

ECS Science System Status from a MODIS Perspective

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Key MODIS-Related Issues in Current ECS Plan

- Delayed availability of ECS capabilities will delay availability of MODIS products:
 - Delayed production rules
 - Delays SSI&T needed to resolve integration issues
 - Delays end-to-end testing across DAACs
 - Potentially increases operations load due to workarounds

Mitigation:

- On-going SSI&T Checkout in Mini-DAAC
 - Accelerating Ocean Data Day rule to L7/NCR Patch
 - 10/98 patch to provide basic Tiling
 - 1/99 patch to provide remaining production rules (see production rule status)
- Delayed system stability and performance
 - Limits ability of DAACs to perform early operations readiness exercises
 - Suggests that difficult bugs may be ahead of us

Key MODIS-Related Issues in Current ECS Plan (cont.)

- Delayed system stability and performance (cont.)
 - Reduces volume of products that can be made

Mitigation:

- Undertaking focused system stability and performance testing in Mini-DAAC
- Delayed user access functionality
 - No support for product-specific attributes makes it difficult for users to find exactly what they want
 - Selection of products for science QA difficult
 - Requires additional DAAC operations support for Science QA

Mitigation:

- Near-term initiating effort to enhance Version 0 Client
- Longer-term studying feasibility of Independent Client and Data Management elements

Key MODIS-Related Issues in Current ECS Plan (cont.)

- Delayed NSIDC deployment
 - NSIDC will be able to produce and distribute only sample products until Drop 5 deployment (mid-1999)
 - Delays end-to-end testing across DAACs

Mitigation:

- Re-considering deployment of Drop 4P to NSIDC
- Delayed processing functionality; key performance enhancements not projected to be available until 2001
 - Unable to achieve expected production throughput on available hardware
 - Unable to provide timely response to processing problems

Mitigation:

- GDAAC developing L1B production subsetting capability

Key MODIS-Related Issues in Current ECS Plan (cont.)

- Delayed distribution support
 - May not be able to meet user demand for early products, especially large products such as MODIS L1B
 - Difficult to help users with order problems

Mitigation:

- Working with GDAAC to develop extended media distribution capabilities
- Deploying additional 8mm stackers to GDAAC
- Compressed DAAC Operations Readiness schedule will make it difficult to efficiently operate system
 - Unexpected manually-intensive workarounds will decrease operations productivity and make it difficult to stabilize operations procedures

Mitigation:

- Teaming with DAACs for system Acceptance and End-to-End Testing

Current ECS Functionality Deployed at GSFC, LaRC, EDC and NSIDC DAACs (Drop 4)

Priority 1:

- External interfaces for EDOS ingest; Landsat-7 LPS and IAS ingest; ASTER DAR, L1A/L1B ingest, and expedited data, initial set of NOAA ancillary data types (based on IT priorities)
- Archive and retrieval of MODIS, CERES, MISR and MOPITT Level 0, ASTER Level 1, and Landsat Level 0R and CPF
- Landsat-7 scene based subsetting; data and calibration parameter distribution
- Data search and order via V0 interface
- Data visualization using EOSView
- Standing order and subscriptions
- Electronic data distribution, including to SCFs
- Planning and scheduling tools
- Scripted ad hoc reprocessing
- System management tools for multi-mode management, and problem tracking and resolution
- System management tools for start-up/shutdown, hardware and software fault monitoring
- System management tools for infrastructure management
- Ingest of SCF-provided source code and test data
- Ingest of limited data volumes from SCFs
- AM-1 science software integration and test tools
- Concurrent ingest, archive and distribution

Priority 2:

- Operator-assisted science QA from SCF
- Production of AM-1 products using basic production rules (includes all ASTER production rules)
- Archive and retrieval of MODIS and MISR Level 1

Priority 3:

- Media (8 mm) distribution
- Large order management using thresholds
- User registration

Priority 4:

- Archive and retrieval of MODIS, MISR and ASTER Level 2 products
- Limited production of L2+ products
- Advertisement of data products and services
- Automated, on-the-fly addition of new data types

