

## SIOS Provides GTS with Business Continuity and High Availability for U.S. Navy Combat Systems

“The only solution to provide high availability and meet the stringent requirements of the Navy is SIOS Protection Suite. The solution has the flexibility to support any commercial hardware, as these solutions work with any servers, storage, and multiple types of hardware. Regardless of what we need, SIOS can support it.”

- Jim Seeley, GTS, Chief Engineer.



Global Technical Systems (GTS) is a corporation specializing in providing technical services and high-tech product solutions. GTS provides program and engineering support services including: research design, prototype development, program management, shipboard and shore-based technical support, installation, maintenance, and training. GTS maintains a complete depot-level repair and manufacturing facility with warehousing, obsolescence, and full logistics support.

### The challenge

The U.S. Navy issued a request for proposal (RFP), which consisted of a need to find an enclosure and Common Processing System (CPS) for the Navy to feed various programs of record, such as the ship self-defense system. The CPS provides a processing system that supports the Navy's planned implementation of Open Architecture (OA) for naval combat systems. CPS is designed around commercially available hardware and software, including computer processing and memory, data storage and extraction and I/O interfaces that support host software applications of Navy combat systems running on Linux.

The Navy RFP was presented to GTS as a new, mission-computing project that could realize the benefits of data replication and protection. The Navy has traditionally faced this computing challenge with highly

proprietary solutions. GTS was awarded the CPS contract and began designing, developing and integrating software and hardware subsystems to meet the Program's System Requirements Document (SRD) for the Navy. GTS had to find a technical solution to meet their data replication needs; one that could keep data synchronized among cabinets and would meet the requirements for the Navy's mission critical needs.

### The solution

As the optimal solution to provide multi-site cluster configurations and enable cascading of multiple node failovers, SIOS Protection Suite was selected by GTS to monitor and protect the Navy's IBM BladeCenter BCHT and storage infrastructure against planned and unplanned network downtime. With the ability to combine the robustness of a classic, shared storage cluster with efficient, block-level data replication to a disaster recovery site, SIOS Protection Suite also enabled automatic replication redirection to deliver comprehensive disaster recovery protection for the Navy's combat systems.

“One of the reasons we receive high accolades from the Navy is due to SIOS Protection Suite, as it enabled GTS to provide the Navy with a solution they can depend on,” said Jim Seeley, GTS, Chief Engineer. SIOS Protection Suite provides high

availability, continuous access and disaster recovery, which is exactly what the Navy required, and was chosen to support the Navy's combat systems across its entire fleet.

In certain configurations, the Navy has two data centers with two servers that provide local availability. Inside the data centers are two node clusters that are connected to shared storage. Both sets of machines exchange data replication on a continuous basis. GTS liked how SIOS Protection Suite combined shared storage support, cascading failover, real-time continuous data protection, and application level monitoring.

Since these systems run with a rack of servers that will travel out at sea, GTS needs to ensure there is continuous availability in the event that there is combat. With the SIOS failover advantage, the Navy is protected from hardware issues that may surface. SIOS's solutions allow business data to appear as is, showing no changes in the secondary server. Its application awareness feature has the ability to comprehend the interdependencies that occur between all system components, which greatly differs from competitors whose features are limited to monitoring the hardware, operating system, and database.

There were no integration issues in terms of implementing this solution into the system baseline. GTS took the baseline and loaded the solution into the system, then ran quality control and operational qualification tests then shipped the units to the Navy. The deployment process from start to finish was roughly a yearlong activity for all software and hardware subsystems that, for SIOS products, was both hassle free and easy.

"This was outstanding for GTS because the Navy process can be quite the hassle with the amount of constraints, so the fact that the SIOS integration was seamless, speaks volumes," said Jim Seeley.

"SIOS has been very accommodating to our unique requirements," said Jim Seeley. "The interaction with SIOS from the very beginning has always been responsive and efficient, not only with us but also to our end users. They are more than forthcoming with information."

The SIOS Protection Suite allows the end user to choose or use the capability, which means if the user chooses to not deploy the SIOS Protection Suite, they will not receive the added benefit of having SIOS protection. Services are billed on a monthly basis, so for this extra fee, customers can receive the added benefit of having a disaster recovery solution that maintains uninterrupted access to data. SIOS takes over the failover of the solution and ensures a resilient environment by monitoring each server.

This project had been in development for a few years, and just passed preliminary production acceptance from the Navy. GTS is beginning to provide this solution to all CPS designated Navy ships.

## Benefits

"The SIOS Protection Suite differentiates itself from other solutions due to its ease of implementation, setup, and use," said Jim Seeley. "There's no heavy lifting and we have an out-of-the-box pre-defined application recovery kit. We are pleased with the technical support provided for both the end user and ourselves. It has been absolutely flawless."

SIOS Protection Suite enables the Navy to meet its mission critical requirements by helping GTS maintain the availability of data. The Navy must be able to meet their mission at hand with high availability.

If the enclosure is not able to fail over, they are not able to meet their mission. This solution concisely affords the Navy to meet their mission requirements.

GTS completed an extensive trade study prior to selecting Lifekeeper. SIOS Protection Suite's price point and its ease of deployment was a key factor in GTS's decision to select this solution. In addition, the solution's unique composition provides GTS with the flexibility and savings that are associated with open source platforms.

The robustness of the SIOS Protection Suite provides enterprise class high availability and failover. Protecting critical data is absolutely an imperative necessity for the Navy, and the fact that SIOS was chosen for this project speaks volumes, as it ensures systems are 100 percent secure and reliable.

"The only solution to provide high availability and meet the stringent requirements of the Navy is SIOS Protection Suite," said Jim Seeley. "The solution has the flexibility to support any commercial hardware, as these solutions work with any servers, storage, and multiple types of hardware. Regardless of what we need, SIOS can support it."

## About SIOS

SIOS delivers innovative software solutions that provide application availability and disaster protection for Windows and Linux environments.

### Clusters Your Way.™

An essential ingredient in any cluster solution, SIOS SAN and #SANLess clustering software provides the flexibility to build clusters your way to protect your choice of Windows or Linux environment – and any configuration (or combination) of physical, virtual and cloud (public, private, and hybrid) storage – without sacrificing performance or availability. SIOS provides unique #SANLess clustering software that eliminates both the cost and the single-point-of-failure risk of traditional SAN-based cluster solutions.

Founded in 1999, SIOS Technology Corp., is headquartered in San Mateo, California, and has offices throughout the United States, United Kingdom, and Japan.

## About Global Technical Systems (GTS)

GTS, the CPS Prime Contractor, provides innovative, cost-effective, high-tech engineering products and product-based services encompassing hardware/software system design, upgrade, integration, evaluation, selection, and procurement in the following core areas: Navy Combat Systems, including the Navy Common Processing System (CPS) and Advanced COTS Enclosure (ACE); C4ISR/Sensor Technologies, including Level 4 Sensor Fusion, Maritime Surveillance System (MSS) for Navy IPO/International Countries, FusionCommand™ Sensor Fusion System for Border Protection, and AgentCommand Mobile Situational Awareness Application; and state of the art end-to-end Radar Systems utilizing stealth radar technologies (L-Band to W-Band). Additionally, GTS provides Information Technology (IT) support services, software development, depot repair, and fleet support for radar and display/distribution systems. GTS Combat Systems, C4ISR, depot repair, and IT services are based out of GTS Headquarters in Virginia Beach, VA; radar systems development and production are based in St Petersburg, FL; and software development and IT products are based in Oxford, MS.

