

Nominal Operations

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Push Scenarios Phase III

Nominal Operations

- **This scenario will concentrate on the steady-state DAAC operations. It has a number of threads to match the various operational conditions at the DAACs. The scenario elements we shall concentrate on are:**
 - **L0 Data Arrival Planning**
 - **EDOS L0 Ingest**
 - **Standard Production**
 - **SCF & DAAC Product Quality Assurance**
 - **Resource Planning for Reprocessing**
 - **Parallel Test & Operations**
 - **Application Software Fault Handling**
 - **Cross-Site Schedule Conflict**
 - **Extending ESDTs & Services for a Collection**
 - **Collection Extension**

L0 Data Arrival Planning

Context Setting



Description

- The L0 Data Arrival Planning Thread describes the process of creating a Data Availability Schedule (DAS) for EDOS based on the FOS Detailed Activity Schedule & historic EDOS arrival times.

Assumptions

- Historic EDOS arrival times & heuristics available to create plan

Release B Features

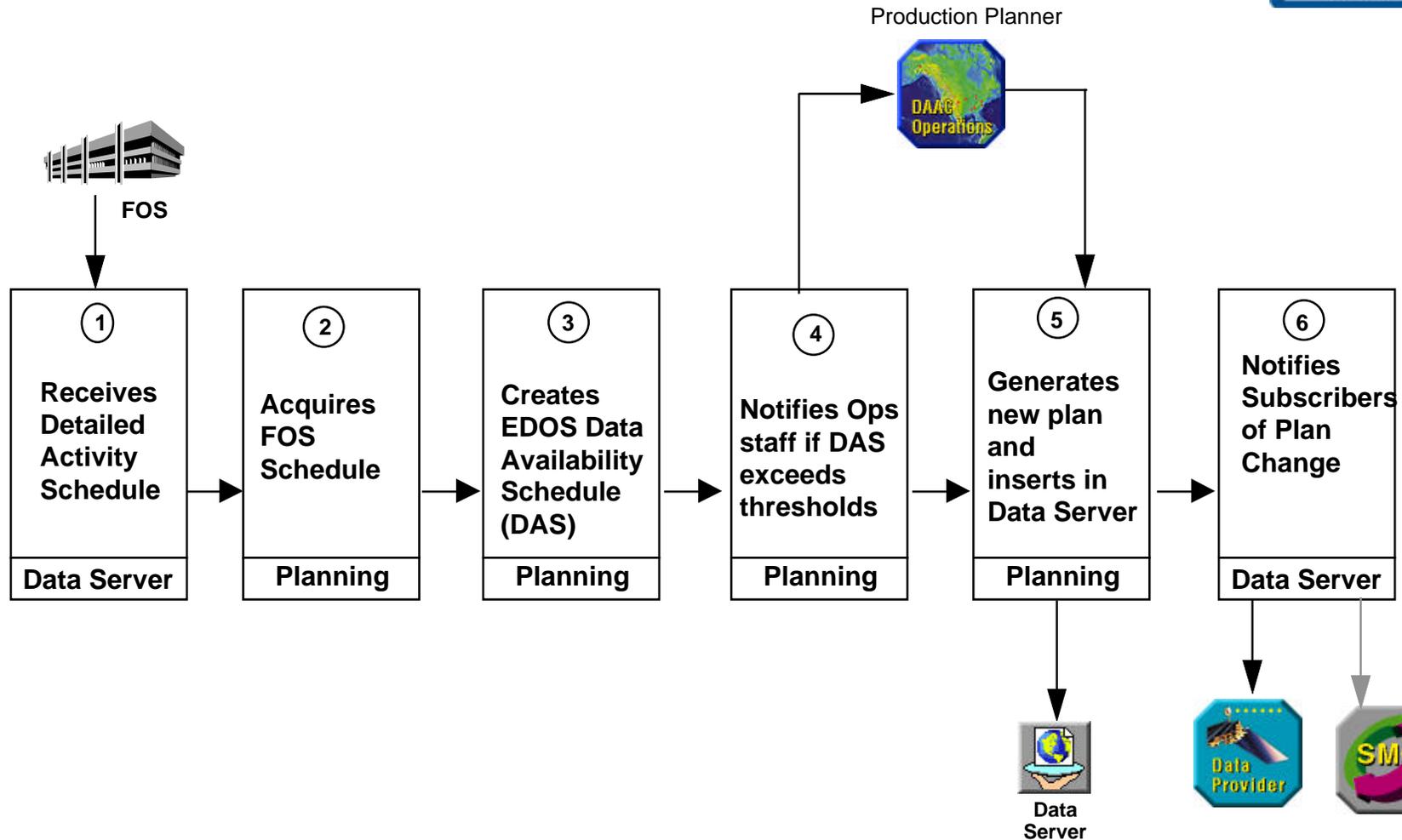
- Generation of Data Availability Schedules

Drill Downs

- Planning Workbench

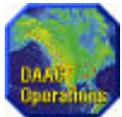


L0 Data Arrival Planning Functional Flow



L0 Data Arrival Planning

Points of View



Production Planner



Production Planner decides if a replan should be performed.

- ① FOS Detailed Activity Schedule update arrives at Data Server.
- ② Planning Receives Notification of FOS Detailed Activity Schedule from Data Server and requests a copy.
- ③ Planning creates Data Availability Schedule (DAS) for EDOS based upon the FOS Detailed Activity Schedule and historic EDOS arrival times and heuristics.
- ④ Planning compares the new predicted arrival times of L0 data relevant to the local DAAC to ones in current Active Plan.
- ⑤ New ECS plan for local DAAC is generated, activated, and stored in Data Server.

- ⑥ Data Providers who subscribed to plan updates are notified of change, and can get copy of the new plan.

SMC Informed of new plan by Data Server subscription.

EDOS L0 Ingest

Context Setting



Description

- The EDOS L0 Ingest scenario describes the process of receiving L0 data into ingest, the storage of the data on the Data Server and subscription notification to the Planning Subsystem.

Assumptions

- EDOS L0 data is transferred by EDOS prior to detection of request to ingest L0 data

