

EOS Science Networks Performance Report

This is a summary of EOS QA SCF performance testing for the 1st quarter of 2006 -- comparing the performance against the requirements from BAH, including Terra, TRMM, and QuikScat, Aqua, Aura, and ICESat 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:

- **Reduced congestion from ICESAT at GSFC improved performance.**
 - But performance from ICESAT is still lower than to the same destinations from GSFC-ENPL node
- **From January 20 until March 30, all LaRC traffic to Abilene destinations was routed by NISN via their peering in Sunnyvale, CA (rather than the MAX in Maryland). This greatly increased the RTT to East Coast destinations, often with a corresponding thrupt decrease.**
- **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.
- **LDAAC (ECS) moved onto LaRC Campus LAN on 20 February**
 - **Testing down until 5 March (most destinations – some later)**
 - No major performance impact
 - Traceroutes from LDAAC now blocked (also LaTIS)
 - Began weekly traceroute from LaRC-PTH to LDAAC and LaTIS destinations
- **UIUC: Test node down for this period**
- Otherwise, very stable performance.
 - **All ratings are now “Good” or better! GPA 3.64 !**
- The Jan '07 requirements are now 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: ↑

GSFC-ICESAT → UCSD: Adequate → **Excellent**

GSFC-ICESAT → MIT: Good → **Excellent**

GSFC-ICESAT → Texas: Adequate → **Excellent**

GSFC-ICESAT → U Washington: Adequate → **Good**

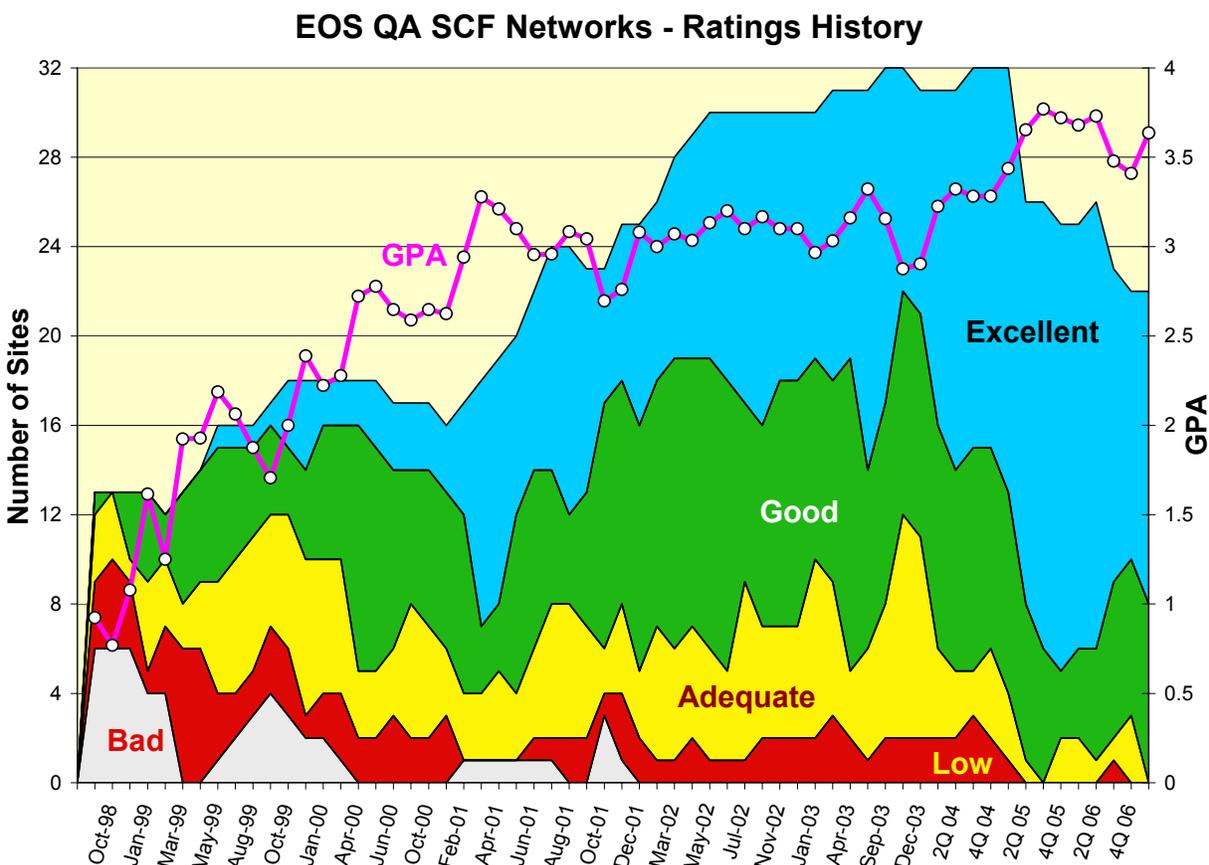
Downgrades: ↓ :

