

JPL



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AMMOS

Generic Planetary Mission Ops

Barbara Anderson
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Generic MOS Architecture



- **Functional breakdown common across missions**
- **Reuseable software systems and components**
- **Table adaptation for telemetry and command**
- **Model additions for navigation, sequence planning, constraint checking**
- **Concurrent design of mission and operations**
- **Select and integrate to support new project**
 - Initial capability to support spacecraft development
 - Incremental integration of functions through I&T, launch, cruise operations, orbital operations
- **Support all planetary missions; Pathfinder, Discovery, Cassini**
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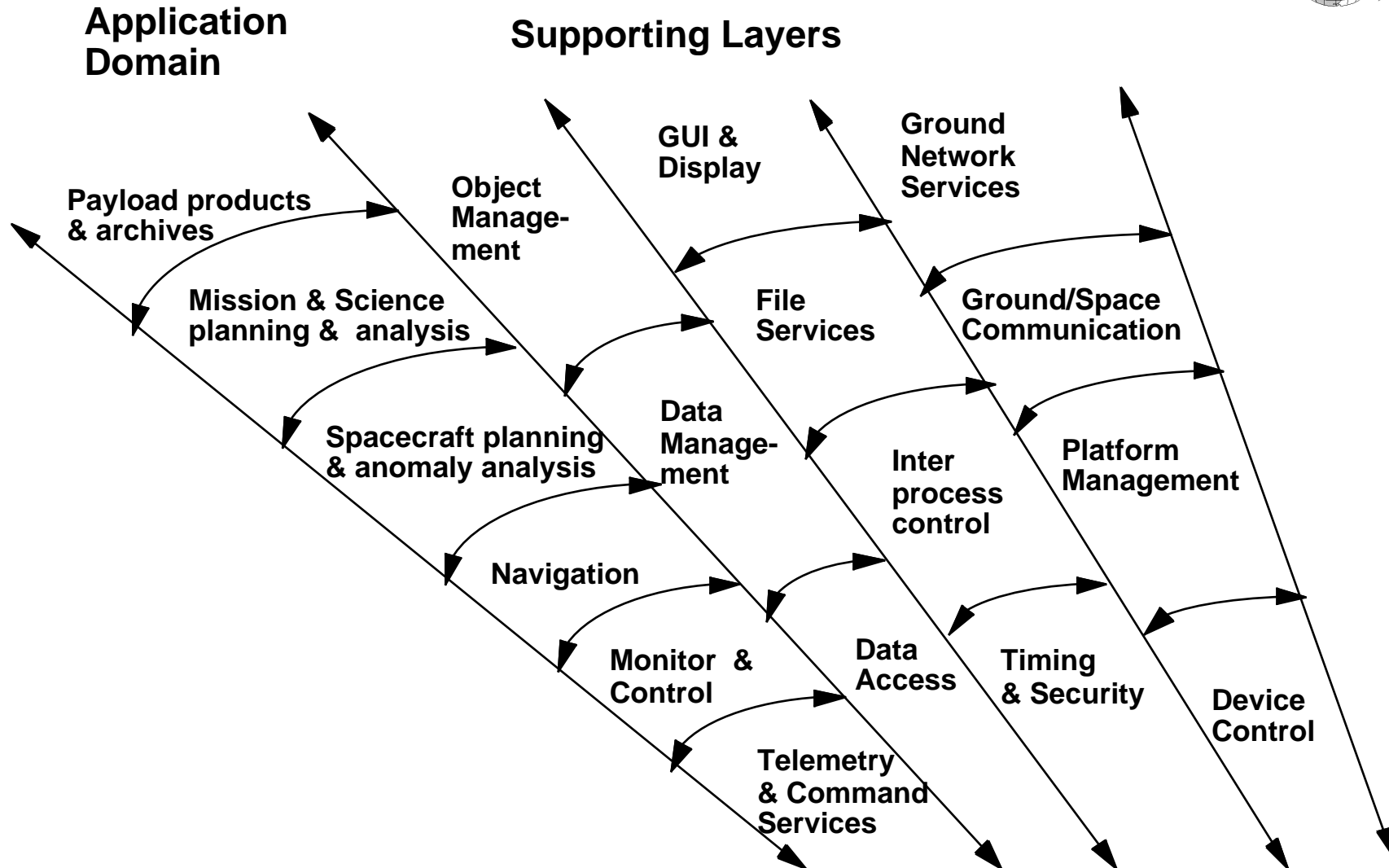
Standards-based Systems



