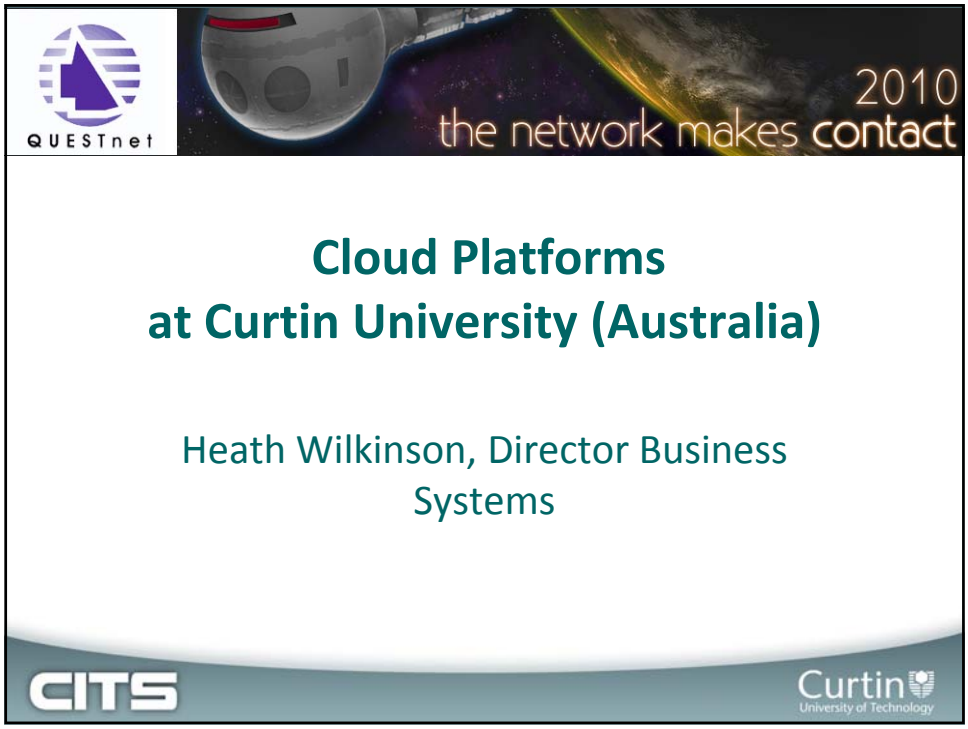

Curtin University: Who are we?

- Curtin University of Technology is Western Australia's largest university. Around 44,000 students attend a total of 16 Curtin locations, including campuses in Sydney, Singapore and Sarawak, East Malaysia.

Vision

- To be an international leader shaping the future through our graduates and research, and positioned **among the top 20 universities in Asia by 2020.**

Mission

- Curtin is committed to **innovation** and **excellence** in teaching and research, for the benefit of our students and the wider community.

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What is the Cloud?

Cloud computing is Internet-based computing, whereby shared resources, software, and information are provided to computers and other devices on demand, like the electricity grid.

(Wikipedia)

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What does cloud mean for Curtin

Opportunities to:

- Reduce costs
- Move from Cap-ex to Op-ex budget
- Provide higher levels of service (24x7 support)
- Much simpler architecture
- Elasticity
- Concentrate on high value IT for the University

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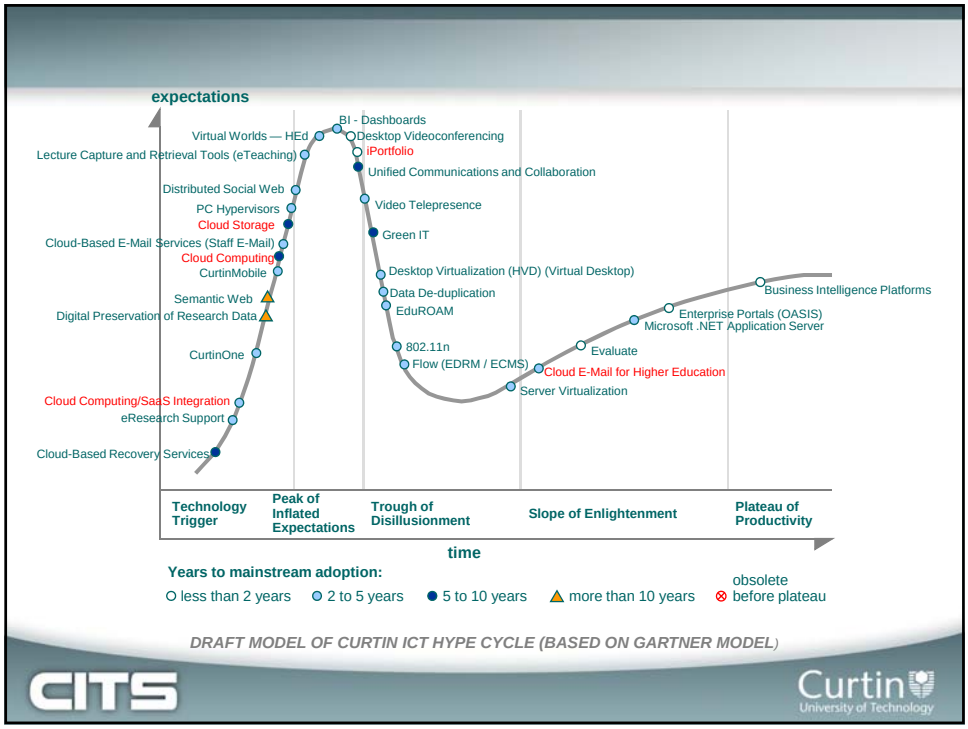

