



# The Cloud Understood

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## GETTING TO GRIPS WITH THE CLOUD

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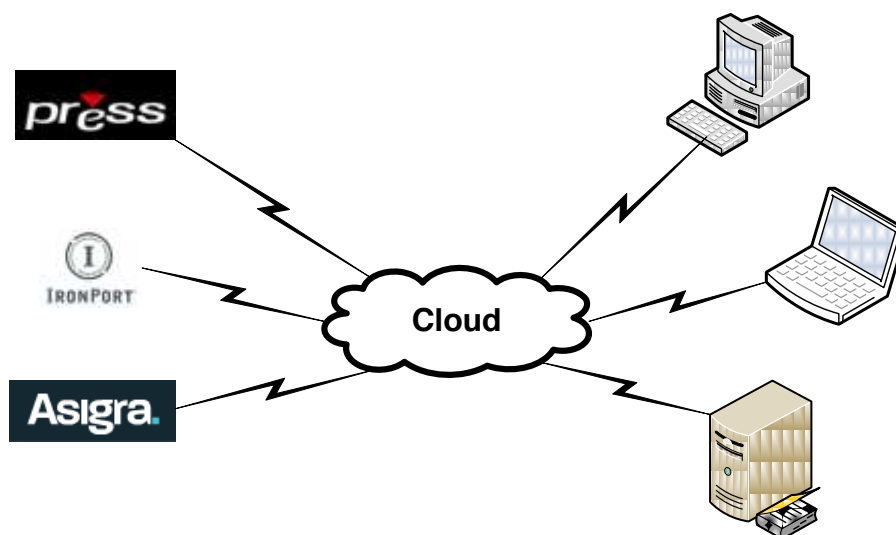
Currently there is a fundamental misunderstanding of what the cloud actually is. In an effort to increase adoption and drive cloud services, the industry has pushed a mismatch of ideas and technologies that have been counterproductive to the original intended message. The result is mass confusion to what the inner workings of the cloud actually are and as a result, many businesses are wary of where the cloud leads.

By now, the majority of us have come into contact with the cloud whether we realise it or not. On the most basic of levels, the cloud is simply a term that describes the internet. This supposedly new concept has, in reality, been around for many years. Many businesses have been using cloud services for a substantial amount of time, but the surge in providers peddling their solutions without proper explanation has amplified the confusion.

The IT industry has always thrived on new technologies and by labelling the cloud as an innovative, new method of delivery; it has legitimised the services of unproven providers. It is also a term that attempts to soften traditional IT terminology. The cloud is a safe description of IT – one that lacks the harshness of previous technologies like hosting or collocation.

This uncertainty has been exaggerated by an industry that has no agreed standards. Therefore, by coming to a definition of what the cloud actually is, it will hopefully allow the majority of its mystery to subside.

Still, however the cloud is interpreted, providers and businesses need to agree that it is neither new nor as revolutionary as many will have us believe. The best place to begin is with a specific example for context. Any internet service that runs between a provider and a client is a cloud service:



Above is PReSS Monitoring and Fault Resolution running on one side of the cloud while an Asigra backup solution provides the user with further support. Both services are delivered simultaneously to users via the internet. A more common example is consumer webmail – Gmail and Hotmail – a daily service that the majority of us access.

If we take the webmail example further, there seems to be a blasé approach to cloud services. As long as the service is upheld, it doesn't matter how it is being delivered. This lack of interest in how consumer cloud services function has transferred across to corporate IT. By showing a disregard to how services are actually run it undermines the nature of the cloud and IT in general.

It used to be the case that users at all levels were forgiving of downtime, especially before bandwidth became more prevalent. However, since the introduction of the cloud, users are no longer so forgiving. The demand for constant uptime, regardless of whether an individual knows what IT is being used to actually deliver the service, has shifted perceptions.

Blind faith in the cloud is not only counterproductive, but when providers underdeliver it has a knock on effect that is detrimental to those that do provide a solid service. Understanding the infrastructure behind the cloud can only improve visibility and therefore increase trust, not just for the specific provider–client relationship, but for the industry as a whole.

## IS THE CLOUD THE PLACE TO BE?

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The cloud seems safe and by now the industry has drummed in its benefits – secure, power resilient, replicated, robust, and scalable. All of these are true, but the reality of the cloud can often be a lot different.

There are still providers and businesses that lack the understanding of how the above benefits are achieved. Sure, the cloud may be a robust and secure IT direction, but blindly trusting the cloud's message is a precarious decision. Those who believe that anything living in the cloud is automatically safe and true should rethink their attitudes.

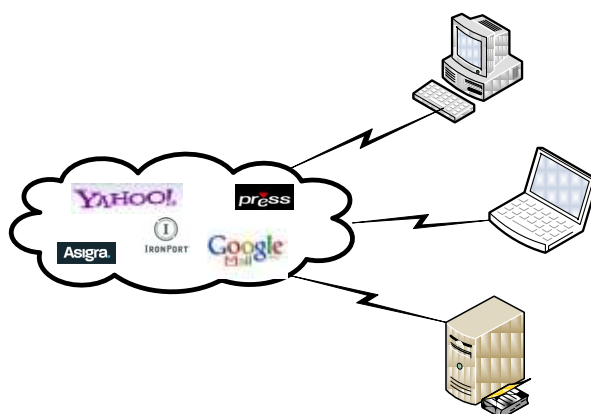
So, with the conclusion that the cloud needs to be approached cautiously, what is this 'cloud computing' that the industry keeps talking about?

