



# The Evolving Role of the CIO in the Era of Digital Transformation

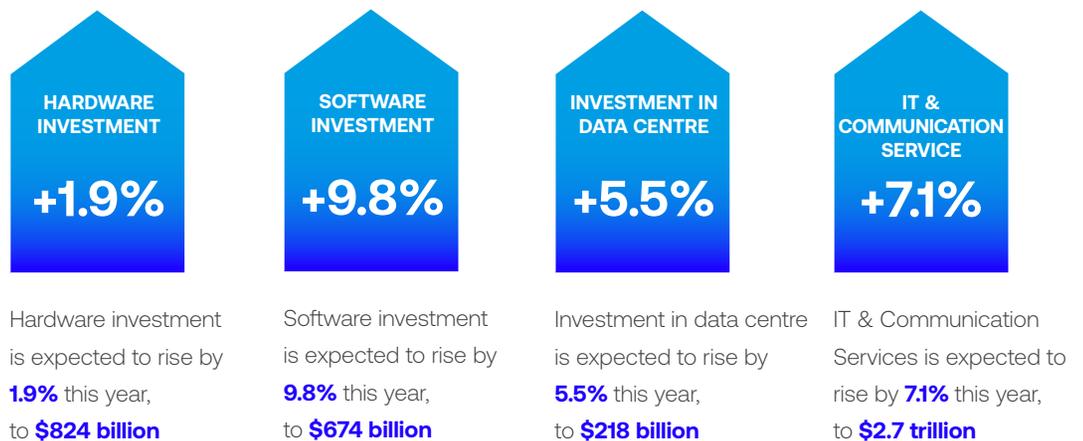
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IT decision makers are tasked with juggling legacy infrastructure, keeping the lights on, risk mitigation, competitive differentiation through technology while reimagining business processes across the organisation. In fact, according to IDG's 2022 State of the CIO report technology budget growth is seeing pre-pandemic levels. 59% of CIOs expect their tech budget to increase in 2022, which is up from 49% in 2021.<sup>1</sup>

The CIO role was elevated due to the pandemic and this visibility within the organisation is expected to continue. In fact, 74% of CIOs agree with this statement and 78% of their LOB counterparts agree<sup>2</sup>.

### Gartner predicts<sup>3</sup>:



Creating space and time for digital transformation is no small feat. So how does an IT decision maker keep up with performance demands, ensure security structures are stable, and create a cohesive data strategy? They'll need to develop strategic plans across three pillars: technology, process, and people.

# Technology is driving us forward and keeping us back.

As the usage of technology and applications increases, so does the need for the CIO to safeguard the massive amounts of decentralised data that accumulate.

Too often, a CIO is bogged down by mismanaged and aging technology. When you are charged with maintaining systems, you know that as soon as you deploy any system, you have to keep it running for an undetermined period of time. Each new system added to the IT stack draws time and resources on an ongoing basis. Not to mention, networking and server infrastructure with its many network types, deployment models and points of presence which can leave companies facing many single points of failure and its associated risks. Businesses use MPLS to connect remote branch offices that require access to data or applications that reside in the organisation's data centre or company headquarters. Many companies are moving towards SD-WAN to take advantage of multiple access or transport types, speed of deployment and intelligent traffic management. SD-WAN as a transport-agnostic overlay can then intelligently route any type of IP based application traffic to its intended destination based on application and security aware policies. The advantage of SD-WAN is that an enterprise WAN-traffic architect can sit at a central point and easily apply policies across all WAN devices. By contrast, with MPLS, predetermined routes need to be painstakingly provisioned and once the fixed circuits are up, making changes is not point-and-click.

As technology and application use increases, so does the need for the CIO to safeguard the massive accumulation of decentralised data. It is equally critical to apply a single version of the truth to master transactional data in order to optimise data exchange. The biggest challenge for digital transformation is not the technology itself, but the data gravity barriers<sup>5</sup> that result from the massive amounts of data that accumulate and cause added complexity—possibly preventing digital transformation from happening at all. So, IT strategies have to address decentralised data and accommodate distributed workflows that vary by participant, application, information and location-specific needs.

As technology systems age, they draw more resources. The result is poor network performance and application operation. Application failures can cause irreparable damage to the IT department's credibility among all business partners within an organisation.

# Leaving legacy to drive value.

CIOs need a bridging strategy to link critical infrastructure with the emerging technologies that create competitive advantage.

