

ARTICLES / WHITEPAPERS

C2 Systems - No Longer a Proprietary Issue

By: Andrew Nugent, Vice President Sentek Consulting
June 16, 2008

Why transforming to commercial, off-the-shelf systems makes sense for both agencies and contractors

The past five years have seen remarkable transformation in how military Command and Control (C2) systems are designed and procured. Proprietary and costly custom developed systems are now giving way to commercial off-the-shelf networking products with the same level of reliability and capability. While the benefits are numerous, the resistance from traditional vendors and contractors is equally significant.

While it is probable that such platforms will be the de facto standard in future systems, it will be done against the strong will of some of today's, well-established contractors. Strangely enough, these firms could play a major role in the transition if they understood a business case for doing so.

Commercial Technology Advances Abound

Today's global economy has brought with it technological advances never before seen. Near ubiquitous IP networks, Network-based servers, commoditized Geographic Information System (GIS) applications and email/ virtual chat/instant messaging/ Voice Over IP (VoIP) applications can now foster collaboration and real-time response to situations as they happen in virtually any area of the world, and can be leveraged in C2 environments for both military and coalition operations. These features and functions were once specialty tools available only from defense contractors who developed customized solutions and the overhead that goes with it.

What's more, the advances of such technologies are now being led as much – if not more – by Corporate America than by the defense industry, as Fortune 500 organizations continue to rely on precise logistics management to coordinate assets across multiple continents simultaneously. Technology manufacturers have responded with IT and telecommunications equipment that are not only secure and unfailing, but also cost effective for a wide range of budgets – often all the way down to individual consumer use.

This does not mean that defense contractors don't hold valuable, relevant technical expertise. However, they no longer maintain sole possession of C2 technology knowledge.

The Role of the Defense Contractor

Some of the traditional defense contractors are strongly resisting this movement, in large part to avoid the continued devaluation of their intellectual property. While understandable, the inevitable transformation toward just-in-time, off-the-shelf systems for C2 environments follows similar migrations in other defense operations. Shipbuilding and industrial machinery have successfully integrated such platforms in their designs. Other defense operational systems have fared equally well, so it stands to reason that C2 technology products will eventually follow suit.

This change will doubtless bring about a shift in the role of companies that provide such services. No longer will they be called upon to develop and provide C2 proprietary equipment with large

development and maintenance costs and extended lead times. Rather, such firms will need to demonstrate the ability to integrate off-the-shelf equipment with shorter turnaround times and reduced "value add customization," while still maintaining a robust information assurance posture as that available with proprietary C2 systems. Companies that can provide such solutions with the same level of operational suitability will continue to win contracts. Those who can't will find their pipeline constricting.

Truth be told, defense contractors are in a good position to help drive this transformation, provided they can move quickly and cut through the typical internal bureaucracy. Many of these firms have top-tier employees with decades of operational and technology experience. This first-hand knowledge is essential in understanding the issues and obstacles in current C2 environments. To make this shift, such companies and their team members must avoid being overly protective of their proprietary systems, but rather leverage their collective abilities - and form new partnership and alliances with component providers - to develop robust and scalable platforms. A change in business model may be required; one from technology manufacturer to system integrator and value-add reseller.

Within The Next Decade

Historically, discussions of this nature were largely academic; more for strategic planners than for current contracts. New initiatives and procurements are starting to be implemented and impacting many companies in the process. While proprietary systems will still be called upon for systems such as ruggedized military weapon and mobility equipment, the next 10 years will likely see the transformation away from selecting vendors to develop proprietary C2 systems from the "ground up" in favor a more commercial, off-the-shelf integrated systems procurement model. This shift will also bring with it new players in the C2/Defense space; firms that are able understand and integrate non-development platforms with relative ease and adaptability, and are not focused on the long term sustainment contracts that have historically been associated with custom development efforts.

This trend will also benefit non-defense environments, such as law enforcement and first-responders. Transportation and emergency services operations will also see value in migration to commercial platforms. As the innovation, rapid deployment and cost savings benefits are recognized, the adoption of "commodity component-based" systems will be exponential. Agencies will have the opportunity to learn from past deployments of similar platforms by others to navigate past obstacles and risks in their implementation. Make no mistake – the evolution away from "purely" proprietary C2 systems to ones incorporating more commercially available products will provide long-lasting benefits to the industry and well as the taxpayers.

About the Author: Andrew Nugent is Vice President of Command and Control Systems for Sentek Consulting, a rapidly-growing provider of government and commercial IT security and C2 programs, including security, program management, strategic consulting, engineering, software development and acquisition support. He can be reached at anugent@sentekconsulting.com.