



An Update on IOOS Related Archive Activities

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A Lot Is Going On...

- Adoption and growing conformance to the **Open Archival Information System Reference Model**
- Passage and *implementation* of the **NOAA Procedure for Scientific Records Appraisal and Archive Approval**
- Progress in **unified cross-Data Center metadata management**
- And more...



The OAIS Reference Model

- The CCSDS and ISO Standard (14721) for Digital Archives
- Applies to all organizations that need to preserve digital information for the long-term
- Does NOT specify any particular implementation
- An organization *conforms* to the OAIS RM by discharging a minimal set of responsibilities and supporting basic information concepts



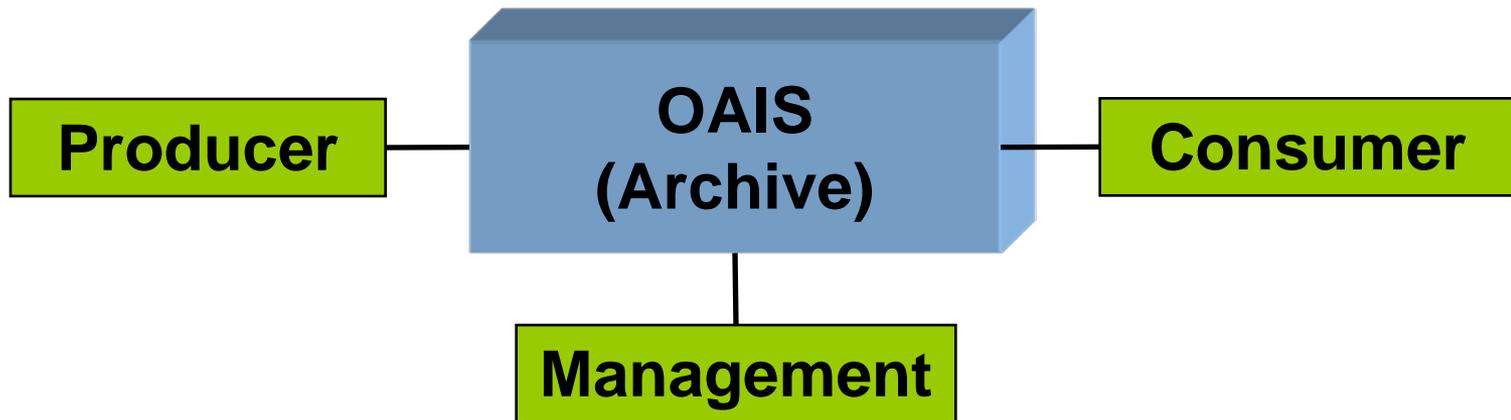
An OAIS Archive...

- Negotiates and accepts information from **Producers**
- **Obtains sufficient control** to ensure long-term preservation
- Ensures the information to be preserved is **independently understandable** to identified **Designated Communities**
- **Follows** documented **policies and procedures** to insure information is preserved
- **Provides information** to the Designated Communities in understandable forms



The OAIS Environment

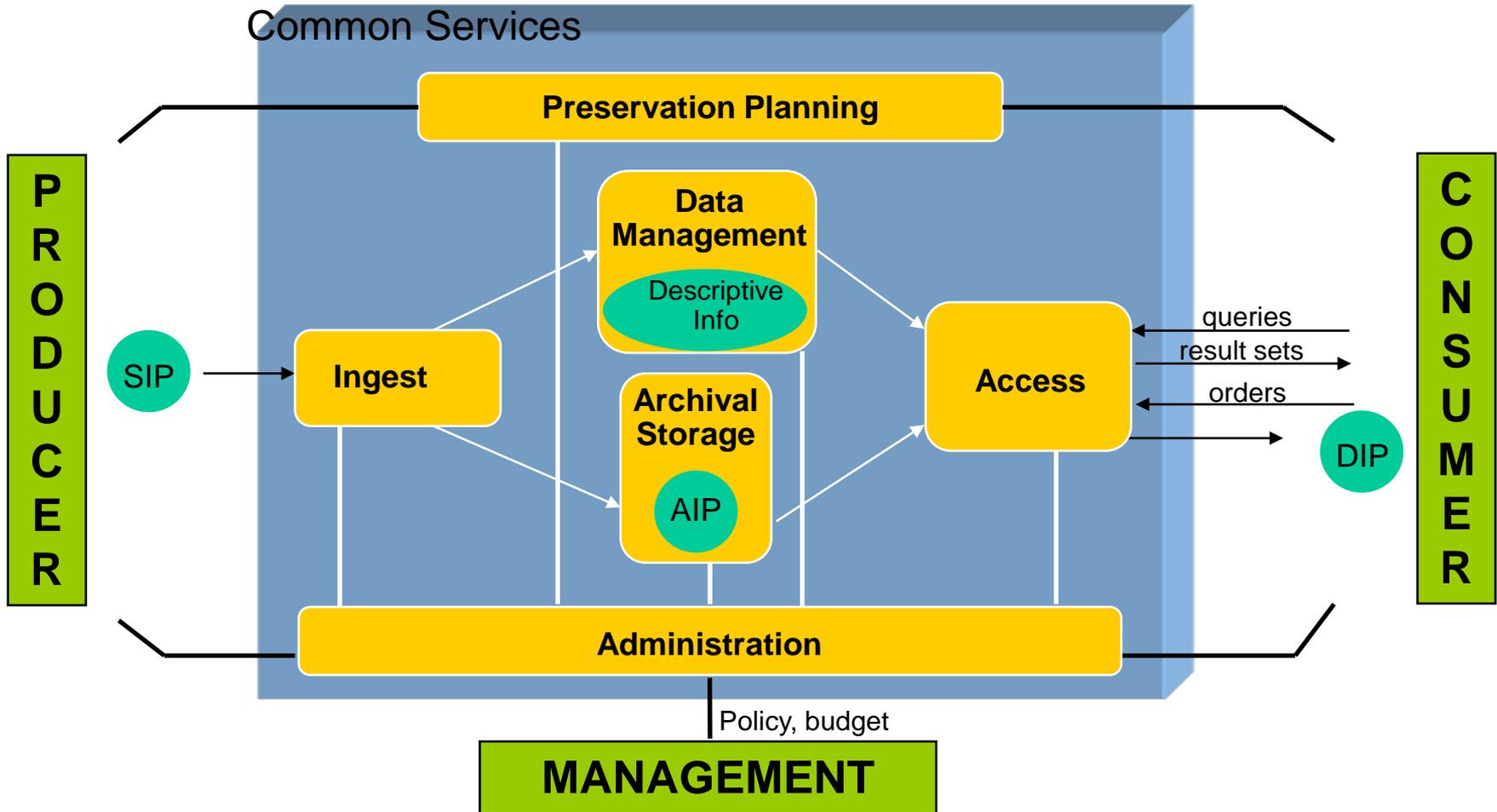
- ***Producer*** provides information to be preserved
- ***Management*** sets overall policy
- ***Consumer*** seeks and acquires preserved information



