DON XML – Achieving Enterprise Interoperability

Overview of Policy, Governance, and Procedures for XML Development

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Vision

The Department of the Navy will fully exploit Extensible Markup Language as an enabling technology to achieve interoperability in support of maritime information superiority.

—Signed by DON CIO
15 March 2002
Interoperability and systems integration are crucial to achieving maritime information superiority.
**XML enabled applications**
- Are based on XML technical specifications
- Will employ XML business standards
- Play key role in all aspects of systems development, integration, and interoperability
- Integral to achieving knowledge superiority
- Must be capable of supporting interoperability with legacy systems

**DON Involvement**
- Identifying DON requirements through standards efforts
- Identifying DON requirements through Alpha and Beta testing of vendor products

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**DON must be proactive about providing inputs to XML standards bodies and solution providers.**
The DON must establish XML based protocols as enterprise-wide standards

- Identify, adopt, deploy single set of platform-independent information exchange protocols (XML)
- Extend this model to the entire DON enterprise
- Interoperability WILL BE enhanced
- Develop distributed registry solution

The DON CIO is tasked with developing the required governance for establishment of DON-wide XML based protocols.
Achieving the Vision - DON XML Policy
DON XML Policy

- Formal policy issued by DON CIO 13 Dec 2002
- First comprehensive formal XML policy issued in DoD
- Replaces Interim DON XML Policy of 06 Sept 2001
- Provides significantly more detailed direction than Interim XML Policy
DON XML Policy (cont.)
Standards and Proprietary Extensions

- XML Technical Specifications and Business Standards
  - Production applications shall only use W3C specifications holding Recommended status
  - Make use of other XML specifications from National and International standards bodies, e.g., ISO, IEEE, ANSI, OASIS, UN/CEFACT, IETF
  - Where conflicting, W3C takes precedence

- The DON shall actively participate in Voluntary Consensus Standards organizations, e.g., OASIS, W3C

- DON XML production implementations shall not use proprietary extensions to XML specifications
DON XML Policy (cont.)
Reuse and Order of Precedence

- Reuse existing XML components
  - DON policy to advocate, support, and ensure the development, maintenance, registration, discovery, and reuse of standard XML within functional areas and at the enterprise level

- When selecting XML components, adhere to the following order of precedence
  - Appropriate Business Voluntary Consensus Standards (BVCSs)
  - Federal-level standards
  - DoD standards
  - DON enterprise standards
DON XML Policy (cont.)
Developer’s Guide, Enterprise Standards, & DoD Registration

- All DON XML development shall adhere to DON XML Developer’s Guide
- All DON XML business standards will be at the enterprise level
- Adhere to DoD XML registration policy (to be implemented via DON Namespace and Subnamespaces)
DON XML Policy (cont.)

Additional Information

- Policy directs Functional Area Managers (FAM) to designate XML Functional Namespace Coordinators (FNC)
- DONXML WG tasked with taking necessary actions to implement policy
- DON Commands tasked to:
  - Work with FNCs to develop standard enterprise XML components
  - Participate in the DONXML WG and review the WG products
  - Implement the requirements of the policy
Achieving the Vision - Governance Structure
Why a Governance Structure?

- To enable enterprise-wide implementation of XML standards throughout the DON
- To ensure maximum interoperability across XML technology focus areas
- To harmonize business and technical perspectives
- To manage and bind XML aspects of diverse, independent initiatives
- To support user needs while maintaining necessary elements of coordination and control
- To foster coordination and cooperation between implementers, users, key individuals, groups and organizations involved in XML
Governance Structure Scope

- All XML application development within the DON
  - Proof-of-concept, and full “programmatic”
- All existing implementations of XML
- To extent practical, DON use of XML in Joint applications
Governance Structure Functions

- Act as focal point for XML within DON
- Provide rapid, responsive issue resolution and provide venue for communication within DON on XML issues
- Coordinate incorporation of DON XML implementation into DON requirements, budgeting and acquisition processes
- Provide oversight of DON XML implementation (enforcement)
- Interface with external organizations/activities on XML strategy
  - Technical Specifications – Voluntary Consensus Standards, Federal Enterprise Architecture, GIG, DII
  - Policy and Procedures – Federal CIO XML WG, OSD, other services
- Carry out or delegate other duties as required to achieve DON XML Vision and implement DON XML Policy
Ultimate Goal – XML Governance Structure

DON CIO

XML Governance Council

FAMs

FDMs

FNCs

Business Processes

Technical Specifications

Policy & Procedures

Training & Education

XML Business Standards

Authoritative Data Sources, Functional Data Architectures

Functional Namespaces

Technical Assistance

Marketing Assistance

Provide Technical Recommendations

Provide Compliance Recommendations

Report

DON XML POC

Chairs

Provide assistance upon request

Ultimate Goal – XML Governance Structure
DON XML Governance Council

- Reports directly to DON CIO
- Chaired by DON XML POC
- Membership (Under Development)
  - Chairs of four working level councils
  - Fleet representatives (TBD)
- Stand-up TBD
DON XML Business Standards Council (BSC)

