

23rd Annual South Pacific User Services Conference

Conference Keynote

Navigating through the Cloud

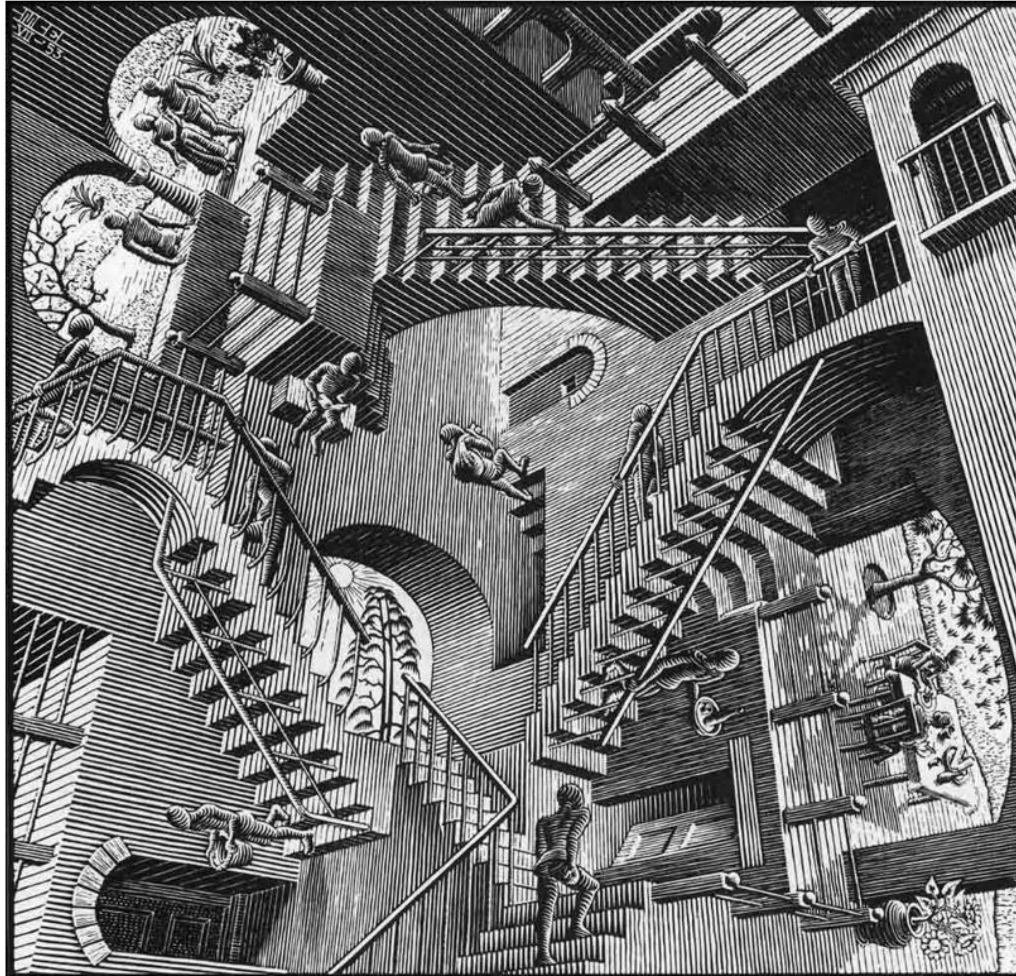
ROB LIVINGSTONE
PRINCIPAL

Melbourne, Tuesday 6th September 2011

navigatingthroughthecloud.com

RLA
Rob Livingstone Advisory

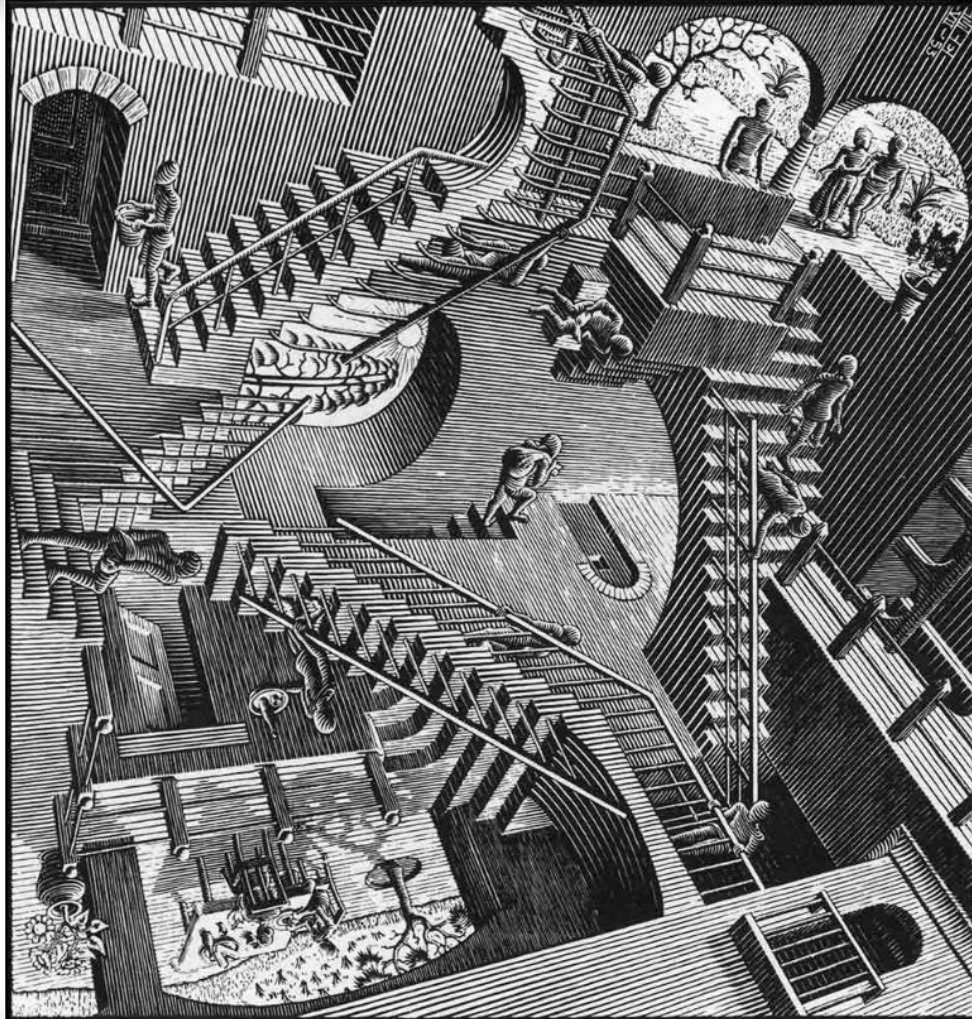
A Perspective on Cloud



Maurits Cornelis Escher (1898-1972)

- most famous for his artworks of so-called impossible structures, such as Ascending and Descending, Relativity, his Transformation Prints and more

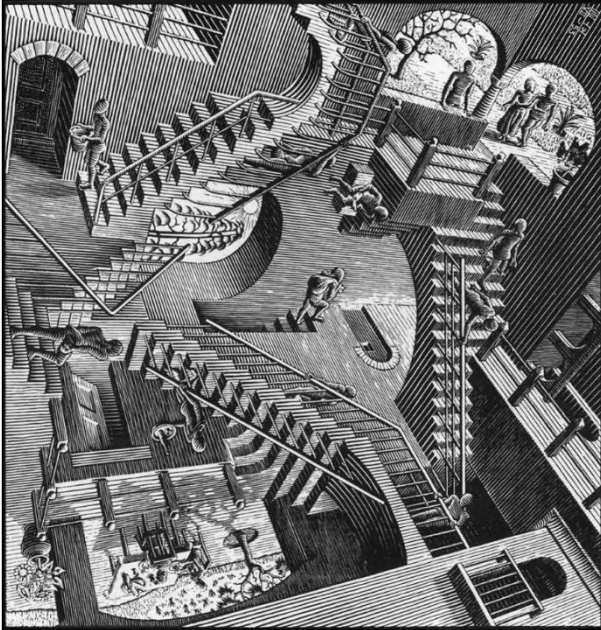
