Air Force SBIR STTR TRANSITION
EQUIPPING THE WARFIGHTER
TECHNOLOGY DESIGNED TO WORK WITH COMMERCIAL HARDWARE

TOPIC NUMBER:
AF081-028

TOPIC TITLE:
Information Sharing Between the Global Information Grid and the System Wide Information Management System

CONTRACT NUMBER:
FA8750-14-C-0277

SBIR COMPANY NAME:
Trident Systems Inc.
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TECHNICAL PROJECT OFFICE:
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Rome, NY

PUBLISHED:
February 2017

Trident workers test the V2CDS system, which is being touted as a first-of-its-kind, real-time voice and video bridge between different secure networks. (Courtesy photo)

NEW CAPABILITY BRIDGES COMMUNICATION GAP ACROSS DIFFERENT SECURE NETWORKS

The U.S. and its coalition partners work closely together in the field, but those efforts are typically hindered by an inability to communicate across separately classified networks.

That problem, however, may soon be a thing of the past.

With support from the Air Force Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Program and Air Force Research Laboratory's Rome Research Site, Virginia-based Trident Systems Inc. deployed a certified cross-domain voice and video capability in the field. The technology – known as V2CDS – is being touted as a first-of-its-kind, real-time voice and video bridge between different secure networks.

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V2CDS has been tested by the National Security Agency and certified for deployment at the “Secret and Below Interoperability” level by the Defense Information Systems Agency. The technology was recently installed at an overseas command to connect separate security domains and is now available on the GSA schedule as a commercial product.

BEHIND THE TECHNOLOGY

The heart of V2CDS lies in Trident Systems’ software, which is designed to work with commercial off-the-shelf Voice over Internet Protocol hardware. Most organizations today already have VoIP hardware for their phone systems.

Cross-domain calls can be established as easily as making a long-distance call. A user simply enters a pre-configured prefix number to initiate the call, which is forwarded to V2CDS for processing. The system then prompts the user for authentication and the remote number to dial. A similar authentication process is done on the receiving end.

V2CDS users can make two-party direct and multi-party conference calls, allowing people across two secured networks to communicate simultaneously. In addition, V2CDS enables users to conduct cross-domain, point-to-point videophone calls.

The video solution authenticates users and reduces covert channels to an acceptable risk level, while simultaneously maintaining useful, point-to-point capabilities.

A REAL NEED

The balance between protecting and sharing critical information has never been more important than in today’s joint and coalition military environment.

VoIP and point-to-point video are common tools for sharing information throughout joint operations involving the Department of Defense and intelligence community. However, the proliferation of secure network enclaves has created communities of users who frequently are unable to collaborate with each other across their network boundaries.

Working with coalition partners adds another wrinkle. In lieu of electronic communications, combatant commands must temporally open classified areas to non-U.S. citizens for personal meetings. That presents a security risk as well as an additional expense.

With V2CDS, regular meetings with coalition partners or among joint forces can take place without disruptions to normal operations. A standing cross-domain conference call is arranged and participants may call in from their normal VoIP phone, without having to leave their office, to join the meeting.

A LONG-TIME PARTNERSHIP

Trident Systems has worked on cross-domain technologies for many years with AFRL, initially implementing a secure text chat capability that works with existing cross-domain solutions. Company leaders and AFRL recognized a need for cross-domain voice and video capabilities, as there were no systems to address this gap, and Trident Systems invested in its “assured pipeline” concept to filter media traffic.

The approach proved successful. SBIR funding – as well as support from the Air Force SBIR Commercialization Readiness Program and AFRL – was used to bridge the gap between development and transition to the field. That included the implementation of required security controls for government certification as well as extensive testing and deployment.

The V2CDS project represents validation of the early investment Trident Systems has made into the assured pipeline technology. Additionally, it enabled the company to establish a new product line that benefits the Department of Defense and intelligence community.

“V2CDS is the first of a new generation of affordable, secure, cross-domain voice and video communication capabilities and has become our flagship collaboration product supporting the warfighter,” said Nick Karangelen, president of Trident Systems.

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