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# THE BENEFITS AND RISKS OF CLOUD PLATFORMS

## A GUIDE FOR BUSINESS LEADERS

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Cloud platforms are a fundamental part of the move to cloud computing. Every IT leader needs to understand what they are and why they're important. But should business leaders also care about this new technology?

The answer is clearly yes, for two reasons. First, cloud platforms can help the business get more of what it wants from IT, including faster rollout of new capabilities, better support for business innovation, and more intelligent IT spending. But just as important, cloud platforms bring risks—business risks, not just technology risks—that only business leaders are qualified to judge.

This short survey looks at the benefits and the risks of cloud platforms from a business perspective. To make good decisions, you need to appreciate both. But first, you need to understand what a cloud platform really is.

## WHAT IS A CLOUD PLATFORM?

In common IT parlance, a *platform* is anything that can run applications and store data. In your organization's data centers, for example, you might have computers running Windows Server and other software that provide a platform for your in-house applications. A cloud platform is the same thing: It's a foundation for running applications and storing data. The biggest difference is that it runs in data centers owned by an external service provider, such as Microsoft, and it's accessed via the Internet. Figure 1 illustrates this idea.

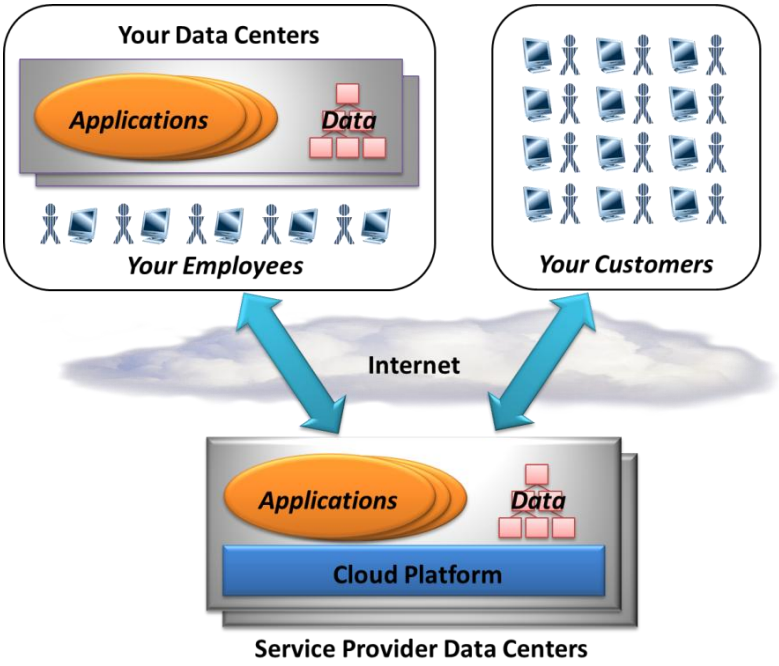


**Figure 1: A cloud platform runs applications and stores data in data centers owned by service providers.**

As the figure shows, both your organization's employees and your customers can use the applications and data made available by a cloud platform. And rather than rely on the exact same technology that your current in-house platform uses, cloud platforms often use something slightly different. For example, Microsoft's cloud platform runs Windows Azure rather than Windows Server.

Don't be confused: Cloud platforms needn't replace your current internal platform. As Figure 1 suggests, your organization is still free to run applications and store data in your own data centers[1]. Instead, a cloud platform provides another option for situations where this approach makes more sense.

## THE BUSINESS BENEFITS OF CLOUD PLATFORMS

When is using a cloud platform the best choice? What business benefits can this technology provide? They can be grouped into four areas:

- Faster deployment of new business capabilities.
- Lower-risk business innovation.
- Global scale and global reach.
- More intelligent IT spending.

All four are worth a closer look.

### Faster Deployment of New Business Capabilities

Deploying new IT-based capabilities, whether to improve some current aspect of your business or to create a new one, takes time. In some organizations, servers and other IT resources can't be requested until a new or upgraded application is ready to run. Even in the best case, getting a new application deployed internally often takes weeks or months. All of this wastes time when new business capabilities—and the profits they bring—could have been available.

Building applications on cloud platforms minimizes this delay. Unlike the data centers in most organizations, cloud platforms let their customers submit an application, then begin running it immediately. There's no need to wait, which means that the business benefits this application brings can start right away.

### Lower-Risk Business Innovation

Innovation is the lifeblood of business success. If you don't provide new ways to make customers happy, your competitors surely will. But innovation is risky; most attempts fail. Even failures cost money, though, and so your ability to innovate is constrained. The more you spend on a new idea, the greater the risk you incur.

