

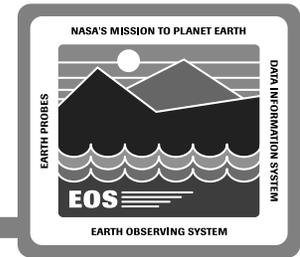
Data Server Subsystem Storage Management CSCI

Don Richardson

drichard@eos.hitc.com

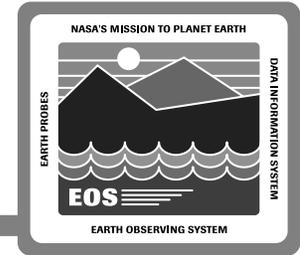
**ECS Release A SDPS/CSMS Critical Design Review
16 August 1995**

Storage Management Roadmap



CONTEXT

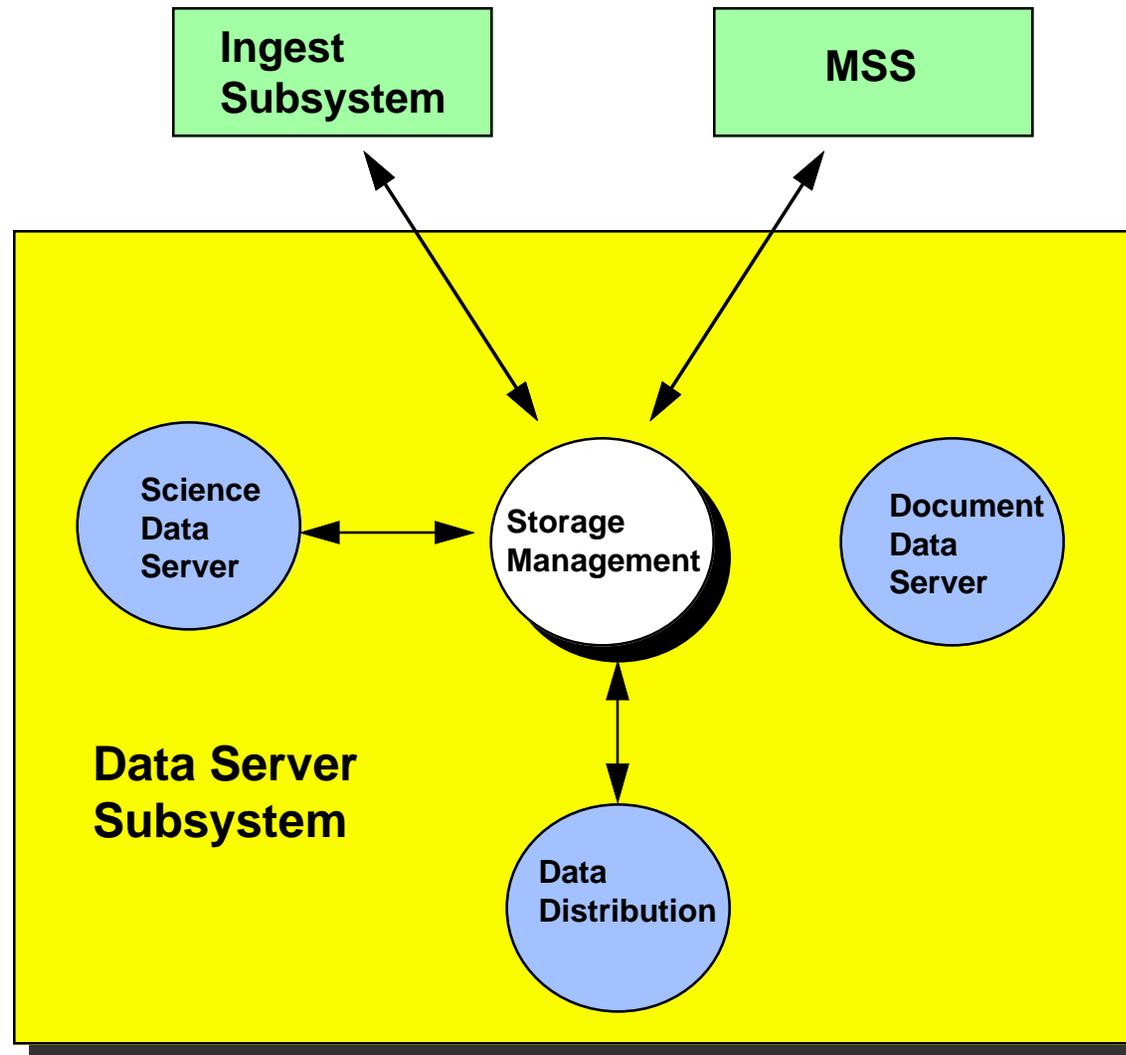
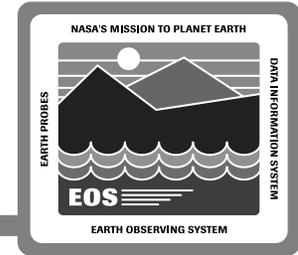
Storage Management Overview



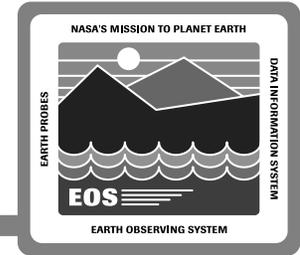
- Provides data storage for persistent and non-persistent data
- Provides data storage and retrieval services
- Provides management of Data Server data repositories

- Provides access to Ingest and Distribution Peripherals
- Provides data transfer services for Ingest and Distribution Peripherals
- Provides management of Ingest and Distribution Peripherals