A Perspective on Cloud



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A Perspective on Cloud



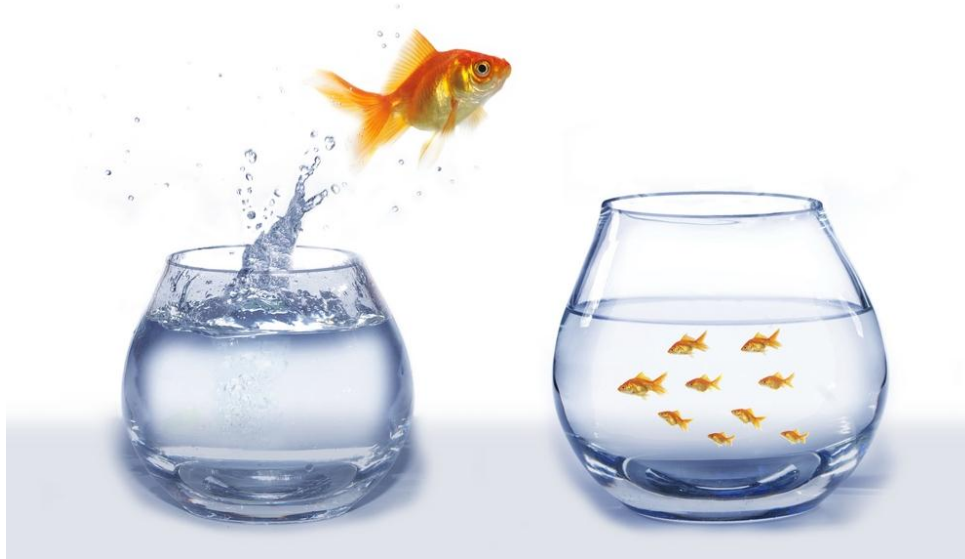
It all depends on your *perspective*...

- No absolutely precise definition
- No defined standards
- It can mean different things to different people under different circumstances

A Perspective on Cloud

Cloud is about getting from **one place** to a **better place**,
.... however

The challenge is to **know the risks and the endpoint with certainty**



The **GOOD** news is that

A Perspective on Cloud

Help is on its way!



