Topics

• ISS Payload Telemetry and Command Flow
• Payload Operations Options
• Telescience Resource Kit (TReK)
• Telemetry Services
• Command Services
• TReK Customer Support
ISS Payload Telemetry and Command Flow
Payload Operations Options

These options can be located at the United States Operations Center (USOC), a Telescience Support Center (TSC), or any other remote location.
Telescience Resource Kit

• TReK is a suite of software applications that provide:
  – Local ground support system functions.
  – An interface with the POIC to utilize POIC remote ground support system services.

• TReK is suitable for individuals or small payload teams that need to monitor and control low/medium data rate payloads.

• The initial cost of a TReK system is less than $10,000.
**Telemetry Services**

**TReK Telemetry Capabilities:**
* Receive, Process, Record, Forward, and Playback Telemetry Packets.
* Display, Record, and Monitor Telemetry Parameters
* View Incoming Telemetry Packets (Hex/Text Format)
* Telemetry Processing Statistics

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**Diagram:**
- **ISS**
- **TDRS**
- **White Sands Complex**
- **POIC**
- **PDSS**
- **EHS**
- **Telemetry DB**
- **TReK Processing Application**
- **TReK API**
- **User Program**

**Process Flow:**
- PDSS Payload & UDSM Packets (UDP)
- User Defined GSE Packets (UDP)
- Custom Data Packets (TCP)
**Command Services**

**TReK Command Capabilities:**
- Command System Status & Configuration Information
- Remotely Initiated Command (Cmd Built from POIC DB)
- Remotely Generated Command (Cmd Built at Remote Site)
- Command Updates
- Command Responses
- Command Session Recording/Viewing
- Command Track
- Command Statistics
The TReK Team provides the following types of support to TReK customers:

- Beta Software Testing Program
- TReK Web Site (http://trek.msfc.nasa.gov)
- Help Desk (Technical Support Phone Line -- 544-3521)
- E-Mail Technical Support Help (trek.help@msfc.nasa.gov)