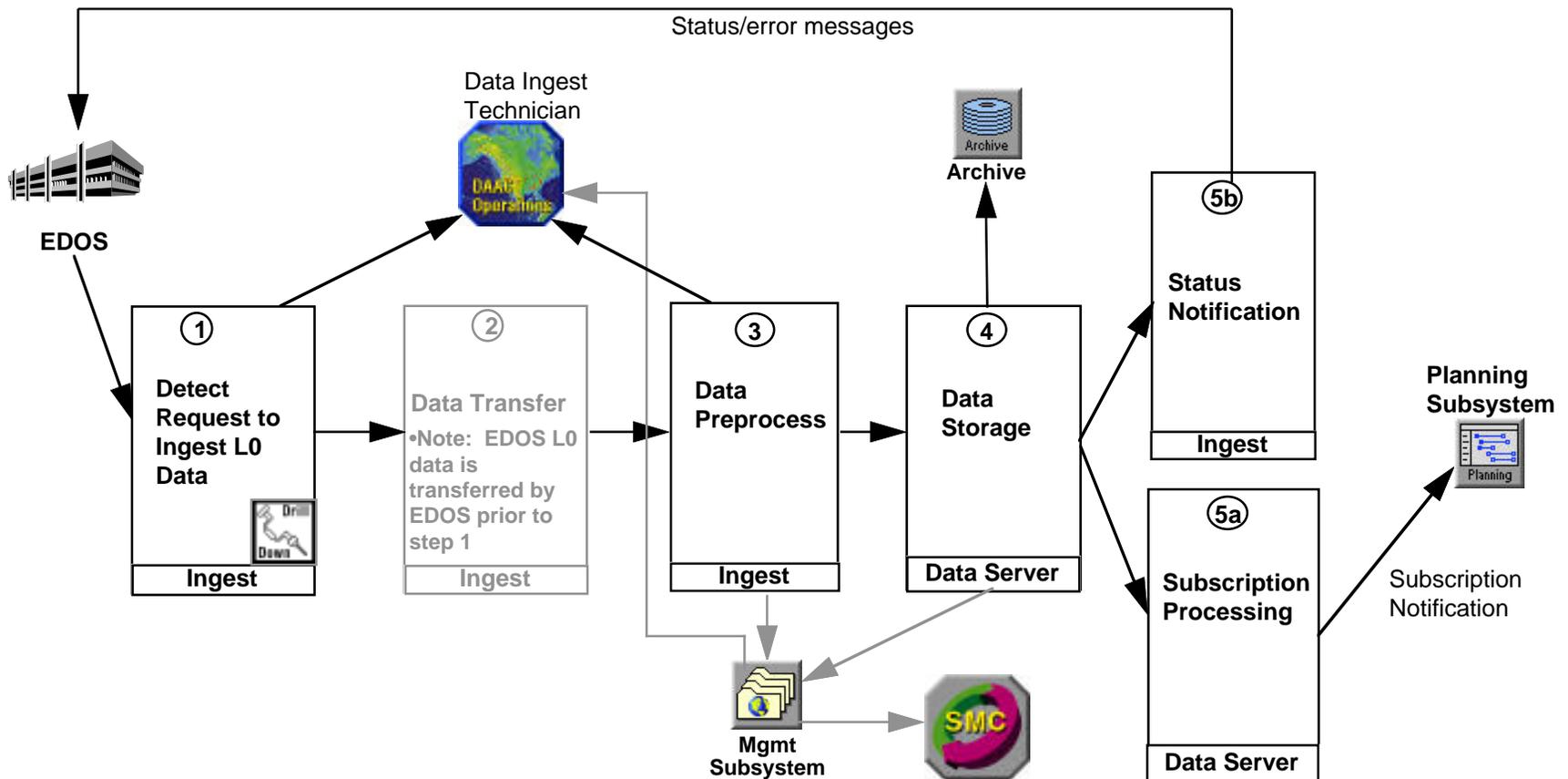
Release B Features

- Release B Interface and High Volume L0 Archive

Drill Downs

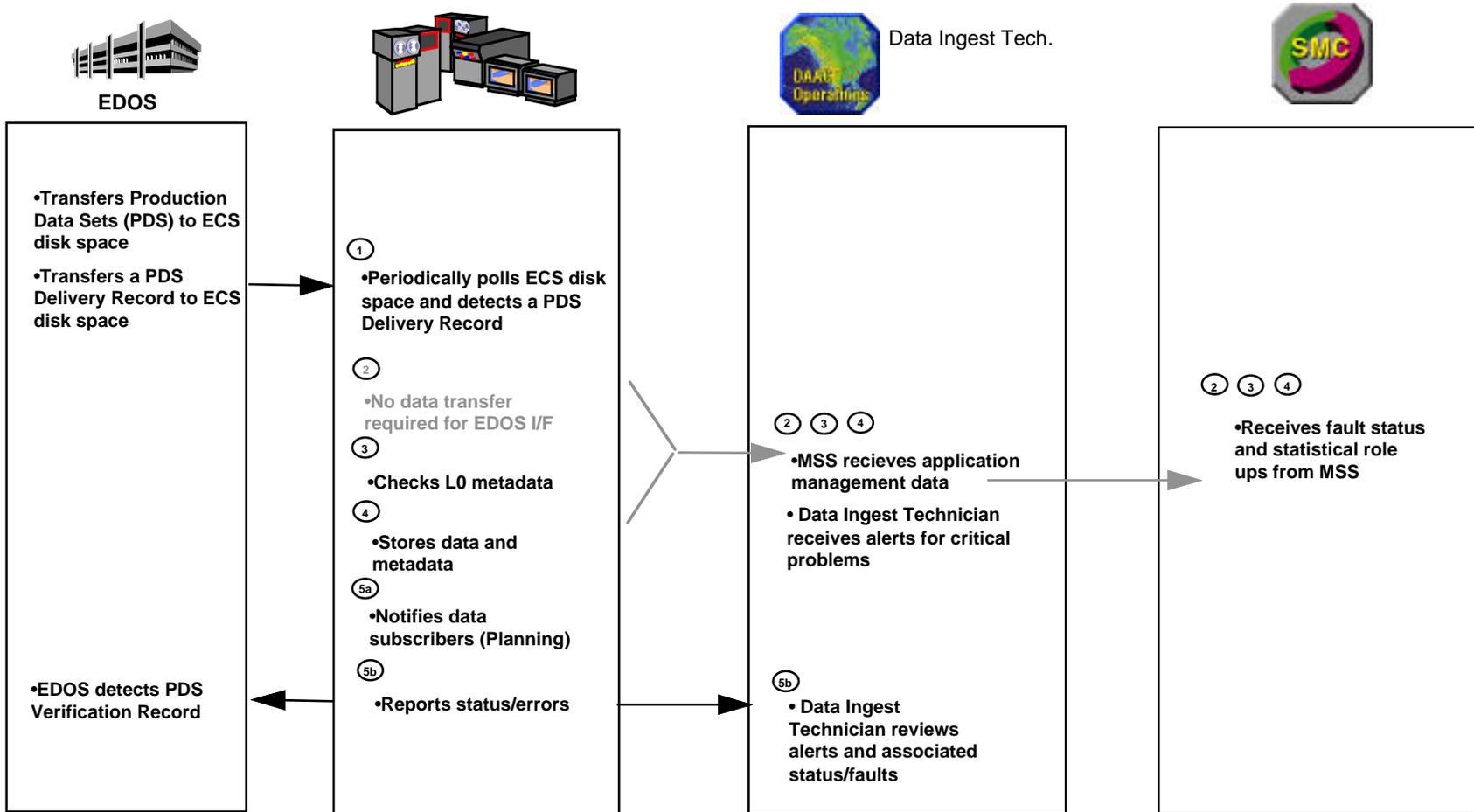
- External Interfaces

EDOS L0 Ingest Functional Flow



EDOS L0 Ingest

Points of View



Standard Production

Context Setting



Description

- The Standard Production scenario describes the processes of receiving L0 data from ingest for the purpose of releasing DPRs awaiting the arrival of the L0 data.

Assumptions

- Routine processing flow

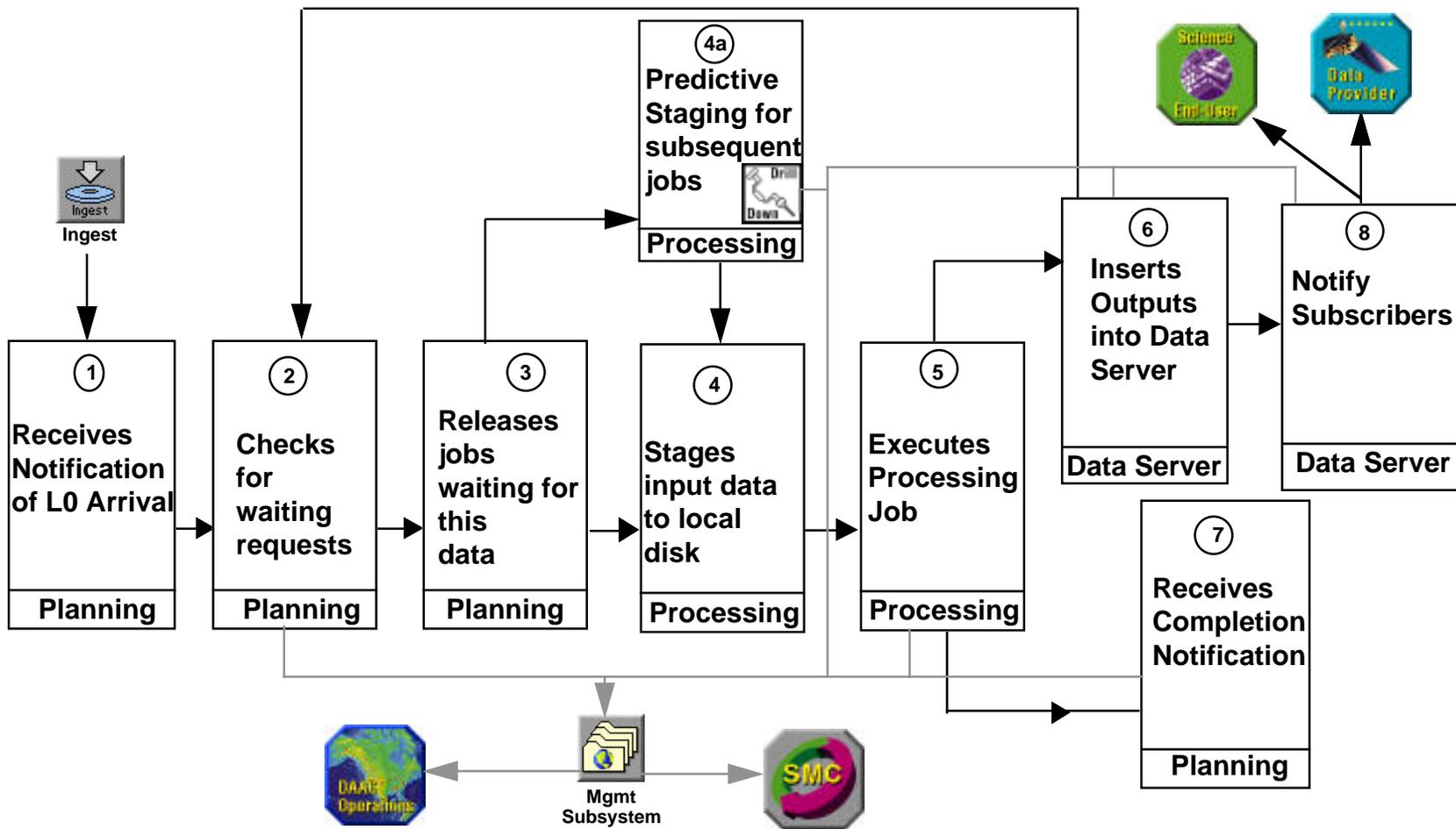
Release B Features

- Predictive Staging

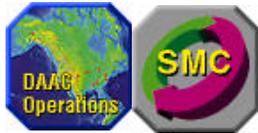
Drill Downs

- Predictive Staging

Standard Production Functional Flow



Standard Production Points of View



MSS reporting to DAAC Ops continuously, and providing fault details and roll up stats to SMC

- ① Planning receives L0 Data notification along with Universal Reference (UR) from Ingest due to prior subscription.
- ② Planning checks to see if any Data Production Requests (DPR) are awaiting the arrival of this data.
- ③ Planning releases any jobs Data Processing Requests (DPR) in Data Processing which require this data and send the UR to Processing.
- ④ For each DPR which has been released, Processing predictively stages all necessary data.
- ⑤ Processing executes the production to completion.
- ⑥ Output data is inserted into the Data Server upon successful completion
- ⑦ Processing sends a completion status to Planning.
- ⑧ Data Server sends Notifications

End users and other Data Providers are notified by Data Server

SCF & DAAC Product Quality Assurance

Context Setting



Description

- The SCF & DAAC Product Quality Assurance scenario describes the process of performing In-Line & Off-Line Science QA on the data products produced by a PGE. Following product creation, a QA PGE is executed on the product.

Assumptions

- DAAC QA process is defined as in-line & off-line. The SCF QA process is defined as off-line only for this scenario.

