Interoperability…NMCI and Beyond
May 31, 2001

Presented by
Mr. Ron Turner, Deputy Chief Information Officer of the Department of the Navy
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<th><strong>Report Documentation Page</strong></th>
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<th><strong>Author(s)</strong></th>
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<td>NDIA (National Defense Industrial Association 2111 Wilson Blvd., Ste. 400 Arlington, VA 22201-3061</td>
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<th><strong>Supplementary Notes</strong></th>
<th><strong>Abstract</strong></th>
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<td>Proceedings from Armaments for the Navy Interoperability Workshop, 30-31 May 2001 sponsored by NDIA.</td>
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Background

- $90 billion organization
- Employing about 900,000 people
- On any given day ~ over a hundred ships forward deployed.
- At any given moment ~ 88,000 sailors and Marines outside of CONUS.

- Keeping that organization connected is a critical proposition as we move into the 21st Century.
Integration of NMCI & GIG
Architectural Views and Relationships

GIG will require us to develop OV\text{s} & SV\text{s}
DON CIO General Responsibilities

Clinger-Cohen → Capital Planning
                Architecture & Stds
                Process Improvement
                Personnel

10 USC 2223 Additional Duties → Budget Review
                               Interoperability

PDD-63 → Critical Infrastructure Protection
          Critical Infrastructure Assurance

Government Paperwork Reduction Act
Government Information Security Reform Act → Information Security
                                          Information Assurance

Section 8121/8102 Appropriations Acts → Registration
                                         Certification/Confirmation

Section 508 Rehabilitation Act → Accessibility
DON Arch. and Stds. Tools

DMIR | ADPM | ITIA
---|---|---
ITSG
BLII | MCTDN | IT-21

IT Std & Guidance Doc. (V1)
IT Infrastructure Arch. (V1)
Arch. Dev. Process Model (V1)
Data Mgt Interop Repository
DON Integrated Arch. Database (V5)
DON CIO Tools

- **Architecture Development Process Model (ADPM)**

- **Data Management & Interoperability Repository (DMIR)**
  - Provide the capability to register systems and their associated database metadata in support of data integration and database consolidation efforts.
  - Testing in progress; operation version available late Summer 01

- **DON Integrated Architecture Database (DIAD)**
  - An Architecture Development Tools Suite based on an Architecture Framework Compliant Data Repository
  - In development with production version 1.0 in July 01
Welcome to the Department of the Navy's Architecture Development Process Model (ADPM)

What is the ADPM?

The ADPM is a "roadmap" for the development of enterprise architecture descriptions as documented in the C4ISR Architecture Framework, version 2.0. Accessible through any standard internet browser (or on CD-ROM upon request), the ADPM provides a step-by-step approach to developing framework compliant architecture descriptions. Using a set of hyperlinked documents, the ADPM provides a product-driven work breakdown structure (WBS) for architecture description development, supplemented by:

- task descriptions and dependencies (also available for download in a Microsoft Project process template)
Opening Page

Getting Started  (Tasks to do before building the products.)

Essential Product Set - The Architecture Framework V2.0 states that building the following seven products will, “constitute the minimal set of products required to develop architectures that can be commonly understood and integrated within and across DoD organizational boundaries...”.

After viewing each product’s logical data model view (CADM), or any of the product examples, use the browser’s “back” button to return to the product page.

AV-1 Overview and Summary

AV-2 Integrated Dictionary

OV-1 High Level Operational Concept Graphic

OV-2 Operational Node Connectivity Description

OV-3 Operational Information Exchange Matrix

SV-1 System Interface Description

TV-1 Technical Architecture Profile
DMIR System Registration

Systems Registration Module

Welcome to the Systems Registration Module

To Begin:

Select a system to register. Use the PREVIOUS SYSTEMS or SELECT A SYSTEM options to find an existing system to continue registration, or use REGISTER NEW to add a new system to the database. DMIR contains system data extracted from the Y2K database so most systems will have an initial entry. Please check for the existing entry before trying to add a new system.

