Cloud Solutions

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Cloud Computing Readiness Checklist.

It's a Hybrid IT World.
Make it Work for You.

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How should this guide be used?

When you know where you are, and where you want to be, Cloud Computing might just be the way to get there. But with over 71% of Australian IT budgets already consumed by legacy apps and processes[1], freeing time, money and talent for what comes next is essential.

Moving your IT systems to the cloud offers many benefits including reduced costs, increased flexibility and efficiency, and in many cases, better performance and security. But preparing to make use of cloud computing also requires proper preparation. SaaS (Software-as-a-Service), PaaS (Platform-as-a-Service), and IaaS (Infrastructure-as-a-Service) all present key differences in terms of security, performance, reliability and management. This guide will help you assess your readiness to transition to cloud computing and identify any areas that need to be re-evaluated.

After reading through these checklists and determining your company's current cloud computing readiness, you'll have the tools you need to start preparing for your transition.If you have further questions or want to learn more about cloud computing, and what it can achieve for you, talk to the Macquarie Cloud Services team on 1800 004 943 or visit macquariecloudservices.com and find out why we're Australia's most-recommended provider.

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Tony
Head of Hosting Operations

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Will my company benefit from moving to the cloud?

Australia has over 40,000 Data Centres above 10Kw, many of them small to medium legacy designs that are up to 80% less efficient than enterprise scale centres such as IC2 in Sydney's Macquarie Park[3]. Although most companies will benefit from transitioning some or all of their IT services into the cloud, not all will. Start with these questions to help determine whether your company should transition to cloud computing.

What is your company's current IT infrastructure expenditure?

What is the depreciation, warranty and end-of-life schedule for your existing infrastructure?

What legacy systems and applications will you need to sustain as you migrate to the cloud?

How much capital can you free by off-boarding from in-house solutions?

How much does usage fluctuate over time?

How much simplification, vendor consolidation and increased accountability could this make possible?

Would your company benefit from a more elastic solution?

What regulation applies to your industry and your data?

Are you looking to restructure your team to add new talent in emerging fields such as Security Architecture, DevOps or Containerisation?

Last year, 82% of Australian organisations lost data. How will you secure your BaaS (Backup-as-a-Service) and DR (Disaster Recovery) goals?

Can a cloud services provider deliver you the enforceable service level guarantees your stakeholders demand?

What real estate, bandwidth, power or cooling constraints will impact your ability to scale on-site?

Are "IT" subjects like data breach risks now a focus for your executives and board?

Do you need new certifications and standards to access new customers and new markets e.g. in Fintech, Health or Government services?

Will the increased accessibility of the cloud improve your company's performance?

What are the benefits of cloud computing?

Cloud computing is widely used by businesses ranging from international corporations to local companies. The reasons for this popularity are numerous. Cloud computing offers many benefits, including:

- Reduced cost
- CAPEX to OPEX transition
- Flexibility
- Greater reliability and redundancy
- Enforceable SLGs
- Enhanced security capabilities
- Accessing entreprise level scale and effciency
- Rescope your headcount for value-added projects

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Cloud readiness overview.

64% of Australian executives see specialist providers as the answer to delivering new capabilities faster[4]. Use these questions to get a brief overview of your company's current cloud computing readiness and to identify areas that need to be addressed.

Do you currently have a Cloud Adoption Strategy or, even better, an Application Hosting Decision Framework?

What is the extent of your company's current IT usage?

Will you be relocating your operations or pursuing merger and acquisition activity over the next 2 years?

Do you have a definitive view of all current applications, and a roadmap for them over time?

What access and reporting will you require ? e.g. because we are VMware's exclusive Australian Showcase Partner, we can provide singlepane-of-glass management with the tools you already know and trust.

What are your legislative and regulatory requirements e.g. for NV1 certified engineers, sovereign Australian Data Centres etc?

Have you prepared a cost-benefit analysis of the transition?

What are your defined requirements for uptime, availability, recovery

point objectives (RPOs) or recovery time objectives (RTOs)?

Have you identified which physical assets can be Colocated in a specialist data centre to free resources throughout your Cloud migration?

Do you have a team capable of managing the transition?

Do you store sensitive data?

Are you prepared to transition data securely?

Do you plan to use IaaS, PaaS, or SaaS?

Mark
Principal Architect

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Hardwired for service and security.

Last year, over 31% of Australian organisations were breached[5]. And new mandatory breach reporting laws now apply. Security isn't a deciding factor. It's the deciding factor. This checklist will help you identify key considerations for safely transitioning and securing data.

Outlining the security plan.