Release B Features

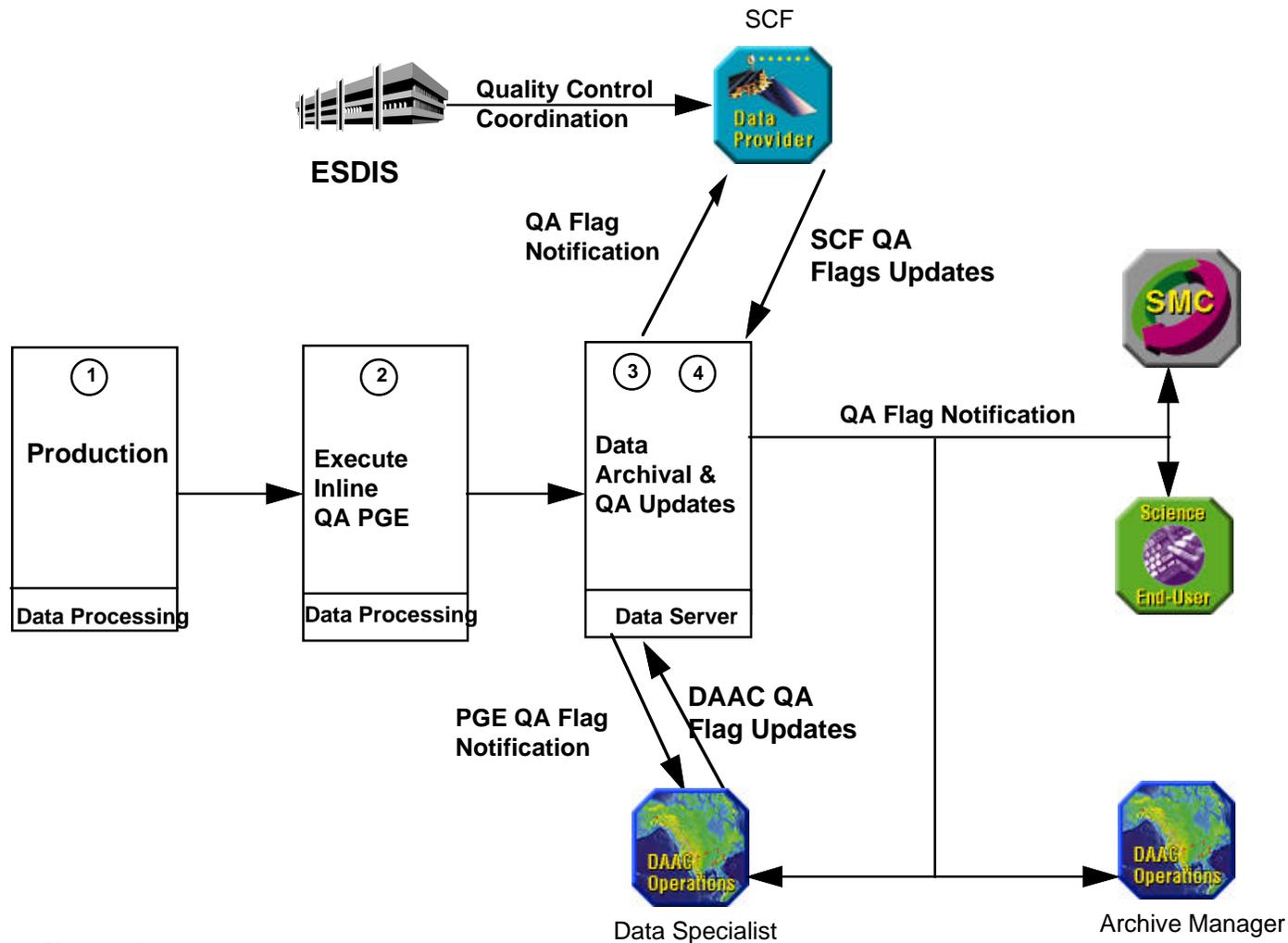
- DAAC QA Enabling

Drill Downs

- None

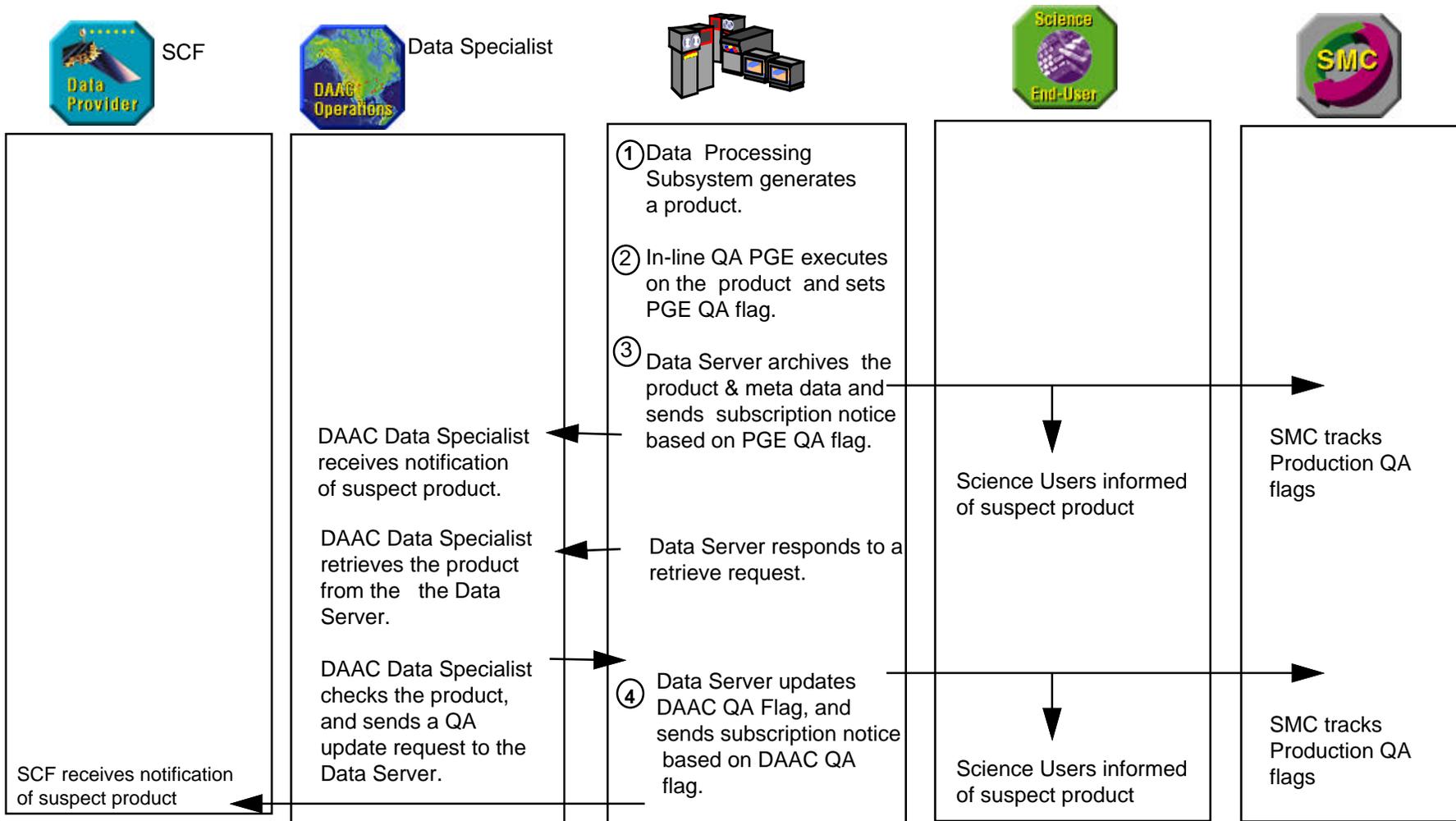
SCF & DAAC Product Quality Assurance

Functional Flow



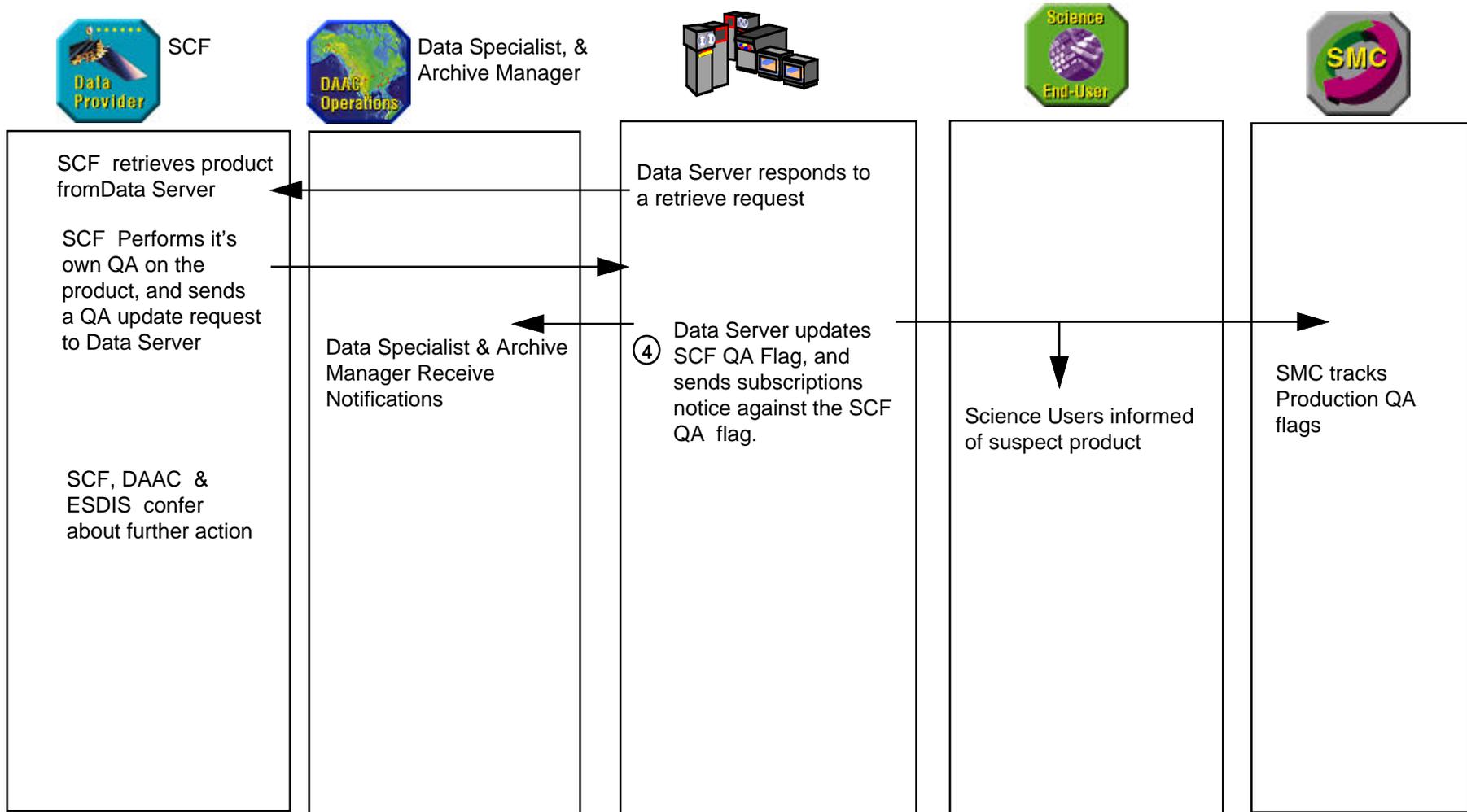
SCF & DAAC Product Quality Assurance

Points of View I



SCF & DAAC Product Quality Assurance

Points of View II



Resource Planning for Reprocessing

Context Setting



Description

- A large scale reprocessing request requires production scheduling and resource management to review both the resource schedule and the production plan

Assumptions

- The reprocessing request has been through the official approval process.

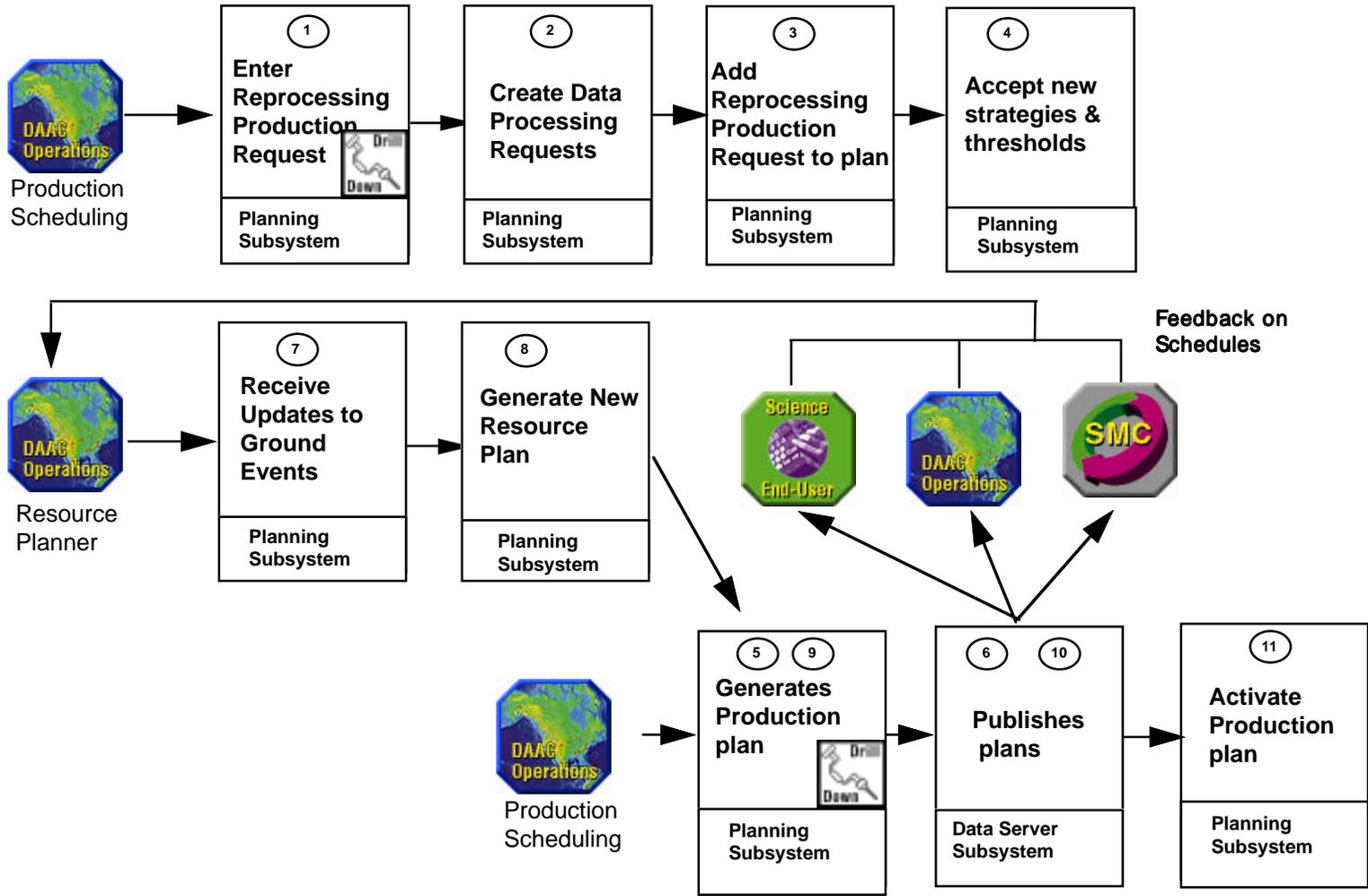
Release B Features

- Production Strategies
- On-demand usage thresholds

Drill Downs

- Production Planning Workbench
- Reprocessing Case Study

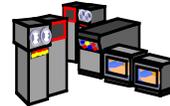
Resource Planning for Reprocessing Functional Flow



