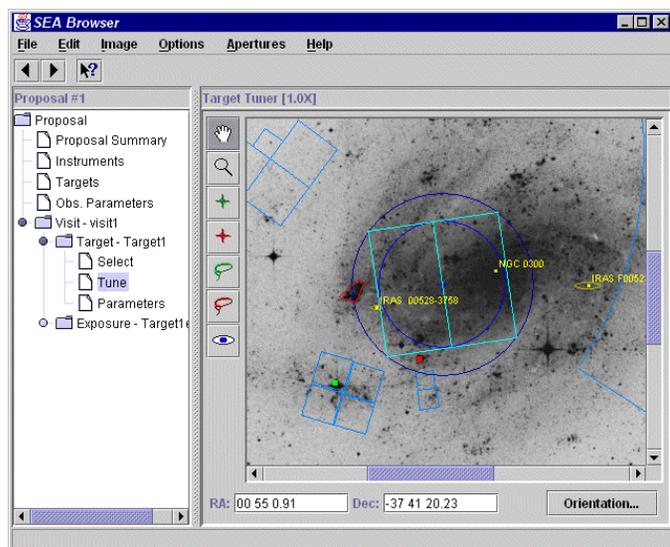




Information Systems Center/580



AETD Institutional Status Review



Presented by:

Julie Breed
Branch Head/588
Advanced Architectures & Automation Branch
Information Systems Center

New Technology
NGST Scientist's Expert Assistant (SEA)
Visual Target Tuner

-
- **PROJECT STATUS**

 - **TECHNOLOGY STATUS**

 - **INSTITUTIONAL STATUS**
 - Awards, Papers, Conferences
 - Collaborations
 - Outreach
 - Safety
 - QMS
 - Personnel
 - Manpower
 - Travel
 - Training
 - Issues

 - **RESOURCES**

 - **SPECIAL PRESENTATION**
 - InVision: Image2000
-



PROJECT STATUS



End Item Product/Service	Customer	Lead Code(s)	Major Accomplishments/Highlights/Comments	Tech Issues	Schedule Issues	Cost Issues	Staffing Issues
Hubble Space Telescope (HST)	HST (441)	582,584, 586, 588	<ul style="list-style-type: none"> (1) Supported Simulations for upcoming servicing mission. (2) Supported pre-mission testing including integrated hardware tests and end-to-end ground system test at KSC/OPF (3) Presented at the HST Wide Field Camera 3 (WFC3) System Requirements Review 8/17/99 and participated in the Flight Software Requirements Review 9/22/99 (4) Supported Tool of the Future working group, whose basis is the SEA technology 				
EOS AM-1	AM-1 (421)	581, 582, 583, 586	<ul style="list-style-type: none"> (1) Supported Launch Rehearsal D and scheduled mission simulations (2) Supported AM-1 Delta FOR/ORR 				
EOS PM-1	PM-1 (422)	581, 582, 583, 584	<ul style="list-style-type: none"> (1) Supported instrument team meetings in review of mission requirements documentation (2) The initial deliveries of the EOS PM FSW Testbed to be used for EOS PM FSW IV&V and Long Term FSW Maintenance was delivered from TRW on September 17, 1999. The facility will reside in B14 				
EO-1 Lead: Dan Mandl/584	NMP EO-1 (426)	583, 584, 586	<ul style="list-style-type: none"> (1) Supported testing of FDS products under approved EO01 Security Plan (2) Began installation of FDS operational hardware in MOC (3) Supported end-to-end Y2K testing (4) Pre-launch testing in progress. Successfully completed T3: end-to-end science data flow test (5) Modified ASIST ground system to add SN capability 				
Landsat-7	Landsat (430)	581, 586	<ul style="list-style-type: none"> (1) Turned over all LPS sustaining engineering responsibilities to EDC O&M personnel (2) Supported LPGS and LPDS Site Acceptance Review (8/24) (3) Continued to support EDC sustaining engineering personnel as L-7 Product sale/distribution has begun 				
MAP Lead: Steve Coyle/581	MIDEX (410)	582, 586	<ul style="list-style-type: none"> (1) Participated in launch site support plan telecom with KSC (Eastern Range) for MAP payload processing facility and launch pad communications meetings 				



