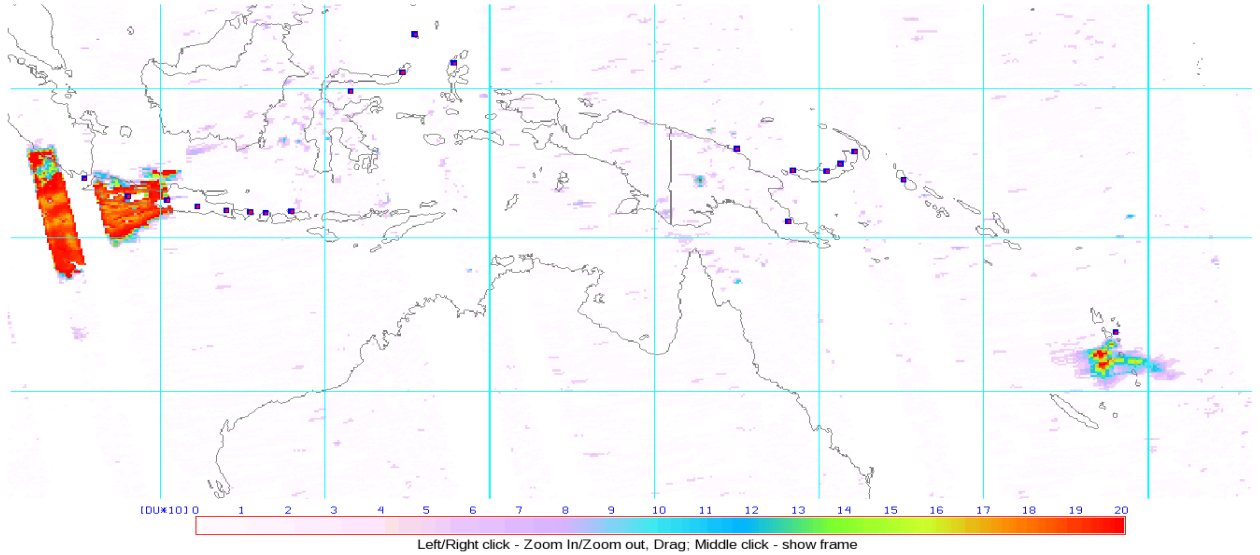


LANCE-OMI Status

Curt Tilmes, GSFC Code 614.5

Curt.Tilmes@nasa.gov

Phillip Durbin, GSFC Code 614.5

Phillip.B.Durbin@nasa.gov

LANCE User Working Group Meeting

November 16, 2010

Overview

The Ozone Monitoring Instrument (OMI) is a Dutch instrument launched on NASA's Aura spacecraft in 2004. The Royal Dutch Meteorological Institute (KNMI) and NASA have jointly developed the Near Real-time (NRT) capability.

Summary of Products

OMI SIPS produces Ozone (column and profile), aerosols, clouds, and Sulfur Dioxide NRT data products.

Performance Metrics

- *The most difficult product OMSO2 the average latency is 02:14 from first observation.*
- *For all products, 98% of them had a latency of less than 3 hours from first observation in the past month.*
- *OMI had 5 new ftp users in addition to the 5 core (pull) users.*

Overview (continued)

Near-Real Time versus Standard

- *The OMI NRT Level 1B and Level 2 products use spacecraft contact session time and predicted orbit definitions to estimate the data start and end times of the NRT granule. Because of this the contents of NRT data for a given orbit may not be the same set of measurements as the standard products.*
- *To speed up L1B Algorithm some internal algorithms are bypassed: spectral calibration, solar stray light corrections, and some dark current corrections. Results in about a 20% reduction in processing time compared with standard processing.*

Redundancy Status

- *The backup Near Real Time SIPS is planned to be operational by the end of January 2011. It will feature an independent data stream for Level 0 data from EDOS and be on its own network. If the primary (omisips) string is not available, it will be up to the users to get data from the backup system.*

Element Changes since December 09 Workshop

New Products Added To the LANCE site

- *OMTO3 – Total Column Ozone*
- *OMAERUV - Aerosol Optical Depth*
- *OMSO2NRT – Sulphur Dioxide*
- *OMCLDRR – Cloud Pressure and Fraction*
- *OMTO3e – 1/4x1/4 degree gridded Level 3 product.*

We plan to add the KNMI Products: OMCLDO2, OMAERO and add the level 3 OMSO2e when available.

