Maturing, Migrating, Merging, or Mixing? The Future of the DoD IETM Specifications

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Presentation

- Original Concept to Spec IETMs
- The DoD IETM Specs Roadmap
- Impact of the “Perry Memo”
- Current Plans for Specifications
- Legacy Data Requirements
- Some Recommendations
- Harmonization with Other Standards
Original Concept for Full Specification of IETMs

- 5 Specification Areas for New Acquisition of Interactive Electronic Technical Manuals (IETMs)
  - General Spec including Style, Format, and User Interaction Standards
  - Source Data Base Data Model (SGML)
  - View Package of Data Base Information
  - Electronic Display System (H/W, S/W)
  - Overall Quality Assurance Program
3 MIL-SPECS Issued - Nov 1992

- MIL-M-87268 - General Look & Feel
- MIL-D-87269 - Data Base
- MIL-Q-87270 - QA

- Wait-for-Technology-to-Emerge approach taken for View Package

- No Hardware Specification - Each Service had a Different Approach for Display Device Standardization
DoD IETM Standards Roadmap

- Last Revised 4/94
- Tri-Service Plan to Revise and Update IETM Specs & Handbooks
- Planned Handbooks for EDS and VP
- Planned Program for Tutorials
- No Funding Available FY-95
- Implementation of Roadmap Delayed
- Issued Amendment 1 to MIL-D-89269
Impact of the “Perry Memo”

- DoD Secretary Perry issued Memorandum canceling MIL-SPECS
- Spec Work (including IETM Specs) throughout DoD put on Hold
- Alternatives were sought and not found in the Private Sector
- Navy has obtained 2-Year Waiver for MIL-M-87268 and MIL-D-87269
Current Plans for 3 IETM Specs

- Preparing Activity (Air Force) requested Project to convert 87268 and 87269 to Performance Specs
- EDS Hardware Guidance Document was Issued (No Official Status)
- Recommendation to Convert 87270 (QA) to Handbook - Not funded
- Navy R&D View Package (MID)
  - Available but not coordinated or tested
Legacy Data Requirements for IETM Specification Suite

- IETMs were designed for New-Start Programs
- Existing Programs want Electronic Technical Manuals (ETMs) also
- Resulting Additional Requirements:
  - Specs for Legacy-Data Based ETM/IETMs
  - Overarching Information Standard to Allow Disparate ETM/IETMs to Interoperate
Classes of Emerging Legacy-Data-Based ETMs

- **Class 1 - Electronic Full Page Image Systems**
  - Navy ATIS using NIRS/NIFF
  - Adobe Acrobat using PDF

- **Class 2 - Electronic Scrolling Test/Graphic Hypertext Systems**
  - Using Simplified SGML DTDs
  - Use Off-the-Shelf Browsers
Legacy-Data IETMs

Class 3 - Enhanced Class 2 Systems with Tagging by Subject-Matter Experts and Employing Interactive Dialogs (i.e., 87268 Functionality without a 89269 Modeled Data-Base as a Starting Point)

- There are many different approaches to adding this additional functionality
- Usually requires some extension/adaptation of the off-the-shelf browser
IETM Spec-Compliant IETMs

- **Class 4 IETMs**
  - Conform to MIL-M-87268
  - Generated from a MIL-D-87269 Conforming Data Base
  - Typically Require Reauthoring of the Information
Some Other Recommendations

- The following recommendations have been suggested or proposed in some manner within the DoD Community
- None are adequately resourced
- Biggest hole: Overall Standards to Allow the Disparate IETM/ETM Systems to coexist, interact, and Interoperate within and across Military Platforms
Recommendations (con’d)

- Perform a revision of MIL-M-87268 when it is converted to a Performance Specification
  - Retain Look-and-Feel Requirements
  - Style Issues could be included in a new handbook to support MIL-PRF-87268
  - State-of-the-Art of GUIs is such that much of the GUI portions of the Specification could be eliminated.
Recommendations (con’d)

- Expand Scope of MIL-PRF-87269, when converted, to include entire Electronic Support System for a Weapon system including Information to Support Training, Logistics Support Data Not in TM, Operating Data, and Historical Logs and Records Data
  - Add Content Specific DTDs for these functions
  - Generic Level DTD does not need revision
Recommendations (con’d)

- Convert MIL-Q-87270 (IETM QA) into a Useful Handbook As Soon as Possible
  - While Government Specified Quality Assurance Procedure may not be Allowed, the Requirement for QA in an All Electronic Product is a Great as Ever.
  - Ultimately, it is much more important that Weapon System Support Information be Accurate, than it is to be Optimally Displayed
Recommendations (con’d)

- Institute a Standard for the View Packaging of Information Extracted from a Data Base for the Purpose of Displaying Interactively to a User.
  - The Navy Metafile for Interactive Documents (MID) is a Candidate
  - If not MID than Something Equivalent is Needed
  - Should Integrate All Classes of IETM/ETMs
  - Can Become the Run-Time Standard
Recommendations (con’d)

- Develop a SGML Content Tagged Indexing Standard for PDF Files that Associates an Accessible Information Structure with the Objects in a PDF File
  - Minimum is a TOC reference to Pages but a lot more detail is desirable
  - SGML Content Structure needed to interoperate with Class 2,3, and 4 Data which is SGML Based (DoD Information Standard)
Harmonizing IETMs with Other Interactive Document Standards

■ Standards being looked at include:
  – All use SGML DTD’s
  – Most Overlap/similarity at Class 2/3 Level
  • AECMA 1000D (NATO Procurement)
  • ATA 2100 (Commercial Airlines)
  • J2008 (Automobile Service Manuals)
  • World Wide Web (HTML DTD’s)
  • PREMO Standard for Multimedia Objects