



**THE AEROSPACE
CORPORATION**

GUVI

Global Ultraviolet Imager
Critical Design Review



Engineering POC Software

Patty Lew

Phone: (310) 336-0229

Fax: (310) 336-1636

e-mail: patricia.h.lew@aero.org

The Aerospace Corporation

2350 E. El Segundo Blvd.

El Segundo, CA 90245

Mail Station: M2/269

Critical Design Review, 28-29 Jan 1998



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Requirements Summary

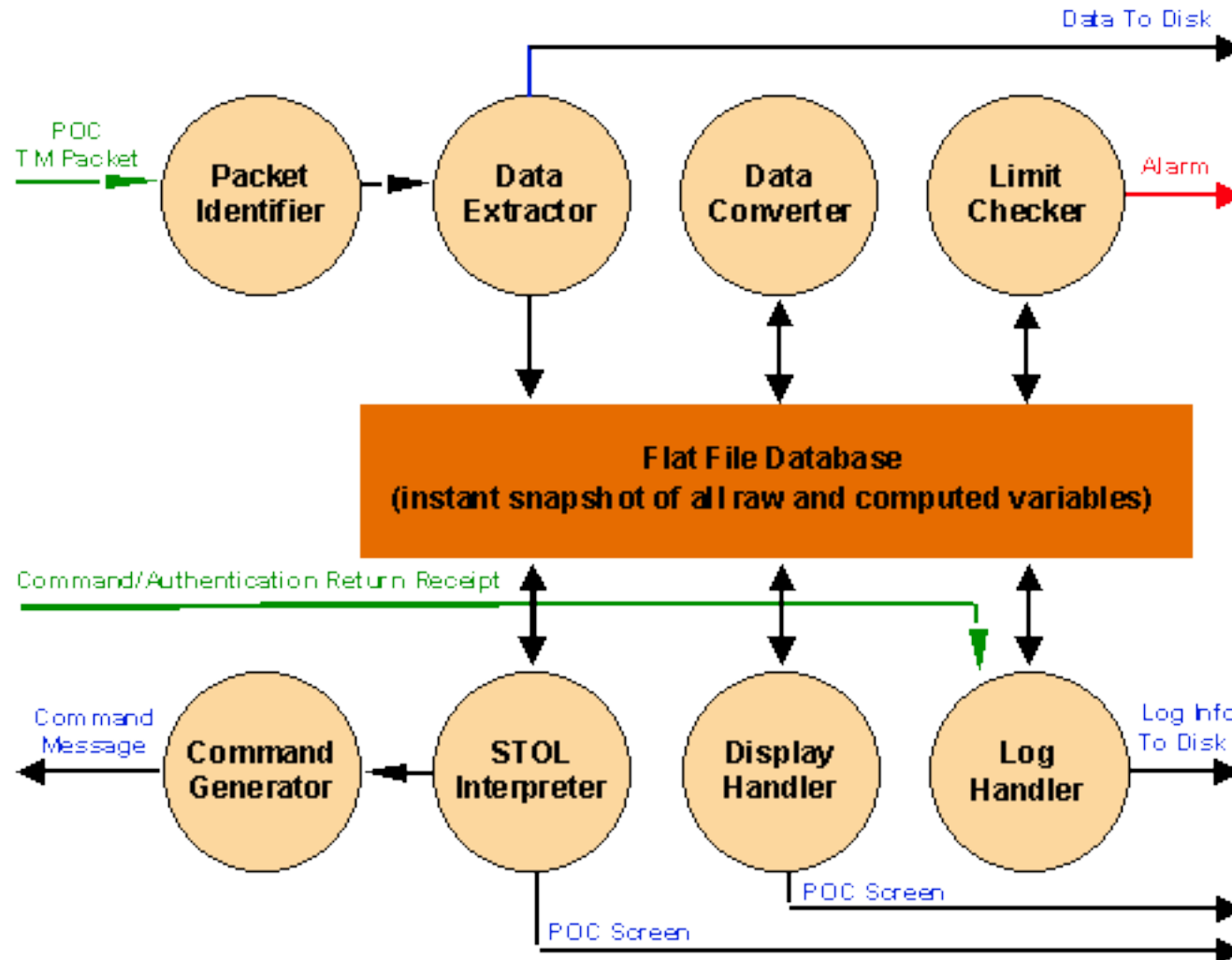
(Integration & Test through Mission Operations)

- **Commanding Function**
 - **Generation**
 - **Script language**
 - **Command messages**
 - **Authentication**
 - **PGP**
 - **Command archive**
 - **Process return receipts**
- **Health/Status/Trending Function**
 - **Displays/Trending**
 - Receive and process telemetry
 - Display image data, housekeeping information, strip charts
 - Replay
 - TIMED housekeeping log
 - **Autonomous Operation**
 - Limit checking
 - Alarm generation
 - TIMED alarm log
 - Routine processing*

* Mission Operations only



Software Architecture Overview





Software Modules

Module	Description	Module Inputs
Packet Identifier	Retrieve/split telemetry into ApID packets	Packet definition file
Data Extractor	Extract raw variables, build images	Telemetry specification file Image specification files
Data Converter	Convert raw variables into engineering units	Conversion definition file Lookup tables
Limit Checker	Alarm generation if red/yellow limit exceeded	Alarm definition file Alarm generation file
Display Handler	Display user defined windows	Window specification files
STOL Interpreter	Script language	STOL procedures
Command Generator	Create/transmit command messages	Command Definition File
Log Handler	Log commands and exceptions	-----

