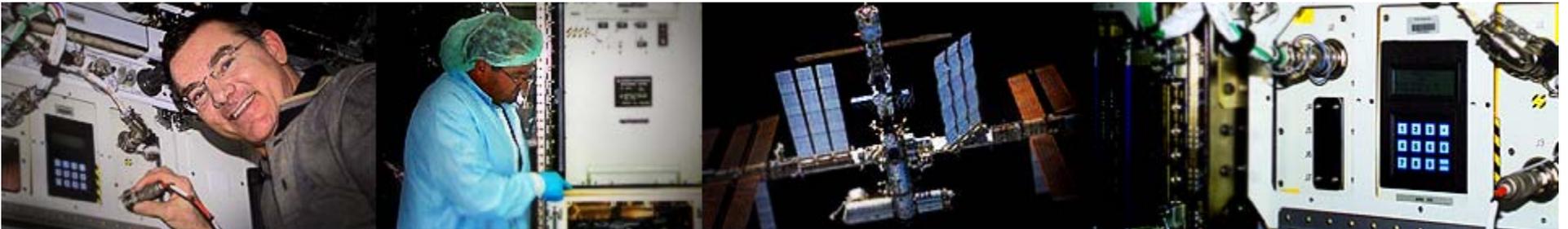




Boeing Payload Services for ISS Users



NASA ISS Research Academy and Pre-Application Meeting
August 3 - 5, 2010

Amanda Rice
Boeing
International Space Station – Payload Integration

Boeing Payload Services

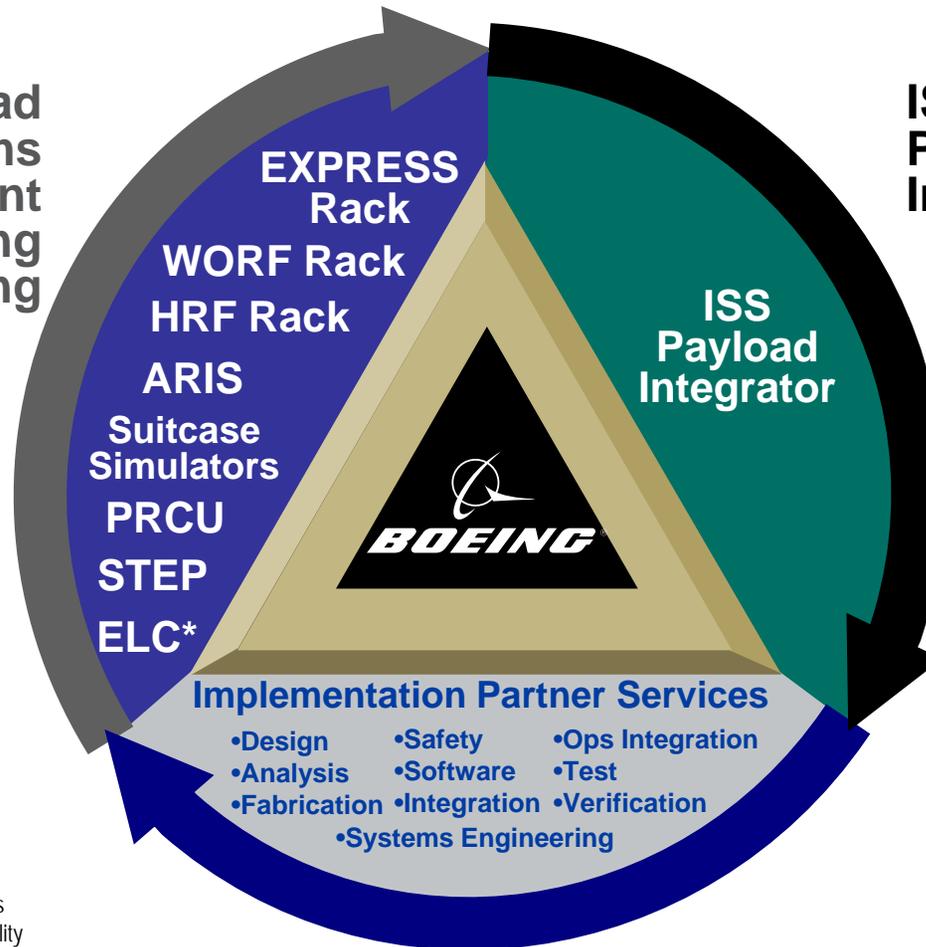
Implementation Partner for ISS National Laboratory