System Changes

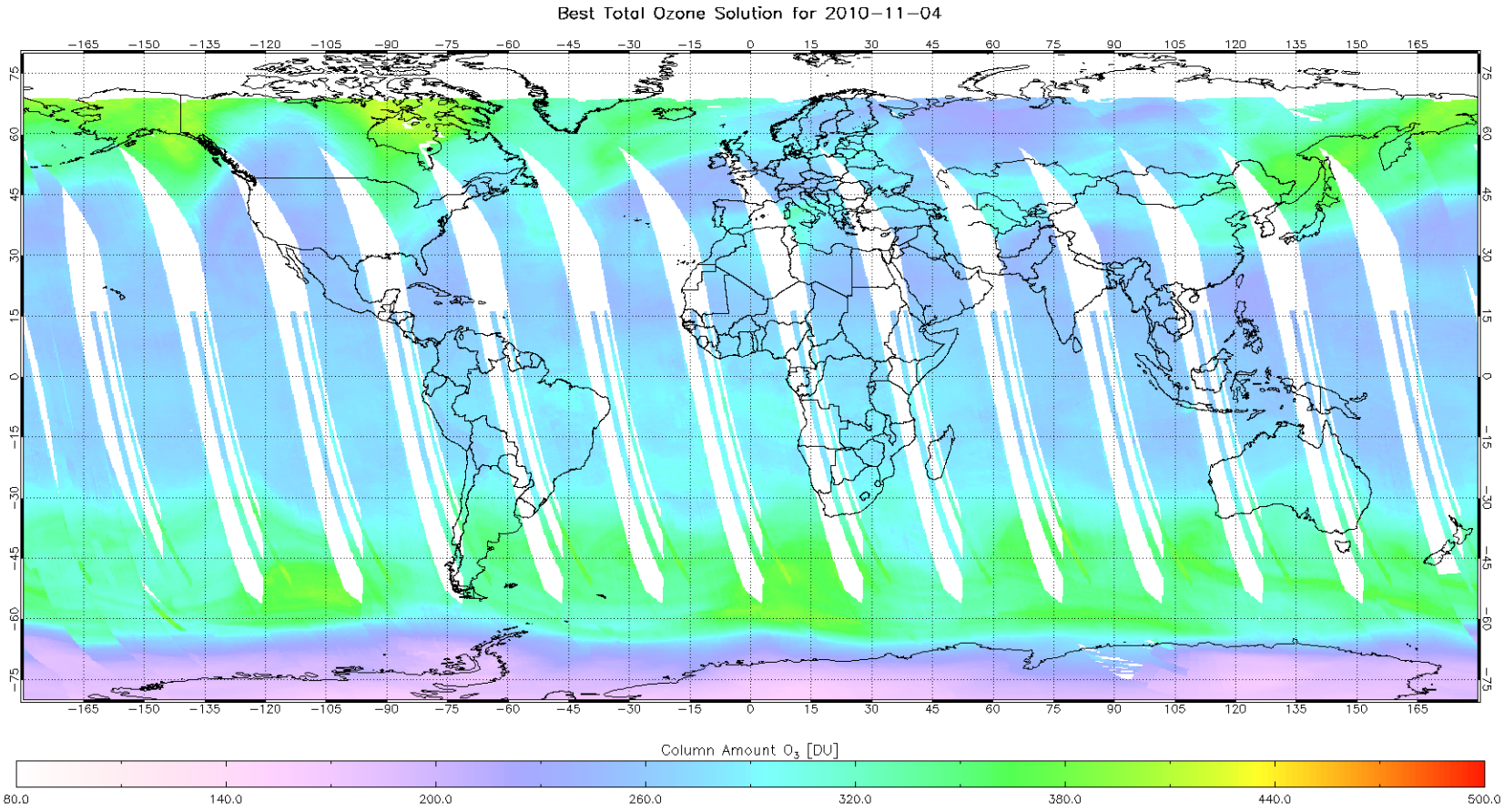
- *Added ftp server with ESDIS authorization*
- *Capturing and sending metrics to ESDIS Metrics System*
- *Added website for direct access to data*
- *Add fully redundant backup processing system, January 2011*