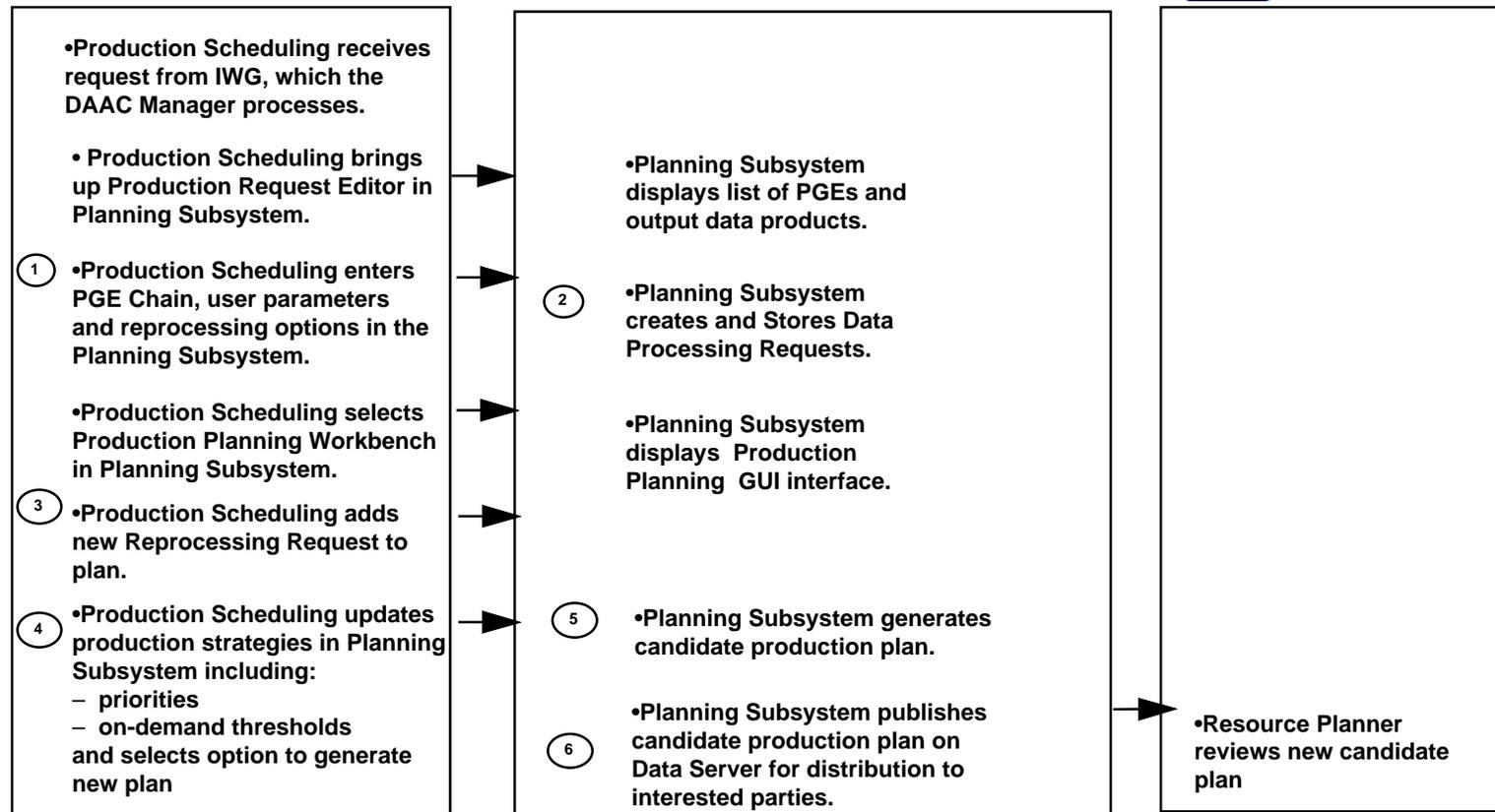
Resource Planning for Reprocessing Points of View I



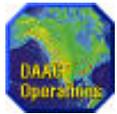
Production Scheduler



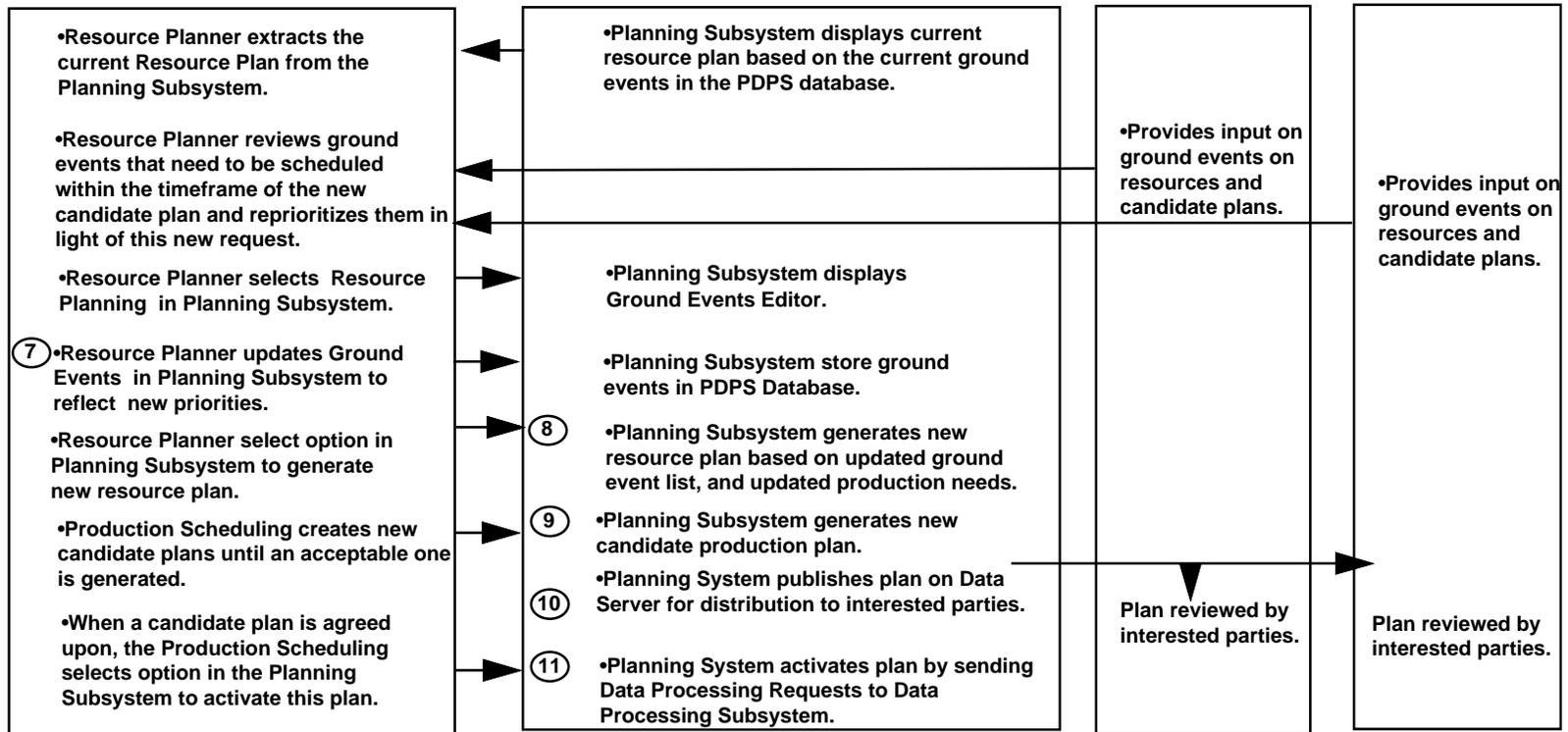
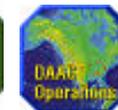
Resource Planner



Resource Planning for Reprocessing Points of View II



Resource Planner, &
Production Scheduler



Parallel Test & Operations

Context Setting



Description

- LaRC M&O Staff wish to test a modification to the Data Server. Operational functions must stay on-line.

Assumptions

- The test data necessary to perform the test is available as files.
- One of the MSS management workstations will be dedicated.
- The backup APC server and backup DBMS server are not running production software.
- Plan identifies an acceptable test window based on periods of low operational support.
- Data Server modification has been pretested within maintenance environment.