By making innovation less expensive—and thus less risky—cloud platforms let you do more of it. To see why, realize first how much of business innovation depends on custom applications. Whatever new thing you're trying to do, it very likely requires new software. Yet in many firms, the organizational hurdles to getting a project started are daunting. You might need to build a full business case, then wait for IT to

[1] Many organizations are transforming their own data centers into *private* clouds, an approach that brings some aspects of cloud platforms in-house. This discussion is focused entirely on *public* cloud platforms, however, those offered by external service providers.

make available the resources you need. Your IT department might even insist on a specific time commitment to those resources. This makes sense—your IT people aren't stupid—but the money and time all of this entails can nonetheless be a formidable barrier to innovation.

The truth is that every innovation begins as an experiment. What you'd like is a low-cost and low-commitment way to see if your business idea has value. Cloud platforms can provide this, for a couple of reasons:

- Cloud platforms are priced on a pay-as-you-go basis, so you're charged only for what your application uses. With Windows Azure, for example, you pay by the hour for computing and by the gigabyte for storage. This lets an application start small, as an experiment should, and incur only small charges. Your financial risk is minimized.

- Given their pay-as-you-go pricing, cloud platforms don't require a commitment. If the experiment doesn't pan out, you can shut down your application and stop paying. If it's a big success, expanding the application is straightforward: Just request more resources from the cloud.

Because applications built on a cloud platform can start small, then grow only as needed, they're a good match for most innovation efforts. And by lowering the cost of failure, a cloud platform can make it easier to navigate—or even avoid—internal processes for trying new things. Ideas that might otherwise never get tested can now have a chance to make a difference for your organization. Making failure cheaper lets you try more things for the same money, improving your odds of finding successful business innovations.

## Global Scale and Global Reach

Cloud platforms are commonly provided by large organizations. Microsoft's Windows Azure platform, for example, runs in huge data centers in North America, Europe, and Asia. Your organization can take advantage of this global scale and global reach.

*Cloud platforms let even small organizations dream big dreams.*

For example, suppose you successfully create an innovative Web offering for your customers. If the application that supports it is running in your own data center, making that application scale to handle a rapidly growing load can be difficult. Cloud platforms are commonly built to make this easy to do. In fact, Microsoft's Windows Azure platform was designed in part to support Microsoft's own public Web applications, which means it's likely to be able to handle yours, too. The scale of cloud platforms also lets them handle massive amounts of data, opening up new possibilities for finding business value in that data.

Cloud platforms don't just let you scale up; they also allow scaling down. Some applications, such as an on-line system for selling concert tickets, experience occasional large spikes in usage. Keeping enough computers on hand to deal with these spikes usually isn't feasible—too many expensive machines would sit idle too often. With a cloud platform, an application can request more computing resources when it needs them, then release those resources when it's done—you pay just for what you use. Some kinds of applications are only feasible on this kind of elastic foundation, and so cloud platforms can open up new business possibilities.

Scalability is useful, but it isn't enough. Your business may well have customers around the world (and if it doesn't, you're probably aiming for this). Running a large-scale application out of your own data center that effectively reaches the entire world is likely to be problematic. Cloud platforms, with their global reach, are designed to do this. With Windows Azure, for instance, the same application can run in different parts of the world with data synchronized across all of them.

Globalization isn't an abstraction; it's a defining fact of our world. The global scale and reach of the cloud can help your organization embrace this reality, entering new businesses and new markets. Cloud platforms let even small organizations dream big dreams.

### More Intelligent IT Spending

In most organizations, IT leaders have direct responsibility for IT spending, not business leaders. Yet ultimately, it's your money: IT works for you. Cloud platforms can help your organization spend this money more intelligently.

It's common to view IT budgets in two categories: spending that keeps the lights on—basic IT infrastructure and applications like email—and spending on new applications that provide new business capabilities. Every organization wants to minimize the first and maximize the second. Cloud platforms help with this in a few ways:

- Because you're charged only for the resources you use, cloud platforms don't require up-front investments in servers and software. Computing becomes an operating expense rather than a capital expense, which can help your organization spend IT dollars more wisely.
- Cloud platforms provide direct visibility into your IT spending. Rather than a flat charge based largely on your IT organization's fixed investment in data centers, you can see exactly what a cloud platform is charging you for. This detailed insight can help you make better decisions about which applications are worth what you're paying for them.
- Depending on the economics of your organization, running applications on a cloud platform might be less expensive than running them in your own data center.