Additional Upgrades for Discussion

Suggested LANCE-OMI Upgrades

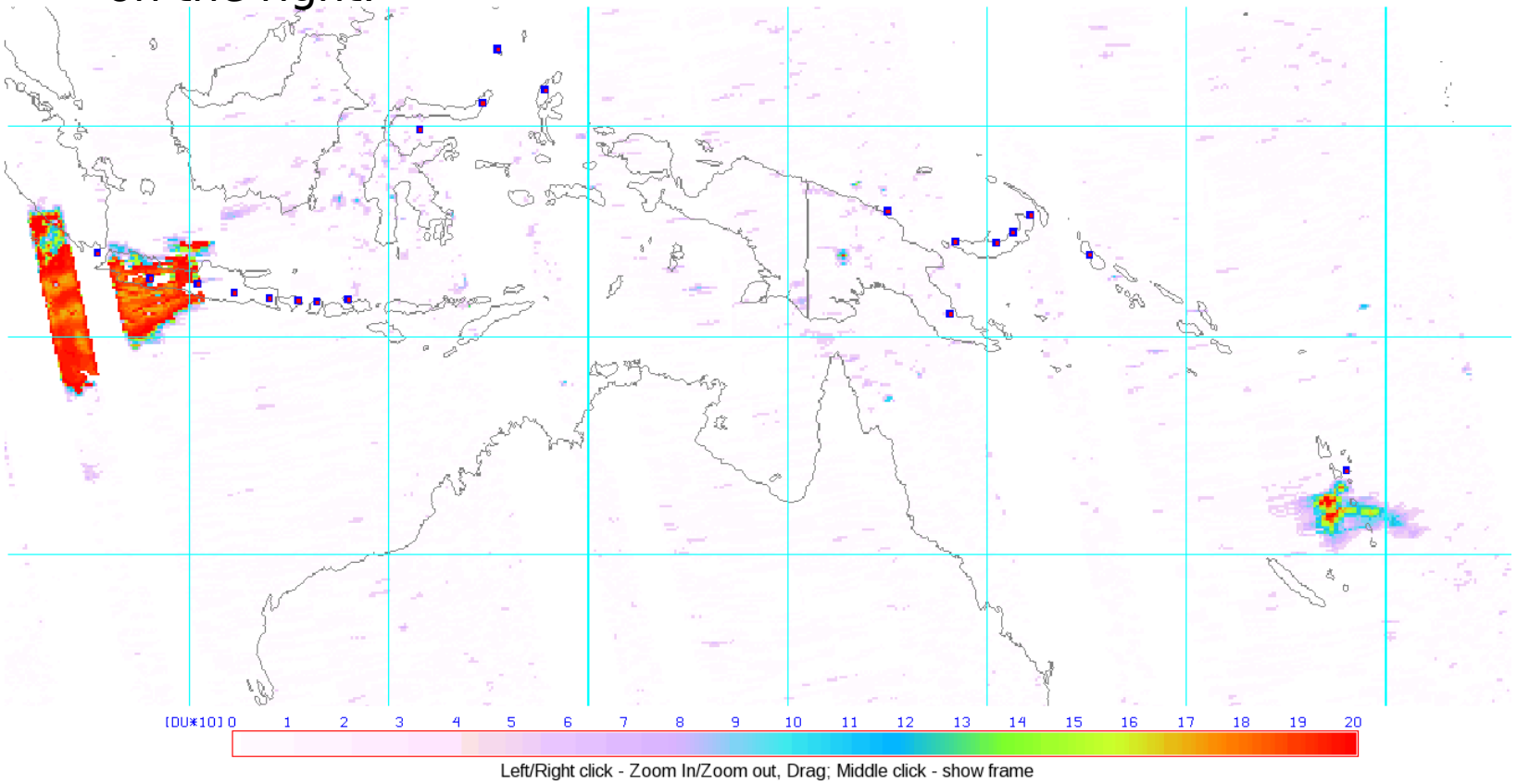
- *The generation of Level 3 KML files.*
  - *OMTO3e*
  - *OMSO2e – dependent upon release of OMSO2e*
- *Automatic data conversion tools to convert to netCDF , geotiff and other formats; similar to what MODIS is doing.*