Release B Features

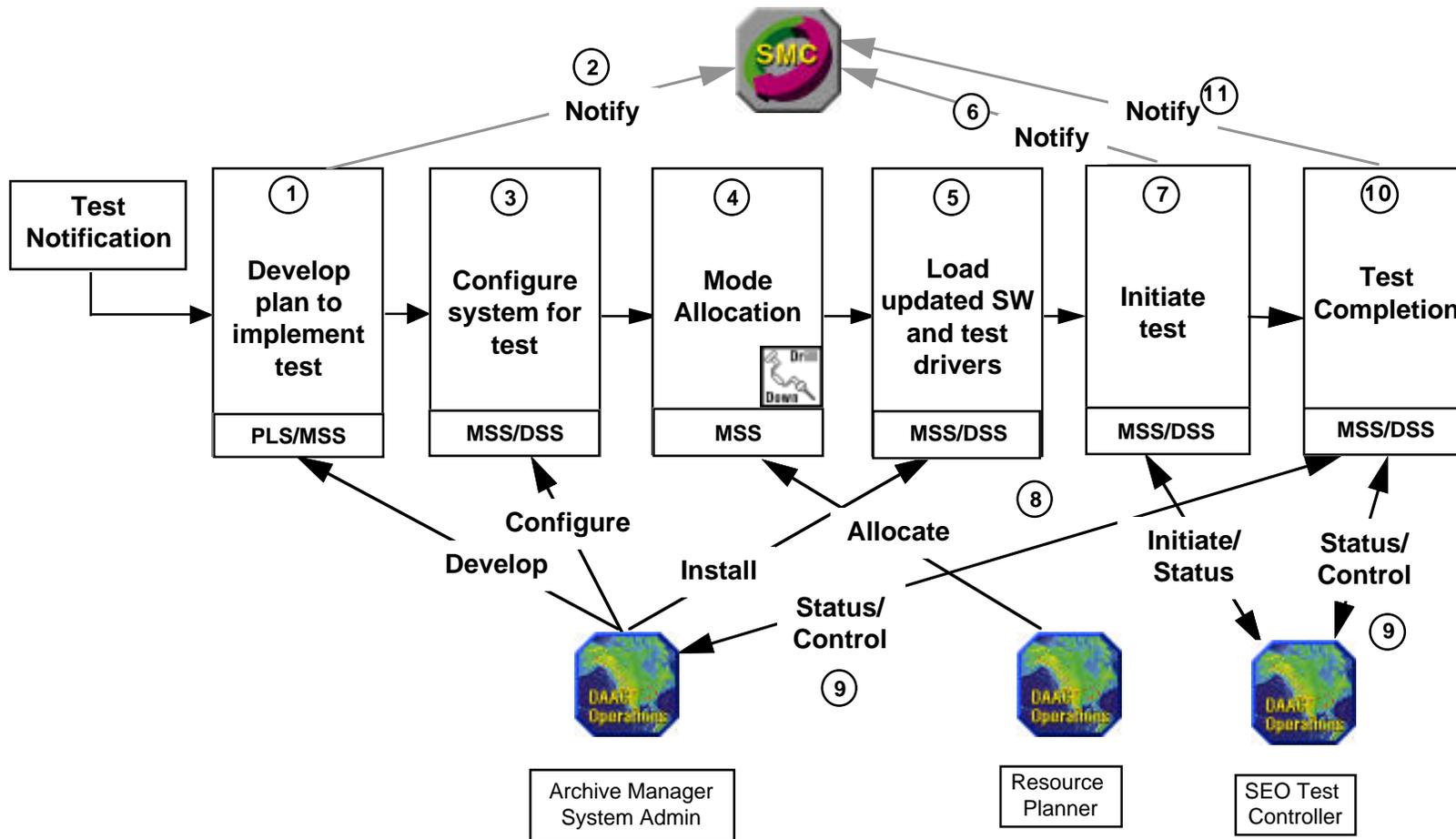
- Mode Management

Drill Downs

- Mode Management

Parallel Test & Operations

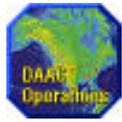
Functional Flow



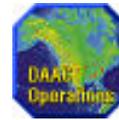


Parallel Test & Operations

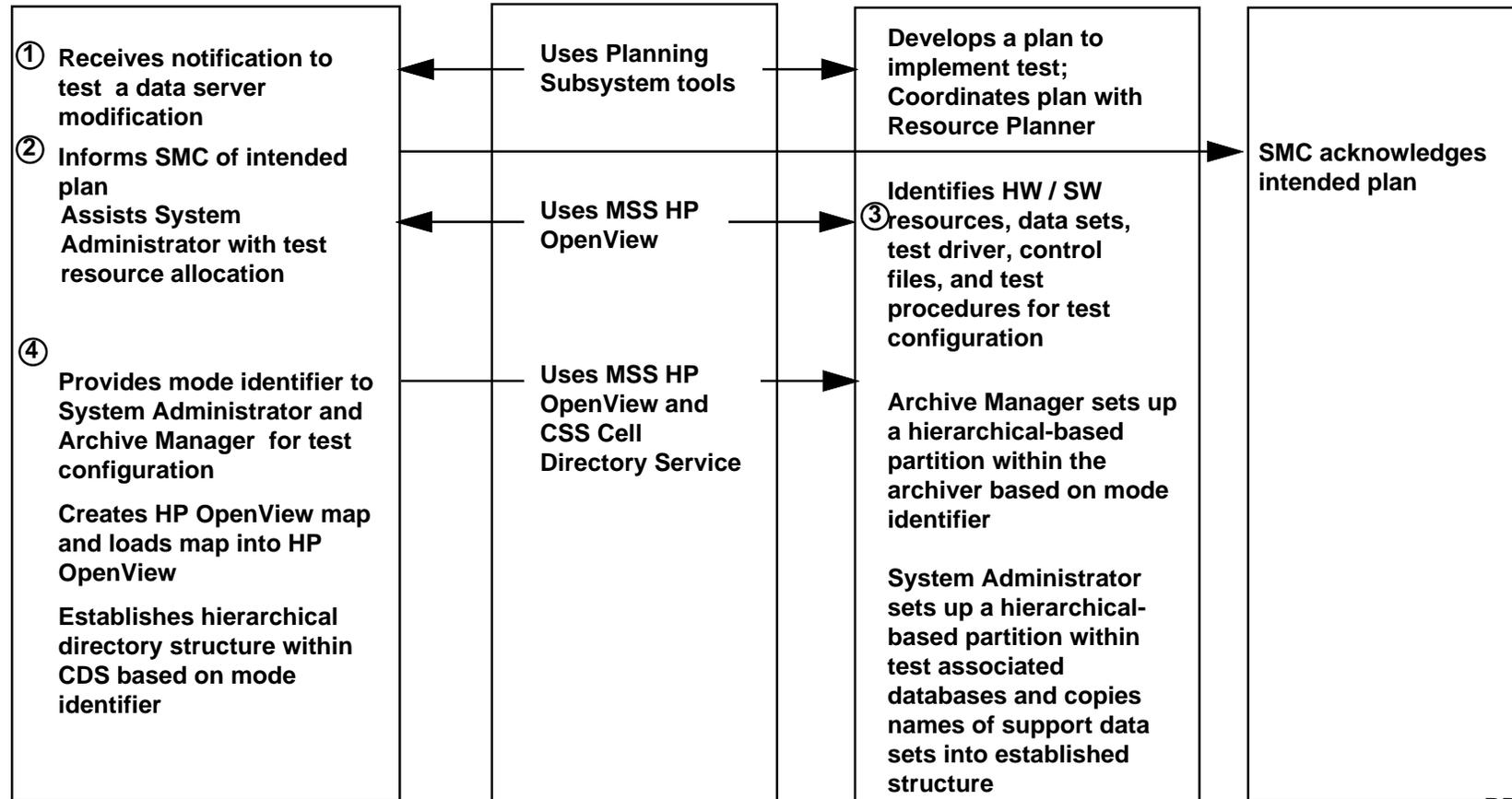
Points of View I



Resource Planner



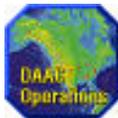
Archive Manager,
System Admin



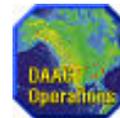
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Parallel Test & Operations

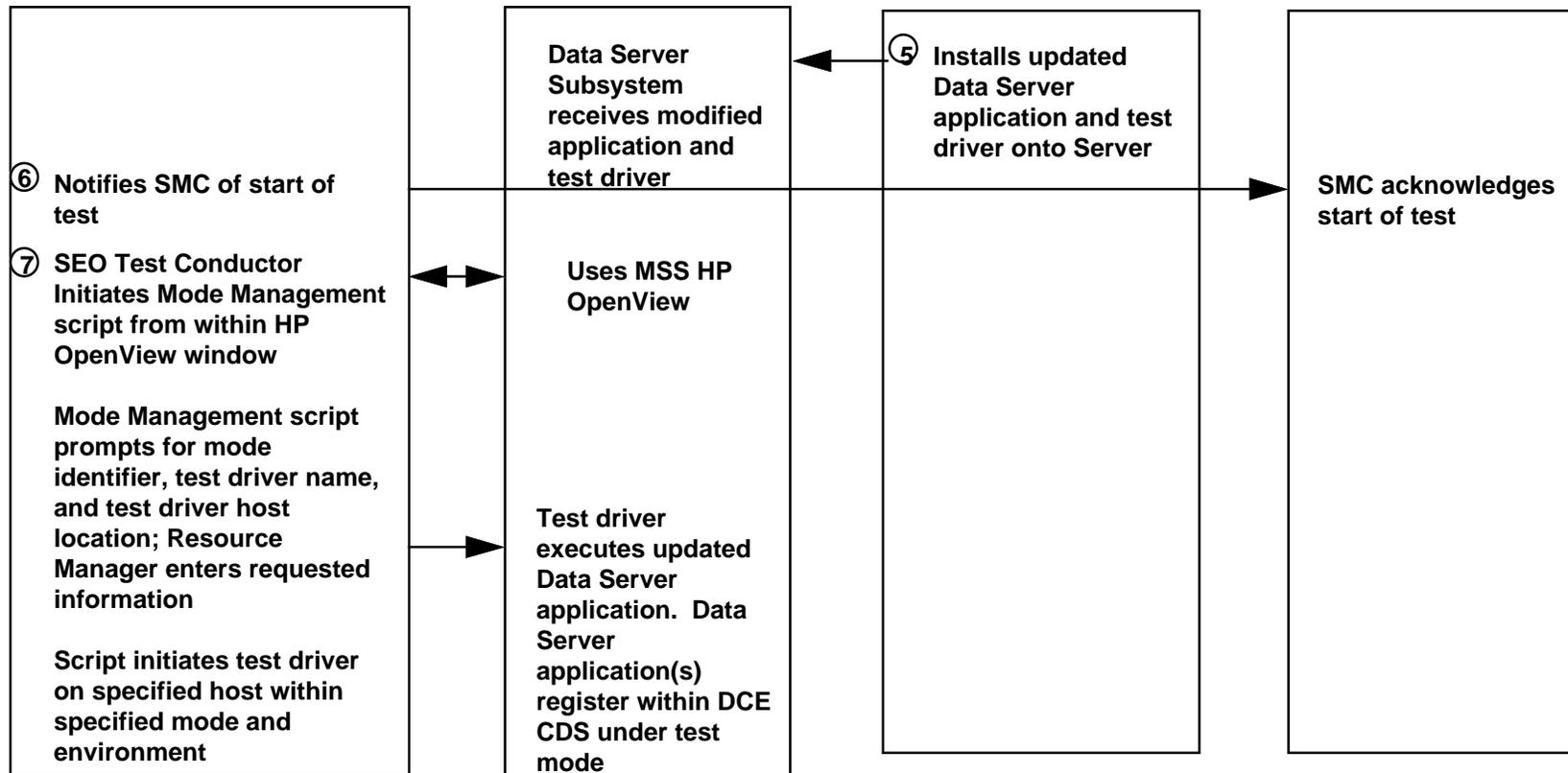
Points of View II



Resource Manager
SEO Test Conductor



Archive Manager,
System Admin



Application Software Fault

Context Setting



Description

- A software application has aborted because of a software error. The fault management software flags the problem, issues a trouble ticket and allows the application to be restarted.

