DEDICATED COMPUTING

POWERING THE WORLD'S MOST IMPORTANT DEVICES

Ruggedization Services

Dedicated Computing extends its standard product platforms with a comprehensive range of ruggedization services that tailor systems for defense and mission-critical environments.

Leveraging proven commercial designs, DC engineers integrate environmental hardening, mechanical reinforcement, and qualification testing to ensure consistent performance in extreme conditions.

From shock-mounted portable systems to sealed enclosures and EMI/EMC compliance, DC delivers ruggedized solutions used by the defense industry while maintaining common compute architecture across all deployments.

Dedicated Computing brings decades of experience designing and certifying compute platforms for high-performance, high-reliability environments. Our ruggedized defense systems combine standardized compute architectures with mission-specific ruggedization, enabling faster deployment and lifecycle consistency across all operational domains.

Case Study: Virtualized C4ISR System

Modern defense operations rely on rapidly deployable computing that can perform in any environment - from command centers to ships, forward bases and mobile operations. The Excalibur™ Series E10431 from Dedicated Computing delivers the performance of a high-end rackmount server in a compact, short-depth 3U chassis that's engineered for deployment across rackmount and semi-rugged installations.

Dedicated Computing ruggedized its Excalibur™ Series E10431 server into a fully portable solution designed to withstand vibration, shock and environmental stress typical of deployed operations.

Based on the latest 6th generation Intel® Xeon® Scalable Processors with support for multiple NVIDIA® ProVis GPU options, the ruggedized E10431 provides a common compute architecture for virtualized C4ISR systems. This standard platform simplifies integration, reduces maintenance complexity, and ensures consistent performance from the data center to the tactical edge.

Ruggedization Capabilities Include:

- Environmental hardening for temperature, vibration, and humidity tolerance
- Shock isolation and reinforced chassis structures for transportable and shipboard applications
- Dust and moisture sealing to meet ingress protection (IP) requirements
- Custom thermal design for high-power CPU/GPU configurations in constrained spaces
- EMI/EMC compliance and validation
- Conformal coating, cabling, and connector upgrades for field reliability
- Transit case integration with shock-mounted rails and airflow optimization
- Qualification testing and documentation for defense program certification

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