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# Release B Requirements Management

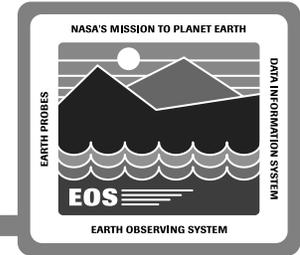
## Abe Meilich

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31 March 1995

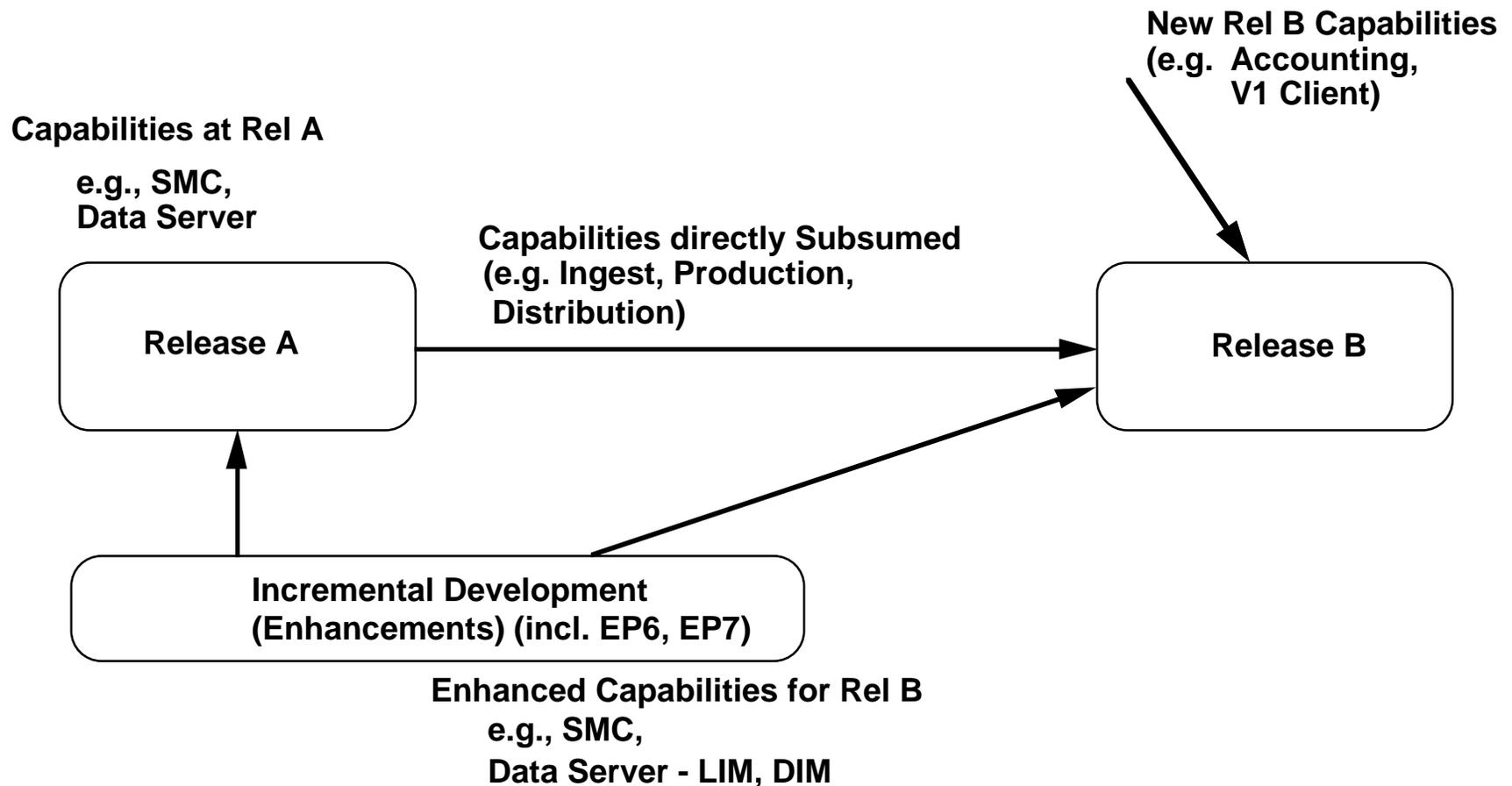
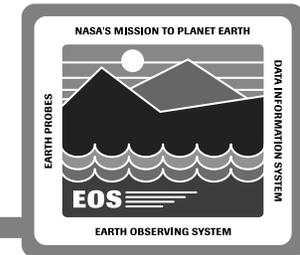
# Agenda Item

