

EOS Science Networks Performance Report

This is a summary of EOS QA SCF performance testing for the 4th quarter of 2007 -- comparing the performance against the requirements from BAH, including Terra, TRMM, QuikScat, Aqua, Aura, ICESat, and GEOS requirements

Up to date graphical results can be found on the EOS network performance web site: http://ensight.eos.nasa.gov/active_net_measure.html. Or click on any of the individual site links below.

Highlights:

- Continued congestion from the EBnet router at GSFC to the “Doors”
 - Affects daily worst performance from GES-DAAC, MODIS, GSFC-PTH
 - Compare performance with GSFC-ENPL.
- Otherwise, very stable performance.
 - ALL Nodes rated “Good” or “Excellent”!
 - GPA 3.71 (was 3.60 last month)
- Testing restored to Ohio State for ICESAT: rating Excellent
- UIUC, UWash: Testing discontinued, no longer reported
- The Nov ‘07 requirements are used as the basis for the ratings

Ratings:

Rating Categories:

Excellent: median of daily worst cases > 3 x requirement

Good: median of daily worst cases > requirement

Adequate: median of daily worst cases < requirement
and
median of daily medians > requirement

Low: median of daily medians < requirement.

Bad: median of daily medians < 1/3 of the requirement.

Ratings Changes:

Upgrades: ↑:

LaTIS → UAH-GHRC: Adequate → **Good**

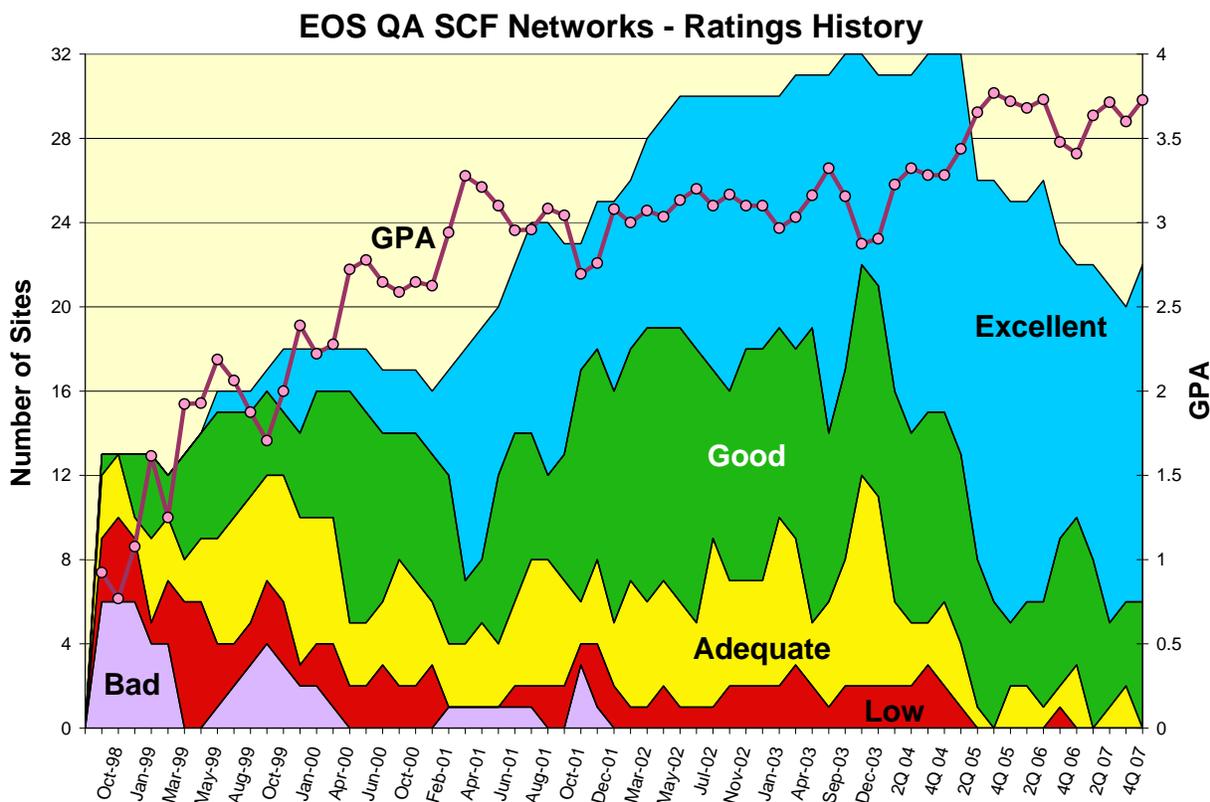
LaRC ASDC DAAC → JRC (Italy): Adequate → **Good**

Downgrades: ↓ : None

Testing Resumed: Ohio State: **Excellent**

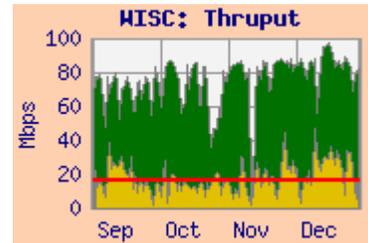
Ratings History:

The chart below shows the number of sites in each classification since the testing started in 1998. Note that these ratings do NOT relate to absolute performance -- they are relative to the EOS requirements. The GPA is calculated based on Excellent: 4, Good: 3, Adequate: 2, Low: 1, Bad: 0



Note that there are fewer sites included in this chart since 1Q'05 due to stopping of testing to U Washington (5/07) and UIUC (4Q06), discontinuation of tests to NOAA and UMD (3Q06), discontinuation of tests to SAGE III Nodes (2Q06), and moving the reporting for SIPS sites to the "EOS Production sites" performance report (2Q05).

