

DOD SPECIFICATIONS FOR
INTERACTIVE ELECTRONIC TECHNICAL MANUALS (IETM)

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

Presented by: Eric L. Jorgensen
David Taylor Research Center
Department of the Navy

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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

DOD SPECIFICATION SUITE
Interactive Electronic Technical Manuals (IETMs)

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)

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)

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

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

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"

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

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"