GSFC-GDAAC → Wisconsin: Excellent → **Good**

Testing Down: UIUC (continuing)

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



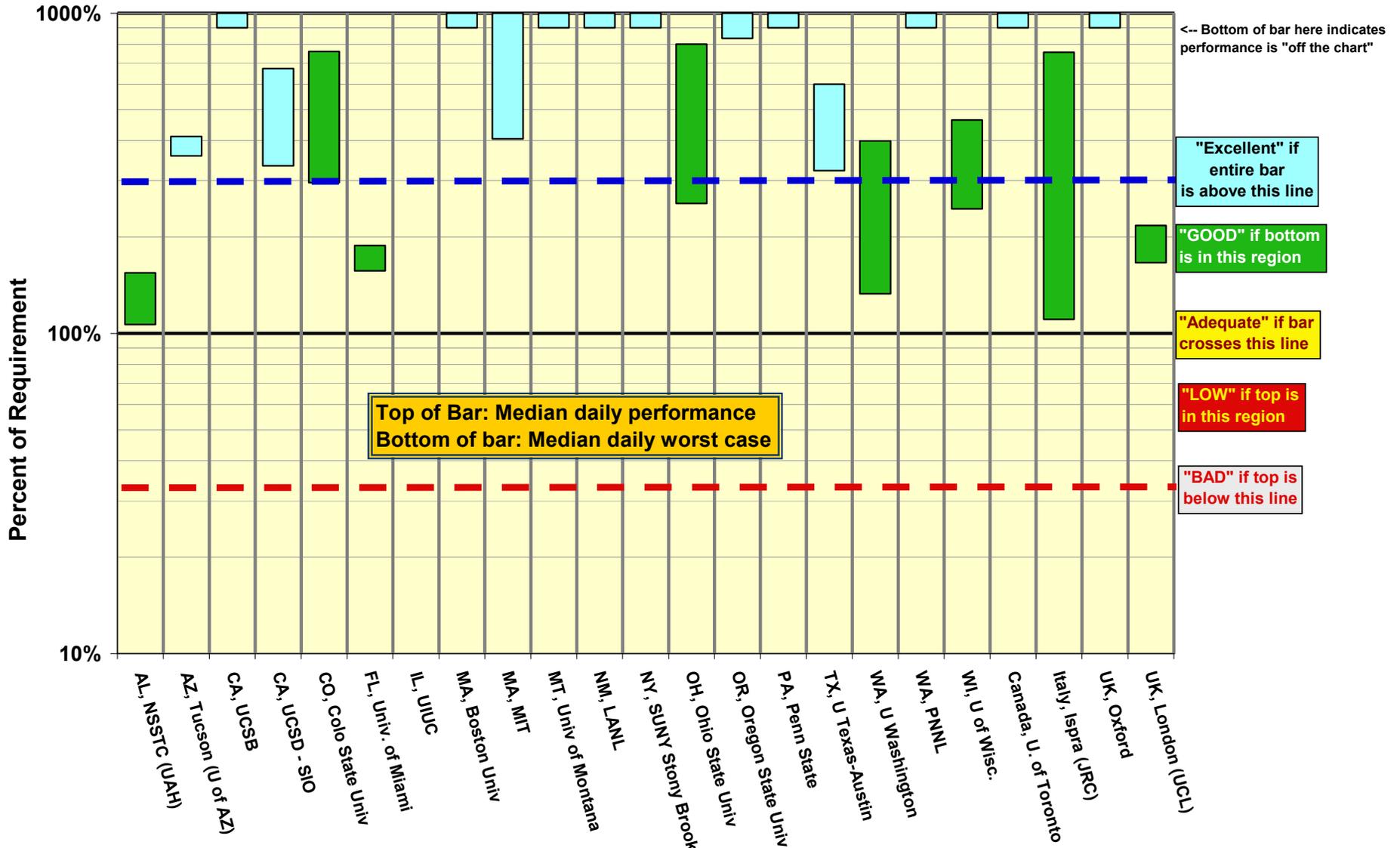
Note that there are fewer sites included in this chart since 1Q'05 due to testing to UIUC down (4Q06), discontinuation of tests to NOAA and UMD (3Q06), discontinuation of tests to SAGE III Nodes (2Q06), and moving the reporting for SIPS sites to the "EOS Production sites" performance report (2Q05).

