Agenda

• Review to date
• Enterprise Architecture & Identity Management
• IT Strategic Plan
• Projects Update
• Budget 2014-2015
• Big Data
ICT Planning Principles

• Implement a consolidation strategy that brings opportunities for coordination through greater emphasis on de-duplication and administrative efficiency
• Engagement: Involving vested parties in selecting the right option for transition and for perceived future needs
• Move away from managing IT assets to managing information and people
• Putting the “I” back into CIO, where ‘I’ means Innovation, Information and Integration.
• Enablement and support for Research, T&L and enhancing the student experience.
• Strategy determine Structure
Friendlier, Immersive IT

- Tectonic Shift: Mobility, Cloud, Social and Big Data
- Wireless coverage and density is critical to support mobile experiences; the end-device is irrelevant
- Large portions of back room IT are/will be in the cloud
- Video will become immersive in ways not yet imagined
- Collaboration services within universities will also support cross-organisation federation
- Focus of IT will be on application not implementation of IT
- The rate of change of IT will drive more strategic relationships between suppliers and institutions
- The new normal will be information centric and data driven
Services are the focus of prioritization in the services model.

Projects are the focus of prioritization in the traditional model.
External Audit: Enterprise Architecture

- Measures the maturity of the EA organisation in place and the quality of the resources.

- Checks various EA artefacts developed by the EA practice. These artefacts covers the entire organisation from the EA perspective.

- Measures the maturity of different processes in place and if they are being followed across the organisation for application delivery.

- Checks how architecture knowledge is being managed, see if there is a repository for keeping the data and artefacts exists. What taxonomy is being followed for the classification.

- Checks the governance model in place and different governance processes and metrics used or controlling the quality of IT in the organisation.

- Checks the existence of organisational guiding principles, enterprise standards and adherence of IT projects across the organisation.

- Checks the existence of tools for supporting EA practice within the organisation and also level of access to these tools for the stakeholders across the organisation.

Deloitte EA Maturity Model (DEAMM)
External Audit: Identity & Access Mgt
Implementing DSD Risk Framework

1. Patching operating system vulnerabilities
2. Patching 3rd party applications
3. Management of Privileged User Lists
4. Application Whitelisting*

* ANU Standard Operating Environment for Windows, Linux, Apple
Strategic Vendor Partnerships
Statement of ANU IT Strategy: The transformation of current IT business practice at ANU from one which is characterised by a legacy of disparate and organically developed architectures and processes; to a scaled, de-duplicated collaborative model to enable administrative efficiencies and consistent service delivery.

Top 8 IT Initiatives
1. Electronic Document & Records Management System
2. Identity and Access Management project creating a single access model built on a highly resilient de-duplicated ANU academic network
3. De-Duplicated ICT Service Delivery Model
4. Integrated HR, Student, Finance and Research Enterprise Systems providing automation, integration, self-service and timely management data
5. ANU Workspace-end to end desktop/laptop lifecycle management
6. Infrastructure transformation project to enable next generation online learning environments
7. Infrastructure transformation project to enable sustainable eResearch
8. Implementation of ANU Private Cloud; virtual computing environment.

Key Indicators describing the Initial State
- Duplicated ICT commodity Services
- Reactive ICT Support Model
- Introduction of an ICT Governance Model
- Adoption of best practice IT security risk mitigation strategies
- Introduction of coordinated and planned stakeholder communications
- Fractured infrastructure services and associated support structures
- Paper-based storage for official University files

Key Indicators describing the End State
- Centralised ICT commodity services, resulting from a Service Catalogue attached to Service Level Agreements
- Standardised ANU-wide ICT Service Delivery
- Mandated ICT acquisition/implementation processes within the ICT governance model
- Proactive IT security risk analyses and assessments
- Strong engagement and communication channels across the ANU community
- Efficient infrastructure architecture and support, with offsite redundancies
- Efficient electronic document handling practices

