APFO DATA CENTER

Why?

- Congressionally "earmarked" funds:

  "for the enhancement and management of the agriculture imagery catalog repositories and data warehouses"

  – Limited storage capacity with existing architecture
  – Future Planning Strategy
  – Need to "merge" APFO production capabilities with GDW
  – Current design does not allow for Disaster Recovery
  – Photo Index Scanning Project
  – Limited physical space available in existing server room

Vault Requirements

- **Phase I -Scanning of Aerial Photo Index Maps (Pilot) :**
  - @ 300 dpi =42MB storage required per index map (this is the expected standard)
  - @ 400 dpi = 73 MB storage required per index map
  - Total number of index maps 60,000 plus = approx. 2.1 TB
  - Original + Orthorectified/inspected to be stored
  - **Total = 5 TB**

- **Phase I I - Imagery Scanning by frame**
  - There are approximately 10 million frames to be scanned

Vault Requirements

- **Assumptions:**
- (With APFO's current equipment - Leica DSW500 film scanner)
- B/W scans at 12.5 microns = 337 MB per frame (3 min per scan)
- Color scans at 12.5 microns = 984 MB per frame (8.5 min per scan)
- 1 person full time at 2087 working hrs per year scanning B/W =41740 scans
- 1 person full time at 2087 working hrs per year scanning Color = 14609scans
- **B/W per year = 13.73 TB**
- **Color per year = 14.08TB**
- Original + Orthorectified/inspected to be stored:
- **B/W per year = 24.74 TB**
- **Color per year = 28.16TB**
- With an upgrade of scanner to Leica DSW 700:
- B/W scans at 12.5 microns = 337 MB per frame (1.5 min per scan)
- Color scans at 12.5 microns = 984 MB per frame (3.5 min per scan)
- 1 person full time at 2087 working hrs per year scanning B/W =83480 scans
- 1 person full time at 2087 working hrs per year scanning Color = 35479scans
- **B/W per year = 27.47 TB**
- **Color per year = 34.01TB**
- Original + Orthorectified/inspected to be stored:
- **B/W per year = 54.94 TB**
- **Color per year = 68.02TB**
- NAIP is ingested annually at a current rate of 30 TB

Timeline

- April 2006 – Authorization to proceed for infrastructure upgrade

- June 2006 – Approval from OCIO to use existing contract vehicle (EDARCH)

- Sept 2006 – Initiated SOW for New Data Center

- Oct 2006 – Contracts awarder for both equipment and Data Center

- Nov 2006 – Construction Ongoing

- Dec 2006 – New equipment to be delivered/Installed

- Jan 2006 – Burn-in and start up of equipment completed – migration starts

Capabilities

- Expanded 'tiered" architecture
- Integration of APFO production and GDW
- 1 copy of data will reside off site
- Scalable: Allows for future expansion as needed