Storage Management Context Diagram



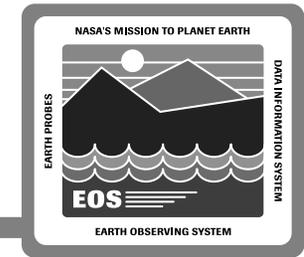
Storage Management Features



- **Deep Archive**
- **Staging Disk**
- **Electronic Pull Disk**

- **Checksums performed on archived data**

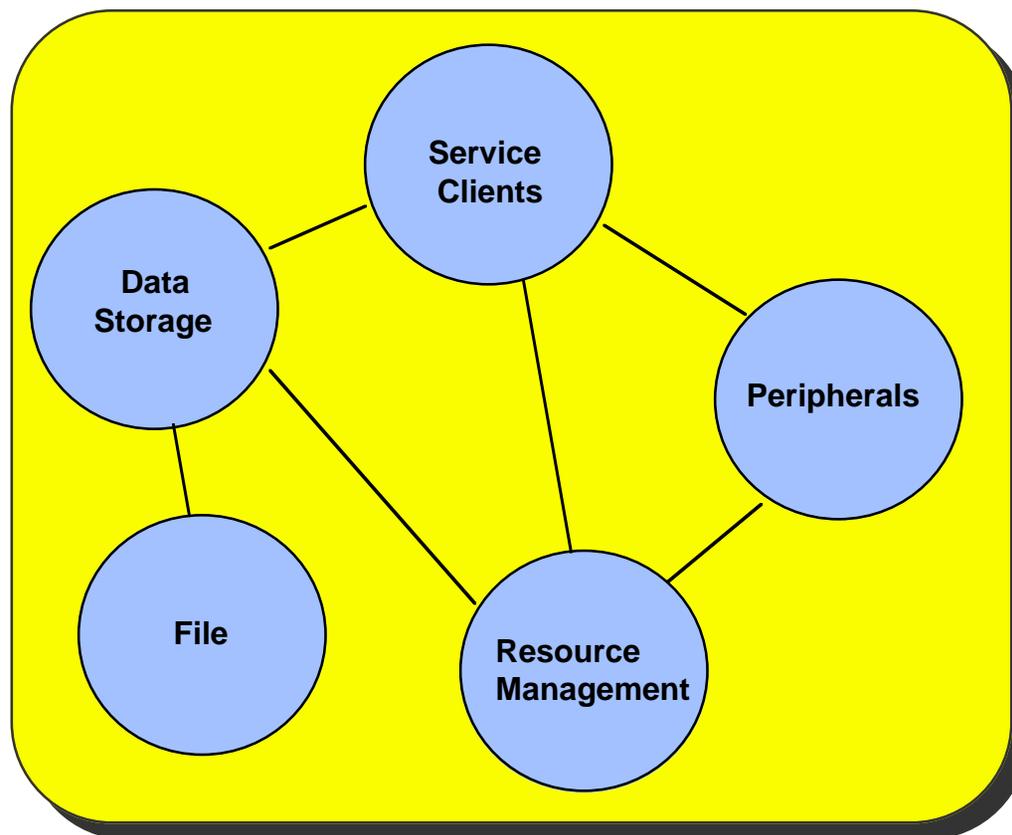
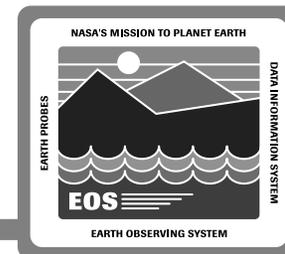
Storage Management Features (cont.)



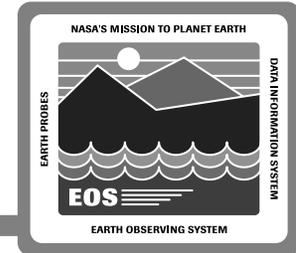
Flexibility in Encapsulation of COTS FSMS products

- Design supports different COTS products
- Design supports multiple COTS products
- Design supports different hardware configurations

Storage Management CSCs



Storage Management Service Clients CSC

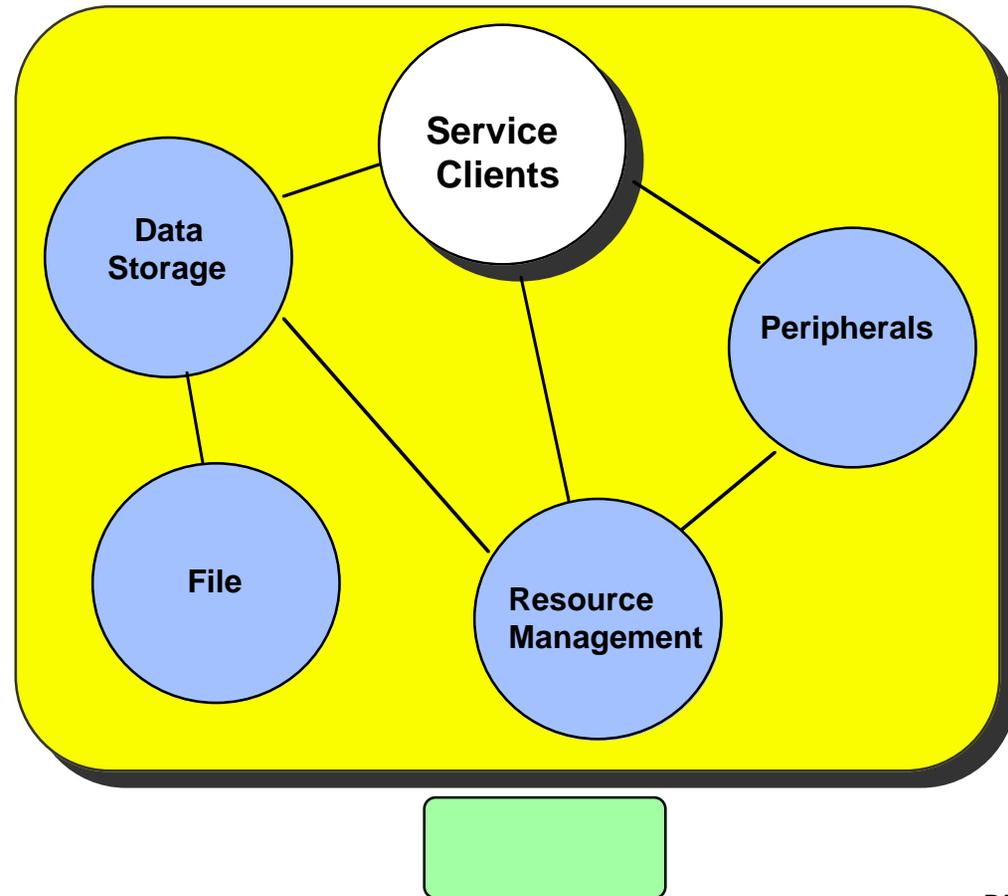


Purpose: Provides an interface to Data Server resources and their associated services

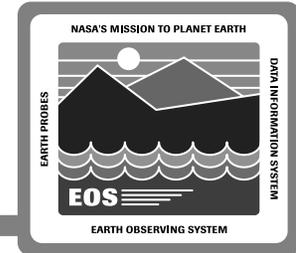


Services:

- Data Storage
- Data Retrieval
- Resource Allocation
- Resource Deallocation
- Resource Reservation
- Device Control



