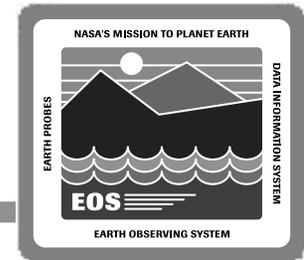


Real-Time

Jeff Cox

22 May 1996

FOS Real-Time



Infrastructure

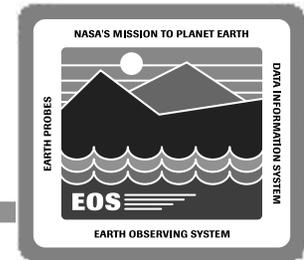
Telemetry

Command

Resource Manager

Real-time Contact Manager

Infrastructure



IPC

- Design improved to provide an IPC mechanism that separates the API from FOS implementation

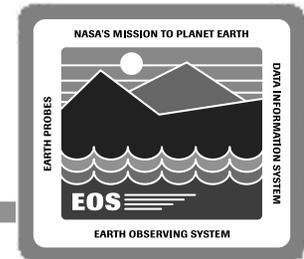
Parameter Server

- Design improved to allow clients to pre-register for parameters that the parameter server has yet to receive

Name Server

- Design improved to provided a directory service that can be used in either a global or local mode
 - Applications can register, unregister, or look-up services via a NameServer proxy
 - Added support for IST in local mode
 - This capability has facilitated testing by either enabling or preventing interference from external services

Telemetry

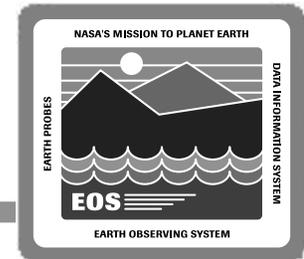


Design improved to enable processing of parameters that cross packets

Design improved to isolate CERES Duplicate Housekeeping data

- **Separate task strips out duplicate CERES H/K data before making it available to other FOS processes (e.g., FUI, ANA)**

Command



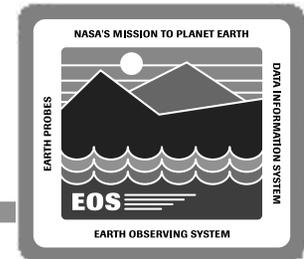
Design improved for processing planned commands

- **CMS provides command binary via Ground Script**
 - **Command Database lookup is performed by CMS and not required in real-time**

Design extended to accommodate PLOP1/PLOP2

Design improved to simplify the command transmission metering algorithm

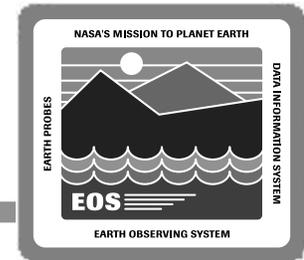
Resource Management



Design improved to streamline the configuration of “Mirrored” telemetry processes.

- **RTS Telemetry process automatically updates a configuration snapshot file that is read by a “Mirrored” telemetry process when it is initiated by RMS**
- **RMS Repeater**
 - **New process that coexists with the RMS String Manager**
 - **Facilitates routing configuration changes to Mirrored telemetry processes on FOS User Stations/ISTs**

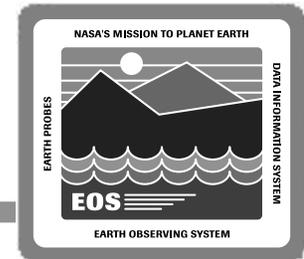
Real-Time Contact Management



NCC Processing Design Improvements

- **Design refined to process messages by service**
 - **The original design was with respect to message destination**
 - NccOut processes all the outgoing messages**
 - NccIn processes all the incoming messages**
 - **The new design is with respect to different RT services**
 - NccGroundMgr processes all the GCM messages**
 - NccStatusMgr processes all the Performance Data messages and User Monitoring message**
 - Removed synchronization messages between processes to keep track of the response for the outgoing message.**
 - Response is tracked by each process individually**

Real-Time Contact Management



NCC Requirements Modification

- **Communication interface from NASCOM Block to TCP/IP in "NCCDS 1998"**
 - **Original design that processes NASCOM blocks has undergone changes to accommodate the TCP/IP interface**

NCC In-Progress

- **Communication test message is still to be determined by NASA.**