Transforming Information into Situational Awareness

Integrating existing tools and streamlining workflow for improved operational visibility and efficiency

Case Study
Introduction

The United States Navy’s Space and Naval Warfare Systems Command (SPAWAR) develops, delivers, and sustains communications and information capabilities and provides the hardware and software needed to execute Navy missions. This group embarked on a Enterprise Network Management Systems (ENMS) technical refresh project as part of an ongoing effort to constantly improve on their ability to monitor, manage, and control systems and networks within their purview and to provide Network Operations (NetOps) situational awareness.

SPAWAR required an agile and responsive solution that would serve to increase operational efficiency, be capable of monitoring a large and diverse group of components and information systems, and would provide role-based visualizations suited to the needs of Operators, Analysts, Officers, and Senior Command.

Project Goals and Challenges

At the outset of the project, the ENMS technical refresh team identified several high-level objectives as well as specific areas where there was both the need and potential for efficiency gains through optimized tool integrations, information visualizations and workflow.

- Dynamically visualize the U.S. Navy state of readiness through situational awareness across all mission areas
- Develop a Common Operation Picture (COP) dashboard to provide near real-time network and operations views
- Increase operational efficiency
- Quick identification and resolution of network faults and congestion
- Map NetOps issues to mission impact
- Monitor components of both shore-based and fleet information systems
- Integration of several BMC Software applications with other third-party tools
- Single Sign-On – integration with Common Access Cards (CAC)

The Alternatives

Before choosing to implement the Edge Technologies solution, SPAWAR considered two other alternatives: Utilizing existing tools and in-house custom development.
Utilize Existing Tools

While some existing products had their own dashboard capabilities, none were capable of fully unifying the variety of applications and data sources and optimizing workflow in order to meet the project goals.

In-House Custom Development

SPAWAR considered a Do It Yourself development effort including the use of both Government Off-the-Shelf (GOTS) software and the Ozone Widget Framework (OWF). OWF is an open-source web application that is designed to allow users to access all of their tools from one location. The time and costs associated with the design, development, deployment, and ongoing support of a suitable solution were deemed to be excessive when compared to a Commercial Off-the-Shelf (COTS) alternative. Ultimately the SPAWAR team decided to leverage and integrate specific elements of the GOTS code with the commercial solution provided by Edge Technologies.

The Edge Technologies Approach

After an initial demo and subsequent Proof of Concept, SPAWAR saw that Edge could deliver quick time to value and low risk with the COTS-based approach. The desired integrations were pre-built and Edge’s extensive experience with the BMC Software products and proven success in integrating these tools provided an added level of confidence.

The Solution

The solution is comprised of multiple sets of dashboards used to provide role-based access to numerous capabilities such as:

- IT Service Management including: Incident, Asset, Change, Service Level, Problem, Configuration, Server, and Knowledge Management
- Geo-located event and service status details (in development)
- Discovery and dependency mappings
- Availability and performance reporting
- Infrastructure and device-level statistics and key performance indicators
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Figure 1. Network Operations Top-Level Dashboard

Figure 2. Ship Details Dashboard
What these images don’t fully illustrate is the power of the underlying system. The combination of enPortal® and AppBoard® from Edge Technologies was used to provide:

- Secure, CAC-based Single-Sign-On with domain/role-based privileges and views
- Proxied views of existing web-based content from several applications
- Data-layer integration with some of these same data sources for completely new visualizations
- Integration of SPAWAR’s event and service management applications, with geo-location of status information overlaid onto a map
- An integrated database used to cache and manipulate data from external systems in order to allow for required visualizations, improve overall system responsiveness, and reduce load on external systems
- A consistent, SPAWAR-branded look and feel throughout, seamlessly integrating existing views from other tools with powerful new visualizations
The Edge Technologies system completely masks this complexity from the end users. Based on their login credentials users are provided with Single Sign-On to all required applications and directed to the appropriate dashboard. They don’t need to know where the data is coming from – they just need access to the right data. As they move from high-level dashboard to drill-down, the needed data is seamlessly integrated.

The Benefits

SPAWAR was able to achieve the goals and address the challenges outlined at the outset. They delivered state-of-the art, highly-intuitive, visually appealing, role-based dashboards, seamlessly fed by numerous disparate data sources, and built on a highly-secure and scalable platform. Gone were the “swivel-chair management,” multiple logins, and non-correlated views from autonomous data sources and tools. Users at all levels throughout the organization had fast, easy access to relevant information organized for optimal workflow efficiency.
This system is helping SPAWAR get the most value from their existing BMC Software applications and other tools and provides a foundation for quickly satisfying any future integration requirements. From device-level details to mission-impacting service status the ENMS technical refresh project has delivered the platform and visibility needed to facilitate NetOps Situational Awareness and ongoing mission successes.

**Conclusion**

Edge Technologies transforms existing tools and information into improved visibility, streamlined workflow, increased operational efficiency, and ultimately, satisfied customers. We do this by creating integrated views with personalized perspectives of information that can be shared with diverse audiences wherever and whenever needed. By combining data in new ways and representing it visually, individuals can derive greater context and meaning from existing information and make better decisions faster. Edge delivers clarity in a complicated world.

*Note: All dashboard images are UNCLASSIFIED, for the purposes of illustration only, and are not actual SPAWAR ENMS screens.*

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**Edge Technologies, Inc.**
1881 Campus Commons Drive
Suite 101
Reston, VA 20191
[www.edge-technologies.com](http://www.edge-technologies.com)
sales@edge-technologies.com