DEPARTMENT OF THE NAVY
CHIEF INFORMATION OFFICER
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MEMORANDUM FOR DISTRIBUTION

Subj: INTERIM POLICY ON THE USE OF EXTENSIBLE MARKUP LANGUAGE (XML) FOR DATA EXCHANGE

Ref: (a) World Wide Web Consortium (W3C) XML Recommendation 1.0 of 6 Oct 00
(b) W3C XML Schema Recommendation of 02 May 01
(c) Data Management and Interoperability (DMI) SECNAVINST 5000.36 (draft)
(d) Department of Defense (DOD) Wide XML Registration Policy (draft)
(e) CNO WASHINGTON DC 032300Z Apr 2001

This memorandum establishes the Department of the Navy (DON) interim policy on the use of Extensible Markup Language (XML) for data exchange. It applies to all Navy and Marine Corps organizations, including the operating forces and supporting establishments, which are engaged in developing, acquiring, or maintaining Information Technology and National Security Systems (IT/NSS).

XML is a semi-structured data exchange format, which includes both data and a description of that data's structure in a single package. XML is expected to improve interoperability between systems, facilitate efficient data exchanges and economical e-business practices, reduce duplication of effort and ambiguity of information, and reduce data exchange life-cycle costs. One of the main benefits of XML is its inherent separation of data content from data presentation. XML is currently emerging as the *de facto* industry data exchange technology of choice.

Reference (a) established the current industry specification for the use of XML. This specification provides the criteria for a properly formed XML document and for the use of the Document Type Definition (DTD). The DTD provides a formal grammar that is used to specify the agreed-to structure of an XML document within a community of users. An XML document that conforms to the syntax rules of XML is considered "well-formed", while an XML document can additionally be "validated" in respect to a specified DTD. While the DTD will remain a valuable tool in the near-term, it is quickly being displaced by the XML Schema, which is defined in reference (b). XML Schema provides a more robust syntax for definition and validation of XML documents.

It is the policy of the DON to follow the approved W3C "recommendations[i]", including references (a) and (b). Since XML is an emerging technology, the specifications associated with it continue to evolve at a rapid pace. It is anticipated that the DON will adopt new W3C XML recommendations as they continue to evolve.

Although XML has the potential to provide significant cost savings to the DOD and the DON, its use must be properly managed. In order for XML to facilitate data exchange and interoperability, "namespaces[ii]" and schema must be developed and managed by communities of users. Without proper management, individual programs will end up developing "stove-piped"

namespaces and schema. While this may be effective internal to the individual program, it will not facilitate data exchange and interoperability external to the program's boundaries. For this reason, the Defense Information Systems Agency (DISA) has implemented a Common Operating Environment (COE) XML Registry and supporting management process for the collection, storage, and dissemination of XML components.

The use and management of XML within the DON, is one piece of a larger DMI effort. The policies associated with the DON DMI efforts are defined in reference (c). Reference (c) will also implement the Navy and Marine Corps Functional Data Manager (FDM) management structure. DON XML developers shall work with the appropriate Navy and Marine Corps FDMs to:

- Make use of existing XML components from the COE XML Registry (http://diides.ncr.disa.mil/xmlreg/index.cfm);
- Document and register XML components into the COE XML Registry; and to,
- Represent Navy interests in attempting to obtain "joint" agreement on XML tags and definitions.

Navy and Marine Corps FDMs shall be responsible for coordinating with their corresponding functional area DOD Namespace Manager(s). Until such time as reference (c) is implemented, DON XML Developers shall work directly with the appropriate DOD Namespace Manager(s). Contact information for DOD Namespace Managers is available at http://diides.ncr.disa.mil/xmlreg/user/index.cfm.

It is the policy of the DON, that existing DOD XML components shall be used whenever practical, vice developing new XML components. If existing DOD XML components are not sufficient, then the use of Industry standard components is encouraged. If new XML components (including Industry components) and schema are required, then they shall be registered in the appropriate namespaces within the COE XML Registry. If required, the procedure for establishing a new COE XML namespace is defined by reference (d).

Reference (e) chartered Task Force Web (TFW) to web-enable fifty applications by November 2001, and to web-enable all Navy applications by 2004. TFW has identified XML as a primary component of their technical architecture. Specifically, data exchange between web-enabled applications and the DON Enterprise Portal shall make use of XML. Application owners and developers, who are engaged in web-enabling their applications in support of TFW, shall implement the XML policies as stated above.

It is expected that DOD will release an XML policy in the near future. At that time, the DON will develop and release updated policy, which will support implementation of the DOD XML policy. It is likely that these initial TFW applications will need to be modified once the updated DON policy is developed and approved.

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[i] "A W3C Recommendation is a technical report that is the end result of extensive consensus-building inside and outside of W3C about a particular technology or policy. W3C considers that the ideas or technology specified by a Recommendation are appropriate for widespread deployment and promote W3C's mission." See www.w3c.org for further definition.

[ii] "An XML namespace is a collection of names, identified by a Uniform Resource Identifiers (URI) reference, which are used in XML documents as element types and attribute names. XML namespaces differ from the "namespaces" conventionally used in computing disciplines in that the XML version has internal structure and is not, mathematically speaking, a set." See www.w3c.org for further definition.