What technologies and partners do you require e.g. Macquarie Cloud Services are Australia's exclusive VMware Showcase Partner, and offer a defence-in-depth solution with Zerto, Trend Micro, VMware, Fortinet and others.

Have you made an outline of your top security goals and concerns?

Do you require ISO, ISM and PCI certifications of your own?

What types of assets will be managed by the system?

Have key assets been listed and rated based on their sensitivity or depersonalisation?

Do alternative providers have SCEC certification for PROTECTED data, or sit on the Australian Cyber Security Council with the AFP, Attorney's General and ASIO as Macquarie Cloud Services do?

How are assets currently managed and how will this change when transitioned to the cloud?

Has the right cloud delivery model been assigned based on the assets' sensitivity?

Safeguards and vulnerabilities.

Have the security controls been enumerated, verified, and evaluated?

Will all sensitive data stored in the cloud be encrypted at rest and in flight?

Has the network topology been mapped?

The secure internet gateways or networking that bypasses public channels like the internet?

Have you evaluated the security risk of the server's physical location?

What physical security measures are in place, and what additional access protection is required?

Have all vulnerabilities been identified and addressed?

What east-west protection is required inside the Data Centre for Virtual Machines?

Are staff properly trained on the new security protocols?

Complying with regulations.

Have you reviewed your cloud vendor's security policies?

What NV1 engineer vetting, ISM certification or SCEC assessment may be required if you serve the public sector, or suppliers who do?

Do they comply with PCI DSS, SOX, GLBA, HIPAA or other regulations your data may be subject to?

Have you drafted any contracts or agreements with your vendor to bridge compliance gaps?

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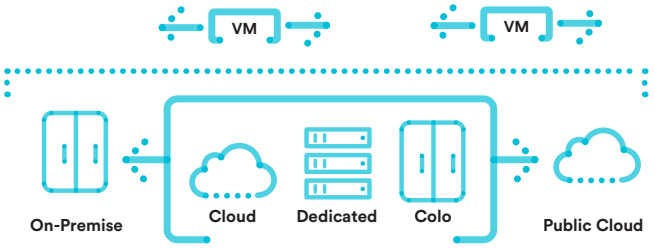
Personnel considerations.



The war for talent means maintaining your legacy requirements, while resourcing for the future, can be challenging. A company's staff must be properly prepared for the cloud computing transition in order to ensure that it does not interfere negatively with day to day operations. Use these questions to make sure your team is ready.

Preparing your cloud adoption team.

Who will be heading the effort to move systems to the cloud?

Has a team been assembled to plan and execute cloud adoption?

Who are the key human resource assets for the plan?

Is management in full support of the adoption strategy?

Do you need to bring on additional staff or consultants to help adopt cloud computing technology?

How will you measure performance, priorities and progress?

Training the staff.

How will using cloud computing affect the everyday operations of the company?

Will staff need to learn new skills to function after the transition and what opportunities are their for rescoping roles for new value-added projects.

Has a training plan been drafted and Is there a team in place to train staff on the new technology?

Are staff aware of any changes to security protocol that cloud adoption will bring?

Reconfiguring the IT department.

Do the current IT employees have the expertise to properly maintain the new systems?

What management tools will apply for Cloud computing and can current skills such as hyper-visor management be applied?

Will you plan for self-managed for fully-managed cloud servics, and are your free to change this over time?

Will this change make certain roles redundant and/or unnecessary?

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Location & connectivity considerations.

Moving to cloud computing means your servers and other infrastructure will be physically located in another place. This can have ramifications for your IT infrastructure's speed, security and reliability.

Where is your company based and what regions does it serve?

Where is the cloud computing provider located? Is the location near your user base (customers or staff)?

Do you have the freedom to select and change your preferred carrier, plans and features, such as bundled DDoS protection?

Will speed be adversely affected by the server's location?

Are multiple zones, locations and Data Centres locations disclosed?

Are multiple zones in the same location subject to shared vunerabilities?

Is a prospective providers transparent about whether they operate their own dedicated infrastructure or simply resell access to 3rd party assets?

Is the location at risk for natural disasters or utility interruptions?

Is the provider deeply interconnected, and carrier neutral?

Are they interconnected with national Australian networks such as ICON (government) or AARnet (Education)?

Is engineering-level support available locally 24×7×365?

Can you connect with empowered support teams, or are you limited to APIs and portals when an issue or change arises?

Can you visit the data centre where your cloud will be hosted?

Palaseri
Principal Architect

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Reliability considerations. What you need and how you'll measure it.

