Science, Service, Stewardship

GEO-IDE & the NOAA Enterprise Architecture

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Data Management and Integration Team

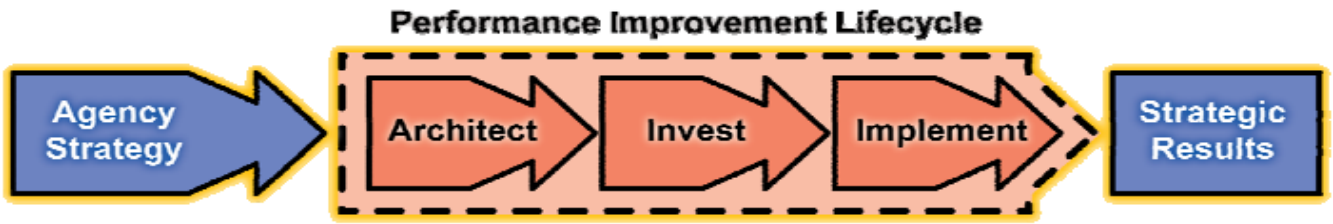
Outline

- CIO Vision
- Conceptual Architecture for SOA
  - The “Big Picture”
  - Infrastructure Services Tier
  - Data Tier
- Related Efforts:
  - NOSC End-to-End Data Management Tasker
  - Update of NAO 212-15

CIO Vision

From		***To***
Monolithic Systems	→	Discrete & Interoperable Services
Duplication	→	Reuse & Sharing
Unwieldy	→	Agile
Translation	→	Standardization

- Implementation through Through Policy, Architecture & IT Investment/Portfolio Management



Conceptual Architecture

NOAA Customers

- Experts
- Informed
- Novice

Presentation Tier

Mobile Devices | Portals | Future Web 2.0 Interface

Multi-Channel Service Delivery

Mission Services

Climate Services

Weather Services

Etc

Infrastructure Services

Core Services
Storage, HPC, Enterprise Mgmt, etc.

Transport Services
LAN / MAN / WAN / Internet etc.

Commodity Services
Telephony, Search, GIS, Help Desk, etc

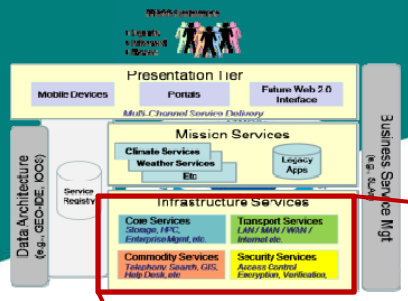
Security Services
Access Control, Encryption, Verification,