ECS Plan for At-Launch Functionality

Pre-launch Drop/Patch Contents

- L1 Production Rules (available to DAACs 5/14)
 - Production rule additions/fixes: Optional Inputs, Orbit Path, Multi-Granule ESDT, Metadata-based Query for Dynamic Inputs
 - Fixes to multi-file granule support
- 4P/4P1 (installation begins at DAACs 7/16)
 - Server failure recovery (complete in 4P)
 - ESDT versioning (complete in 4P)
 - Production request priorities (complete in 4P)
 - Optimized production scheduling (complete in 4P)
 - Enhanced Ad Hoc Reprocessing (complete in 4P)
 - ASTER L1A/L1B product-specific attribute support (complete in 4P)
 - ASTER e-mail parser gateway (complete in 4P)
 - Optimized distribution cache management (complete in 4P)
 - Ingest and preprocessing of FDD attitude data (complete in 4P)
 - Support for NOAA and AM-1 Ephemeris data types (complete in 4P)
 - Execution of processing chains across multiple science processors (complete in 4P)
 - FOS data inserts (4P1)
 - L-7 MOC cloud cover scripts (complete in 4P)
 - HPOpenView and Tivoli configuration support (complete in 4P)
 - Data Dictionary management and export tools (4P1)

ECS Plan for At-Launch Functionality (cont.)

Pre-launch Drop/Patch Contents (cont.)

- Landsat-7/NCR (installation begins at DAACs 8/24)
 - Oceans Data Day Production Rule
 - L-7 subsetting fixes: F1 and F2 time offset handling, and Band 8
 - L-7 polar coordinate support
 - IAS CPF file name change
 - L-7 Billing and Accounting Workaround
 - Updates for L-7 Data Specification (I.e., DFCB) changes
 - Outstanding Severity 1 and 2 NCR fixes

Production Rules Status: Level 1 PGEs

Production Rule	Status
Basic Temporal	Delivered as of Drop 4
Advanced Temporal	Delivered as of Drop 4
Period Specification	Delivered as of Drop 4
Optional Inputs	Delivered in L1 Production Rule Patch
Alternate Inputs	Delivered as of Drop 4
Metadata-Based Query - Static	Delivered as of Drop 4
Metadata-Based Query- Dynamic	Delivered in L1 Production Rule Patch
Multi-file Granule	Delivered in L1 Production Rule Patch
Multi-Granule ESDT	Delivered in L1 Production Rule Patch
Orbit-Based Activation	Delivered as of Drop 4
Orbit Path	Delivered in L1 Production Rule Patch
Optional DPRs	Workaround available; To be delivered 1/99

Production Rules Status: “Launch Ready” PGEs

Production Rule	Status
Spatial Query	Delivered as of Drop 4
Runtime Parameters	Delivered as of Drop 4
Metadata-Based Activation	Delivered as of Drop 4
Minimum No. of Granules	To be delivered in Drop 4P
Rectangular Tiling	To be delivered 10/98
Rectangular Tiling & Metadata Query	To be delivered 10/98
Ocean Data Day	To be delivered Drop 4P L7/NCR Patch
Smart Start of Year	Workaround available; To be delivered 1/99