EOS QA SCF Sites: Network Requirements vs. Measured Performance

1 st Quarter 2007		Testing						
Destination	Team (s)	Requirement	Source Node	Median mbps	Median Daily Worst	Rating re Current Requirements		Route Tested
		Jan-07				1 Q 2007	4Q06	
AL, NSSTC (UAH)	CERES, AMSR-E	7.0	LaTIS	10.9	7.5	GOOD	G	Abilene via NISN / SFO
AZ, Tucson (U of AZ)	MODIS	2.6	EROS LPDAAC	11.6	10.1	Excellent	E	Abilene via Chicago
CA, UCSB	MODIS	3.1	GDAAC	87.8	39.9	Excellent	E	Abilene via MAX
CA, UCSD - SIO	ICESAT, CERES	7.1	GSFC-ICESAT	47.7	23.7	Excellent	A	Abilene via NISN / MAX
CO, Colo State Univ	CERES	2.1	LaTIS	16.3	6.3	GOOD	G	NISN -> Abilene via Chicago
FL, Univ. of Miami	MODIS, MISR	18.8	GDAAC	35.4	29.5	GOOD	G	Abilene via MAX
IL, UIUC	MISR	1.1	LaRC DAAC	n/a	n/a	n/a	n/a	Abilene via NISN / MAX
MA, Boston Univ	MODIS, MISR	3.0	EROS LPDAAC	91.4	66.2	Excellent	E	Abilene via Chicago
MA, MIT	ICESAT	7.0	GSFC-ICESAT	74.3	28.4	Excellent	G	Abilene via NISN / MAX
MT, Univ of Montana	MODIS	0.8	EROS LPDAAC	21.1	8.9	Excellent	E	Abilene via Chicago
NM, LANL	MISR	1.0	LaRC DAAC	60.6	39.1	Excellent	E	NISN -> ESNet via CA
NY, SUNY Stony Brook	CERES	0.6	LaTIS	15.9	6.4	Excellent	E	Abilene via NISN / SFO
OH, Ohio State Univ	ICESAT	6.3	GSFC-ICESAT	50.5	16.1	GOOD	G	Abilene via NISN / MAX
OR, Oregon State Univ	CERES, MODIS	7.6	LaTIS	94.6	63.2	Excellent	E	Abilene via NISN / SFO
PA, Penn State	MISR	2.6	LaRC DAAC	87.1	43.5	Excellent	E	Abilene via NISN / SFO
TX, U Texas-Austin	ICESAT	11.1	GSFC-ICESAT	66.4	35.7	Excellent	A	Abilene via NISN / MAX
WA, U Washington	ICESAT	11.7	GSFC-ICESAT	46.9	15.6	GOOD	A	Abilene via NISN / MAX
WA, PNNL	MISR	1.4	LaRC PTH	90.3	83.2	Excellent	E	NISN -> ESNet via CA
WI, U of Wisc.	MODIS, CERES, AIRS	16.5	GDAAC	76.4	40.3	GOOD	E	Abilene via MAX
Canada, U. of Toronto	MOPITT	0.6	LaRC DAAC	27.3	13.7	Excellent	E	NISN-CA*net4
Italy, Ispra (JRC)	MISR	0.5	LaRC DAAC	3.9	0.6	GOOD	G	NISN-UUNET-Milan
UK, Oxford	HIRDLS	0.5	GSFC-ENPL	27.9	24.5	Excellent	E	Abilene->Geant (NY) -> JAnet
UK, London (UCL)	MISR, MODIS	1.0	LaRC DAAC	2.2	1.7	GOOD	E	NISN - MAX - Abilene->Geant (NY) -> JAnet
*Rating Criteria:						Rating	Current Jan-07	Last Report
Excellent	Median of Daily worst hours >= 3 * Requirement					Excellent	14	12
GOOD	Median of Daily worst hours >= Requirement					GOOD	8	7
Adequate	Median of Daily worst hours < Requirement <= Median					Adequate	0	3
LOW	Requirement > Median of Daily Medians					LOW	0	0
BAD	Requirement > 3 * Median of Daily Medians					BAD	0	0
						Total	22	22
						GPA	3.64	3.41

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, NSSTC (UAH) (aka GHCC)

Teams: CERES, AMSR

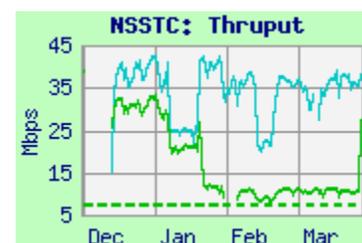
Web Page: <http://ensight.eos.nasa.gov/Missions/terra/NSSTC.shtml>

