

# Creating Dynamic IT Infrastructure at Reduced Cost with Cloud Computing

## White Paper

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### Do you find Technology struggles to keep pace with your changing business requirements? Cloud Computing technology may be the dynamic solution you are looking for!



**Cloud Computing offers much more flexibility however you need to approach this like any other investment decision and consider the pros and cons as they apply to your individual business needs.**

#### **So what is Cloud Computing?**

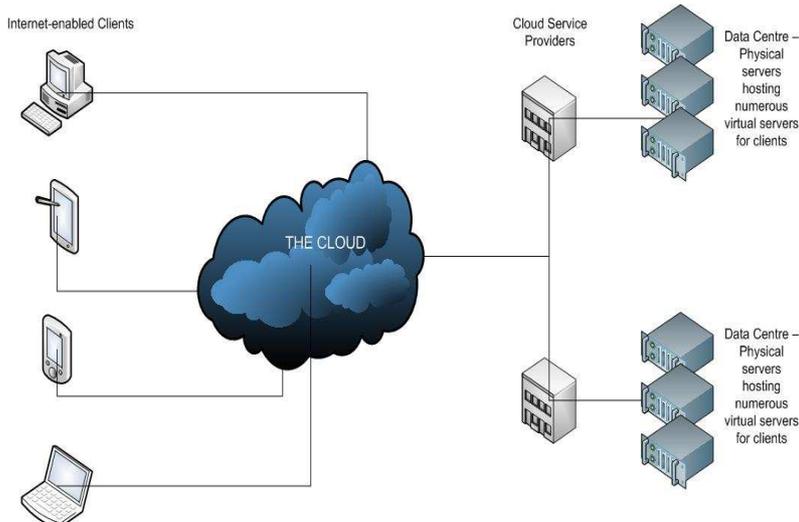
Put simply the Cloud is like a utility. A business pays for water, gas and electricity according to the amount they use. Cloud Computing offers the same – payment on a subscription basis.

The Cloud is basically a vast number of high-performance computers (i.e. servers) and connections. The Cloud provides a number of 'services' (e.g. a video conferencing application) over the Internet to any Internet-enabled device (eg laptop computer). All applications and data sit within the Cloud. Nothing, or very little is installed locally on a device accessing the Cloud. Computing at the scale of the Cloud allows users to access supercomputer-level power from relatively under-powered devices (eg smart phone). The 'Cloud' is not the Internet. The Internet is simply utilised as a means to access the Cloud.

Cloud is a style of computing where scalable and elastic IT-related capabilities are provided as a service to customers using Internet technologies. Cloud resources can be quickly added and subtracted in line with changing business requirements.

Employees can access information wherever they are at any point in time, rather than having to remain at their desks. Cloud technology is usually paid on a monthly pay-as-you-go basis, saving organisations money. The technology also allows IT departments to shift focus onto projects and other developmental work, as server/application updates and other computing issues are administered outside the IT department by the Cloud Service Provider.

**Clarity Business and IT Solutions** offers analysis and technology procurement services for your business. Clarity can effectively align your specific business requirements with a thoroughly researched, fit for purpose Cloud Computing solution, providing your business with substantial technical and cost savings.



### So how does Cloud Computing work?

A number of devices can connect to the cloud via an Internet connection including desktop PCs, notebooks, smart phones, tablet PC and terminals. Basically any Internet enabled device can access the cloud anywhere at any time. Cloud Service Providers maintain a number of physical servers on which each physical server may host a number of virtual servers. Each virtual server provides a function within the cloud. These physical servers may reside within the Cloud Service Provider's data centre or the Provider may outsource the data centre to a third party.

