

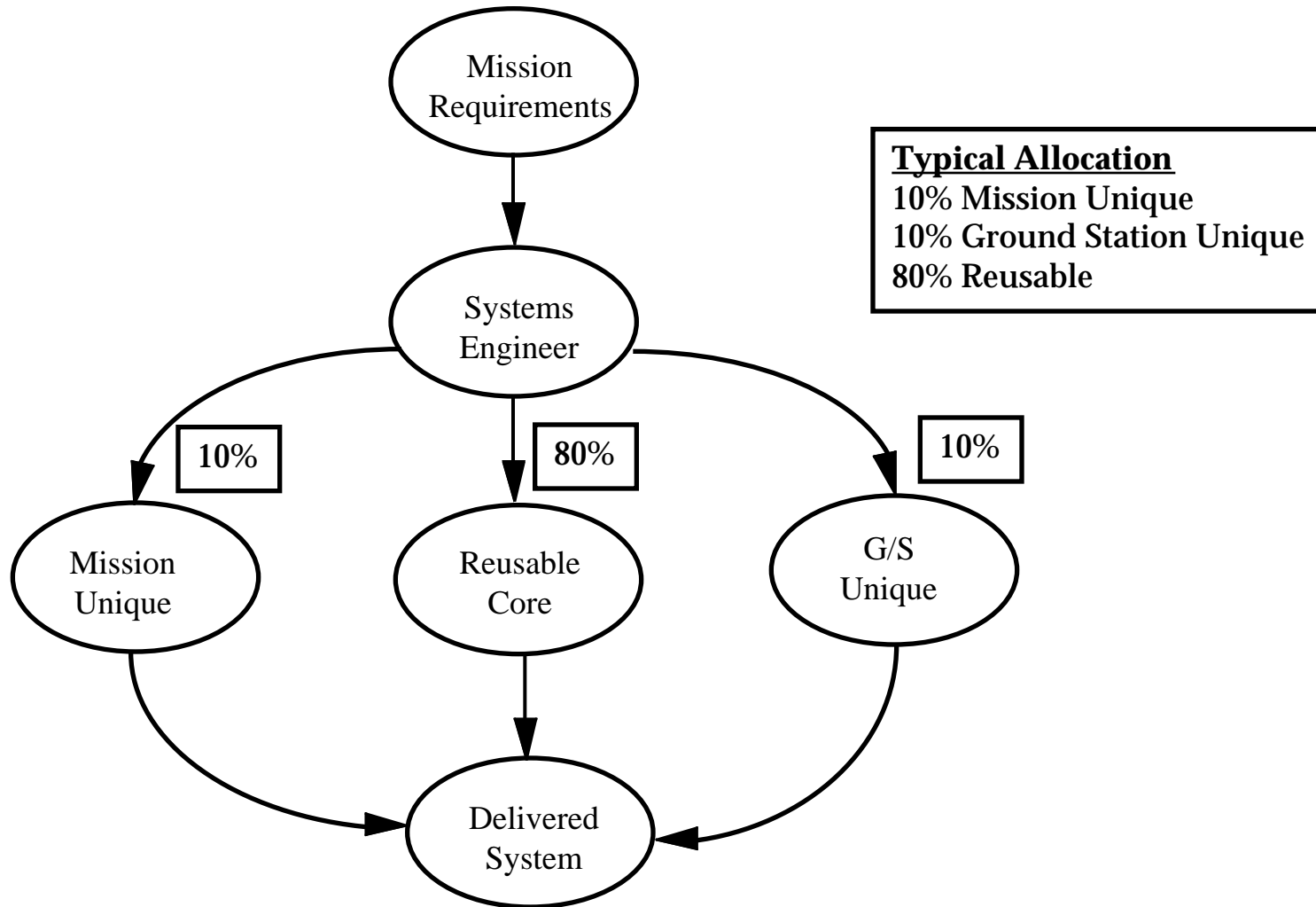


Core Model Example

- The Blossom Point System uses a core software package, OS/COMET and other, easily adapted BP components, as the backbone for new application development. This core is augmented by COTS packages, mission unique and ground station specific segments.
- NRL also uses OS/COMET during integration and test to develop databases, automated procedures, error detection/correction scripts, and engineer/operator displays. Much of this work is applicable to on-orbit operations.
- Use of the same core software, databases, and procedures for flight and I&T operations provide a high level of confidence that the flight operation system will function correctly.