Rating: Continued **Good**

Domain: nsstc.uah.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaRC LaTIS	11.0	10.9	7.5	Abilene via NISN-SFO
GSFC-CNE	38.7	35.4	22.0	Abilene via MAX



Requirements:

Source Node	Date	Mbps	Rating
LaRC LaTIS	'06 – '07	7.0	Good

Comments: Performance from LaRC dropped in mid-January, due to the NISN peering with Abilene at SFO – fixed at the end of March (the median from LaTIS was 29.3 mbps last quarter), but the rating remains “Good”. Thruput was stable from GSFC, and was not affected by the NISN route change.

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

2) AZ, Tucson (U of AZ):

Teams: MODIS

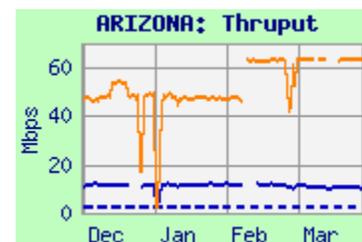
Web Page: <http://ensight.eos.nasa.gov/Missions/terra/ARIZONA.shtml>

Rating: Continued **Excellent**

Domain: arizona.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
EROS LPDAAC	12.7	11.6	10.1	Abilene via Chicago
GSFC	63.9	60.8	46.0	Abilene via MAX



Requirements:

Source Node	FY	Mbps	Rating
EROS LPDAAC	'03 - '07	2.8	Excellent

Comments: The ratings are based on the MODIS flow from EROS – performance was stable this quarter from EROS, rating “Excellent”. The test node in Arizona was upgraded in February, resulting in the improvement from GSFC.

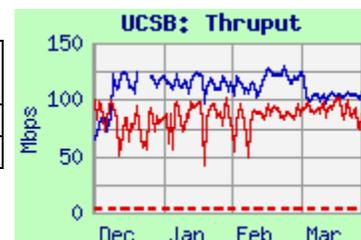
3) CA, UCSB :

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	110.4	87.8	39.9	Abilene via MAX
EROS-LPDAAC	122.8	112.4	89.1	Abilene via Chicago



Requirements:

Source Node	FY	mbps	Rating
GSFC-DAAC	'04 - '07	3.1	Excellent
EROS-LPDAAC	'04 - '07	2.2	Excellent

Comments: The requirements are split between EROS and GSFC. Performance from both GSFC and EROS has been mostly stable since April '05, with an increase from EROS in December '06. The rating remains "Excellent" from both sites.

4) CA, UCSD (SIO):

Teams: CERES, ICESAT
 Domain: ucsd.edu
 Web Page: <http://ensight.eos.nasa.gov/Missions/terra/UCSD.shtml>

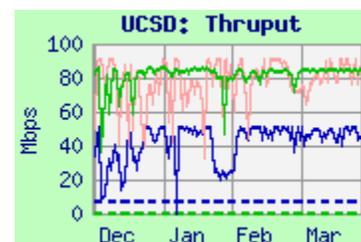
Ratings: ICESAT: **↑ Adequate → Excellent**
 LaTIS: Continued **Excellent**

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC-ICESAT	51.1	47.7	23.7	Abilene via NISN / MAX
LaTIS	86.4	84.0	75.9	Abilene via NISN / SFO
GSFC-PTH	91.2	79.6	30.4	Abilene via MAX

Requirements:

Source Node	FY	mbps	Rating
GSFC-ICESAT	'05 - '07	7.0	Adequate
LaTIS	'02 - '07	0.26	Excellent



Comments: The diurnal congestion variation both at UCSD and ICESAT cleared up in late December, and thruput was much more stable thereafter from all sources. The daily minimum is now above 3 x the requirement improving the rating to "Excellent". Performance from GSFC-PTH is somewhat better, however, although subject to the EBnet to Doors congestion.

Performance from LaTIS was similar to the previous period, although less noisy. Since UCSD is on the west coast, Thruput and RTT were not adversely affected by the NISN-Abilene peering in SFO. The LaTIS rating continues as "Excellent".