The OAIS Environment from 30,000 ft



OAIS Functional Entities



SIP = Submission Information Package

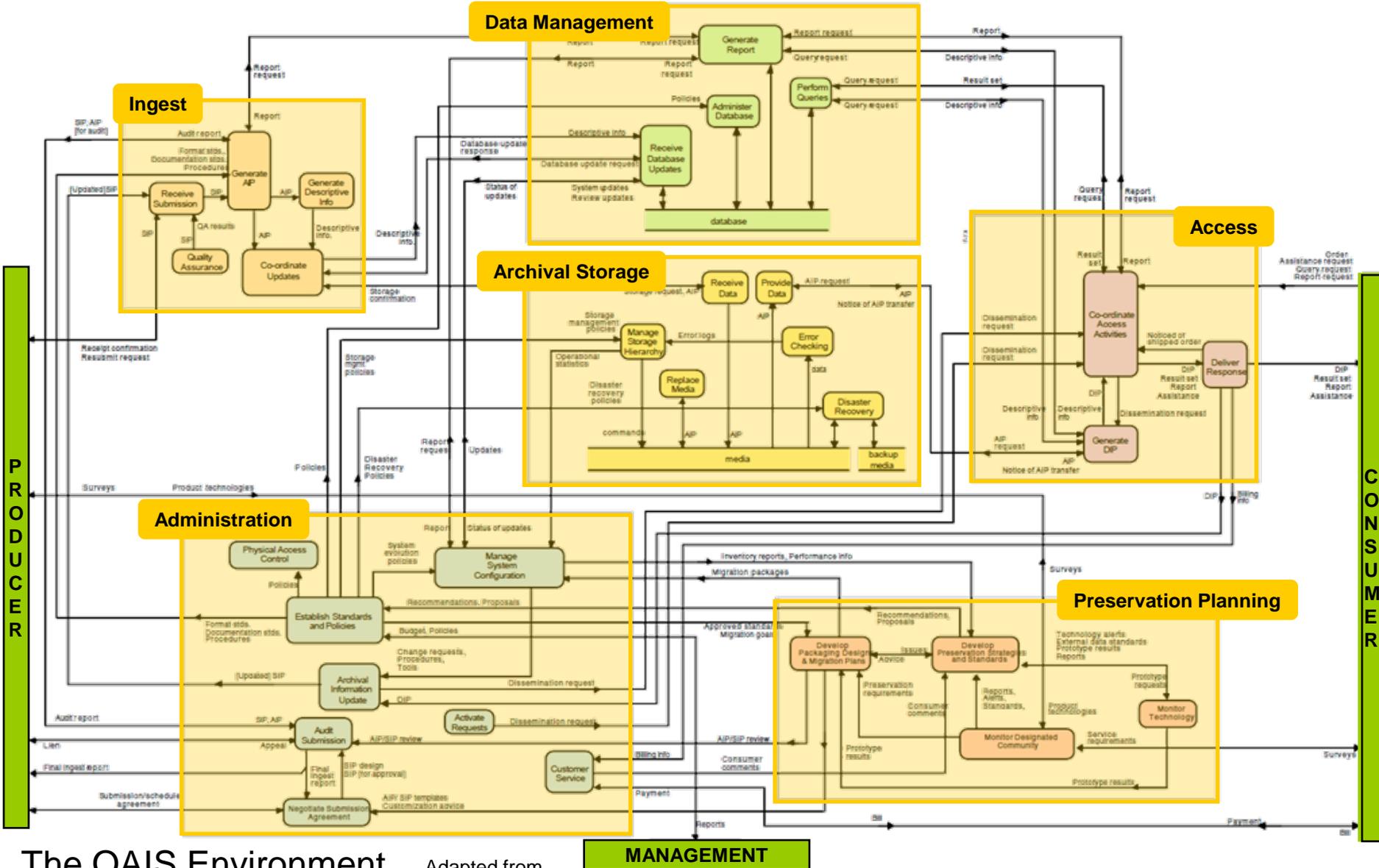
AIP = Archival Information Package

DIP = Dissemination Information Package

The OAIS Environment
from 10,000 ft



OAIS Functional Entities



The OAIS Environment from Sea Level

Adapted from Figure F-1: Composite of Functional Entities



In other words, an Archive is a whole lot more than a couple copies of data on your shelf

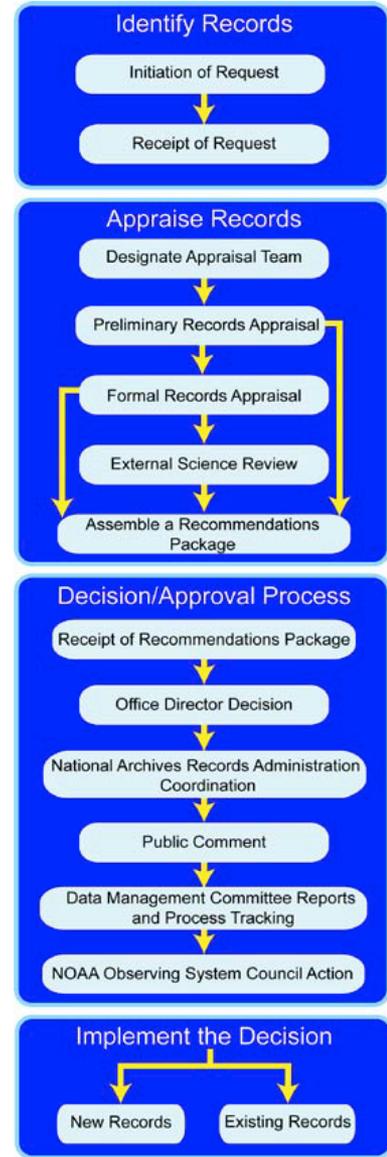
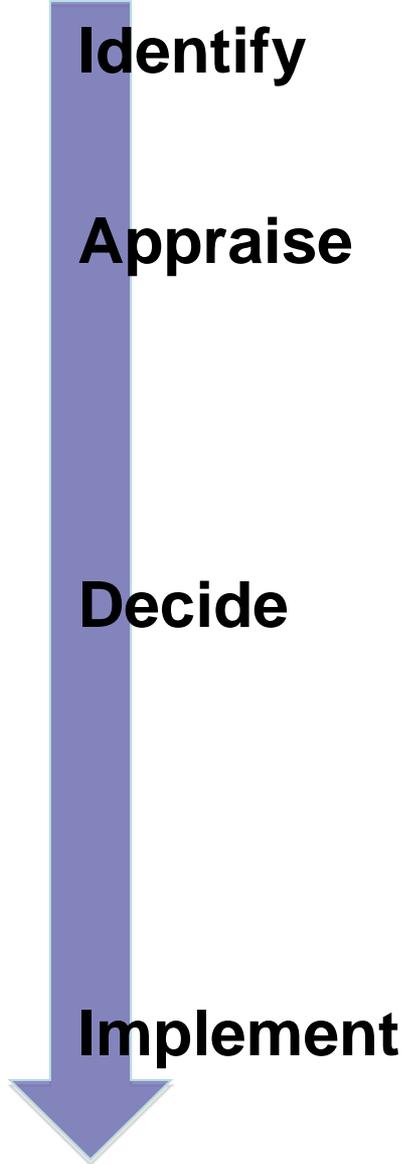
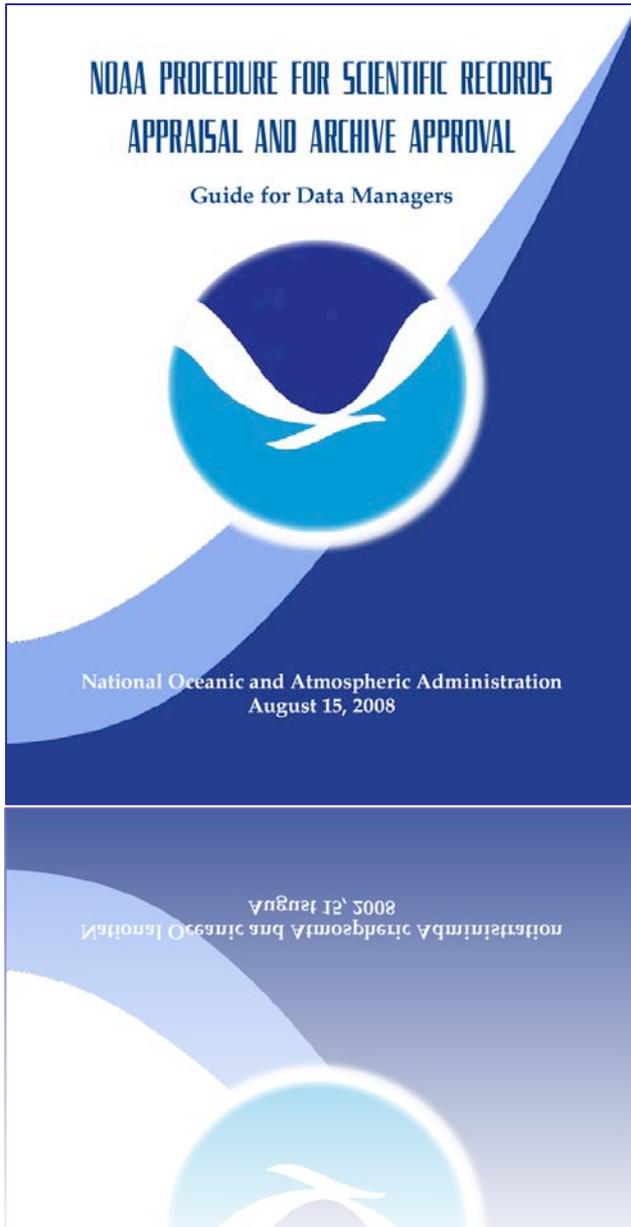