PROJECT STATUS (Cont'd)



End Item Product/Service	Customer	Lead Code(s)	Major Accomplishments/Highlights/Comments	Tech Issues	Schedule Issues	Cost Issues	Staffing Issues
IMAGE Lead: Steve Coyle/581	MIDEX (410)	583, 586	(1) Participated in Launch site ground operations working group meeting at Vandenberg AFB (Western Range) for IMAGE payload processing facility and launch pad communications meetings.				
WIRE Lead: Pat Crouse/581	OSP (630.1)	581, 582, 584, 586	(1) Established WIRE FSW CCB from 582 (2) Validated & Uplinked FSW changes to separately store astroseismology data from the star tracker--thus easing processing of the downlinked data by the science community (3) Supported the FOT with their creation and testing of loads related to a star-tracker optical distortion experiment (4) Obtained testbed funding commitments for operation through 12/99, identified potential funding thru 3/00 (5) Discussing use of testbed as a training ground for Project Hope in Baltimore (6) Received national attention forStellar Seismology investigation using testbed				
TRACE	OSP (630.1)	582	(1) Completed & Uplinked to TRACE a new "gapped data" storage sector map table (# 75) that avoids chronic single bit errors in bulk memory				
FAST	OSP (630.1)	581	(2) Supported preparations for the transfer of operations to USC Berkley (3) Completed & Uplinked a FSW change to stop ACS magnetometer mux data during dumps to avoid an recurrence of a downlink anomaly.				
EUVE	OSP (630.1)	582	(1) Developed an EUVE FSW solution which will allow for 72 hour versus 48 hour ephemeris loads.				
RXTE	OSP (630.1)	582	(1) Supported analysis of Transponder #1 failure. Working FSW change to use only the healthy High Gain Antenna during onboard Antenna selection for TDRS contacts				
Triana Lead: John Catena/581	SMEX (410)	581, 582, 583, 586, 588	(1) Completed and delivered Web-Site (2) Completed and received approval forTriana GDS Product Plan (3) Supported confirmation review to Townsend (8/10) (4) Held Critical Design Peer Review (9/1) (5) Completed Web animations for website				

BI-MONTHLY ISR – September 23, 1999



PROJECT STATUS (Cont'd)



End Item Product/Service	Customer	Lead Code(s)	Major Accomplishments/Highlights/Comments	Tech Issues	Schedule Issues	Cost Issues	Staffing Issues
NGST Lead: Jonathan Gal-Edd/581	STSci	581, 582	<ul style="list-style-type: none"> (1) Presented the 582 Concept of an end-to-end Common FSW Architecture to the NGST Spacecraft Prime Contractors (TRW and LMSC) at Kickoff Meeting on 8/10-12/99. This approach will greatly reduce life cycle FSW costs for the program. (2) Presented, to the NGST Project and the Software Operations Working Group, the NGST end-to-end FSW preliminary Development Plan which laid-out inter-dependencies and a proposed schedule. 				
NGST S/C	NGST	581	(1) NGST FSW Team members participated in the NGST Technology Exposition in Woods Hole, MA on 9/13-16/99.				
HORIZON		581, 582, 584	(1) Supported Red Team review and Final Proposal preparation				
IFMP Lead: Joe Sparmo	IFMP (401)	585	<ul style="list-style-type: none"> (1) Conducted technical testing at MSFC (2) Organized and conducted EIS demos at all 10 NASA Centers (3) Organized and conducted System Architecture Reviews (4) Conducted EIS testing 				
Ultra Long Duration Balloons (ULDB)	ULDB	584	(1) Working on TDRSS Data Interface to enable ground commendable Bit Error Rate mode to migrate bad data while in flight. CDR targeted mid-September				
Sounding Rockets		584	(1) Supported successful launch of Orion - a student sounding rocket launch on 8/4				
	Code 900	586, 587	<ul style="list-style-type: none"> (1) Prepared a series of visualizations of Landsat data of the National Parks to air next month. (2) Prepared a set of images of the biosphere for PAO and the White House (3) Develop Web site/application for a visiting committee tasked with reviewing many of Goddard's new and emerging popular Earth Science Web sites which supports the registration and panelist evaluation and posting of results (4) Completed upgrade of web-based remote sensing tutorial for RAC web page 				



