HOW TO CHOOSE A
Cloud
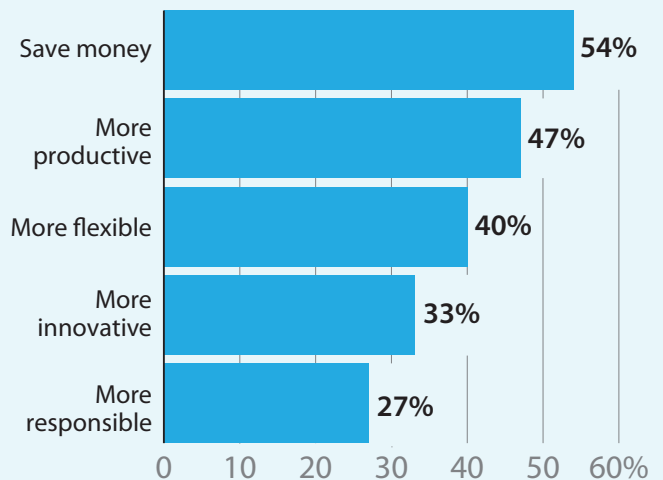# PROVIDER

THE COMING OF AGE OF THE CLOUD

More and more organizations are turning to cloud computing to augment or replace their in-house IT infrastructure, because it opens up exciting new capabilities such as on-demand self-service, broad network access, economies of scale derived from resource pooling, and elasticity of IT services in response to changing demand.

What makes this scenario especially attractive to organizations is the many benefits that can accrue from moving some or all of their IT functions over to the cloud, including:

- *Lower capital and operating costs*
- *Increased flexibility*
- *Improved service levels*
- *Increased ability to keep up with fast-moving technology*

This white paper was created to help guide you through the maze of choosing the right cloud provider for your organization, and to provide key guidelines to keep in mind throughout that process.

The Benefits of Cloud Computing

Benefit	Percentage
Save money	54%
More productive	47%
More flexible	40%
More innovative	33%
More responsible	27%

0   10   20   30   40   50   60%

Source: Edge Strategies Mircosoft 2012

WHAT KIND OF CLOUD DO YOU NEED?

Let's examine the three basic delivery models of cloud services in use today: public cloud, private cloud, and hybrid cloud. Depending on your business needs, you may want to find a cloud services provider that offers all three.

A PUBLIC CLOUD is one built on shared resources used by multiple organizations at the same time. For example, a single resource belonging to the cloud provider may be running applications that are used by several customers simultaneously, with the data being utilized by those disparate applications residing on shared drives. As such, it represents a pay-as-you-go, shared infrastructure with a standardized type of capacity where you can bring virtual machines to life on-demand in response to various business needs.

With a public cloud, there is generally no upfront infrastructure investment required, and costs to the customer are often lower due to the use of pooled resources at the provider. It is also highly scalable, and can easily address demand-or workload-based fluctuations.

Examples of public cloud include Infrastructure as a Service (IaaS) providers like Amazon Web Services or Microsoft Azure; and Software as a Service (SaaS) providers such as SalesForce.com or Intuit QuickBooks Online. Providers range from hyperscale or mega-hosters to more highly specialized providers focused on the SMB market to small local mom and pop Internet Service Providers.

A PRIVATE CLOUD provides a higher level of security and control for those customers that require it. A private cloud is built on dedicated

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Cloud services come in many different shapes and sizes, but they can be divided into the three basic types:

SaaS *(Software as a Service)* is a software delivery model in which applications are hosted by a service provider and made available to customers over a network, typically the Internet.

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PaaS *(Platform as a Service)* provides both a computing platform and a solution stack as a service, allowing the customer to rent virtualized servers and associated services from the provider for developing and testing new applications.

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IaaS *(Infrastructure as a Service)* is the most basic cloud service model, in which an organization outsources the equipment used to support IT operations — including storage, hardware, servers and networking components — to a cloud provider.

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resources (i.e., servers and storage) for a single customer to service their specific needs.

This can often lead to higher costs than with a public cloud approach, but it is still dramatically lower than providing the same level of service using in-house, or on-premise, infrastructure.

A private cloud is ideal for companies whose business, security and/or regulatory requirements man-

date having their own dedicated resources; large organizations working with multiple applications that involve mission-critical data or require greater levels of customization; and organizations whose business relies on high performance levels and availability for their application platform.

Examples of enabling technologies for private cloud include those offered by VMware, Microsoft, Eucalyptus, HP, Dell, and others.

HYBRID CLOUD combines features of both public and private implementations connected at various points to allow programs and data to be easily shared between them.

In some companies, a hybrid cloud deployment represents the best of both worlds: the lower cost and scalability benefits of public cloud, along with the added security and control of private cloud for those applications that require it. With hybrid cloud, you can choose the best match for your workload requirements at any time, and rebalance them as your needs change.

