

Hubble Space Telescope

First Servicing Mission

Discussion Points

- The Environment
- The Plan
- The Transition
- The Challenges
- Lessons Learned

The Environment

- Conscious Expectations of the Unexpected
 - Set high expectations
 - Let the Stakeholders Down
- Lost Confidence in NASA
 - Science community
 - Congress
 - Public
 - Friends and neighbors
- Lots of both needed and un-needed help

The Plan

- Understand and fix the mirror and any other problems
- Make stakeholders full partners in the plan
- Understand what Hubble can do and maximize the scientific return
- Continue development of the next generation instruments
- Keep stakeholders fully informed, involved in the process, and a partner in developing solutions to challenges

The Transition

- Recruited good people who liked the challenge
- Agency priority to fix Hubble removed many institutional barriers
- Desert Storm enabled transition from public ridicule to focus on planned fix
- Involvement of and continuous communications with stakeholders made them part of the team
- Invested in facilities and a robust test program
- Independent Reviews used as enablers

Challenges

- Shuttle manifest date
- Additional servicing needs
 - COSTAR
 - Solar Arrays
 - Gyros
 - Fuses
- Pushing the Shuttle EVA experience envelope
- 18 Independent Reviews
- Setting expectations and establishing success criteria

Lessons Learned

- Recruit good people
- Do not predict success – set expectations
- Make stakeholders full partners
- A robust test and verification program is critical
- Independent Reviews can help
- Taking on the number 1 problem of your organization can be a good career move
- The Space Shuttle has enabled Hubble to be the amazing scientific research tool it is today
- Recruit good people

Closing

The Space Shuttle has enabled Hubble to be the amazing scientific research tool it is today