- **Input file contents described in PDR presentation**
- **Changes since PDR**
 - **Version field added to all input files for configuration control**
 - **Image specification file changed to increase throughput**



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Requirements

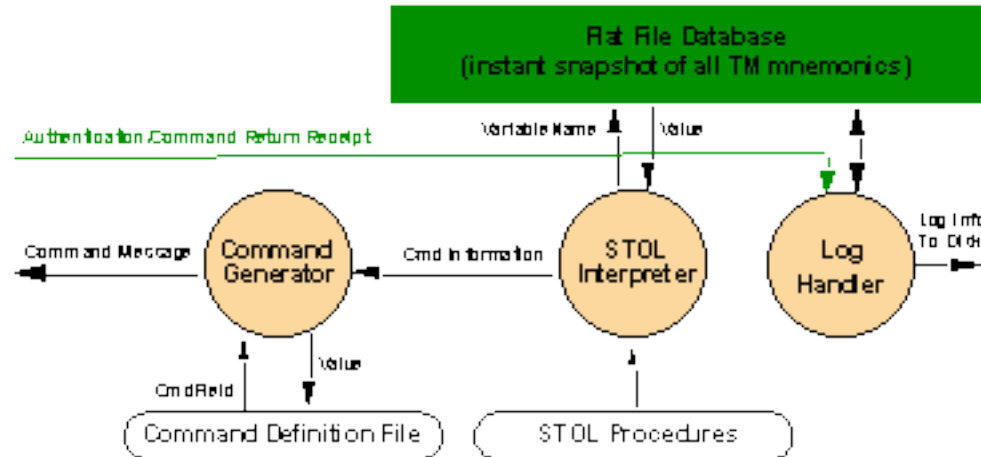
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Commanding Function



Requirements

- **Command Generation**
 - Script language
 - Command messages
- **Command Authentication**
 - PGP
- **Command Archive**
 - Process return receipts

Satisfied By

- STOL Interpreter Module**
- Command Generator Module**
- Log Handler Module**

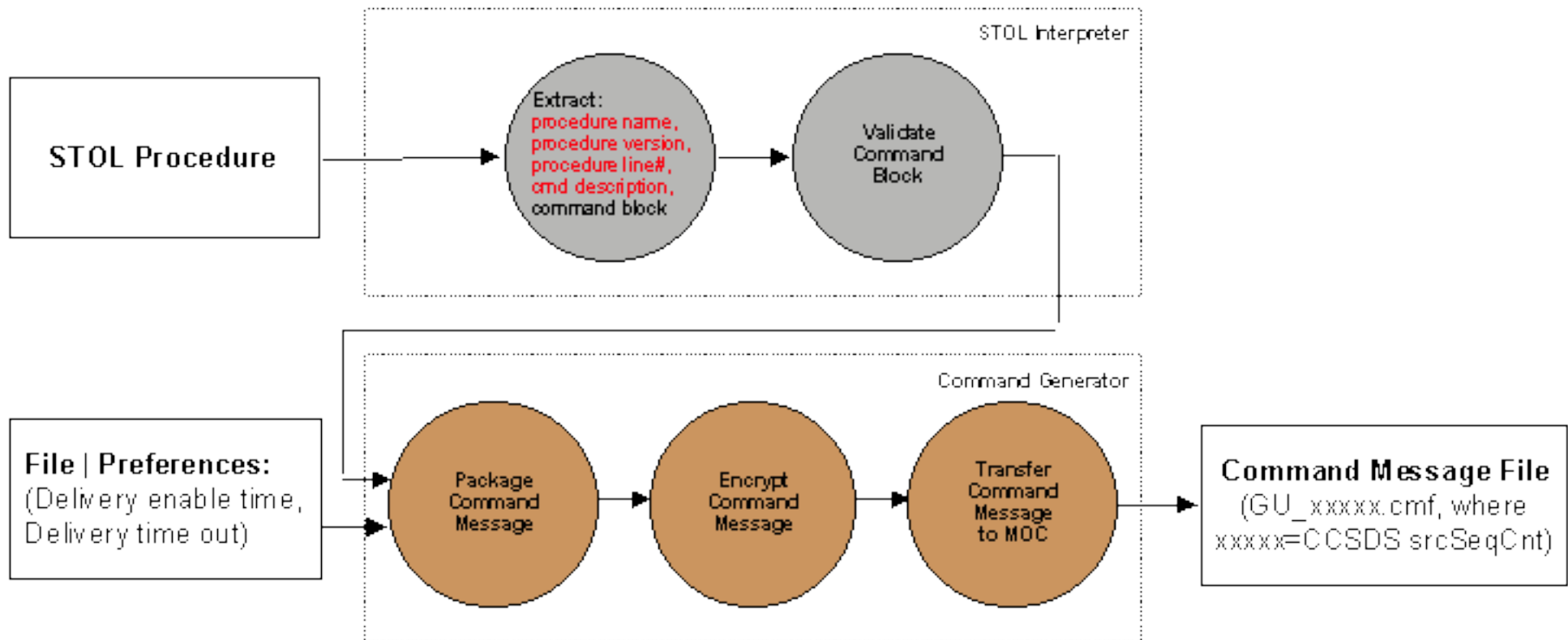


Command Generation/Authentication Data Flow

Inputs

Software Module

Output



Red denotes change since PDR