Storage Management Resource Management CSC

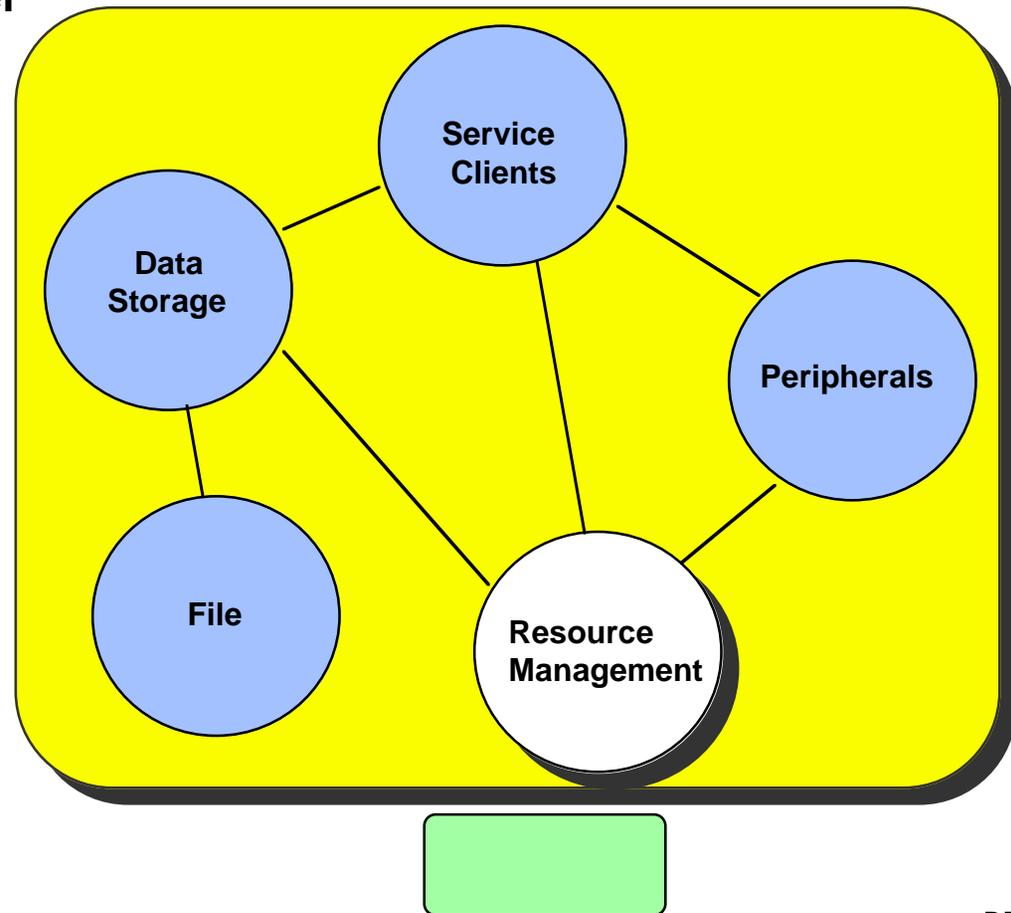


Purpose: Provides capability to manage Data Server Resources

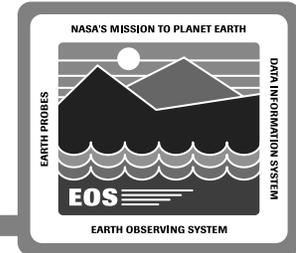


Services:

- Request Statusing
- Device Control
- Resource Reservation



Storage Management Data Storage CSC



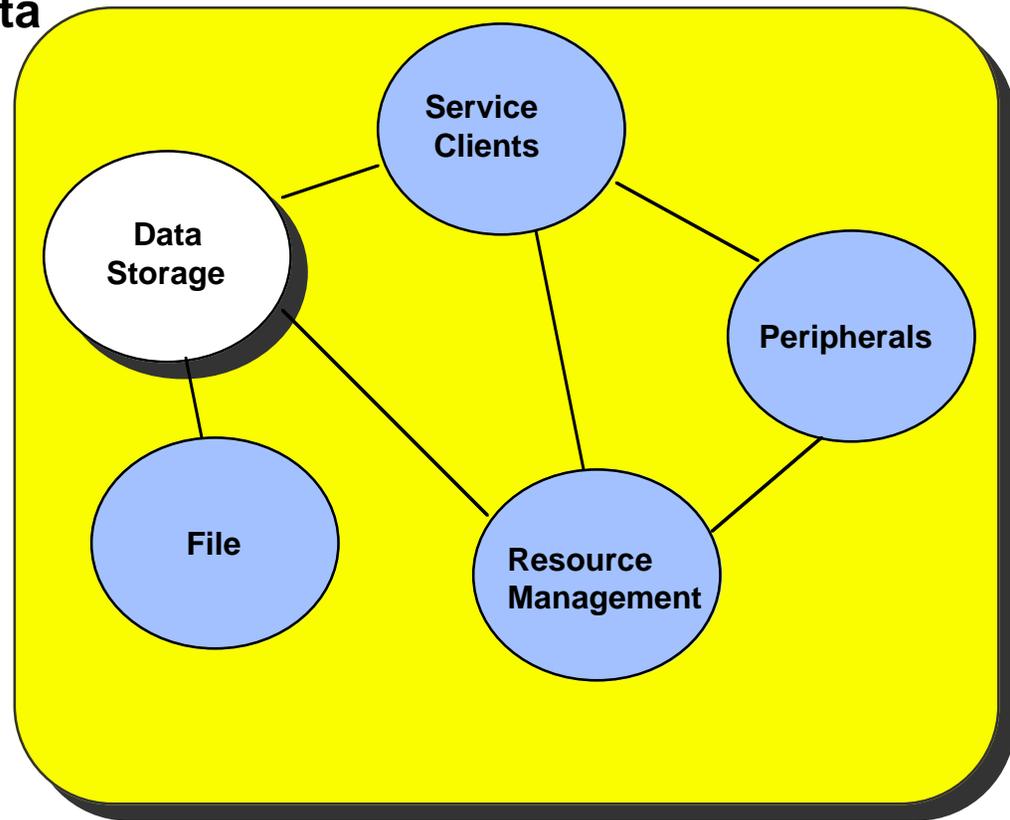
Purpose: Provides capability to store and retrieve data

SDSRV
CSCI

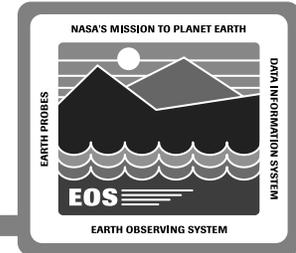


Services:

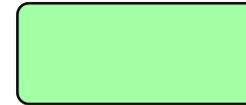
- Data Storage
- Data Retrieval
- Work Area Allocation
- Work Area Deallocation
- Work Area Reservation



