



Whitemarsh
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Data Management Program:
Metadata Architecture
for
Data Sharing

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1.0 The Enterprise Environment

Enterprises are transforming themselves into a fully digitized network-centric environments. The core of the net-centric environment is the data that enables effective decisions. By net-centric, it is meant that the network (including its infrastructure of hardware and software) is at the center of information exchange rather than one or more database or information systems. It is however well recognized that the information exchanged over the network is valuable if and only if the databases and information systems that are the network's data sources exist in a high quality, reliable data management environment. This transformation is motivated by the need to derive the maximum utility from all relevant data assets and to ensure information superiority throughout the full spectrum of valued information exchanges.

No one doubts the need for information superiority. Just "google" the phrase and see all the references from across industry and government. This superiority is only an advantage when contextualized data can become information, which then can be converted into superior knowledge leading to better decisions. During the conduct of collaborative operations, "interoperability" is a mandate, especially in terms of communications, common logistics items, and information sharing. Information systems and equipment that enable a relevant common operational picture must work from shared networks that can be accessed by any appropriately cleared participant.

1.1 The Data Environment

The challenge of an enterprise's strategic information policy is for all mission critical information systems to be interoperable. One aspect of interoperability is data interoperability. Data interoperability is the ability to reuse data from another information system without any intermediate transformation and human intervention.

Three examples from the U.S. Department of Defense illustrate the lack of data interoperability. In stark contrast to data interoperability as we defined it, these examples demonstrate the current way of doing business, which is point to point exchange of data via messages and translators. In this environment, every database configuration board considers the standards from their community of interest (COI) to be "the standard".

As a first example, one of these COIs uses a complex digital message protocol, the Collaborative Variable Message Format (JVMF). According to Edgar Dalrymple (Crosstalk, February 2002, p. 25):

The specification for the JVMF message protocol is the Technical Instruction Design Plan that is maintained by the Army's Communication and Electronics Command (CECOM). The specification is effectively maintained as a database that is known as the Variable Message Format (VMF) Integrated Database (VID). The VID defines the possible data fields and their associated parameters, structure, and the message cases and conditions. Cases and conditions are assertions

