DOD SPECIFICATIONS FOR INTERACTIVE ELECTRONIC TECHNICAL MANUALS (IETM)

Status Report on Draft Specifications Developed by the Tri-Service Working Group for IETMs

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PRESENTATION

• Working-Group Task and Membership
• Draft Specifications
• Current Releases and Status
• Plans for FY-92
• Key Issues

TRI-SERVICE WORKING GROUP FOR IETM SPECIFICATIONS

• Chartered in August 1989 under DODINST 4151.9 TM Technology Exchange Subcommittee
• Single Task - Develop IETM Specifications
• Chaired by Navy
• Members:
  Army - PM/TMDE
Pat Stevens
Navy - David Taylor Research Center (1223)
    Joe Fuller & Eric Jorgensen
Air Force - AFLC (ENC)
    Steve Hollaway; AL/HRG - Dave Gunning
THREE FINAL-DRAFT SPECIFICATIONS:

- GENERAL CONTENT, STYLE, FORMAT, AND USER-INTERACTION SPECIFICATION (MIL-M-GCSFUI)
- REVISABLE SOURCE DATA SPECIFICATION (MIL-D-IETMDB)
- QUALITY ASSURANCE SPECIFICATION (MIL-Q-IETMQA)

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GENERAL CONTENT, STYLE, FORMAT, AND USER-INTERACTION SPECIFICATION

- Content Req'ts for IETM Data Base Generic Elements
- General Content and Style Requirements for:
  - Admin Info
  - Text Style
  - Graphic Style
  - Prompt Style
  - Precautionary Information Style
  - Display Formats (Frame Templates)

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STANDARD GRAPHICS USER-INTERFACE

- Determines Most User-Interaction Features
- Implementable in Commercial Packages
MOTIF, OPEN LOOK, WINDOWS

- Standardized Interaction-Function Dictionary
  Can be Hard or Soft Keys, Select Buttons
- Custom Features Restricted to Client Area
- Common "Look-and-Feel" among DOD IETMs
STANDARD DISPLAY TEMPLATES

- TM Information Displayed in Window Panes
- Client area of Standard User Interface
- Header Bar
- Menu Bar
- Optional Message Bar
- Footer Bar with TM Selection Functions
- Coordinated Text and Graphic Windows

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REVISABLE IETM DATA BASE

- Describes Basic Data Structure
  Networked Nodes with Links, Attributes, Prompts
  "Smart" Nodes (IF-NODES, FOR-NODES)
  SGML Generic-Level Architectural Framework
  Uses HYTIME for External References
- Allows Multiple Content-Specific Levels
  Standard Data-Element Description and Names
  Specific Attributes Specified for Each Data-Entity
  Specifies Basic Linkages (Relationships) of Entities

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QUALITY ASSURANCE PROGRAM

- QA Plan Prepared by Contractor
- Approved and Made Part of Contract
- Covers Data Base Generation to End Product
• Validation on User Delivery Device
• Sets up QA Organization outside of IETM Authors
• Emphasis on Process of Creating IETM
QA PROGRAM PLAN REQUIREMENTS

- Written Operating Procedures
- Guidance and Quality Planning Conferences
- Contractor Quality Reviews
- In-Process Reviews
- Validation Plan
- Verification Support Plan

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MAJOR COMPLETED MILESTONES

- First Unrestricted Distribution - Jun 90
  [Authored by DTRC, AFLC, AL/HRD]
- Technical Comments by Gov't and Industry - Aug-Oct 90
- Revised Specs to DoD for Coordination - Apr 91
- CALS Policy Office Request for Comments - Apr 91
- Services Release for Official Comment - May-Jul 91
- ISG Standards Committee Release for Comment - Jul 91
- CALS Industry Coordination Meeting - Sep 91
- Official Service Comments Expected by end of Dec 91

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Plans for FY-92

- Receive Comments From DoD and Industry by Dec 91
- Start Reconciliation and Consolidation - 1st Qtr 92
• Consolidation Meeting - 2nd Qtr 92

• Final Approval - ???; Possibly before end of FY-92
Other Plans

- Prepare Tutorials
- Update View Package Handbook
- Start CTN Testing
- Plan for DoD View Package Standards

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Key Issues

- Custom vs COTS/NDI
- Conversion of Existing Documents (Paper & 28001)
- QA of Unique Linkings of IETM Modules
- Authoring Systems and Service Bureaus
- Future User-Interface Technology

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Custom vs COTS/NDI

Custom System
- Assures Full Compliance
- Requires Maintenance Activity
• Requires coordinated View Packaging Software

COTS/NDI
• Cheaper but Usually Needs Modification for GCSFUI
• Must rely on Provider for Future Maintenance
• May Require Data Base Translation
Conversion of Existing Documents (Paper, SGML)

- Paper documents difficult to "chunk" into data elements

- 28001 Tags represent format structures (e.g. paragraph)

- Content Tags for SGML document are expensive

- Hypertext approaches exist for conversion
  Not true IETMs but electronically displayable

Conversion of Existing Documents

Possible transition format:

- Hypertext Tags inserted into a 28001 Document

- Scrolling Text and Tables

- Zooming Graphics

- Graphics Xref'ed through Tagged Hot Spots

- GCSFUI still applicable for "look and feel"

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QA of Unique Linkings of IETM Modules
• Automated Cross References - Powerful in IETMs but,
• Change in Referenced Module may Affect References
• May have to Revalidate
  - Context with Updated Reference
  - New Context with Old Reference
• May Require Validation Matrix at User Site
• Requires More Control over Standard References
Authoring Systems and Service Bureaus

- Authoring Key to Producing and Updating IETMs
- Authoring Systems not Specified by DoD
- Output (i.e. Data Base) is Specified
- Authoring Systems now Expensive and State-of-the-Art
- Need for More Activities to Produce IETMS

  Low End Authoring Systems
  Available Experienced IETM Service Bureaus

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Future User-Interface Technology

- Pioneers May Become Obsolescent
- Must Be Able to Update Presentation Capability
  Better Displays
  Faster Graphics Processors
  Larger On-line Data Bases
  Vastly Improved User Access Methods
- Design Considerations
  Data Bases Change Slower than Hardware
  Accepted Standards Better Than the "Best"