a modern infrastructure—supported by a Continuum Control Plane—is essential. A modern infrastructure provides the foundation for an efficient, flexible business today and the launchpad for tomorrow's innovation.

When an organization is ready to realize the next-level cloud value on offer, it will need to rethink its approach to technology infrastructure, networks, cost governance, people and workplaces. That's no easy thing to do. But those who can find the right balance will realize the cost-saving benefits promised by cloud, while unlocking new levels of competitiveness and a new wave of innovation opportunities.

It's an exciting future for enterprises. And it all rests on having a stable and optimized infrastructure foundation. That's why the enterprise IT focus is clear—creating ever-ready infrastructure for today, while planning for a new tomorrow in the Cloud Continuum.

About the authors

Philippe Chauffard
Global Lead, Infrastructure Engineering, Cloud First

Philippe has extensive cloud and infrastructure experience, ranging from strategy to transformation, migration and operations.

Ricky Santos
Global Lead, Technology Portfolio Delivery Management

Ricky has extensive experience across IT infrastructure including cloud services, operations, network, global compliance monitoring and risk management.

Yaarit Silverstone
Global Strategy Lead, Talent & Organization/Human Potential

Yaarit partners with CEOs and the entire C-suite to enable transformation and deliver sustainable capabilities and growth.

References

1 https://www.social4retail.com/how-technology-has-evolved-over-the-last-5-years.html

2 Accenture, “The race to the cloud: Reaching the inflection point to long-sought value,” 2023, https://www.accenture.com/us-en/insights/cloud/cloud-outcomes-perspective

3 Accenture, “Investing in cloud workforce transformations,” 2021, https://www.accenture.com/ma-en/insights/consulting/cloud-workforce

4 Accenture Research – from forthcoming Industry Cloud research

5 ITIC, “Security, Data Breaches Top Cause Of Downtime In 2022,” 2022, https://itic-corp.com/security-data-breaches-top-cause-of-downtime-in-2022/

About Accenture

Accenture is a leading global professional services company that helps the world's leading businesses, governments and other organizations build their digital core, optimize their operations, accelerate revenue growth and enhance citizen services—creating tangible value at speed and scale. We are a talent and innovation led company with 738,000 people serving clients in more than 120 countries. Technology is at the core of change today, and we are one of the world's leaders in helping drive that change, with strong ecosystem relationships. We combine our strength in technology with unmatched industry experience, functional expertise and global delivery capability. We are uniquely able to deliver tangible outcomes because of our broad range of services, solutions and assets across Strategy & Consulting, Technology, Operations, Industry X and Accenture Song. These capabilities, together with our culture of shared success and commitment to creating 360° value, enable us to help our clients succeed and build trusted, lasting relationships. We measure our success by the 360° value we create for our clients, each other, our shareholders, partners and communities.

Visit us at **www.accenture.com**

About Accenture Research

Accenture Research creates thought leadership about the most pressing business issues organizations face. Combining innovative research techniques, such as data science led analysis, with a deep understanding of industry and technology, our team of 300 researchers in 20 countries publish hundreds of reports, articles and points of view every year. Our thought-provoking research developed with world leading organizations helps our clients embrace change, create value, and deliver on the power of technology and human ingenuity.

visit **www.accenture.com/research**