Boeing Payload Services

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Payload Systems Development and Sustaining Engineering



ISS Payload Integration

- Today, Boeing supports NASA for ongoing ISS vehicle and payload systems development and payload integration work

- ARIS – Active Rack Isolation System
- ELC – EXPRESS Logistics Carrier (*Sustaining Engineering Only)
- EXPRESS - Expedite the Processing of Experiments for Space Station
- HRF – Human Research Facility
- PRCU – Payload Rack Checkout Unit
- STEP - Suitcase Test Environment for Payloads
- WORF – Window Observational Research Facility

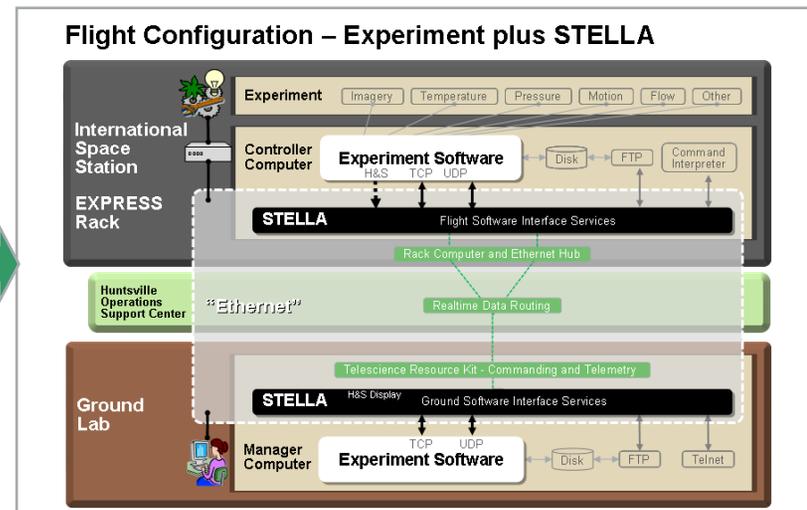
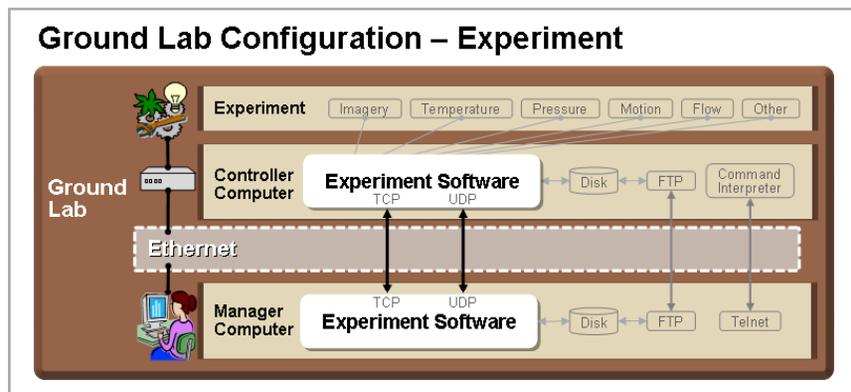
Payload/Experiment Development and Integration Services

Boeing Payload Services

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Software Toolkit for Ethernet Lab-Like Environment (STELLA)

- For EXPRESS Subrack Payload Developers
 - Operates an onboard Ethernet payload as simply as when it was in the laboratory
 - Hides complex and unique NASA/ISS command, science telemetry, and Health and Status (H&S) protocols and data formats from the payload software (and the payload developer)
 - Flexible and easy to install and configure
 - Demonstrated on ISS EXPRESS Rack 1 May 24 – May 28, 2010
 - Available 4th Quarter 2010
- Ground Lab versus Flight Configurations



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Remote Advanced Payload Test Rig (RAPTR)

- For EXPRESS Subrack Payload Developers
 - Portable computer environment
 - Simulates the end-to-end ISS data architecture for your payload software development and interface checkout tasks
 - Simplified software development via advanced usability features
 - Intuitive Graphics to plot command and telemetry packet flow
 - Advanced Messaging
 - Virtual Data Probes to view packet flow
 - Supports telemetry routing in the “By-Pass RIC” downlink mode (i.e., via Rack Ethernet)
 - Remote tie in capability for payload software integration assistance
 - Available 2011