Integrated Charts: Integrated charts are now included for selected sites with the site details. These charts are “Area” charts, with a pink background. A sample Integrated chart is shown here. The yellow area at the bottom represents the daily average of the user flow from the source facility (e.g., GSFC, in this example) to the destination facility (e.g., Wisconsin, in this example) obtained from routers via “netflow”. The green area is stacked on top of the user flow, and represents the “adjusted” daily average iperf thruptut between the source-destination pair most closely corresponding to the requirement. This iperf measurement essentially shows the circuit capacity remaining with the user flows active. The adjustments are made to compensate for various systematic effects, and are best considered as an approximation. The red line is the requirement for the flow from the source to destination facilities.



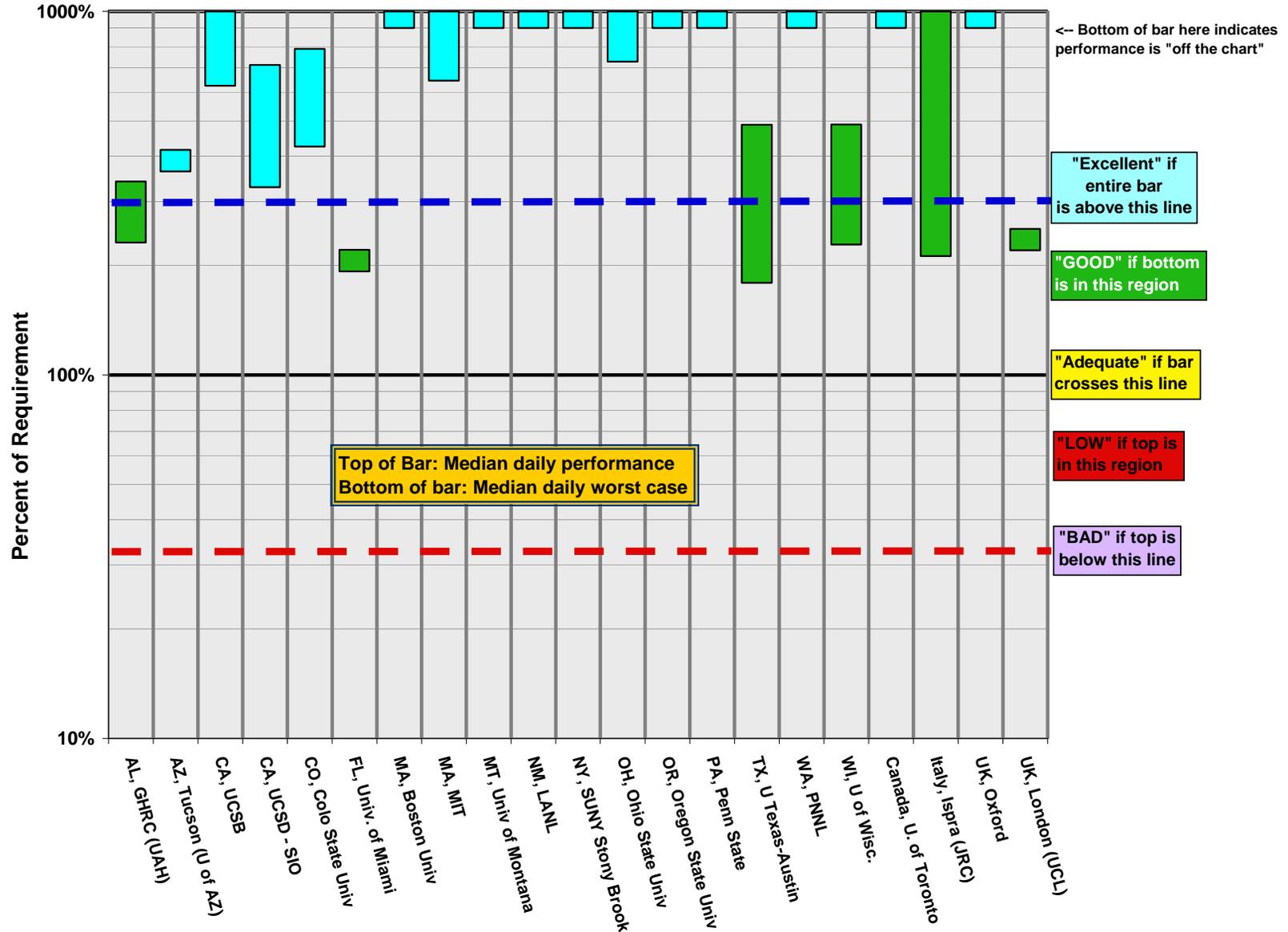
Note: User flow data is not available from LaRC, so sites with requirements from LaRC will not include integrated graphs.

