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RedCONNEX Product Support Certification Program

Redline Certified Support Professional (RCSP–5080i) Course Description

Course name: AN-50e/AN-80i Operation, Installation Commissioning and Maintenance (AN-50e/AN-80i OICM)

Objective:

The AN50e/AN-80i OICM certification course consists of 7 modules focusing on enabling the attendees to acquire the following abilities through the 2-days of hands-on training:

- Understand the technologies that enable Redline's AN50e/AN-80i PTP/PMP deliver 108 Mbps at Layer-2 while ensuring a BER level of 1E-09 (PER of 1E-06).
- Understand how the AN50e/AN-80i 64-FFT OFDM engine eliminates multipath and overcomes selective frequency fading, in LOS, OLOS and NLOS deployments.
- Understand how the AN50e/AN-80i address asymmetric traffic using dynamic TDD
- Understand how AN50e/AN-80i uses dynamic Adaptive modulation for link adaptation on burst by burst basis.
- Learn how the AN50e/AN-80i provides varying throughput levels using 10/20/40 MHz channel size (AN-50e uses only 20 MHz channel) and how dynamic adaptive modulation is used in conjunction with a user specified channel width to realize the required reach and throughput.
- Understand the AN50e/AN-80i platform products' operation and working at the Ethernet, MAC, PHY and RF stages and as a system in PTP and PMP applications.
- Learn the AN50e/AN-80i PTP and PMP system installation, configuration and performance tuning in hands-on real world situation and hence be able to make the most optimal use of its features and transmission capabilities.
- Understand how the AN50e/AN-80i can be used in 1+1 redundancy environment.
- Learn how the AN-80i frequency sweep functionality can be used to plan for interference-free operation.
- Understand the features exclusive to AN-80i such as low latency mode of operation, AES link encryption, syslog and log time stamping.

Certification Criteria:

In order to receive the certification, students must pass the RCSP-AN50e/AN-80i certification exam

Course Duration: 3-days

Registration code: RCSP-5080i-3

Target Audience: The target audience for this workshop includes Network Administrators, Installers, system analysts, product support groups.

Delivery format:

Instructor Led or Self-Paced Learning for customers with RCSA-AN50e/AN-80i certification

Pre-requisite Knowledge Requirement:

- The OSI network model, TCP/IP protocol suite, working of routers, bridges.
- The Transmit and Receive path of a digital communications system, Digital modulation schemes such as BPSK, QPSK, QAM, digital communications systems performance parameters such as BER, PER, Latency
- Radio Frequency (RF) Systems: Basic understanding of RF signal propagation as a function of signal frequency, path loss models, frequency selective nature of the wireless channel, channel delay spread and Doppler effect

RCSP-5080i Course Content Details

This course consists of 8 modules described below. The modular nature of the course makes it possible to customize the content to address learning requirements of different category of customer employees such as network administrators, System Engineers, technical managers, Installers, Field Support personnel and technicians

Module-1: AN50e/AN-80i Overview and Application.

This module provides information on Redline as a company, explains the working of the AN50e/AN-80i as transparent Ethernet bridges, highlights product differentiators, discusses link configurations, AN50e/AN-80i applications and the AN50e/AN-80i platform products; competitive landscape.

Module-2: AN50e/AN-80i PTP System Architecture, Operation and Configuration

This module covers in a very detailed hands-on set up the AN50e/AN-80i system elements, installation, configuration, management and performance tuning. This module provides for hands on training on interference source identification and mitigation techniques, RF link design using the link budget tool, software upgrade, grounding procedures and deployment rules, PTP application and deployment peculiarities.

Module-3: AN50e/AN-80i Link Design and Installation and Interference Mitigation

This module describes a real-life AN50e/AN-80i link, elaborates on the link operation in view of constraints such as multipath. The Redline Link Budget Tool is used to design links and analyze coverage and throughput requirements. System installation, link alignment, equipment ground, weather protection and interference mitigation on the link is covered.

Module- 4: AN50e/AN-80i PMP Systems. This module covers the overview and Configuration of the AN50e/AN-80i PMP systems (Sector Controller and subscriber station) configuration, CID assignment, QoS assignment and performance statistics.

Module 5: RMS for AN50e/AN-80i Management

This module covers the RMS capabilities to manage the AN-80i platform product in PTP or PMP modes of deployment. The module focuses on Node and network discovery, performance monitoring and Faults and Alarms- this module will evolve along with features in RMS to support AN-80i and AN-50e.

Module-6: Redline's WCES Solution (TDM/VoIP Support in AN-80i)

This module covers details of TMD and VoIP support in AN-80i using 3rd party AID. The module focuses on configuration of AN-80i to support TDM/VoIP using the PacketBand solution from **Patapsco**. Details of the AN-80i and PacketBand configuration parameters covered in order to realize T1/E1 transport over the AN-80i link while meeting the TMD transmission QoS requirements end-to-end. QoS discussion would cover E1/T1 (1 to 8 ports) throughput and latency requirements, jitter buffer settings, clocking recovery and accuracy issues, simultaneous transmission of TMD and IP.

Module-7: Fault Simulation and Troubleshooting

This is the hands on module of the course. Students simulate typical real life situation on the RF link, execute product performance validation exercises, experiment various fault situations, perform upgrades on the system, simulate and study RF interference and mitigation situations

More Information

For further information on training and certification, please contact the Redline Training Department at training@redlinecommunications.com.

About Redline Communications

Redline Communications is the leading provider of standards-based wireless broadband solutions. Redline's WiMAX Forum Certified™ systems and award-winning backhaul and transport products enable service providers and other network operators to cost-effectively deliver high-bandwidth services including voice, video and data communications. Redline is committed to maintaining its wireless industry leadership with the continued development of WiMAX and other advanced wireless broadband products. With more than 30,000 installations in 75 countries, and a global network of over 100 partners, Redline's experience and expertise helps service providers, enterprises and government organizations roll out the services and applications that drive their business forward. For more information, visit www.redlinecommunications.com.