



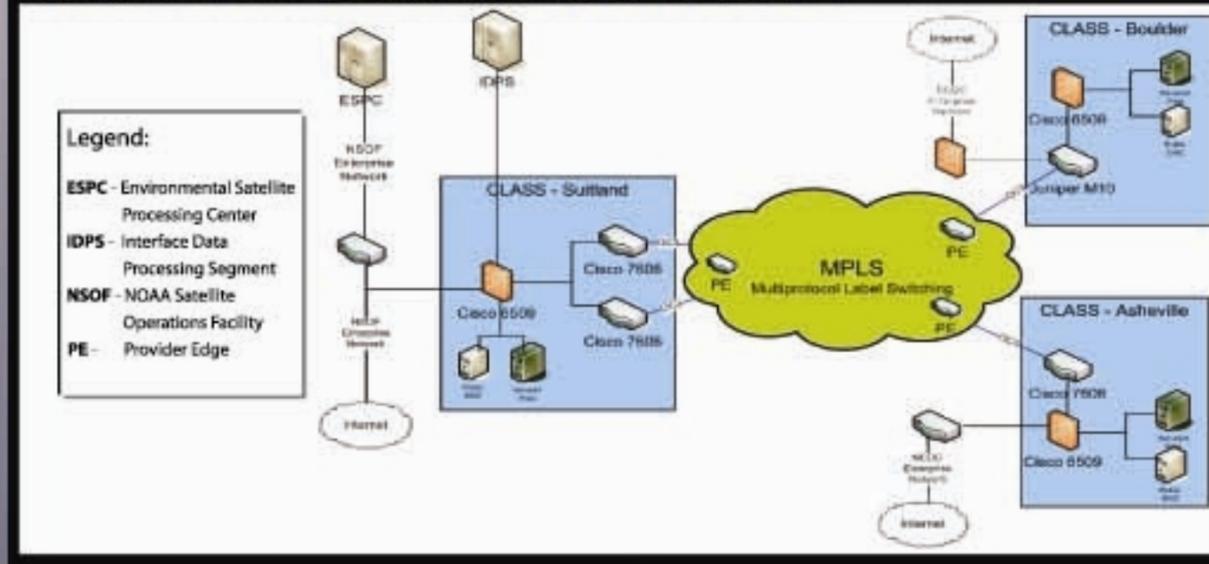
Comprehensive Large Array-data Stewardship System (CLASS)

CLASS Vision



The CLASS Project is a NOAA Information Technology (IT) enterprise 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 holdings for indefinite periods. NOAA has directed that both legacy and emerging environmental observing systems requiring the long-term archive of data and information will use CLASS.

CLASS Architecture Vision for NPP



CLASS Future Capabilities

- Improved, standardized access for the user community
- APIs
- Advanced data discovery
- Storage of and access to additional historical data
- In situ data preservation and distribution
- Interoperability with data centers
- IT support for reprocessing by science data stewards
- Multi-site extensibility (distributed architecture)
- Automated load balancing

CLASS Datasets

Will include the following data:

- NOAA's Polar-orbiting Operational Environmental Satellites (POES) and Department of Defense's Defense Meteorological Satellite Program (DMSP)
- NOAA Geostationary Operational Environmental Satellites (GOES)
- National Aeronautics and Space Administration (NASA) Earth Observing System (EOS) Moderate-resolution Imaging Spectroradiometer (MODIS)
- National Polar-orbiting Operational Environmental Satellite System (NPOESS)
- NPOESS Preparatory Program (NPP)
- European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT) Meteorological Operational Satellite (MetOp) Program
- NOAA NEXt generation weather RADar (NEXRAD) Program and future dual polarized and phased-array radars
- National Centers for Environmental Prediction Model Datasets, including Reanalysis Products

CLASS System Architecture

Will emphasize the following qualities in order to meet current and anticipated future needs:

- Interoperability, as interacting with other systems is a fundamental success metric for CLASS
- Reliability, to ensure successful data, information, and metadata preservation
- Flexibility, to economically and efficiently respond to change
- Extensibility, to accommodate new requirements and campaigns
- Generality, to support the wide variety of data and metadata CLASS will manage
- Scalability, to support the increasing volumes of data managed by CLASS
- Security, to ensure data integrity and comply with relevant requirements and guidelines
- Evolvability and maintainability, in light of the long-term nature of the CLASS mission