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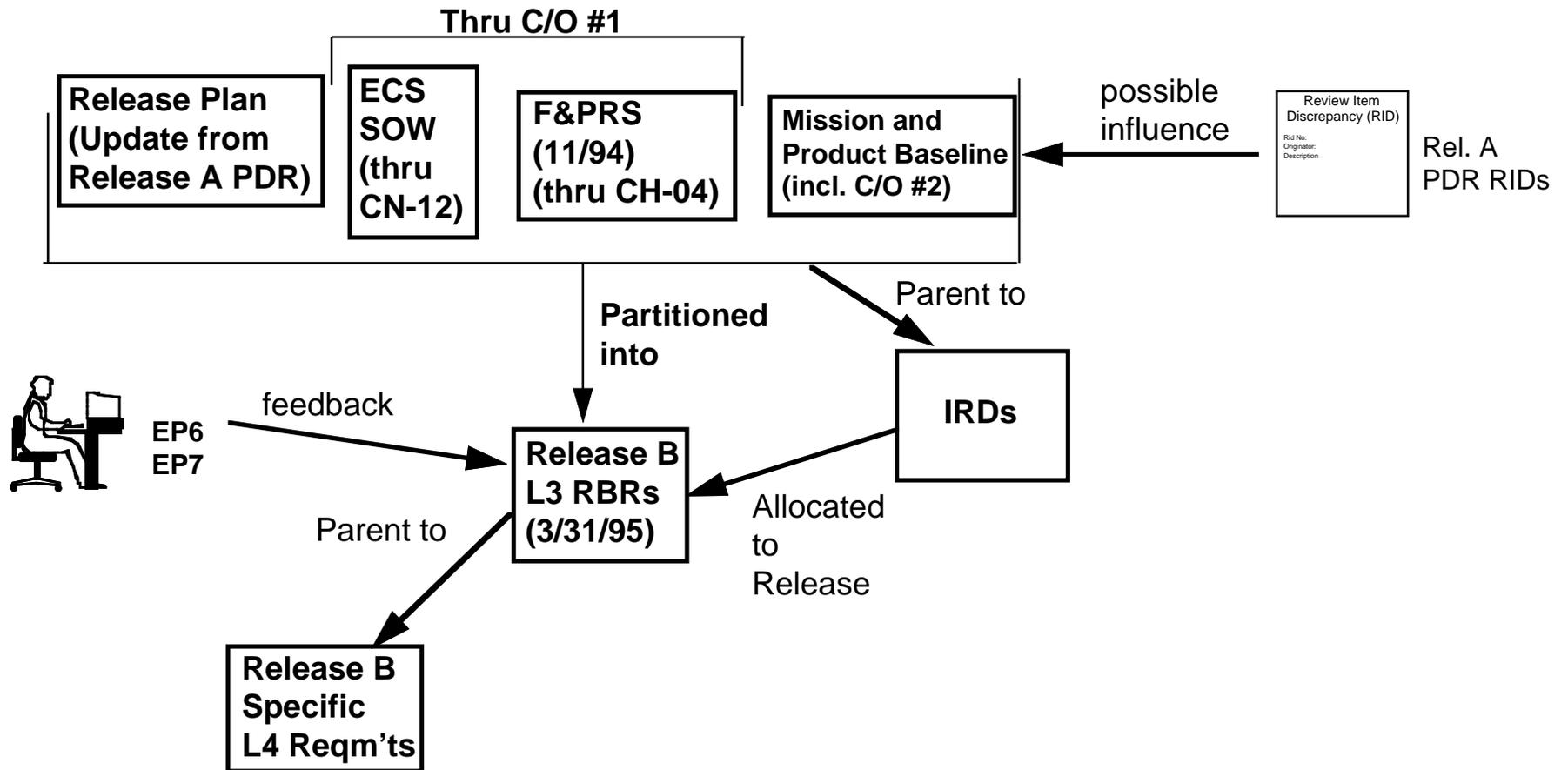
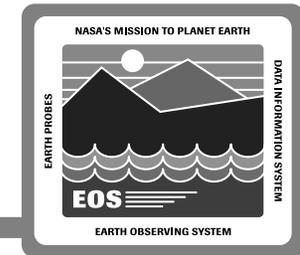