A Perspective on Cloud



You have all come to the right Conference!

**SOUTH PACIFIC USER
SERVICES CONFERENCE
5-9 SEPTEMBER 2011**

Over the next few days, you will find a wealth of:

- Current and relevant knowledge,
- Real world experiences in the implementation and management of Cloud technologies. From both peers and practitioners
- Opportunities to share Cloud *war stories*

As well as...

- *A perspective on what's over the hazy horizon*



What I'll be covering:



1. Cloud: A definition and some attributes
2. The next few years – a transition from *confusion* to *calm*
3. Migrating to public Cloud 'a ready-reckoner'.
4. The *consumerisation* of IT
5. The intrinsic appeal of Cloud to organisations
6. **Some Key considerations**
7. The future is now
8. Questions and discussion

1. Cloud: A definition and some key attributes

A definition

- *[Public] Cloud is a very broad term for 'IT systems accessed via the Internet'. and*
- *The various components are all run by an external party, and you do not own anything, other than the data that you load into the system.*

The primary **attributes** of Cloud systems are:

- a) You *subscribe* to the *service*
- b) The system is accessed via the Internet
- c) You neither have control nor title over the Cloud system
- d) You have limited to full title over the data that you upload
- e) The system is scalable (within limits)

2. Next few years – from *confusion* to *calm*

“There are known knowns. These are things we know that we know. There are known unknowns. That is to say, there are things that we know we don't know. But there are also unknown unknowns. There are things we don't know we don't know”

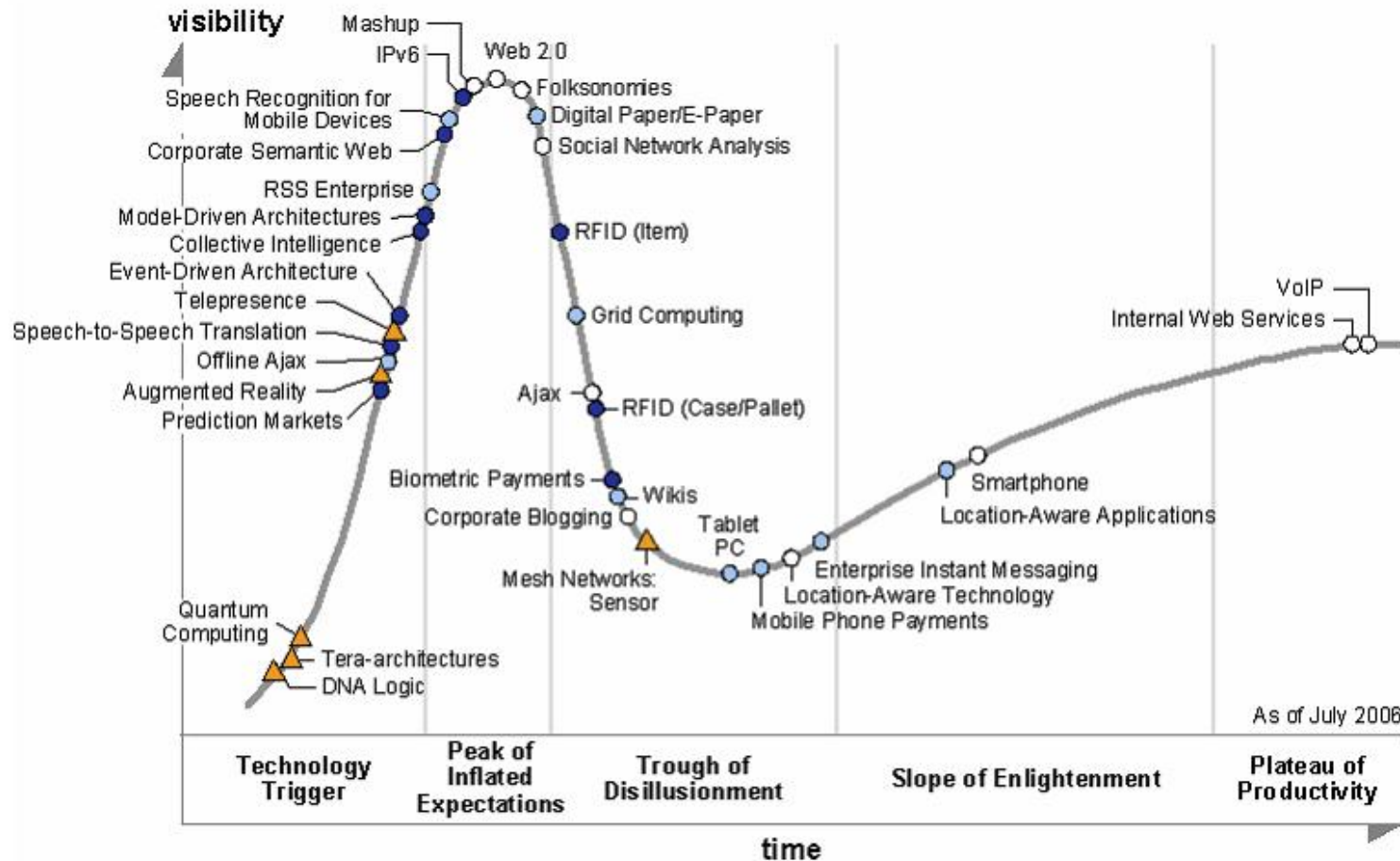
- *Former US Defense secretary Donald Rumsfeld , 2002*



Let's start our Cloud journey to turn the **unknowns** into **knowns**!