Assumptions

- Software fault was intermittent to allow the application to be restarted

Release B Features

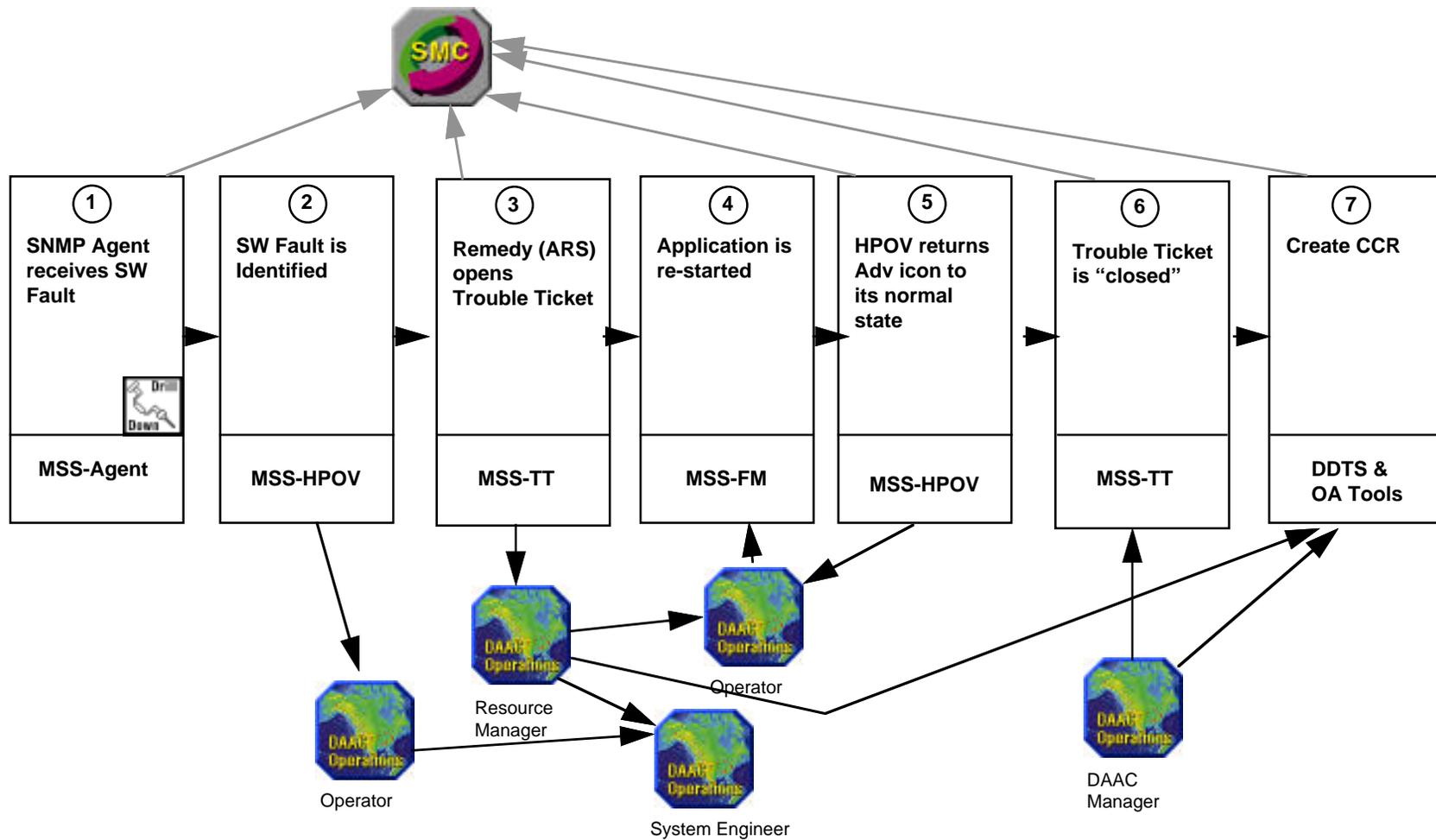
- None Release A functionality

Drill Downs

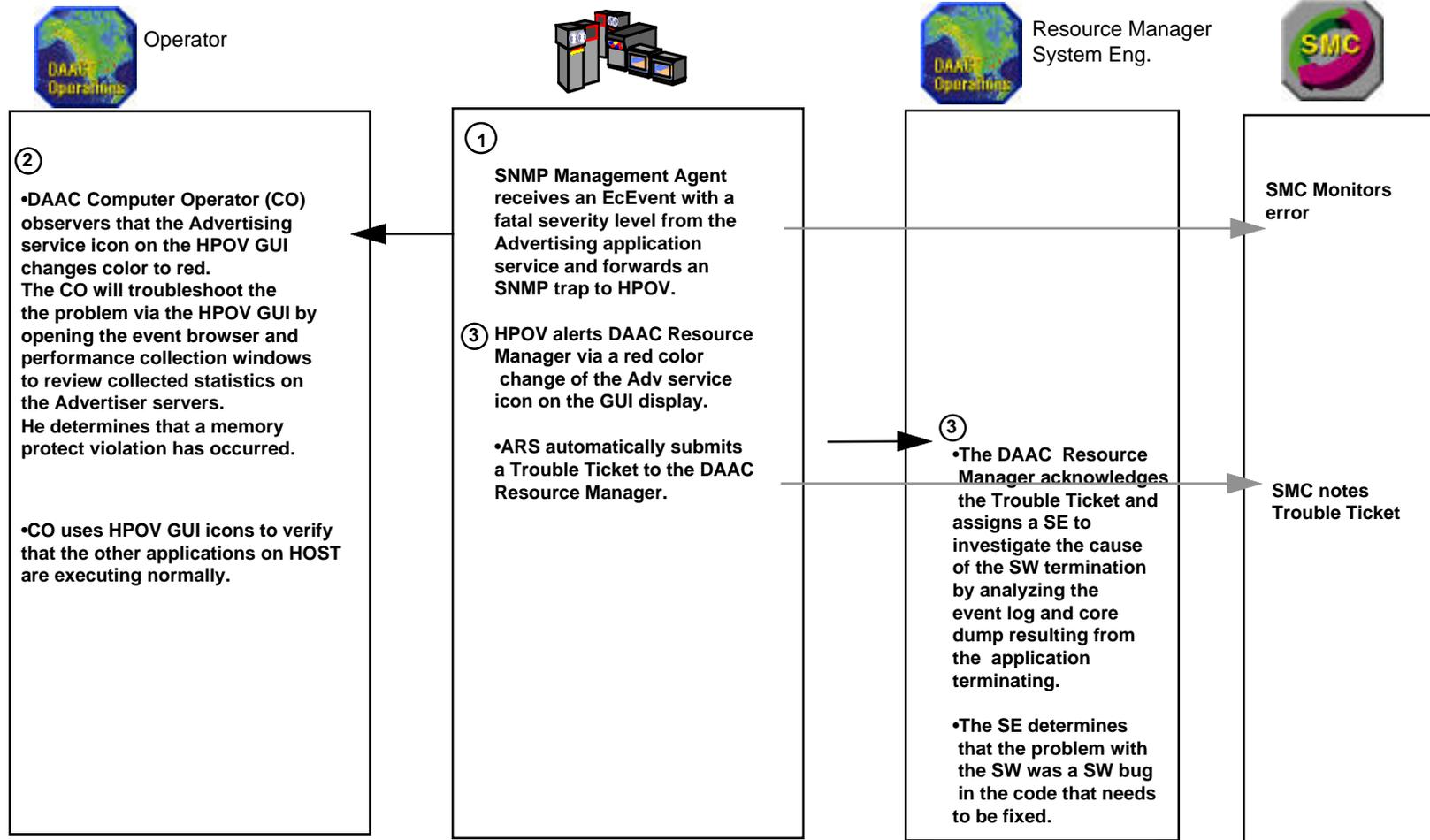
- Error Handling/Fault Management



Application Software Fault Functional Flow

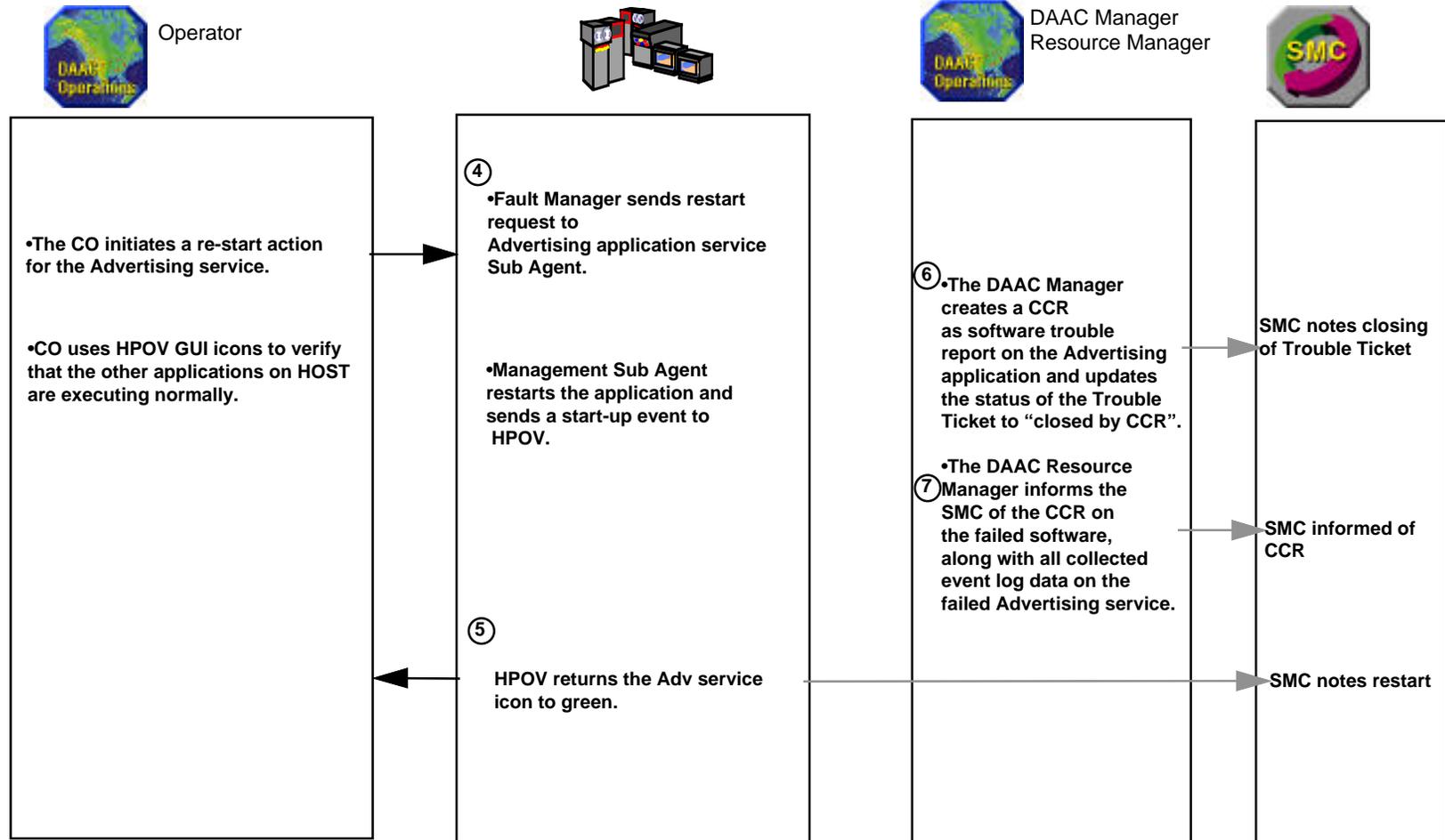


Application Software Fault Points of View I





Application Software Fault Points of View II



Cross-Site Schedule Conflict

Context Setting



Description

- This scenario describes how a cross - site schedule conflict that can not be successfully resolved directly by the involved sites, is adjudicated by the ESDIS Chief Scientist .

Assumptions

- A ECS system wide upgrade has caused a conflict in the delivery of data between sites. The two sites involved could not agree an a mutual solution to the scheduling problem

