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**MULTIMISSION GROUND DATA SYSTEM SUPPORT OF NASA'S
PLANETARY PROGRAM**

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ABSTRACT

NASA funds the **Multimission Operations Systems Office (MOSO)** at the Jet Propulsion Laboratory to design, develop, and operate **multimission** ground data system capabilities that can be used to control operational spacecraft and process data returned from a variety of planetary missions. MOSO provides operational capabilities, services and tools that are common to a broad set of missions. Individual missions utilize (or in some cases adapt) these **multimission** tools and services to support ground data processing during spacecraft development and operations. Utilization of a **multimission** core capability significantly reduces the cost of development and operation of ground data systems for each individual project.

This paper describes the general purpose set of **multimission** capabilities, services and tools that are used to support the NASA planetary program. These capabilities include mission planning and analysis tools, sequence generation tools, command processing, ephemeris generation and optical navigation capabilities, realtime engineering and science data processing, monitor and display functions, spacecraft analysis systems, science instrument data processing and **photoproduct** generation capabilities, data acquisition and distribution services, and tools for production of archival science data records.

The **Advanced Multimissions Operations System (AMMOS)** is used to support multiple simultaneous space missions. The AMMOS design is based on use of modular, networked capabilities and on use of industry standard hardware and software to the maximum extent possible. The AMMOS architecture will be described, and use of AMMOS to support simultaneous operations of multiple planetary spacecraft will be summarized. Use of a modular, **scaleable**, standards compliant design insures that the cost of adaptation of the system to meet new mission requirements is minimal.