EOS QA SCF Sites Summary: Network Requirements vs. Measured Performance

4th Quarter 2007		Testing							
Destination	Team (s)	Requirement	Source Node	Median mbps	Median Daily Worst	Average User Flow	Rating re Current Requirements		Route Tested
		Nov-07					4 Q 2007	3Q07	
AL, GHRC (UAH)	CERES, AMSR-E	6.9	LaTIS	24.0	16.3		GOOD	A	NISN / MAX / Internet2
AZ, Tucson (U of AZ)	MODIS	2.6	EROS LPDAAC	11.7	10.2	0.70	Excellent	E	StarLight (Chicago) / Internet2
CA, UCSB	MODIS	3.1	GDAAC	62.2	19.5	0.98	Excellent	E	MAX / Internet2
CA, UCSD - SIO	ICESAT, CERES	7.1	GSFC-ICESAT	50.7	23.3	0.1	Excellent	E	NISN / MAX / Internet2
CO, Colo State Univ	CERES	2.1	LaTIS	16.9	9.1		Excellent	E	NISN / MAX / Internet2
FL, Univ. of Miami	MODIS, MISR	18.8	GDAAC	41.6	36.3	7.5	GOOD	G	MAX / Internet2
MA, Boston Univ	MODIS, MISR	3.0	EROS LPDAAC	80.4	54.5	1.0	Excellent	E	StarLight (Chicago) / Internet2
MA, MIT	ICESAT	7.0	GSFC-ICESAT	74.8	45.2		Excellent	E	NISN / MAX / Internet2
MT, Univ of Montana	MODIS	0.8	EROS LPDAAC	27.0	19.5	0.48	Excellent	E	StarLight (Chicago) / Internet2
NM, LANL	MISR	1.0	LaRC DAAC	51.8	37.7		Excellent	E	NISN / MAX / Internet2
NY, SUNY Stony Brook	CERES	0.6	LaTIS	45.2	31.4		Excellent	E	NISN / MAX / Internet2
OH, Ohio State Univ	ICESAT	6.3	GSFC-ICESAT	65.6	45.9		Excellent	n/a	NISN / MAX / Internet2
OR, Oregon State Univ	CERES, MODIS	7.6	LaTIS	113.8	83.9		Excellent	E	NISN / MAX / Internet2
PA, Penn State	MISR	2.6	LaRC DAAC	316.5	259.9		Excellent	E	NISN / MAX / 3 Rivers
TX, U Texas-Austin	ICESAT	11.1	GSFC-ICESAT	54.0	19.8	0.33	GOOD	G	NISN / MAX / Internet2
WA, PNNL	MISR	1.4	LaRC PTH	90.9	90.4		Excellent	E	NISN -> ESNet via CA
WI, U of Wisc.	MODIS, CERES, AIRS	16.5	GDAAC	80.5	37.6	18.2	GOOD	G	MAX / Internet2
Canada, U. of Toronto	MOPITT	0.6	LaRC DAAC	26.4	12.8		Excellent	E	NISN-CA*net4
Italy, Ispra (JRC)	MISR	0.5	LaRC DAAC	5.7	1.1		GOOD	A	NISN / Chicago / CA*net / Géant (NY) / GARR
UK, Oxford	HIRDLS	0.5	GSFC-PTH	29.3	10.0	0.26	Excellent	E	Internet2 / Géant (DC) / JAnet
UK, London (UCL)	MISR, MODIS	1.0	LaRC PTH	2.6	2.3		GOOD	G	NISN / Teleglobe (SFO) / JAnet
*Rating Criteria:							Rating		Current Nov-07 Last Report
Excellent	Median Daily Worst >= 3 *Requirement						Excellent		15 14
GOOD	Median Daily Worst >= Requirement						GOOD		6 4
Adequate	Median Daily Worst < Requirement <= Median Daily Median						Adequate		0 2
LOW	Median Daily Median < Requirement						LOW		0 0
BAD	Median Daily Median < Requirement / 3						BAD		0 0
							Total		21 20
							GPA		3.71 3.60

EOS QA SCF Sites

Daily Median and Worst Performance as a percent of Requirements



Details on individual sites:

Each site listed below is the DESTINATION for all the results reported in that section. The first test listed is the one on which the rating is based -- it is from the source most relevant to the driving requirement. Other tests are also listed. The three values listed are derived from [nominally] 24 tests per day. For each day, a daily best, worst, and median is obtained. The values shown below are the medians of those values over the test period.