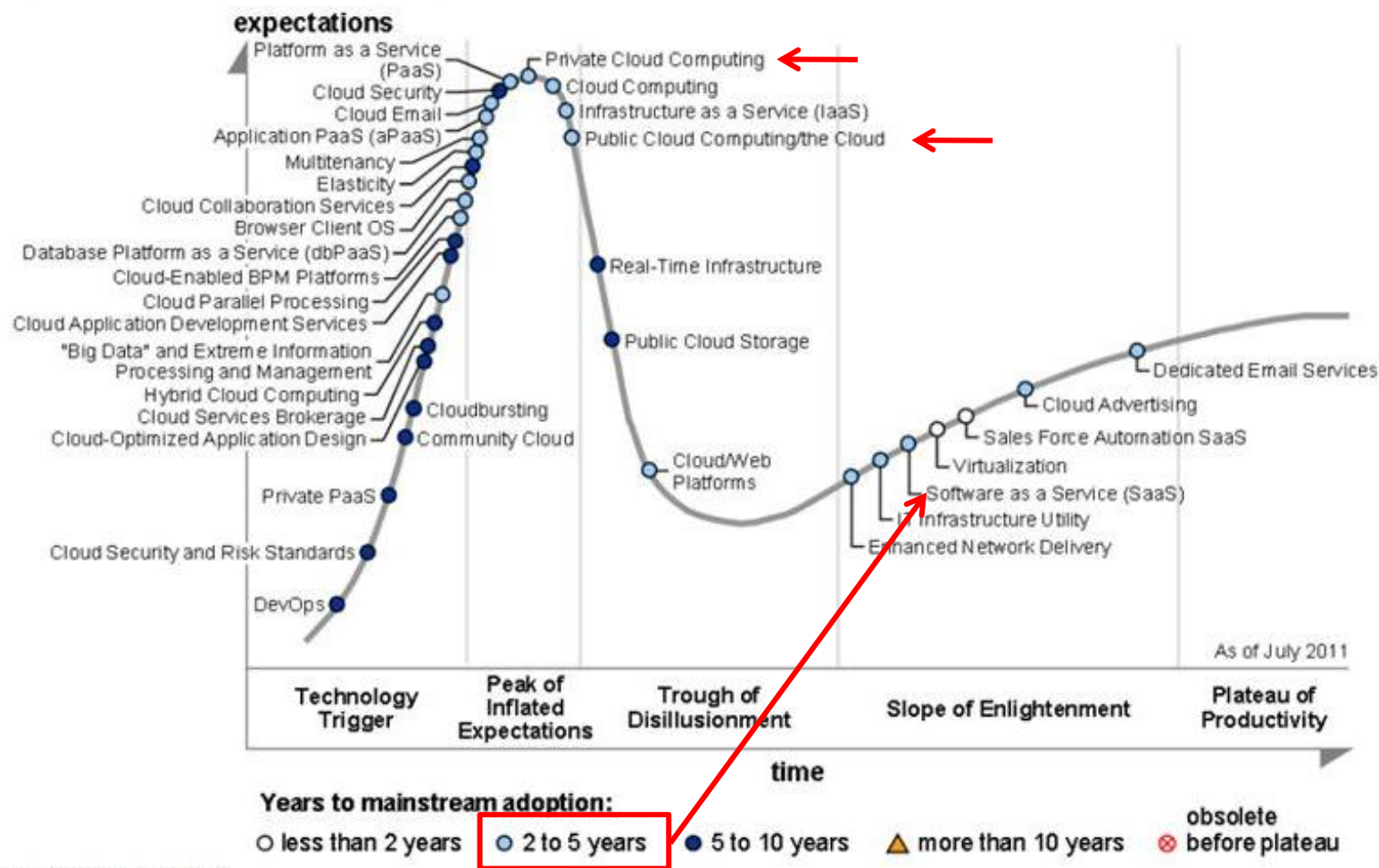
2. Next few years – from *confusion* to *calm*

Gartner Hype Cycle 2006 – Cloud not even mentioned



2. Next few years – from *confusion* to *calm*

Gartner Hype Cycle 2011 – Cloud has very it's own cycle



Source: Gartner (July 2011)

3. Migrating to public Cloud: A 'ready-reckoner'

If the answer to these questions are **YES**, then you should be able to progress relatively swiftly through your journey to Cloud computing :

Is this a completely new system?... AND.....

1. Will the system always be standalone? (i.e. you do not need to build any system interfaces)
2. Are your business requirements likely to remain relatively static?
3. If the vendor goes out of business do you have a workaround?
4. Is the migration cost (Incl. write-off) for outgoing systems minimal?
5. Are the Cloud system boundaries clearly defined?
6. Are managerial accountabilities clearly defined and assigned?
7. Is there an immediate 'crisis' on your hands and Cloud is the only realistic alternative given its immediate availability?
8. Are you comfortable in having your data (possibly) resident in a foreign legal jurisdiction?

