The State of the Hybrid Cloud: Have We Reached a Tipping Point?

What to Consider Before Making Your Move

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1. What Is Hybrid Cloud?

The definition of hybrid cloud is wide open, with multiple interpretations that are all relevant, depending on context. Before we consider the current state of hybrid cloud, let's establish a working definition to serve as a foundation for further discussion.

Hybrid cloud refers to a mixed computing, storage, and services environment. It's made up of an on-premises infrastructure, private cloud services, and a public cloud—such as Amazon Web Services (AWS) or Microsoft Azure—with orchestration among the various platforms. If you're using a combination of public clouds, on-premises computing, and private clouds in your data center, you're running a hybrid cloud infrastructure.

Although cloud services can drive cost savings, their main value is supporting a fast-moving digital business transformation. Every technology management organization runs under two agendas: the IT agenda and the business transformation agenda. Typically, the IT agenda is focused on saving money. Digital business transformation agendas, however, focus on investments to make money.

Agility is the primary benefit of a hybrid cloud environment. The need to adapt and change direction quickly is a core principle of a digital business. Your enterprise might want to combine public clouds, private clouds, and on-premises resources to gain the agility it needs for competitive advantage.

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2. Crossing the Cloud Chasm

Companies have long known about the benefits of hybrid cloud: business agility, cost savings, economies of scale, and speed to market, to name a few. But widespread adoption has been cautious, as IT leaders weighed their options while business decision-makers overcame their misgivings.

That was then. Now, hybrid cloud adoption is accelerating, although numbers vary depending on whose survey you examine. A recent Forbes survey[1] showed adoption increasing 3x over the previous year, from 19% to 57%.

That said, it is still a disjointed effort. Within organizations, pockets of people are moving to the cloud, which might take the form of shadow IT. Or moving to the cloud

50% **"By 2020, over 50% of all corporate data will reside outside of the corporate data center."**

—Gartner, *Plan Your Data Exit Strategy Before You Sign a SaaS Contract*, September 2017

can simply be a response to what other companies are already doing.

In any case, industry analysts such as IDC, Gartner, Forrester, and 451 Research all see a tipping point in enterprise hybrid cloud adoption. Companies are getting serious about crossing the cloud chasm.

[1] Forbes, *2017 State of Cloud Adoption and Security*, April 23, 2017.

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3. What Are the Drivers?

Across industries, growth is top priority among CEOs today, with technology-enabled growth quickly becoming the second priority as competition starts to show up from unexpected directions.

Consider, for example, Amazon's recent acquisition of Whole Foods. Suddenly the technology giant is a player in the grocery business, intensifying the pressure CEOs in that industry were already feeling to drive growth by upping their competitive game.

Pressure comes from other levels of the organization as well. Savvy internal users might feel that company IT doesn't sufficiently enable them across all their devices. IT teams struggle to deliver data services that support the pace of business. And a robust, up-to-date online presence—mere table stakes today—must deliver a customer

"By 2020, over 90% of enterprises will use multiple cloud services and platforms—a transition supported by investments to manage resources across platforms—with more than one-third of these organizations having established mechanisms to operate their multi-cloud environments."
—IDC, *IDC FutureScape: Worldwide Cloud 2018 Predictions,* December 2017

experience that's at least on a par with what your competitors provide.

A move to the hybrid cloud could provide welcome relief from some of these pressures. But how do you know what to migrate and where to put it?

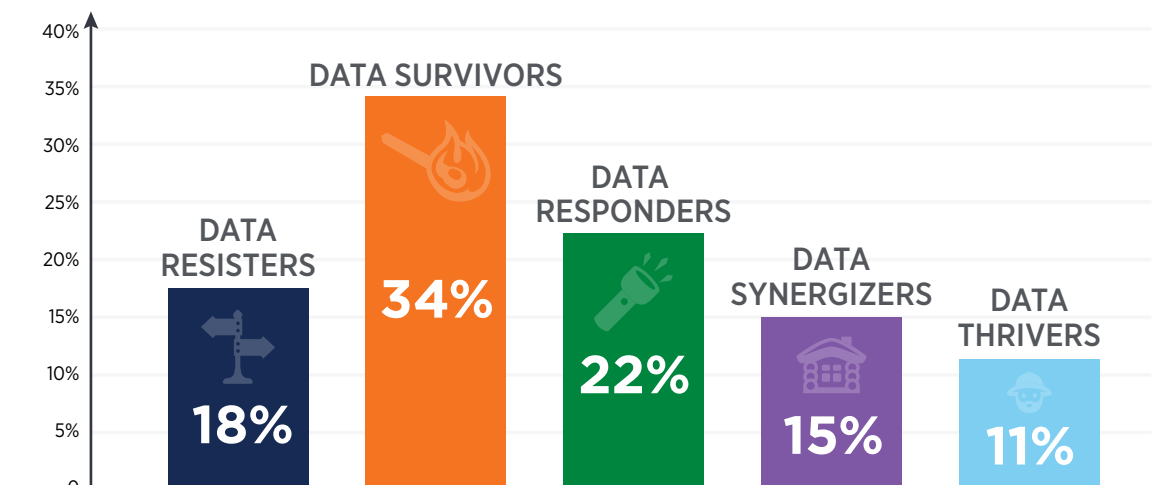**▮▮ NetApp®**

4. Assess Your DX Maturity

IDC has identified five stages of digital transformation (DX) maturity, positioning them along a range that spans from data resisters to data thrivers. Here's what the DX levels look like (Figure 1):