- **Release B Development Context**
- **Release B Baseline Context**
- **Status - Mapping of Requirements**
- **Release B L3 RBRs Status**
- **Requirements Management Tasks/Schedules**
- **Release A to Release B Capability Highlights**

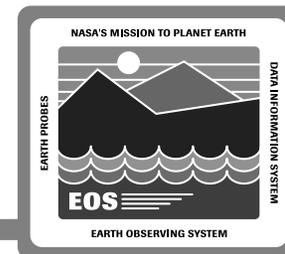
# Rel B Development Context



# Release B Baseline Context



# Mapping of Requirements



**L3 F&PRS - (11/94)**  
**[1254] (not incl. IRDs<sup>\*\*\*</sup>)**

**By Segment**

**FOS**  
**[393]**

**CSMS**  
**[211]**

**SDPS**  
**[523]**

**EOSD**  
**[127]**

Total = 1254 (source: F&PRS)

**By Release (cumulative)**

**IR1**  
**[136]**

**A**  
**[900]**

**B**  
**[1233]**

**C&D**  
**[1242] \***

\*\*

**By Criticality**

**critical**  
**[452]**

**essential**  
**[682]**

**fulfillment**  
**[108]**

Total = 1242\*

**Notes:**

[XXXX]=number of requirements

\* = total not including quick-look req. from F&PRS; sort taken from L3 RBR database

\*\* = now under baseline configuration control

\*\*\* = IRD requirements are allocated to Release and traceable to applicable F&PRS Requirements by Release; not included here to more easily show [XXXX] decomposition against totals in F&PRS only

**L4 Requirements**

**FOS**  
**[1342]**

A, B ✓

**SDPS**  
**[2117]**

IR-1, A, B @

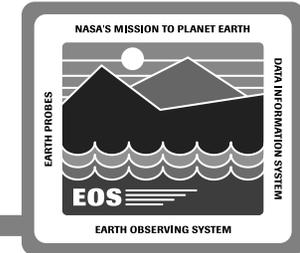
**CSMS**  
**[780]**

IR-1, A ✓

In Process of cleanup with L3 RBRs + CH04 in RTM (IR-1, A, B)

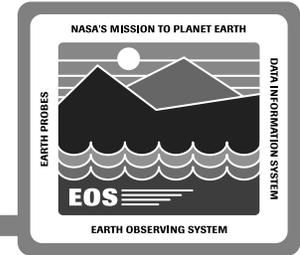
✓ = complete  
 @ = cleanup

# Status - Requirements Traceability



- **Elements of Requirements Management highlighted during Req'm'ts Engineering Workshop prior to System Wrap-up PDR (1/95)**
- **Release A requirements management task is on schedule**
  - 304/DV1 established link and interpretation of L4s to L3 RBRs for IR-1 and A - also preliminary for B (SDPS,FOS)
  - As of 3/22/95 activity continues loading into RTM and traceability cleanup tasks (e.g., interpretation, allocation, editorial, administrative nature)
  - Expected results should have minor impact on L4s for Release A
  - May require better use of clarification text in L3 RBRs, reallocation of requirement type (e.g., EOSDs that are SOW-like), de-allocation to duplication of functions within the L3s, etc.
  - Cleanup activity planned for completion by 4/30/95
- **Release B Level 3 requirements validation**
  - Release B RBRs baselined at beginning of March 1995
  - Output from 304/DV1 L4s (Release B) to L3 RBRs will be validated against Level 3 RBRs in RTM; this effort ~60% complete
  - QA of Release A will help jumpstart Release B
  - Knowledge of Release A specifics and lessons learned from requirement analysis will significantly reduce potential disconnects in Release B requirements and accelerate mapping task for Release B in RTM