Typical BP Development Model



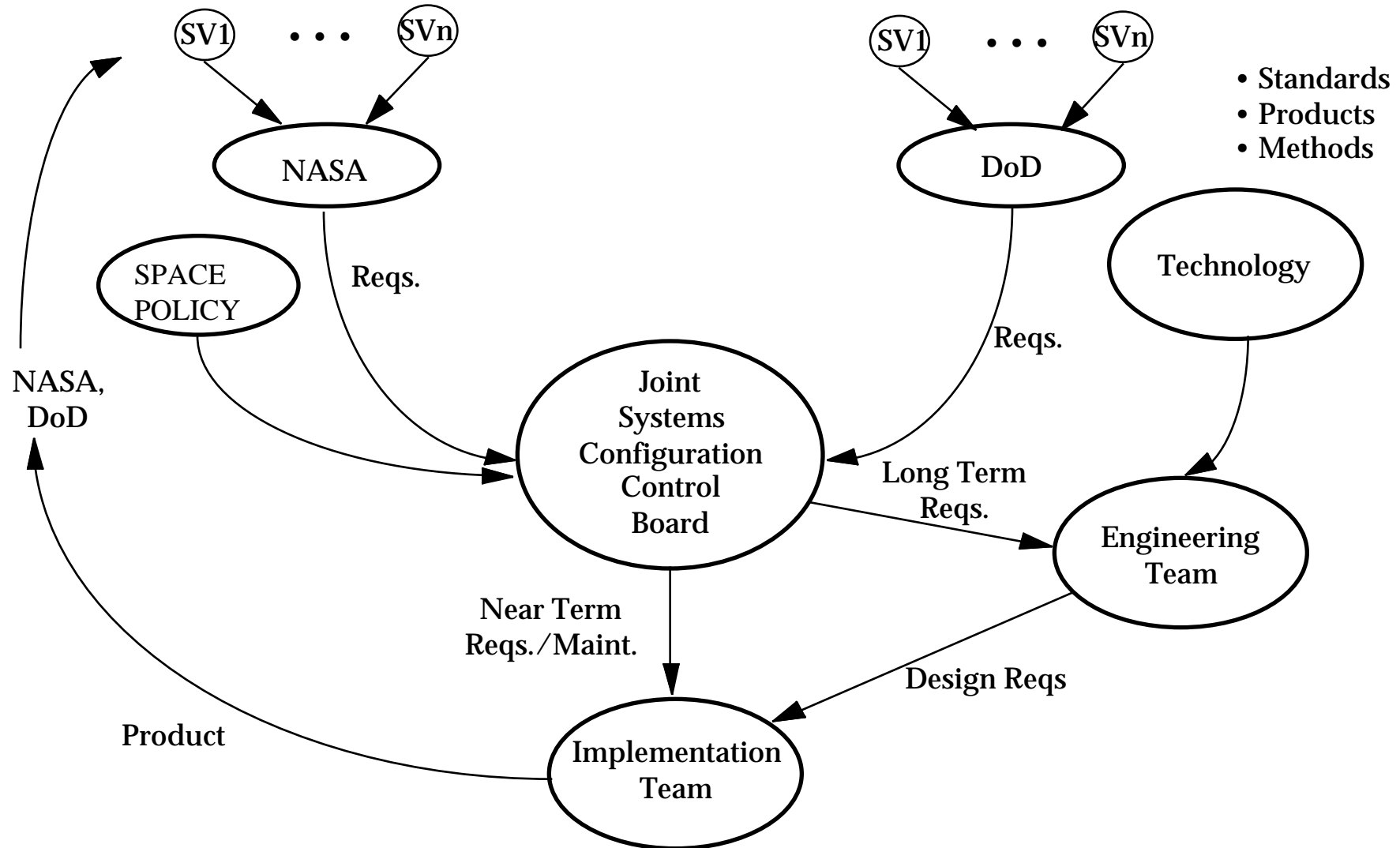


Requirements for Establishing a Multi-User Core System

- An organizational infrastructure must be established that can knowledgeably guide the evolution of the system.
- An engineering team must be established that can wisely apply technology to satisfy user requirements.
- An implementation team that strictly adheres to the reusability concept in their upgrade and maintenance of the core system and is responsive to users problems must be established.
- The acquisition managers must impose the use of the core system as a standard for DoD ground supports.
- To effect maximum savings, the core should be imposed on classified and unclassified programs.



Development/Maintenance Infrastructure





Suggested Organizational Infrastructure

- Chairman of Joint System Configuration Control Board - Space Architect Office
- Members of Joint System Configuration Control Board - Representatives of acquisition managers, operators, and core system developers.
- Implementation Team - Current BP organization would provide nucleus of an extended team.
- Engineering Team - Phillips Lab would expand their role as applied technologists by having a direct feed into the major upgrades and changes to the core system.



Perceived Cons with Core Approach

- Imposing a standard approach is opposite to the thrust to reduce the number of DoD standards that are mandated in acquisitions.
 - True, but not without a significant precedent. The Global Command and Control System, GCCS, is a core package that is mandated for the development of all new C&C warfighting systems. GCCS is being developed by DISA with user participation and will cover all echelons from Joint Task Force commanders to foxhole systems. This is a much broader application than proposed here. It was required because of the lack of interoperability, the cost, and the failure of the stovepipe systems being built for strategic and tactical warfare support, the same factors that qualify current space operations.



Perceived Cons with Core Approach

- Imposition of a core stifles application of cutting edge technology.
 - True, a core approach presents a certain inertia to change. Having a wide user base strongly enforces the need for caution in handling the risk of introducing faults into the system. However, the current approach does not appear to foster the rapid adaptation of technology. Current ground stations are generations behind the technology. The course being proposed is one of breeding the best as opposed to the best of breed.
- Government development of a system is unfair to industry.
 - Someone has to decide if goal behind development of ground operations is corporate welfare or to make the most cost effective investment in space. Only a few government people would be involved in the development of the core system. The work would still be done by contractors. Unlike today, it would be done only once.