A Bridge to Service—Navy's SPAWAR Systems Center Charleston Lowers Costs and Speeds Delivery of Systems to Fight the War on Global Terror by Adopting the NVO Business Model

This article is the result of Cisco® research into publicly accessible information concerning Space and Naval Warfare (SPAWAR) Systems Center Charleston (SSC). It is also the result of an interview with SPAWAR SSC Charleston's Executive Director, James Ward. Ward is a federal government civilian employee, and that status involves a heavy ethical burden that seeks to maintain and strengthen the public's trust in its federal employees. Therefore, Ward requested that this article begin with the following disclaimer: James Ward's opinions and perspectives are unique to him and do not necessarily represent the views of the U.S. Department of Defense; and the Department of the Navy, Space, and Naval Warfare Systems Command. In addition, Ward assures the readers of this article that he received no compensation for his participation in its development.

Supporting the U.S. armed forces—the most advanced, high-tech military in the world—requires the efforts of millions of people and billions of dollars each year. One group doing its share to help ensure that U.S. warfighters are equipped with the latest technology is the Space and Naval Warfare Systems Center Charleston in South Carolina. SPAWAR SSC Charleston provides U.S. Navy, Marine Corps, and Joint Force commanders effective IT capabilities that enable our warfighters while providing them with increased safety. Its headquarters in San Diego, California employs 7,600 people worldwide and has an annual budget of more than US$6 billion to provide networked command and control, communication and space systems, and related products required by the U.S. Department of Navy to complete its operational missions. SPAWAR SSC Charleston's commitment to providing warfighter- aligned and -supported and relevant IT capabilities at the speed of necessity, not the speed of bureaucracy, in a business environment that rivals any benchmark is what sets it apart.

SPAWAR SSC Charleston is a fee-for-service organization whose expertise includes command, control, computers, communications, intelligence, surveillance, and reconnaissance (C4ISR). "Think of us as a systems-of-systems or family-of-systems integrator," says Ward. "If, for example, the U.S. Navy needs a secure, battle-hardened network for one of its ports in the Middle East, we can build it."

When SPAWAR SSC Charleston merged together four other smaller commands in 1994, it was organized in a stovepipe business model. "That model worked well," continues Ward, "but in the intervening years, new business models evolved that can completely transform an organization. While researching the latest information on the

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topic, I came across a book entitled *The Bridge* by the Cisco Internet Business Solutions Group, [IBSG] which paralleled the path that I believed was so right to take Charleston to the next level of organizational effectiveness and efficiency. Cisco's strategy for running a business, which it calls a networked virtual organization, was just what we needed to become more relevant, more agile, more responsive, and more cost-effective."

How NVOs Work

Networked Virtual Organizations (NVOs) are based on a three-pronged approach:

- **Customer-centricity**—NVOs make customers active participants in each step of the process of creating a product to help ensure the product meets their specific needs. In a traditional linear value chain, customers are only involved at the end of the process as consumers who may or may not like the product choices they are given.

- **Core versus context**—An NVO concentrates on core functions that add the most value to its product. Activities that are not core are considered context. That is, actions that are important to creating the product but are better performed by another organization.

- **Continuous standardization**—NVOs establish standards for business processes, data, IT systems, etc., not only inside their organizations but also with outside partners in order to lower costs and operate efficiently.

"After reading *The Bridge*," explains Ward, "I contacted IBSG [the Cisco Internet Business Solutions Group] who advised us on how to analyze our organization to create better solutions." Cisco IBSG applies innovative and proven best practices developed over a 10-year span within Cisco that enabled Cisco to gain $2.2 billion annually in efficiencies through its collaboration with the Global 1000 companies. Ward embraced this concept and went on to say, "NVO is about the team—government and industry partnering—each contributing our signature strengths in a business model that the men and women serving our country in the global war on terror genuinely deserve."

Continuous Standardization Reduces Time by 50 Percent

"One of our biggest needs," says Ward, "was to increase our speed-to-capability. That is, the time it takes us to deliver a product to a customer. Many of the capabilities we produce help fight the global war on terror, so the faster they become operational the more lives they can potentially save. The NVO concept of continuous standardization paid big dividends for us." For example, SPAWAR SSC Charleston created a Web portal that standardized procedures and data, which allowed its technical staff and contractors to interact in real time when processing delivery orders and completing other administrative tasks. By aligning and integrating with the technical nodes, the product delivery team uses an optimum mix of in-house expertise and contractor services that use a full spectrum of contracting techniques to provide tailored solutions for each unique warfighter requirement. During one project—building a common submarine

radio room based on one architecture model for the Navy—they reduced the time it took to manage the paperwork by 50 percent and decreased associated costs.