Storage Management Peripherals CSC

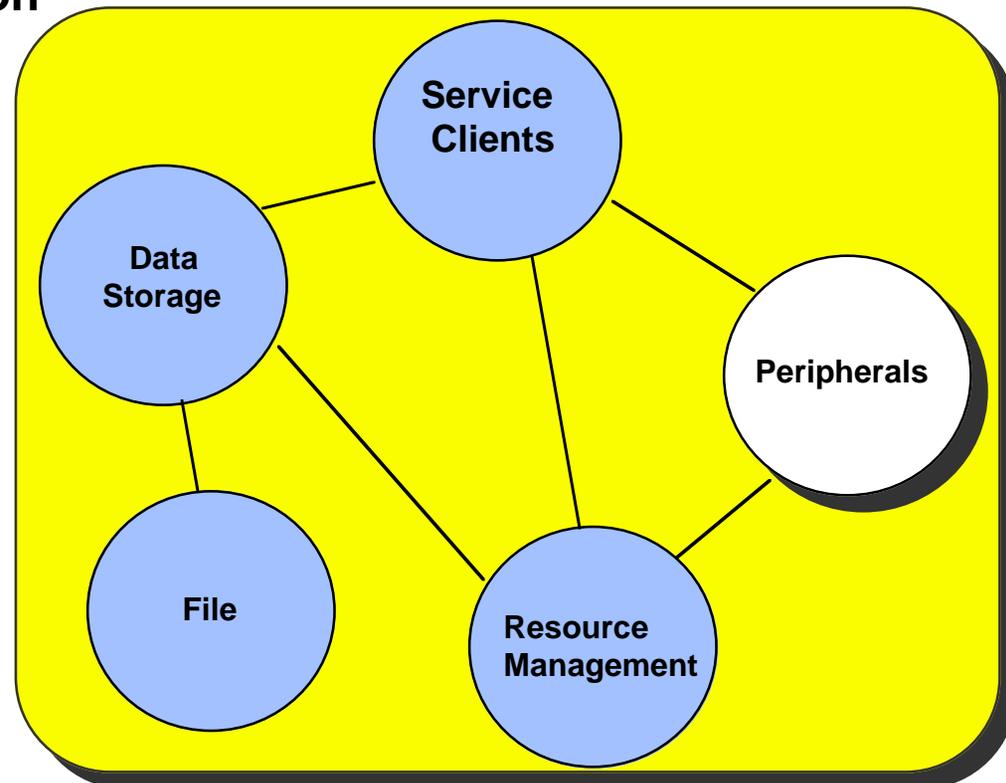


Purpose: Provides access to resources used for ingest and distribution of data

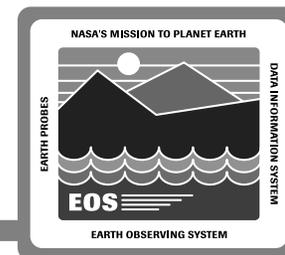


Services:

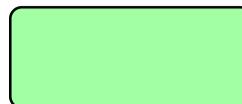
- Resource Allocation
- Resource Deallocation
- Device Control



Storage Management File CSC

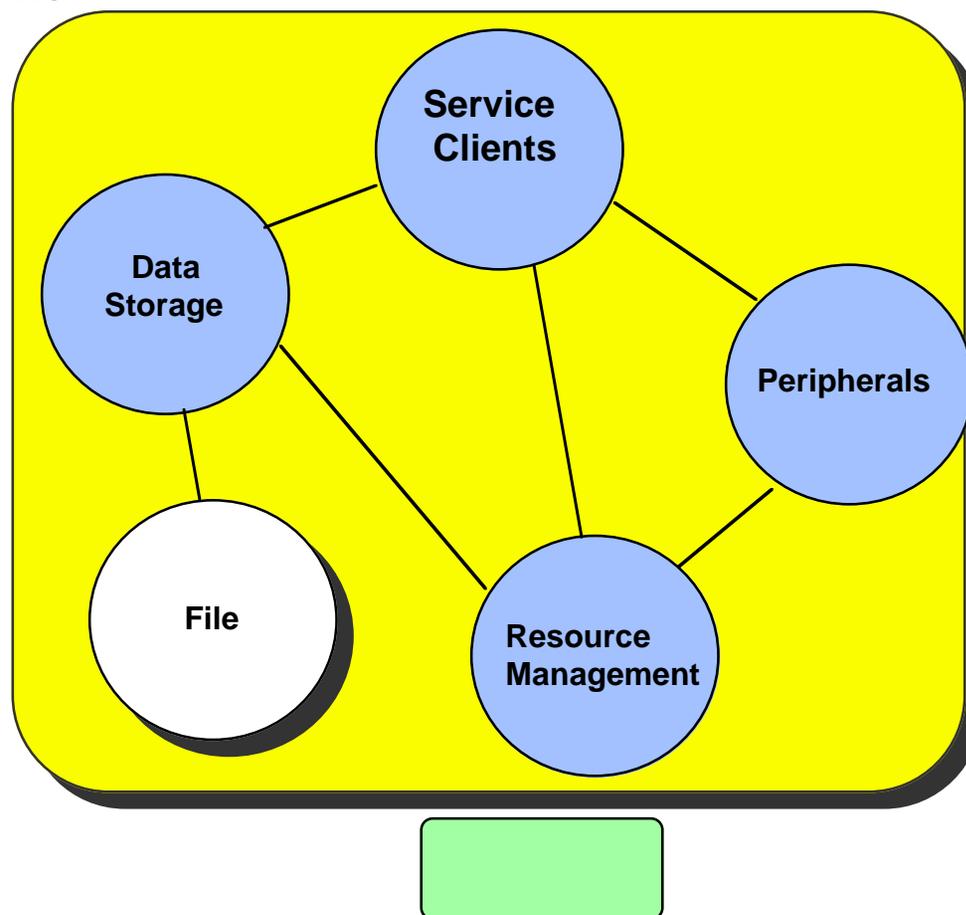


Purpose: Provides file level access to staging disk files and work areas

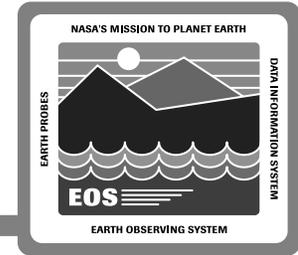


Services:

- File Creation
- File Manipulation
- File Deletion
- Directory Creation
- Directory Information
- Directory Deletion