Total Column Ozone



OMSO2 from CAN website

OMI SO2 Measurements show volcanic activity on 2010-11-05 from the CAN website. SO2 Plume from Mount Merapi is on the right.



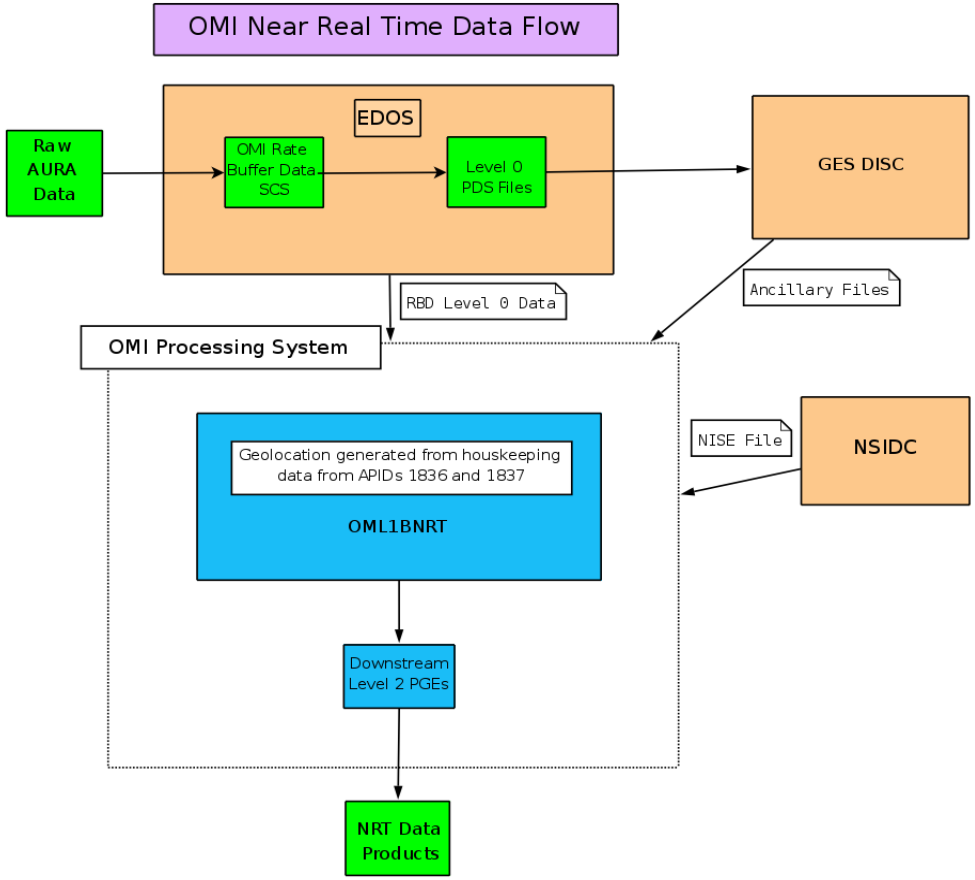
Products Produced

Product Short Name	Description
● OMTO3	● OMI/Aura Ozone (TOMS-like Algorithm) Total Column and Aerosol Index
● OMCLDRR	● OMI/Aura Cloud Pressure and Fraction, Raman Scattering Algorithm
● OMAERUV	● OMI/Aura Near-UV Aerosol Optical Depth and single Scattering Albedo
● OMSO2NRTb	● OMI/Aura Sulphur Dioxide (SO2) Total Column