Each time you select a different system, the system name will be added to the list under PREVIOUS SYSTEMS. This list will be available to select from as long as you remain on this screen. If you wish to carry this list to another option (selected from the graphic in the upper left corner), you must click the SAVE option under the list. This will save the list for duration of your current session. When you LOGOUT, you will be offered the option to save the session list to your profile, making it available the next time you begin to DMIR.

Update System Data:

Once you have selected or created your basic System entry, you will be offered options to provide additional data about the system using either options in the left panel or options under the System Display. Please fill out all the relevant system data. In some cases you may be required to create new Organizations or Point of Contact records. Please fill out the information as completely as possible. When you retitle these new Organizations or POCs to your system, you will then be required to fill in additional information specific to your System.

NOTE: In ALL cases, you MUST SUBMIT any changes for them to be recorded in the database.
Select one of the following System Architecture products:

<table>
<thead>
<tr>
<th>System Functions</th>
<th>Systems</th>
<th>Platforms &amp; Facilities</th>
<th>Link Developer (Path-centric)</th>
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<td>Functionlines</td>
<td>System Needlines</td>
<td>Plat/Fac Needlines</td>
<td>Link Developer (Device-centric)</td>
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<tr>
<td>Functionlines to Information Elements</td>
<td>System Interfaces</td>
<td>Plat/Fac Interfaces</td>
<td>Link Author</td>
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<tr>
<td>Functional IER Browser</td>
<td>System I/F Attributes</td>
<td>Plat/Fac I/F Attributes</td>
<td>Comm Protocol Stacking</td>
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<tr>
<td>Functional Allocation</td>
<td>Subsystem Allocation / System Composition</td>
<td>Operational Nodes to Plat/Facs</td>
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<tr>
<td>Activity Automation</td>
<td>System Technology Insertion</td>
<td>System Allocation to Plat/Facs</td>
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<tr>
<td>Information Elements</td>
<td>System Migration Plan</td>
<td>Plat/Fac Migration Plan</td>
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DON Portal
(Tailorable Personal Views)

CAC
You Don’t Get On Without It
Web Enabling the Navy

ALNAV Message:

– VCNO Established N09W
– Web-enable 50 apps by 11/01
– Establish portal in 4 mo.
– Web-enable all Navy apps by 2004

“AN XML CENTRIC ARCH.”
Nomadic Future
Nomadic C&C

- Nomadic Computing & Communications deals with the capability of simultaneously being:
  - physically mobile
  - having access to a set of computing, information, and communication services while moving, stopped at intermediate points, and at various destinations.

- It is more than just being mobile.
- It is more than just being wireless.
“On The Road”

- Some of us carry a combination of “gadgets” such as:
  - Pagers
  - Cell phones
  - Palm-size PDAs
  - Two way pagers
  - Hand-held computing device
  - Laptop computer
  - Two-way radios
  - A bag full of different data cables
  - A collection of different batteries
  - A collection of PCMCIA cards
  - A collection of attachments and peripherals
  - A bag full of different power cords and transformers

......Not an integrated/convenient/efficient/hassle-free environment
Nomadic Problems

- Security
- Seamless interoperability between wireless and wireline networks
- Unpredictable user behavior
- Unpredictable network behavior
- Unpredictable computing behavior
- Graceful degradation
- Integrated access to remote services
- Bandwidth resolution & adaptivity
- Automatic sensing, searching, locating, tracking
- Applications awareness
Summary

• Interoperability is “critical” to DON, Joint, and Coalition operations

• Infrastructure wise…
  • NMCI helps CONUS and OCONUS
  • IT-21 and MCTDN help deployed

• Data interoperability is the “gemstone”

• Nomadic technologies throw a whole new set of interoperability issues on the table

• Architectures will allow us to better define & defend our reqts & budgets in an ABC environment
“My slogan is “One Team...One Fight” and that slogan captures our jointness across DoD and with our Coalition Forces to put forth the best possible Total Force to any adversary. We have to focus on this.”

“We are going to focus on Activity Based Costing across the enterprise”...because...”as far as I’m concerned, we don’t cut combat capability”...
Think “salesmanship”
What’s Interoperability Worth?

All Data is Cost Per Hour