- Chartered by DON CIO Apr 21, 2003
- Recently designated DON XML Functional Namespace Coordinators (FNC) make up primary membership

BSC responsible for:

- Coordinating and harmonizing XML components across 23 functional areas
- Apply the DON XML Component Hierarchy
- Ensure maximum exposure to, and coordinated involvement in, business standards VCS organizations (e.g., OASIS)
- Provide business standards compliance recommendations to FAMs

- Formal operating procedures nearly complete
Technical Specifications Council (TSC)

- **TSC Responsibilities**
  - Provide technical guidance to FAMs and DON XML developers
  - Ensure maximum exposure to, and coordinated involvement in, technical specification VCS organizations (e.g., W3C)
  - Maintain list of DON approved XML technical specifications
  - Consolidate DON XML technical requirements for submission to VCS
  - Provide technical compliance recommendations to FAMs

- **Membership (under development)**
  - 8 technology focus areas
  - Single DON organization as lead for each area
  - TBD

- **Charter (under development)**
- **Operating Procedures (under development)**
- **Stand up planned for August 2003**
Other Working Level Councils

- Policy and Procedures Council (PPC)
  - Channel architecture development efforts towards a common set of procedures and guidance
  - Ensure enterprise approach
  - Coordinate P&P issues
  - Ensure balance between top-down management and bottom-up creativity
  - Support implementer requirements

- Education and Training Council (ETC)
  - Enable collaboration
  - Ensure seamless harmonization between:
    - XML governance structure
    - DON training commands
    - Service training activities
    - Echelon, Functional Area and Organization Level training activities
    - Outreach efforts
XML Development
CDA role

- Contact your FNC
- Respond to XML Data Call Naval Message (to be released shortly)
- Work with FNC to facilitate and refine the registration process
- Understand and follow the DON XML Developer’s Guide
- Use the XML Registry/Repository
  - Reuse XML types and fragments whenever possible
  - Extend XML only if necessary
  - Create new XML types and fragments only as last resort
- Use listserves and NKO to communicate to other developers

CDA is key to developing interoperable enterprise-wide XML
Development Process

- Notify your FNC of the intent to develop
  - Notification allows for other functional areas to assist by providing already developed fragments and reduces duplicative efforts
  - Facilitates harmonization efforts before registration
- Develop compliant XML
  - Use DON XML Developer’s guide
- Submit XML to FNC for harmonization via DON Functional Subnamespaces in DoD Registry
- FNC submits XML to Business Standard Council for approval
- DON registers XML standards under DON Namespace in DoD Registry
DON XML Developer’s Guide

- Version 1.1: Published on 1 May 2002
- Provides general development guidance for the many XML initiatives currently taking place within the DON
- Provides guidance in areas such as
  - Use of XML specifications
  - XML component selection/creation
  - XML Schema design
  - XML component naming conventions
- Version 2.0 under development
The Guide Layout

- Uses RFC 2119 Terminology to express recommendations
  - Requirements: MUST (NOT), SHALL (NOT), REQUIRED
  - In Guidance, implementation is at PM discretion
- Available on line at: http://quickplace.hq.navy.mil/navyxml (click on “library”) and on NKO DON XML Enterprise Collaboration Center (ECC)
- 41 Pages
  - Guidance
  - Explanation
  - Examples
  - Appendices – Draft Status
Next Steps

- Contact the appropriate FNCs
- Understand the Developer’s Guide
- Evaluate your XML against the Developer's Guide
- Join the XML community through listserves, NKO
- Additional guidance is coming soon!
  - XML Registration process
  - XML Developer’s Guide v2.0
- Participate in upcoming DONXML Work Group Meeting, 22-24 July in DC Area
  - Continue work on DON XML Developer’s Guide v2.0
  - Continue work on stand-up of DON XML Governance Structure
Resources & Point of Contact

- FNC
  POC info attached and available on NKO

- Navy Knowledge Online

- DON XML Quickplace
  [https://quickplace.hq.navy.mil/navyxml](https://quickplace.hq.navy.mil/navyxml)

- DON XML Work Group Listserve
  Developer’s Guide - [http://mail.fedworx.org/devguide.html](http://mail.fedworx.org/devguide.html)
  General Work Group Announcements - [http://mail.fedworx.org/donxmlwg.html](http://mail.fedworx.org/donxmlwg.html)

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Questions?
Functional Namespace Coordinator
**FNC Responsibilities**

- Develop and manage DON XML enterprise and functional area namespace(s)
- Adhere to higher level policy and guidance requirements
- Implement DON XML strategy and processes
- Assist PMs and other systems developers with production of:
  - Standard markup
  - Schema components
  - Schemas
  - Stylesheets
  - Namespace associations
  - Core Components & Business Information Entities
  - Required Metadata
FNC Responsibilities (con’t)

- Ensure PMs and developers only define XML components for information they produce and is the authoritative source
- Promote Authoritative Source Data (ASD) and ASD based XML component use
- Ensure that DON requirements are filtered up to the Voluntary Consensus Standards
- Manage XML components. In conjunction with FDM
  - Reconcile functional area and cross-functional XML tags, element and attribute names, and required metadata with core components, as they become available