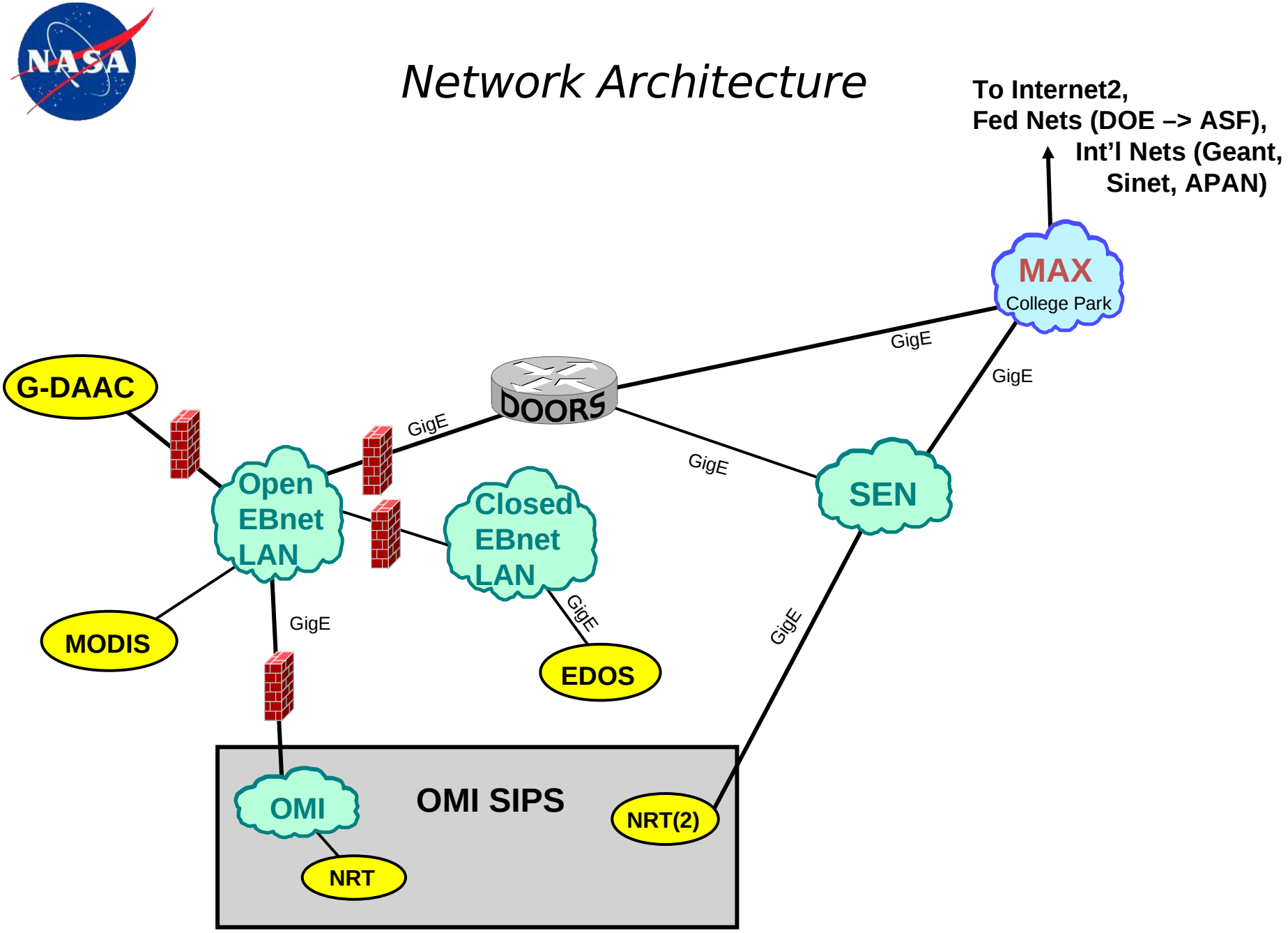
Products Produced (continued)