Production Rule Status: MODIS

AT LAUNCH = 12/98

PGE	LEVEL	DESCRIPTION	PRODUCTION RULES UTILIZED	AT LAUNCH SUPPORT	DAAC
1	1A	1A/Geolocation	Basic and Adv. Temporal, Optional Inputs	Fully Supported	GSFC
2	1B	1B Calibration	Basic and Adv Temporal, Optional Inputs	Fully Supported	GSFC
3	2	Cloud Masks/Profiles	Basic Temporal, Advanced Temporal, Optional Inputs	Fully Supported	GSFC
4	2	Atmosphere	Basic Temporal, Optional Inputs, Metadata-Based Activation, Metadata-Based Query	Fully Supported	GSFC
5	3	Land Aerosol (Interim Daily Atmosphere)	Orbit-based Activation, Minimum No. of Granules	Fully Supported	GSFC
6	2	Clouds (Main Cloud Product)	Basic Temporal, Advanced Temporal, Optional Inputs	Fully Supported	GSFC
7	2	L2 Snow	Basic Temporal, Metadata-Based Activation, Metadata-Based Query	Fully Supported	GSFC
8	2	L2 Sea Ice	Basic Temporal, Metadata-Based Activation, Metadata-Based Query	Fully Supported	GSFC
9	2,3	Ocean Color	Basic Temporal, Advanced Temporal, and Metadata-Based Query	Fully Supported	GSFC
10	2,3	Sea Surface Temperature (SST)	Basic Temporal, Advanced Temporal	Fully Supported	GSFC
11	2	Reflectance/Fire (L2 Land Surface Reflectance)	Orbit-based Activation, Optional Inputs, Metadata-Based Query, Min. # Granules, and Runtime Parameters	Fully Supported	GSFC
12	2G	Pointers (L2G Combined Code) and MGGA	Period Specification, Lat/Long Tiling, Combination Tiling and Metadata-Based Query, Metadata-Based Query, Min. # Granules, Runtime Parameters	Fully Supported	GSFC
13	2G	L2G Surface Reflectance/Fire (250m,500m,fire)	Period Specification, Lat/Long Tiling, Combination Tiling and Metadata-Based Query, Metadata-Based Query, Min. # Granules, Runtime Parameters	Fully Supported	GSFC
14	2G	L2G Snow	Period Specification, Lat/Long Tiling, Combination Tiling and Metadata-Based Query, Metadata-Based Query, Min. # Granules, Runtime Parameters	Fully Supported	GSFC
15	2G	L2G Sea Ice	Period Specification, Lat/Long Tiling, Combination Tiling and Metadata-Based Query, Metadata-Based Query, Min. # Granules, Runtime Parameters	Fully Supported	GSFC
16	2,3	Land Surface Temperature (L2/L3)	Advanced Temporal, Period Specification, Min. No. of Granules, Metadata-Based Query	Fully Supported	GSFC
17	2*	Oceans Ancill. Meteorological Pre-proc.	Basic Temporal	Fully Supported	GSFC
18		DELETED FROM V2; SUBSUMED BY PGE51	See PGE51	N/A	
19	2*	Oceans Ancill. Ozone Pre-proc.	Basic Temporal	Fully Supported	GSFC
20	3	L3 Oceans Interim Daily	Basic Temporal, Advanced Temporal, Period Specification, Data Day, Metadata-Based Query, Min. # of Granules, Data Day Workaround	Supported/Data Day Workaround til 1/99	GSFC

Production Rule Status: MODIS (cont.)