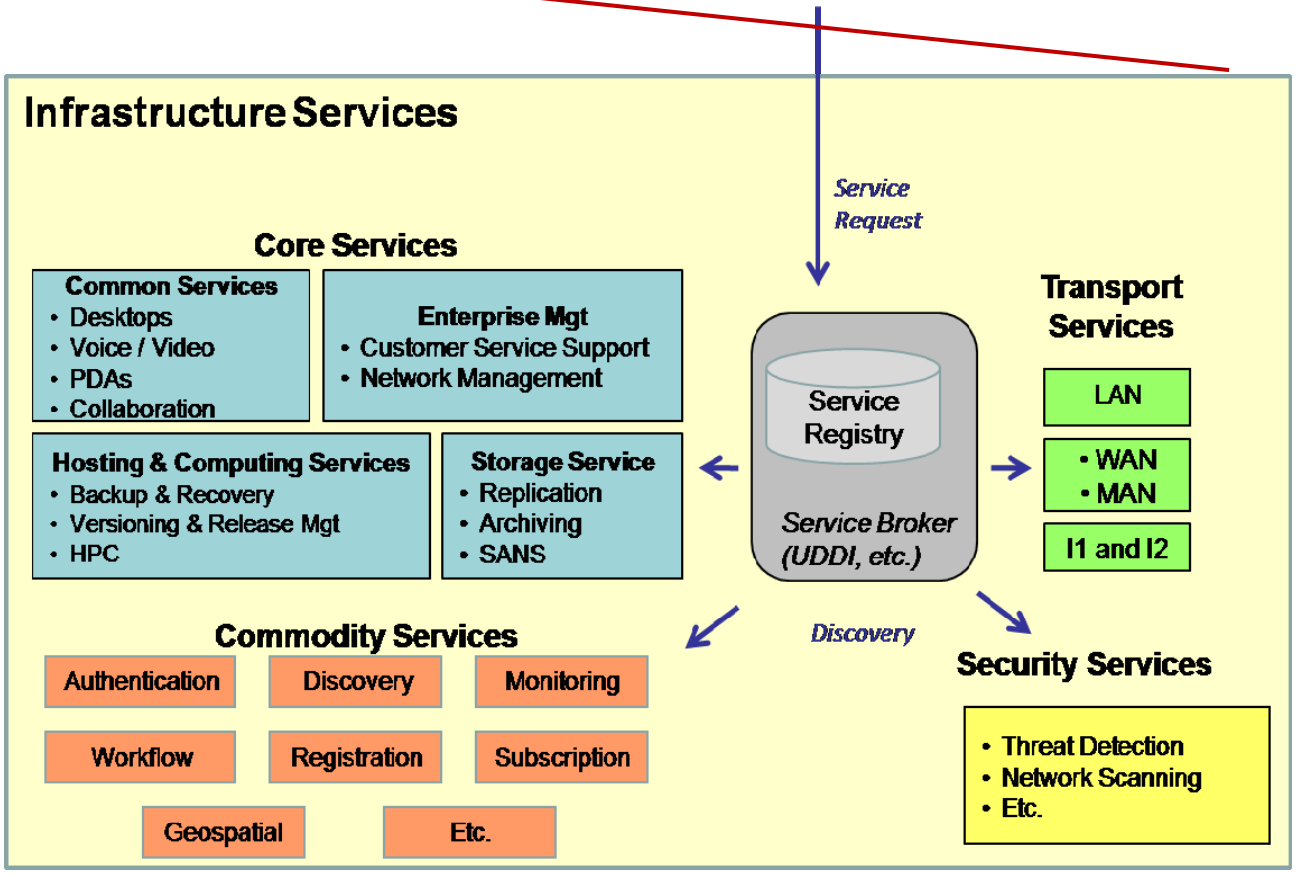
Service Registry

Data Architecture (e.g., GEO-IDE, IOOS)

Business Service Mgt (e.g., SLAs)

Conceptual Architecture (cont.)



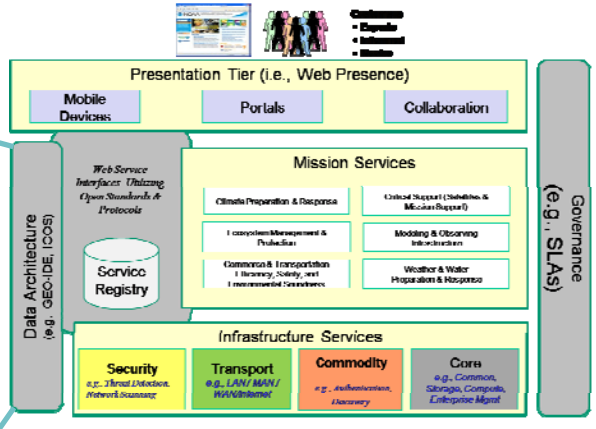


Conceptual Architecture (cont.)

