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Implementing cloud computing environments: Challenge and Opportunity.

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Cloud is now very much part of mainstream enterprise computing and Australian organisations are well advanced. A recent report by Forrester showed 86% of Australian organisations have used cloud in their production environment for more than a year against 50% in the US and nearly 60% across Germany, France and the UK.

This means most IT teams today are facing the challenges of implementing cloud computing alongside their current IT infrastructure. From applications delivered as Software as a Service (SaaS) to the orchestration of server provisioning, cloud technology has the ability to affect every aspect of IT services delivery.

Planning considerations for the three main cloud options

Organisations are evolving their IT operations to deliver services based on cloud technologies rather than discrete, siloed applications and systems. To migrate services to public, private or hybrid cloud infrastructures, companies must consider the following infrastructure planning issues.

Public Cloud – moving an application to a public cloud, such as Microsoft Azure, may access an infrastructure with far greater storage and compute compared to an on-premises installation.

However, issues of latency and dependency can arise if the system architecture is not tailored for a cloud implementation. Migration to a public cloud is not just about a move of resources, it often requires a fundamental review and re-design of an entire application or environment.

Private Cloud – this option can appeal to organisations already running virtualised server and storage environments. However, an organisation is not considered 'cloud ready' simply because it has its own on-premises virtualised environment.

The implementation of cloud-specific architectures and technology may become a longer journey than an IT operations department initially realises.

Hybrid Cloud – is an infrastructure that presents organisations with technical challenges to ensure consistent security across network boundaries, responsive data access across clouds and a single dashboard view of infrastructure performance.

Expertise across all aspects of cloud technologies is particularly important for hybrid cloud implementations.

Hybrid cloud can provide a practical option for IT operations teams in High Availability (HA) and Disaster Recovery (DR) scenarios. A private cloud will run production services with a second cloud on warm standby to spin up servers and environments should an outage occur.

Will cloud technologies bring increased complexity?

Much of the promise of cloud is to remove entire layers of complexity of design, build and management from the customer and move this responsibility to the cloud services vendor.

However, complexity can increase exponentially when an enterprise organisation has:

- Implemented a number of public cloud SaaS applications
- Built an internal private cloud

- Contracted a managed service provider to deliver dedicated private cloud services from an external data centre
- A requirement to move workloads between clouds
- Applications using data from multiple clouds

These are just some of the scenarios that one enterprise could legitimately encounter.

With the current enthusiasm for cloud, there is a danger that project teams across an organisation will implement cloud technology without regard for an organisation-wide cloud strategy. This can result in a vastly more complex IT environment, with disparate clouds from different vendors incapable of sharing workloads and data to the extent required by the business.

Without a well-defined approach to cloud, you can find yourself in a situation where the much lauded benefits of cloud have been lost through lack of planning and standards.

Not all workloads will move to the Cloud

As a company develops its cloud strategy, there is a temptation to move as many applications (workloads) to a cloud-based infrastructure as possible. The advantages of reducing costs, scale, availability, compute and manageability are calling. However, not all applications or services are well suited to migration and each must be reviewed on its own merits.

Applications that do make good candidates for cloud migration include e-commerce, social media and SaaS. Their requirement for dynamic scalability takes full advantage of the cloud infrastructure.

Applications that batch process information, such as financials with month-end and year-end batch processing, are also good candidates to migrate. These applications, once in the cloud, can have servers spun up to meet the temporary demand and then shut down after the event.

Applications that do not suit a move to the cloud include those that run high numbers of I/O database requests and have high network utilisation. These applications are typically better suited to purpose-built hardware and custom application solutions.

Most legacy applications were not written with virtualisation or portability in mind, so do not generally make good migration candidates. Legacy applications on legacy hardware may prove difficult to move to the cloud directly and require re-coding or replacement by a new service.

How does cloud automate IT service delivery?

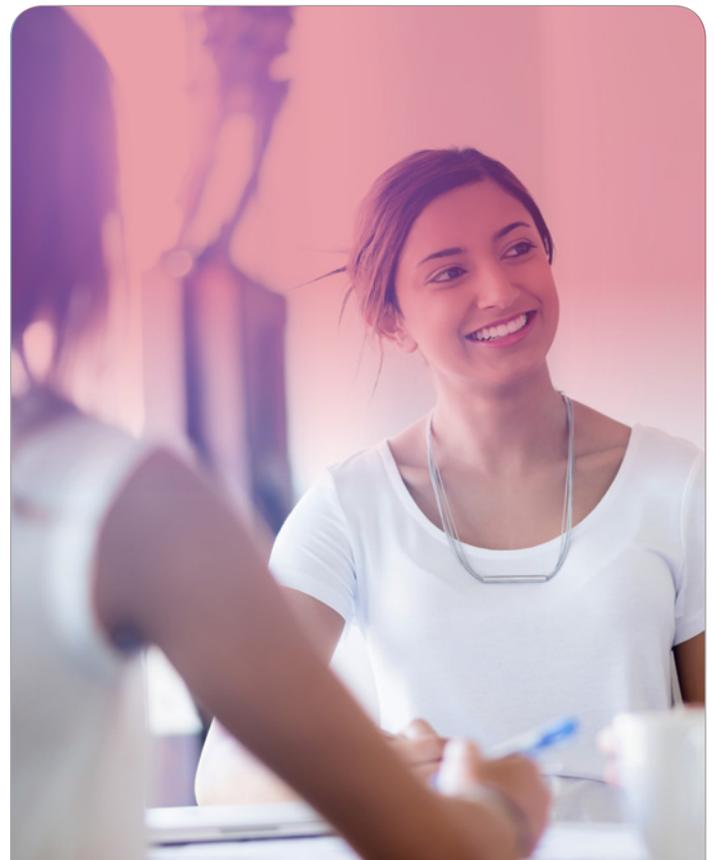
Cloud technologies give you the ability to automate tasks (such as building a server) and orchestrate processes (for example, installing a complex application).

Automation and orchestration allow approved users to request and deploy IT infrastructure services via an online portal. Deployment takes hours, not days or weeks, and there is no direct need for IT support.

Tool set vendors such as Microsoft, IBM and VMware are helping more organisations deliver 'IT as a Service'. The opportunity to improve the delivery of internal IT services, through the use of cloud technologies, is available today.

Adoption of cloud technologies and services continues apace. Organisations are seeing the benefits cloud computing, in all its forms, can bring. However, without a carefully planned strategy, a clear understanding of impacts and a realistic approach to workload migration, many organisations will struggle to realise the full extent of the benefits offered by cloud computing.

If you have any questions around cloud technology – or any other aspect of your cloud strategy – that remain unanswered within your organisation today, contact Ricoh IT Services to discuss how our cloud technology experts can help you move ahead with confidence.



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**Getting Cloud
Ready starts here.**

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