PROJECT STATUS (Cont'd)



End Item Product/Service	Customer	Lead Code(s)	Major Accomplishments/Highlights/Comments	Tech Issues	Schedule Issues	Cost Issues	Staffing Issues
	Code 600	586, 587	<ul style="list-style-type: none"> (1) Prepared visualization of Solar Eclipse from TRACE for evening and morning news shows. (2) CDF V2.7 was released to the general public (3) Updated "Ask a High Energy Astronomer" web pages to allow review of previous Q&A, thereby limiting scope of new questions 				
LENA Science Data Analysis	LENA	586	<ul style="list-style-type: none"> (1) Continuing installation and testing of UDF software as new releases received (2) Continuing prototype coding to produce plots/movies of test data as requested by scientists (3) Produced sample plots for PI presentation of LENA data analysis at Image Science and Data System Meeting 				
EOSDIS	ESDIS (423)	581, 586	<ul style="list-style-type: none"> (1) Supported Mission Ops System Simulations 1&2 at EDOS, GSFC and LaRC DAACs to exercise launch critical and most important launch essential interfaces and functions (2) Supported Terra/SAGE-III Interim Science Ops Readiness Review (8/10) (3) Supported ECS Release 5A Consent to Ship Review and installation at GSFC & LaRC (4) Conducted ECS Release 5B IRR (5) Developed proposal for mirroring Landsat-7 data at Tropical Rain Forest Information Center (6) Coordinated Third Annual HDF-EOS Workshop (9/14-16) (7) Participated in Non-Conformance Report scrub committee for all past NCRs against ECS in severity 2/3 categories (8) Supported MOSS-2 dry run and renewing interagency contracts with USGS for EDC DAAC and DOE for ORNL DAAC 				



PROJECT STATUS (Cont'd)



End Item Product/Service	Customer	Lead Code(s)	Major Accomplishments/Highlights/Comments	Tech Issues	Schedule Issues	Cost Issues	Staffing Issues
SEL	SEL (581)	581	(1) Announced the 24 th Annual Software Engineering Workshop in December (2) Awarded \$140K from Ames IV&V for COTS and Reuse Metrics				
Networks and Infrastructure		585	(1) WFF Range - supporting planning for Pegasus Launch of ORBCOMM IV scheduled for 11/5/99 (2) In support of Code 450, re-established monthly Network Operations Discussions (NOD) meetings with all SN customers, to discuss NCC and WSC. (3) Presented communication networks operational status at the Terra Delta-FOR/ORR				
CSOC		584	(1) Attended and provided RIDS for 2 sub-system Functional Design Reviews: Pacor-A and IMOC				
GPS Antenna Controller	NOAA	584	(1) Developed a GPS antenna controller that was used in conjunction with the Scanning Radar Altimeter (SRA) flown on NOAA AOC Hurricane Hunting flights. The controller ensures that the GPS lock is not lost due to excessive aircraft roll.				
Advanced Multimodal Trending Analysis System (AMTAS)		588	(1) Demonstrated trending portion to predict anomalies; demonstration used historical data from real spacecraft including SOHO and EUVE				
Visualization And Graphical Environment (VisAGE)		588	(1) Solidified plans to commercialize VisAGE and use it for MAP (2) Began integration of VISAGE with ITOS for Triana (3) Web-Altairis was used to support MAP testing				
Operating Missions as Nodes on the Internet (OMNI)		588	(1) Completed development of a simplified IP mission end-to-end architecture (2) Developed plan for development of Flatsat in '00, including use of the ROMPS payload, and initiated work				