Product Short Name	Description
● OMDOAO3	● OMI/Aura Ozone (DOAS Technique) Total Column
● OMCLDO2	● OMI/Aura Cloud Pressure and Fraction, O2-O2 Absorption Algorithm
● OMAERO	● OMI/Aura Multi-Wavelength Aerosol Optical Depth and single Scattering Albedo

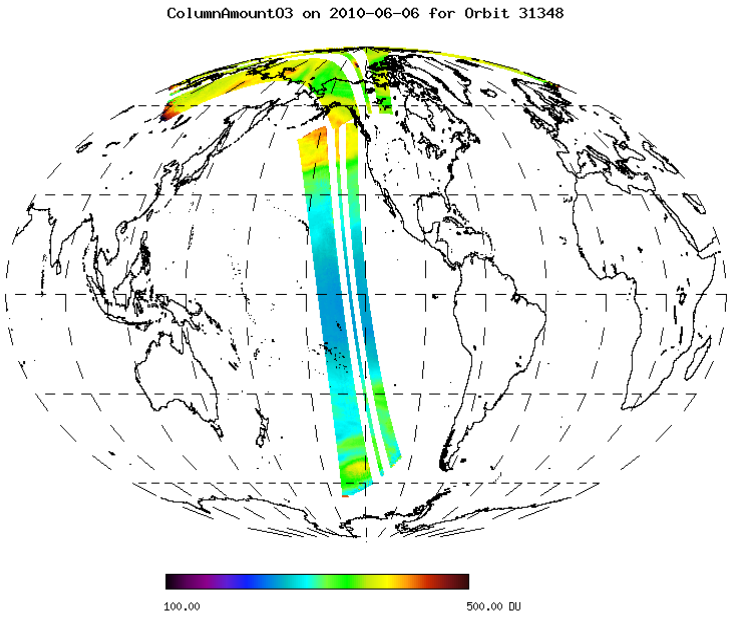
Logical Architecture



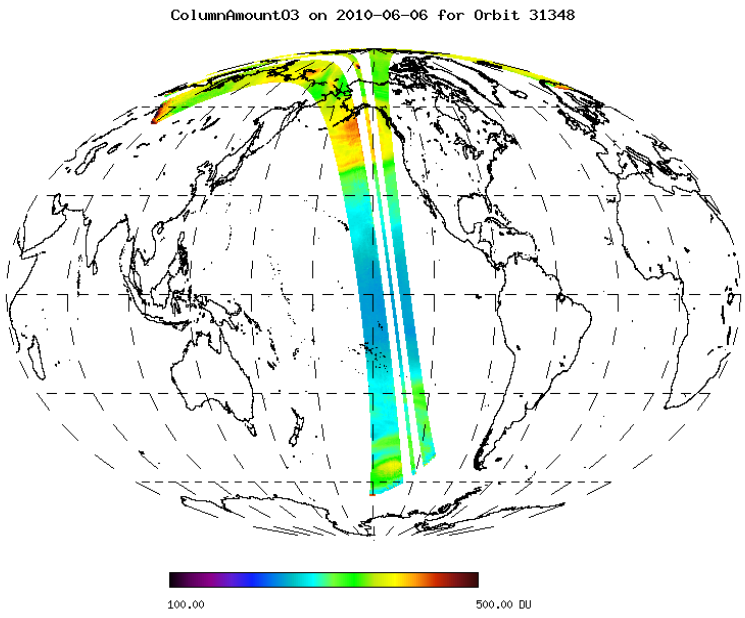
Network Architecture



Level 2 NRT vs Standard images



NRT OMTO3 product



Standard OMTO3 product

Latency by Product

File type	Average Latency (HH:MM:SS)	Maximum Latency (HH:MM:SS)	Minimum Latency (HH:MM:SS)
OMAERUV	02:03:44	05:20:50	01:29:01
OMCLDRR	02:01:42	05:18:20	01:28:14
OML1B data	01:56:08	05:13:16	01:14:31
OMSO2NRT	02:14:24	05:28:13	01:40:16
OMTO3	02:08:18	05:23:22	01:35:31