Air Force SBIR STTR TRANSITION
EQUIPPING THE WARFIGHTER

REDUCES RELIANCE ON EXPENSIVE DATA CENTER INFRASTRUCTURE

TOPIC NUMBER:
AF141-040

TOPIC TITLE:
Establishing and Maintaining Mission Application Trust in a Shared Cloud

CONTRACT NUMBER:
FA8750-15-C-0180

SBIR COMPANY NAME:
Solid State Scientific Corp.
Nashua, NH

TECHNICAL PROJECT OFFICE:
AFRL Information Directorate
Rome, NY

SPONSORING ORGANIZATION:
Air Force Life Cycle Management Center

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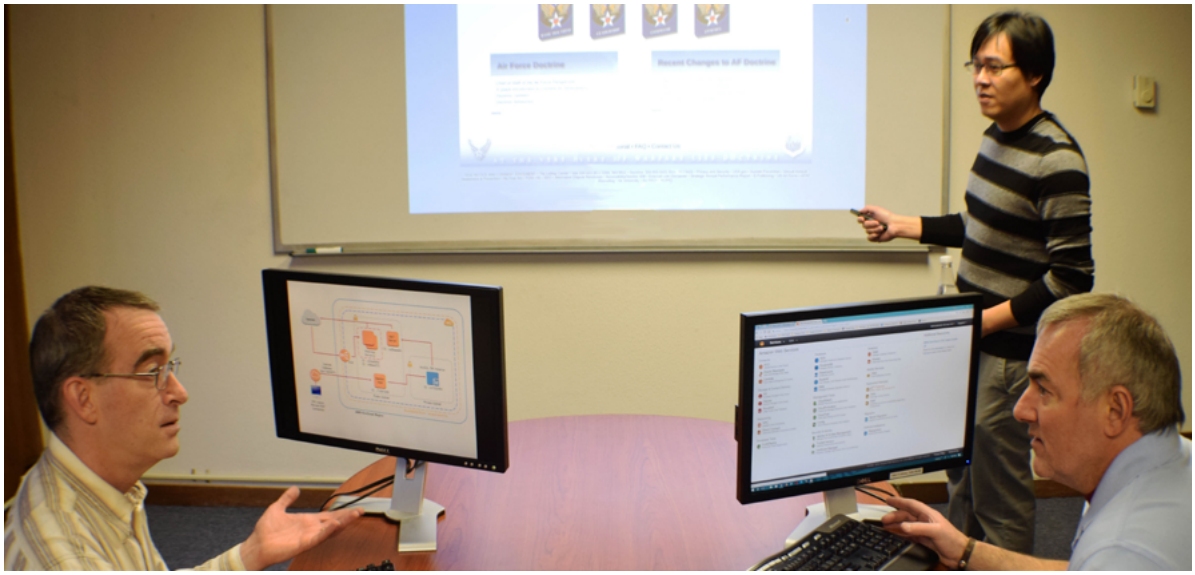

New Hampshire-based Solid State Scientific Corp. is working with the Air Force to cut IT costs by allowing cloud computing on a wider scale. Here, Phil Dumont (left), Clement Wong (standing) and Stephen Spaziani of Solid State Scientific discuss the technology. (Photo courtesy of Solid State Scientific Corp.)

SECURE MIGRATION TO THE CLOUD

EXPECTED TO DRIVE DOWN INFORMATION TECHNOLOGY COSTS

The Air Force and a small business partner developed a way to cut IT-related costs by taking advantage of cloud computing on a wider scale.

With support from the Air Force Small Business Innovation Research/Small Business Technology Transfer Program, New Hampshire-based Solid State Scientific Corp. moved a software application to a secure web service platform for government users. Additionally, the veteran-owned small business capitalized on that success by securing millions of dollars in other funding to perform work for several Air Force centers.

Developing this technology addresses an Air Force directive to migrate applications to the cloud, thereby reducing the need for physical data centers, according to Matthew Shaver, the CDIS Group deputy program manager at the Air Force Research Laboratory's Information Directorate in Rome, New York.

As the data center inventory shrinks – and hardware, software, utilities and building expenses are eliminated – the Air Force will be able to lower its total cost of cyber operations.

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BEHIND THE TECHNOLOGY

Airmen, civilians and contractors perform many of their duties on the Air Force Network, also known as AFNet, which is supported by numerous data centers. These facilities are expensive, from the cost of their physical footprint and energy requirements to the labor needed for routine maintenance.

Cloud computing – the ability to store and access programs and data over the Internet, instead of within internally maintained servers – is a relatively inexpensive and abundant resource. However, Air Force mission leaders have been reluctant to migrate the applications they use to the cloud, mostly because of security concerns.

To help overcome those doubts, Solid State Scientific created an environment in the cloud that had the "look" of AFNet. It placed the network's familiar tools within the AWS GovCloud, an Amazon Web Services region restricted to use by U.S. agencies. AWS GovCloud allows government customers and their partners to move work into the cloud by addressing their specific regulatory and compliance requirements.

Standard security features – such as Assured Compliance Assessment Solution and CAC authentication – are intended to provide mission owners with a computing environment that conforms to Defense Information Systems Agency specifications. Those specifications are designed to protect Air Force data and instill confidence in mission owners.

To fully demonstrate its approach, Solid State Scientific performed a complete migration of an Air Force application. With support from the Air Force SBIR/STTR Commercialization Readiness Program, the company is currently working to obtain an Authority-to-Operate the environment. That certification would allow the Air Force to use Solid State Scientific's infrastructure to migrate any application – within the same security class – to the AWS GovCloud environment.

SBIR SUPPORT WAS VITAL

According to James Murguia, president and CEO of Solid State Scientific, Air Force SBIR/STTR funding enabled the company to demonstrate this layered security approach on the AWS GovCloud.

"It allowed us to interact with an Air Force program office, without needing money from them, and to find an application that the program office was interested in migrating," Murguia said. "Then it allowed us to get a contract in place to fund follow-on work."

Under Phase III contracts, which draw funding from sources outside the Air Force SBIR/STTR Program, that additional work is being performed at the Air Force Life Cycle Management Center and Air Force Sustainment Center on applications of an even higher security class than the original project.

This type of commercialization is critical because it ultimately helps drive down technology costs, bring new technology to the warfighter and stimulate the economy through small business growth.

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