Top 7 Underlying Beliefs and Assumptions
1. IT systems have the ability to provide significant administrative efficiencies
2. Form follows function for IT systems: business need should drive their design
3. IT systems are best mapped to an enterprise architecture to ensure maximum integration and efficiency
4. Uniformity for commodity-based services allows the adoption of best-practice processes for the ANU IT environment
5. Continuous improvement strategies will enable IT systems to respond quickly to changes in business need
6. Changes in IT business process and service delivery require improved engagement and communication channels to ensure clients are consulted and informed
7. Staff development and training is critical to maintaining a robust service delivery team

This strategic summary is underpinned by a detailed Operations Plan:
Q. Which two would you like?
Note: Whichever two you pick makes the third one the variable.
UICT Program of Works 2013

• Live
  – Tuckwell Scholarships delivered via Embark
  – ANU MobileApp (iANU) delivered via Blackboard
  – ANU Service Desk delivered via ServiceNow
  – UniDOC Policies Framework delivered via Oracle Webcenter
  – ANU Email delivered via Microsoft Office 365
  – Programs & Courses (StudyAt) delivered via Microsoft .NET / Azure
  – Moodle Upgrade and Wattle for Medicine delivered by Netspot
  – ANU Private Cloud delivered by DELL Compellant

• By END 2013
  – ANU Online (part rollout)
  – ARIES Functional Upgrades
  – Integrated Management Reporting
  – ANU Identity & Access Management – Phase 1
  – Brand Asset Management
  – UniDOC Phase 2 - Electronic Records Management – part rollout
  – Procurement to Pay & Travel System (Finance)
  – Implementation Plan for HR Peopletools Upgrade / Database split / and Upgrade to v9.2
Grouping IT projects

- New Features / Functions
  - Function point changes for end users
- Data Integration
  - Middleware
  - Product Configuration
  - De-Duplication
  - Pre-requisite for above
- Version Upgrades / Patches
  - Infrastructure / Back Office related
  - May be a pre-requisite for above and likely to have compliance and/or be a mandatory change
IT Priorities – top 20 (Proposed Projects*)

1. UniDoc Phase 2 (Electronic Records Management System)
2. Identity & Access Management
3. ARIES upgrade
4. Timetabling upgrade Syllabus+
5. Financial Reporting
6. Hobson’s rollout
7. One ANU Network
8. Data Integration
9. ANU Online
10. De-duplicated Website authoring
11. HR Program of Work
12. F&S Program of Work
13. Common Org Structure
14. Business Intelligence
15. ANU Workspace
16. CRM
17. Intranet / Portal
18. Library System
19. Student Administration
20. ERP Integration

* Subject to endorsement from UICT
HR Program of Works

New Features / Functions
- Online Recruitment
- Casual Timesheets
- OH&S System
- Onboarding
- Online Statement of Expectations
- New Help Desk *

Data Integration
- Delegations
- Reporting

Middleware

Product Configuration

De-Duplication

Version Upgrades / Patches
1) Peopletools upgrade
2) Database split
3) v9.2 upgrade

Infrastructure / Back Office related
ANU Online
proposed implementation schedule
Proposed 2014 Projects*

New Features / Functions
- Access & Identity Management
- Data Integration / Reporting (BI, Finance, Research, Student, HR)
- Web Authoring Tools
- Common Organizational Structure
- ANU Workspace
- EDRMS
- ARIES – Research functions
- Hobsons – Student Enquiry System
- ANU Online
- Intranet / Portal

Version Upgrades / Patches
- Syllabus Plus Upgrade
- One ANU Network
- PeopleTools / Split database/ v9.2 upgrade

Data Integration
Middleware
Product Configuration
De-Duplication
- Reporting
- Student Admin
- HR / F&S / Finance
- CRM
Recommendations

• Experience suggests that less is more
• Funds will be tight requiring appropriate governance
• Almost all projects have linkages therefore the overall GANTT chart needs to map interdependencies
• Resource constraints – need contingency
• ANU has invested heavily in ERP solutions over the past few years and needs to leverage that investment
• Statutory, compliance and legislative changes have to be prioritized
• Develop the “ICT Program of Works 2014 – with clear deliverables by quarter
• Above all, one ANU approach
ITS Financials – Budget 2014-2015

• Need to identify sustainable reduction of approx 5% pa for 2014 and 2015.