Why Should IOOS Care?

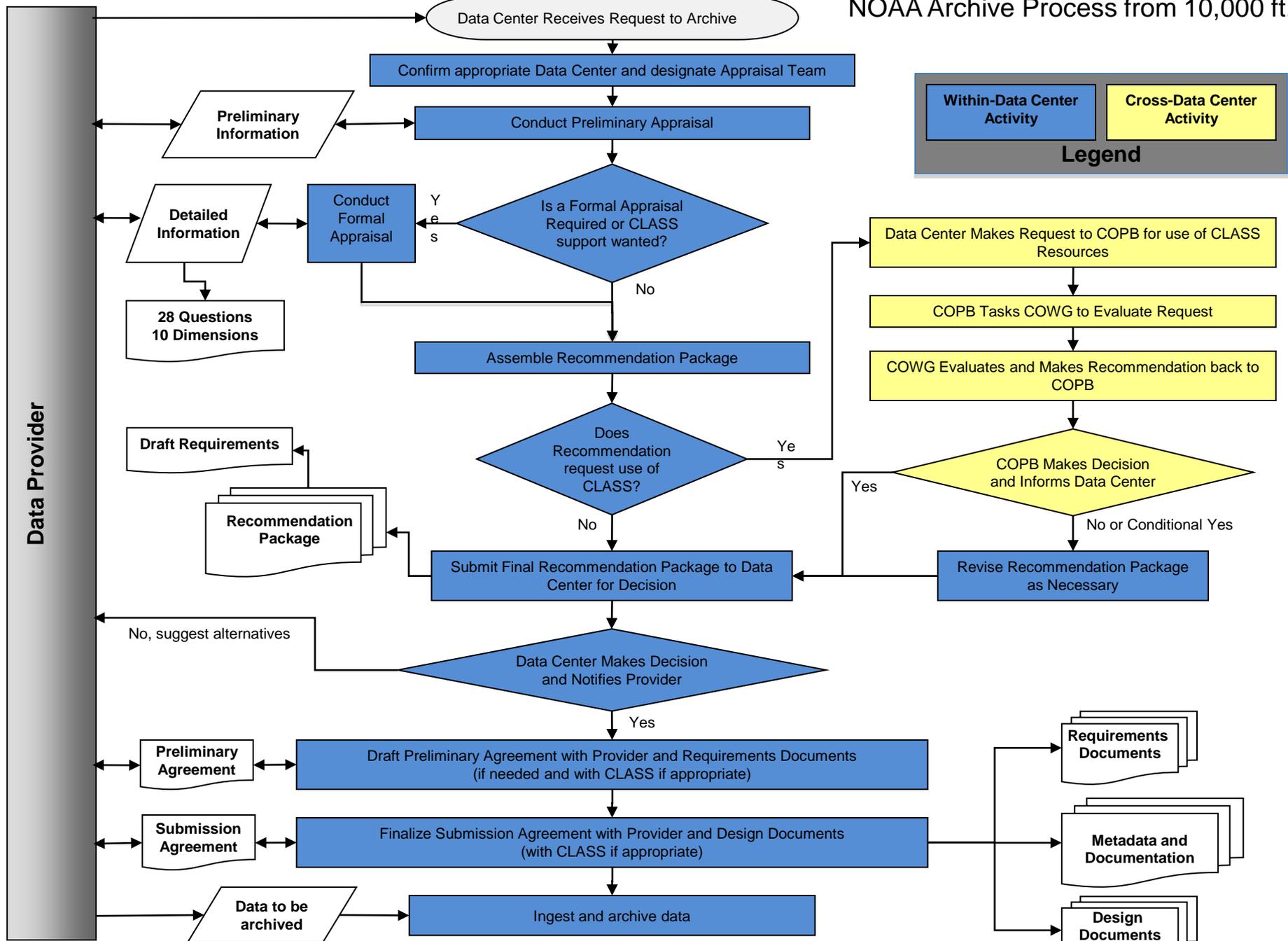
- The OAIS-RM provides the *lingua franca* – finally we can all talk to one another!
- The OAIS-RM provides a robust collection of archive functions – great for “gap analysis” and to help us all agree on what an Archive is and does
- Adoption and conformance to the OAIS-RM is structuring the way the three NOAA Data Centers, other non-NOAA archives, CLASS, the DMC, the DMIT, and the Archive Architecture Team think, talk, and act...



NOAA Procedure for Archive Approval



NOAA Archive Process from 10,000 ft.



