



Web-based Secure Real-Time Communication and Collaboration

Case Study: The US Army and CollabWorx SRTC Software

Introduction

The US Army Training Support Center (ATSC) has been using CollabWorx (hereafter referred to as CWx) Real-Time Collaboration Software (SRTC) to support The Army Training Support System (TSS) Reach Project. TSS Reach has a goal of securely reaching any soldier, anytime, and anywhere to enable an operationally relevant training environment for our war fighters. TSS Reach uses CWx SRTC to provide real-time communication component in its “blended learning” environment. SRTC became sufficiently critical for TSS Reach operation for ATSC to obtain formal Authority to Operate for the software.

The objectives of this report are to:

- § Document the applications developed by the US Army using CollabWorx SRTC framework
- § Explain how the benefits of using SRTC, which prompted ATSC to engage in the difficult and rigorous DITSCAP (DoD Information Technology Security Certification and Accreditation) process and obtain a formal Authority to Operate (ATO), as well as Certificate of Networthiness for security vulnerability risk from US Army NETCOM
- § Provide suggestion for other Government agencies on how to leverage the ATO issued by TRADOC to obtain a IATO or an ATO for other deployments of CollabWorx SRTC and, possibly, other collaborative applications at a reduced expense in time and human resources.

Background

In 2002, CWx developed a totally web based, modular collaboration framework as well as a set of communication and collaborative applications for Internet. From architectural standpoint the framework offers two rather unique benefits. First, being web-based, the collaborative modules can be easily *embedded* into various types of application software and portals. Second, the framework can also be *extended* to incorporate new modules that support particular need of a business or a mission of government customer. As a result, CWx SRTC is, as far as we know, the only product that is capable of providing collaborative applications precisely tailored to customer’s needs and requirements.

An example of embeddability is provided by Computer Associates (CA) decision to integrate CWx technology into its CleverPath Portal. CA is selling and marketing CleverPath Collaboration Options I & II under their own brand. Option I includes presence awareness, instant messaging and chat. Option II adds co-browsing, multi-party audio and video, and application sharing. CleverPath is the first and only Tier 1 commercial portal offering rich media contextual collaboration out of the box. Embedded in portal’s workspace, real-time communication and collaboration is as pervasive any content-delivering portlets and/or business intelligence tools such as dashboards. Seamless integration allows for instant communication and collaboration between information providers and consumers.

At present, CWx SRTC is also offered for MS SharePoint and Appian Portal.

Another important feature of CWx SRTC is the end-to-end, application level security. All data (including audio and video streams) exchanged between collaborating parties are encrypted using an embedded, very low maintenance PKI infrastructure. The system provides its own strong

authentication and authorization server, it can obtain user credentials from the embedding portal, or it can be configured to support an SSO using solutions such as Netegrity (this is the solution currently used by the world's largest institutional portal, Army Knowledge On-line). End-to-end security ensures data integrity and privacy even the collaboration is conducted over non-secure networks, and the system does not require VPNs or similar measures.

Initial Involvement in TRADOC

TRADOC with HQ in Ft. Monroe, VA, operates 33 schools and centers at 16 Army installations serving approximately 400,000 soldiers. The Defense Language Institute Foreign Language Training Center (DLIFLTC) is the world's largest language school and the only US government language school with degree-granting authority. It is one of the TRADOC schools for select US military personnel and DoD agencies.

In 2003, CWx extended the SRTC platform to meet the unique demands of DLIFLTC and Special Forces Command (SOCOM) personnel by providing Internet foreign language training in Arabic and Chinese in a pilot program under the label of the Broadband Intelligence Training System (BITS) at Ft. Huachuca, AZ. This program is currently being morphed into the Broadband Language Training System (BLTS) at DLIFLTC. The immediate business need being addressed by BLTS is the imperative to provide interactive, conversational language training to increased number of students using a very limited number of available instructors, as well as to lower the cost of training by limiting residency requirements for students and hence allowing them to receive the training without being taken away from their institutions, deployments, or even families. Earlier attempts to move inter-active language instruction to the Internet were not encouraging. CWx SRTC provided a solution to this problem. Current phase of the project focuses on creation of a complete Internet language-training platform validated by closely monitored results of a set of classes with nearly 1000 hours on interactive on-line instruction in four languages planned for the next 12 months.

ATSC's Involvement with CollabWorx SRTC

The capstone of the Army's training support management structure, ATSC is a field operating activity of TRADOC. ATSC is responsible for the standardization, development, sourcing, and delivery of training support to all active and reserve component personnel and is a central point of contact for providing whatever is needed for training. Training initiatives include Video Teletraining (VTT) facility via satellite reaching 120 fixed and few hundred ad-hoc sites.