1) AL, GHRC (UAH) (aka NSSTC)

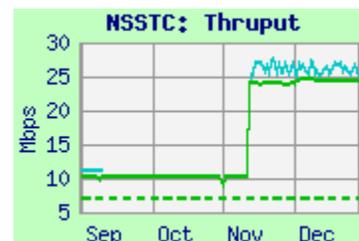
Teams: CERES, AMSR

Web Page: <http://ensight.eos.nasa.gov/Missions/terra/NSSTC.shtml>

Rating: ↑ Adequate → **Good**
Domain: nsstc.uah.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaRC LaTIS	24.1	24.0	16.3	Internet2 via NISN / MAX
GSFC-CNE	28.8	26.0	21.8	Internet2 via MAX



Requirements:

Source Node	FY	Mbps	Rating
LaRC LaTIS	'06 – '08	7.0	Good

Comments: The packet loss problem (which began in March) was fixed in November. Performance from both sources increased at that time; the rating improves back to “Good”.

Note: Testing between NSSTC and NSIDC for AMSR-E (AQUA) is included in the “Production Sites” report.

2) AZ, Tucson (U of AZ):

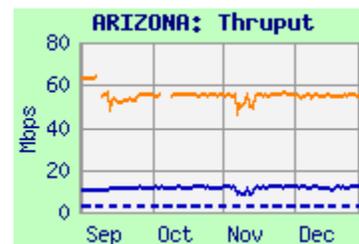
Team: MODIS

Web Page: <http://ensight.eos.nasa.gov/Missions/terra/ARIZONA.shtml>

Rating: Continued **Excellent**
Domain: arizona.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
EROS LPDAAC	13.1	11.7	10.2	Internet2 via Chicago
GSFC	57.9	55.1	50.4	Internet2 via MAX

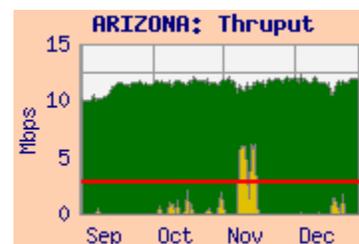


Requirements:

Source Node	FY	Mbps	Rating
EROS LPDAAC	'03 - '08	2.8	Excellent

Comments: The ratings are based on the MODIS flow from EROS – performance was slightly improved this quarter, rating “Excellent”. Performance from GSFC dropped slightly (at the same time).

The average user flow from EROS was 650 kbps (much higher than 40 kbps last quarter) – about 23% of the stated requirement.



3) CA, UCSB :

Teams: MODIS
Domain: ucsb.edu

Web page: <http://ensight.eos.nasa.gov/Missions/terra/UCSB.shtml>

Ratings: GSFC: Continued **Excellent**
EROS: Continued **Excellent**

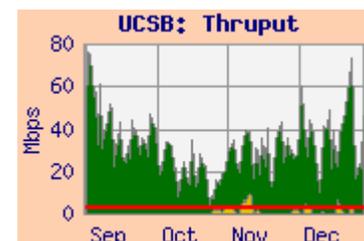
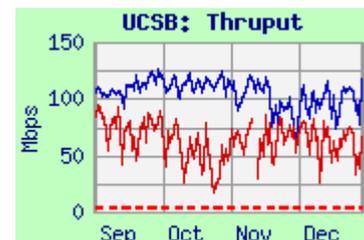
Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC-DAAC	94.2	62.2	19.5	Internet2 via MAX
EROS-LPDAAC	124.0	106.5	72.2	Internet2 via Chicago

Requirements:

Source Node	FY	mbps	Rating
GSFC-DAAC	'04 - '08	3.1	Excellent
EROS-LPDAAC	'04 - '08	2.2	Excellent

Comments: The requirements are split between EROS and GSFC. Performance from GSFC was noisy due to the congested EBnet to Doors Gig-E, while performance from EROS has been mostly stable since April '05. The rating remains "Excellent" from both sites. The Integrated graph shows that the user flow from GSFC averages 1 mbps, but often peaks at approximately the level of the requirement.

**4) CA, UCSD (SIO):**

Teams: CERES, ICESAT
Domain: ucsd.edu

Web Page: <http://ensight.eos.nasa.gov/Missions/terra/UCSD.shtml>

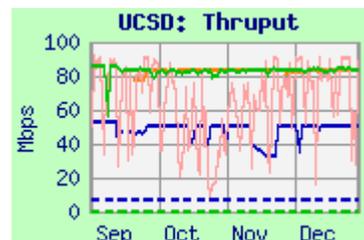
Ratings: ICESAT: Continued **Excellent**
LaTIS: Continued **Excellent**

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC-ICESAT	50.8	50.7	23.3	Internet2 via NISN / MAX
LaTIS	85.8	83.3	77.9	Internet2 via NISN / MAX
GSFC-PTH	91.3	65.4	12.8	Internet2 via MAX

Requirements:

Source Node	FY	mbps	Rating
GSFC-ICESAT	'05 - '08	7.0	Excellent
LaTIS	'02 - '08	0.26	Excellent



Comments: The daily minimum from GSFC remains above 3 x the requirement keeping the rating "Excellent". Performance from GSFC-PTH is a bit better on average, but more noisy, due to the EBnet to Doors congestion. Performance from LaTIS was similar to the previous period. The LaTIS rating also continues as "Excellent".

