



Introduction to Variable Message Format (VMF) – Course Content

Duration - 2½ days

The course is based around the latest US MIL-STDs (i.e. MIL-STD-188-220D Change 1, MIL-STD-2045-47001D Change 1 and MIL-STD-6017B). However, differences between these and previous versions of the standards will be detailed during the course.

Lesson 1 – Introduction

- A Short History of VMF
- System Overview
- Documents
- Current and Planned Users

Lesson 2 – Open Systems Interconnection (OSI) 7 Layer Model

- 7 Layer Model Composition
- Data Frame Compilation
- Ethernet Principles
- System Performance

Lesson 3 – MIL-STD-188-220 Frames

- Frame Content
- Types of Frame
- Frame Elements

Lesson 4 – Types of Service

- Types of Service Description
- Data Link Acknowledgements
- Duplicate Detection
- Window Method
- Station Classes

Lesson 5 – Network Access Control

- Network Access Delay (NAD)
- Probabilistic & Deterministic NAD
- NAD Types
- Frequency of Access Ranking



Lesson 6 – Net Joining Procedures

- Exchange Network Parameters (XNP)
- XNP Messages
- Network Controller
- Static & Dynamic Stations

Lesson 7 – Message & Header Syntax

- Message Numbering
- Cases & Conditions
- Data Field Classification
- Presence & Recurrence Indicators

Lesson 8 – Application Header (MIL-STD-2045-47001)

- Application Header Fields
- Future Use Groups
- Receipt / Compliance
- Segmentation Reassembly
- Interoperability

Lesson 9 – Functional Area Designators (FADs) & K-Series Messages

- Functional Area Designators
- VMF K-Series Messages
- Message Use Scenario

Lesson 10 – Unit & Entity Reporting

- Unit Reference Number (URN)
- Unit Name (UN)
- URN Look-Up Table
- Entity Identity Serial Number (EISN)
- Entity Identity Reference Number (EIRN)

Lesson 11 – Radios & Modems

- VMF Capable Radios & Modems
- Compliance





Lesson 12 – Inter / Intranet Protocols

- Internet Protocol (IP)
- IP & ip Addresses
- Transmission Control Protocol (TCP)
- User Data Protocol (UDP)
- N-Layer Pass-Through
- Topology Update
- Intranet Relay

Lesson 13 – Data Forwarding

- Message Translation
- Forwarding – TDL Differences
- Gateways

Lesson 14 – Network Management

- NM Responsibility
- Initialisation Data
- VMF NM
- Management & Test Tools

Lesson 15 – Interoperability (IO)

- Interoperability Issues
- DSPICS
- Possible Solutions

Lesson 16 – XML-VMF

- XML Usage
- XML Schemas

Lesson 17 – Close Air Support

- CAS Definition
- Message Implementation
- CAS Procedures