#### Pros

- **Scalability and flexibility**  
IT resource utilisation follows business needs. Can maximise resources for better efficiency and reduce unused capacity
- **No capital expenditure**  
no need to invest in more hardware for increased application demands. Reduce need for IT staff as maintenance (eg software updates) conducted by Cloud Service Provider
- **Efficiency**  
can access applications/data from anywhere at anytime. Also reduces overall energy use and physical space required for infrastructure
- **Affordable**  
pay for what you use with no software licences and implementation costs

#### Cons

- **Service Agreement**  
Important to understand and negotiate this contract to suit your needs. Ensure happy with technical support offered
- **Potential vendor lock-in**  
by way of difficult migration paths between provider's cloud plans
- **Application functionality**  
cloud apps may not have full functionality of their full local install versions
- **Security concerns**  
business data is not stored within own network
- **Internet connection**  
needs to be reliable and fast as this is how Cloud is accessed. Wise to have an offline contingency plan should connection to Cloud be affected

### How is Cloud Computing defined?

Before a market assessment can be made on various Cloud Service Provider offerings, it is important to define Cloud Computing and gain a basic understanding of Cloud Computing

## Cloud Computing Models

### \* Infrastructure as a Service (IaaS)

This Cloud Computing model offers storage and computer resources developers and IT organizations can use to deliver business solutions. The model enables a company to rent basic computing resources for deploying and running cloud applications or storing data on the network. Organizations can deliver applications more efficiently by combating the critical notions of infrastructure management.

#### Who uses it?

System Managers

#### What services are available?

Virtual machines, operating systems, network, storage, backup, etc

#### Why use it?

Create platforms for system testing, deployment, development, etc

### \* Platform as a Service (PaaS)

This Cloud Computing model offers black-box services with which developers can build applications on top of the compute infrastructure. This might include developer tools that are offered as a service to build services, or data access and database services, or billing services.

#### Who uses it?

Developers and deployers

#### What services are available?

Service and application test, integration, deployment, etc

#### Why use it?

Create or deploy applications for users

### \* Software as a Service (SaaS)

The service provider hosts the software so you don't need to install it, manage it, or buy hardware for it. All you have to do is connect and use it.

#### Who uses it?

Business users

#### What services are available?

Email, CRM, virtual desktop, office productivity apps, etc

#### Why use it?

Complete business tasks

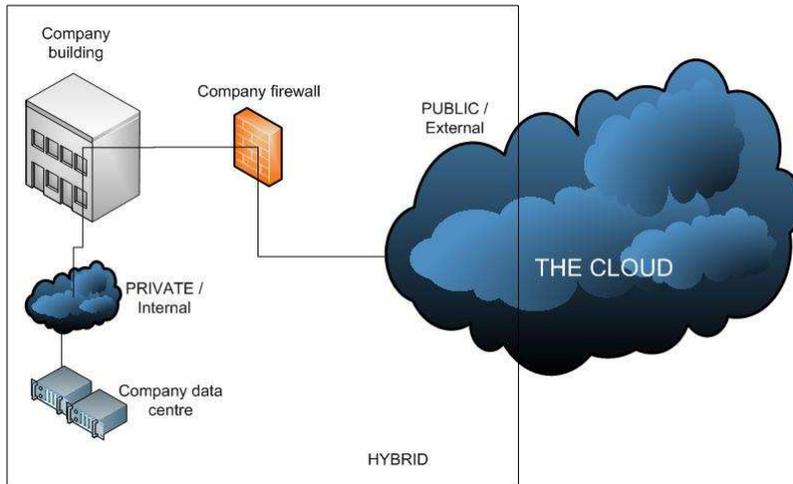


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structures. Cloud Computing technology can be categorised into three distinct models and types.

Three Cloud Computing models exist: **Infrastructure as a Service (IaaS)**, **Platform as a Service (PaaS)** and **Software as a Service (SaaS)**

In the SaaS model, the Cloud Service Provider hosts the software so you don't need to install it, manage it, or buy hardware for it. All you have to do is connect and use it. SaaS examples include cloud email and Office applications. This cloud model is offered to clients as an online service and runs on the Cloud Service Provider's own cloud infrastructure.



Three Cloud Computing types exist: **Public**, **Private** and **Hybrid**

Public clouds are virtualized data centres outside of your organisations IT firewall. Generally, a Cloud Service Provider makes resources available to organisations, on demand, over the public Internet.

