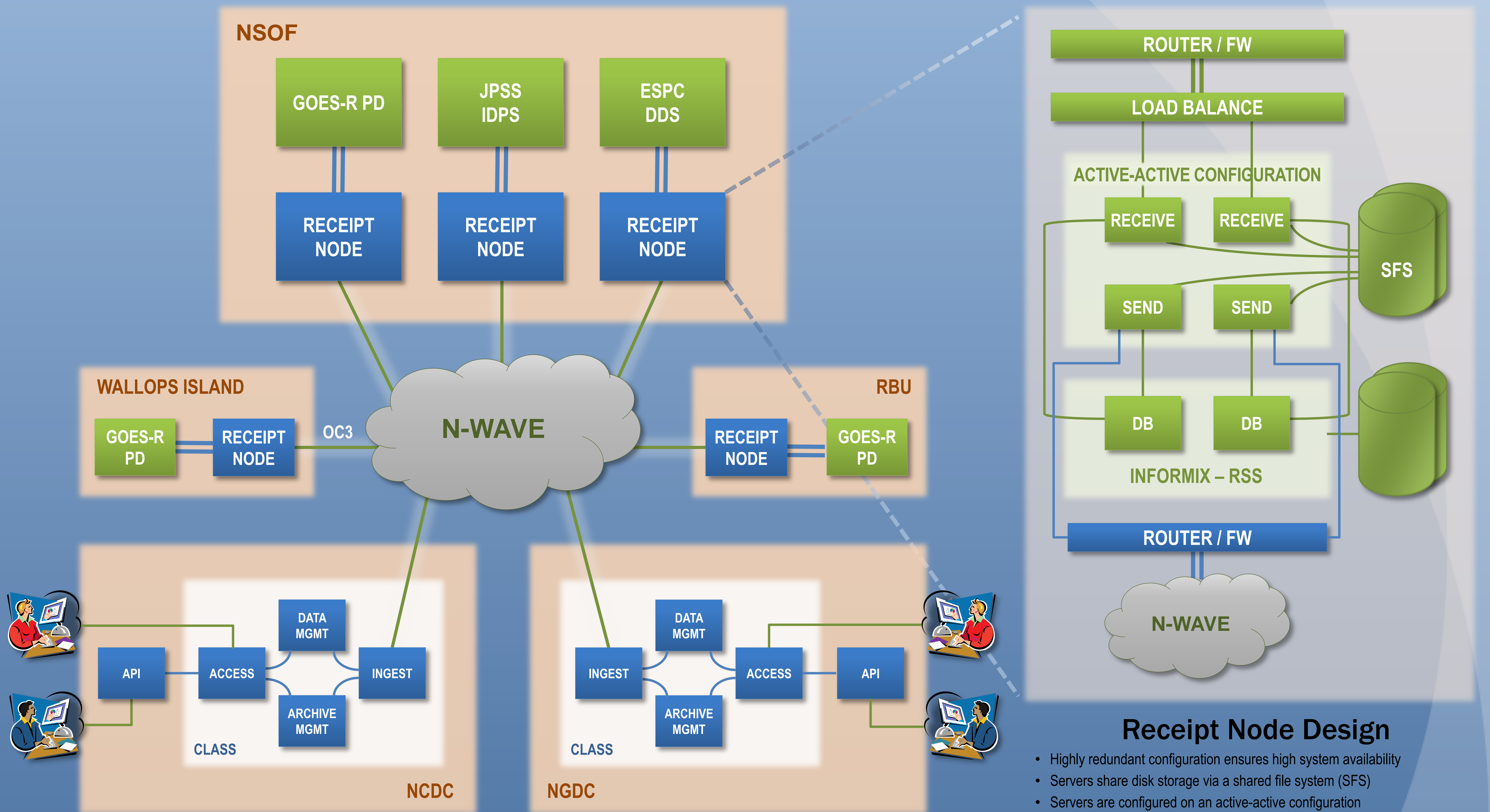


COMPREHENSIVE LARGE ARRAY-DATA STEWARDSHIP SYSTEM (CLASS)

Infrastructure and Architecture Improvements for NPP and GOES-R

The CLASS project is a NOAA information technology (IT) solution supporting NOAA's Archive mission. CLASS provides the mechanisms by which NOAA archives may securely store, maintain and provide access to their data, information and metadata. NOAA has directed that JPSS and GOES-R data will be submitted to CLASS for archival storage.



System Architecture

- Highly available receipt nodes collocated with data provider elements of JPSS and GOES-R
- Fully functional CLASS nodes at the National Climatic Data Center (NCDC) in Asheville, NC and at the National Geophysical Data Center (NGDC) in Boulder, CO
- Each fully functional node can support all CLASS operations, each one runs an active-active configuration
- Uses NOAA N-WAVE to cost effectively connect receipt nodes with ingest and access nodes
- Locations without N-WAVE access (e.g., Wallops Island) will have a point-to-point connection to a location with an access point to the N-WAVE
- Customers can access CLASS using its fully functional Web interface or its Application Program Interface (API) to facilitate system to system communications
- Data are validated for integrity and completeness at the receipt node and submitted to one of the fully functional nodes for ingest, archival, and dissemination
- Data are stored at two locations: NGDC and NCDC

Receipt Node Design

- Highly redundant configuration ensures high system availability
- Servers share disk storage via a shared file system (SFS)
- Servers are configured on an active-active configuration
- Workflow engine directs activities and eliminates contention between the processes
- Informix Remote Standalone Secondary (RSS) ensures database availability

Acronyms:

API	Application Programming Interface	NGDC	National Geophysical Data Center
CLASS	Comprehensive Large Array-data Stewardship System	NOAA	National Oceanic and Atmospheric Administration
ESPC	Environmental Satellite Processing Center	NSOF	NOAA Satellite Operations Facility
FW	Firewall	OC	Optical Carrier
GOES	Geostationary Operational Environmental Satellite	PD	Product Distribution
JPSS	Joint Polar Satellite System	RBU	Remote Backup Unit
NCDC	National Climatic Data Center	RSS	Remote Standalone Secondary
		SFS	Shared File System



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