Moving to a whole of system digital platform

Mark Rivers
Program Director, Data Centre Reform
Why?

• NSW Government Data Centre Strategy

  – Endorsed by Cabinet in 2012

  – All NSW Government agencies relocate data centre and computer room infrastructure into two modern, reliable, secure and fit-for-purpose “Whole of Government” data centres in Sydney and Wollongong by August 2017

  – eHealth NSW commissioned to manage NSW Health’s commitment to the strategy
The journey begins...

- NSW Health agreed to be an *Anchor Tenant*
- Business Case approved August 2013
- Focus on Enterprise Data Centres
  - Migrate all the applications and associated data centre infrastructure from the enterprise data centres at Cumberland, Newcastle and Liverpool to Whole of Government Data Centres (GovDC)
…building the foundations…

- Core Infrastructure built by July 2014
- Established foundations of resilience, high availability and security
- Connected both GovDC sites to the Health Wide Area Network (HWAN)
  - NSW Health’s own highly resilient carrier-grade wide area network
  - ProvidingGovDC connectivity to the 15 Local Health Districts and 2 Specialty Networks
- Initial target servers and storage
...when the going gets tough...

- 260 Applications
  - 4154 Servers
  - 5 PB Primary Storage

- Supporting
  - Over 150,000 employees
  - Over 500 locations across the state
  - Providing Primary Healthcare 24 x 7
  - Over 2 million hospital admissions a year

- Legacy applications, ageing hardware, with limited redundancy
...reduce the risk...

• No transformation
  – No Application or OS upgrades during migrations

• Stretched VLAN
  – Avoids need to change host name or IP address
  – Removes potential interface issues
  – No need for detailed analysis of applications

• Over the wire
  – No Lift & Shift
  – Virtual to Virtual, Physical to Virtual, Physical to Physical
    • Proven process - all procedures fully tested and documented

• Move disaster recovery & swing
...so how did we do?

• 260 Applications successfully migrated
  – 259 (99.6%) completed within agreed outage window
  – Over 2000 servers migrated
  – Additional 1000 servers built new for upgrades
  – Completed by March 2018

• All eHealth NSW managed services now hosted in GovDC
  – 5108 Servers (over 90% virtual)
  – 6PB Primary Storage
  – 2PB Backup Storage
...was it worth it?

• Original Business Case
  – Power savings
  – Cost savings
  – Improved security

• Additional Benefits
  – Hardware refreshed
  – Improved application performance
  – Core infrastructure redesigned
  – Consolidation of infrastructure
...but we are just getting started...

• Statewide Data Centre Reform
  – 15 Local Health Districts and 2 Specialty Networks
    • @40 Data Centres
    • @10,000 Servers
    • @3000 Applications
  – Use as-a-Service and Cloud hosting where possible
    • Detailed application analysis required to determine suitability for cloud hosting
    • as-a-Service and Cloud hosting requires transformation
...no one said it would be easy...

- **No transformation**
  - Transformation now required

- **Stretched VLAN**
  - Cloud or as-a-Service hosting means server name and IP address MUST change
  - Removes potential interface issues:
    - MUST perform **detailed** analysis of EVERY application
...opportunity too good to miss...

- Detailed analysis of every application
  - Review NSW Health’s entire application footprint

- Uncover opportunities for transformation

- Policy based workload placement

- A catalyst for change
  - Focus skilled health IT resources on supporting clinicians and hospital staff
  - Hosting and commodity IT functions are not our core business
...so continue the journey to...

...a whole of system digital platform
Thank you

Contact
Mark Rivers
Program Director, Data Centre Reform
Mark.Rivers@health.nsw.gov.au