### SO WHAT IS THE BIG DEAL WITH CLOUD COMPUTING?

Cloud Computing appears to be a joint creation of technology providers and the media to market the cloud as a new entity. In recent years, the steady increase in available bandwidth has opened up access to the cloud. Keen to capitalise on the sudden surge in corporate usage, many cloud providers have jumped on the bandwagon by conjuring a term for something that is in reality nothing new.

However, while the cloud's existence is not as groundbreaking as we are led to believe, it is obviously a form of IT that is now far too pressing to ignore. It may not be new as an idea, but new developments in technology have caused the cloud to increase its presence. As a result, addressing the cloud and whether it is suitable is a step that has undoubtedly become part of modern IT strategic planning.

Below shows just a few of the many cloud services that businesses must consider when planning their IT in the future.



## UNCLOUDING THE INDUSTRY'S JUDGEMENT

So what do cloud providers actually do? The biggest step to clarifying the cloud is to have a solid understanding of what a cloud provider should be offering. It is vital to removing the barriers that many IT Managers have. With so many providers offering a variety of services, it is no wonder that many have stayed clear of the cloud so far.

This anxiety is intensified by the lack of service that many enterprises have received. Some unproven providers use the cloud's lack of visibility as a means of offering poor infrastructure and even worse service levels. Service Level Agreements (SLAs) might be in place, but that does not prevent a provider from under delivering on what they promised.

The best thing to do in this situation is to treat the cloud like any other IT service. Think of it along the same lines as its localised equivalent. After all, the cloud is an extension of a company's IT, not a replacement. With local infrastructure in the past, IT management would actively showcase its technological power as a means of demonstrating support. With the cloud this has changed – the idea of physically displaying the IT supporting a business has vanished.

Therefore, visiting a cloud provider's data centres will confirm their commitment to their client's IT. If the local infrastructure matches the technology promised and the level of service is at a similarly, proven high level, then a provider should be considered worthy of being entrusted with business critical IT.

## PREDICTING TODAY'S CLOUD COVER

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Thus with trust instilled and the decision to move to the cloud agreed, what services can a cloud provider actually offer? In the most basic form, they provide support that is either:

- Common online business applications that are accessed via a web browser. The service software and data is hosted on servers within a data centre.
- Infrastructure services:
  - Data backup, disaster recovery and email monitoring
  - Network management
  - Website development tools, language translation services and recruitment tools

Obviously, the services depend entirely on the sector that a company inhabits and the above are a minute selection of what is available. Of course, as technology continues to progress, more and more components of IT will begin to populate the cloud.

With the cloud now explained, it is a good opportunity to look at the specific characteristics of cloud IT. It is safe to say that every cloud, whether public or private, should match these requirements:

1. On-demand self-service
2. Broad network access
3. Resource pooling
4. Rapid flexibility
5. Measured service

Confusing jargon like the above not only increases confusion for businesses considering adoption, but it also complicates the cloud's message. Understanding how each guarantee relates to day-to-day IT management is important. Basically the cloud should provide dynamic services that can be adjusted to match business requirements. Supported by accountable service levels, the cloud is a means of extending a business using automated shared resources.

### WHY IT ALL MATTERS

With the cloud shifting the perception of IT, understanding it is imperative. The need to sit up and take note, regardless of whether a business is planning migration, is essential for the future of the industry and as data pipes and servers become cloud services, the sudden emergence of cloud computing risks even further fragmentation.

The underlying hardware and software is still there, but with the cloud, the service capability is at a higher level. Understanding these arguments are critical for maintaining clarity in the cloud.

## COMBATING THE CONFUSION

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As previously discussed, the cloud's message is under constant threat from further fragmentation. Alongside cloud computing, 'Software-as-a-Service' (SaaS) is another term that requires clarification. On the most basic of levels, SaaS is essentially the same as cloud computing, just expressed via a different marketing message. This is not to be confused with 'utility computing,' a practice that comes into being once a company starts to pay for services and the utilised resources.

Cloud computing can be described as the accessing of resources and services to perform IT functions that have dynamically changing needs. Take an application developer as an example; rather than requesting access from a specific endpoint or named resource, they access shared services in the cloud.

Within the cloud you have multiple infrastructures supporting organisations across a variety of frameworks that tie said infrastructures together. Frameworks should be:

- Self-healing
- Self-monitoring
- Self-Balancing
- Resource registration and discovery
- Service level agreement definitions
- Automatic recognition

To the end user the cloud is a virtualisation of resources that maintains and manages itself. Of course there are people ensuring that the hardware and networking is kept in working order, but often the cloud is the only reference point acknowledged.

