The Sun™ CRS Infinite Archive System (IAS / CIS3):

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Agenda

- Intelligent Tiered Archive
- What is the IAS
- TCO Benefits
- Deployments
- Media Migration
Intelligent Tiered Archive

- Policy Driven Archive Management
- Multi-Tiered Archival
  > Active Data
  > Disk Archive
  > Tape Archive
  > Remote Disk or Tape Archive
- Built in Data Protection
  > Multiple copies stored across Tiers
- Auto Retrieval from any tier
What is the IAS

- A factory configured Multi-Tiered Archive System
- 3rd Generation (CIS1 in 2004, CIS2 and now IAS)
- Fast and Reliable HW components
- Well Proven Software Components
- HW Building Block Approach
- Flexible Configs – Right Size it
- Fully tested end-to-end before it leaves the factory
- Ready to Run - Deploys quickly at the customer site
- Expand it as requirements grow
- Preventative Maintenance, watches over itself
What has improved with IAS?

• HA / Auto Fail-Over
  > Active / Active

• Simplified Operations
  > Site Configuration / Wizard
  > Infinite Archive GUI
  > Appliance Operation and Installation Guide

• Updates to HW and SW
Sun’s Infinite Archive System Approach

Factory integrated, solution tested, simple, scalable, and economical

- **Tier 1 + Tier 2 Disk IAS Options**
  - 2500 series SAS
  - 2500 series SATA

- **Scalable, Eco-Efficient Tape Tier Options**
  - SL8500 Libraries
  - Encryption
  - SL3000 Libraries
  - SL500
  - Access & Capacity Drives

- **Intelligent, Policy-Based Automated Archive**
  - IAS GUI, Storage Archive Manager SAM-QFS, Sun Cluster 3.2, Solaris

- **Models: Value and Midrange**
  - X4200
  - T5220

- **IP Communications Protocol**

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*Sun™ CRS Infinite Archive System*

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IAS GUI

• One interface to manage the appliance and repository

• Appliance aware
  > Health
  > State changes,
  > Config operations
  > Usage Summary

• Assignable Roles – Expert, Admin, etc.

• Improved usability – geared towards day to day operation
Before IAS

Customer avoids the HW and SW Build on site. Transformation from

BOXES (lots of them)

Missing in these pictures: 2 servers, 6 PCI cards, 6 storage trays, and the rack!!!

After you rack them, still got to configure and test
Now with IAS

- **Order**
  @68IAS-*

- **Get**
Customer Ready Systems builds:
Midrange + SL500 + extra SATA
• Unit Test HW
• Rack HW
• Labels
• Solution Configure
• Solution Burn-in
Customer Receives 2 pallets:

- Rack
- Accessories
  - Robotics
  - Tape Drives
- Tapes
- Documentation
IAS Deployments

- Surveillance
- Medical
- Images
- Records
- With or without ECM vendors
- Some Examples
Serious about Heritage

The National Library of New Zealand
- National Digital Heritage Archive (NDHA)
- Manage and Preserve NZ Digital Heritage
- Persistence of that heritage 'in perpetuity'
- Archives of photography, art, newspapers, music and visual and audio historical documents
The First Digital Heritage Archive in the Southern Hemisphere

- Level 1 and 2
  - X4600 Oracle RAC
  - StorageTek 9990

- Level 3 and 4
  - CIS2 Large Tape Ready Configuration
  - SL700
  - 4 copies, 2 SATA, 2 LTO4

- Test, Training and Development
  - CIS2 Medium
Media Migration

• Plan for it
• Technology upgrades
  > No matter the life of the media, it will have to be transferred to the next generation of technology in relatively short time frames
• Data abstraction layer isolates archive media from archive management
• Data migration needs to take place close to the media
  > Migration through DICOM archive very slow
  > Impact on clinical activities
Challenge: Manage Data for 75+ Years

- HW typically only backward compatible N-1
- Yearly capacity increases
- Every 2-5 years HW becomes obsolete:
  > Need to migrate current data to newer HW components
  > Replace compute parcels
  > Replace FC Parcel for performance and capacity
  > Replace tape drives and media to current technology
  > Replace SATA parcels for capacity / footprint
- Minimize vulnerability
- HW migration is inevitable; PLAN for it
Medical Industry Long Retention Times when compared to other Industries

**SOX**
- Audit correspondence
- E-mail/financial records

**SEC 17a-4**
- Member registration
- Trading record

**HIPAA**
- Patient records

Years: 5, 10, 20, 25, 30, 35, 40, 45, 50

Dr Cecil, Cleveland Clinic doesn't watch obituaries
Cleveland Media Migration

- Radiology and Cardiology
- 1992 Started with Powderhorn, 6,000 slots, 9840A
- Continue to grow
  > 2nd powderhorn 6,000 slots, 9840B
- Media Migration
  > 9840A (20g, FC 1G, 12s avg file access, 10MB/s)
  > 9840B (20g, FC 2G, 12s avg file access, 19MB/s)
  > 9940A (60g, cf B 200g)
  > soon LTO4(800G)
IAS Resources

• Partner and SUN.com URLs:
  > http://www.sun.com/servers/cr/ias

• Internal URLs:

• Documentation (Servers / Server Systems)
  > Internal: docs.sfbay
  > External: docs.sun.com
  > http://docs.sun.com/app/docs/prod/srvr.sys#hic

• Email:
  > IAS-archive-help@sun.com - for sales and technical assistance
  > IAS-archive-interest-ext@sun.com - open forum
  > IAS-archive-order-verification@sun.com - initial order verification
  > Jennifer.Feng@Sun.Com - IAS Product Manager
Products Information

- Infinite Archive System (IAS): http://www.sun.com/ias
- T5220 Servers: www.sun.com/servers/coolthreads/t5220/
- X4200 M2 Servers: www.sun.com/servers/entry/x4200/
- 2540 Disk: www.sun.com/storagetek/disk_systems/workgroup/2540/
- SL500: www.sun.com/storagetek/tape_storage/tape_libraries/sl500/
- SL3000: www.sun.com/storagetek/tape_storage/tape_libraries/sl3000/
- SL8500: www.sun.com/storagetek/tape_storage/tape_libraries/sl8500/
- LTO4 Tape Drives: www.sun.com/storagetek/tape_storage/tape_drives/lto/
Questions?