The first step in evaluating how you should make the best use of the cloud is to understand your own business requirements and how they relate to the delivery of IT services, both within your organization and to your customers. For example, you should be clear on your needs in the following areas:

- *The availability of capital for investing in new or expanded technology.*
- *The privacy and security requirements for your critical business applications.*
- *Your requirements for maintaining compliance with relevant governmental or corporate regulations.*
- *Your disaster recovery and backup needs, including geographical diversity and business continuity.*
- *The geography in which your assets may need to be physically located.*
- *Operational maturity—how your existing business processes are going to be supported into the future.*

At the end of the day, your focus should be on the business application, what the requirements are for it, how it is to be used, who will be using it, and where.

Making sure that your potential cloud provider understands and can deliver the right blend of services and solutions to answer these needs, using any or all of the delivery models described above, is of the utmost importance to ensure a successful foray into the world of cloud computing.
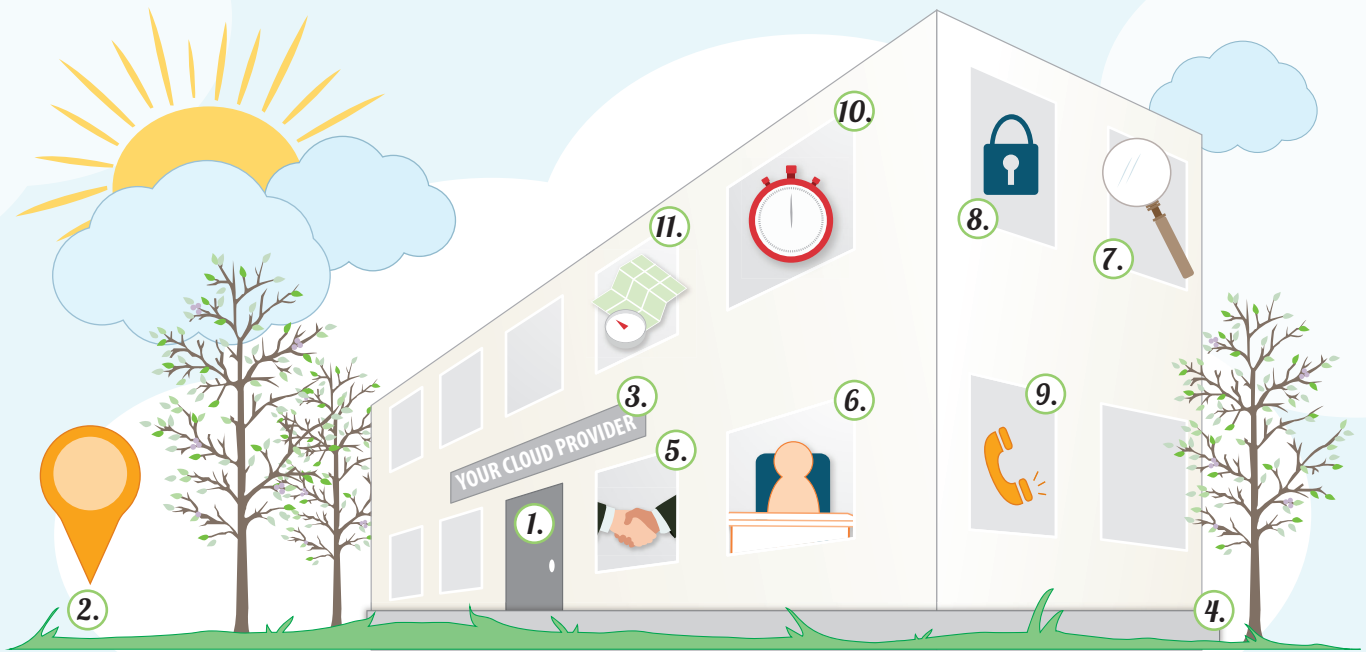
Choosing a Provider, Part 2:

11 QUESTIONS TO ASK

With your own organization's goals and requirements firmly in mind, the next step in identifying your best-fit cloud provider requires a commitment to getting satisfactory answers to a number of questions:

1. **Do they offer both public and private cloud services?** This is critically important to know, since your needs may require one, or the other, or both — either at the present time or in the future. The ideal scenario is a single provider that meets all of your needs.

2. **Where is your data stored?** Understand where your data will be hosted, and how that aligns with the privacy and data ownership requirements that you have. For example, does your data need to be hosted in the United States?

3. **What do they own and control?** Does the provider own and control its own infrastructure, or are they a re-packager of services from another company? Either approach can work, but if you're going to give up control of your physical IT resources, be sure you know who you're giving it to.

4. **How stable are they?** In many ways, your cloud provider will be one of the most important partnerships you forge with another company. Put their background and business standing through the same thorough and detailed scrutiny that you would apply to a financial or legal partner: How long have they been around? Do they exhibit sound business practices? Do they work with reputable partners? Do they look like they're on sound financial footing, now and into the future?

5. **How good is their support and service?** You want to reach a live person when you call and you don't want to be left on hold when you call. Make sure that they are committed to the highest level of personal attention during design and deployment, and offer superior support whenever you need it.

