GETTING THE MOST FROM THE CLOUD

A White Paper presented by LoDoCloud

Why Move to the Cloud?

CLOUD COMPUTING — the latest evolution of IT services delivery — is a scenario under which common business applications are delivered to customers over a network (the "cloud"), while the software and data supporting those applications reside on servers and infrastructure operated remotely by an external service provider (a "cloud provider").

More and more organizations are now turning to cloud computing to augment or replace their in-house IT infrastructure. For businesses of all sizes, the cloud offers many "bang-for-the-buck" advantages over creating and maintaining an in-house infrastructure, including:

- *The ability to start small and dynamically scale as your organization grows*
- *Freedom from infrastructure maintenance and upgrades, enabling you to focus on your core business instead*
- *Anywhere-access to services, since they are being provided over the Internet*

Perhaps the best reason to move your business IT services to the cloud is to give your organization a competitive advantage, since you will now be able to benefit from the kinds of services that used to be the exclusive domain of large enterprises, such as:

- *Flexibility and quick response to changing business conditions*
- *Reduced operational and capital costs*
- *Increased availability*
- *Predictable budgeting*
- *Physical/network security and redundancy*

Before You Dive In

CLOUD SERVICES come in many different shapes and sizes, but they can be divided into the three basic types of service described below. The type (or types) of service that will be right for you depends on what your organization needs to accomplish.

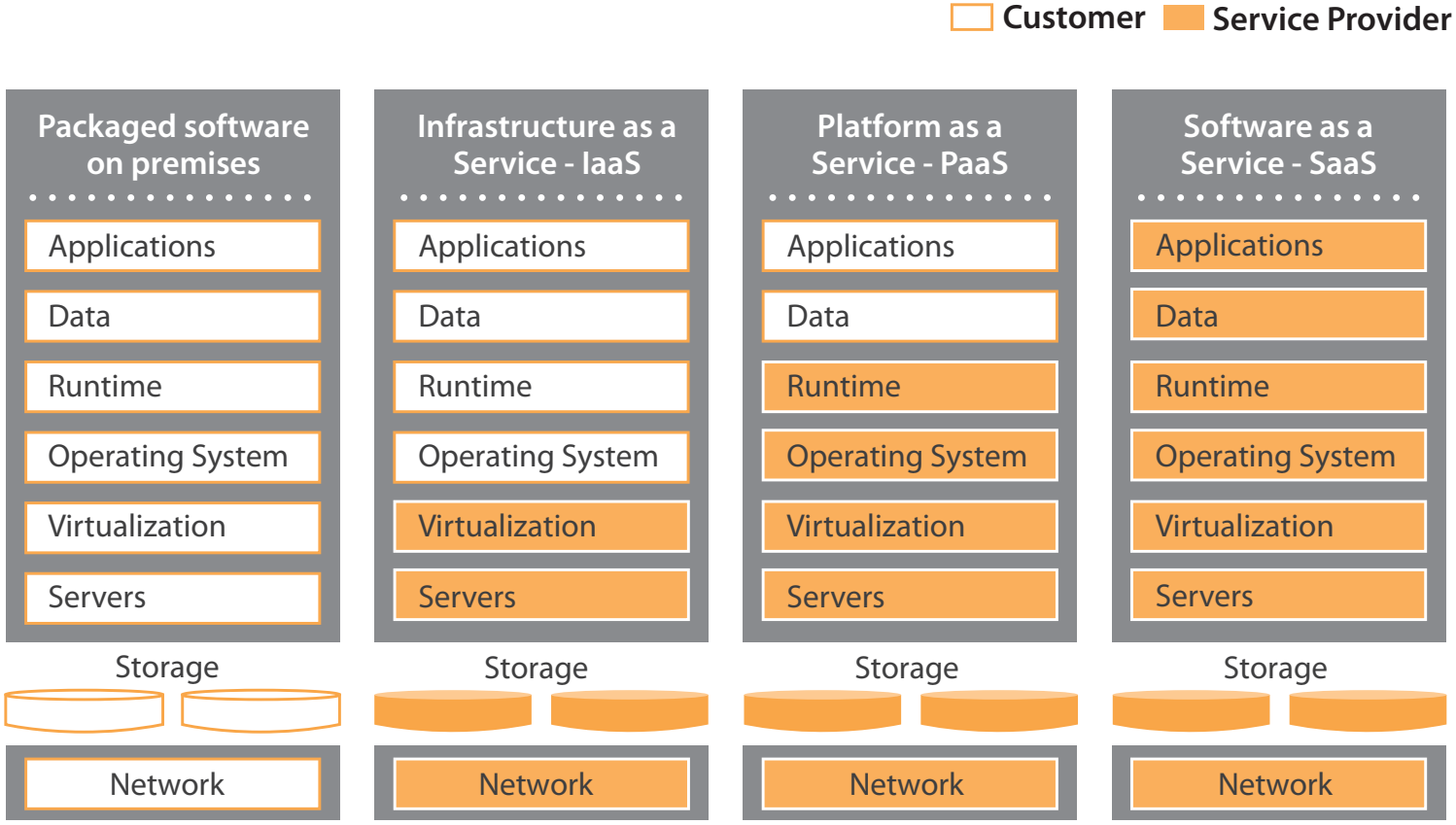
SaaS *(Software as a Service)*, sometimes referred to as "on-demand software," is a software delivery model in which applications are hosted by a service provider and made available to customers over a network, typically the Internet. SaaS removes the need for organizations to handle the installation, set-up and maintenance of hosted applications.

