HYBRID IT TAKES CENTER STAGE
What’s Holding Your Business Back?

At Verizon, we’ve worked with many companies that are struggling with digital transformation. They want the agility of the latest start-up so they can compete when it comes to innovation. But unlike a start-up, they’re not beginning with a clean sheet of paper. The vast majority of CIOs and line of business owners are working within the constraints of legacy apps and sunk investments. That’s why, according to this new Harvard Business Review Analytic Services report, 63 percent of organizations are already pursuing a hybrid IT approach.

**Companies want the agility of cloud.**

The speed with which cloud has been adopted by enterprises—in even the most conservative sectors—shows just how compelling the benefits are. And this isn’t about cost. Just look at the findings of this report—they show that saving money is way down the list of reasons that organizations are shifting workloads to the cloud. The business drivers most often cited are all about improving performance, availability, and, above all, agility.

**But what about legacy apps?**

Many organizations are reaching a plateau, where the ROI for moving more workloads to the cloud is less compelling. This isn’t because companies don’t want to. For a few years now, we’ve published survey results showing that companies are increasingly happy to put even the most mission-critical applications in the cloud—up from 60 percent in 2013 to 87 percent in 2015. And it’s not just about security and control—those concerns have largely been addressed. From our experience, the normal cause is problems with migrating legacy apps. Of course you could just accept this limitation, but just leaving these apps where they are isn’t an easy solution.

**Get more from what you’ve got.**

Most of the enterprises we’ve worked with in the last few years have had a mix of public cloud, private cloud, on-premises, and colocation services. And this kind of mixed infrastructure is likely to be the reality for most companies for a few years yet. These companies don’t want to be convinced that cloud is better. They ask us how we can help them manage what they’ve got—so they can move when the time’s right for them.

We’re helping organizations do just that by helping them take a hybrid IT approach. Where we’ve implemented this with clients, they’ve seen increases in agility, manageability, and ease of integration. This approach helps meet the business’s demands to support and accelerate innovation, and enables the IT function to plan for the future.

For many, that future involves outsourcing more of their infrastructure management. More than two-thirds of companies think that this will improve responsiveness, and more than three-quarters expect it to help them stay on top of technological change. If you need any more convincing that this is the way forward, this report should convince you.

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HYBRID IT TAKES CENTER STAGE

Keeping up with the pace of change and ensuring that this complexity doesn’t jeopardize performance, agility, or security requires a new approach. While cloud is now the dominant mode of delivery for new applications, few organizations are able to migrate all their apps. The reality is that most companies aren’t starting from scratch, they must support legacy on-premises and colocation models as well as public and private cloud. Maintaining the incredible pace of technological change in order to integrate and orchestrate this diverse environment is causing difficulties for many business leaders. And as business units adopt new and innovative applications and services, the problems get worse.

Cloud computing has transformed the delivery of IT services, enabling businesses to adapt more quickly and enter new markets. In many cases, companies have existing on-premises systems that would be difficult to move to the cloud. In others, companies see the direct ownership and operation of certain technology as a key differentiator. As a result, the majority of IT environments are responding to business demands by delivering applications via a mix of private clouds, public clouds, and legacy data centers—either on-premises or managed by service providers, according to a July 2016 survey of 310 business and IT executives worldwide by Harvard Business Review Analytic Services.

Companies are striving to deliver seamless service to users and enable the sort of customer experiences necessary to compete, but this requires a new approach. Hybrid IT helps integrate, orchestrate, and automate the management of services and platforms, breaking down the barriers between legacy systems and new cloud-based applications. Key to this approach will be a secure, high-performance network architecture that can deliver the kind of security, flexibility, and responsiveness required to stitch all these systems together. According to the survey, nearly two-thirds of respondents (79 percent of whom hold line of business positions) are already pursuing this approach. figure 1

However, few IT departments are experienced at managing this hybrid delivery model, or the network technologies required to make it work. As a result, companies are beginning to partner with experienced hybrid IT providers that have the expertise and products to deliver these newer technologies and capabilities. The partner will take responsibility for the management, orchestration, and automation of the diverse mix of components required for application delivery. These strategic partnerships will enable business leaders to focus on delivering excellent user and
customer experience, as well as driving innovation and other business priorities.

THE DAWN OF HYBRID IT

It’s important to note the difference between a hybrid cloud strategy and the hybrid IT approach to infrastructure management. Cloud computing—the use of third-party environments to run applications—can happen in shared (public) or dedicated (private) environments. Those companies that take advantage of both the public and private cloud are said to have a hybrid cloud strategy. And, indeed, many organizations do.

Hybrid IT, however, is a way of managing an IT environment that includes not only hybrid cloud systems but also legacy software that may be hosted in a corporate data center or by a third party. Hybrid IT is the method companies use to manage these multiple types of systems to create an integrated and unified infrastructure—including the networks that connect these systems to users—in order to improve efficiency, manageability, agility, and scalability.

Cloud computing is clearly here to stay. These systems deliver a number of technology and business benefits, including agility, flexibility, and speed, according to survey respondents. Figures 2 and 3. In fact, the majority of organizations (59 percent) say that their use of cloud computing has improved their competitiveness and that increase has either remained the same or continued to improve.