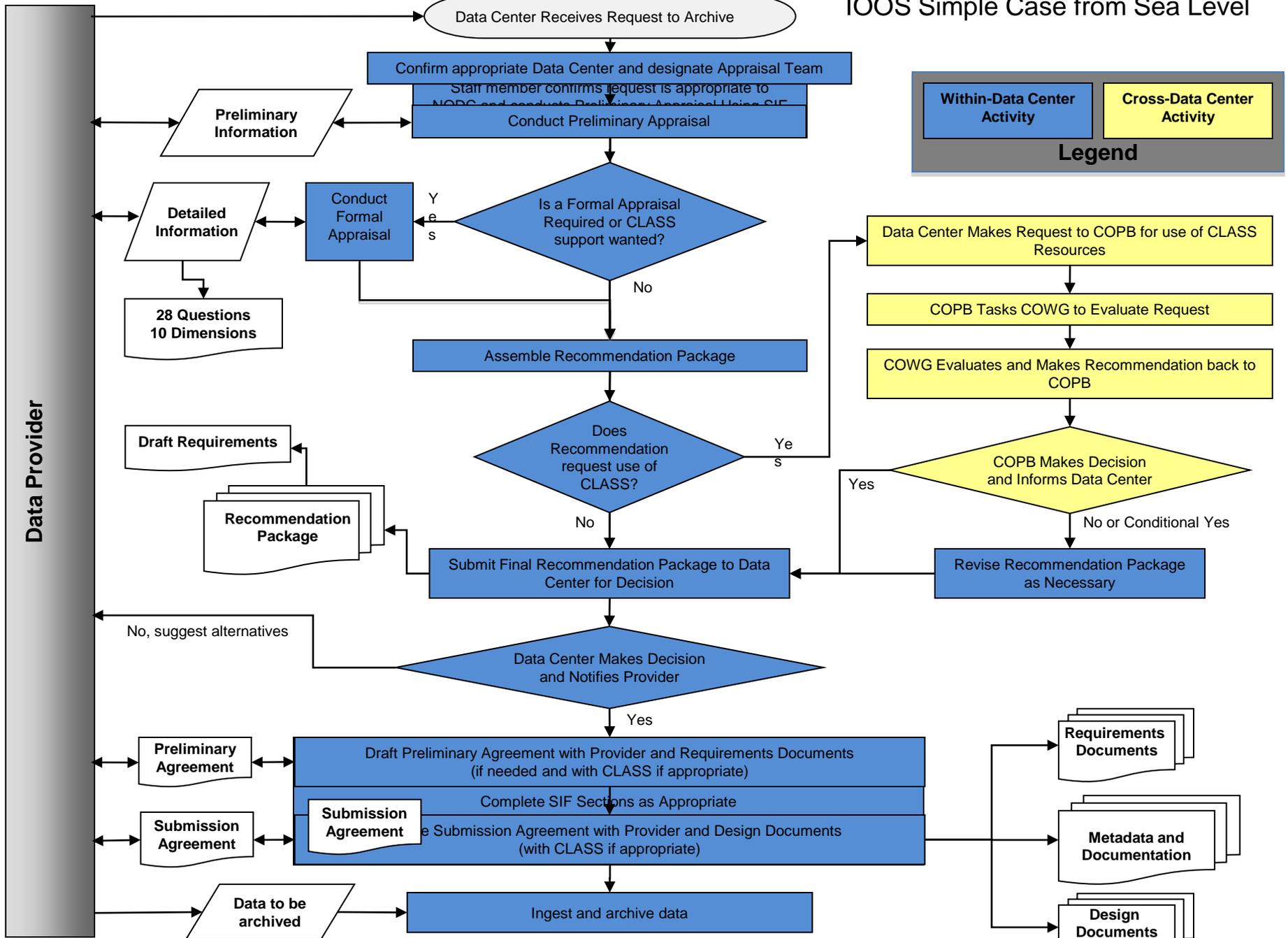
Legend

- Within-Data Center Activity
- Cross-Data Center Activity

Data Provider

DRAFT FOR DISCUSSION

IOOS Simple Case from Sea Level



DRAFT FOR DISCUSSION

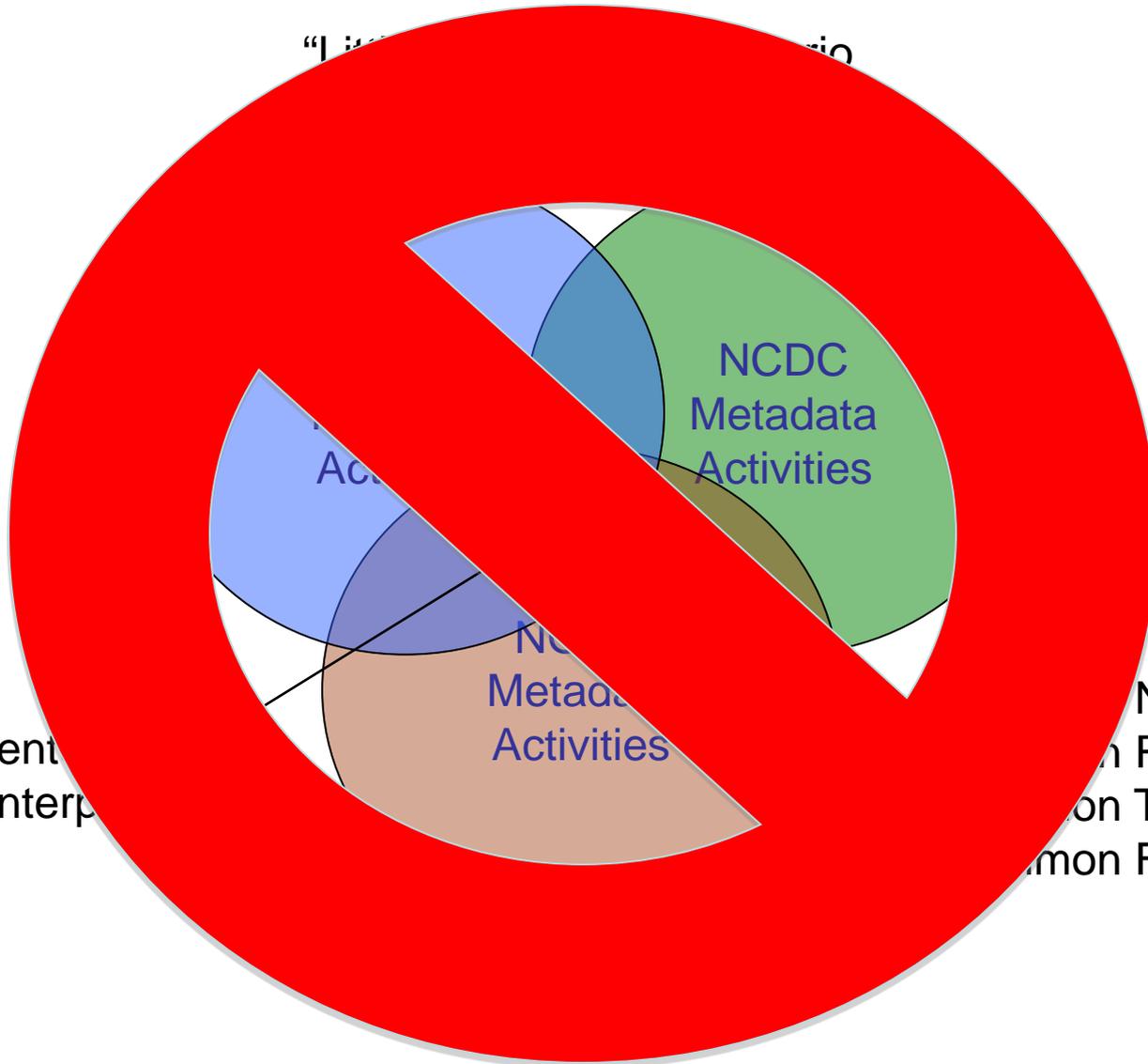


Cross-Data Center Metadata

- During 2009 the three NOAA Data Centers worked together to define an “Enterprise Metadata System”, toward which we could all work
- We began by evaluating our common needs, requirements, tools, and metadata functions...



