Advanced Spatial Data Management within a Large Scale System

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This Briefing is:
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Overview

- Where we were
- Where we are
- How we got here
- Lessons learned
- Where we are headed
Where We Were

- 2004 Hardware / Software
- 15 Bases
- One Analyst: many hats
- No Backup / Recovery
- Central repository
  - None (~2004)
- Clients
  - Local
  - Global web users (~2006)
    - data current > 6 mo.
Where We Are

- 2007 Hardware / Software
- 15 Bases, AFSOUTH, CENTAF, Continuity Of OPerations
- Specialization
- Centralization
  - Management
  - Support
- Backup / Recovery
- High Availability / Transactional Clone
- Geodatabase Replication: 1 child, many parents
- Size: 800 vector layers / 300 rasters / whole earth
- Clients
  - Local
  - Global web users (data current < 1 week)
~2004

Diagram showing components and connections:
- Archive Backup: None
- Failover: None
- Aggregation: MDB to CMD
- Replication: None
- Production: MDB to W1, W2, Wn

Diagrams include:
- AKAMAI, SHP, MDB
- Users: Portal Users, CMD Editors, CMD Viewers, Wing Editors, Wing Viewers
How We Got Here

- Needs assessment ("everything is on the table")
  - Location options
  - Firewalls: punch holes through autonomous networks
- Key Requirements & Technologies
  - Data Protection
    ~ Oracle RMAN
    ~ IBM Tivoli Storage Manager
    ~ Oracle Data Guard
    ~ Large Raster DB
  - Geodatabase Replication
  - 32 bit Windows large memory >4GB
How We Got Here

- Gold Standard
- Staged deployment
- Data migration / Replication
- Training
  - Documentation
    - In-house
    - Mannion Geosystems
  - Personnel responsibilities
  - Workflows
- Scheduled tasks
Lessons Learned

• Replication
  • Data extraction v. Loads
  • Geometry
  • Disparate Projections
  • Replica version choices
  • 1-Way vs 2-Way
  • Version Creep
  • Sync Failures / Duplication
  • Object Loader v. Simple Loader
  • Data Model challenges
    • FDatasets / Locks

• Database
  • Growth
  • Management complexity (Data Guard)
  • Multiple instance architecture
Where We Are Headed

• Performance: testing & tuning
• Refinement: policies & methods
• Oracle GRID Console
• 2010 Hardware
Q & A

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