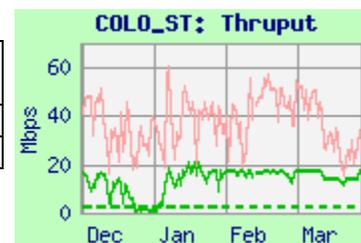
5) CO, Colo State Univ.:

Teams: CERES

Web page: http://ensight.eos.nasa.gov/Missions/terra/COLO_ST.shtmlRating: Continued **Good**
Domain: colostate.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaTIS	17.0	16.3	6.3	Abilene via NISN / ??
GSFC	60.3	39.8	11.4	Abilene via MAX



Requirements:

Source Node	FY	mbps	Rating
LaTIS	'04 - '07	2.15	Good

Comments: Performance **dropped off in December**, but **got better again in January**. Routing information was not available from LaTIS (will be available from LaRC next quarter), but there were apparently some route changes in this case. Performance from both sources is noisy, but the daily worst from LaTIS remained just below 3 x the requirement, so the rating stayed “Good”.

6) FL, Univ. of Miami:

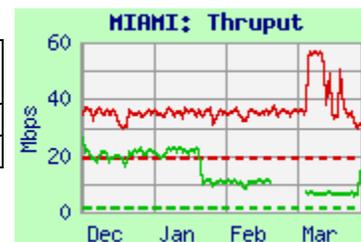
Teams: MODIS, MISR

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	40.8	35.4	29.5	Abilene via MAX
LaRC DAAC	14.7	10.6	7.1	Abilene via NISN / ??



Requirements:

Source Node	FY	mbps	Rating
GSFC	'04 - '07	18.8	Good
LaRC DAAC	'04 - '07	1.1	Excellent

Comments: Thruput from GSFC was mostly stable, until a temporary improvement – due to reduced packet loss – occurred in March. Thruput from LaRC dropped about 40% due to NISN routing via SFO (corrected in late March). The rating remains “Good” from GSFC, and “Excellent” from LaRC, due to the much lower 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) IL, UIUC:

Teams: MISR

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

Test Results: None

Requirements:

Source Node	FY	mbps	Rating
LaRC DAAC	'04 - '06	1.13	n/a

Comments: The UIUC test host has been down since September '06, so testing has been temporarily discontinued. The POC reports the test host may be restored in April '07.

Rating: n/a
Domain: uiuc.edu**8) MA, Boston Univ:**

Teams: MODIS, MISR

Domain: bu.edu

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

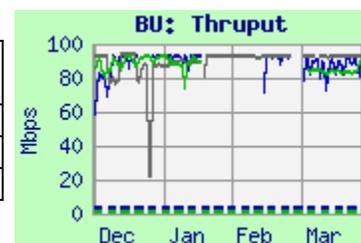
Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
EROS DAAC	92.8	91.4	66.2	Abilene via Chicago
GSFC ENPL	93.4	93.3	86.5	Abilene via MAX
LaRC DAAC	85.8	84.7	73.1	Abilene via NISN / ??

Requirements:

Source Node	FY	mbps	Rating
EROS DAAC	'04 - '07	3.0	Excellent
LaRC DAAC	'04 - '07	1.2	Excellent

Comments: Performance from all sources was essentially stable this period. The BU test node was switched in January, requiring firewall changes at LaRC and EROS to resume testing. LaRC testing was additionally subject to moving the DAAC, and NISN routing via SFO. However, the rating from both sources remains "Excellent".

Ratings: EROS: Continued **Excellent**
LaRC: Continued **Excellent****9) MA, MIT:**

Teams: ICESAT

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

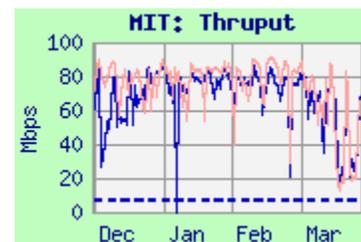
Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC-ICESAT	85.8	74.3	28.4	Abilene via NISN / MAX
GSFC-PTH	91.1	80.7	30.4	Abilene via MAX

Requirements:

Source Node	FY	mbps	Rating
GSFC	'05 - '07	7.0	Excellent

Comments: Performance from GSFC ICESAT to MIT is still subject to diurnal congestion inside GSFC, a bit less than previously (Best:worst ratio is now only 3:1, was 4.1), except for a serious dropoff in March. The median daily worst is now comfortably above 3 x the requirement; the rating remains "Excellent". From GSFC-PTH the performance is slightly higher.

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

10) MT, Univ of Montana:

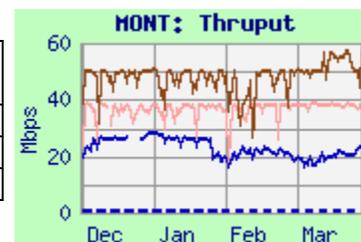
Teams: MODIS

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

Domain: ntsq.umt.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
EROS LPDAAC	25.1	21.1	8.9	Chicago / Abilene
GSFC	38.5	38.1	17.8	MAX / Abilene
NSIDC	50.5	49.8	11.1	CU / FRGP / Abilene



Requirements:

Source Node	FY	mbps	Rating
EROS LPDAAC	'04 - '07	0.82	Excellent

Comments: The diurnal cycle is much weaker now (Daily Max:Min ratio from EROS is now only 2.8:1 – was about 9:1 until late November). With the very low requirement, the rating remains “Excellent”.