5) CO, Colo State Univ.:

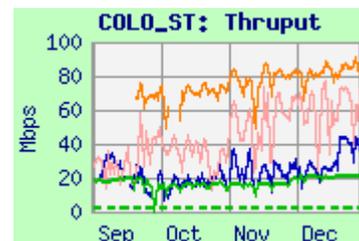
Teams: CERES

Web page: http://ensight.eos.nasa.gov/Missions/terra/COLO_ST.shtmlRating: Continued **Excellent**

Domain: colostate.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaTIS	17.1	16.9	9.1	Internet2 via NISN / MAX
GSFC-ICESAT	43.6	22.5	4.6	Internet2 via NISN / MAX
GSFC-PTH	70.4	50.0	15.5	Internet2 via MAX
GSFC-ENPL	84.8	78.9	55.5	Internet2 via MAX



Requirements:

Source Node	FY	mbps	Rating
LaTIS	'04 - '08	2.15	Excellent

Comments: Performance from all sources remains noisy, but the daily worst from LaTIS remained above 3 x the requirement, so the rating continues “Excellent”. Testing was added from ICESAT at GSFC in September, due to user flows. Testing was also added from ENPL-PTH at GSFC (outside most campus firewalls); it shows that the true capacity of the network is higher than seen from either the CNE or EBnet nodes.

6) FL, Univ. of Miami:

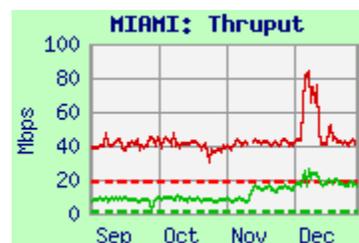
Teams: MODIS, MISR

Domain: rsmas.miami.edu

Web page: <http://ensight.eos.nasa.gov/Missions/terra/MIAMI.shtml>Rating: GSFC:Continued **Good**LaRC: Continued **Excellent**

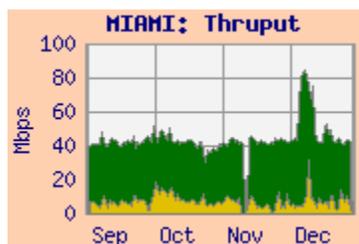
Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC-DAAC	51.6	41.6	36.3	Internet2 via MAX
LaRC DAAC	19.7	13.6	9.3	Internet2 via NISN / MAX



Requirements:

Source Node	FY	mbps	Rating
GSFC	'04 - '08	18.8	Good
LaRC DAAC	'04 - '08	1.1	Excellent



Comments: Testing from GSFC was switched to GDAAC in July; thruput was mostly stable. **Thruput from LaRC dropped in September, but recovered in November.** The rating remains “Good” from GSFC, and “Excellent” from LaRC, due to the much lower requirement.

The integrated graph shows that user flow from GSFC averaged about 7.5 mbps for this period, close to 50% of the requirement.

Note: Thruput was about 133 mbps from GSFC and 38 mbps from LaRC until Aug '05; an increase in packet loss was observed at the same time. Since this loss is observed from all sources, the problem appears to be in or near Miami.

7) MA, Boston Univ:

Teams: MODIS, MISR

Domain: bu.edu

Web Page: <http://ensight.eos.nasa.gov/Missions/terra/BU.shtml>Ratings: EROS: Continued **Excellent**LaRC: Continued **Excellent**

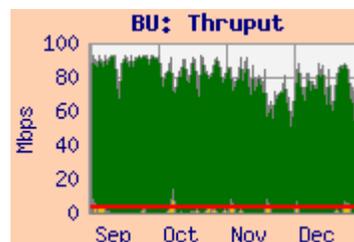
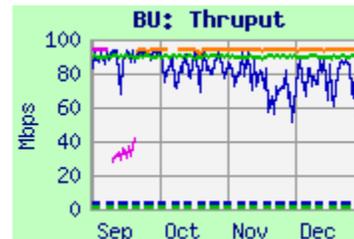
Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
EROS DAAC	92.7	80.4	54.5	Internet2 via Chicago
GSFC ENPL	93.7	93.7	84.2	Internet2 via MAX
LaRC DAAC	91.9	90.0	81.0	Internet2 via NISN / MAX

Requirements:

Source Node	FY	mbps	Rating
EROS DAAC	'04 - '08	3.0	Excellent
LaRC DAAC	'04 - '08	1.2	Excellent

Comments: Performance from all sources was stable for this period. The user flow from EROS averaged about 1.0 mbps for this period (33% of the requirement). The rating from both sources remains "Excellent".

**8) MA, MIT:**

Teams: ICESAT

Web Page: <http://ensight.eos.nasa.gov/Missions/icesat/MIT.shtml>

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC-ICESAT	84.5	74.8	45.2	Internet2 via NISN / MAX
GSFC-PTH	86.6	60.0	20.5	Internet2 via MAX

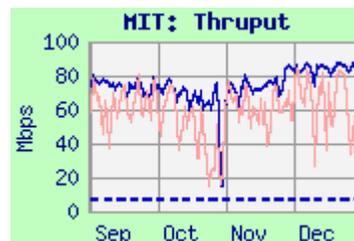
Requirements:

Source Node	FY	mbps	Rating
GSFC	'05 - '08	7.0	Excellent

Comments: Performance from GSFC ICESAT to MIT is stable (Best:worst ratio is only 1.9:1). The median daily worst is well above 3 x the requirement; the rating remains "Excellent". From GSFC-PTH the peak performance is similar, but the median and worst are lower, due to the EBnet to Doors congestion.