"My vision for SPAWAR SSC Charleston's operating construct was to reflect the principles of network theory," states Ward. By operating as an NVO, SPAWAR SSC Charleston significantly reduced the time it takes them to integrate and install C4ISR systems in U.S. Marine Corps Humvees. "By doing our part of the process faster," says Ward, "we helped deliver 2,000 completely outfitted Humvees to the theater in one year, and we completed the project under budget. We could not have accomplished those benchmarks without the NVO principles. In fact, we may not have even gotten the job if we were still operating under our previous stovepiped business model."

Customer-Centricity Improves End Product

The Bridge also changed the way SPAWAR SSC Charleston viewed its workforce. "Improved behavior produces improved results," notes Ward. "Our workforce is the only part of the organization that has the potential to appreciate in value over time. All of our other assets depreciate. We wanted to speed that valuation by providing more training and other activities that would improve the skills, morale, and dedication of our employees." SPAWAR SSC Charleston increased its investment in its workforce of 2,500 people from $2 million each year to $8 million—without increasing operational costs. The center reduced outlays in other areas by operating as an NVO and implementing other cost-saving practices.

One result of this increased investment was the creation of "future curve constructs" for each employee. "It's a way for our staff to reinvent themselves for the future," explains Ward. "Working with each employee, we determine the competencies—business, technical, academic, and warfighting—that are appropriate for them and our mission. We supply incentives and training so they can meet their individual and mission goals, and, thanks to IBSG's advice, we actually measure everyone to see how their behavior matches with results. One of the goals for all employees, which were fostered by the NVO concept of customer-centricity, is to spend one-on-one time with our warfighter customers, whether it's a sailor, marine, FBI agent, or Department of Defense analyst. We want our people to understand their challenges and concerns first-hand instead of just imagining them. That way, each project becomes more meaningful to our employees and the end product that much better."

NVOs Bring Out the Best in Everyone

Diversity was another aspect on which SPAWAR SSC Charleston needed to improve. The center wanted to invigorate its workforce by hiring more professionals with varying cultural backgrounds, experiences, and skill sets. Department managers typically hired graduates from the universities they attended and with the same degrees. "We had to change the way we brought in new professionals," says Ward. "NVO taught us to examine our hiring practices from a new perspective. For example, we used to look exclusively for electrical engineers. Now we hire industrial engineers, systems engineers, operational research analysts, and other professionals who have taught us how to be more efficient

and deliver a better product. One of the reasons we delivered the Humvees to the U.S. Marine Corps in less time and for less money was because the industrial engineers standardized the integration, test, and installation procedures. They have a process that electrical engineers do not. Also, we improved our minority hiring of new professionals from 5 percent to 30 percent. These changes have had a profound and positive effect on the entire organization. Being an NVO really challenges you to find new ways to unify your organization in such a way that everyone can contribute."

Spreading the Word

SPAWAR SSC Charleston noticed that the lessons it learned by operating as an NVO could benefit its customers as well. For example, many of the center's customers have similar needs for which they ask SPAWAR SSC Charleston to build similar products. In one case, three clients ordered systems that would allow them to eavesdrop on enemy communications. "We approached each client," states Ward, "and said, 'Look, clients X and Y want the exact same solution you do. Why don't you let us give them the product we make for you, which will save them a ton of time and money, and when they have a solution you need, we will give it to you?' At first, they did not want to cooperate. It was a typical protect-your-turf reaction. But once they had time to think about all the benefits, they agreed. Since then we have increased all of our customers' capabilities across the board and lowered individual cost.

"In the future, as our customers require more and more products to complete their missions with fewer dollars to purchase them, running SPAWAR SSC Charleston as an NVO will be essential," claims Ward. "It will allow us to work more effectively and cost efficiently to protect our nation." SPAWAR SSC Charleston's proven track record of integrating, testing, and fielding new technologies and systems quickly and efficiently is a trademark of their organization. "By adopting the principles of net-centric warfare and NVO to our organizational strategy as enablers, we will be recognized as an organizational benchmark by which others in government and industry will measure themselves," states Ward.

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More Information

The Cisco Internet Business Solutions Group (IBSG), the global strategic consulting arm of Cisco, helps Global Fortune 500 companies and public organizations transform the way they do business—first by designing innovative business processes, and then by integrating advanced technologies into visionary roadmaps that improve customer experience and revenue growth.

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