You shouldn't think of cloud platforms as a complete replacement for your in-house IT organization—you still need them. But running your custom applications in the cloud can be a better choice in quite a few situations.

## THE BUSINESS RISKS OF CLOUD PLATFORMS

Like any other technology, cloud platforms bring risks as well as benefits. Your IT counterparts can help you understand the risks, but choosing how much risk to bear is a business decision—it shouldn't be left to IT.

The main risks that a cloud platform brings are these:

- Outsourcing to an external provider
- Storing data outside your organization

- Vendor lock-in

Every business leader considering cloud platforms needs to think about all three.

## Outsourcing to an External Provider

Using a cloud platform is a kind of outsourcing. Rather than providing IT services yourself, you're renting them from an external service provider. Unlike more conventional outsourcing, however, where an entire data center is taken over, cloud platforms let you outsource one application at a time. This gives you more flexibility, but it doesn't eliminate the risks.

*Your IT counterparts can help you understand the risks, but choosing how much risk to bear is a business decision.*

Outsourcing means partnering with another company. What if that company—your cloud platform provider—doesn't live up to your expectations? What if they're not reliable, for instance, and your applications are down too often? What if they're hard to work with, failing to provide the support or new features your IT people need? Or what if they decide to exit the cloud platform business?

Creating an outsourcing relationship, even at the relatively small scale of a cloud platform, is like getting married. You want to choose a reliable partner that you know well. You also want to make sure you're happy with the terms of your provider's service level agreement (SLA) and its enforceability. Minimizing your risk requires attention and effort, both when the original cloud platform choice is made and throughout the time you're using its services.

## Storing Data Outside Your Organization

For most business leaders, the biggest concern in using a cloud platform is about their data: Storing it outside their organization makes them nervous. What if proprietary information or trade secrets get leaked?

Sometimes this concern is reasonable. Many countries have regulations about where certain kinds of data must be stored, for example. Before putting data on a cloud platform, it's important to make sure you understand the regulations that affect you and how they limit what you can do with your data.

In many cases, though, people's fear about data security is more nebulous, grounded largely in a general fear of the unknown. For cases like this, ask yourself whether your own data center is more secure than those of the major cloud platform providers. For any of these firms, a significant data breach likely means the end of their business and a huge financial loss, giving them strong incentives to keep the data they hold secure.

Yet none of the major cloud platform vendors will let their customers conduct detailed internal inspections of their cloud data centers. (Making this much information public wouldn't be good for the long-term security of these platforms.) This means that you need to build trust in your cloud platform partner. As with any new technology, starting small can be a good approach. Perhaps your first cloud application should be important, for instance, but not truly mission critical. Another option is to leave data on premises (initially, at least), running just the application on a cloud platform. While this isn't always workable, it can sometimes be the right solution.

The key point is this: The decision about what risks are worth taking with your data is a business choice, not purely an IT concern. Understand the real risks, then make the right choice. Avoiding cloud platforms based on vague, generalized security fears will limit your ability to achieve the business benefits this technology can provide.

### Vendor Lock-in

Cloud platform technology varies quite a bit across different vendors. An application created for one platform might be difficult to move to a platform provided by another vendor. This vendor lock-in can lead to problems.

For example, imagine you build a cloud application that supports an important part of your business. Cloud platforms use a pay-as-you-go model, so you get a monthly bill for the computing resources you use. Yet suppose the vendor decides to raise its prices or reduce its service or do something else that you don't like. What are your options? If you stop paying, the application will be shut down.

It's good to think about vendor lock-in before choosing a cloud platform partner. If applications built on a cloud platform can run nowhere else, for example, your lock-in is total, something that should give you pause. While every platform has some degree of lock in, you should look for a partner that offers the ability to move your application into your own data center without completely re-writing it. Avoiding lock-in entirely probably isn't possible, but making an effort to minimize it up front makes sense.

## CONCLUSION

Is a cloud platform right for every application? Clearly not. But can using a cloud platform sometimes bring real business benefits? Just as clearly, the answer is yes. When your IT department tells you that they want to build a new application on a cloud platform, you need to understand the benefits and risks this brings. When it's appropriate, you might even want to suggest to your IT department that a cloud platform is the right choice for a particular solution.

Cloud technology has gone mainstream, and any business leader who's interested in getting the most from their IT investment needs to be current in this area. Who knows? Using a cloud platform just might make the difference between success and failure for your next big idea.

## ABOUT THE AUTHOR

David Chappell is Principal of Chappell & Associates (www.davidchappell.com) in San Francisco, California. Through his speaking, writing, and consulting, he helps people around the world understand, use, and make better decisions about new technology.