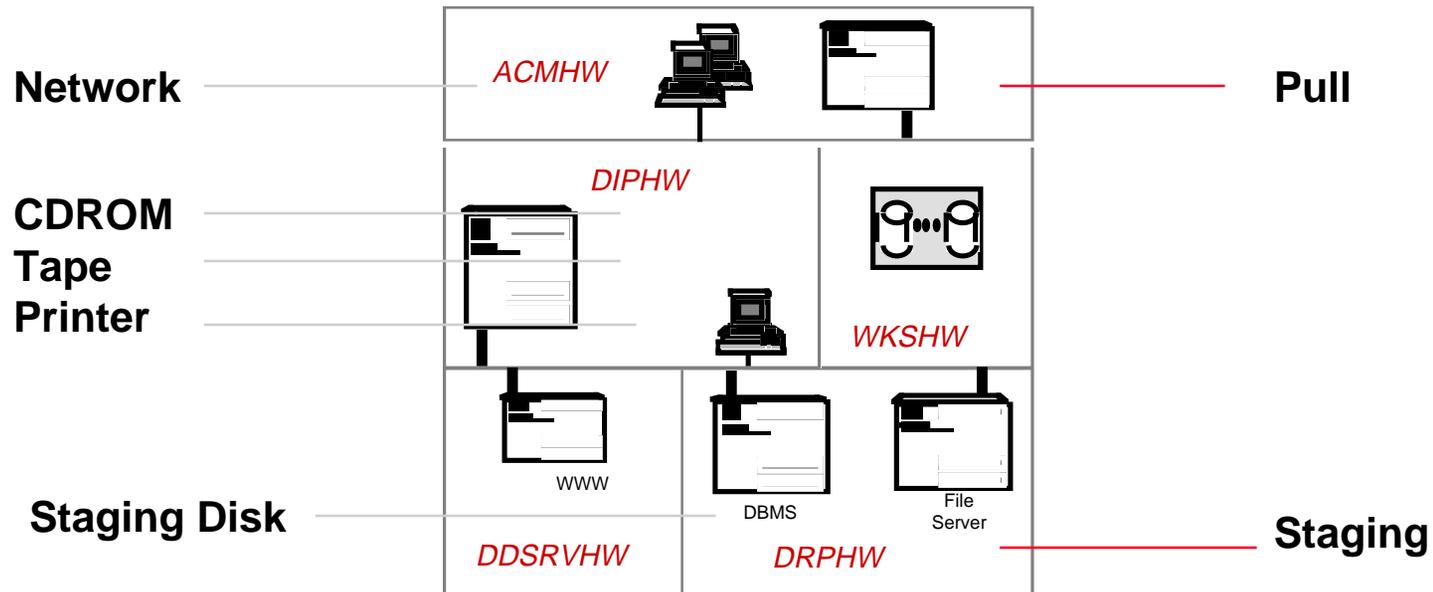
Storage Management Implementation



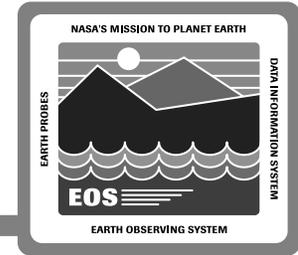
Two Types of Storage Management Processes

Resource Managers

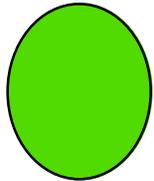
Disk Monitors



Storage Management CSC Mapping to Processes



LEGEND



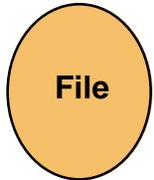
Resource Management



Data Storage

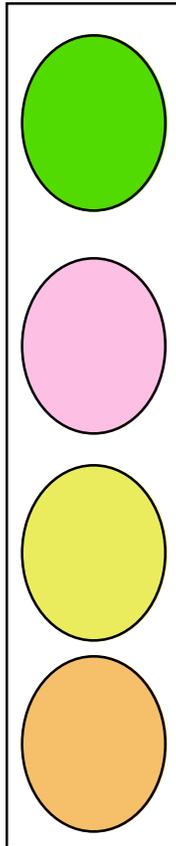


Peripherals

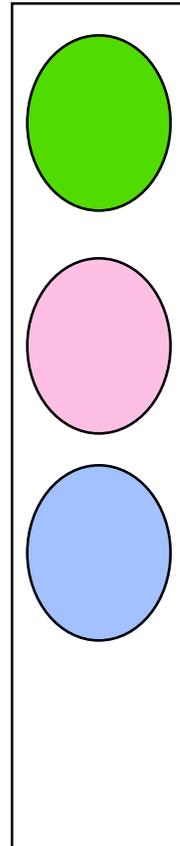
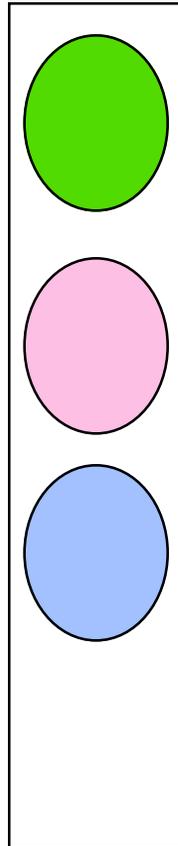
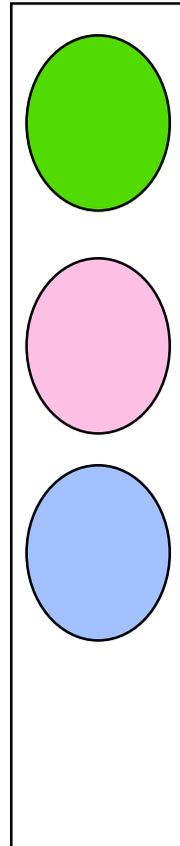
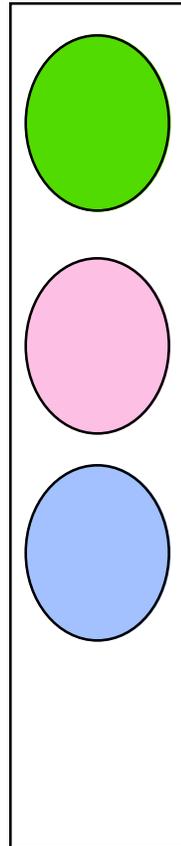


File

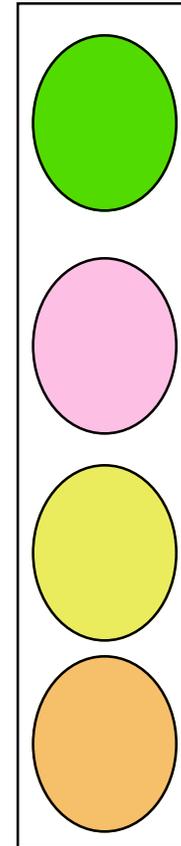
Staging
Disk
Manager



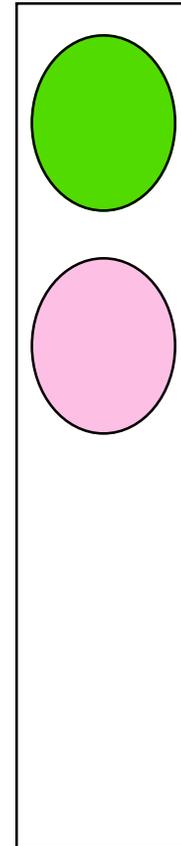
P R O C E S S E S
Tape Manager CDROM Manager Printer Manager Network Manager