6. **Do they provide monitoring and alerting?** While you have transferred your IT functions to an off-premise site, you haven't given up the responsibility to be aware of their status down to the granu-

lar level. Check out their self-service dashboards and levels of alert notification.

7. **To what standards is their datacenter engineered?** First, has the provider built multiple access points, routing, and carriers into their network to ensure that your applications and data will always be highly available? What kind of a facility are they housed in?

8. **Has their security been validated by a third party?** Does their infrastructure meet or exceed the standards of an SAS 70 Type II/SSAE 16 audit? (If theirs doesn't, politely show them the door.) Have they received additional third party certification(s) such as MSP or UCS?

9. **Do they offer managed services?** Whether to augment your existing IT staff or to perform key system administration tasks for you, having expert help when you need it can be critical to your success, especially when it comes to monitoring your systems, providing timely alerts and offering proactive remediation strategies.

10. **Do they provide SLAs?** Beware of companies offering 100% uptime – this does not exist and the only way they can promise 100% is to guarantee your money back for any downtime. A 99.95 % uptime could be as much as 21 minutes of unsched-

uled downtime per month, which could impact your customers more than a refund is worth. Be sure and read the fine print in any SLA.

11. **Do they offer a roadmap for expanded products & services?** One of the benefits of moving IT services to the cloud is that you will have affordable access to new technologies as they become available, without the expense and training required to host these new technologies yourself.

Just as you expect your business to grow and expand, find out how they are planning to offer new services to meet your future needs.

With the answers to these essential questions in hand, you are well on your way to making the right choice of provider. At the very least you have eliminated some potential partners from consideration whose services didn't represent a good match to your needs.

Choosing a Provider, Part 3:

ALL PROVIDERS ARE NOT CREATED EQUAL!

At this point, you have narrowed down the range of potential providers to a short list. As with choosing a bank or a doctor, the choice you make today will have profound ramifications for years to come—so it's critical to look beyond the basics and delve into the nuts and bolts of what each provider can actually deliver.

The key concept here is infrastructure: how it's built really matters. You want to end up with a provider that has been through the due diligence and done the hard work to create a truly robust, scalable, diverse and secure physical infrastructure as the backbone for the services they provide.

Although most providers will tout various aspects of their datacenters, there are many different approaches to building, managing and protecting an infrastructure—and not all are created equal. In order to ensure that your business won't be the victim of security breaches and physical failures, you should evaluate the following aspects of each provider's technical foundation using the guidelines described below.

DIVERSITY. You will be dependent on the quality of your provider's network for key aspects of your business. As such, you want to be confident that their network is robust and reliable. The best way to create a highly survivable network is through the diversification of its assets and resources. Ask for descriptions of the steps that each prospective provider has undertaken to ensure diversity in the following areas:

- *Multiple carriers*
- *Multiple datacenters*
- *Network connectivity*
- *Cooling*
- *Power*
- *Hardware*
- *Redundant fiber*
- *Country*
- *Geography*

SECURITY. The idea of security in the datacenter goes far beyond passwords and firewalls (although those are important, too). Protecting the physical integrity of the infrastructure where your business assets reside is a key element in ensuring business continuity and minimizing risk. You should therefore ask each potential provider about the steps they have taken to ensure the physical security of your assets, including but not limited to the following areas:

- *Employee background checks*
- *Physical site security*
- *Certifications: SAS 70 Type II, MSP UCS Certification, etc.*

How each provider has gone about creating and protecting their infrastructure will tell you a lot about the care with which they will treat your business. Your final choice of provider will reflect the same.

RELIABILITY. Your business relies, both internally and externally, on the availability of IT services to its customers. Make sure that your potential provider has engineered reliability features and fail-over strategies into their infrastructure that will ensure the maximum possible uptime for the services they deliver—along with SLAs to back them up.

- *At least 99.99% SLA*
- *Power guarantees*
- *Network uptime guarantees*
- *Diesel backup generators*
- *Hot Aisle/Cold Aisle cooling*
- *Proactive power management*

Choosing a Provider, Part 4:

FINDING THE RIGHT FIT

Finally, there is the question of fit. In a very real sense, you are about to enter into a marriage. You want to make sure that the answers that your partner has provided throughout the "dating" process are more than just some impressive speeds-and-feeds—you need to know deep down that they understand and will remain responsive to your needs as an organization and as an individual.

A good cloud provider will listen to your current and future needs and find the best way to meet them by relating to you as a strategic partner does, not as a vendor trying to sell you a product.

Keep these things in mind as you weigh your final choice:

- *Look for a provider who wants to help you succeed.*
- *Do they work with you to assess your IT situation and specific needs?*
- *Can they provide a range of options to support you as your needs evolve?*
- *Are they willing to design custom solutions?*
- *Do they have applications specific to your industry?*

Conclusion

The cloud represents a new frontier of growth for many organizations, but proper vetting of your provider is essential to fully reap the rewards of cloud computing for your business. After all, you're looking at a long-term relationship — this comprehensive review of your potential cloud service providers. Help your business reach the next level!