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Introduction

Challenging times for CIOs

As the digital economy grows, the stakes rise for CIOs. Can they use information technology in new and creative ways to enhance their customers’ experiences and fend off market disruptors? While IT itself is a powerful force multiplier in this new environment, moving forward requires leadership that harnesses IT’s power in productive and secure ways.

This is an opportunity for CIOs to develop and implement forward-looking strategies for optimizing IT in the cloud era, bringing together existing and state-of-the-art resources. Here’s why this calls for action now:

- Digital transformation is the critical path forward in today’s economy.
- For enterprises, IT optimization paves the way to digital transformation.
- IT optimization is achieved through a well-considered and well-defined architecture that ensures robust networking, resilience and security.

Traditional IT environments cannot be jettisoned entirely; nor can they totally serve the needs of modern business without a robust plan to migrate certain workloads and applications to the cloud. The challenge for CIOs, as spelled out in a recent study released by the IBM Institute for Business Value, is that many are “struggling with implementation. They know much of the ‘what’—they need help with the ‘how.’”

Defining Growth-Driven IT

For CIOs, the path to Growth-Driven IT requires their guidance, expertise and innovation. Key to this journey is evolving beyond traditional thinking about the role of IT—maintaining systems and code within the data center—and optimizing it as a strategic business asset for future growth.

Growth-Driven IT maintains the following characteristics:

- **It's agile.** Successful CIOs take advantage of a highly adaptable cloud-based infrastructure and platform solutions to evolve and expand as quickly as the business it supports. Cloud also provides the resilience businesses require in an era when services need to be available on a 24/7 basis. Growth-Driven IT systems and infrastructures have the ability to adapt and reconfigure as the business requires. This includes embracing new technologies and methodologies—and aiming for portability of workloads across cloud providers and on-premises deployments.

- **It's action-oriented.** Successful CIOs are “flipping” the model according to which investments in maintaining traditional legacy IT environments predominate—often to the tune of 70% of budgets. Instead of clinging to that older model, they’re committing a greater share of resources to technology-driven innovation. CIOs leading Growth-Driven IT organizations are driving transformation via an “IT as a service” model that enables IT teams to become “service providers.” With this model, the latest solutions can be provided on demand, often through self-service portals, from either the internal corporate data center or through an outside cloud provider.

- **It’s advanced.** Successful CIOs are turning their IT departments from cost centers into strategic partners of line-of-business owners that help their organizations move forward. Growth-Driven IT is built on resilient networks of IT resources and data sources. These organizations deliver and support cutting-edge technologies that are highly agile and cost-effective, such as open-source systems, containers, APIs and clouds. Successful CIOs are employing cohesive planning and strategies to move critical applications and services to cloud-based environments.
Business leaders recognize the strategic advantages cloud provides. In fact, in Forbes Insights’ Future of Cloud research, 85% of respondents agreed that being a champion of next-generation cloud technology will be critical in helping IT leaders advance their careers as senior leaders. Eighty-three percent of respondents also reported that their top executives and board members are prepared to sufficiently invest in next-generation cloud technology.

So what’s stopping more CIOs from moving a greater number of workloads and applications to cloud? Often, it’s concerns with security, resiliency, staffing, and how to integrate cloud and non-cloud components together.

A well-planned, strategic approach to cloud adoption can allay these concerns. A recent IBM survey shows that organizations with a formal plan display significantly higher levels of success across all objectives, are more likely to achieve desired improvements from moving to the cloud and can address and mitigate challenges experienced during their cloud journey.

Here are 10 key steps CIOs are taking to fully capitalize on the opportunities offered by cloud.

1. Rethinking their roles. Given the availability of cloud services, CIOs are evolving their roles from IT department leaders to advisors to the business. After all, the CIO serves as a broker of the services that are best suited to the business opportunity and problem at hand. To fully optimize IT, CIOs are also serving as facilitators for collaboration, bringing the right stakeholders into discussions to get their buy-in.

2. Developing a strategic, holistic approach to cloud. An optimized IT environment looks at all available resources from both inside and outside corporate walls. “Like a symphony that unites an orchestra’s combination of performers and instruments, organizations need harmonized multicloud environments,” according to the IBM Institute for Business Value. “To do so requires constructing and synthesizing the right portfolio of

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public, private and hybrid clouds with proprietary IT infrastructures.”

Today, according to IDC research, 50% of applications are likely to remain on traditional on-premises systems for some time to come. That means, of course, that these systems need to be part of the Growth-Driven IT portfolio as well. That’s why a cloud strategy is so critical: Having a cohesive strategy—developed in close collaboration with business stakeholders—helps establish the right infrastructure, application, migration, resiliency and security.

To develop this strategy, CIOs are evaluating their options, including a range of tools available from vendors, and identifying the aspects of their existing systems that require enhanced maintenance or attention.

3. Educating the enterprise. CIOs are assuming the role as “first educator” of technology in their businesses, providing current and applicable information on tools and platforms to drive their digital transformations. Line-of-business stakeholders need to understand how technology can power innovation within their enterprises. In addition, IT teams must build expertise through formal training, as well as techniques such as DevOps, self-directed teams, agile development cycles and customer-centric practices.

4. Promoting innovation. As part of their new roles, CIOs are also becoming chief innovators. This is borne out in a study of 2,258 CIOs conducted by the IBM Institute for Business Value, which finds that CIOs have redirected their resources to achieve new sources of scale—broad networks of partners—and to extract new value from ecosystems.