Example Artifacts	Standardization Areas
• Logical Data Model • Physical Data Schema • Semi & unstructured data types • XML schemas • Product catalog	**Data Description** Data & Data Assets
• Discovery level metadata • Taxonomies • Ontologies • Mappings to: - processes - service components	**Data Context** Taxonomies
• Web services specs • Access protocols • Content search services • Subscription services	**Data Sharing** Query points & exchange

Conceptual Data Architecture

(From FEA Data Reference Model)

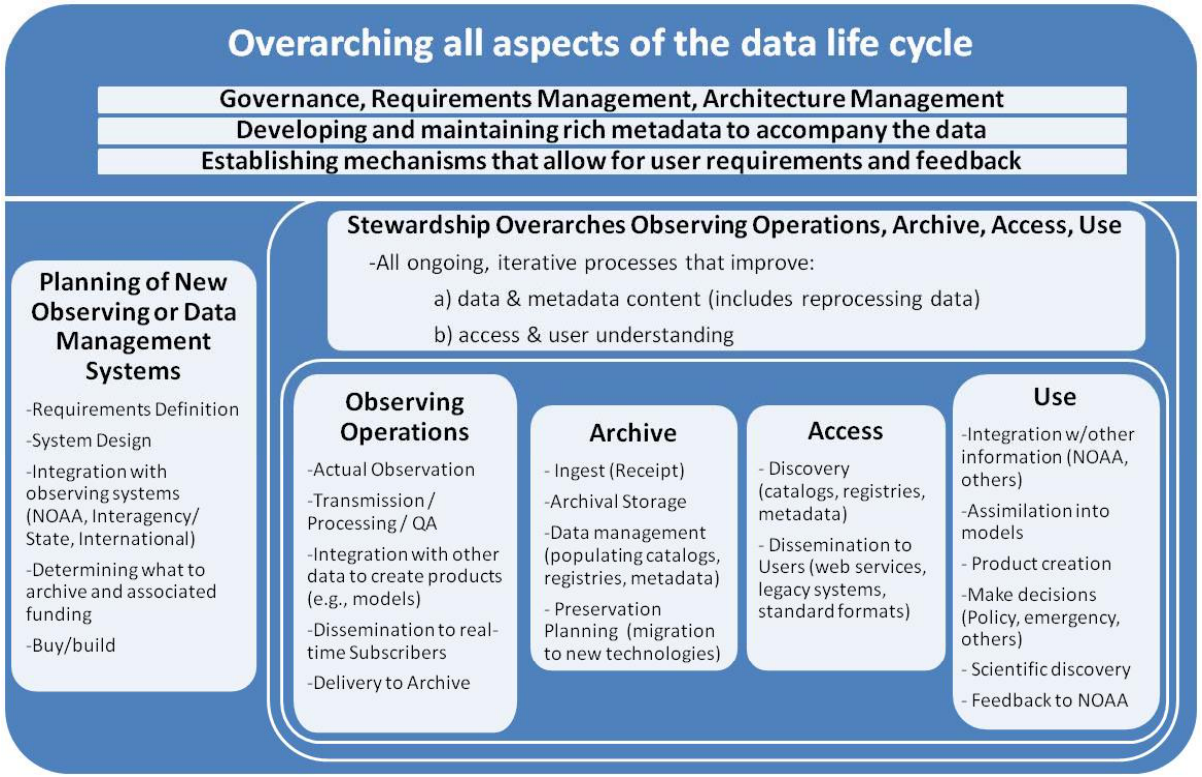


Related Initiatives

- NOSC Tasker for End-to-End Data Management:
  1. Map out each element included within the end-to-end data management chain
  2. Identify those elements with potential for data integration
  3. Identify the council/committee/group with responsibility for each element
  4. Identify those elements which appear to have overlapping oversight and, most importantly, those elements not being addressed adequately.

- Update of NAO 212-15 (Management of Environmental & Geospatial Data & Information):
  - Ownership by CIO
  - Simplification to focus on principles
  - Split Policy from Operational Procedures
  - Vetting through DMC and CIO Council
  - Tightly related to NOSC Tasker

Proposed NOAA environmental data management framework



- Mapping of the data life cycle functions to the NOAA governance bodies will result in a NOAA environmental data management framework
- Broaden and strengthen DMC to be an agent for both NOSC and OCIO