PROJECT STATUS (Cont'd)



End Item Product/Service	Customer	Lead Code(s)	Major Accomplishments/Highlights/Comments	Tech Issues	Schedule Issues	Cost Issues	Staffing Issues
NGST Scientist's Expert Assistant (SEA)		588	(1) Supported the STScI in writing an AISRP proposal for future SEA work (2) Developing support for the VFPC2 instrument (instead of ACS)				
InVision		588	(1) Completed build 3 of Image2000 (2) Completed concept definition for the JINI Object Information Network (JOIN) initiative				
Scientist's Mission Assistant and Research Tool (SMART)		588	(1) Conducted a concept review, and began work on architectural review planned for 10/99 (2) Submitted 2 funding proposals to AISRP				
Instrument Remote Control (IRC)		588	(1) Delivered Version 2 to support SPIRE; V3 for downselect planned for September				
ISE	NASA Chief Technol.	580	(1) Provided technical chairman for the ISE Non-Advocate Review with the HQ Independent Program Assessment Office				



TECHNOLOGY STATUS



- **Supported GSFC Information Sciences and Technology (GIST) strategic planning workshop (led by M.Halem/100) as AETD representative**
 - **Results to be presented to A. Diaz in late September**

- **GSFC/JPL Quality Mission Software Workshop**
 - **Objective was to exchange technical information and viewpoints on common challenges in producing quality software for NASA science missions**
 - **Next step is developing a position paper which advocates the strategic need for a NASA initiative focused on quality mission software**

- **ISC's Generic Inference Engine (GenIE) received honorable mention in the NASA Software of the Year Award distribution**

- **ISC's Operating Missions as Nodes on the Internet (OMNI) project successfully supported local viewing by students of the Solar Eclipse in the Black Sea**

- **Started work on a Sensor Web Testbed for the Earth Science Vision with 560, STAAC, and 935**



INSTITUTIONAL STATUS



AWARDS, PAPERS, CONFERENCES

- Invited to present paper entitled "Agent Technology from a NASA Perspective" at the Cooperative Information Agents (CIA) '99 Workshop in Sweden
- Authored papers entitled "Information Systems for Nanosatellite Constellations" and "Information Technology Strategic Planning as a Tool for Enabling 21st Century Missions" for the AIAA Conference
- Attended the UN's UNISPACE III Conference in Vienna as a delegate to the Space Generation Forum and attended the Small Satellite Conference in Utah
- Hosted a JPL/GSFC Quality Mission Software Workshop and several branches presented
- Jackie Mims, Jeannine Shirley and Cindi Adams received the Women of Color Technology Award for government leadership; Bob Schweiss/586 and Jane Marquart/582 won the ISC Engineering Excellence Awards
- ISC Best Paper Award presented to Keith Walyus/581, Scott Green/583, and Dan Mandl/584 for paper entitled "Lights Out for TRACE Using Operational and Architectural Approaches"
- Lisa Mazzuca was accepted into Goddard's Research and Study Fellowship Program; Jeff Smith/585 elected Network Subgroup vice-chairman for the international organization, Committee on Earth Observation Satellites
- FSW team members participated in the NGST Technology Expo in Woods Hole, Massachusetts



INSTITUTIONAL STATUS



COLLABORATIONS

- **Began development of partnership agreement between GSFC and the USNA for the next generation of the SAIL facility**
 - **Plans to utilize the USNA's 12 Meter Antenna**
 - **Plans to provide educational outreach to the USNA**

- **Participated in discussion with AFRL, JPL, and Lockheed Martin Sanders concerning possible future partnership for the Operating Missions as Nodes on the Internet (OMNI) project**



INSTITUTIONAL STATUS



OUTREACH

- **Provided ITOS ground system and technical advice to the University of New Hampshire students working on an experiment in the UNEX program**

- **KIST Web site and database went operational 9/15; Teachers from the SUNBEAMS program evaluated the web site**
 - **Completed database and Web training for KIST organization**

