

GOES-R Impact on NCEP Computing: Enterprise Framework for High Performance Environmental Processing

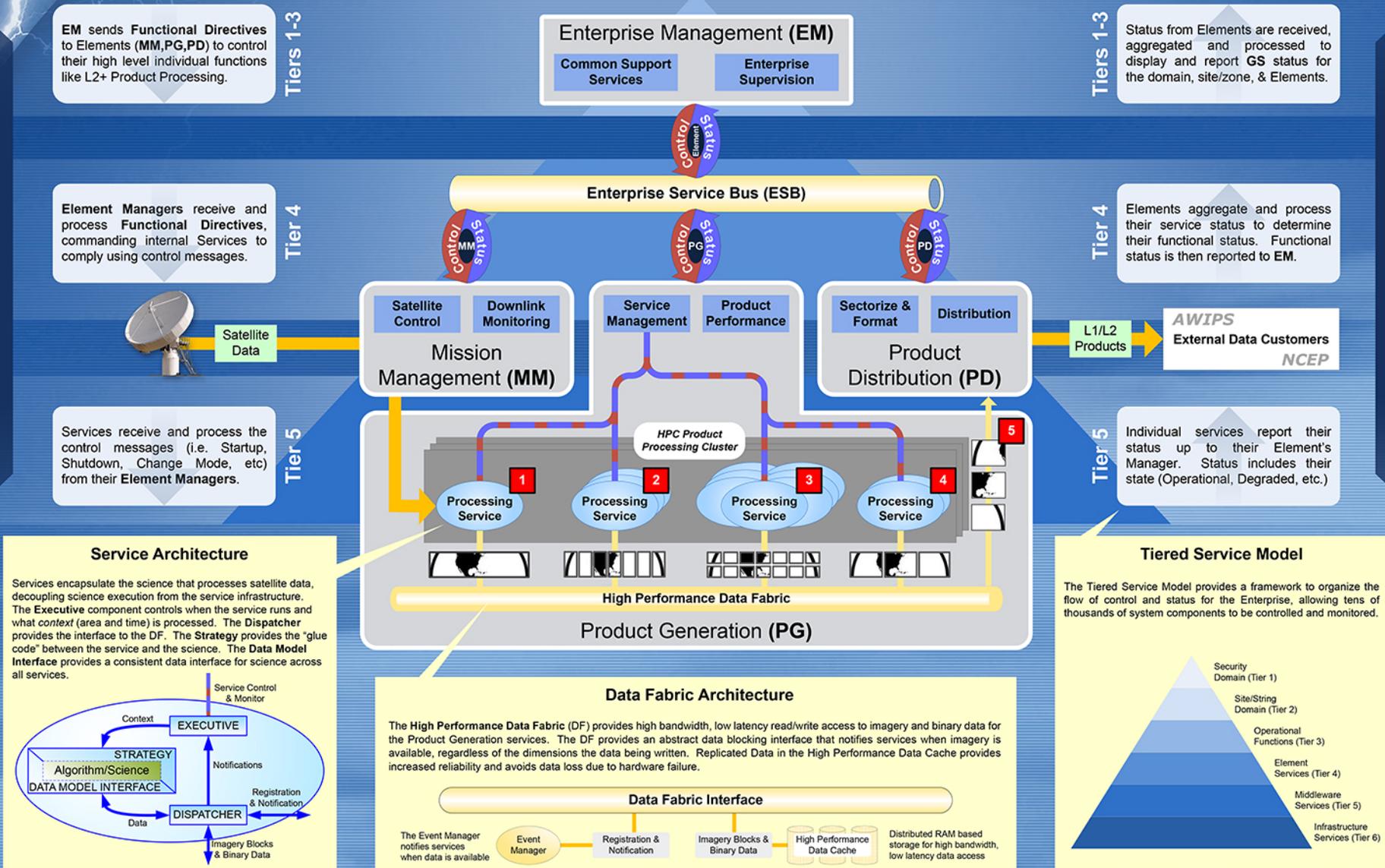


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- The Harris SOA based ground system architecture is composed of services for EM, MM, PG, & PD
- Fault tolerant data movement via the ground system's Enterprise Service Bus ensures NOAA's mission critical applications run reliably
- Fast, reliable product processing efficiently manages the complexity of NOAA's GOES-R science mission, leveraging multiple HPC and high reliability technologies:
 - Parallel processing at the image block level in an HPC cluster
 - Redundant, high bandwidth, low latency data access through a high performance data fabric

Service Model

Service Model



- 1 Satellite Data sent from MM in the form of Data Packets is converted to imagery and/or binary data, then stored in the Data Fabric.
- 2 Processing begins before the first swath is completely received. This provides more time for processing while reducing latency.
- 3 Algorithms that are compute intensive are decomposed into multiple services, which work on smaller datasets (blocks) in parallel.
- 4 Algorithms that are less compute intensive require fewer services, which work on larger datasets (blocks).
- 5 As product data is created by PG services, PD retrieves the product data and distributes it to External Data Customers.