The top barriers preventing organizations from employing more cloud solutions are security (35 percent), integration with other systems (32 percent), and integrating multiple clouds (25 percent), according to the survey. Beyond those issues, most enterprises also see continued value in on-premises, and even in-house, delivery for certain systems—and will for the foreseeable future. “We’re talking about systems of record for that company: their financial transaction systems, the inventory systems to run their warehouses and manufacturing lines, their core pricing databases,” says Rick Villars, research vice president for data center and cloud at IDC. “They’ve been optimizing and running them for 10 or 20 years and are not in a position to throw out those systems and rebuild them on a cloud framework.” In addition, there may be regulatory or compliance issues, security...
and risk concerns, or IP issues that call for on-premises solutions. That results in a mixed infrastructure environment that spans multiple locations.

And as digital transformation demands new business processes that share data across multiple systems running in different environments, companies must develop a mature hybrid IT approach or risk losing the agility, speed, and flexibility gained from incorporating cloud systems. “It’s all about digital transformation in the enterprise: improving the customer experience and adopting new business models to respond to disruption from established rivals and new entrants,” says Carl Lehmann, research manager in charge of enterprise architecture, integration, and business process management for 451 Group, “and hybrid IT is how you do that.”

**INNOVATING IN THE CLOUD AND BEYOND**

**FIGURE 2**

**TECHNOLOGY-RELATED BENEFITS OF CLOUD**

Percentage indicating this is a key technology-related benefit of cloud services.

- Flexibility (ability to quickly add/reduce services): 77%
- Faster implementation: 66%
- Ease of deployment: 58%
- Increased reliability: 28%
- Better functionality: 26%

**SOURCE** HARVARD BUSINESS REVIEW ANALYTIC SERVICES SURVEY, JUNE 2016

**FIGURE 3**

**BUSINESS-RELATED BENEFITS OF CLOUD**

Percentage indicating this is a key business-related benefit of cloud computing.

- Increased availability, business continuity: 51%
- Lower total cost of ownership: 45%
- Ease of collaboration: 39%

**SOURCE** HARVARD BUSINESS REVIEW ANALYTIC SERVICES SURVEY, JUNE 2016
The hybrid IT strategy will enable business leaders to create new approaches, services, and business models. But they will have to start thinking about the network implications of their digital transformation.

Leading enterprises are already creating new and innovative business processes and customer-facing applications that involve multiple types of cloud and non-cloud systems working together. However, when they develop that great new mobile app for customers or integrate new internet-connected devices or products into their services, there are often multiple back-end applications supporting that latest piece of innovation. Some of those enabling systems may reside in the public cloud, others may have been built for the private cloud, and many of the resources and fundamental data aren’t in the cloud at all. “Companies can do interesting things combining the old and the new,” says Ray Wang, founder and principal analyst with Constellation Research. “An enterprise may build a leading-edge mobile app that actually works in concert with legacy systems to conduct transactions using a hybrid IT approach.”

Introducing new processes that flow across a mixed environment requires that these varied systems interact as seamlessly as possible. It will not be the adoption of cloud computing itself that becomes the competitive differentiator, but the maturity of an organization’s hybrid IT capabilities. Nearly all respondents (92 percent) say that applications’ performance and reliability continue to be important looking forward. figure 4 But meeting performance and reliability expectations is becoming more challenging because new applications and business processes depend on the reliable, fast, and secure interaction between multiple private cloud, public cloud, and legacy systems here, there, and everywhere.

It’s one thing when 1,000 employees need to use an inventory system. When the same information

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**FIGURE 4**

**IMPROVING PERFORMANCE AND RELIABILITY**

Percentage indicating how important improving application performance and reliability will be to meeting the business’s demands in the next two years.

- **60** Very important
- **32** Somewhat important
- **6** Neither important nor unimportant
- **2** Not very important
- **0** Not at all important

**SOURCE** Harvard Business Review Analytic Services Survey, June 2016
At its most basic level, the goal of hybrid IT is to get the right data to the right place at the right time consistently and securely in order to deliver a good experience to users or customers.

needs to be accessed by millions of customers via a retailer’s mobile app, that’s a whole new level of performance and scale.

Changing customer expectations and the new business processes and systems created to meet them also put increasing strain on the network as traffic becomes much more variable, with more frequent peaks in demand. That necessitates a much more intelligent and agile network to connect users to systems. However, most organizations don’t consider the new network demands until much later. “The people designing these new applications and even managing legacy systems may not consider or understand network complexity,” Villars says. “And in the new world where an application or service goes from concept to launch in three months, the network is often forgotten.”

Companies that don’t transform the network to support applications that straddle multiple types of systems can encounter any number of problems, from poor application performance to a degraded customer experience to brand and reputational damage. “Bandwidth and latency are a big deal in hybrid architectures,” says Lehmann of 451 Group. And even companies that think they are safe from disruption aren’t, as customer expectations are destined to increase. “What’s acceptable today will not be acceptable tomorrow,” Lehmann says.