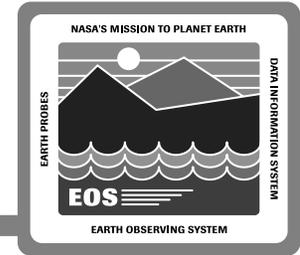
# Release B RTM Schedule



- **Level 3 Release B RBR Update 4/1/95 - 5/15/95**
  - Accelerated results through “piggybacking” on Release A requirements validation activity
- **IRD “updates” in RTM (Initial 5/30/95; update 8/30)**
- **Release A L4 documents contain initial cut at Release B L4s**
- **Level 4 Requirement trace to L3 RBRs “update” (initial 6/30/95; IDR version 8/30/95)**
- **Segment Design and Acceptance, System, Segment Test Input (7/1/95 to 8/30/95)**
- **All activities will now be tracked in ILN to ensure linkage between engineering and development**

# Release A to Release B Capability Highlights

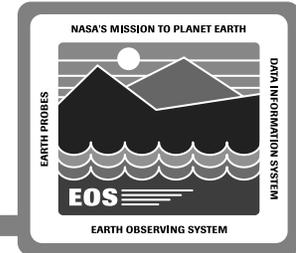
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**Attached tables includes Enhancements to Release A and New Capabilities in B**

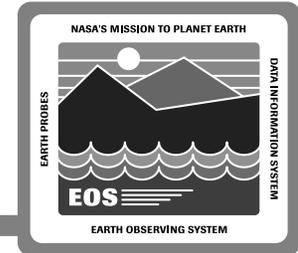
**Attached list is not exhaustive, but highlights significant changes from A to B**

# Mission Related Support



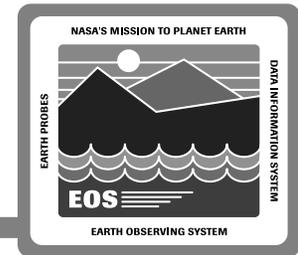
Capability in Release A	Enhancement Implemented for Release B
<ul style="list-style-type: none"> <li>• Complete data handling/processing of TRMM CERES and LIS instrument data</li> <li>• Archive/distribution of VIRS, TMI, PR and GV data</li> </ul> <hr style="border-top: 1px dashed black;"/> <ul style="list-style-type: none"> <li>• Interface and Algorithm I&amp;T for               <ul style="list-style-type: none"> <li>- ASTER SCF/ASTER GDS (L1 data) to EDC DAAC</li> <li>- LPS (L0R data) to EDC DAAC</li> <li>- MODIS SCF to GSFC and EDC DAACs</li> <li>- MOPITT, MISR and CERES SCFs to LaRC DAAC</li> <li>- EDOS L0 to GSFC and LaRC DAACs</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Continued full TRMM support.</li> </ul> <hr style="border-top: 1px dashed black;"/> <ul style="list-style-type: none"> <li>• Support for AM-1 ASTER, MOPITT, MISR, MODIS and CERES instruments</li> <li>• Support to other missions (Landsat-7, COLOR, ADEOS II, SAGE III, ALT RADAR and ACRIMSAT)</li> </ul>
<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Generation, handling and tracking of DARs for ASTER and interoperability with the ASTER GDS</li> </ul>
<ul style="list-style-type: none"> <li>• N/A</li> <li>• No special reprocessing capability</li> </ul>	<ul style="list-style-type: none"> <li>• Support coordination of data production among the DAACs, e.g., where data processing at one DAAC requires data from another DAAC</li> <li>• Data reprocessing over extended data set time periods</li> </ul>