## Adaptation for survival.

The momentum of new tech is fueled by evolution. Adapting to new technologies used to be a competitive advantage. However, it's no longer acceptable to automate business processes, ensure cloud storage, and call it a day. The core of the shifting CIO role includes owning the technology that serves the customer experience. "IT leaders are actively making operational excellence a priority and working to ensure the fast-paced cycle of digital investments made over the course of the pandemic is delivering for the interned business outcomes"<sup>6</sup>

According to CIO Magazine, Cairn Oil and Gas CIO adopted innovative use of technology to enable the company to cut costs, reduce time to first oil, and manage decline in production.<sup>7</sup>

## People power change.

CIO magazine state that improving digital dexterity is a key priority for CIOs in 2022. "IT teams need to be liberated from manual processes so they can become more productive."<sup>8</sup> Our digital reality means digital efficiency and security are more important than ever to keep organisations running at full speed." This requirement extends across the entire organisation.

"IT leaders are actively making operational excellence a priority and working to ensure the fast-paced cycle of digital investments made over the course of the pandemic is delivering for the interned business outcomes"

(CIO Magazine July 2022)

In 2022, at least 84% of top CIOs will have responsibility for areas of the business outside of traditional IT. A hybrid CIO is being born, one that is able to move between IT and HR responsibilities seamlessly.<sup>9</sup>

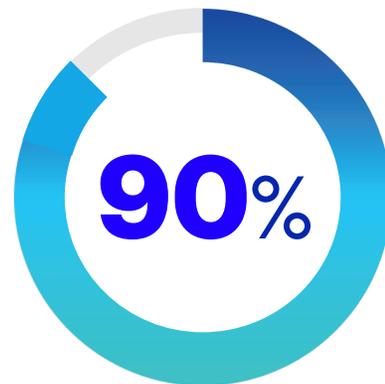
**Companies that focused on digital culture achieve 90% breakthrough performance.<sup>10</sup>**

New technologies and applications push business leaders into new realities where IT becomes a shadow department, leaving them with no support to solve problems. This creates issues for compliance, governance, and security—increasing risk to the business. New infrastructures allow the business to do what it needs to do. Fostering core partnerships in collaboration with HR can also help break down these barriers and overcome the organisational challenges brought on by new technologies.

On the other hand, as the pace of technology shifts, it's easy to feel like you never have enough people to do the transformational work. Fortune states - **71% of CEOs anticipate the skills and labor shortage will be 2022's biggest business disrupter. And the digital skills gap will cost businesses trillions of dollars by the end of the decade.**<sup>11</sup>

One way the industry experiences this disruption is the cost of hiring highly-skilled tech workers. However, the solution could lie in reskilling. It makes sense to ensure that CIOs are getting ahead of this to create a constant supply of talent in the near future.

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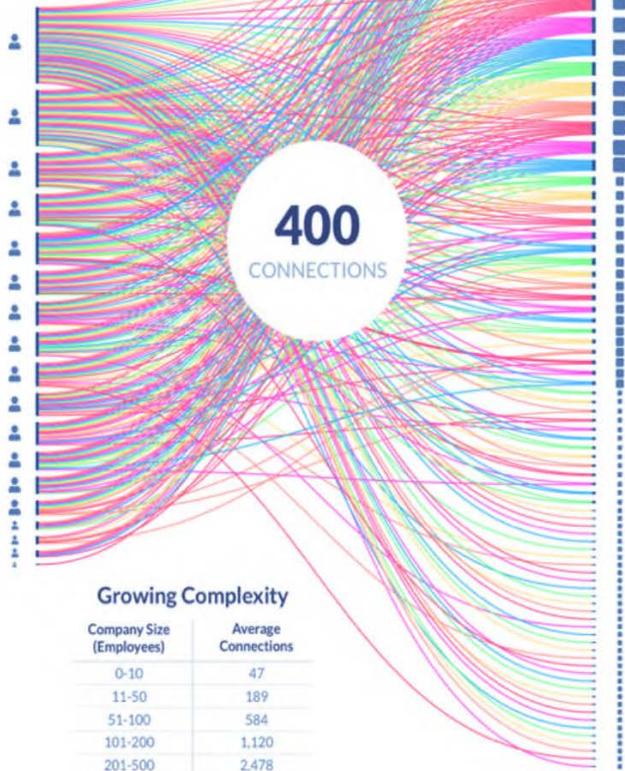
# The SaaS Graph™

The SaaS Graph™ shows the relationship between people and SaaS apps in an organization. Each line represents an app-to-person connection.

Actual data from an anonymous company's SaaS usage, as of January 2019.

18

EMPLOYEES



## Growing Complexity

Company Size (Employees)	Average Connections
0-10	47
11-50	189
51-100	584
101-200	1,120
201-500	2,478
501-1,000	5,671
1,000+	19,848

## IT needs to bridge the gap.

A CIO has to juggle a complex infrastructure that includes managing old/new equipment, existing talent, and team cultivation while navigating the ever-changing landscape of shadow IT. Enterprise infrastructure experiences create additional complexity as business partners add more and more unvetted applications. As a result, administering IT management strategies, maintaining internal business relationships, and addressing harmful security threats becomes even more difficult without a robust decentralised infrastructure.