The Metadata Enterprise



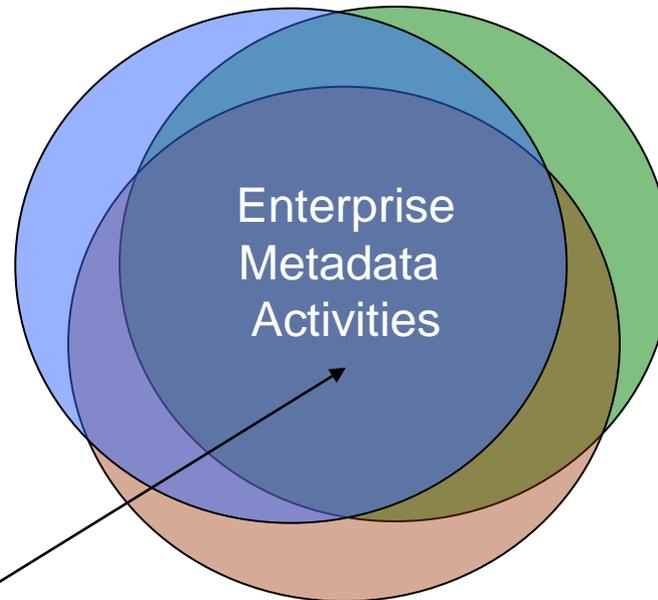
The Data Center
Metadata Enterprise

Needs
Requirements
Tools
Common Functions



The Metadata Enterprise

“Lots in common” Scenario



The Data Center
Metadata Enterprise

Common Needs
Common Requirements
Common Tools
Common Functions



Enterprise Functions

The Data Center Enterprise Metadata System

Metadata Manipulation Functions

Import

Convert

Export

Validate

Publish

Edit

Management/Admin Functions

Manage Controlled
Vocabularies

Manage
Components

Manage DM
Data

Support Queries

Generate
Reports

Control
Access

Manage
Workflow

Link to Archival
Storage

Handle
Versions

Minimize
Duplicates

System-Wide or Cross-Cutting Functions/Requirements

Support Human (GUI) and
Machine (API) Interfaces

Support
Standards

Support Collections
and Granules



Cross-Data Center Metadata

- **Near Term (FY09)**
 - Create a cross-Data Center FGDC catalog
 - web accessible folder, WAF, hosted at NODC
 - FAQ/HTML/TXT views with USASearch.gov/Google Search
 - Inventory vocabularies used across the Data Centers
 - Identify all metadata components (e.g., Contact List, Distributor, Source,...)
 - Hold follow-on technical meeting (later this month) to identify technical path forward
- **Mid Term (Q2FY10)**
 - Time series metadata
 - Add ISO view to consolidated WAF
 - Identify vocabularies ripe for consolidation
- **Long Term (Beyond)**
 - Follow both Development and Implementation Plans to get us to the “enterprise” system



Why Should IOOS Care?

- The consolidated metadata catalog and enhanced search/discovery/access capabilities being deployed will directly benefit “IOOS data” archived at NODC
- Eventually, the tools and capabilities may be deployable by IOOS partners, thereby assisting in their metadata efforts



And much more...

- Increasing use of submission agreements (SAs)/submission information forms (SIFs)
- Progress at NODC on conformance with WMO Information System (WIS) and WMO Integrated Global Observing System (WIGOS) requirements
- Internal coordination at NODC to move forward with NDBC archive “modernization”
- Agreement within NODC to promote netCDF/HDF more broadly as archival formats (with appropriate file- and collection-level metadata of course!)
- NODC OPeNDAP server online!
<http://data.nodc.noaa.gov/opendap>



Looking Forward

- Convene the IOOS Archive Working Group
- Work with NODC, NDBC, and the Archive WG to evaluate IOOS protocols and the level to which they support archive requirements,
- Then make recommendations!



Questions?

(remaining slides are just
for reference)



4.1.1.2 Ingest

Ingest

The functions of the Ingest entity are illustrated in figure 4-2.

