THE MIMOSA OPEN SOLUTION
COLLABORATIVE ENGINEERING AND IT ENVIRONMENTS WORKSHOP

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The LSI’s Concept of Operations

Field FCS-Equipped Units of Action With Threshold Objective Force Capability by the End of the Decade.
REQUIREMENTS

- COMMON OPERATIONAL PICTURE OF THE BATTLEFIELD
- COMMON OPERATIONAL PICTURE OF THE LOGISTICS ENVIRONMENT
- ENABLERS
  - Move All Types of Data
  - Achieve Interoperability
  - Utilize COTS Open Systems
OPEN SYSTEMS

• DEFINITION
  – Platform, Vendor, and Application neutral and readily available with large following

• DoD MANDATES
ADOPTION NOTICE


Custodians: Army – MI
Navy - AS
Marine – MC

Review Activities:
Army – TM
Navy – CG, CH, EC, SA, TD
AMSC N/A

Adopting Activity: Army – AV
(Project IPSC-0085)

AREA: IPSC

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.
THE LIFE CYCLE SOLUTION
LIFE CYCLE CONCERNS

• CHANGING FLEET OVER LIFE CYCLE
  – Software versions
  – Hardware upgrades
  – Vendor changes
  – Sustainer changes

• LACK OF INTEROPERABILITY
MIMOSA

• DEFINITION: NOT-FOR-PROFIT TRADE ASSOCIATION DEDICATED TO DEVELOPING AND ENCOURAGING ADOPTION OF OPEN INFORMATION STANDARDS FOR OPERATIONS AND MAINTENANCE (OpenO&M™)
MIMOSA

• PROVIDE OPEN ARCHITECTURE FOR OpenO&M™ APPLICATION INTEGRATION

• COMBINES
  – XML
  – OPC Foundation XML-DA Standards
  – MIMOSA Open Systems Architecture
    • Enterprise Application Integration
    • Condition Based Maintenance
    • Condition Based Operations
MIMOSA STANDARDS

• TWO INTEROPERABLE BRANCHES
  – Open Systems Architecture for Conditioned Based Maintenance (OSA-CBM™)
    • Object interfaces (modules with exposed methods)
    • Platform oriented (helicopter, vehicle, ship)
MIMOSA STANDARDS

• TWO INTEROPERABLE BRANCHES cont’d
  – Open Systems Architecture for Enterprise Application Integration (OSA-EAI™)
    • Pure W3C XML schemas
    • Includes modeling, metadata, source, query/response, historicity, etc.
  • Applicability
    – Diagnostics, prognostics, trending, test, and maintenance
    – Acquisition of built-in-test results, storage of raw and transformed data, and exchange of data for analysis and viewing
    – Interoperability
MIMOSA OpenO&M™ DOMAINS
MIMOSA PRODUCTS

- PRODUCES VENDOR-NEUTRAL OPEN INFORMATION EXCHANGE STANDARDS
  - Finalized standards are publicly available at www.mimosa.org
  - Committee work-in-progress is voted on and included in standard schema collection at yearly group meeting
  - Quarterly technical meetings
  - Joint interoperability meetings
MIMOSA GOAL & IMPLEMENTATION

• IMPLEMENTATION
  – Understand
    • Measurement and activity data
    • Data source and location
    • Data source relationships to each other on platform and across system/enterprise
    • History of data and sources
  – Enable
    • Update and tracking of information as technologies, components, vendors, and maintainers change
MIMOSA GOAL & IMPLEMENTATION

• IMPLEMENTATION CONT’D
  – Provide
    • Structure for storage of data and its descriptive metadata
    • Query/response mechanisms for exchange of data
    • Notification techniques for alarms and events
    • Maintenance work related information
MIMOSA KEY CONCEPTS

• METADATA
• ABSTRACTIONS
• TYPING
• MODELING
• GLOBALLY UNIQUE IDENTIFIERS
• HISTORY
MIMOSA STANDARDS

• STANDARDS BUILT UPON A COMMON CONCEPTUAL OBJECT MODEL
• COMMON RELATIONAL INFORMATION MODEL
• TECH-XML
• TECH-WEB
• TECH-DOC
• TERSE MESSAGE SCHEMA
MIMOSA CENTER OF EXCELLENCE

– Location

• Software Engineering Directorate
• Research, Development, and Engineering Center

– Purpose

• Execute the MIMOSA implementation process within the Department of Defense
AMRDEC SOFTWARE ENGINEERING DIRECTORATE
MIMOSA CENTER OF EXCELLENCE
IMPLEMENTATION FUNCTIONS

1. ASSET/SEGMENT ID CONTROL/BLOCK RELEASE
2. ARMY SPECIFIC GLOBAL DATA TYPE ASSIGNMENT
3. ARMY WIDE SITE ID ASSIGNMENT
4. ANALYSIS, TRENDS, RULES
5. RULES/POLICY DEVELOPMENT
6. DATA COLLECTION REQ’TS IDENTIFIED
7. GENERATE RAW DB CONTENTS FOR ALL SITES
8. DEVELOP/MAINTAIN WEB SITE
9. MAINTAIN DATA CURRENCY
10. ANSWER REQUESTS FOR ARMY TYPES/SITE, MODEL HISTORIES
11. TRACK PLATFORM CONFIGURATION CHANGES
12. MAINTAIN TERSE MESSAGE SCHEMA TYPES
13. INTERFACE/INTEGRATION TEST/CERTIFICATION
SUMMARY

• OPEN
• FORMAT ONCE
• MODEL
• DESCRIBE
• TRANSFER
• STORE
• QUERY/RESPONSE