



NetVue Integrated Management System (IMS), Vipersat Management System (VMS) & Advanced VSAT Course Description

Course Overview

The NetVue Integrated Management System (IMS), Vipersat Management System (VMS) & Advanced VSAT training course is beneficial to people playing many roles in your organization. From NOC engineers providing tiered phone support to your customers to the technicians in the field responsible for the configuring remote sites. The training course will focus on the operation of the entire suite of Advanced VSAT hardware including CTOG-250/CDM-800 modulator, the CDD-880 multi-demodulator, the CDM-840 remote, VMS NetVue IMS.

Course attendees will learn essential skills to properly manage a NetVue IMS and Vipersat system in a deployed environment. Students will be able to configure Advance VSAT Modems, trigger dynamic SCPC switching via Load, Type of Service (ToS) switching, or a combination of both. Students will also be able to operate the NetVue management system including alarms and reporting information.

The course structure will consist of a blend of classroom lecture and hands-on lab experience in order to gain an understanding of how the Advanced VSAT, VMS, and NetVue IMS technology combine to create an efficient satellite network management system.

There will be demonstrations of the product configuration and operational behavior. Proper configuration of Adaptive Code Modulation (ACM) on the forward and return path will be demonstrated. Quality of Service (QoS) features will be covered and the rules will be applied to both the forward and return link. Students will incorporate real world scenarios that they may encounter during the setup and configuration of their own network. They will also learn how to set monitoring alarms and review reports that will be beneficial in providing customer with essential data feedback.

At the end of this 5 day course attendees will be able to return to their place of work with the confidence and understanding to properly operate their NetVue IMS, VMS & Advanced VSAT network.

NetVue IMS, VMS & Advanced VSAT Course Certification

Students will be given a written exam at the end of training and for those who achieve a score of at least 70% on the final exam will be given a NetVue IMS, VMS and Advanced VSAT course certification.



Course Prerequisite

Each attendee of the NetVue IMS, VMS and Advanced VSAT course should have a basic understanding of networking concepts as well as a working knowledge of satellite communication. These are essential concepts when configuring the Advanced VSAT modems, VMS and NetVue IMS. A basic understanding of Windows Server 2008/2012 is also a plus.

NetVue Integrated Management System / Vipersat Network (Advanced VSAT series)

Agenda

Day 1: Advance VSAT Technology Overview

VMS & Advance VSAT Network Introduction Module

- NetVue IMS , VMS & Advance VSAT Solution
- Satellite Network Topologies
- DVB-S2 Outbound/Aloha ECM access description
- Management System Key Features overview

Advanced VSAT - Training Documentation Module

- **Network Addressing Overview**
 - Subnet Mask, MAC and IP addressing
 - Example of typical Vipersat network addressing for Hub and Remotes
- **Routing Satellite Network**
 - Description of the 800 series modems routing table
 - Example configurations for minimum required Remote and Hub static routes
- **800 Series Architecture**
 - Modem/router technology description
 - Interfaces functionality and Remote console access
- **Entry Channel Mode**
 - Functional Description
 - CDD-880 Hub Channel Controller configuration
 - CDM-840 ECM remote terminal configuration

Configuring Modems

- **Hands-on LAB time**
 - Students will work on Modem Configuration parameters

IMS/VMS/Advanced VSAT - Training Documentation Module (continuation...)

Day 2: Introduction to VMS dCPC Switching Engine & Initial configuration of NetVue IMS

Configuring and testing conditions for Rain Fade

- **CDM-800 Group QoS with Adaptive Coding and Modulation (ACM)**
 - DVB-S2 Forward Path link quality control overview
 - Group creation and QoS configuration
- **Return Path VersaFEC Adaptive Coding and Modulation (ACM)**
 - ACM overview and functionality in dynamic point to multi-point network
 - Configuring VersaFEC ACM in CDM-840 and CDD-880
 - Monitoring ACM Performance
- **Remote Transmit Dynamic Power Calibration (DPC)**
 - DPC as an advanced alternative to AUPC that allows for dynamic carriers
 - Using the modem waterfall curves, DPC adjusts the required Eb/N0 to achieve the equivalent BER given any combination of data rate, modulation type, and FEC rate assigned by the VMS

(Variable Noise Generator needed for ACM/DPC operation)

VMS Managers & dSCPC Switching

- **Understanding the RF**
 - Frequency Conversion and Translation in Satellite Communications
 - Description of the importance of the RF chain configuration in VMS
 - Understanding the Bandwidth Management in VMS and RF Spectrum view
- **dSCPC Switching Engine**
 - Introduction to Automatic switching
 - Description of components involved during an automatic switch request

IMS/VMS/Advanced VSAT - Training Documentation Module (continuation...)

- Bandwidth allocation and failure handling
- Switch types functionality
 - ECM switching
 - Load switching
 - ToS switching
 - Manual / Diagnostic switching

System Operator Module

- **Building VMS Database presentation**
 - VMS interface description of all user elements in the tree view and different components

Day 3: Network Lab

Configuring VMS Database

- **Hands-on LAB time**
 - Students will work on VMS database configuration up to the point where the remote modems have connectivity in dSCPC with ECM switching
 - Configuration and testing of Load and TOS switching
- **Quality of Service**
 - Operational Description
 - Understanding different modes configuration

IMS/VMS/Advanced VSAT - Training Documentation Module (continuation...)

- **Guaranteed Bandwidth**
 - Ensures that a remote is always guaranteed bandwidth up to the specified rate (CIR), regardless of network utilization
 - Ability to shuffle and resize carriers to efficiently utilize all available Hz

Vipersat Load Utility (VLoad)

- **Comprehensive Management Tool for Modem/Routers**
 - Manages and distributes application (firmware), configuration (parameter), and identification information for Vipersat network modem/routers
 - Transmits (*Put*) an application image (firmware) to network modems

Day 4: NetVue Introduction & Initial Configuration

NetVue IMS Introduction Module

- NetVue IMS Solution

NetVue IMS initialization

- **Administrator tasks**
 - Establishing NetVue IMS users and accounts
 - Establishing NetVue user groups
- **Operator tasks**
 - Initialization of internet explorer for user login

System Operator Module

- **NetVue IMS Elements**
 - Element function and display

IMS/VMS/Advanced VSAT - Training Documentation Module (continuation...)

Day 5: NetVue IMS Alarms, Reporting & Upgrades

Alarms

- **Alarm overview**
 - Identify alarms and severity
 - Create alarm templates

Reports

- **Report overview**
 - Generate user reports
 - Customize reports

Upgrades

- **AdvanceVSAT modem upgrade**
 - Upgrade via FTP
 - Upgrade via NetVue

Comtech Network Planning Tool (CNPT)

- **Network Planning Tool**
 - Construct Network Design, size and build a budgetary Link Analysis
- **Traffic Planning Tool**
 - Overview customer traffic planning

End of Course Exam