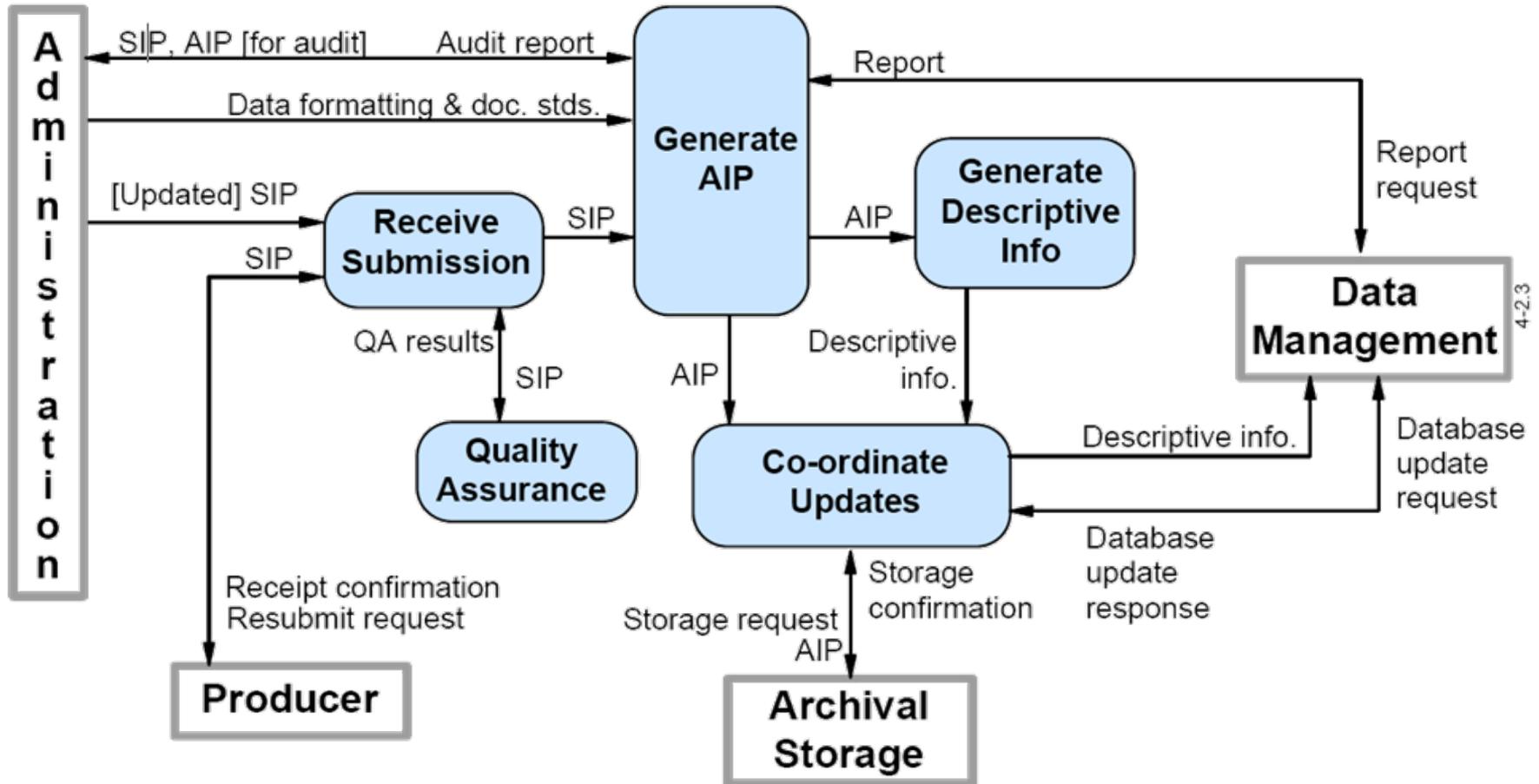


Figure 4-2: Functions of Ingest

Archival Storage

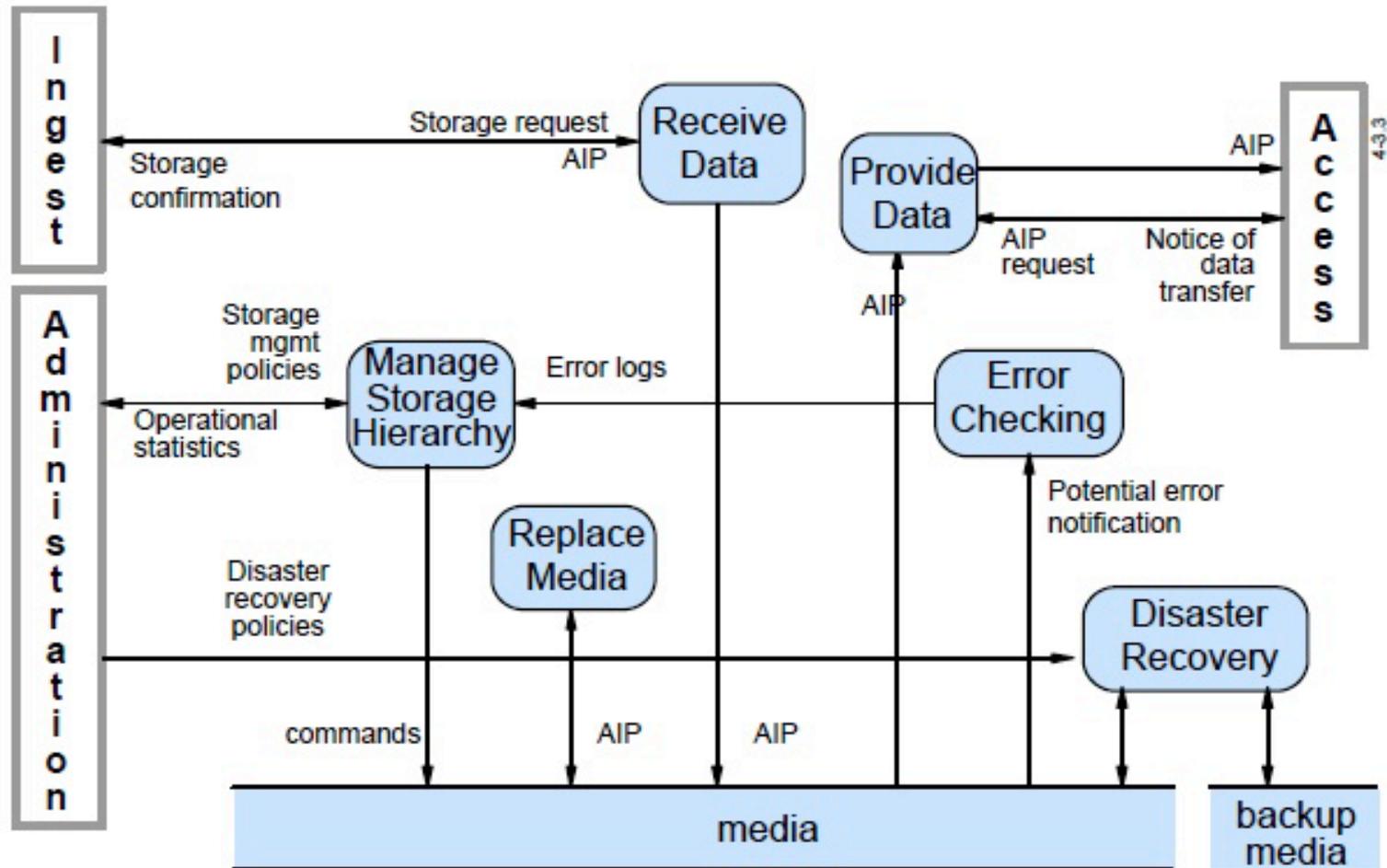


Figure 4-3: Functions of Archival Storage

Data Management