11) NM, LANL:

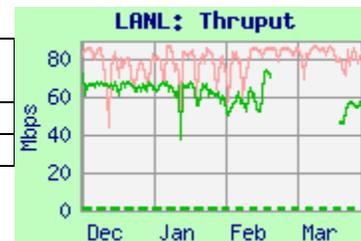
Teams: MISR

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	71.9	60.6	39.1	NISN SIP / ARC / ESnet
GSFC-PTH	86.5	82.7	32.7	MAX / ESnet



Requirements:

Source Node	FY	mbps	Rating
LaRC DAAC	'03-'07	1.03	Excellent

Comments: Performance from LaRC was basically stable this period, dropping a bit after the DAAC moved to the campus LAN. The rating remains "Excellent". Performance from GSFC was stable this period, subject to the EBnet to Doors congestion..

12) NY, SUNY-SB:

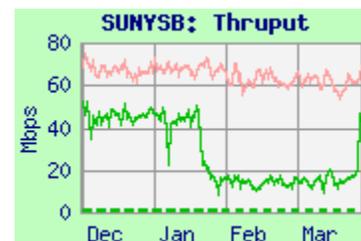
Teams: CERES, MODIS

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	26.0	15.9	6.4	NISN / SFO / Abilene / NYSERnet
GSFC	79.6	63.3	40.8	MAX / Abilene / NYSERnet



Requirements:

Source Node	FY	mbps	Rating
LaTIS	'02-'07	0.57	Excellent

Comments: Performance from LaTIS dropped during February and March due to NISN routing to Abilene via SFO. However, due to the low requirement, the rating remains "Excellent". Performance from GSFC was stable this period.

13) OH, Ohio State Univ:

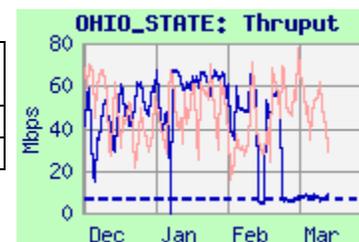
Teams: ICESAT

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

Domain: ohio-state.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC-ICESAT	73.7	50.5	16.1	Abilene via NISN / MAX
GSFC-PTH	83.2	46.9	15.0	Abilene via MAX



Requirements:

Source Node	FY	mbps	Rating
GSFC	'05-'07	6.3	Good

Comments: The congestion from ICESAT was somewhat reduced, but still quite apparent, with a 4.6:1 ratio of daily best to worst (was 6.5:1 last quarter). The daily worst from ICESAT remains a bit below 3 x the requirement, so the rating remains "Good". There is congestion from GSFC-PTH too, on the EBnet to Doors GigE. The thruput from ICESAT dropped to about 8 mbps in February (not seen to other ICESAT destinations, or GSFC-PTH to Ohio), and the Ohio test node went down to be moved in mid-March, precluding further investigation.

14) OR, Oregon State Univ:

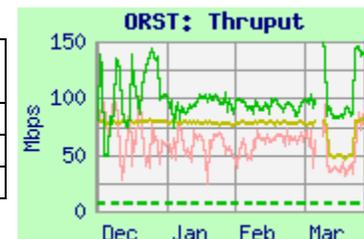
Teams: CERES, MODIS

Domain: oce.orst.edu

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

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaTIS	108.8	94.6	63.2	Abilene via NISN / SFO
JPL	82.1	78.1	38.8	Abilene via CalRen
GSFC-PTH	84.5	60.8	19.6	Abilene via MAX



Requirements:

Source Node	FY	mbps	Rating
LaTIS	'04 - '07	7.5	Excellent
GDAAC	'02 - '07	0.25	Excellent

Comments: Performance from LaRC stabilized at a somewhat lower level in late December. Performance changed in March from all sources – improving at the end of March. Since all sources changed in syn, it seems likely that the cause of the changes must be near ORST. The rating remains "Excellent".