Rating: Continued **Excellent**

Domain: mit.edu

**9) MT, Univ of Montana:**

Teams: MODIS

Web Page: <http://ensight.eos.nasa.gov/Missions/terra/MONT.shtml>

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
EROS LPDAAC	27.8	27.0	19.5	Chicago / Internet2
GSFC	46.7	41.1	18.3	MAX / Internet2
NSIDC	55.4	53.8	22.7	CU / FRGP / Internet2

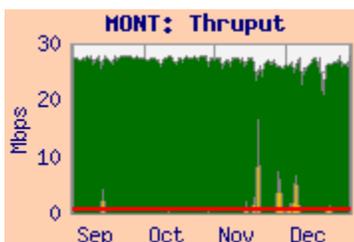
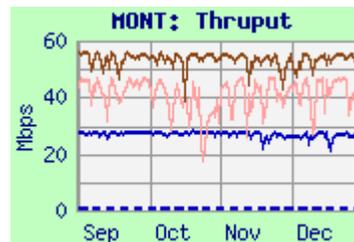
Requirement:

Source Node	FY	mbps	Rating
EROS LPDAAC	'04 - '08	0.82	Excellent

Comments: Performance was quite stable this period -- the diurnal cycle is much weaker now (Daily Max:Min ratio from EROS is now only 1.4:1 -- was about 9:1 until November '06). With the very low requirement, the rating remains "Excellent". The integrated graph shows the daily average user flow from EROS peaking over 10 mbps, with a long term average of only 480 kbps -- over 50% of the requirement.

Rating: Continued **Excellent**

Domain: ntsg.umt.edu



10) NM, LANL:

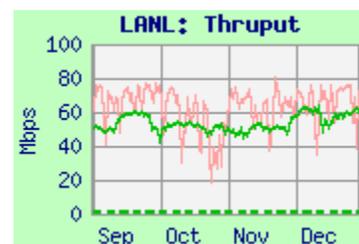
Teams: MISR

Web Page: <http://ensight.eos.nasa.gov/Missions/terra/LANL.shtml>Rating: Continued **Excellent**

Domain: lanl.gov

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaRC DAAC	56.9	51.8	37.7	NISN SIP / Chi / ESnet
GSFC-PTH	77.9	65.3	25.7	MAX / ESnet



Requirements:

Source Node	FY	mbps	Rating
LaRC DAAC	'03-'08	1.03	Excellent

Comments: Performance from LaRC improved a bit this period. With the low requirement, the rating remains "Excellent". Performance from GSFC was also mostly stable this period.

11) NY, SUNY-SB:

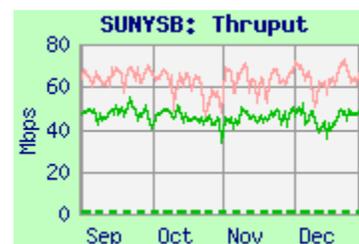
Teams: CERES, MODIS

Web Page: <http://ensight.eos.nasa.gov/Missions/terra/SUNYSB.shtml>Rating: Continued **Excellent**

Domain: sunysb.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaTIS	56.7	45.2	31.4	NISN / NYSERnet
GSFC	76.8	63.2	38.6	MAX / Internet2 / NYSERnet



Requirements:

Source Node	FY	mbps	Rating
LaTIS	'02-'08	0.57	Excellent

Comments: Performance from LaTIS has been stable since March '07 (when NISN fixed their routing to NYSERnet). Due to the very low requirement, the rating remains "Excellent". Performance from GSFC was also stable this period.

12) OH, Ohio State Univ:

Teams: ICESAT

Web Page: http://ensight.eos.nasa.gov/Missions/icesat/OHIO_STATE.shtmlRating: **Excellent**

Domain: ohio-state.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC-ICESAT	78.5	65.6	45.9	NISN / NYSERnet
GSFC-PTH	91.5	70.8	21.8	MAX / Internet2 / NYSERnet



Requirements:

Source Node	FY	mbps	Rating
GSFC-ICESAT	'05-'08	6.3	n/a

Comments: The Ohio State test host was restored in December (had been down since March '07), and testing resumed. Results from ICESAT are similar to previous tests, rating "Excellent".