- **Completed FY99 Visiting Student Enrichment Program (VSEP) program**

➤ SAFETY

- Coordinated the development of Buildings 3/13/14 load shedding plan
- Developed a Preliminary Hazard List for Buildings 3/14
- Drafted the Code 580 Safety Plan
- Started modification on Buildings 3/14 Evacuation Plan
- Completed exit briefing with GSFC Security Officer on Code 580 IT security compliance – 580 systems are all compliant

➤ QMS

- Updating Product Development Handbook to reflect recent changes to GPG's, lessons learned from the DNV audit, and user suggestions
- Audits of Code 580 Teams on required ISO documentation will be held during October
- Participated in CCSDS Panel 1A NASA Technical Interface Meeting to address transferring internet protocols to/from spacecraft
- Completed review report on Inter-Spacecraft Communications Protocol Study
- Developing a test plan and system design for flight testing of various space link protocols on the WIRE testbed



INSTITUTIONAL STATUS



PERSONNEL

Full Time Civil Servants:	296
Part Time Civil Servants:	13
Total Losses:	2
Total Gains:	2
<hr/>	
Total Onboard as of 9/22/99	309

➤ Successful Position Fills:

- ESDIS Science Data System Engr (2 @ GS13/14) ← Filled with W. Potter & K. Michael
 - ESDIS Interface Engineer (GS 13/14) ← Filled with J. Lubelczyk
 - ESDIS/Interface Engineer (GS12/13) ← G. Copperwaite Selected; Onboard 10/12
 - MIDEX Senior Operations Engineer (GS14/15) ← Filled with S. Coyle
 - IFMP Computer Engr Specialist (GS 13) ← Filled with C. Reed-Miller; Onboard
 - NGST/Sr. FSW Systems Engineer (GS 14) ← C. Wilderman Selected; Onboard 9/27
 - FSW Engineer (2 @ GS 13) ← Filled with J. Vitale & D. Molock; Onboard
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INSTITUTIONAL STATUS



PERSONNEL

➤ Successful Position Fills (Cont'd):

- PM Senior Operations Engineer (GS 14/15) ← Filled with C. Dent
- EO-1 Ground Systems Manager (GS 13/14) ← Filled with D. Mandl
- 581 Branch Head (GS 14/15) ← Filled with M. Caulfield
- Science Data Systems Eng. (Freshout) ← P. Reitan Selected; Onboard 9/27
- Secretary (Branch) (2 @ GS 5/6) ← K. Thomas & D. Schimming Selected; Onboard 9/27 & 10/12 Respectively
- Secretary (Center) (GS 6/7) ← A. Carbin Selected; Onboard 9/27



INSTITUTIONAL STATUS



PERSONNEL

➤ Critical Position Status:

- ESDIS DAAC Systems Engineer (GS 13/14) ← No Selection Made; No Plan to Re-advertise
- EDOS Engineer (GS13/14) ← In Discussion with ESDIS Project
- Mission Director (1 @ GS 13/14) ← All Sources CPP; Reposted, Closes 9/27
- ISE (Freshout) ← Cert Received; Interviews in Progress
- Advanced Architectures (Freshout) ← Cert Received; Interviews in Progress
- ICESat Mission Systems Engineer (GS 14) ← Filled with J. Mariis



INSTITUTIONAL STATUS



ISSUES

ISSUES	ACTION PLANS	STATUS
<p><u>FACILITIES:</u></p> <p>HVAC construction disruptive and counterproductive for employees</p> <p><u>VACANCIES:</u></p> <p>Code 582 FSW Civil Servant staff continue to depart GSFC</p>	<p>Improved coordination by Facilities, with Directorate and Engineering Centers</p> <p>Prioritizing work and targeting new hires; using contractors wherever possible</p>	<p>Options for acceleration of Building 23 HVAC work still being studied by FMD</p> <p>Closed; Executed several outside hires and implemented retention awards/incentives</p>