- **Data resisters.** Business and DX initiatives are discon-nected; IT is poorly aligned with enterprise strategy; data management is weak.
- **Data survivors.** Lines of business realize the need to develop a DX-driven business strategy, but the execu-tion is still on a project basis; progress is not predictable or repeatable.
- **Data responders.** Business and IT goals are aligned at the enterprise level around creation of new products and services but not yet focused on the full disruptive poten-tial of the digital initiatives.
- **Data synergizers.** These companies have implemented integrated line of business and IT management disciplines to deliver DX-enabled products and services on a continu-ous basis.

- **Data thrivers.** These firms are aggressively using digital technologies to disrupt new markets. Feedback from the ecosystem and lessons learned constantly fuels business innovation.

Where does your organization fit on this spectrum? The answer determines your approach to the hybrid cloud.

Figure 1: Organizations' assessment of data-driven DX maturity

Source: Become a Data Thriver Study, sponsored by NetApp, November 2017

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5. Build a Compass

Jumping into the cloud without a strategy is like leaping before you look. An effective first step is assessing all of the applications running in your company to develop a cloud decision framework, or compass, that points you in the right direction.

Start by assigning each of your apps to one of four categories:

- **Eliminate**. Sunset any applications you don't need to keep. These can include niche apps—old collaboration tools or desktop utilities, for example—used for a particular purpose by a small group of users. Migrate those users to other apps.
- **Tolerate**. Put applications you need to keep to run your business in this bucket. These might be special and unique to your business but not a good fit for the cloud. There are no alternatives to keeping these apps on-site.
- **Migrate**. Applications that can move to the cloud without affecting daily operations should be prime candidates for migration to a software as a service (SaaS) or

Figure 2: Hybrid cloud compass grid
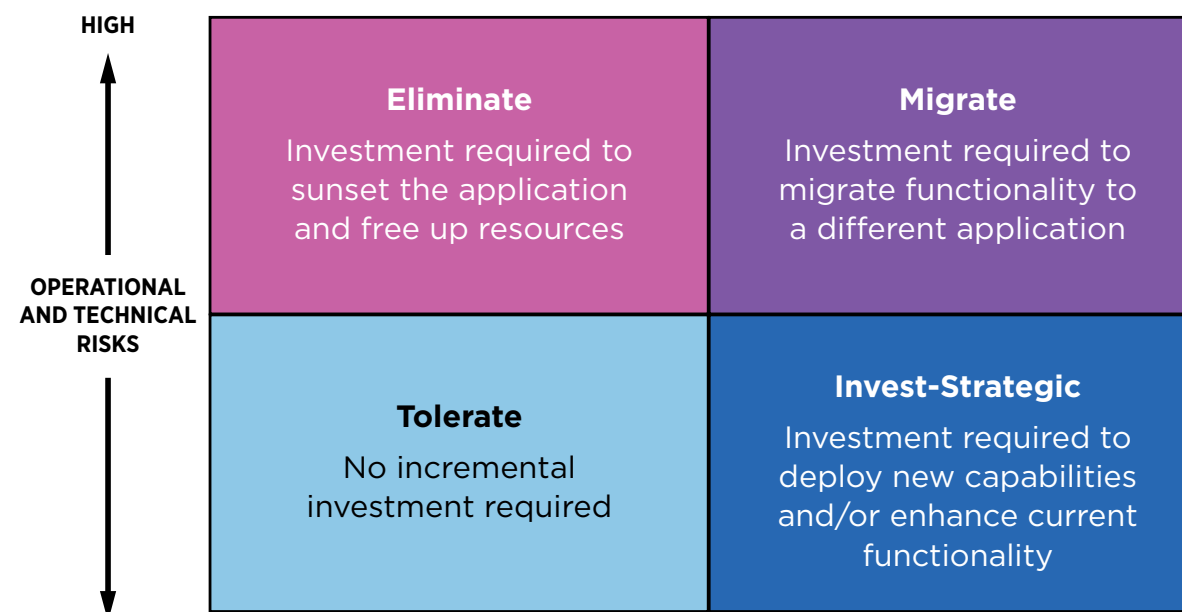
even cloud-aware architecture—Office 365, Delve, and PowerBI, for example.