3. Migrating to public Cloud: A 'ready-reckoner'

If the answer to these questions are **YES**, then you should be able to progress relatively swiftly through your journey to Cloud computing :

9. Is your data in the Cloud *free* from any state or federal record retention laws?
10. Can you manage, maintain and configure the system without the need for IT programmers or other IT specialists?
11. Can you implement the system without a major re-design of your business processes?
12. Is your data free from specific legislation (Eg Privacy Act) or is not subject to contractual obligations (eg major customer contract)?
13. Are you happy placing your most sensitive / critical and important intellectual property in the Cloud?
14. Are you looking to use the Cloud system for a short period of time only? (ie: Serving a short term need such as a major project)

4. The consumerisation of IT

... also known as the 'democratisation' of IT

Fuelled by Cloud and pervasively accessible web based applications as an individual

I see it, I like it, I want it, I buy it (or it's free!), I use it – Now!

4. The consumerisation of IT

1. Individuals have unprecedented access to all type of IT systems, from email, file storage, banking, shipping, social networking (eg Facebook™).. The list is almost endless.
2. What is meant by ‘consumerisation’ of IT?
 - Individuals can use / buy systems as they see fit.
 - Personal choice and immediacy reigns supreme
 - Buy it / use it without necessarily a long term in mind
 - ‘Apps’ – for iPhone™, Android™, etc
3. For enterprises, however, this presents a number of challenges for the unwary

5. The intrinsic appeal of Cloud to organisations

Common influences include.....

1. It is available immediately
 - Potentially, the system can be operational with hours, days or weeks.
2. It allows you to '*Buy before you try*'.....
 - Buy a few user subscriptions and try the system. If it does not meet your needs, the walk-away costs are negligible
3. Avoids dealing with the IT Department
 - Avoids having to possibly deal with an internal IT department that may appear to be slow, inflexible or indifferent to Cloud.
4. Avoids the need for up-front capital / financing
 - 'Pay as you go'
5. Appears to be low cost
 - \$100/user/month is a lot cheaper than \$2Million upfront

... or is it?

5. The intrinsic appeal of Cloud to organisations

6. Users already have had a positive personal experience with Cloud.....
 - Personal experience in using Cloud applications (e.g. YouTube™ , LinkedIn™ Gmail™ , etc...) are invariably positive
7. Cloud eliminates the need for on-premises IT infrastructure
 - The provider does the maintenance, operation and support of the system.
8. Is a result of a compelling vendor offer.....
 - It is not uncommon for Cloud vendors to bypass the IT department and go directly to the non-IT executive levels of organisations with an ostensibly compelling offer.
 - The difficult questions of cost, security, risk and governance may be relegated to a later date (provided you know what questions to ask, that is!) as the focus is on the usability of the application.

6. Key considerations for the adoption by organisations

- **Privacy**
- **Records management**
- **Security**
- **Risk**
- **Cost**
- **Commercial, legal and contractual**
- **Vendor contracts**
- **Regulatory**
- **Governance**

6. The key considerations for organisations:

Privacy

1. Privacy:
 - What National Privacy Principles apply [eg: under The Privacy Act 1988] to your instance of the Cloud system?
 - If your vendor is an overseas entity, how can you assure that Australian Privacy legislation mandates are met, not only now, but should they change in the future.
2. International jurisdictions
 - On some foreign legal jurisdictions, Government agencies are able to demand access to your system. Examples of this are USA Patriot Act (2001)
 - Singapore, Russia and others have similar legislation
 - Data crossing multiple jurisdictions

6. The key considerations for organisations: Records management



1. Archival:
 - What Records management standards apply to which specific category of HR records?
 - Payroll, Tax, OH&S, etc
 - How do you guarantee the authenticity of records that are 'born digital' (that never end up on paper) if you change cloud providers?.
2. Discovery
 - Should you be subject to legal discovery, will you be able to reproduce documents in their original form?
3. Records Destruction
 - Will your Cloud provider be able to *guarantee* specific record destruction across all mirror sites, cyclic backups, system archives etc ?

6. The key considerations for organisations:

Security

1. Cloud concentrates the risk of security breach.
 - One provider can service thousands of customers (eg Distribute.IT lost 4,800 websites)
2. Unauthorised or accidental access
3. Denial of service attack
4. What data transmission standards and protocols are guaranteed?
5. Which security standards apply, and to which components of the vendor's infrastructure?
 - Review the statement of applicability (SOA) of the appropriate Certification
 - Is your Cloud solution *in-scope* of the SOA?

6. The key considerations for organisations:

Security



Press Release



Careless Behaviour of Cloud Users Leads to Crucial Security Threats

CASED scientists find sensitive data of Amazon Web Services users

Darmstadt, June 20th, 2011. Scientists from the Darmstadt Research Center for Advanced Security (CASED) have discovered major security vulnerabilities in numerous virtual machines published by customers of Amazon's cloud. From 1100 public Amazon Machine Images (AMIs)

that are used to provide cloud services, about 30 percent are vulnerable, allowing attackers to manipulate or compromise web services or virtual infrastructures.

The main reason lies in the careless and error-prone way in which Amazon's customers handle and deploy AMIs. CASED scientists have developed a vulnerability scanner for virtual machines that can be used to create to run on Amazon's infrastructure. It can be found at <http://trust.cased.de/AMID>.