DRAFT MODEL OF CURTIN ICT HYPE CYCLE (BASED ON GARTNER MODEL)

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Strategic Partnerships

technologyone

Microsoft

vmware

CISCO

EMC² where information lives

'yes' OPTUS

alphawest.

aarnet Australia's Academic and Research Network

Telstra

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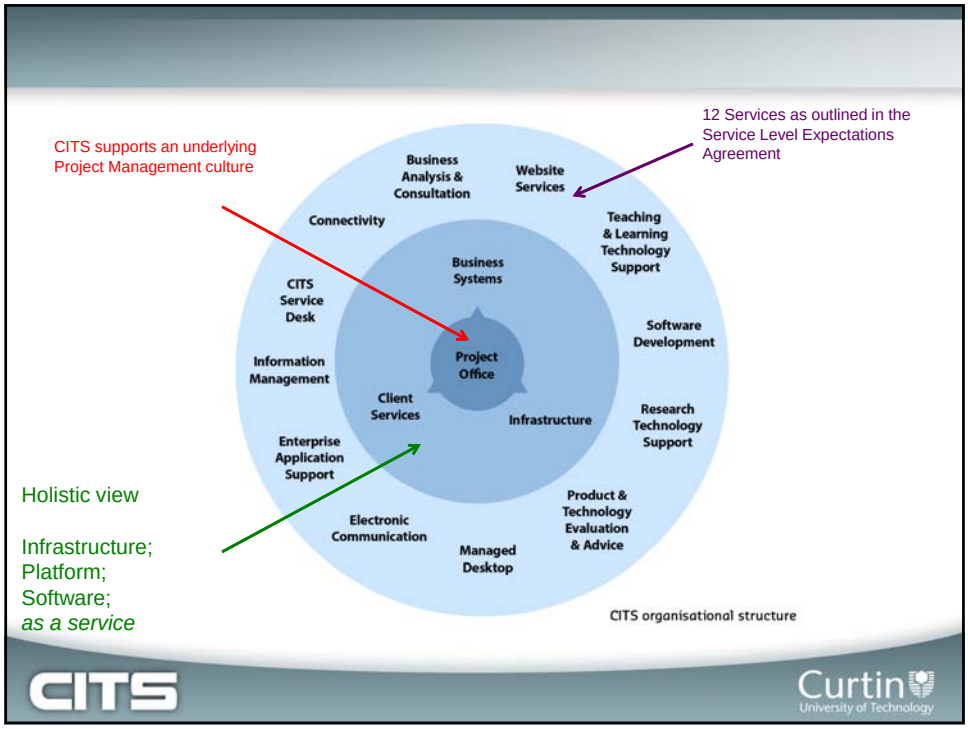

Curtin Environment

- OS Types:
  - Windows
  - Vmware
  - Solaris/unix
- Application types:
  - Microsoft Exchange
  - Databases: Oracle and SQL
  - Digital lectures.
- Total size: Approx. 80TB.

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Student Email @ Curtin

- Curtin provides student email accounts to all students to enable students to communicate and collaborate with staff and each other.
- In 2009 the email solution for students utilised the Sun JES technology.
- Curtin was restricting mailbox sizes to about 40mb.
- Students were describing the email web client as 'clunky'
- To update to the latest version would have been a large migration project.

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Email in the cloud

- Many Australian universities are utilising cloud email solutions for students
- Cloud email is largely a choice between Google and Microsoft for most universities.