**RIGHT DATA, RIGHT PLACE, RIGHT TIME, RIGHT PARTNERS**

At its most basic level, the goal of hybrid IT is to get the right data to the right place at the right time consistently and securely in order to deliver a good experience to users or customers. “In this new world,” says Villars, “data is the coin of the realm.”

Given that respondents expect to increase the proportion of applications residing in third-party data centers in the near future along with the fact that application performance will be crucial to meeting ongoing business demands, solving these complex integration and management issues will be paramount.

Companies will have to figure out how to manage IT resources and data that live in multiple facilities and multiple locations through a common framework. Companies are entering the era of software-defined infrastructure, in which everything from networks to data centers to storage can be virtualized and managed as a service. Control of the systems is automated and maintained by intelligent software. Consistent use of such software-defined systems can help companies better manage their extended IT infrastructure—whether it’s in the cloud, in their data center, co-located, or outsourced.
But many businesses have not fully explored software-defined infrastructure, and may not understand the best ways to implement it. “The key challenge is managing the complexity and having the expertise in orchestration,” says Wang of Constellation Research. “Most folks don’t understand their IT operations well enough to manage them. Hence they may [outsource] this approach.”

IT organizations and business leaders are beginning to reach out to third parties in larger numbers to assist in the management of their cloud systems. **figure 5** But hybrid IT will demand expertise that corporate IT organizations don’t have. It’s no longer about managing a box in a data center or making sure the lights are blinking green. Companies must “be honest that they do not have all the skills required to make hybrid IT work,” says Villars. “They need partners with skill-sets around networks and defining the interconnection between traditional systems and newer applications. They need facilitators that don’t just provide a technology or a service, but have the people, skills, and knowledge to jump-start hybrid IT efforts.”

**FIGURE 5**

**THIRD-PARTY CLOUD SERVICES**

Percentage indicating how much of the management of their cloud services is carried out by a third party.

- More than half 16
- About half 13
- Less than half 34
- None 21
- Don’t know 17

**SOURCE** HARVARD BUSINESS REVIEW ANALYTIC SERVICES SURVEY, JUNE 2016
Companies recognize that outsourcing more infrastructure management will help them keep pace with technological change and become more responsive. Figure 6 That third-party expertise can help make the transition from traditional, monolithic network architectures to agile, automated hybrid ones less daunting.

**FIGURE 6**

**BENEFITS OF OUTSOURCING INFRASTRUCTURE MANAGEMENT**

Percentage indicating that outsourcing more infrastructure management would improve the following.

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to stay on top of technology change</td>
<td>77</td>
</tr>
<tr>
<td>Responsiveness to business demands</td>
<td>67</td>
</tr>
<tr>
<td>Speed to resolve problems</td>
<td>57</td>
</tr>
<tr>
<td>User experience</td>
<td>57</td>
</tr>
<tr>
<td>Access to required skills</td>
<td>57</td>
</tr>
<tr>
<td>Reliable control of costs</td>
<td>56</td>
</tr>
<tr>
<td>Management control systems integration</td>
<td>51</td>
</tr>
</tbody>
</table>

**SOURCE** HARVARD BUSINESS REVIEW ANALYTIC SERVICES SURVEY, JUNE 2016
Business leaders anticipate that even more of their applications will reside in various third-party data centers in the near future, according to the survey. But critical legacy applications may not be going anywhere for some time. So orchestrating a mix of systems will become even more critical. Hybrid IT will be the dominant approach—and developing robust hybrid IT capabilities will be a competitive advantage. “For early adopters, hybrid IT is already mainstream,” says Wang of Constellation Research. The rest of enterprises will have to move in this direction soon.

Today, the majority of companies struggle with hybrid IT. “Some enterprises have had isolated success in an individual business unit or with a certain service,” says Villars of IDC. But a repeatable, reliable, and consistent hybrid IT approach remains the exception rather than the rule. “The ones that do this well first acknowledge that no single cloud works for them,” he says. “Second, they recognize that traditional non-cloud applications and systems remain a core part of their business value.”
METHODOLOGY AND PARTICIPANT PROFILE
The 310 respondents to the online poll represented a wide swath of Harvard Business Review readers and website visitors.

REGIONS
The global survey included 45 percent of respondents from North America, 29 percent from EMEA, 20 percent from Asia/Pacific, and 6 percent from Latin America.

SIZE OF ORGANIZATION
Nearly six out of 10 (58 percent) worked for large organizations (1,000 or more employees) while 42 percent worked for medium-size (100-999 employees) companies. Respondents in companies with fewer than 100 employees were screened out.

KEY INDUSTRY SECTORS
All industries and sectors were included, led by technology (16 percent of respondents), manufacturing (11 percent), financial services (10 percent), and business/professional services (9 percent).

SENIORITY/JOB FUNCTION
Twenty-two percent of respondents were C-suite or executive management, 37 percent were senior management, 22 percent were in middle management, and 19 percent were from other levels. In addition, 21 percent of respondents have roles in the IT organization, while 79 percent have roles in LOB, including 22 percent in general management/strategic planning and 14 percent in sales/marketing. All respondents were knowledgeable about their organizations’ use of cloud services and software, with nearly half (47 percent) saying they were very knowledgeable.