Corporate Communications

Karolinenplatz 5
D-64289 Darmstadt

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<http://trust.cased.de/AMID>

6. The key considerations for organisations:

Risk

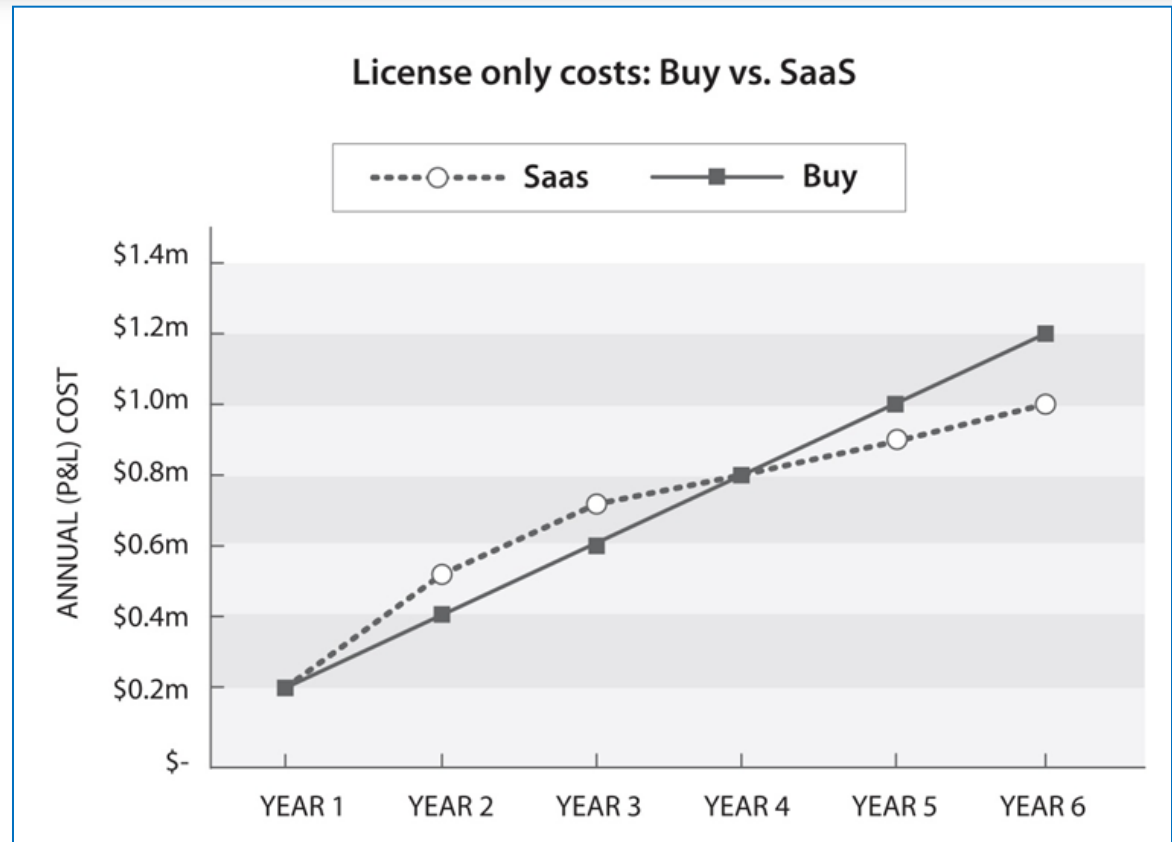


1. Risk transfer
 - Can I buy insurance in the event of a problem with the Cloud?
2. Can you implement a Cloud Escrow arrangement in case the provider folds?
 - Some Cloud providers cannot offer Escrow due to the technical design of their infrastructure
3. Does the provider have a disaster recovery plan?
 - What form does it take, and what scenarios does it cover?
4. Are you concerned about the unauthorised deployment of Cloud applications?
 - The risk of a 'viral' cloud is real, and may be hard to detect
 - Do you have a Cloud computing policy?

6. The key considerations for organisations:

Cost

1. Know the TCO over the expected life-span of the system
2. Do not exclude on-premises (Private Cloud, or traditional hosted) if these options exist
3. Compare on like-for-like basis



Illustrative example only

6. The key considerations for organisations: **Commercial, legal and contractual**



6. The key considerations for organisations: Commercial, legal and contractual

1. Total Cost of Ownership
 - Is the TCO known with certainty?
2. What are the key drivers behind the adoption of Cloud?
 - Drive innovation?
 - Lower cost?
 - Increase flexibility?
3. Level of protection under the contract
 - Do the remedies for service outages make commercial sense?
4. What is the cost of seeking legal recourse?
 - If you provider's contract is in an overseas legal jurisdiction, how practical will it be to seek damages?