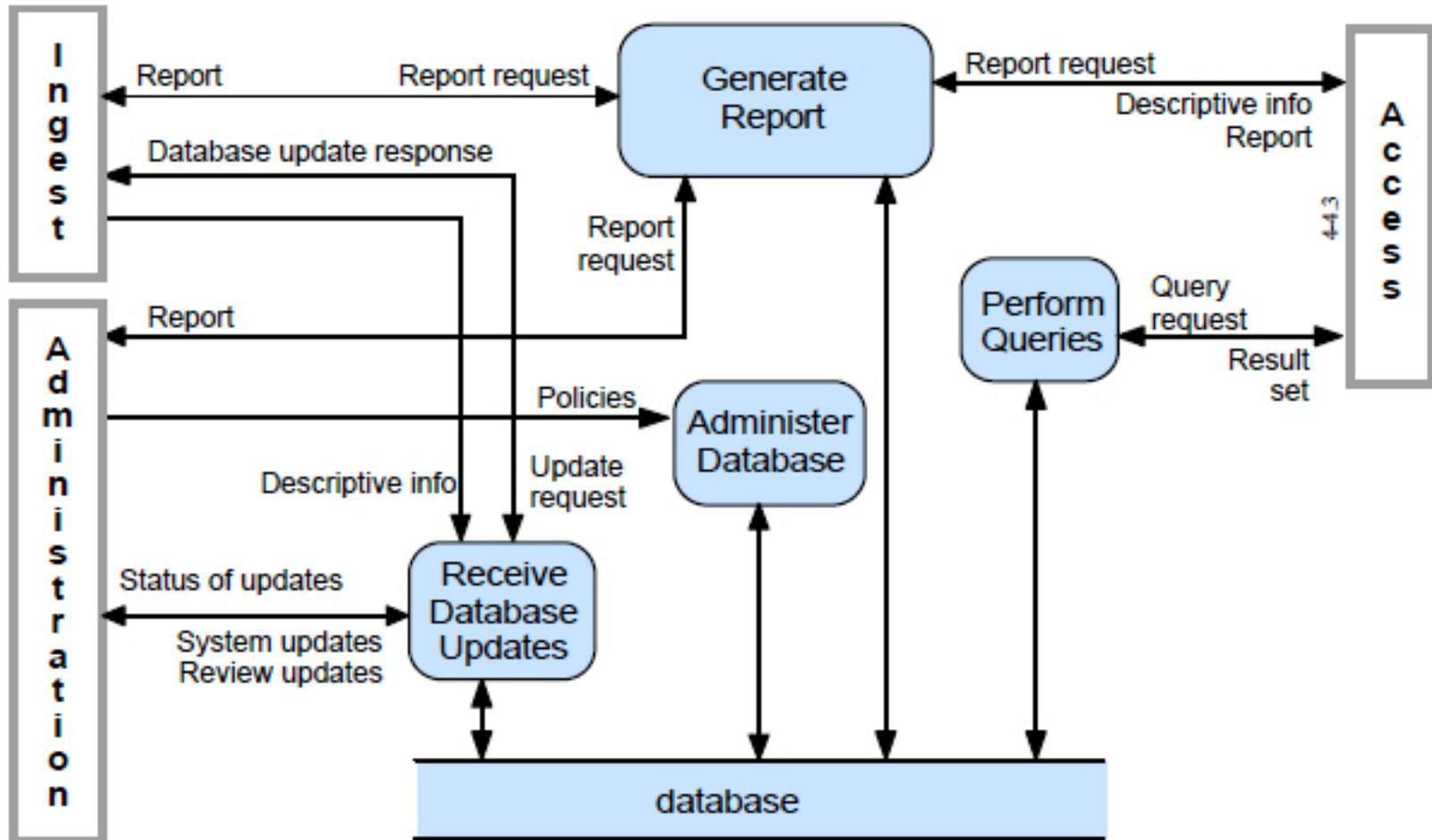


Figure 4-4: Functions of Data Management



Access

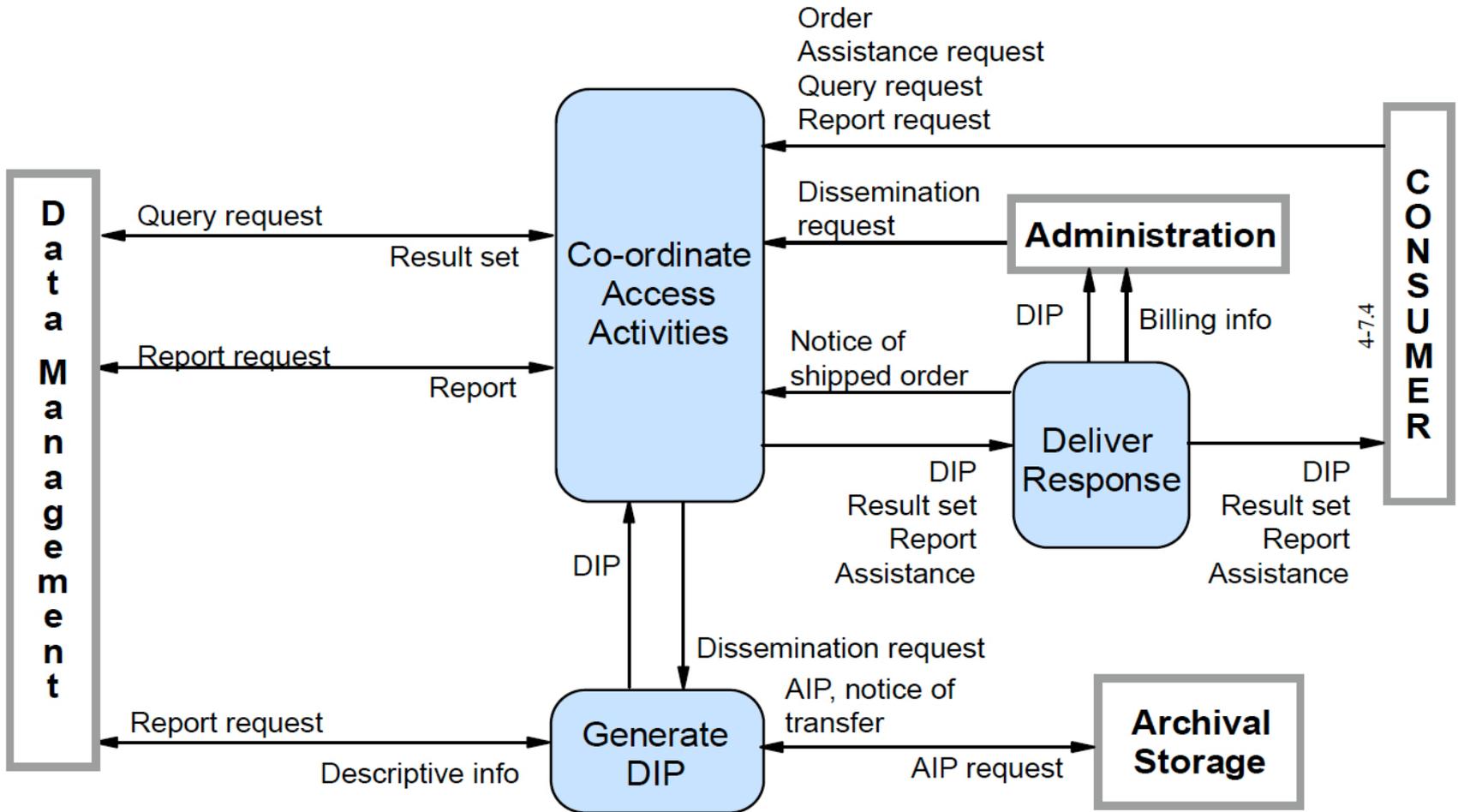


Figure 4-7: Functions of Access

Administration