# CSMS Capabilities



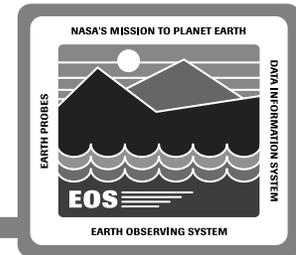
Capability in Release A	Enhancement Implemented for Release B
<ul style="list-style-type: none"> <li>• <b>Data Accountability</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Accounting Management (MSS)</b> <ul style="list-style-type: none"> <li>- Accounts payable /receivable management, price estimation, invoicing &amp; billing</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• <b>Basic inter-DAAC planning and scheduling (DAAC centric views; no requirement for inter-DAAC coordination)</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Automated Support for multi-DAAC resource management, i.e., scheduling and conflict resolution (MSS)</b></li> </ul>
<ul style="list-style-type: none"> <li>• <b>Most of the indicated SMC capabilities will be performed manually.</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Automated Management Logistics (MSS)</b> <ul style="list-style-type: none"> <li>- Policies and Procedures</li> <li>- Inventory</li> <li>- Training</li> <li>- Maintenance</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• <b>Limited fault resolution support, primarily for network devices</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Automated support for system-wide fault resolution (MSS)</b></li> </ul>

# CSMS Capabilities (cont.)



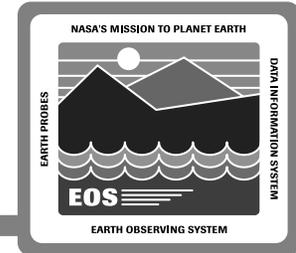
Capability in Release A	Enhancement Implemented for Release B
<ul style="list-style-type: none"> <li>• These object services are not provided in Rel. A.</li> </ul>	<ul style="list-style-type: none"> <li>• OODCE support with additional object services (CSS)               <ul style="list-style-type: none"> <li>- Trader</li> <li>- Transaction Processing</li> <li>- Query</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• OODCE - Essential DCE object services</li> </ul>	<ul style="list-style-type: none"> <li>• OODCE support with enhanced object services (CSS)               <ul style="list-style-type: none"> <li>- Naming</li> <li>- Security</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• Standard Common Facilities Support</li> </ul>	<ul style="list-style-type: none"> <li>• Enhanced Common Facilities Support (CSS)               <ul style="list-style-type: none"> <li>- Electronic Mail (X.400)</li> <li>- Virtual Terminal/User Interface/Dial-up</li> <li>- File Access</li> <li>- BB/Information Search and Retrieval</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• Use of Release A ESN WAN for inter-DAAC communications</li> </ul>	<ul style="list-style-type: none"> <li>• Enhanced ESN WAN to support additional data traffic requirement for Release B (ISS)</li> </ul>

# SDPS Capabilities



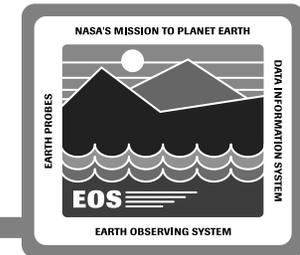
Capability in Release A	Enhancement Implemented for Release B
<ul style="list-style-type: none"> <li>• Use of Version 0 client as primary entry into ECS; will handle most traffic using TCP/IP protocols and socket connections</li> <li>• Support EOSView on Desktop; optional use of WWW interface on Desktop</li> </ul>	<ul style="list-style-type: none"> <li>• Replacement of V0 client with Version 1 ECS client (CLS)</li> <li>• Requires two-way interoperability with V0 (DMS)</li> <li>• Significantly enhanced data dictionary to support the V1 client rather than the V0 client (DMS)</li> </ul>
<ul style="list-style-type: none"> <li>• Basic capabilities using V0 client</li> </ul>	<ul style="list-style-type: none"> <li>• Capability of V1 client to support               <ul style="list-style-type: none"> <li>- User Registration and Preferences (CLS, MSS)</li> <li>- Enhanced Advertising ** (IOS)</li> <li>- Metadata Searching ** (DSS, DMS)</li> <li>- Hypertext Authoring * (CLS)</li> <li>- Coincident Searching ** (DSS)</li> <li>- Context Sensitive Help * (CLS)</li> <li>- Data Ordering &amp; Delivery ** (DSS)</li> <li>- Data Type Services Access ** (Multiple)</li> <li>- Cross-site Access ** (CLS, DMS)</li> <li>- Sessions * (DMS)</li> <li>- Subscriptions * (IOS)</li> </ul> </li> </ul> <p>* - new V1 capability    ** - enhanced Release B V1 capability</p>