Staging
Monitor

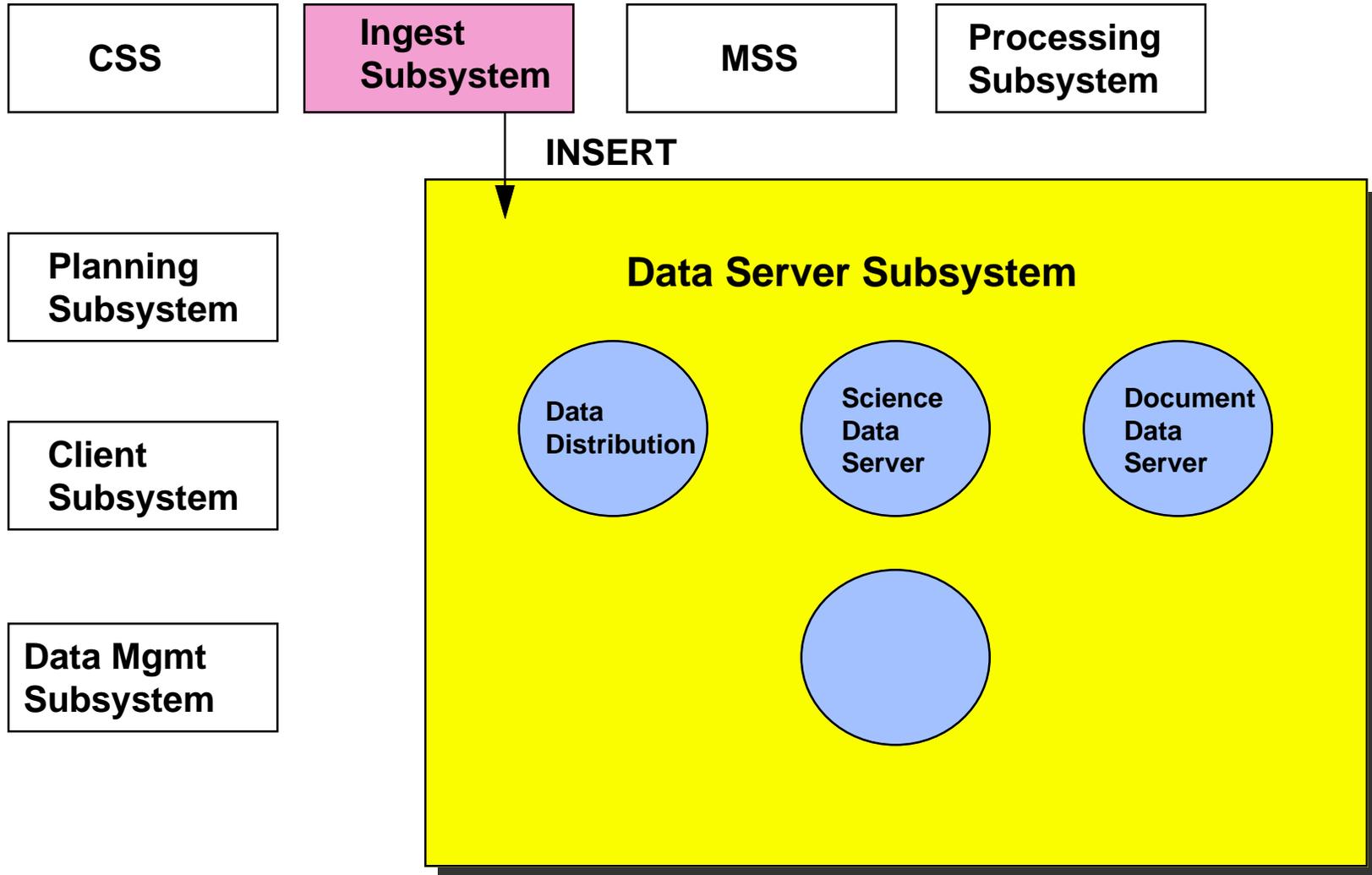
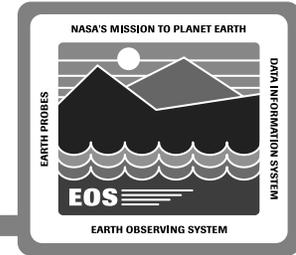


Pull
Monitor

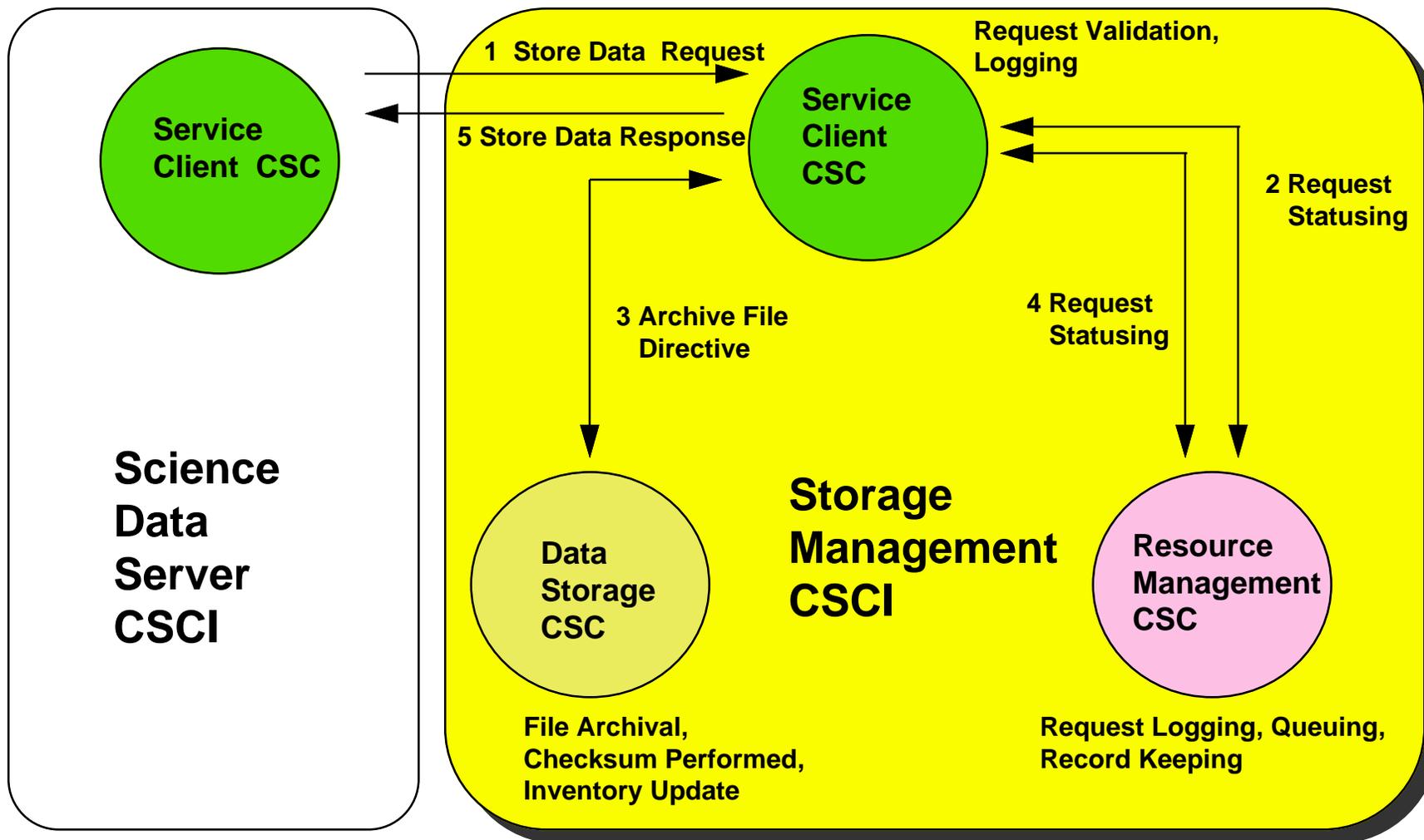
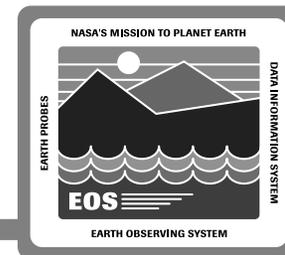