15) PA: Penn State Univ:

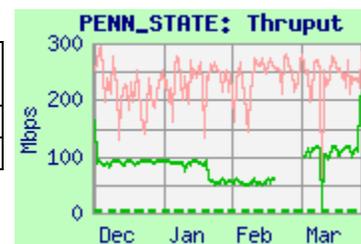
Teams: MISR

Web Page: http://ensight.eos.nasa.gov/Missions/terra/PENN_STATE.shtmlRating: Continued **Excellent**

Domain: psu.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaRC DAAC	93.3	87.1	43.5	Abilene via NISN / SFO
GSFC-PTH	294.2	245.8	113.4	Abilene via MAX



Requirements:

Source Node	FY	mbps	Rating
LaRC DAAC	'03-'06	2.6	Excellent

Comments: Performance from LaRC dropped in mid January with the NISN routing to Abilene via SFO. Then the DAAC was moved to the LaRC campus LAN, and the testing returned, recovering the former throughput. When the NISN routing was fixed at the end of March, performance improved to an average of 175 mbps. The rating remains "Excellent". The EBnet-Doors congestion at GSFC became a factor in October '06 – throughput averaged about 300 mbps before that.

16) TX: Univ. of Texas - Austin:

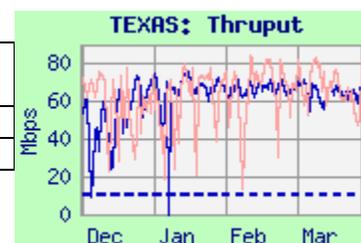
Teams: ICESAT

Web Page: <http://ensight.eos.nasa.gov/Missions/icesat/TEXAS.shtml>Rating: ↑ Adequate → **Excellent**

Domain: utexas.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC-ICESAT	78.1	66.4	35.7	Abilene via NISN / MAX
GSFC-PTH	83.7	67.0	19.4	Abilene via MAX



Requirements:

Source Node	FY	mbps	Rating
GSFC-ICESAT	05-'07	11.1	Excellent

Comments: Diurnal congestion near ICESAT was reduced, and the daily worst throughput is now above 3 x the requirement (was 10 mbps last quarter), improving the rating to "Excellent". There is now more congestion from GSFC-PTH – on the EBnet to Doors Ethernet.

17) WA, Univ Washington:

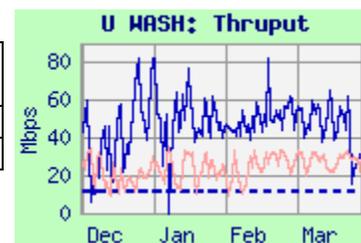
Teams: ICESAT

Web Page: <http://ensight.eos.nasa.gov/Missions/icesat/UW.shtml>Rating: ↑ Adequate → **Good**

Domain: washington.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC-ICESAT	81.9	46.9	15.6	Abilene via NISN/MAX
GSFC-PTH	37.7	26.3	8.3	Abilene via MAX



Requirements:

Source Node	FY	mbps	Rating
GSFC-ICESAT	'05-'07	11.7	Good

Comments: Like other ICESAT sites, diurnal congestion from the ICESAT test node was substantially reduced this period. The daily worst from ICESAT is now above the requirement; so the rating improves to "Good".

18) WA, PNNL:Ratings: LaRC:continued **Excellent**

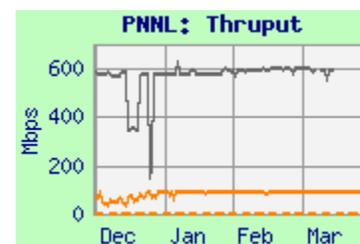
Teams: MISR

Domain: pnl.gov

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

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaRC-PTH	90.3	90.3	83.2	NISN / MAX / ESnet
GSFC-ENPL	599.1	592.2	89.4	MAX / ESnet



Requirements:

Source Node	FY	mbps	Rating
LaRC	'04-'06	1.4	Excellent

Comments: Performance from LaRC PTH stabilized in January, improving the daily worst from only 8.3 mbps last quarter; the rating remains "Excellent". Performance from GSFC-ENPL is **OUTSTANDING!**

19) WI, Univ. of Wisconsin:Ratings: GSFC: ↓ Excellent → **Good**

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

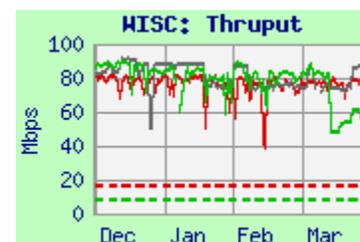
LARC: Continued **Excellent**Web Page: <http://ensight.eos.nasa.gov/Missions/terra/WISC.shtml>

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC-DAAC	90.2	76.4	40.3	MAX / Abilene / Chi / MREN
LaTIS	84.1	81.1	61.5	NISN / Chicago / MREN
GSFC-ENPL	83.4	75.7	69.6	MAX / Abilene / Chi / MREN

Requirements:

Source Node	FY	mbps	Rating
GSFC	'04 - '07	16.5	Good
LaRC Combined	'05-'07	7.9	Excellent



Comments: Performance from GDAAC was subject to the EBnet to Doors congestion – the daily worst dropped below 3 x the requirement, dropping the rating to "Good" (would be "Excellent" from ENPL). Thruput from LaTIS was stable this period; the rating from LaTIS remains "Excellent".