Release B Features

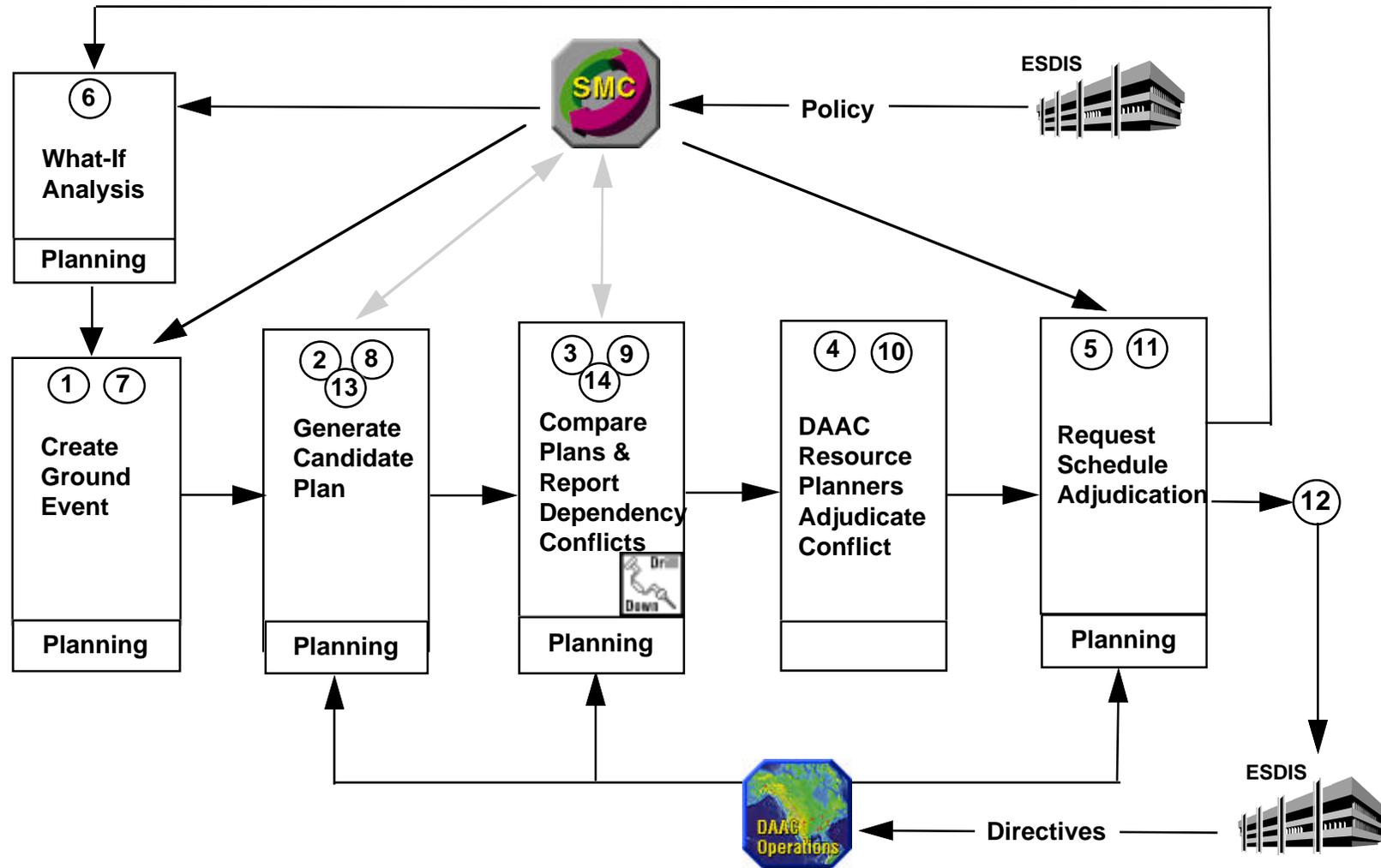
- Cross - DAACs schedule Adjudication

Drill Downs

- Cross - DAAC Planning

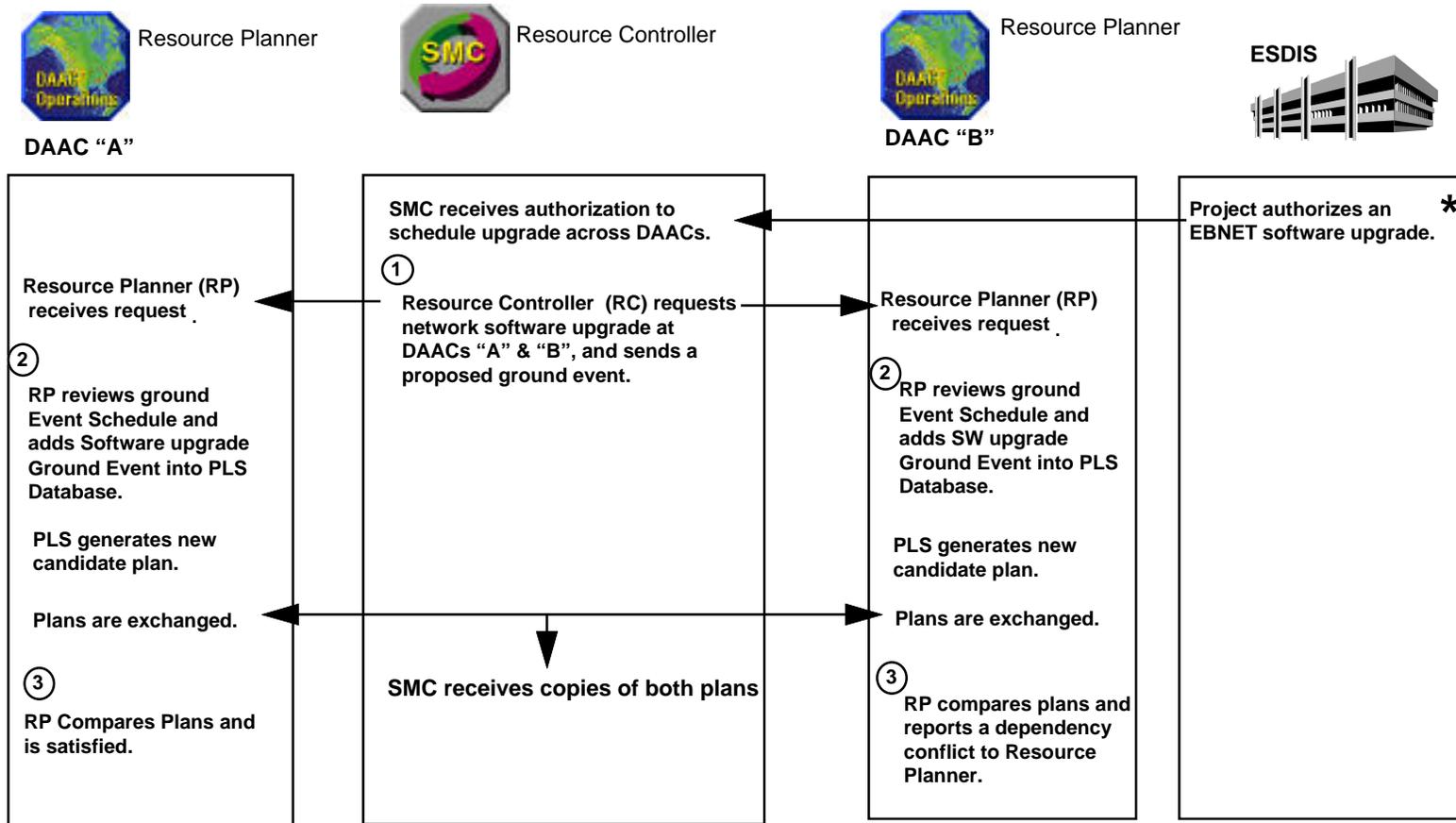


Cross-Site Schedule Conflict Functional View



Cross-Site Schedule Conflict

Points of View I

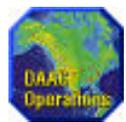


* Involves inter-DAAC data dependency



Cross-Site Schedule Conflict

Points of View II

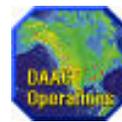


Resource Planner

DAAC "A"



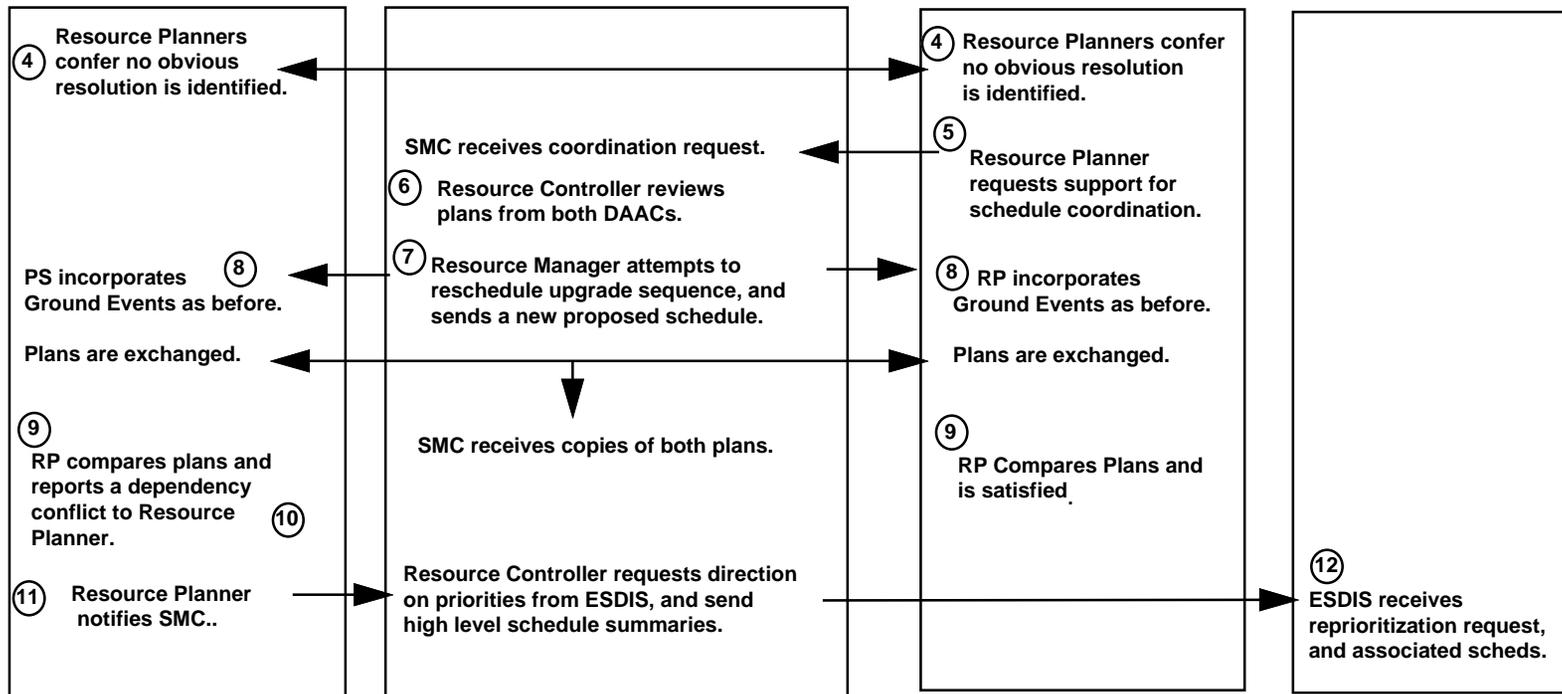
Resource Controller



Resource Planner

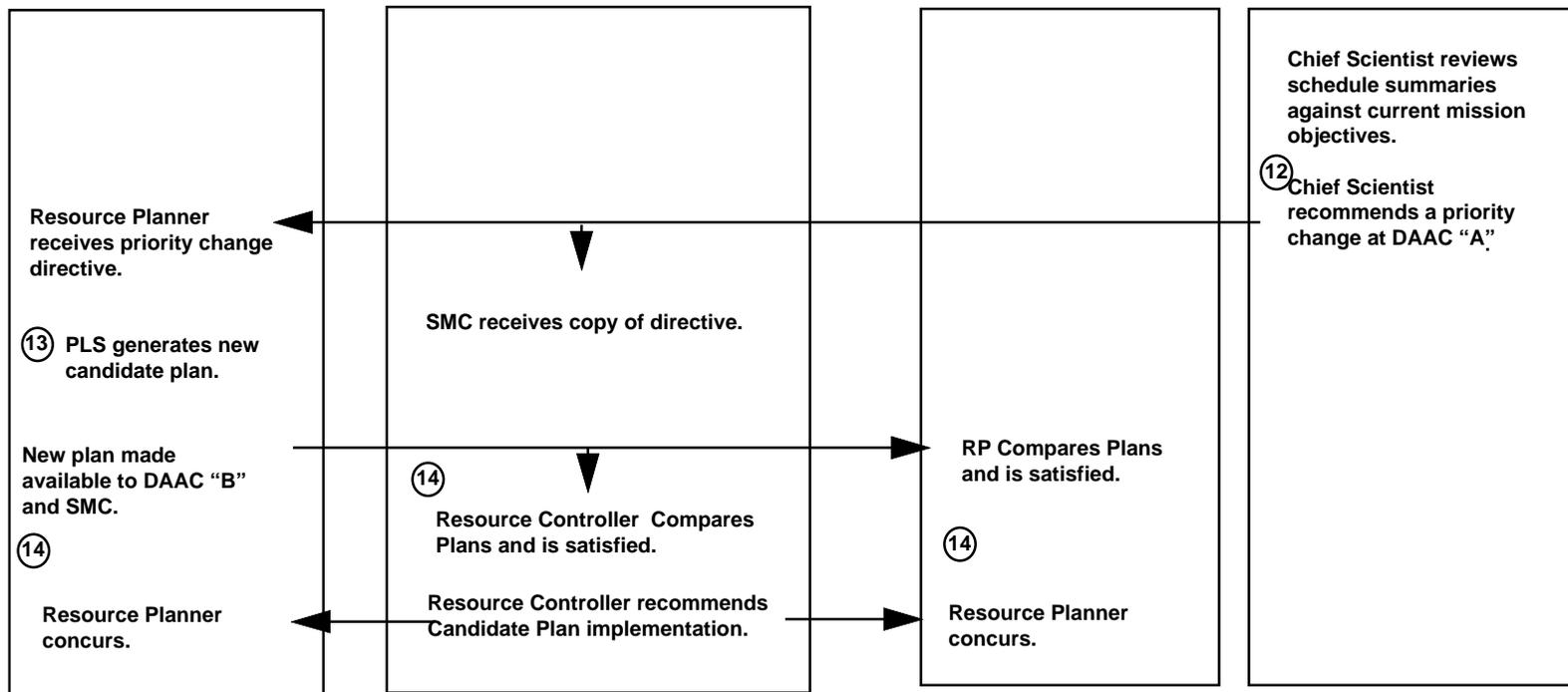
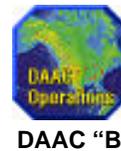
DAAC "B"

ESDIS



Cross-Site Schedule Conflict

Points of View III



Extending ESDTs & Services for a Collection

Context Setting



Description

- Extending ESDT definitions within the Data Server

Assumptions

- Preconditions--completion of data modeling for extended ESDT
- Ops Concept assumptions--Data Specialist is responsible for ESDT testing, with limited testing by science end users