PaaS *(Platform as a Service)* provides both a computing platform and a solution stack as a service. The service delivery model allows the customer to rent a specific platform environment that they can use for development, testing and deployment of their applications. The provider is responsible for administration of the networks, servers, storage and other services as well as the accompanying infrastructure.

IaaS *(Infrastructure as a Service)* is the most basic cloud service model, in which an organization outsources the infrastructure used to support IT operations — including storage, hardware, servers and networking components — to a cloud provider. The provider manages and is responsible for housing, running and maintaining this infrastructure. In this model, cloud users only need to manage their applications and operating systems.

Who Manages What?

You can deploy your business software applications and software yourself on-premises in your own facilities or use the flexible Cloud with many options depending on the level of IT resources and infrastructure you want to use.



If you are considering moving some of your IT functions to the cloud, you should begin by identifying which of your business processes you can facilitate by using service models described above. Here are a few examples of the types of applications that lend themselves to a cloud-based approach.

THE WEB

(Websites • E-commerce • Video • Web Applications)

Today, many organizations have evolved to become partly or completely dependent on their websites to drive business traffic. With so much riding on this channel of communication between organizations and their customers, it makes sense to take an approach to the web that provides enhanced services and ensures their availability. The cloud enables this step without an intensive investment in infrastructure or personnel on the part of the business, and brings more sophisticated web technologies within easy reach.

BUSINESS

(Email • Collaboration • Accounting • CRM)

Basic applications like email and collaboration software have become the backbone of modern business communications. But providing the level of sophistication and reliability that most organizations have come to expect requires a significant investment in management and infrastructure. Cloud providers offer a wide range of solid alternatives, including turn-key solutions for email and collaboration. Organizations can focus on optimizing the use of these applications rather than on the physical infrastructure supporting them.