6. The key considerations for organisations: Vendor contracts

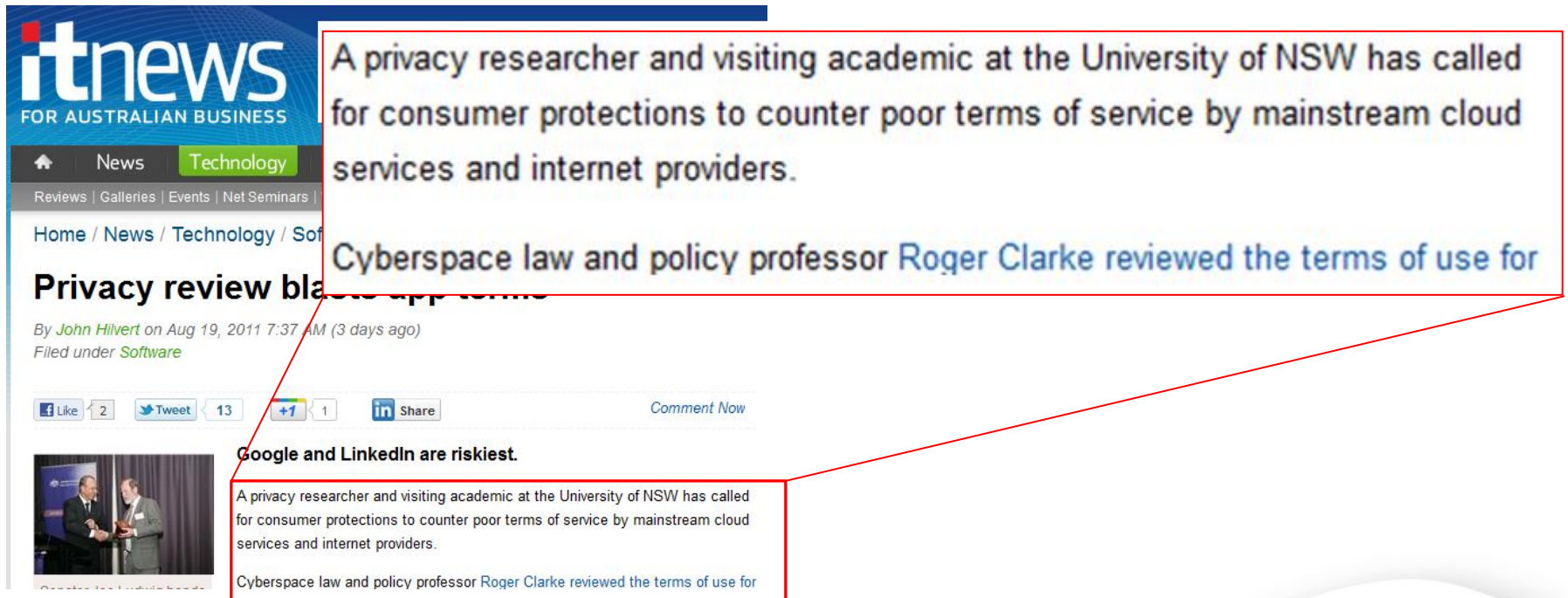


1. What's your Cloud contract duration?
 - If this is truly utility Cloud, why commit to a contract for a long period of time?
2. If marketed on 'per user per month' pay on that basis.
 - Some request annual pre-payment. You are then the vendor's banker.
3. Request a copy of the draft contract early
 - The procurement cycle can be time consuming for large projects.
 - All that effort could be wasted if there is a major sticking point in the contract.
4. Global Cloud providers are reluctant to change standard contracts
 - Standardisation is the cornerstone of Cloud
 - Some vendors will amend terms if you have large buying influence

6. The key considerations for organisations: Vendor contracts

7. Contract refers to website terms & conditions

- May extinguish or override your written contract at any time?
- Seek perpetual, fully encapsulated contract that extinguishes any online terms and conditions including the 'I Accept' checkbox at logon



The image shows a screenshot of an ITNews article. The article title is "Privacy review blasts app terms" by John Hilvert, dated August 19, 2011. A red callout box highlights a quote from Roger Clarke, a cyberspace law and policy professor at the University of NSW, who reviewed the terms of use for Google and LinkedIn. The quote states: "A privacy researcher and visiting academic at the University of NSW has called for consumer protections to counter poor terms of service by mainstream cloud services and internet providers." Below the quote, the text "Google and LinkedIn are riskiest." is visible, followed by another instance of the quote.

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Privacy review blasts app terms

By *John Hilvert* on Aug 19, 2011 7:37 AM (3 days ago)
Filed under *Software*

Like 2 Tweet 13 +1 1 Share Comment Now

Google and LinkedIn are riskiest.

A privacy researcher and visiting academic at the University of NSW has called for consumer protections to counter poor terms of service by mainstream cloud services and internet providers.

Cyberspace law and policy professor *Roger Clarke* reviewed the terms of use for

6. The key considerations for cloud migration

Vendor contracts

7. Contract refers to well defined terms and conditions

- May extinguish old contracts
- Seek perpetual, non-terminable, online terms and conditions



The Cloud Assessment Framework

13. Contracts

Question	Rationale
13.1 Do you have an all encompassing, fully encapsulated contract with your Cloud provider that cannot change for the intended contract period?	Will a logon 'I accept' checkbox or anything on the provider's website extinguish, or dilute parts of your contract. If you order new licenses, will these be subject to the existing contract or an online contract at the time of purchase?

Clarke also found each app or service provider asserted rights to disclose customer data to a business partner. The scope of that term was capable of "very liberal interpretation", he said.

