The NRO of the Future

What are the Technological Capabilities for Satellite Reconnaissance in the Future?

- We are on the brink of a totally new era in space
- Yesterday's concepts and today's systems are limited and sized to the capabilities of conventional launchers
- Tomorrow's Space Shuttle could open up possibilities of the scope experienced in the initial days of the NRP
- The Space Shuttle will offer the potential and opportunity to develop and operate revolutionary concepts in space-based reconnaissance systems such as
  - [redacted]
  - Erection of large structures in near earth orbit (these could then be economically placed in synchronous orbit by low-thrust engines to provide continuous coverage)
  - System reusability (the possibility of recovering and refurbishing satellites for reuse could achieve significant savings, both from the standpoint of reducing the numbers of satellites procured, and elimination of redundancy now incorporated to assure long orbital lifetimes)
  - Store-on-orbit (the Shuttle could place spares for high value spacecraft on orbit to protect against gaps in coverage caused by untimely failure to hostile action; some cost savings could be achieved by using the store-on-orbit concept to regularize launches scheduled to coincide with procurement schedules)
  - [redacted]

Why Must Advanced Technology be Pushed?

- The collection environment is constantly changing. The Soviets, a principal target of satellite activity, are constantly upgrading their efforts to counter satellite collection by

[redacted]

- It will be difficult under SALT II to verify compliance with accords
  - Sensitive data collected by COMINT, TELINT [redacted] satellites will become even more important
  - More sophisticated methods of collection will be required as our adversaries improve their deception techniques
- Recently demonstrated potential for reconnaissance satellites to support a broad spectrum of requirements (from national to tactical) opens avenues heretofore uncharted. Systems could become the eyes and ears of the field commander in the future

How Should the NRO of the Future be Managed?

- An organization with an unambiguous mission--the development and operation of all US reconnaissance satellites
- An organization divorced from the requirements process. In essence, a technical organization dedicated to and capable of building highly sophisticated space systems
- Manned by the most competent technical people available, with direct access to leading technical contractors
- Centralized management to insure that the unique technology pursued is applied to the entire spectrum of intelligence collection disciplines

- Placed within an organizational structure which affords ready access to existing resources, such as found within the normal DOD/AF procurement/operations structure

- Recognized resource management flexibility to allow the application of funds to the most promising concepts in a timely manner

- Unlike normal DOD systems, such as the development of aircraft weapon systems like the B-1, F-15, etc, the space reconnaissance effort is very unique in many ways

  - Space reconnaissance systems are right at the leading edge of technology

  - Individual systems are modified during the production process in response to changing, dynamic requirements and adversary countermoves

  - On a one-for-one basis space systems are very expensive and once launched must work. While the Space Shuttle will afford opportunities for retrieval and on-orbit repair of low orbit systems, synchronous high altitude systems will for the foreseeable future have to maintain the high level of reliability demonstrated by systems today. There is no long screwdriver into deep space

  - Contractors are "incentivized" to build systems that work; contractor innovation is permitted so long as products fill requirements

  - Contractors participate heavily in the life cycle responsibility for systems. They develop, produce and operate the satellites they build