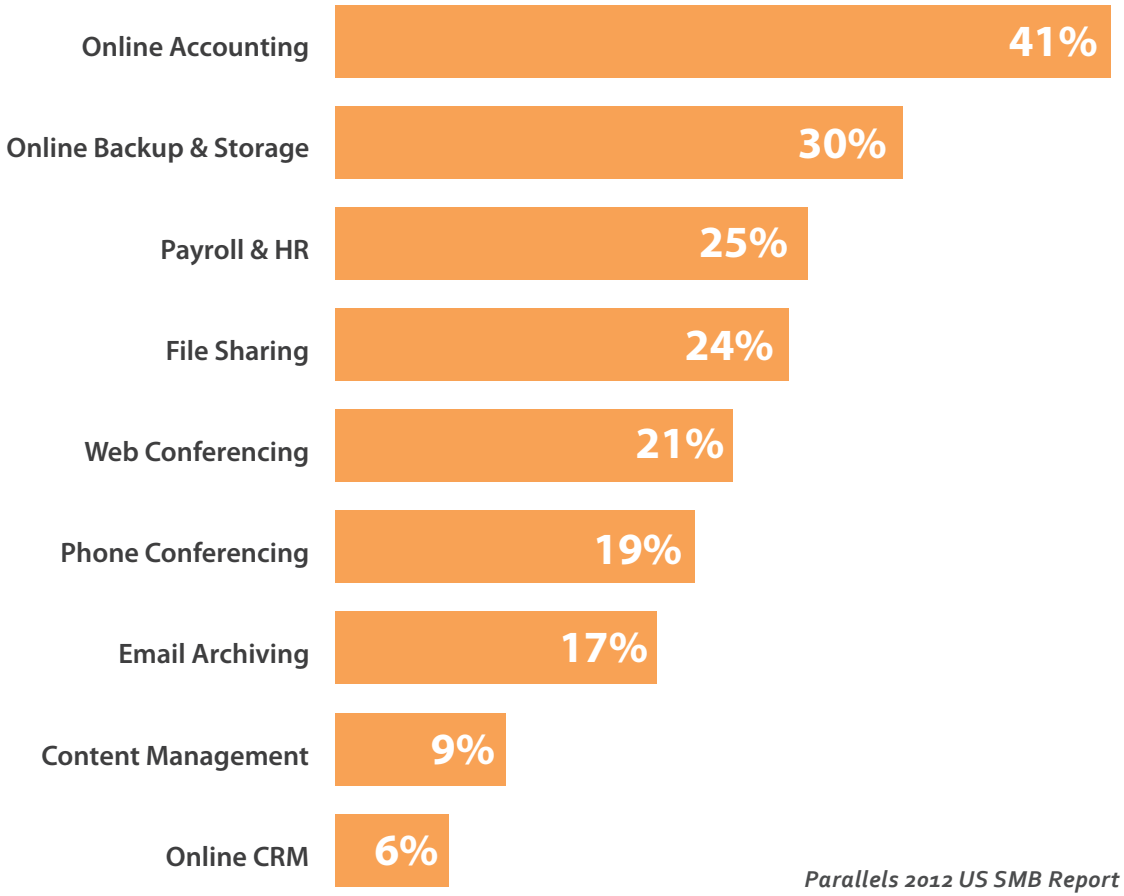
INFRASTRUCTURE

(Server Capacity • Backup & Recovery • Data Storage)

As organizations automate and adopt new business applications, the data generated by those applications can place a disproportionately heavy burden on an organization's IT staff and infrastructure. In addition, the growing regulatory burden on many businesses to safeguard that data means that the risks associated with non-compliance can threaten the very existence of the organization. The cloud offers solutions that permit scalable infrastructure growth that can keep pace with demand for services while limiting additional IT overhead.

Breadth of Applications

Use of online applications by SMBs in the US is growing rapidly as they move to the Cloud.



Parallels 2012 US SMB Report

Some important considerations before you choose a cloud provider or deploy any type of cloud services include the following:

DATA SOVEREIGNTY & PRIVACY

Understand where your data is hosted, and what privacy and data ownership requirements you and your customers have. Does it need to be hosted in the United States?

EXISTING BUSINESS PROCESSES & RULES

Ideally, your cloud deployment will be structured around these, enabling you to carry them forward with minimal disruption.

PHYSICAL CONTROL

Giving up physical control is harder than it sounds. Many organizations have been managing their IT down to the raised floor and server rack for years. Evaluate a cloud provider for the security and quality of their infrastructure and their ability to deal with your concerns.

KNOW YOUR APPLICATIONS

Some business applications are appropriate for the cloud while others are not, due to factors such as application architecture, geography, and security.

EXISTING INFRASTRUCTURE & OPERATIONAL MATURITY

You may already have a significant investment in infrastructure. Consider ways to leverage the cloud's potential while still maximizing the infrastructure you have.

REGULATORY COMPLIANCE

Multi-tenant provider environments may not meet your regulatory requirements for security, so you may want to consider a private or dedicated cloud option for these applications.

GEOGRAPHIC PROXIMITY

Does your data need to reside in the United States? Is latency an issue in the service you provide to your customers? Your cloud provider doesn't necessarily have to be physically located in your geographic area as long as they are able to meet your performance needs.