According to the study, “They’re ahead of all the others in co-creation and collaboration with customers and partners. They’ve restructured their organizations,

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including their cultures, to encourage experimentation and bring new ideas to the fore."5

CIOs are also encouraging greater contributions through activities such as centers of excellence, think tanks and hackathons within their enterprises—all of which can foster openness and new thinking.

5. Focusing on a flexible, forward-looking architecture.
A sound architectural strategy serves as the bedrock for growth and cloud adoption for Growth-Driven IT, supporting a vibrant network of on-demand resources that enable the business to quickly shift workloads and priorities.

The key is to design an architecture built to support both on-premises traditional and cloud-based systems, which will help businesses navigate between the two worlds. Since many workloads and applications will remain on-premises, it’s important to know how both on-premises and cloud applications can be secured and orchestrated.

Growth-Driven IT is built on an architecture that integrates seamlessly with on-premises assets, and CIOs are defining and putting into place the architectural frameworks that are commonly occurring in the enterprise and that hasten the standardization of both cloud consumption and on-premises integration patterns.

6. Providing a migration path. CIOs are overseeing the development of a well-documented approach to putting workloads in the cloud, with both business and technical justifications for making the shift. Such migrations can follow two paths: a “lift and shift” migration, in which on-premises systems are shuttered and replaced with online alternatives, or a migration to modernized systems.

In many cases, both scenarios may occur within enterprises depending on applications. A migration plan helps enterprises be more successful with innovative technologies and start delivering on the promise of cloud more quickly. Cloud-based capabilities can deploy alongside existing on-premises solutions, with workloads gradually shifting to the cloud.

7. Establishing boundaries for security. Enterprise cybersecurity, which is constantly evolving, has long been a challenge for executives. In a recent Forbes Insights survey, only 42% of executives expressed confidence their organization could recover from a major cyber event without impacting their business, while just 27% believed their top management understood the difference between mitigating cyber risk and working toward a more comprehensive, orchestrated, dynamic cyber-resilience strategy.6

For many enterprises, cloud offers a clear path to enterprise security. In fact, in many instances, cloud services may be much more secure than traditional, on-premises enterprise data centers.

Another Forbes Insights survey of more than 1,000 enterprise security executives found many organizations are looking to the cloud for enhanced security options. One-third of the executives identified as “Cybersecurity Trailblazers” in the Forbes Insights research put endpoint detection and response in the cloud.7

The impact of cloud can be profound. In a recent IBM study, 95% of organizations with a well-planned, formal cloud architecture report an improved security posture.8 Since a cloud service adds complexity—and multicloud and hybrid clouds add even more—consider working with a cloud provider. Cloud providers constantly update their technologies, skills and certifications to ensure their clients’ data and applications have the latest and best possible security profiles. Just as importantly, cloud providers can provide a trusted foundation for managing compliance and regulatory requirements, including GDPR and other data privacy laws.

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8. **Designing for resilience.** Strategically employing cloud resources means businesses can greatly enhance their resilience to outages, glitches and other issues that may impede access to digital and data resources. A multicloud- or hybrid cloud-based resiliency strategy means resources will always be available and online to support continuous, uninterrupted business operations. IBM’s study reveals 98% of organizations achieved maximized availability and uptime through a comprehensive, well-designed cloud architecture.²

While most enterprises today have disaster recovery strategies, these can quickly become outdated in these changing times. For example, even with a high-availability (HA) strategy for critical applications, a cyberattack could neuter an HA model, as malicious content is replicated promptly to the HA servers. In this instance, a cyber-resiliency strategy is needed, as is “per-app resiliency orchestration,” which is a new way to protect your organization’s most critical assets.

Enterprise resiliency needs to bridge both cloud and traditional IT environments, built upon risk identification and vulnerabilities to applications and workloads across all platforms. This resiliency can be guaranteed by service-level agreements encompassing both cloud and on-premises environments.

9. **Making on-premises applications as dynamic as cloud services.** In Growth-Driven IT enterprises, end-users are unaware of whether their applications and services originate from within their own data centers or from outside cloud providers. This is a key goal of a Growth-Driven IT strategy—the harmonious blending of on-premises and cloud systems.

Cloud-based resources are known to be easy to access and manage; on-premises resources should be as well. Likewise, management of both on-premises and cloud applications should be standardized, so that resource calls to either environment perform seamlessly. When data is moved between on-premises and cloud applications, it should be equally accessible—and protected—within both environments.

10. **Working with experienced partners.** Evolving to become a cloud-driven enterprise requires new expertise in multicloud and hybrid cloud management and architectures as well as identifying and selecting the right cloud services. Bringing in partners will help bridge any skills gaps that may surface during the transformation.

In a recent IBM survey, nearly two-thirds of respondents noted technical expertise from a service provider as a critical capability.³ Effective partners need to understand business, application, networking and security resilience requirements. They also must help develop a plan that covers the optimization of current or existing resources. as well as an architecture and migration path for moving workloads to cloud. In addition, they need the right tools, such as Platform as a Service services, to assist in the transformation to Growth-Driven IT.

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While CIOs are actively taking steps to provide their businesses with the choices to move forward in the digital economy, they need to do more. This means rethinking and renewing their roles and evolving from day-to-day technology managers to visionaries who understand and communicate the powerful changes technology can bring to the business. Optimizing IT infrastructure and resources through cloud lays the foundation for this transformation.
RENEWING IT IN THE CLOUD ERA:
10 Steps CIOs Are Taking Now
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