Last Year, 82% of Australian organisations lost data and averaged over 1.6 hours of downtime p.w. Ensuring the reliability of your IT infrastructure is a critical step in transitioning to cloud computing. Make sure the cloud will be as reliable as in-house IT infrastructure by going through the following checklist

Assessing the cloud provider's reliability.

Does your cloud provider have a reputation for reliability with enterprise scale, mission-critical solutions?

How long have they been operational?

Do they offer enforceable SLGs for uptime and availability up to 100% uptime active-active solutions?

What is their average uptime over the past three years?

Do they use reliability safeguards like backup power sources, redundant servers and concurrent maintainability e.g. like IC2's Tier 3 certification in Sydney Macquarie Park.

Will they promptly inform you of any planned or unplanned outages?

Is the cloud provider regularly assessed by 3rd party certification auditors?

Does the cloud provider offer comprehensive support?

Will your in-house IT team be responsible for support?

Making a continuity plan.

Do you have a backup system if the cloud goes down for any reason?

Is there a contingency plan to continue mission-critical functions if the cloud can't be accessed?

Will you store copies of your data in-house?

Is your data safe-harboured with a third party who can protect against data loss?

What RTOs and RPOs are required for different data and different workloads?

Is there a defined risk in bundled snapshots Vs fully-defined backups?

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Performance considerations.

One of the primary concerns when moving to the cloud is how it will affect performance. In many cases speed can be improved when using cloud computing solutions. Answer the following questions to make sure your performance is not adversely affected by a transition to the cloud.

Is the cloud provider's hardware sufficient to handle your workload, and can this scale and change over time?

Will you be using the public or private cloud?

Is an active-active 100% availability solution required?

How efficient are your providers Data Centres? Metrics may include Power Usage Efficiency (PUE) or their Uptime institute Tier e.g. IC2 in Sydney's Macquarie Park was Australia's first Tier 3 Data Centre, and features a 1.31 PUE design-goal.

Will you be using dedicated hardware?

Will different applications and workloads have different requirements?

If Backup and Recovery services are provided, what Recovery Point Objectives (RPOs) and Recovery time Objectives (RTOs) apply?

Does the cloud provider make any performance guarantees?

Will the cloud solution offer the same or better performance compared to an in-house solution?

Does your provider have architect-level support, so you can optimise your design, and not just continually provision new services?

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Financial considerations.

91% of all Australian organisations are, or plan to be, multi-cloud[7]. 80% of organisations have offboarded workloads to scaled external providers[8]. But 80% of public cloud users pay for services they do not fully utilise[9]. Most companies can save considerably when moving systems and applications into the cloud. Use this checklist to help you consider the total financial impact of the move.

Cloud provider fees.

What are the initial set-up fees?

How complex is the pricing model? Is it transparent? How many variable elements apply?

Can the provider increase fees at regular intervals, or is there an agreed fixed term committment?

Are there fees you can't specify? (e.g. inter VM Traffic, volumes, iOPS, etc.)

Are services, beyond basic API's and portals, an additional cost, and what SLGs apply.

Migration costs.

Will there be additional human resource costs associated with the transition?

Will there be additional hardware costs associated with the transition?

What will be the cost of an outage during migration?

Planning the financial impact.

Is your company moving to the cloud to take advantage of reduced overhead?

What to do with your IT hardware that has not reached end of life?

Have you drafted a cost-benefit analysis for the move?

How will your company finance the transition?

What to do with your IT hardware that has not reached end of life?

How can Colocation costs be tapered over time towards additional Cloud offerings as assets reach the end of their economic life?

How will the transition costs and provider fees be offset by potential savings?

How will moving to the cloud affect your IT costs?

Have you drafted a cost-benefit analysis for the move?

How will your company finance the transition?

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Legal considerations.

Although often overlooked, legal considerations are extremely important when moving to the cloud. For example, new mandatory breach reporting laws moved the goalposts from February 2018, especially as over 31% of Australian organisations were breached last year[5]. Use this checklist to make sure the transition is made legally.

Understanding the legal agreement with your cloud provider.

Have you read the cloud provider's service level agreement (SLA)?

How does the SLA affect your data's property rights?

Do you have the full legal rights to the data you will be moving to the cloud?

Is the cloud provider's privacy policy compatible with your company's?

IsS a providers team or resources based overseas, and does this make you liable to additional legislation e.g. US Sarbane Oxley laws.

Does the cloud provider have the right to access your data?

Have the providers team members completed NV1 personnel vetting?

Complying with regulations.

Is your data subject to any government or industry specific regulations or tender requirements such as ISM for Government, PCI for personal financial data, ISO27001 for data security?