"In the case of Google and LinkedIn – basically they can do anything they want. It's just not limited. It's absolutely horrendous," he said.

6. The key considerations for organisations: Vendor contracts

7. Contract refers to website terms & conditions
 - May extinguish or override your written contract at any time?
 - Seek perpetual, fully encapsulated contract that extinguishes any online terms and conditions including the 'I Accept' checkbox at logon
8. Purchasing additional subscriptions.
 - Subject to the existing contract or an online contract at the time of purchase?
9. Recourse for non-performance.
 - Is the compensation adequate in the event of non-performance?
10. What warranty exclusions or limitations apply to all services offered.
 - Are these important to your organisation
11. Data transmission encryption standards and methods used
 - Specifically stated? If so, are these standards adequate for your purposes?
12. Right to Audit
 - Do you have the right to request an independent audit of the provider?
13. Jurisdictions
 - Which international jurisdictions apply?

6. The key considerations for organisations: Vendor contracts

Proprietary 3rd Party Cloud providers

- Some vendors encourage an eco-system of third party developers who market their applications independently of the provider, but on their proprietary Cloud platform.
- Increases the 'pain of disconnect'

Examples

- Salesforce™ App Exchange
- Google Android™ Market.
- Apple™ App Store ('Apps')

Be aware of the risks, costs and benefits associated with any 3rd party applications

6. The key considerations for organisations: Vendor contracts : 3rd Party contracts

Some considerations

1. Will the Cloud provider charge *anything* for access to these 3rd party apps?
 - Some may charge an additional access fee for smart phones
2. Performance guarantees
 - What obligations exist for the Cloud provider to assure the quality, security, integrity and performance of the third party applications hosted *on their* infrastructure?
3. 3rd Party contract
 - What are the terms and conditions of any 3rd party contract?
 - Are there any conflicts between the 3rd party and the vendor's contract
 - Do they offer the same levels of security, governance, etc as the primary vendor?

6. The key considerations for organisations:

Regulatory

- Planned 2012 changes in **International Accounting standards** will have a reporting impact for off-balance sheet financial commitments
 - All leases, regardless of their terms, should be accounted for in a manner similar to how finance leases are treated today.
- What National Privacy Principles (NPPs) apply under the Privacy Act (*The Privacy Act 1988*)?
- Do you operate across different international or state legal or regulatory jurisdictions? Will your system continuously comply?
- What document and information retention requirements apply under the applicable Federal or State laws? (eg: *Corporations Act 2001*).
- Are you subject to any standards? (eg: *Australian Standard AS ISO 15489 - Records Management*)
- Are there any industry specific regulations that apply to your organisation? For example, *APRA (Australian Prudential Regulation Authority)*

6. The key considerations for organisations:

Governance: The 'Viral' Cloud



1. A *viral Cloud* is characterised by a localised initial installation of a Cloud system (approved or otherwise!).
 - Additional subscriptions gradually purchased for others outside of the initial user pool to approve workflows, access documents, process information etc.
2. The low barrier to entry could mask the potential for additional cost, unmitigated risk and breach of minimum governance standards.

A leading Australian University experienced an unauthorised deployment of a Cloud system that was funded from one Faculty's discretionary budget, as it fell within their prevailing local discretionary expenditure approval limits. This was only noticed when data integrity issues within their core student enrolments databases started occurring.

6. The key considerations for organisations: Governance: Change and version Control



You get to take what is given

Google Apps has changed

We transitioned your account to our new infrastructure for Google Apps on June 27, 2011 to make more Google services available to your organization. Here's what this means for you:

- In addition to the [core suite](#) of messaging and collaboration applications, your users may now access many more Google services.
- You will retain control over which Google services your users can access.

This update is free, and Google automatically made the transition for you on June 27, 2011. By default, we have turned services outside of Google's [core suite](#) of messaging and collaboration applications **ON**. You can manage your on/off controls in the Organization & users tab.

Agree to the following before signing into control panel

- I have read and I [understand the transition](#).
- I understand that these additional services are only covered by self-service online support, that they may not be SAS 70 compliant, and that the Google Apps uptime SLA does not apply. By checking this box I agree to [Additional Terms](#) for services made available with the new accounts infrastructure.
- Learn about the users we transitioned in your organization that have [conflicting accounts](#).

7. Cloud – The future is now



1. Cloud technology, as with any other innovation, has the potential to do things *cheaper, faster and better*.
2. Cloud has the potential to be a real game changer for the astute
3. Deliberately define your strategy now:
 - Be an early adopter, or
 - A fast follower, and leap-frog the early adopters by capitalising on their experiences
4. To achieve the real benefits of Cloud technologies, understand:
 - the true cost
 - the value
 - the risk
 - *when* to buy
 - *what* to buy, and
 - *when* to exit the technology and/or switch horses.

8. Discussions and questions






Thank you



Rob Livingstone Advisory Pty Ltd

ABN 41 146 643 165

- W1: www.rob-livingstone.com
W2: www.navigatingthroughthecloud.com
E: rob@rob-livingstone.com
P:  +61 2 8005 1972
P:  +1 609 843 0349
M : +61 419 632 673
F: +61 2 9879 5004
 rladvisory