• Solutions include:
  – Voluntary Early Retirement (VER) and what does IT structure across the University look like post VER?
  – Impact on IT positions and/or roles post key project delivery
  – ICT De-duplication remains a key focus
What Happens in an Internet Minute?

639,800 GB of global IP data transferred

- 20 New victims of identity theft
- 204 million Emails sent
- 61,141 Hours of music
- 47,000 App downloads
- 3,000 Photo uploads
- 20 million Photo views
- 320+ New Twitter accounts
- 100,000 New tweets
- 639,800 GB of global IP data transferred

1,300
New mobile users

100+
New LinkedIn accounts

6
New Wikipedia articles published

135
Botnet infections

And Future Growth is Staggering

Today, the number of networked devices = the global population

By 2015, the number of networked devices = 2x the global population

In 2015, it would take you 3 years to view all video crossing IP networks each second
| Day 1   |  1   |
| Day 2   |  2   |
| Day 3   |  4   |
| Day 4   |  8   |
| Day 5   | 16   |
| Day 6   | 32   |
| Day 7   | 64   |
| Day 8   | 128  |
| Day 9   | 256  |
| Day 10  | 512  |
| Day 11  | 1024 |
| Day 12  | 2048 |
| Day 13  | 4096 |
| Day 14  | 8192 |
| Day 15  | 16384|
| Day 16  | 32768|
| Day 17  | 65536|
| Day 18  |131072|
| Day 19  |262144|
| Day 20  |524288| 0.10% |
| Day 21  |1048576| 0.20% |
| Day 22  |2097152| 0.39% |
| Day 23  |4194304| 0.78% |
| Day 24  |8388608| 1.56% |
| Day 25  |16777216| 3.13% |
| Day 26  |33554432| 6.25% |
| Day 27  |67108864|12.50% |
| Day 28  |134217728|25.00% |
| Day 29  |268435456|50.00% |
| Day 30  |536870912|100.00% |
Impacts

• Big data enables decision makers to quickly spot patterns across different data types, but requires a data-savvy business strategy to turn information advantages into competitive advantages.

• Big data highlights cultural issues to business and IT leaders, which require incentives and metrics to overcome silos.

• Big data exposes talent gaps, introduces new interdisciplinary roles, and forces us to attract and retain specialists and managers with deeper analytical skill.

• Big data requires specialists to acquire and apply tools, techniques and architectures for analyzing, visualizing, linking and managing big, complex datasets.
Effective Metadata Management

Key Challenges:

• Enterprises that do not pay adequate attention to metadata management in big data projects will find that they are ill-equipped to support the demand of business users.

• Information management (IM) professionals struggle to evolve their metadata management practices to an enterprise discipline.

Considerations:

• Select your metadata management approach to on a variety of critical areas. These factors include: business readiness, discipline readiness, scope of effort, timing and risk issues, and technology and metadata integration factors.
The Art of Data Science

• The data scientist has emerged as a new role, distinct from those of business intelligence analysts and statisticians.

• Creating value from data requires a range of talents: from data integration and preparation, to architecting specialized computing/database environments, to data mining and intelligent algorithms.

• We are hiring and contracting individuals with these skills in increasing numbers, despite the hype and discord surrounding the job title of "data scientist."

• As we evolve from a focus on hindsight and informational analytics to more opportunistic and transformational analytics, business problems become more complex to model and more challenging to solve.
Changing the culture

• Engender a "data science" culture that values evidence based decision making and uses data for business performance and innovation-based transformation.

• Recognize the need for data scientists in your organization, to extend/complement BI skills and generate value from big data.

• Ensure your data scientists have the technical skills for data integration, analytic modeling and business analysis, but are also rounded out with the soft skills necessary to be successful in working with the business.

• The combination of hard-to-find multidisciplinary skills and domain expertise will be required to cover the spectrum of both business and IT.
Conclusion

- Our journey towards de-duplication remains key
- Currently in a economic and tectonic shift; this is the new normal
- Evidence based outcomes
- Enterprise wide architecture is critical
- Strategic vendor partnerships are key to sustainability
- Invest in staff; for the future
- Strategy determines Structure
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