AT LAUNCH = 12/98

PGE	LEVEL	DESCRIPTION	PRODUCTION RULES UTILIZED	AT LAUNCH SUPPORT	DAAC
21	3	L3 Land Surface Reflectance - 8 Day	Lat/Lon Tiling, Combination Tiling and Metadata-Based Query Metadata-Based Query, Runtime Parameters, Min. No. of Granules, Period Start_of_(8)_Days, Smart_Start_of_Year	Fully Supported*	EDC
22	3	L3 Aggregation	Period Specification, Lat/Lon Tiling, Combination Tiling and Metadata-based Query, Metadata-based Query, Min. # of Granules, Runtime Parameters	Fully Supported	EDC
23	3	BRDF/BARS (Albedo -16 day)	Lat/Lon Tiling, Combination Tiling and Metadata-Based Query, Metadata-Based Query, Min. No. of Granules, Runtime Parameters, Period Start_of_(16)_Days, Smart_Start_of_Year	Fully Supported*	EDC
24	3	BRDF-16 day	Min. No. of Granules, Period Start_of_(16)_Days, Smart_Start_of_Year	Fully Supported*	EDC
25	3	Vegetation Indices -16 day (1 km)	Lat/Lon Tiling, Combination Tiling and Metadata-Based Query, Metadata-Based Query, Min. No. of Granules, Runtime Parameters, Period Start_of_(16)_Days, Smart_Start_of_Year	Fully Supported*	EDC
26	3	Vegetation Indices Monthly	Lat/Lon Tiling, Combination Tiling and Metadata-Based Query, Metadata-Based Query, Min. No. of Granules, Runtime Parameters, Period Start_of_(32)_Days, Smart_Start_of_Year	Fully Supported*	EDC
27	3	CMG Vegetation Indices - 16 day	Min. No. of Granules, Period Start_of_(16)_Days, Smart_Start_of_Year	Fully Supported*	EDC
28	3	CMG Vegetation Indices Monthly	Min. No. of Granules, Period Start_of_(32)_Days, Smart_Start_of_Year	Fully Supported*	EDC
29	3	L3 Fire - 8 day	Lat/Lon Tiling, Combination Tiling and Metadata-Based Query, Metadata-Based Query, Min. No. of Granules, Runtime Parameters, Period Start_of_(8)_Days, Smart_Start_of_Year	Fully Supported*	EDC
30	3	L3 Fire Monthly	Lat/Lon Tiling, Combination Tiling and Metadata-Based Query, Metadata-Based Query, Min. No. of Granules, Runtime Parameters, Period Start_of_(32)_Days, Smart_Start_of_Year	Fully Supported*	EDC
31	3	Land Surface Temperature - 8 day	Metadata-Based Query, Min. No. of Granules, Period Start_of_(8)_Days, Smart_Start_of_Year	Fully Supported*	EDC
32	3	CMG Land Surface Temperature Daily	Period Specification, Min. No. of Granules	Fully Supported	EDC
33	4	LAI/FPAR Daily	Period Specification, Lat/Lon Tiling, Combination Tiling and Metadata-Based Query, Metadata-based Query, Min. # of Granules, Runtime Parameters	Fully Supported	EDC

* Smart Start of Year available 1/99

Production Rule Status: MODIS (cont.)

AT LAUNCH = 12/98

PGE	LEVEL	DESCRIPTION	PRODUCTION RULES UTILIZED	AT LAUNCH SUPPORT	DAAC
34	4	LAI/FPAR - 8 day	Lat/Lon Tiling, Combination Tiling and Metadata-Based Query, Metadata-Based Query, Min. No. of Granules, Runtime Parameters, Period Start_of_(8)_Days, Smart_Start_of_Year	Fully Supported*	EDC
35	4	CMG LAI/FPAR - 8 day	Lat/Lon Tiling, Combination Tiling and Metadata-Based Query, Metadata-Based Query, Min. No. of Granules, Runtime Parameters, Period Start_of_(8)_Days, Smart_Start_of_Year	Fully Supported*	EDC
36	4	Net Primary Production - Daily	Period Specification, Lat/Lon Tiling, Combination Tiling and Metadata-Based query, Metadata-Based Query, Min. # of Granules, Runtime Parameters	Fully Supported	EDC
37	4	Net Primary Production - 8 day	Lat/Lon Tiling, Combination Tiling and Metadata-Based Query, Metadata-Based Query, Min. No. of Granules, Runtime Parameters, Period Start_of_(8)_Days, Smart_Start_of_Year	Fully Supported*	EDC
38	4	NPP Yearly	Advanced Temporal, Period Specification, Lat/Lon Tiling, Combination Tiling and Metadata-Based Query, Metadata-Based Query, Min. No. of Granules, Runtime Parameters, "Smart" Start_of_Year	Fully Supported*	EDC
39	4	CMG Net Primary Prod. - 8 day	Min. No. of Granules, Period Start_of_(8)_Days, Smart_Start_of_Year	Fully Supported*	EDC
40	3	Land Cover Monthly	Optional Inputs, Lat/Lon Tiling, Combination Tiling and Metadata-Based Query, Metadata-Based Query, Min. No. of Granules, Runtime Parameters, Period Start_of_(32)_Days, Smart_Start_of_Year	Fully Supported*	EDC
41	3	Land Cover Quarterly	Advanced Temporal, Lat/Lon Tiling, Combination Tiling and Metadata-Based Query, Optional Inputs, Metadata-Based Query, Min. No. of Granules, Runtime Parameters, Period Start_of_(96)_Days, Smart_Start_of_Year	Fully Supported*	EDC
42	3	CMG Land Cover Quarterly	Min. No. of Granules, Period Start_of_(96)_Days, Smart_Start_of_Year	Fully Supported*	EDC
43	3	L3 Snow Daily	Period Specification, Lat/Lon Tiling, Combination Tiling and Metadata-Based Query, Metadata-based Query, Min. # of Granules, Runtime Parameters	Fully Supported	NSIDC
44	3	Sea Ice Daily	Period Specification, Lat/Lon Tiling, Combination Tiling and Metadata-Based Query, Metadata-based Query, Min. # of Granules, Runtime Parameters	Fully Supported	NSIDC