  There is no wrong answer

- In 2009, Curtin made the choice to go with the Live@Edu platform.

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Live@Edu takes student email to the cloud

- Live@Edu is a cloud email platform hosted by Microsoft
- It is based on Microsoft Exchange 2010
- Students are given a large email quota
- The web interface is familiar (OWA)
- Thick client interfaces (eg: Outlook) and mobile interfaces are available

Microsoft® Live@edu

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Success Stories

- In November 2009 the project to migrate all students and their mailboxes to Live@Edu was established.
- By January 2010, 80000 students are now using the Live@Edu email solutions.
- Students now have large email quotas (10Gb)
- Graduates can now retain their student email accounts.
- Infrastructure and Support costs have been reduced.

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...but wait there's more!

- Curtin now provides calendaring for all students.
- Students can now use the additional functionality in Live@Edu including Skydrive, Office Web Apps, Blogs.

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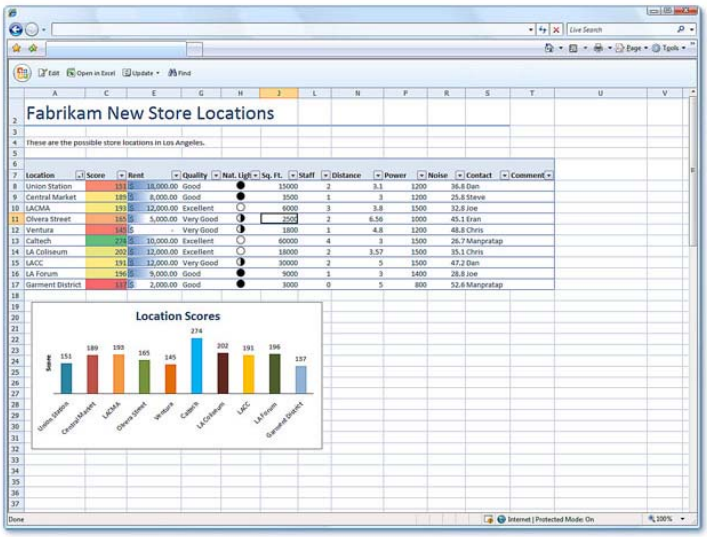
Office web apps



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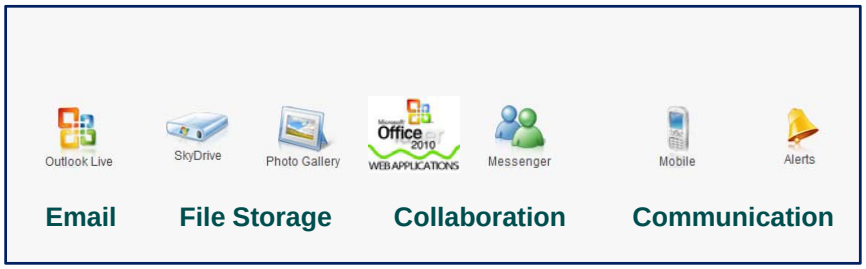
Live@Edu as a platform

Curtin is now looking at ways to leverage the Live Services as a platform.



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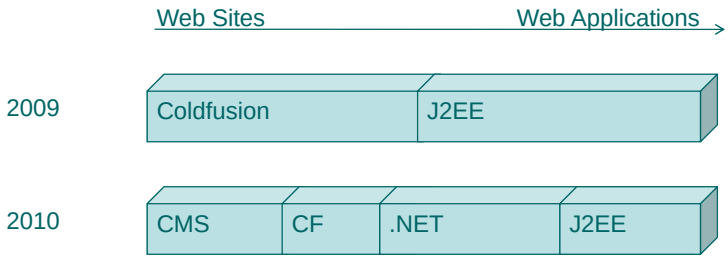
Application Development

Application development technologies at Curtin



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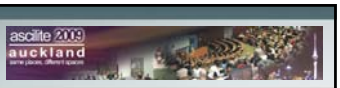
Ascilite 2009



- Building engaging physical and virtual learning spaces: a case study of a collaborative approach.

Reference: Oliver, B. & Nikoletatos, P. (2009). Building engaging physical and virtual learning spaces: A case study of a collaborative approach. In *Same places, different spaces. Proceedings ascilite Auckland 2009.* *http://www.ascilite.org.au/conferences/auckland09/procs/oliver.pdf*

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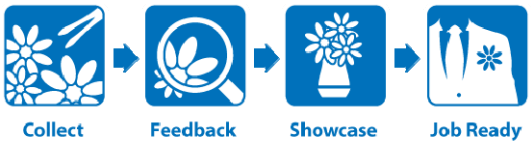
iPortfolio

Curtins iPortfolio is an online space for students and staff to create, share and publish evidence of their learning achievements and professional development.