Then there's the disparate data storage. The use of rogue applications means that data is all over the place. Every connection is a vulnerability. **Blissfully provided an overview of the growing complexity within an SaaS study. Although this is dated back to 2019 it illustrates the level of complexity involved.**<sup>12</sup> Between existing content, business data, and customer information, data can be spread around cloud software instances, compounding IT demands with data gravity issues.

To solve digital transformation and overcome data gravity, CIOs should adjust strategies for decentralised infrastructure deployments and improve precision to scale globally. This requires an architectural integration of its physical and virtual worlds while interconnecting to digital ecosystems and adapting to the needs of the business.

Balancing the users' need to manage their own software applications while managing risk and IT demands is key. IT teams need to be agile and flexible to gracefully manage the risks.

**“ By 2022, 60% of enterprise IT infrastructures will focus on centres of data, rather than traditional data centres.”**

## **How can CIOs transition? Use architecture as the blueprint.**

Architecture is the blueprint for IT and the business. While data is the critical topic, business users need to run and optimise operations. Managing business requires focusing on all architecture disciplines, not just the data.

A new enterprise architecture is necessary to support the exploding volume of digital business workflows, as well as the highly interactive traffic behaviors. This brings users, systems, and networks to the data. This removes barriers of data gravity and creates a centre of data exchange to scale digital business.

Even data centres themselves are undergoing digital transformation. Per Gartner,<sup>13</sup> *“By 2022, 60% of enterprise IT infrastructures will focus on centres of data, rather than traditional data centres.”* With data distributed from the core to the cloud to the edge, a decentralised infrastructure is needed to remove data gravity barriers and accommodate distributed workflows.

## **Establishing standards and understanding data.**

Solutions start with understanding the data, but the sensitivity and regulation of data dictate where it needs to live. From there, you can architect solutions with requirements, regulations, and business objectives in mind. That landscape provides parameters for transforming digital processes across the organisation.

Whether they are internally established standards or more widely accepted standards like ISO, building and maintaining an information architecture is more tenable when you keep them at the forefront. For example, the risk-management aspects of ISO 27001 (established controls and control objectives) and ISO IEC 20000-1 (information technology service management) help ensure a seamless, documented handoff. Operating under tried and true parameters allows you to build reliable architectures, free up people and resources to focus on innovation, and meet future business needs.

## Differentiation through business capabilities.

CIOs are described as the **“digital architects of the business”** by Forrester.<sup>14</sup> You have an obligation to ensure that the strategy drives architecture rather than the other way around. Technology driven architecture rarely meets business needs and timelines, and it serves as a flywheel for false starts and inefficiency. Each of these factors limit the potential for technology’s ability to propel a competitive advantage in an enterprise.

## Future state architecture.

Transitioning aging solutions, infrastructure, and outdated business process to emerging technology that removes the headache of managing your own data centre, like the hybrid cloud, won’t be simple. To get on the right track, you must understand the full scope and nature of the data in a way that ensures it has an appropriately-secure home, and it has the right provider for your workload. Don’t pay more than you need to for the new solutions. Work with partners who have on-demand pay structures so you can easily adjust your computing capacity based on peak and lull periods. Then it’s time to plan for flexible access. Not only will you want a tool that can act as a single point-of-entry to save the time of your stretched teams, but you’ll want to craft flexible network architectures to ensure the network is as flexible as your chosen cloud selection

## Interwoven architectural disciplines.

To adequately serve the organisation, the interplay between the business, information, systems, and technology architecture needs to be fully understood. When you grasp the complexities of each branch, a complete picture of the thought process, strategic position, storage maturity (cloud or otherwise), and integration approach will allow you to plan accordingly. You’ll also be better positioned to know the security risks, compliance issues, and the needed strategies to manage them. In addition, you can’t have one without the other three. The needs of the business must be supported by all of the architectural disciplines to be effective.

## Business-forward approach.

Despite many considerations, the business architecture needs to be the lens in which you view all the other elements. By vetting technology decisions with the business leaders in the enterprise, you avoid the risk of failing to meet business needs and timelines. This type of business-first strategic technology architecture elevates the performance of the business and enables competitive differentiation.

**“ CIOs are described as the “digital architects of the business.”**

## Sources

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## About Digital Realty

Digital Realty brings companies, data and technologies together by delivering the full spectrum of data center, colocation and interconnection solutions. PlatformDIGITAL®, the company's global data center platform, provides customers with a secure meeting place for their data. A place where businesses power innovation, can go faster and further, invent the unseen, and expand across the globe. Digital Realty's global data center footprint gives customers access to the connected data communities that matter to them with 290+ facilities in 50+ metros across 26 countries on six continents. To learn more about Digital Realty, please visit [digitalrealty.com](https://digitalrealty.com) or follow us on LinkedIn and Twitter.

