



Rugged GPU Processor

COMINT and SIGINT system



“Captec delivered a fully qualified out-of-the-box rugged GPU processing platform, with 100Gb fibre interfaces to manage the transfer of data. The Captec solution is a critical part of a wider communications intelligence system used in a harsh military environment.”

James Rickwood,
Business Development
Manager

The customer is a system engineering company specialising in the design and production of sophisticated communication monitoring, identification and analysis of signals and security products and systems.

Requirements & Issues

- Provision of dual high-end GPUs and high bandwidth fibre interfaces in a short depth 2U space envelope
- Thermal management for high power server, operational in a +50°C environment
- Formal qualification to DO-160G and MIL-STD-461G for environmental and EMC verification, along with compliance to TEMPEST SDIP-27 level C standard
- Resilient power supply required due to unconditioned power available on the aircraft
- No onboard data storage allowed due to mission security criteria

The Solution

- Development of a custom short-depth rugged chassis to meet TEMPEST SDIP-27 level C and shock and vibration to DO-160G
- Utilisation of high performance, forced air directional cooling. Provision of lifetime air filters for dust and debris protection
- Partnering with our preferred third-party UKAS certified test facilities to ensure formal verification to the desired MIL standards is achieved. Pre-test qualification and de-risking to be carried out on site at Captec
- Integration of a wide input DC power supply specifically selected to manage low voltage power dips
- Capacity for removable data storage was omitted by design and the system supports PXE boot capability



The Outcome

- This project was a new opportunity with a new customer to Captec, enabling promotion of our bespoke rugged server capability in a high-end processing platform
- Captec facilitating the formal qualification of the server will allow for the delivery of an out-of-the-box solution to enable the customer to focus on the wider programme
- This project will facilitate introductions to an adjacent project team, giving further opportunity to partner



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