Tactical Information Technology for Assured Network Operations (TITAN) Information Dissemination and Management (ID&M) for Battle Command (BC) Support Services.

I. Mayk[1], M. Mai[1], A. Chan[1], T. Urness[1], B. Goren[1], S. Kizenko[1], S. Randles[2], Z. Jastrebski[3], W. Chatam[3], J. McAlerney[3],

J. Ruschmeyer[4], Lex Lehman[4], D. Nguyen[5], M. McCurdy[5], D. Millar[5], I. Simmons[5], C. Cannon[5], W. Regli[5], A. Patwardhan[6], G. Tassone[6], J. Ryan[5], K. Cunningham[5], J. Lindquist[7], G. Jewell[7],

R. Forkenbrock[8], J. Moyer[8], M. Nicholson[8], F. Koss[9], R. Wray[9], Mike Nardone[10], J. Bradshaw[11], J. Lott[11], P. Smith[12], A. Borgman[12], J. Dustin[12], K. Fields[13], A. Wills[13], J. R. Keith[14]

[1]C2 Directorate (C2D), RDECOM, CERDEC, Fort Monmouth, NJ 07703

ABSTRACT

The Tactical Information Technologies for Assured Network Operations (TITAN) Program is a multi-year effort to develop information dissemination and management services spanning multiple echelons in support of military planning and operations. The services developed within this program aim not to replace, but rather augment, existing applications and to utilize available data sources. A key program objective is to integrate intelligent agents, web services, and traditional data sources in a service-oriented architecture. The central information exchange objects in TITAN are digitized and contextualized with orders and plans products as articulated by doctrine [1, 2, 3]. These provide the centerpiece structures that motivate a common, highly-structured machine readable human-compatible vocabulary for BC services involving both users and Intelligent Agents. The BC domain data provides the content, and the BC product structure (e.g. header, paragraphs and annexes and their underlying structures) provides much of the context. The TITAN BC ID&M services use a single but highly versatile XML schema compatible with the JC3IEDM and a message object library to represent instants of structured domain objects, facts, topics and products for BC. This greatly facilitates collaboration among intelligent agents and between intelligent agents and humans. BC application developers should be able to relate their work product (MDMP/BC/C2 product) semantically as well as contextually to the OPLANs, OPORDs, WARNOs and FRAGOs in effect. All TITAN BC ID&M services have critical synergistic responsibility for initiating, updating and providing feedback and finalizing certain work products, topics and/or facts. These capabilities (to initiate, update, feedback and finalize a BC work product, a topic or a fact) are critical to any information management and dissemination support capability on the battlefield since they greatly support the maintenance and tracking of provenance and pedigree of information. Similarly, since all of the TITAN services support commander and staff actions, TITAN services add significant value to all BC Essential Capabilities (BCEC) requirements [4].
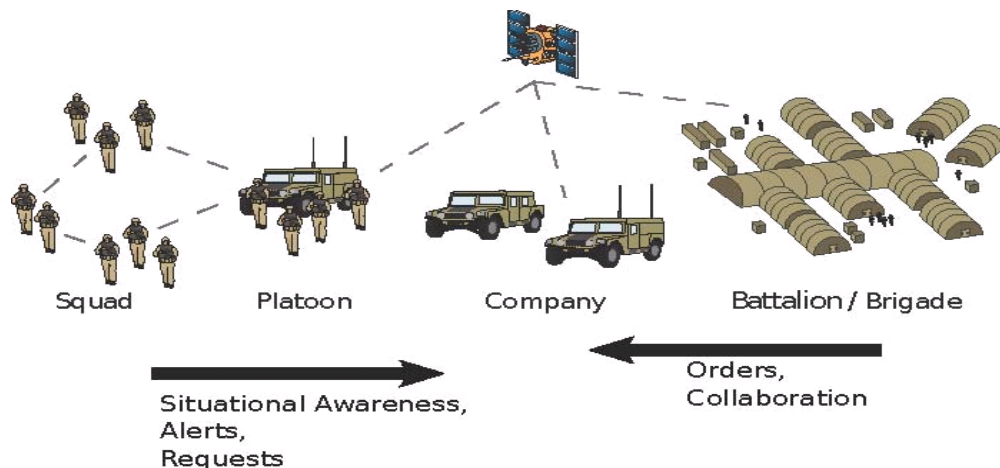
Figure 1. Information Dissemination and Management across BC, Horizontally, Vertically, Locally and Globally

[1]CERDEC C2D, [2]SMDC, [3]L3 Communications, [4]Viecore FSD, [5]Drexel ACIN, [6]Cougaar SW, [7]Raytheon, [8]SAIC , [9]Soar Technology, [10]Decisive Analytics, [11]IHMC, [12]Ohio State U., [13]Global InfoTek, [14]Quantum Research International.