Release B Features

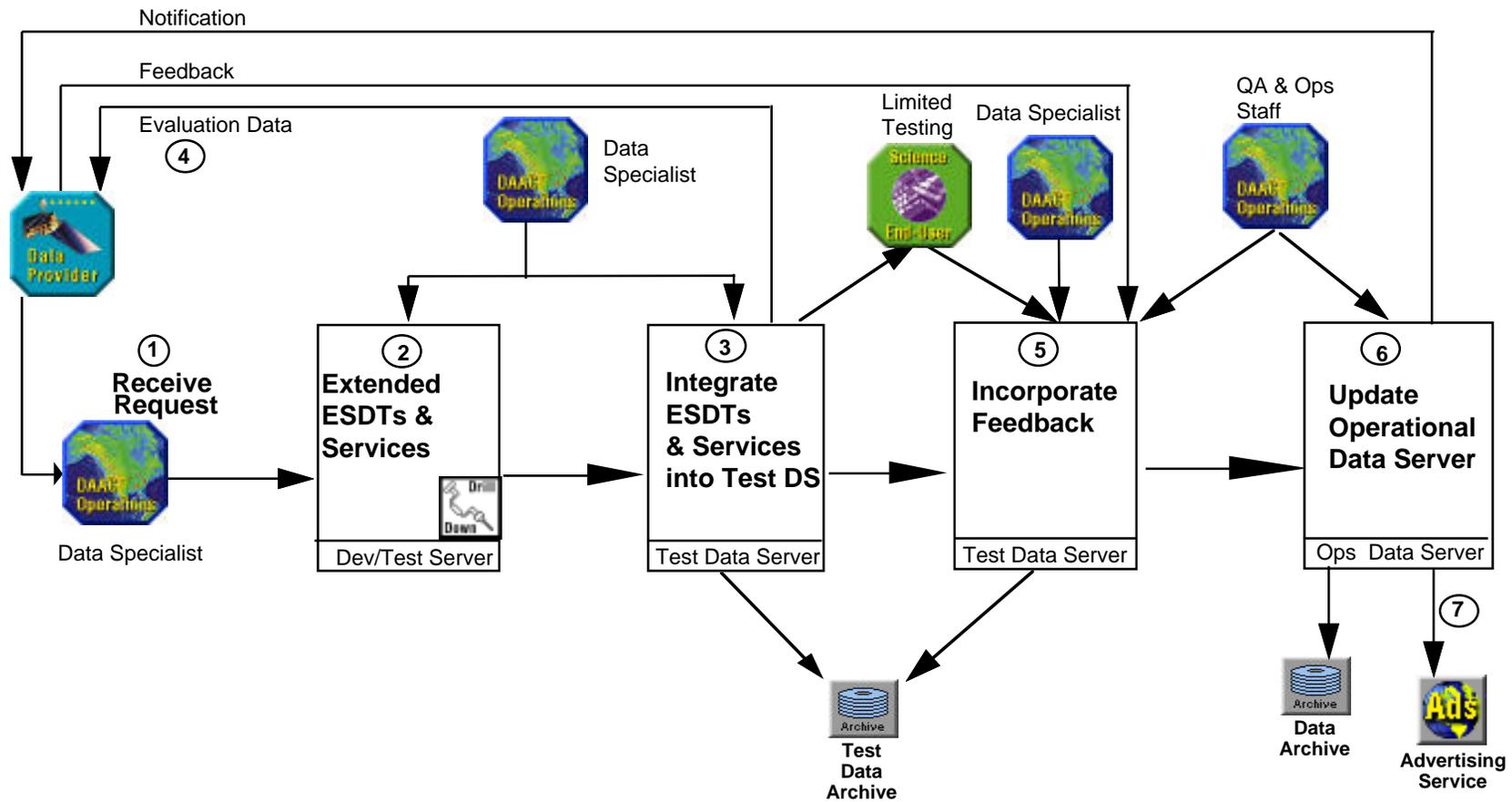
- AM-1 ESDTs

Drill Downs

- Adding New ESDTs and Services

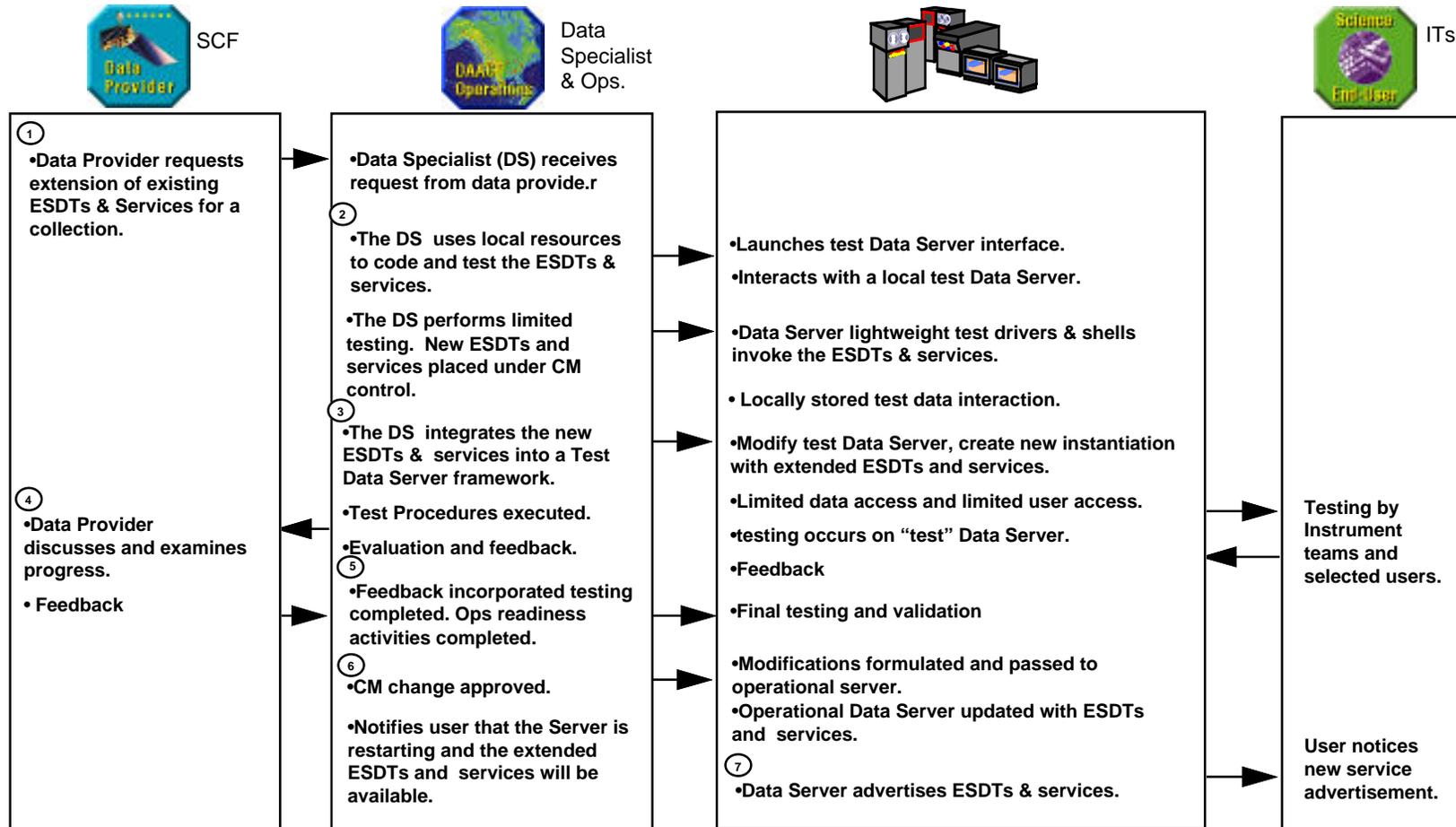
Extending ESDTs & Services for a Collection

Functional Flow



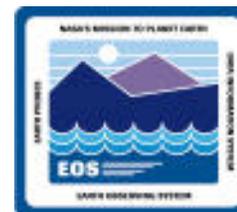
Extending ESDTs & Services for a Collection

Points of View



Collection Extension

Context Setting



Description

- **Make Extended ESDTs Accessible to Science User Community**

Assumptions

- **Preconditions--SSAP Installed In Data Server and Processing**
- **Ops Concept Assumptions--Infrequent Activity by DAAC Operations**

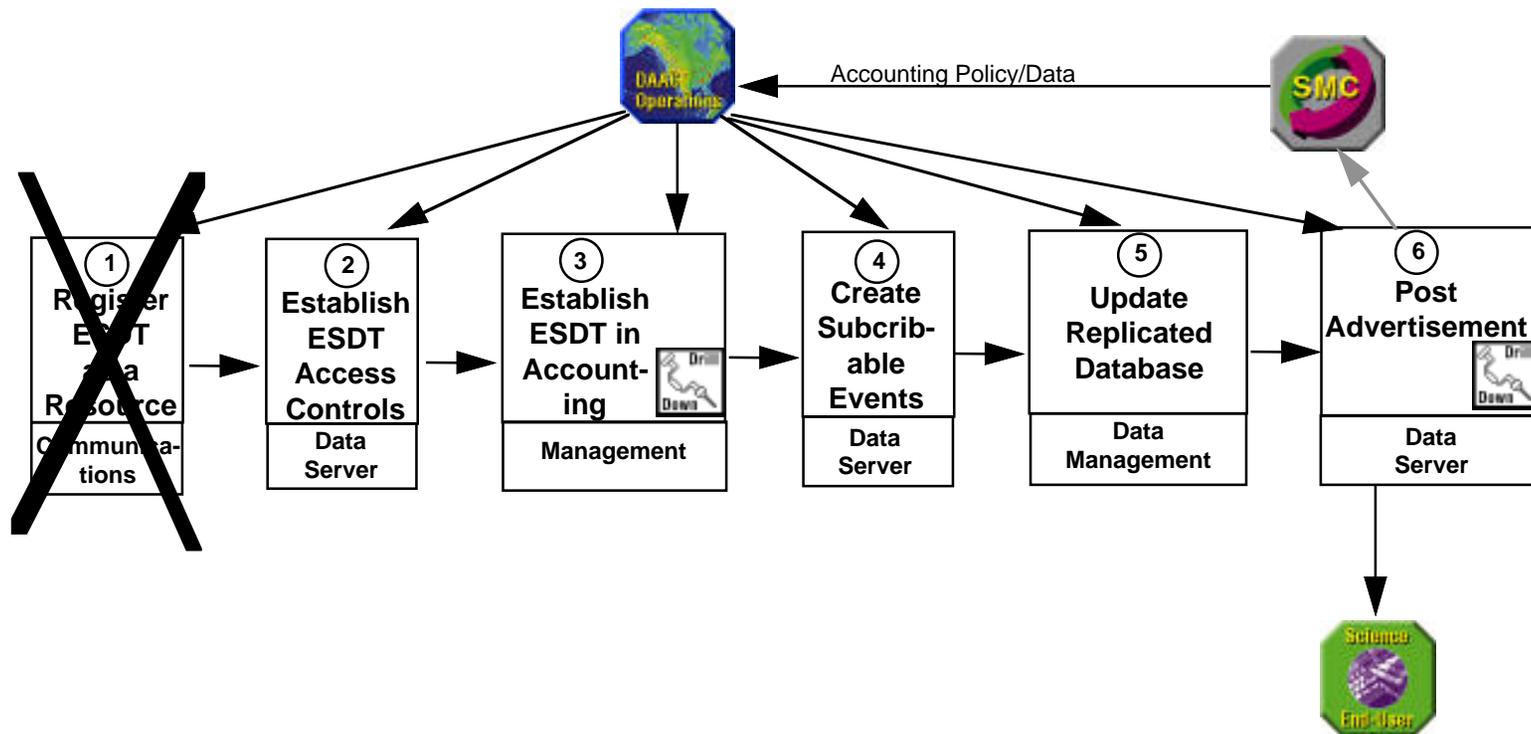
Release B Features

- **Accounting Setup**

Drill Downs

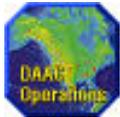
- **Advertiser**
- **Billing and Accounting**

Collection Extension Functional Flow



Collection Extension

Points of View



Data Specialist, &
DAAC Accountant