- **UNIX-based distributed systems; multi-platform**
 - Common languages and COTS tools
 - Both legacy and new software components
 - Remote locations an integral part of mission operations
 - Single software source set for all platforms
 - Vendor independent; open competitive procurements
- **Re USED functional software components**
- **New elements inserted : new technology, new functions, project unique, COTS replacements**
- **Standards simplify adaptation for new mission**
- **Spread Cost of New Technology and Automation**
- **Standard architecture would enable sharing across larger user community; ease evolution**
 - Common architecture, mixed components, feasible across NASA, similar DoD operations, commercial satellites



Layered Mission Operations Architecture



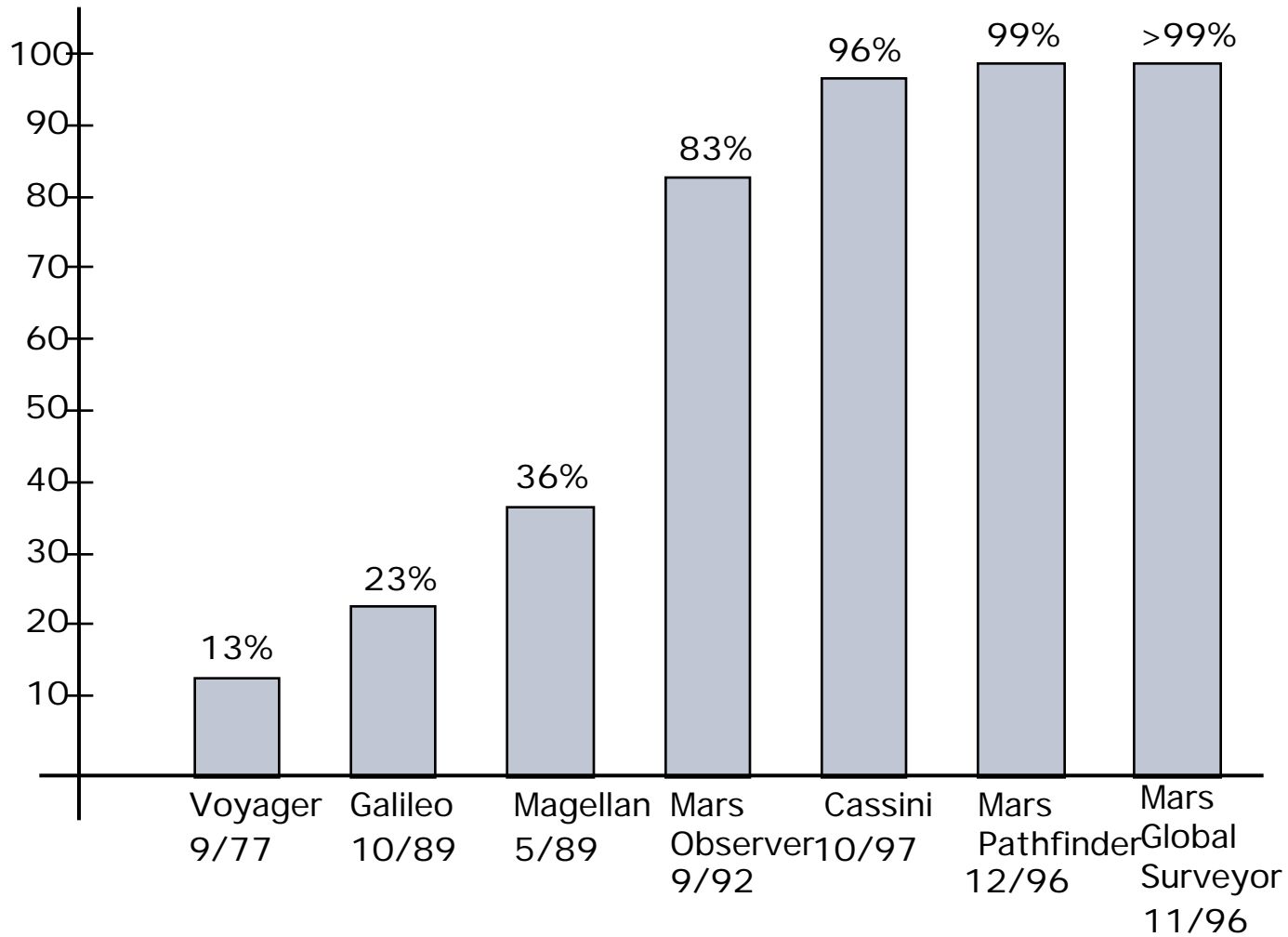
JPL Evolution of Multimission Ground Data System