- **Invest strategically**. You likely have applications that are vital to your business—maybe customer relationship management or supply chain management—but for which available SaaS products are not a perfect fit. Decide whether these apps merit investment in cloud awareness to deliver the value you need.

Creating this compass (Figure 2) helps you think strategically as you approach the hybrid cloud.

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6. Build a Map Aligned with Your Company's Goals

To advance along the DX maturity spectrum and develop a sound strategy for hybrid cloud, evaluate your apps and IT projects using a compass that's in line with your company's business goals. Are you looking to heighten productivity? Increase profits? Accelerate growth? Outperform your competitors? Improve customer satisfaction?

Determine your top priority goal and apply it to your compass. For example, if your first priority is to increase productivity, your compass might look like this list:

- **Eliminate.** Let's get rid of these apps today. Doing so won't affect productivity.

- **Tolerate.** If our internal users rely on these apps to do their jobs, we'll grit our teeth and keep them.
- **Migrate.** Migrating our internal users to Google Apps could seriously boost their productivity.
- **Invest strategically.** Some of our apps need to scale to accommodate periods of peak internal usage. Let's put them in Azure.

Now you have a compass and a map to form the foundation for a successful hybrid cloud business case. But there is more to consider.

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7. A New Paradigm for Managing Data

Running a hybrid cloud environment entails a different level of monitoring and managing data than most IT departments are accustomed to. In the hybrid approach, applications and components interoperate across boundaries (cloud compared to on the premises), between cloud instances, and even between architectures (traditional compared to modern digital).

The same level of distribution and access flexibility is required for data. Whether you're handling workloads or datasets, in the dynamic digital world you should plan for things to move around in response to evolving needs. Where applications or data live today might not be the best place for them to stay over time.

But how do you know? Traditionally, if a hard drive filled up, you had to buy a new one, which became, by default, your monitoring system. But when you can't actually see the physical device, you have to monitor and manage differently, which begets a new paradigm. You need the ability to look into a cloud—which you don't control—to see how much data is being placed there and the frequency with which it's being accessed.

Modern dashboard tools can help you discover and monitor the relationships and dependencies among your resources in the hybrid cloud. Such solutions can also help you stay one step ahead of the game by leveraging analytics for proactive alerting and troubleshooting.

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8. Who's Responsible for What?

When you move an app to the cloud, you outsource infrastructure—compute, storage, and network elements—but not all of your responsibilities. You're still on the hook for maintaining everything above the operating system, including the application, middleware, and data.

If you replace an application with SaaS, you're still responsible for integration, customization, and data protection. Even when you outsource to a managed services provider, you'll likely maintain some responsibility for operations.

Accordingly, many companies are taking a hybrid approach to services. Consider the outward- and inward-facing aspects of an e-commerce application, for example. You could outsource customer-facing elements, taking advantage of scalability and low latency to deliver an optimal customer experience. But you could retain those elements of the app that tie into corporate inventory and revenue systems so that you maintain control over encryption and security.

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9. Measure the Value

External IT services providers have one advantage: They must monetize the value they offer your company. Measuring the value of *your* hybrid IT environment helps leadership see its contribution to company goals (improvement of supply chain processes, for example).

However, it's sometimes hard to quantify the value of becoming a more agile company. And IT cannot go it alone.

To realize the value of your investment in a first-class cloud integration, other departments should use the data and applications correctly and effectively. IT and business functions must cooperate. While the CFO expresses value in terms of figures, the IT team can help people understand that other ways to deliver value exist.

To get started:

- **Understand the demand for cloud services.** The best cloud pricing is available with reserve instances, meaning you must clearly understand the value of each workload placed there.
- **Project dividends that the initial cloud investment will pay later.** Show how moving a workload or dataset to the cloud contributes to business agility over the long term.
- **Demonstrate the advantage of shorter development cycles.** When developers use cloud tools, they need less time to build apps. What does this mean for your firm's bottom line?

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10. Next Steps

Is the hybrid cloud a good fit for your organization? The cloud decision framework (or compass) is an excellent method to help you find the answer. Start by assessing all of the applications in your environment to determine what you can eliminate, tolerate, migrate, or migrate and invest in. This approach should give you enough information to begin making decisions that speed your digital transformation.

If the analysts are right and hybrid cloud adoption *is* at a tipping point, the business playing field is tilted in favor of companies that have digital transformations well underway.

Points to remember when building your hybrid cloud business case:

- **Align** with your company's business strategy and governance.
- **Account** for how much responsibility you maintain.
- **Develop** a disaster recovery scheme in which you have 100% confidence.

Finally, if an app you want to move to the cloud is not a good fit, you'll never break even on it. Better to leave it in your data center.

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