What providers need to know?

• Software engineering
  • Sustainability

• SISS requirements
  • People - roles etc.
  • Engagements
  • Technical aspects
Engineering – Our Experiences

• Continuous integration of
  • Separate projects
  • Separate communities

• Best software engineering practices
  • Unified in-house issue tracking (linking to external issue tracking)
  • Unified iteration planning across projects
  • Build and regression testing of products in-house (extension on open source community)
  • Measuring code quality on numerous projects
  • Agile methodology across projects and project teams
Engineering – Our Experiences (cont.)

• **In house:**
  • Duplication of TEST/DEV environments with automated nightly integration for selected projects
  • All members on team are forced to consume their products
  • Use case centric functional testing
  • Peer reviews of architecture, code, functionality, documentation, and ultimately product

• **External**
  • OSS license. Currently four other groups directly “skinning” the portal
  • Community peer reviews (e.g. GeoServer/GeoTools teams)
  • Presentations, demonstrations, and workshops to educate multiple audiences
Sustainability – SISS Deployments

- **AuScope:**
  - Is providing a portal, a registry, and some development services
  - But not providing long term hosting of Services

- **Geoscience Australia:**
  - Prototype project has just been delivered and business case has been accepted by the Executive Board
  - The business case was science driven and evidence based
  - Three use cases:
    - The Earth Observation Data Store (EODS)
    - The Virtual Exploration Geophysics Laboratory (VEGL) – Onshore Geophysics data and inversion workflow
    - The Virtual Data Room (VDR) – Borehole and Organic/Inorganic Geochemistry observations

- **Sustainability**
  - Skilling-up and technology uptake
What happens to:
- SISS code
- Data services
- Vocabulary services
- Registry services
- The portals?
Observed Roles and Recommendations

• Key people
  • The invested person
  • The “do-ers”

• Key relationships
  • Inter organisational, and external facing
  • Dependencies on these

• Observed issues
  • Communication (both ways)
  • Momentum

“Culture eats strategy for lunch. You can have a good strategy in place, but if you don’t have the culture and the enabling systems to implement that strategy... the culture of the organisation will always defeat the strategy”

Richard Clark, CEO of Merck & Co.
Technical Requirements

• Isolated DEV / TEST / PROD environments
• Replicated databases for DEV / TEST
  • Isolate from a production database
• Web server
  • OS-independent
  • Apache HTTP Server
  • Apache Tomcat Servlet Container
  • Java 6
• Spatially-enabled database
  • Oracle
  • PostGIS
  • MS SQL Server 2008
Technical Requirements (cont.)

• RAM
  • GeoServer: 2 GB (heap), min 128 MB PermGen
  • GeoNetwork: 1 GB
  • THREDDS: 2 GB
  • Database: 1 GB (min)
  • Data storage (for THREDDS): 10 GB
  • Portal: approx 0.5 GB (Spring framework)

• Storage requirements
  • GeoServer: 1-2 GB (working temp)
  • GeoNetwork: 4 GB (mainly Lucene index)
  • Database: *varies quite significantly*…
  • THREDDS (coverage data): $\infty$ (requires random I/O)
Technical Requirements (cont.)

• Security
  • Firewall policies
  • Engage with IT security staff and provision “holes” in the firewall early. Don’t wait until the last minute!
  • Some services/applications require outgoing connections to be made (e.g. GeoServer app-schema, Portal)
  • External dependencies