




SPECTRA AEROSPACE & DEFENSE

Solving UUV Long Durations Challenges

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 Galleon Embedded Computing



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Executive Summary

Unmanned or autonomous underwater vehicle systems of today present never before seen capabilities for extended duration missions ranging from commercial to military applications including:

- inspection and recovery
- environmental exploration and research
- mine detection and clearing
- swimmer detection/port protection

These systems leave no place for traditional large and power-hungry payloads. Additionally, the nature of these extended-duration missions requires both compute and storage density pushing the boundaries of current technology.

For this application example Galleon solved these challenges with a NAS system offering high bandwidth IO, unmatched storage density along with minimal size and power.

How Product Helped



The combination of GbE and 10GbE ports provided a single centralised product for all data transfer and storage requirements.

Galleon XSR 10GbE NAS provides the highest storage capacity per cubic space of all available rugged products, which provided a perfect solution for this application.

The combination of GbE and 10GbE ports provided a single centralised product for all data transfer and storage requirements.

The 10GbE ports are used for high bandwidth offload (when the removable storage cannot easily be extracted), and the GbE ports are used for sending sensor data (raw and post-processed) to the storage during the mission.

With up to 80Terabytes of storage available, even the longest duration mission lengths are supported.

Advanced AES-XTS encryption provides essential data security for this type of unmanned underwater vehicle application.

Results and Future Plans



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Selecting Galleon COTS XSR 10GbE NAS product into their mission payload has proven to be a winning strategy for this Galleon customer.

With Galleon's solid commitment to long life cycle sustainment as well as a roadmap projecting even further technology enhancements in the same packaging footprints, designers were able to focus their efforts on other more complex system challenges and speed their time to market via a shortened and simplified development cycle for their data collection and processing subsystems.

For even smaller systems with minimal payload power budgets, the Galleon G1 microServer, microNAS and microRecorder family enable system designers to meet the most challenging SWAP requirements while still being able to collect up to 40 Terabytes of data on a single removable data module.