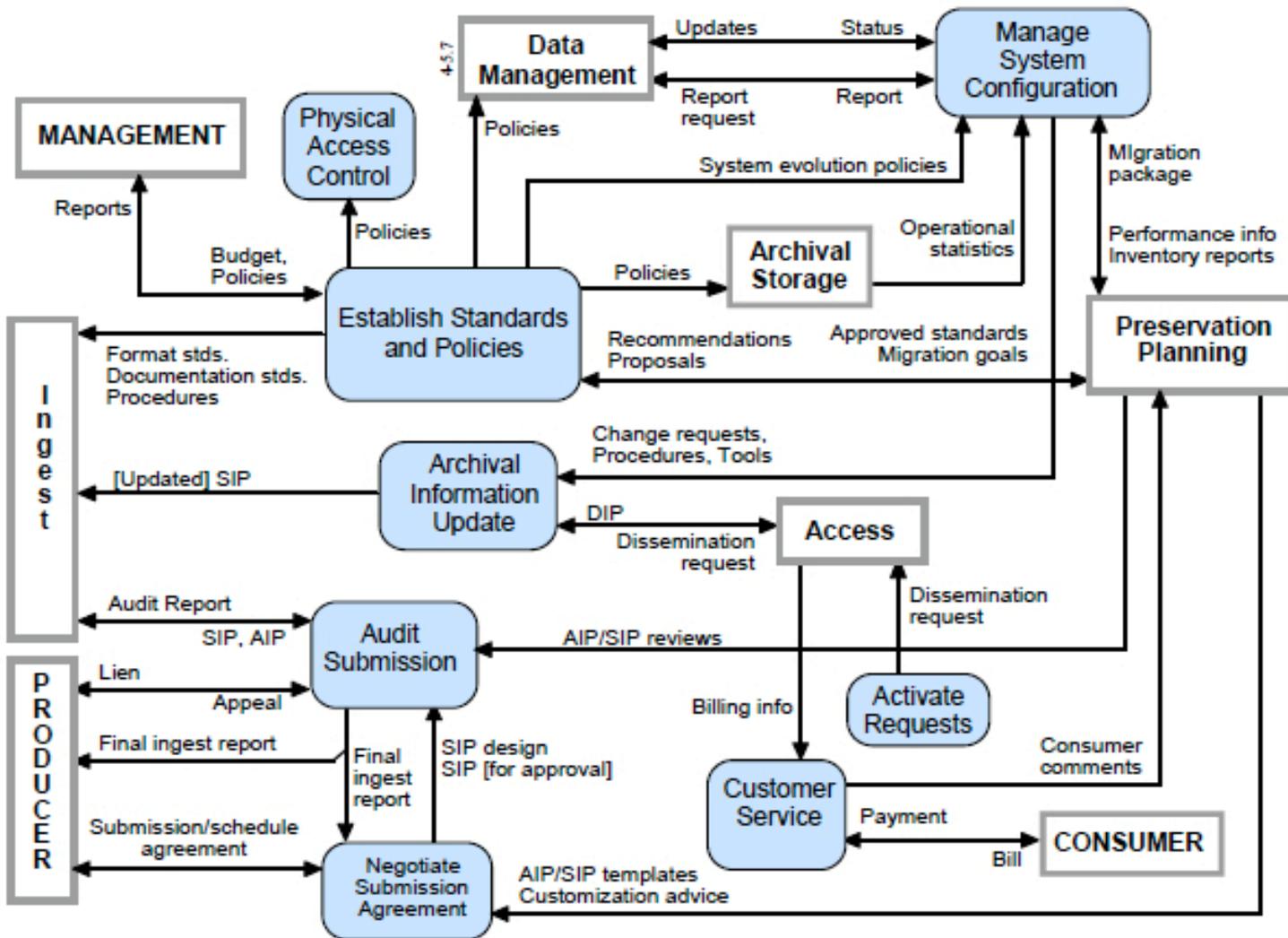


Figure 4-5: Functions of Administration



Preservation Planning

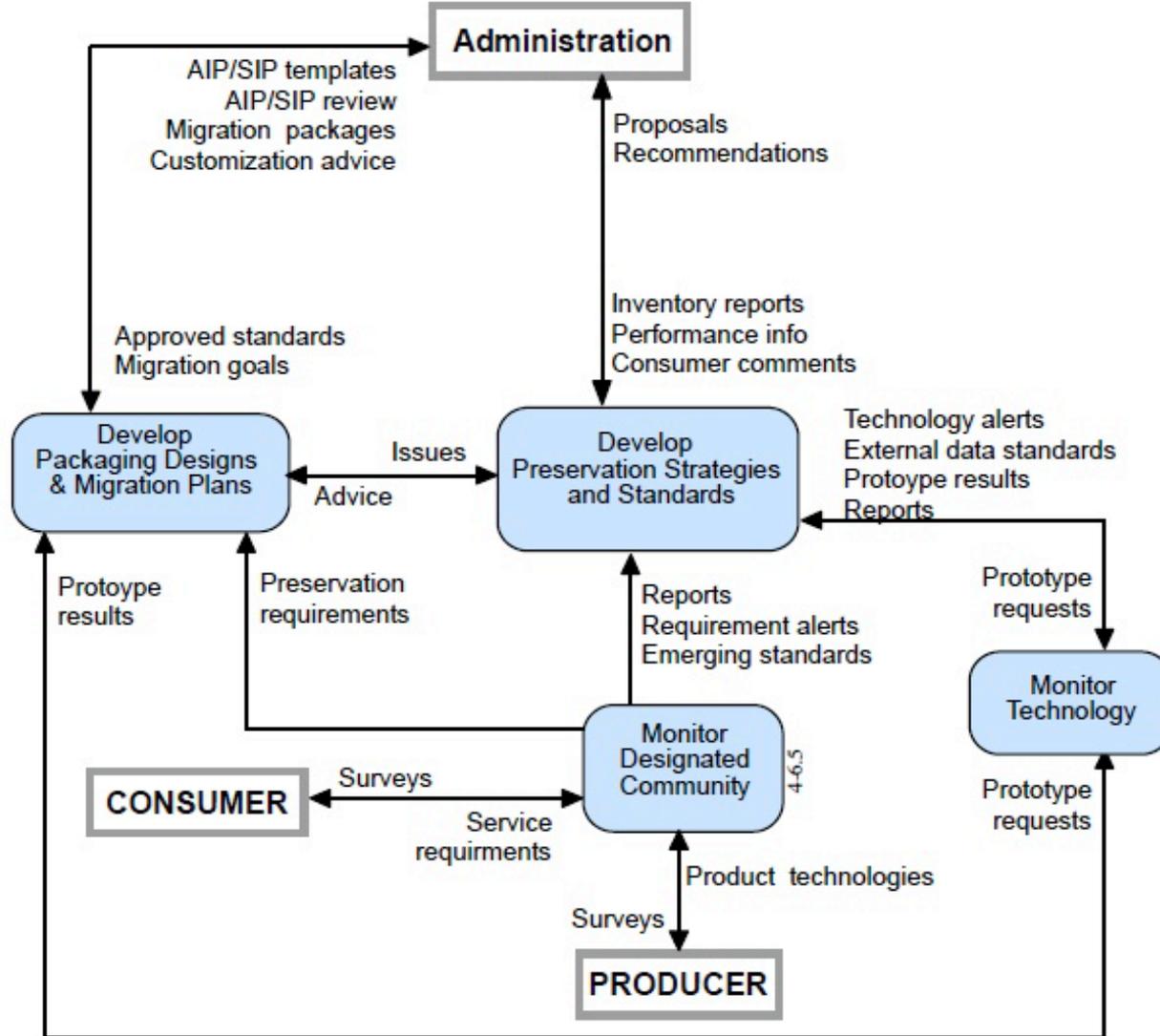


Figure 4-6: Functions of Preservation Planning