Multinational Force-Iraq Portal and Multinational Information Sharing

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Joint Prototyping Pathway
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Overview

- JFCOM J9 is pursuing cross domain solutions to allow information sharing and real time collaboration from one network / domain to another.
- Deployed a single-domain instance to MNFI in February 2005.
- Beginning certification, test, and evaluation (CT&E) with National Security Agency (NSA) in August 2005.
Architecture Concept

Classified Network 1

Cross-Domain Guard

Collaboration Gateway

Database Server

Portal Server

Collaboration Server

Guard Firewall

Users

Classified Network 2

Collaboration Gateway

Database Server

Portal Server

Collaboration Server

Guard Firewall

Users

Additional domains are supported depending on guard capabilities.
Multiple Security Levels (MSL) versus Multi-Level Security
Adapted from a brief by Elaine M. Caddick, The MITRE Corporation
Strategy

• Use open standards & open source to:
  – Get functionality working in one domain
  – Emplace the hooks in single domain to enable cross domain
• Test in the lab and in the field
• Develop and integrate cross-domain pieces
• CT&E with NSA
Situation Nov 2004

• Multinational Forces-Iraq (MNF-I) Information Technology division frustrated with on-hand information sharing technology
  – Disparate data sources
  – Proprietary, non-interoperable tools

• Iraqi Interim Government (IIG) network to be stood-up in next several months
  – Capability will crawl, walk, run
  – Need to share data from MNF-I with IIG

• MNF-I requests JFCOM help – Nov 04
Mission

• **Mission:** NLT 30 Jan 2005, JFCOM delivers and configures a user-friendly and largely open-standards / open-source portal, document management, and chat capability to MNF-I to enhance information-sharing, position MNF-I for interoperability with future systems, and enable near-term air-gap data sharing with the Iraqi Interim Government network.

• **Endstate:** Open-standards systems used as the primary MNF-I information sharing medium NLT 30 March 05, leading to air-gap data sharing with IIG.
Vision

• Customer: Seamless information sharing among all US and coalition partners, to include the upcoming IIIG network. This effort is the first step toward that end.

• Joint Prototype Pathway:
  – Provide warfighter benefit NOW
  – Promote interoperability and transformation to Net-Centricity and Web-Services by delivering and supporting near-term robust, non-proprietary, standards-based capability directly to the warfighter
Timeline

- Oct 04: AO initial coordination
- Nov 04: Formal MNFI request to JFCOM
- Jan 05: Finish Dev & Test
- End Jan: Deploy
- Feb: Install / Debug
- March: Support & enhance
Portal Requirements from MNFI

• Secure and rapid cross-domain replication w/IIG
  ▪ Unclas only first until Policy changes in place
• Built to open standards as much as possible
• Scaleable up to 5,000 users
• Integrate existing applications and databases
• Use standard ports/protocols
• Login tied to Active Directory for Single Sign On
• User configures preferences in portal profile
• Ability to configure based on roles, user groups
• Ability to collect metrics on performance & usage
• Centralize user functions (Collaborative Tools, Search etc.)
Tasks

• Provide portal, document management, text chat, and web-based common operational picture (COP)
• As much open standards & open source as possible
• Air gap replication of data to emerging Iraqi Interim Government (IIG) network
• Integrated search capability
• Seamless user experience
• Primary and backup sites
Technology Choices

• Portal: eXo; open standards; open source
• Document Management: Xythos: open standards; low cost
• Text Chat / Instant Messaging: Buddyspace; open standards; open source
• WebCOP: SPAWAR WebCOP: open standards
• Database: Oracle; industry standard
Open Standards

- Improve Interoperability
- Code Reuse
- Development Community

**Open Standards for J9 Prototypes:**
- JSR 168 - Open Source Java Portlet Specification
- WSRP - Web Services for Remote Portals
- XMPP - Extensible Messaging Presence Protocol
- XML - eXtensible Markup Language for data tagging
- SOAP - Simple Object Access Protocol messaging protocol to move XML
- WSDL - Web Service Description Language
- UDDI - Universal Description Discovery Integration

- J9’s requirement is software packages that demonstrate how THEY interoperate with other software in an open standards framework.
- Stating other software can interoperate with you is not sufficient…
  - Must demonstrate ability to interoperate
  - Must use proactive stance… If two pieces of SW do not interoperate, we expect both vendors to work the solution from the ends to the middle
  - Interoperability is not “the other guy’s problem”
Experience with Industry

• Industry support was exceptional, both from traditional vendors and open source community

• Solutions that religiously adhered to open standards…
  – Provided solid capability that met immediate customer requirements
  – Set stage for moving toward Net-Centricity
Challenges for Industry

• Make your software interoperate with others’ IAW emerging open standards
• Multi-way standards-compliant database replication that works in connected and disconnected modes
• Bulletproof Active Directory (or similar) capability that works so seamlessly we don’t have to worry about it… focus on emerging technology instead
• Robust gallery of Java Specification Request (JSR) 168-compliant portlets for most standard business processes; No proprietary extensions
• Applications capable of binding classification and release information to files and data elements in preparation for traversing a cross-domain XML guard
• Services-Oriented Architecture services NOW instead of in several years
• Continued support like we received in this mission

• No Govt Commitment or Tasking Implied
Way Ahead

• Support & maintain
• Air-gap installation
• Cross domain demo (Multinational Information Sharing demo)
• National Security Agency Certification, Test & Evaluation of cross domain
  – Chat – Aug 05
  – Portal & Document Management – Oct 05
• Install cross domain