* Smart Start of Year available 1/99

Production Rule Status: MODIS (cont.)

AT LAUNCH = 12/98

PGE	LEVEL	DESCRIPTION	PRODUCTION RULES UTILIZED	AT LAUNCH SUPPORT	DAAC
45	3	Snow-8 day	Lat/Lon Tiling, Combination Tiling and Metadata-Based Query, Metadata Based Query, Min. No. of Granules, Runtime Parameters, Period Start_of_(8)_Days, Smart_Start_of_Year, Metadata-based Query	Fully Supported	NSIDC
46	3	CMG Snow Daily	Period Specification, Min. No. of Granules	Fully Supported	NSIDC
47	3	Sea Ice-8 day	Lat/Lon Tiling, Combination Tiling and Metadata-Based Query, Metadata Based Query, Min. No. of Granules, Runtime Parameters, Period Start_of_(8)_Days, Smart_Start_of_Year, Metadata-based Query	Fully Supported*	NSIDC
48	3	CMG Sea Ice Daily	Period Specification, Min. No. of Granules	Fully Supported	NSIDC
49	3	Interim Ocean Weekly (time binner)	Min. No. of Granules, Period Start_of_(8)_Days, Smart_Start_of_Year, Data Day, Runtime Parameters	Supported/Data Day Workaround til 1/99*	GSFC
50	3	Oceans Reference (soace binner)	Advanced Temporal, Period Start_of_(8)_Days, Smart_Start_of_Year, Data Day, Runtime Parameters	Supported/Data Day Workaround til 1/99*	GSFC
51	3	Ocean Productivity Indices Running Year	Advanced Temporal, Optional Inputs, Min. No. of Granules, Period Start_of_(8)_Days, Smart_Start_of_Year, Data Day, Runtime Parameters	Supported/Data Day Workaround til 1/99*	GSFC
52	3	Oceans Weekly Running Year Annual High Variance Linear Productivity	Period Start_of_(8)_Days, Smart_Start_of_Year, Data Day, Runtime Parameters	Supported/Data Day Workaround til 1/99*	
53	3	Oceans Daily (cloud clearing)	Advanced Temporal, Period Specification, Minimum No. of Granules, Data Day, Runtime Parameters	Supported/Data Day Workaround til 1/99	GSFC
54	3	Ocean Weekly (time binner)	Min. No. of Granules, Period Start_of_(8)_Days, Smart_Start_of_Year, Data Day, Runtime Parameters	Supported/Data Day Workaround til 1/99	GSFC
55	3	Clear Sky Daily	Advanced Temporal, Period Specification, Minimum No. of Granules	Fully Supported	GSFC
56	3	L3 Atmosphere Daily	Period Specification, Min. No. of Granules	Fully Supported	GSFC
57	3	L3 Atmosphere Monthly	Min. No. of Granules, Period Start_of_(32)_Days	Fully Supported	GSFC
58	3	CMG Land Surface Temperature - 8 day	Min. No. of Granules, Period Start_of_(8)_Days, Smart_Start_of_Year	Fully Supported*	EDC
59	3	CMG Land Surface Temperature Monthly	Min. No. of Granules, Period Start_of_(32)_Days, Smart_Start_of_Year	Fully Supported*	EDC
60	3	L3 CMG Fire Daily	Period Specification, Min. No. of Granules	Fully Supported	EDC

* Smart Start of Year available 1/99

Production Rule Status: MODIS (cont.)