### WHEN MIGHT THE CLOUD BE WRONG?

Now the cloud has been distinguished from its splinter points, it is essential to assess whether the cloud is actually relevant to a company's interests. Cloud services are not right for every business and depending on the conditions, local infrastructure might still be the most relevant and logical choice. For instance, if a business lacks the circumstances to relinquish direct control of its resources or has issues with sharing resources, systems should remain in house. Under the above situation, the cloud may well be unnecessary.

However, that should not automatically rule out the cloud as a possible direction. Business critical systems can be kept locally while partial services can still be delivered by the cloud. For example, data backup or general system monitoring could be implemented for a hybrid approach.

### ISSUES WITH THE CLOUD

So why are businesses averse to migrating to the cloud? Reliability, scalability, security and a host of other issues prevent many from switching to hosted services because the risk of failure is seemingly too great. Many IT departments are unwilling to relinquish their infrastructure for safety concerns.

Sadly the above concerns can become a reality with some cloud providers. After all, without verifying the systems supporting the cloud, how can a business really know where services are located once they are in the cloud? Are they backed up and replicated? Are they even in data centres? It is a case of visually identifying and checking the IT behind a business while addressing these questions before rolling out a cloud solution.

## CLLOUD SERVICES AND WHAT THEY CAN OFFER

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Even with the cloud grasped, knowing the ways in which the cloud can support a business are often hidden beneath a discussion of overarching benefits. Sure, the cloud can provide stable services that are extremely cost effective, but what are the exact services?

- Online Backup
- Disaster Recovery and DR Space
- Proactive Monitoring
- Fault Resolution
- System Hosting
- Email Spam/Virus Protection
- Managed Desktop
- Internet Bandwidth Provision
- SSL VPN – Secure Remote Login

All of the above are cloud services, but how do they address the issues that hinder the cloud?

### SAFETY IN NUMBERS

The security of the cloud is perhaps the largest concern for businesses. For cloud providers, demonstrating that they can guarantee the protection of data is paramount to gaining trust. However, just because the cloud is accessed remotely does not mean security is lax. The very nature of the cloud means that providers often have stronger security polices than their local equivalents.

For example, a trustworthy provider will ensure data backed up online is encrypted to AES 256 bit standards for full FIPS 140-2 compliance. If a business finds itself under remote attack, high availability firewalls provide support while client-held encryption keys eliminate any other weaknesses in security. At a minimum, all system data should be SSL secured and when transported, it should be encrypted via VPN tunnels to prevent unauthorised access.

So, the security in the cloud is of a high strength, but equally important is choosing a provider that guarantees the physical security of its IT. A Tier 4 data centre is a sensible choice as locked down by biometrics, two factor authentication and additional manned security, it prevents anyone without pre-given access from entering.

### CONNECTING THE DOTS

While the above ensures remote IT is heavily protected, (both online and physically), availability can also be an equally pressing issue. Having access to critical data, especially in a disaster situation, is vital to guaranteeing the long-term existence of a business. Trusting an unproven provider to deliver a service is justifiably a huge leap of faith, but working collaboratively is the best way to combat these apprehensions.

It is a two way street. The user of cloud services must ensure their bandwidth and local connectivity can cope with demand while the provider needs to match the commitment by upholding their outlined SLAs. Visibility is critical and providers need to be transparent in what they offer. If not, the lack of trust between client and provider will hinder the relationship and the service in the long run.

## CONTROL THE CLOUD

Considering the cloud as an extension of a company's IT department, rather than a replacement, is often an opinion that is overlooked. Any first rate provider will ensure that their services are supplied with full visibility to counteract any control issues. During implementation, fault resolution is deployed to ensure reliability while system alerts are delivered to multiple technicians via industry-strength call escalation systems.

Preventing a loss of control through preventative monitoring and live local logging allows the cloud to react instantly. Automated health checks and an experienced engineer team looking after cloud infrastructure is important for businesses who find themselves cautious. By fully understanding the cloud, it can help dissolve the barriers that prevent adoption.

## THE CLOUD UNDERSTOOD

Dispensing counter arguments to the cloud's apprehensions might be one thing, but actually putting into practice the above is another matter. Trusting a provider is key – choosing one that understands the cloud and can demonstrate their capability for handling a company's IT is vital for securing the longevity of a business.

As already stated, visibility is one of the most important methods of understanding the cloud. Put simply, once the cloud is understood, it becomes a viable path to consider. Whether the cloud is suitable is a step all enterprises are going to have to undertake in these coming months. Clarifying the position of the cloud and what it is, what it does and what it can do will enable businesses to take the next step whatever the outcome.

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*Oncore IT is an industry leader in IT Managed Service provision, delivering dedicated and cloud computing solutions throughout the UK and Europe. Oncore IT has been supporting SME and Enterprise clients for more than 10 years, designing and optimising their technology architecture.*

*Oncore IT provides the ultimate in cloud computing services, boasting Tier 1 bandwidth and a carrier neutral environment to all major telecoms. Oncore Cloud Services provides businesses with the opportunity to utilise a secure, shared platform without compromising on privacy and security. OCS is designed to increase the accessibility and speed of transferring data from one location to another.*