AMMOS
Generic Planetary Mission Ops

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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
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

**Application Domain**
- Payload products & archives
- Mission & Science planning & analysis
- Spacecraft planning & anomaly analysis
- Navigation
- Monitor & Control
- Telemetry & Command Services

**Supporting Layers**
- GUI & Display
- Object Management
- Data Management
- File Services
- Data Access
- Inter process control
- Timing & Security
- Platform Management
- Ground/Space Communication
- Ground Network Services
- Device Control
- Interprocess control
- Timing & Security
- Platform Management
Evolution of Multimission Ground Data System

(MEASURED AT LAUNCH)

PERCENT MULTIMISSION

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<tr>
<th>Mission</th>
<th>Date</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Voyager</td>
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<td>Mars Global Surveyor</td>
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