AT LAUNCH = 12/98

PGE	LEVEL	DESCRIPTION	PRODUCTION RULES UTILIZED	AT LAUNCH SUPPORT	DAAC
61	3	L3 CMG Fire - 8 day	Min. No. of Granules, Period Start_of_(8)_Days, Smart_Start_of_Year	Fully Supported*	EDC
62	3	L3 CMG Fire Monthly	Min. No. of Granules, Period Start_of_(32)_Days, Smart_Start_of_Year	Fully Supported*	EDC
63	4	CMG LAI/FPAR Monthly	Min. No. of Granules, Period Start_of_(32)_Days, Smart_Start_of_Year	Fully Supported*	EDC
64	4	CMG Net Primary Production Yearly	Min. No. of Granules, Period Specification, Smart_Start_of_Year	Fully Supported*	EDC
65	3	CMG BRDF Monthly	Min. No. of Granules, Period Start_of_(32)_Days, Smart_Start_of_Year	Fully Supported*	EDC
66	3	Monthly 250m Land Cover	Advanced Temporal, Min. No. of Granules, Period Start_of_(32)_Days, Smart_Start_of_Year, Metadata-based Query, Optional Inputs	Fully Supported*	EDC
67	3	CMG Snow - 8 day	Min. No. of Granules, Period Start_of_(8)_Days, Smart_Start_of_Year	Fully Supported*	NSIDC
68	3	CMG Sea Ice - 8 day	Min. No. of Granules, Period Start_of_(8)_Days, Smart_Start_of_Year (Year End)	Fully Supported*	NSIDC
69	3	Atmosphere Daily Zonal Tiling	Period Specification, Zonal Tiling, Min. No. of Granules, Metadata-Based Query, Runtime Parameters	Zonal Tiling Available 1/99	GSFC
70	3	CMG Snow Daily	Same as PGE46? DUPLICATE - Deleted	N/A	NSIDC

* Smart Start of Year available 1/99

GSFC At-Launch Performance Requirements vs. Current Status

Thread	GSFC Data Per Day (GB)	GSFC Required Throughput Based On Hrs of Sustained Ops Per Day (MB/sec)			Current Status (Single Thread) (MB/sec)	Expected At Launch (Concurrent) (MB/sec)	Comment
		24 Hrs	20 Hrs	16 Hrs			
Electronic Ingest to Archive (MB/sec)	74.00	0.86	1.03	1.28	4.10	3.50	MOD00 ingest test
Media Ingest to Archive (MB/sec)					5.80	3.50	Component test only - not end to end
Archive to Production - L1 Only (MB/sec)	70.00	0.81	0.97	1.22	9.00	2.00	MODIS L1 processing test (single PGE)
Production to Archive - L1 Only (MB/sec)	309.00	3.58	4.29	5.36		7.00	
Archive to Production - Higher Level Processing (MB/sec)	197.00	2.28	2.74	3.42		4.00	
Production to Archive - Higher Level Processing (MB/sec)	89.00	1.03	1.24	1.55		2.00	
Archive to Subsetting Server (SS) (MB/sec)						4.10	Avg L7 subinterval size = 4.8 GB; 1 scene per subinterval; 500 MB per scene; 100 scenes per day
SS to Media Distribution (MB/sec)						1.00	Limited by # of 8mm drives (4 @ .25 MB/sec = 1 MB/sec aggregate)
SS to Electronic Distribution (MB/sec)						1.00	Limited by FDDI connection to external networks (6 MB/sec aggregate)
Archive to Media Distribution (MB/sec)	265.33	3.07	3.69	4.61		1.00	Limited by # of 8mm drives (4 @ .25 MB/sec = 1 MB/sec aggregate)
Archive to Electronic Distribution (MB/sec)	265.33	3.07	3.69	4.61		5.00	Limited by FDDI connection to external networks (6 MB/sec aggregate)
# of Search Requests/hr		60.00	72.00	90.00		100.00	
# of Orders/hr		6.25	7.50	9.40		50.00	
AMASS RAID Partition (MB/sec)		14.70	17.63	22.04		30.00	
STMGT RAID Partition (MB/sec)		18.46	22.16	27.70		30.00	