# SDPS Capabilities (cont.)



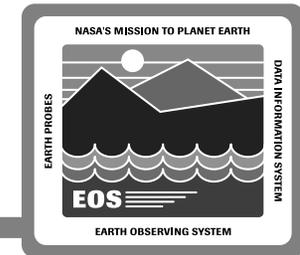
Capability in Release A	Enhancement Implemented for Release B
<ul style="list-style-type: none"> <li>Initiation of data migration from V0 and data translation to other formats</li> </ul>	<ul style="list-style-type: none"> <li>Completion (by 4Q99) of data migration from V0 (INS, DSS)</li> <li>Increased handling of data in HDF and other standard formats (DSS)</li> </ul>
<ul style="list-style-type: none"> <li>Standard processing</li> </ul>	<ul style="list-style-type: none"> <li>Processing on demand (DPS)</li> </ul>
<ul style="list-style-type: none"> <li>Simple data searches supported.</li> <li>Support to querying through ODL based search language</li> </ul>	<ul style="list-style-type: none"> <li>Enhanced multiple data set coincident search capability within and among DAACs. (DMS, DSS)</li> <li>Required support to additional, more complex, more powerful query languages and more diverse types of queries. (DMS, DSS)</li> <li>Support for much larger and more complex database schema (DMS, DSS)</li> </ul>

# SDPS Capabilities (cont.)



Capability in Release A	Enhancement Implemented for Release B
<ul style="list-style-type: none"> <li>• Moderate data rates, data processing and data storage</li> </ul>	<ul style="list-style-type: none"> <li>• Greatly increased (by at least an order of magnitude) data rates, data processing and required data product storage, especially for AM-1 mission support (all subsystems) (Multiple)</li> </ul>
<ul style="list-style-type: none"> <li>• Basic data distribution in response to query.</li> </ul>	<ul style="list-style-type: none"> <li>• Standard order support to data subsetting and subsampling (DSS)</li> <li>• Support to ad hoc user methods (still needs to be scheduled) and requires "fast track" AI&amp;T (DSS)</li> </ul>
<ul style="list-style-type: none"> <li>• Basic data storage and retrieval capabilities</li> </ul>	<ul style="list-style-type: none"> <li>• Documented APIs available for scientists to gain access to data storage and retrieval services (DSS)</li> <li>• APIs to allow attachment of external archive to data server architecture (DSS)</li> </ul>
<ul style="list-style-type: none"> <li>• Basic metadata generation and search</li> </ul>	<ul style="list-style-type: none"> <li>• Enhanced metadata capabilities and geographic metadata search, including World Reference System parameters (DSS)</li> </ul>

# SDPS Capabilities (cont.)



Capability in Release A	Enhancement Implemented for Release B
<ul style="list-style-type: none"><li>• <b>Basic local information and resources management (i.e., simple query, data dictionary, advertising).</b></li><li>• <b>Current Baseline has V0 Client plus V0/ECS Gateway access to single data server per DAAC</b></li></ul>	<ul style="list-style-type: none"><li>• <b>Local Information Manager (LIM) capabilities (DMS)</b></li><li>• <b>LIM allows user access and search of multiple data sources within a DAAC. (DMS)</b></li><li>• <b>Implementation of Distributed Information Manager (DIM) capabilities, e.g., allow automated cross-DAAC search (DMS)</b></li></ul>