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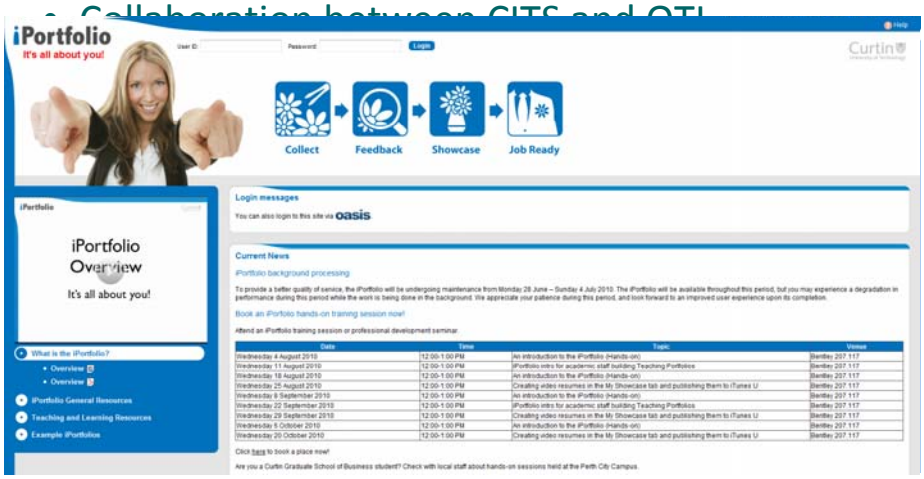
iPortfolio

- Collaboration between CITS and OTL



http://iportfolio.curtin.edu.au/

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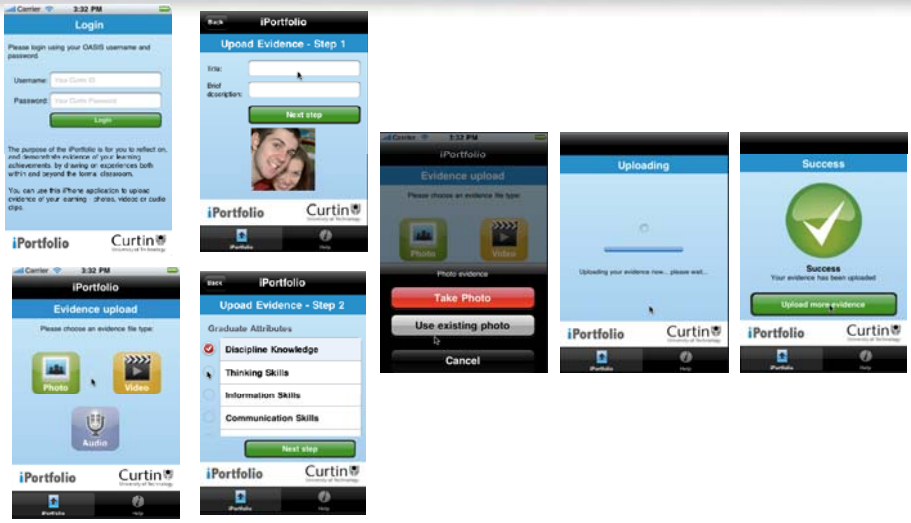
iPhone



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Application development challenges

When development is required Curtin is faced with common challenges:

- Scalability – frequently applications are rolled out to large numbers of users (storage and compute resources)
- Support requirements – increasingly we need to be able to provide greater levels of support, however we don't have 24x7 infrastructure support

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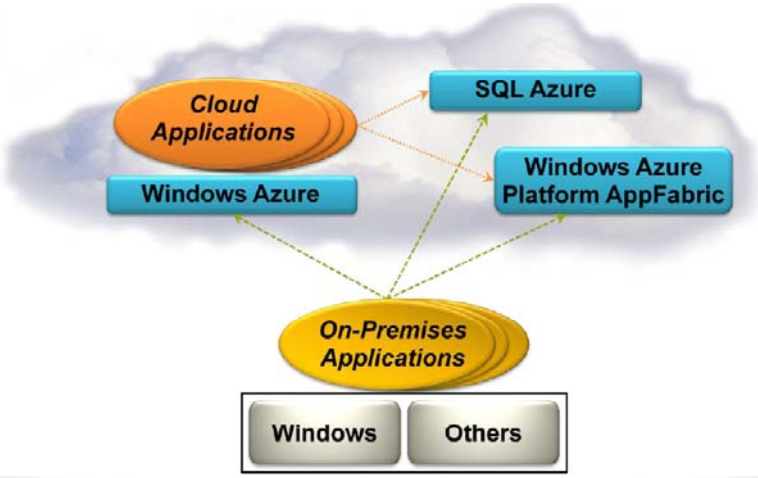
Azure

Microsoft's Azure platform is a group of cloud technologies, each providing a specific set of services to application developers.