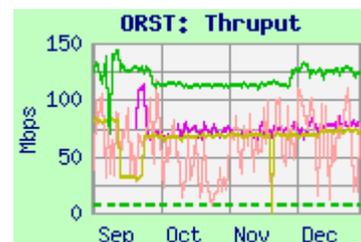
13) OR, Oregon State Univ:

Teams: CERES, MODIS Domain: oce.orst.edu
 Web Page: <http://ensight.eos.nasa.gov/Missions/terra/ORST.shtml>

Ratings: LaTIS: Continued **Excellent**
 GSFC: Continued **Excellent**

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaTIS	117.4	113.8	83.9	Internet2 via NISN / MAX
JPL	70.8	68.4	61.4	Internet2 via CalRen
GSFC-PTH	147.7	56.9	8.9	Internet2 via MAX



Requirements:

Source Node	FY	mbps	Rating
LaTIS	'04 - '08	7.5	Excellent
GDAAC	'02 - '08	0.25	Excellent

Comments: Thruput from LaTIS was mostly stable for this period, well above the requirement. Thruput from GSFC is noisy due to EBnet to Doors congestion. Thruput from JPL is limited by the Fast-E interface on the test node. The ratings from both LaTIS and GSFC remain "Excellent".

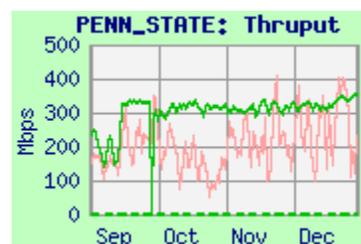
14) PA: Penn State Univ:

Team: MISR
 Web Page: http://ensight.eos.nasa.gov/Missions/terra/PENN_STATE.shtml

Rating: Continued **Excellent**
 Domain: psu.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaRC DAAC	338.0	316.5	259.9	Internet2 via NISN / MAX
GSFC-PTH	399.1	185.8	68.2	Internet2 via MAX



Requirements:

Source Node	FY	mbps	Rating
LaRC DAAC	'03-'08	2.6	Excellent

Comments: Performance from both sites improved in September with retuning. The EBnet-Doors congestion at GSFC became a factor in October '06 – thruput from GSFC averaged about 300 mbps before that. The rating remains "Excellent".

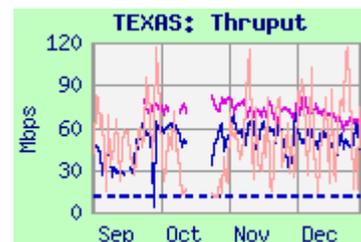
15) TX: Univ. of Texas - Austin:

Team: ICESAT
 Web Page: <http://ensight.eos.nasa.gov/Missions/icesat/TEXAS.shtml>

Rating: Continued **Good**
 Domain: utexas.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Mediar	Worst	
GSFC-ICESAT	91.3	54.0	19.8	Internet2 via NISN / MAX
GSFC-ENPL	90.1	70.4	57.6	Internet2 via MAX



Requirements:

Source Node	FY	mbps	Rating
GSFC-ICESAT	05-'08	11.1	Good

Comments: Performance from ICESAT dropped in August, and the daily worst thruput is now below 3 x the requirement; so the rating drops to "Good". There is congestion from GSFC-PTH – on the EBnet to Doors GigE, resulting in a lower daily worst, despite a higher daily best. Testing was added from the ENPL node in September, outside of most of the congested campus infrastructure. It is higher performing and less noisy. The average user flow this period was only 0.3 mbps, well below the requirement.

16) WA, PNNL:

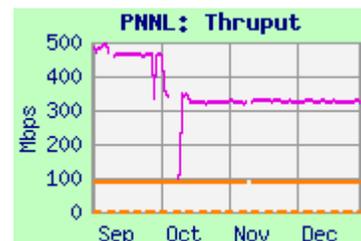
Team: MISR

Web Page: <http://ensight.eos.nasa.gov/Missions/terra/PNNL.shtml>Ratings: LaRC: Continued **Excellent**

Domain: pnl.gov

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaRC-PTH	90.9	90.9	90.4	NISN / Chi / ESnet
GSFC-ENPL	332.8	325.0	315.8	MAX / ESnet



Requirements:

Source Node	FY	mbps	Rating
LaRC	'04-'08	1.4	Excellent

Comments: Performance from LaRC PTH has been extremely stable, limited by a 100 mbps Ethernet connection; the rating remains “Excellent”. Performance from GSFC-ENPL is **OUTSTANDING!**

17) WI, Univ. of Wisconsin:

Teams: MODIS, CERES, AIRS Domain: ssec.wisc.edu

Web Page: <http://ensight.eos.nasa.gov/Missions/terra/WISC.shtml>Ratings: GSFC: Continued **Good**LARC: Continued **Excellent**

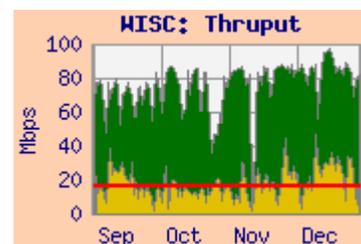
Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC-DAAC	87.5	80.5	37.6	MAX / Internet2 / Chi / MREN
LaTIS	85.0	78.1	55.4	NISN / Chicago / MREN
GSFC-ENPL	92.3	91.1	89.1	MAX / Internet2 / Chi / MREN



Requirements:

Source Node	FY	mbps	Rating
GSFC	'04 - '08	16.5	Good
LaRC Combined	'05 - '08	7.9	Excellent



Comments: Performance from GDAAC was similar to last month – noisy due to congestion at GSFC. The daily worst remained below 3 x the requirement, the rating remains “Good”. Thruput from LaTIS improved with retuning in November; the rating from LaTIS remains “Excellent”. Testing from ENPL was retuned in September, it was very stable thereafter. The integrated graph shows that the average user flow from GSFC was about 18.2 mbps – **actually HIGHER than the requirement!**

18) Canada, Univ of Toronto:Rating: Continued **Excellent**

Team: MOPITT

Domain: utoronto.ca

Web Page: <http://ensight.eos.nasa.gov/Missions/terra/TORONTO.shtml>

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaRC DAAC	28.9	26.4	12.8	NISN / Chicago / CA*net4
GSFC-PTH	36.4	33.4	23.2	MAX / Internet2 / Chicago / CA*net4

Requirements:

Source Node	FY	kbps	Rating
LaRC DAAC	'02 - '08	100	Excellent
GSFC EOC	'02 - '08	512	Excellent



Comments: Performance from both sources has been mostly stable since December '06. The ratings from both sources remain "Excellent". User flow from GSFC was about 130 kbps this quarter

19) Italy, EC - JRC:Rating: ↑ Adequate → **Good**

Team: MISR

Domain: jrc.it

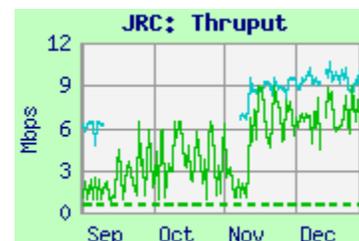
Web Page: <http://ensight.eos.nasa.gov/Missions/terra/JRC.shtml>

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaRC DAAC	9.0	5.7	1.1	NISN / Chicago / CA*net / NY / Géant
GSFC-NISN	13.6	9.2	6.2	NISN / UUnet / Milan

Requirements:

Source Node	FY	mbps	Rating
LaRC DAAC	'02 - '08	0.52	Good



Comments: Routing to JRC was switched to Géant in mid July. But since NISN does not peer with Géant (peering is available at MAX), the route is via NISN to Chicago, then via CA*net, peering with Géant in NY. Performance from both sources improved in November with retuning. The the median daily worst from LaRC is now above the requirement, so the rating improves to "Good".

20) UK, London: (UCL)

Teams: MODIS, MISR

Web Page: <http://ensight.eos.nasa.gov/Missions/terra/UCLSCF.shtml>Rating: Continued **Good**

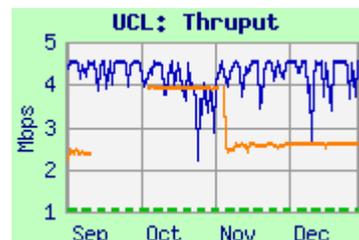
Domain: ucl.ac.uk

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaRC DAAC	2.6	2.6	2.3	NISN / SFO / Sprintlink / JAnet
GSFC PTH	4.6	4.3	2.5	MAX / Internet2 / NY / Geant / JAnet

Requirements

Source Node	FY	mbps	Rating
LaRC DAAC	'02 – '08	1.03	Good



Comments: In September '06 the testing was modified due to a new firewall at UCL – now using ftp pulls by UCL instead of iperf from GSFC and LaRC.

Results are much lower using this method – previous iperf thruput was 9.5 mbps from LaRC and 32 mbps from GSFC. The route from LaRC is via NISN, peering with Sprintlink on the west coast, unnecessarily increasing RTT and reducing thruput. Although stable, thruput from LaRC is slightly below 3 x the requirement, so the rating remains “Good”.

21) UK, Oxford:

Team: HIRDLS

Web Page: <http://ensight.eos.nasa.gov/Missions/aura/OXFORD.shtml>Rating: Continued **Excellent**

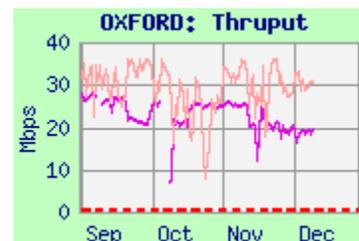
Domain: ox.ac.uk

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC-ENPL	25.7	21.2	13.8	MAX / Internet2 / Géant (DC) / JAnet

Requirements: (IST Only)

Source Node	FY	kbps	Rating
GSFC	'03 – '08	512	Excellent



Comments: Performance has been mostly stable since October '06. The rating remains “Excellent”. User flow is now measured; it averaged about 250 kbps for this period

21A) Rutherford Appleton Laboratory

Team: HIRDLS

Web Page: http://ensight.eos.nasa.gov/Missions/aura/UK_RAL.shtml

Rating: n/a

Domain: rl.ac.uk

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC-ENPL	24.7	14.5	8.8	MAX / Internet2 / Géant (DC) / JAnet

Comments: Thruput to RAL was somewhat variable. There is no stated requirement to RAL, so there is no rating.