The ATSC VTT network is currently being extended to include CWx nodes in addition to the legacy H.323-protocol room centric videoconferencing capabilities. Sprint, as the vendor providing VTT network services, rapidly implemented this solution as a foundation and reference for the future field-deployable secure classrooms. This technology package includes portable satellite connectivity and enables deployable training practically anywhere, including the operational theater. It allows for nearly instant



Satellite equipment for field-deployable classrooms

connectivity to the Internet or DoD networks from arbitrary locations as long as there is satellite coverage. Option is deployment of very secure command and training centers or classrooms anywhere, with obvious non-DoD uses in emergency centers or law enforcement. The critical differentiator of this new solution is an exclusive use of off-the-shelf components rather than customized servers, network devices and end-user machines using software rather than hardware while providing all the necessary functionality and security. The resulting cost reduction is of the order of magnitude, and the new system is far more reliable, customizable, and far easier to deploy.

Two other core activities of ATSC are providing technology for creation of new training courseware and supervision/oversight of multiple projects. ATSC management recognized early on that many requirements of the “blended learning” methodology they strive to implement and the requirements of project management with personnel distributed all over the country (and often beyond) are very similar: both efforts require a more efficient communication system integrating text messaging, presence, voice and video communications, ability to integrate new content (including advanced multi-medial formats such streaming video, multi-resolution 2D imagery and maps, 3D models and immersive virtual environments, as well as integration with existing data repositories such as LMSes for training and institutional portals, documents management systems, and communities of interest for project management and/or general operations.

ATSC decided to consolidate all these activities on one platform and selected CWx SRTC. Extensibility, embeddability, and security of the platform were key in the decision process. Having invested in a 2,000 users license, ATSC recognized that the selected collaboration software became a critical part of its’ enterprise IT infrastructure. As such, the system needed a long-term Authority to Operate.

The task appeared daunting since, to date, no other desktop collaboration software product has ever passed the rigors of necessary DoD Information Assurance process. On the other hand, lack of ATO made any further investment into the platform a risky decision as a non-authorized application can be removed at any time by NETCOM directive. Since switching the platform would require obtaining an ATO as well, ATSC faced a simple choice: obtain an (I)ATO or forfeit nearly two years of visionary work focused on providing DoD with critical new training methodologies.

ATO Certification

ATO Certification is somewhat unique since it cannot be obtained by the vendor. Rather, the DoD Information Technology Security Certification and Accreditation Process (DITSCAP) stipulates a rigorous review of the software application in the context of particular deployment. Hence, an ATO is not being issued for a software product or an IT solution as such, but for a concrete deployment. The process evaluates a totality of software and its deployment details in a DoD organization. Vendor’s role in the process is to provide requested product information, but the customer does the bulk of the work. The certification process is very demanding, and the initiating government authority must be willing to invest significant time and resources and, possibly, risk its reputation to see the process through to its completion. With DITSCAP being what it is, the process is usually started only for applications deemed operationally critical.

For the reasons described above ATSC chose to make that significant investment. On August 1, 2005, SRTC passed the rigors of the (DITSCAP). CollabWorx meets the security requirements for processing and storing Sensitive but Unclassified information in the System High Mode of Operation at Mission Assurance category III. Accreditation is valid for 3 years and can be renewed. CWx is the first real-time desktop video conferencing solution to achieve ATO certification.

Significance of this achievement is twofold. First, by leveraging the lessons learned and knowledge gained within CWx’s ATO certification process, other Government agencies can now adapt the

existing ATSC application for their needs. If CWx software is used in the project, the certification process will focus on deployment details only, significantly reducing DITSCAP complexity. At the same time it is plausible to assume that ATO applications for deployment of other desktop conferencing products will face better odds. We consider this a positive step in the long-term process of making on-line communication and collaboration a staple of the DoD IT infrastructure.

New deployments face better odds

In the discussed context two other deployments seem to have benefited from the initial ATO. CollabWorx has been selected by the Combined Arms Support Center Command (CASCOM) Sustainment Portal project to provide rich media contextual collaboration, which would support advanced logistics functionality. Two original contractors SAIC and Appian choose CWx SRTC from 20 alternatives, recognizing SRTC's as a superior framework for a portal-embedded system (Sustainment Portal uses the same technology as the AKO portal). Currently, the pilot deployment expanded beyond 500 users and the interim assessment is favorable. CASCOM is working on extending the ATSC ATO to Sustainment portal, as both project are hosted at the same facility in Ft. Eustis, VA.

Very recently CollabWorx received a contract to provide an integrated IM, workspace, and real-time rich media communication system for FORSCOM (US Army Forces Command). The project will provide an integrated, interoperable suite of collaboration tools using Jabber's XMPP protocol for instant messaging, Groove Networks Virtual Office as a workspace software, and CollabWorx SRTC as the audio, video, and other rich media real time collaboration tool. The components of the system have been already installed at FORSCOM facility. Interestingly, FORSCOM was able to obtain a IATO for CWx SRTC deployment in 48 hours.

We are confident that TRADOC ATO for CWx SRTC will have a very positive impact on adoption of on-line collaboration tools in US DoD.