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

Team: MOPITT

Domain: utoronto.ca

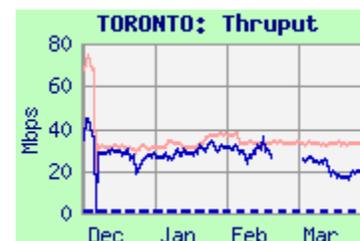
Web Page: <http://ensight.eos.nasa.gov/Missions/terra/TORONTO.shtml>

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaRC DAAC	33.5	27.3	13.7	NISN / Chicago / CA*net4
GSFC-PTH	35.7	33.1	28.3	MAX / Abilene / Chicago / CA*net4

Requirements:

Source Node	FY	kbps	Rating
LaRC DAAC	'02 - '07	100	Excellent
GSFC EOC	'02 - '07	512	Excellent



Comments: Performance from both sources dropped in December (cause unknown) but remains mostly stable after that. The ratings from both sources remain "Excellent".

21) Italy, EC - JRC:

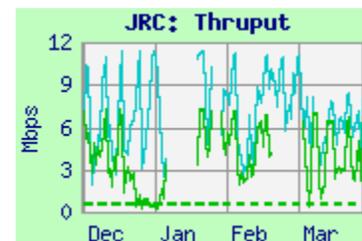
Teams: MISR

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

Domain: jrc.it

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaRC DAAC	7.1	3.9	0.6	NISN / UUnet / Milan
GSFC-NISN	11.2	7.5	1.2	NISN / UUnet / Milan



Requirements:

Source Node	FY	mbps	Rating
LaRC DAAC	'02 – '07	0.52	Good

Comments: Performance was noisy with a significant diurnal cycle (indicating congestion on UUnet), but similar to previous periods from both sources. The median daily worst from LaRC is above the requirement, but below 3 x the requirement, so the rating remains “Good”

22) UK, London: (UCL)

Teams: MODIS, MISR

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

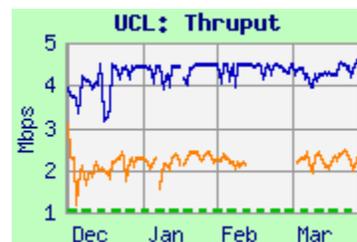
Domain: ucl.ac.uk

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaRC DAAC	2.5	2.2	1.7	NISN / Sprintlink / JAnet
GSFC PTH	4.5	4.4	3.4	MAX / Abilene / NY / Geant / JAnet

Requirements

Source Node	FY	mbps	Rating
LaRC DAAC	'02 – '06	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 thrupt was 9.5 mbps from LaRC and 32 mbps from GSFC. Although stable, thrupt is below 3 x the requirement, so the rating remains “Good”.

23) UK, Oxford:

Rating: Continued **Excellent**
 Domain: ox.ac.uk

Teams: HIRDLS

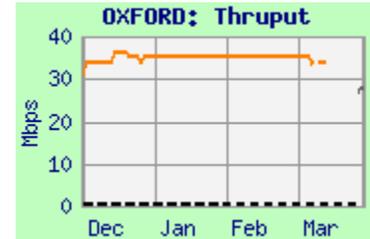
Web Page: <http://ensight.eos.nasa.gov/Missions/aura/OXFORD.shtml>

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC-ENPL	35.4	35.4	4.3	MAX / Abilene / NY / GEANT / JAnet

Requirements: (IST Only)

Source Node	FY	kbps	Rating
GSFC	'03 – '06	512	Excellent



Comments: Performance has been stable since it improved in September '06 when an Ethernet duplex mismatch at Oxford was corrected, and improved further with retuning in October '06. The rating remains "Excellent".

23A) Rutherford Appleton Laboratory

Rating: n/a
 Domain: rl.ac.uk

Teams: HIRDLS

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

Source → Dest	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC → RAL	35.5	33.6	21.7	MAX / Abilene / NY / GEANT / JAnet

Comments: Thruput to RAL became less noisy after the problems (from mid-November until early January) were fixed. There is no stated requirement to RAL, so there is no rating.

