

USA Ground Operations CIL Sheet

Critical Item: Server
NASA Part No: None
Mfg/Part No: Compaq / AlphaServer 4100
System: Shuttle Data Center

Criticality Category: 1
Total Quantity: 46

Find No.	Qty	Area	PMN	Baseline	Drawing / Sheet
Application Server	2	LCC	L72-6010	091.10	84K06003 / 2
Data Store	23	LCC	L72-6010	091.10	84K06003 / 2
File Server	2	LCC	L72-6010	091.10	84K06003 / 2
Indexer	11	LCC	L72-6010	091.10	84K06003 / 2
OPSCM	2	LCC	L72-6010	091.10	84K06003 / 2
Retriever	2	LCC	L72-6010	091.10	84K06003 / 2
User Access Server	4	LCC	L72-6010	091.10	84K06003 / 2

Function:

Performs multiple functions depending on the application. These functions include user access control, file storage, application software, central control, data storage, retrieval request functions, and sorting data streams for recording.

Failure Mode No. Failure Mode	Failure Cause Failure Effect	Detection Method Time to Effect	Crit Cat
09IT09-010.001 Corruption of data	Electrical failure / product defect / software error Possible presentation of invalid data upon user retrieval. Making a critical decision based on invalid data could result in loss of life/vehicle.	None Seconds	1

ACCEPTANCE RATIONALE**Design:**

- The equipment is designed to industry standards.
- FCC, UL, CSA, TUV, CE approved.
- Servers employ error checking methods such as command/address parity, Error Correction Code (ECC) and Cyclic Redundancy Check (CRC).
- Utilizes Dual Ring, Dual Homed network configuration for superior reliability and robustness, Token Passing for preventing data corruption due to data transmission collisions and multiple layers of error checking to detect corrupt data packets. Reference document number 84K06007, Shuttle Data Center (SDC) DCR White Paper, for additional SDC network communication attributes and features.

Test:

- Validation testing performed prior to operational use.
- Power-up diagnostics verify the functionality of the hardware.

Inspection:

- There are no inspections performed.

Failure History:

- Current data on test failures, unexplained anomalies, and other failures experienced during ground processing activities can be found in the PRACA database. The PRACA database was researched and no data was found on this component in the critical failure mode.

USA Ground Operations CIL Sheet**Operational Use:**

Correcting Action	Timeframe
There is no action which can be taken to mitigate the failure effect.	Since no correcting action is available, timeframe does not apply.