Insert Scenario

The Data Server Perspective

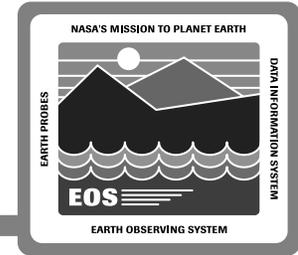


Insert Scenario the Storage Management Perspective

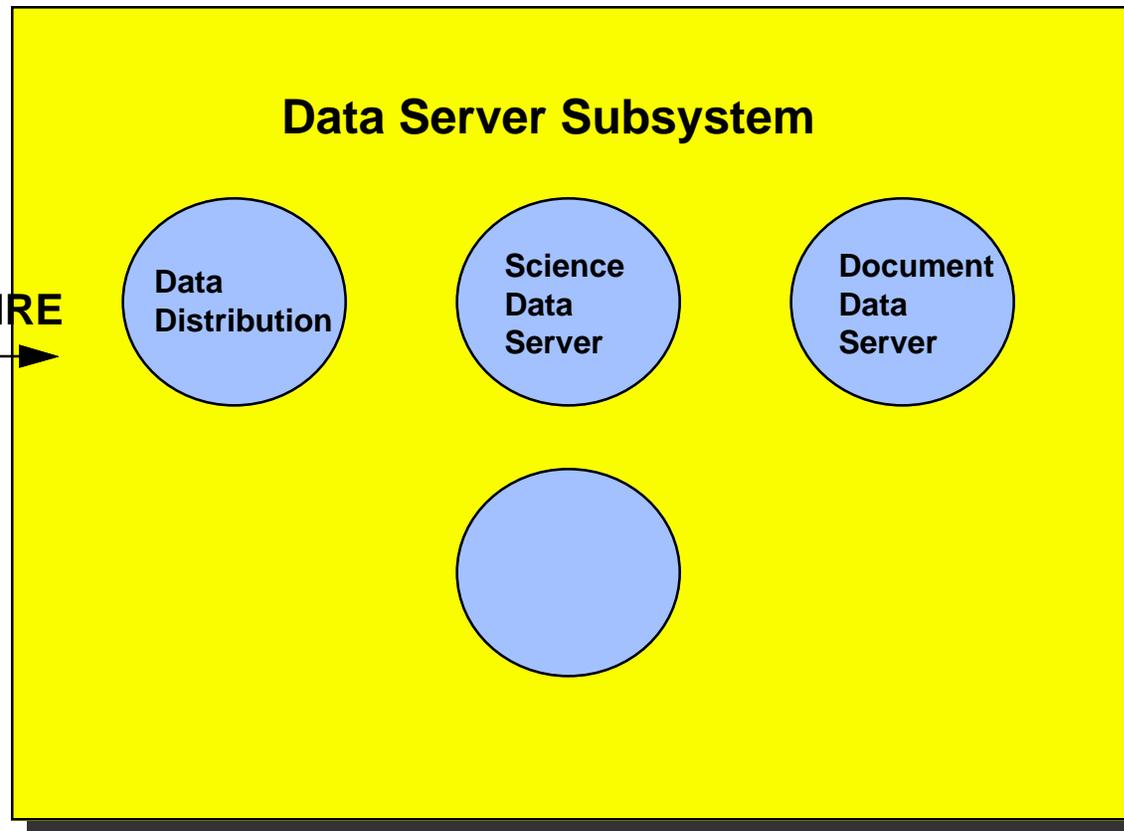


Acquire Scenario

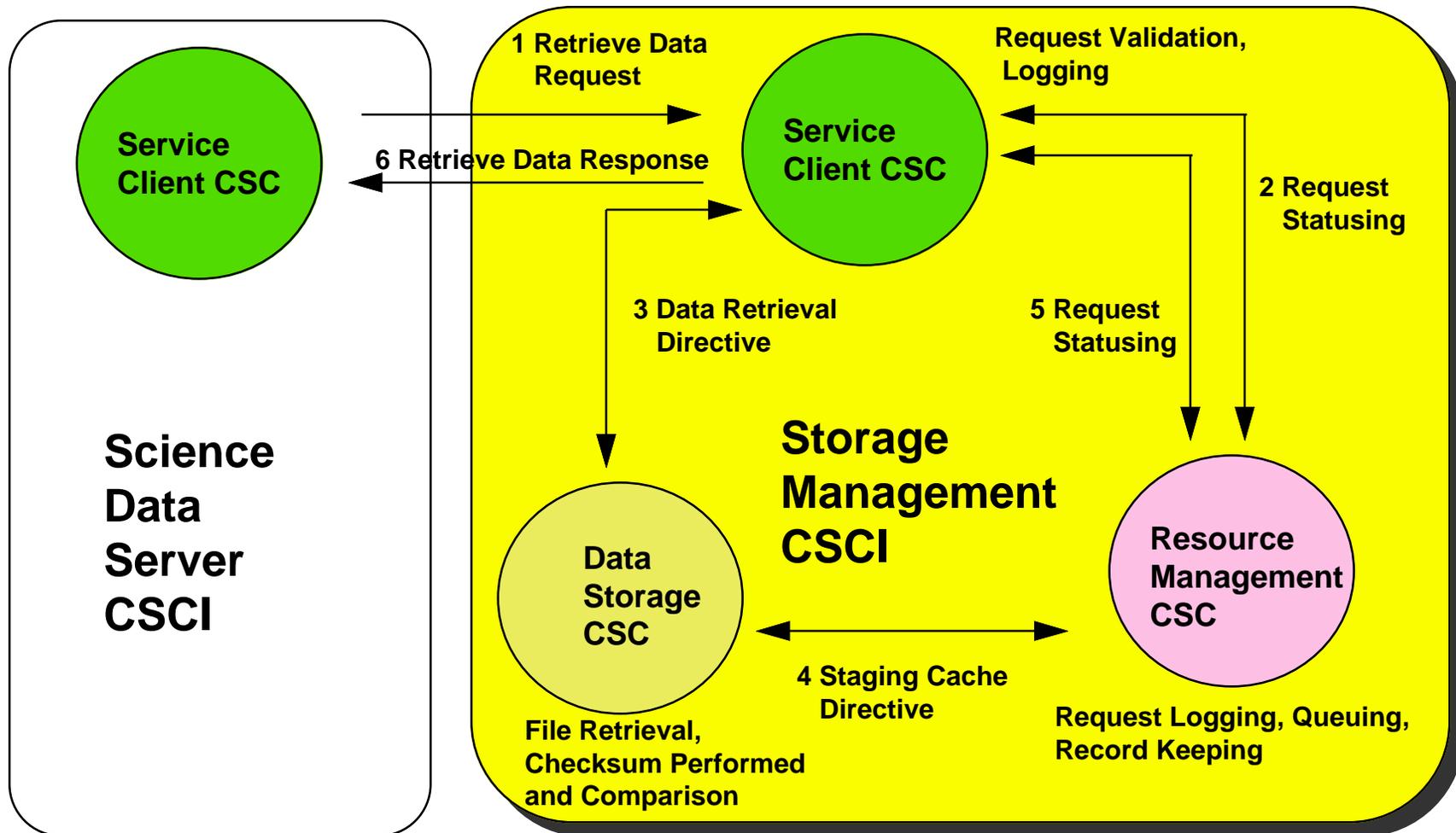
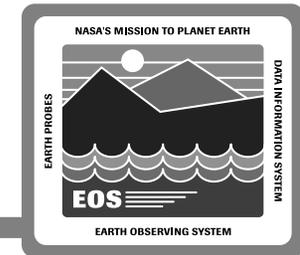
The Data Server Perspective



ACQUIRE

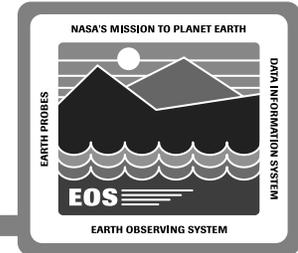