Does the cloud provider comply with those regulations, and can they make your attaining them easier?

Who is legally responsible for your data's security?

Are you able to audit your cloud provider's compliance with regulations?

Terminating service.

What are the terms of cancellation?

What will happen to your data after the service is terminated?

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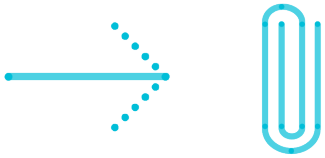
Appendix.



Candidate services for cloud computing form template.

Service	Function	Is it mission critical?	Does it need to be secure?	How will the company benefit from transitioning to cloud?	Transition date goal

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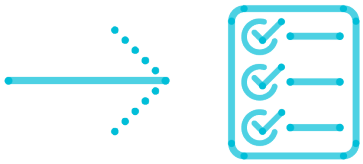
Cloud transition impact analysis worksheet.



Complete one for each service.

1. Asset or service to be transitioned: .....
2. Is this a mission critical service? .....
3. Briefly describe its role in your organisation: .....
4. What are the initial set up fees and migration costs? .....
5. a) What is the direct annual financial cost of operating it in-house? .....
   b) What is the annual financial cost of operating it in the cloud? .....
   c) Net direct annual financial impact of moving to cloud {a – b}: .....
6. a) What is the estimated cost per minute of downtime for this service? .....
   b) What is the current annual downtime operating this service in-house? .....
   c) What is the estimated annual downtime operating this service in the cloud? .....
   d) Net downtime financial impact {(b – c) x a}: .....
7. How will employee performance be affected by the transition?* .....
8. How will data security be affected by the transition?* .....
9. How will service reliability be affected by the transition?* .....
10. How will application performance be affected by the transition?* .....
11. What regulations and certifications requirements must be met?* .....
12. What change must the provider be able to support over time?* .....

*Rating from -5 to 5, -5 being much worse and 5 being much better

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Migration process.

Once all of the initial prep work has been completed, it's time to prepare for the actual migration of applications, systems and data into the cloud. Answer the following questions to ensure the process goes smoothly.

Preparing software, solutions and data.

Has a list of the transitioning services been compiled?

Are the required services and software ready for the migration?

Has a transition toolkit been created? (The transition toolkit should allow for installation and validation).

Have cloud resources been properly allocated for each asset?

Have all necessary platform, license, and storage dependencies been accounted for?

Has all transitioning data been backed up?

Have you calculated the time/downtime required to migrate?

Do you migrate/move applications or rebuild from scratch?

What charges apply for upload, download, access, change or provisioning through this process?

Testing the migration.

Have you tested each component before migrating the next?

Has each user facing application been tested from the user portal?

Are the services and applications performing as expected?

Can the provider deliver abstracted 'sandbox' environments?

Will associated DevOps, Containerisation or specialist tools like K8S apply?

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About Macquarie Cloud Services.

Managed servers, Private clouds, Hybrid clouds, and Virtual Data Centres. Our team know them all, back to front and inside out. And make sense of them for you. Cloud can seem complex. But not when you've got us behind you. Everyone talks about the cloud. But we make it a reality.

We are Australia's specialists in cloud services for business and government. We create flexible, fully-certified hybrid IT solutions, built on industry-standard platforms and backed by government-approved accreditation. We're proudly Australian, with powerful Data Centres based in Sydney and Canberra. All supported by a team of passionate and experienced cloud specialists.

We'll listen, think, throw ideas around and then attack the white-board until we've nailed the best answer for you. We've built our business on bringing smart minds together with a can-do attitude. It's a good feeling when our customers call us 'part of our team'.

That's why we exist. And that's what's made us Australia's most-recommended provider[1]. Let's talk.

References:

[1] Net promoter score is our proof. https://macquariecloudservices.com/blog/what-is-net-promoter-score-nps/

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[3] https://www.accenture.com/t20161222T000042__w__/us-en/_acnmedia/PDF-39/Accenture-Reengineer-IT-Cloud-POV.pdf#zoom=50

[4] Malwarebytes Survey, Aug17, 1064 Exec's, North America, France, Germany, Britain, Singapore, n=175 Australia

[5] https://www.krollontrack.com/resources/press/details/63920/kroll-ontrack-research-one-third-of-companies/

[6] Ovum Research Australia, 2016; Dunn & Bradstreet, 2017, Fortune 500 Survey

[7] www.energyrating.gov.au/products/data-centres, 2013

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[9] https://www.mckinsey.com/industries/high-tech/our-insights/it-as-a-service-from-build-to-consume

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- Stretch Solutions
- Managed Services
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