OpEx VS. CapEx

With the cloud, you can reduce or eliminate capital expenses from your IT budget. But you will still need to anticipate and manage the operational expenses associated with your cloud IT deployments.

RISK ASSESSMENT

This should be considered a best practice for your business with any project, whether it involves the cloud or not. Understand in advance what risks there are and have a plan to mitigate them.

Getting Started

So where to begin? Rather than take on everything at once, it makes sense to prioritize the applications that are most appropriate to move to a cloud-service model. This prioritization should be based on the considerations discussed above along with specific questions about your organization's needs, such as:

- *What is our most pressing need for the business right now? In the future?*
- *What hardware do we have that's currently nearing its end of life?*
- *What will have the biggest impact on our business?*

Here are recommendations on which applications to move to the cloud first:

EMAIL

Research shows that most organizations start their transition to the cloud with email applications (such as Microsoft Exchange), since it's fairly straightforward and easy to accomplish. In fact, many IT managers see email as a commodity or utility that they don't need to manage themselves. You can start small and scale as your organization grows. A good provider should be able to help you with transitioning to the new system, including migrating the existing email data you want to use.

BACKUP

Online server and workstation backup solutions can be easy to configure and use, and can run automatically without disrupting business operations. Remote/offsite backup is the recommended way to protect your organization's intellectual property and to support your plans for business continuity and disaster recovery.

SERVER INFRASTRUCTURE

Cloud-based servers provide you with safe, secure, and redundant hardware configurations on which to host your applications. A good cloud provider will offer choices that meet your needs for operating system, processor, storage and bandwidth requirements. And you can add new server capacity when you need it as an operational expense at a predictable monthly cost.

OTHER POSSIBILITIES

- **Individual applications.** Your organization may have specific needs for individual applications that make sense to move to the cloud, such as collaboration or web-based applications. Make sure that your cloud provider offers solutions in these areas that fit your exact needs.

- **Disaster Recovery.** Whether or not your organization falls within an industry characterized by regulatory compliance requirements, a strong disaster-recovery plan is a must. Since offsite (and in some cases, outside-of-region) backup is synonymous with protection of your valuable data and applications, the cloud represents an ideal path for solutions of this kind.

- **Development.** Acquiring dedicated servers for developing or testing new applications can be expensive. Cloud platform services such as servers can make a lot of sense for this purpose, since you pay only for what you need for as long as you need it.

A WORD ABOUT INFRASTRUCTURE.

How it's built really matters. You'll want to choose a provider that has done the hard work to create a truly robust, scalable and secure physical infrastructure as the backbone for the services they provide.

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

A highly survivable network is built by diversifying its assets and resources, such as fiber, carriers, hardware and geography.

SECURITY

Ask each potential provider about the steps they have taken to ensure the physical security of your assets, including employee background checks and physical site security.

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.

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.

Choosing a Partner

Much has been written about the importance of evaluating potential cloud service providers to find the best fit for your organization. (Please refer to our own white paper: How to Choose a Cloud Provider.) In a nutshell, the most important factors to consider are:

SECURITY — Does their infrastructure meet or exceed the standards of an SAS 70 Type II audit?

EXPERIENCE — How long have they been around? Do they offer specific expertise in providing solutions for your industry?

TRUST — Have they received third part certifications, validations or audits like the MSP Alliance UCS certification?

NETWORK — Is their network robust, high-performance, resilient and redundant?

EASE OF DOING BUSINESS — Are they forthcoming with answers to your questions and helpful in seeking solutions?

RELATIONSHIPS — Do they relate to you as a strategic partner, not as a vendor trying to sell you a product?

BREADTH — Can they provide a range of products and services to support you as your needs change?

KNOWLEDGEABLE SUPPORT STAFF — How quickly do they respond to your concerns? Are they able to foresee and mitigate potential issues before they arise?

SERVICE LEVEL AGREEMENTS (SLAS) — Can they offer your organization the performance levels its business processes require?

Conclusion

To summarize, there are many compelling reasons for organizations of all sizes to move some or all of their IT functions to the cloud. With careful and conscientious planning, and with the right cloud services partner at your side, your organization can start enjoying and maximizing the benefits that this new era of computing brings to business.

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