(MEASURED AT LAUNCH)

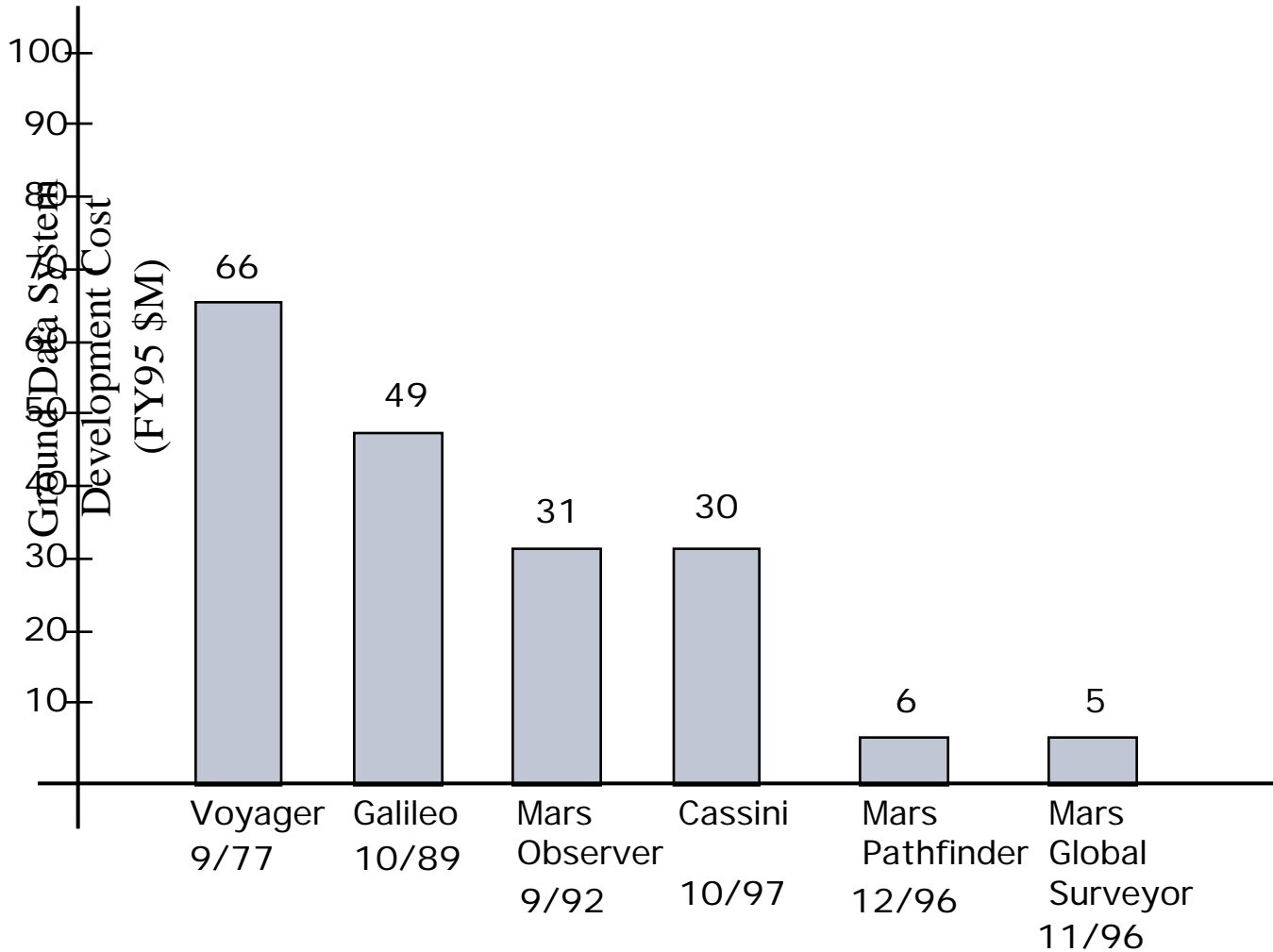


PERCENT MULTIMISSION





Ground Data System Development Costs





AMMOS MGDS Operations Network Diagram