Azure

- Azure contains a cloud operating system "Windows Azure".
- Can run .Net applications along with other technologies such as PHP.
- Is a platform as a service (PAAS) offering
- Has development, staging and production facilities.

Azure platform



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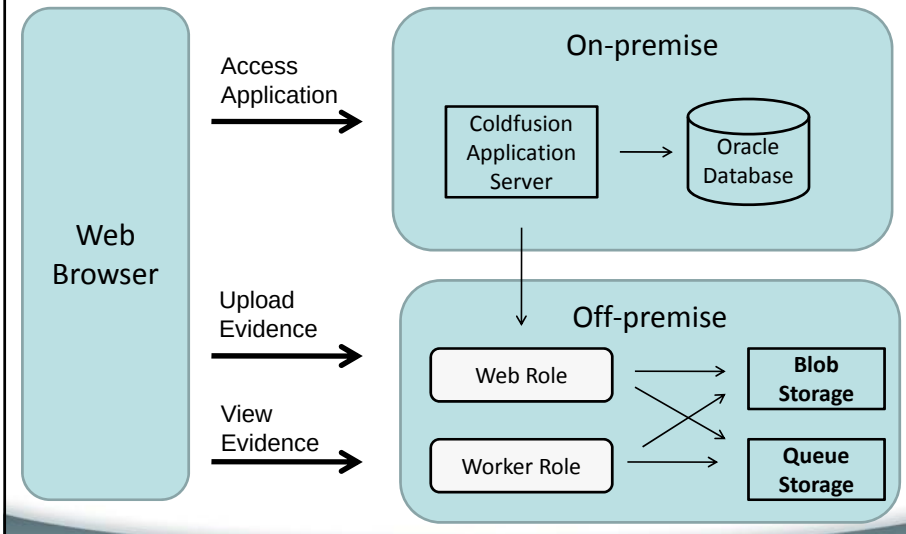
Storage to the cloud – July 2010



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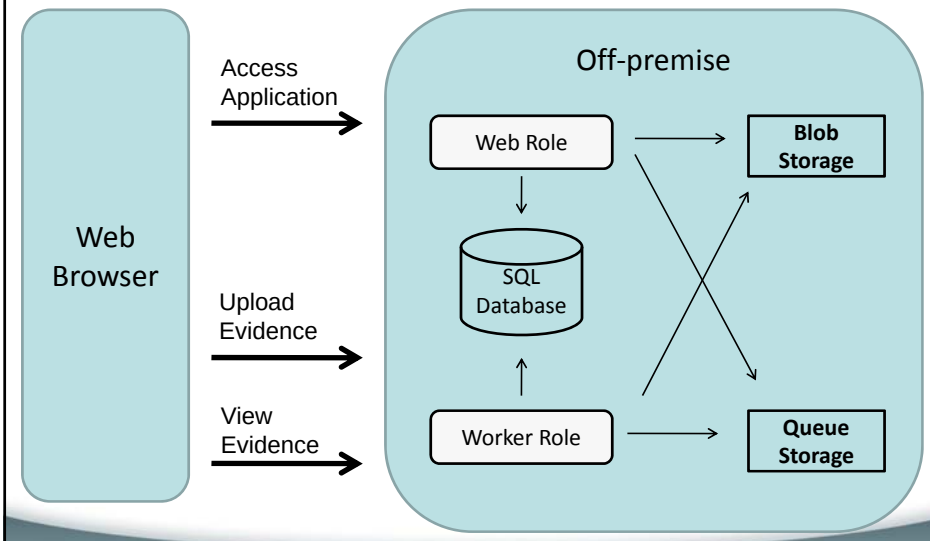
Apps in the cloud – September 2010



Benefits for iPortfolio

- Easily scalable storage and database
- Compute resources can easily be matched to business cycles
- Resources are automatically managed
- Load balancing is taken care of
- Includes queuing functionality
- Includes Geo-replication

When to use cloud

- When there are significant changes to scale (elasticity is required)
- When data is not highly sensitive
- When the service is mature (eg: email)
- When there high availability support requirements

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THANK YOU

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