EDC At-Launch Performance Requirements vs. Current Status

Thread	EDC Data Per Day (GB)	EDC Required Throughput Based On Hrs of Sustained Ops Per Day (MB/sec)			Current Status (Single Thread) (MB/sec)	Expected At Launch (Concurrent) (MB/sec)	Comment
		24 Hrs	20 Hrs	16 Hrs			
Electronic Ingest to Archive (MB/sec)	140.00	1.62	1.94	2.43	4.10	3.50	MOD00 ingest test
Media Ingest to Archive (MB/sec)	136.00	1.57	1.89	2.36	5.80	3.50	Component test only - not end to end
Archive to Production - L1 Only (MB/sec)					9.00	2.00	MODIS L1 processing test (single PGE)
Production to Archive - L1 Only (MB/sec)						7.00	
Archive to Production - Higher Level Processing (MB/sec)	43.00	0.50	0.60	0.75		4.00	
Production to Archive - Higher Level Processing (MB/sec)	14.00	0.16	0.19	0.24		2.00	
Archive to Subsetting Server (SS) (MB/sec)		2.31	2.78	3.47		4.10	Avg L7 subinterval size = 4.8 GB; 1 scene per subinterval; 500 MB per scene; 100 scenes per day
SS to Media Distribution (MB/sec)	25.00	0.29	0.35	0.43		1.00	Limited by # of 8mm drives (4 @ .25 MB/sec = 1 MB/sec aggregate)
SS to Electronic Distribution (MB/sec)	25.00	0.29	0.35	0.43		1.00	Limited by FDDI connection to external networks (6 MB/sec aggregate)
Archive to Media Distribution (MB/sec)	9.33	0.11	0.13	0.16		1.00	Limited by # of 8mm drives (4 @ .25 MB/sec = 1 MB/sec aggregate)
Archive to Electronic Distribution (MB/sec)	9.33	0.11	0.13	0.16		5.00	Limited by FDDI connection to external networks (6 MB/sec aggregate)
# of Search Requests/hr		60.00	72.00	90.00		100.00	
# of Orders/hr		6.25	7.50	9.40		50.00	
AMASS RAID Partition (MB/sec)		6.39	7.66	9.58		30.00	
STMGT RAID Partition (MB/sec)		18.67	22.41	28.01		30.00	

ECS System Stability Status

- Data Ingest
 - Ingesting 4 hours of MODIS L0 data at better than keep-up rate of 4.1 MBytes/sec. (keep-up rate is less than 2 MBytes/sec.). Suggests system can ingest one day's worth of MODIS data in 5 hours.
- Production Planning
 - Created a 2 week MODIS L1 processing plan.
 - Results show that creation of a 1 week MODIS L1 plan requires more than 5 hours; optimizing database to correct performance problems (at-launch goal is 1 week plan in at most 2 hours).
- Processing
 - Executed a plan for 24 hours of synthetic MODIS L1 processing
 - Tuning of new version (2.0) of SGI's Bulk Data Service (BDS) has resulted in a 3-fold performance increase to 14 MBytes/sec throughput over HiPPI; 7 MBytes/sec is at-launch requirement
- Subscriptions
 - Created of 1,000 subscriptions consecutively.
- User Pull
 - Loaded archive and inventory with 100,000 data granules.
 - Successfully executed initial 2 user test: each user issues 200 searches with overlap between users
 - Successfully executed initial 3 simultaneous users test: each user issues a query every minute and an order every 4 minutes for one hour.
- System Management
 - All servers have been automatically started up and shutdown (using HP OpenView) daily for two weeks with no problems.