Private clouds on the other hand are virtualised cloud data centres inside your organisation's firewall. It could also be a private space dedicated to your organisation within a Cloud Service Provider's data centre. Hybrid clouds are essentially a mix of both public and private clouds.

### How do I make sense of all the Cloud Service Provider offerings?

A number of factors should be considered when comparing Cloud Service Provider offerings against specific business requirements.

A selection of criteria for short listing Cloud Service Providers, to be used with reference to specific business requirements is outlined in the following table.

Criteria	Rational
<b>Established policies on data security</b>	This is particularly important given the location of data in the cloud. The same level of control over data is not present when data is stored within the cloud, as opposed to the traditional storage on an organisation's local network.

Criteria	Rational
<b>Service Level Agreement</b>	A mutually negotiated contract between the Cloud Service Provider and the client must be produced in the form of a Service Level Agreement (SLA). This document would detail guaranteed levels of service and remediation process should established levels of service not be met with the SLA.
<b>Administration control</b>	The client should be able to easily expand or contract cloud services with the Cloud Service Provider as their business need dictates. For example, additional mailboxes should be easily added via a client administration interface or at least a simple procedure through the Cloud Service Provider.
<b>Support</b>	As the client IT infrastructure and data will be hosted within the cloud, easily accessible and timely technical support is required. This support may be in the form of queries or technical issues. Previously, such technical support was sourced from an internal IT department, whereas Cloud Service Provider technical support staff support the client cloud solution.

### What should I be aware of when selecting a Cloud Service Provider?

As highlighted, it is important to ensure a Cloud Service Provider that you may potentially engage meets current business requirements and can efficiently cater for changing business needs. You need to be comfortable with the policies of the Cloud Service Provider, the Service Level Agreements offered and level of support.

Some tips to keep in mind when selecting a Cloud Service Provider include:

- Meet with the Cloud Service Provider to discuss your requirements and listen to their cloud services offerings. This will help you gauge their level of professionalism and ability to provide a suitable cloud solution. How long has the Cloud Service Provider been in operation? Do they have client testimonials on their web site? Can you take a tour of their cloud infrastructure?
- Does the Cloud Service Provider have professional technical support on hand when you need it? This is particularly important during the initial weeks of installing and configuring access to your cloud services. How is support provided and within what timeframe? Full support details for each cloud service should be documented in the Service Level Agreement.
- Understand the full terms and conditions associated with a Cloud Service Provider plan, particularly in relation to any setup costs, plan termination process and plan migration process. If a Cloud Service Provider offers a number of 'plans' each with associated features, ensure these plan features satisfy current business requirements. The Cloud Service Provider may offer other plans with more comprehensive features attracting a higher subscription fee.

*"Verify the process to migrate your current subscription to other plans. Is this process possible and if so are there costs involved?"*



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- Verify the process to migrate your current subscription to other plans. Is this process possible and if so are there costs involved? Is availability of existing cloud data automatically available under a new plan, or is this manual?
- What happens when you want to leave a Cloud Service Provider? Are there any fees associated with subscription termination? What happens to all cloud services data, for example SharePoint documents and Outlook emails and contacts? Is this exported by the Cloud Service Provider for you or is this your responsibility?
- Confirm your full understanding of the plan features. What cloud services are included in the Cloud Service Provider plan? What is not included? How are these features accessed and utilised?
- Are there any additional fees outside the usual monthly subscription? For example, what happens if I need to increase my SharePoint storage capacity? What happens if I employ three new staff and they need email accounts? Confirm any pricing structures the Cloud Service Provider may have in relation to expanding current cloud services capacity and adding new cloud services.

*"Understand the full terms and conditions associated with a Cloud Service Provider plan, particularly in relation to any setup costs, plan termination process and plan migration process."*

If you're considering Cloud Computing for your business, give **Clarity Business and IT Solutions** a call on **1300 827 537** for a free 1 hour consultation in your office to discuss your business requirements and Cloud Computing options