Acquire Scenario the Storage Management Perspective



Resource Allocation Scenario

The Data Server Perspective

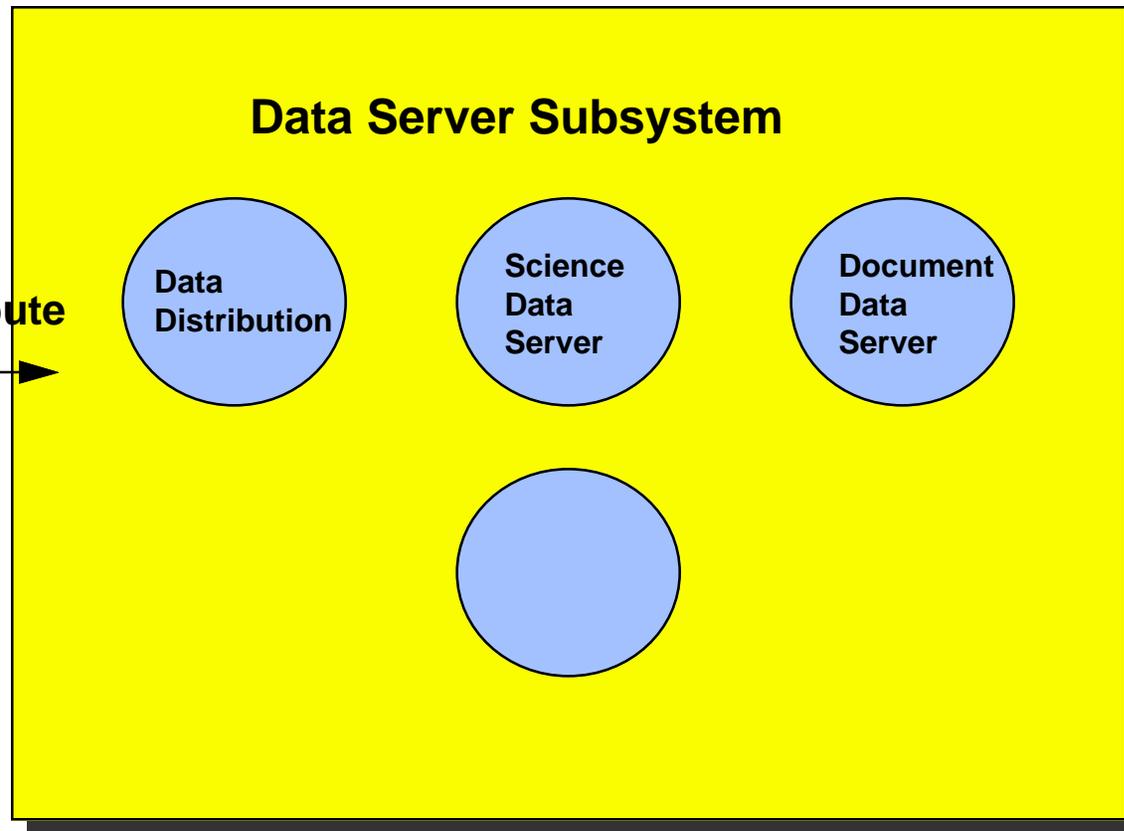


Planning Subsystem



Data Mgt Subsystem

Distribute

A black arrow pointing from the pink box to the Data Server Subsystem.

Resource Allocation Scenario

The Storage Management Perspective

