12th ICCRTS

"Adapting C2 to the 21st Century"

Title: "Policy-Based Content Management and Controlled Dissemination for C2 Across Large-Scale Distributed Enterprises"

Topics: C2 Technologies and Systems, C2 Concepts, Theory, and Policy, Network-Centric Experimentation and Applications

Authors: Sekar Chandersakran, Andrew Trice, and Kevin Foltz

Point of Contact: Andrew Trice

Name of Organization: Institute for Defense Analyses

Address: 4850 Mark Center Dr., Alexandria, VA 22311

Telephone: 703-933-6543

E-mail Address: atrice@ida.org

Policy-Based Content Management and Controlled Dissemination for C2 Across Large-Scale Distributed Enterprises

Abstract

In the emerging net-centric environment, a key concern is how to properly manage and control the lifecycle and distribution of large bodies of content over disparate enterprises to transform C2. This paper outlines an architecture of the "infostructure" components necessary to implement enterprise content management solutions addressing many of the special requirements of stressful C2 environments, such as real-time performance, constrained bandwidth, and fault tolerance. To implement this effectively, a range of application capabilities and supporting infrastructure services must be provided.

We begin with a discussion of emergent large-scale distributed enterprises, expressed in terms of the multiple forests and enclaves constructs. Next, we define architectural views of how these enterprises will be structured. Third, we consider how the content lifecycle will be handled and controlled across enterprises to perform generation, selection, and authorization to view and manipulate the content. Finally, we identify the critical categories of and relationships between infrastructure services required to support next-generation C2 content management, such as naming services, trust services, and directory services.

The approach is based on ongoing work with the US Air Force CIO Office, but is applicable to many other defense and government agency settings, such as the Missile Defense Agency's C2BMC infrastructure.