Hands-On

EWSD Nokia (Siemens) Virtual Switch Maintenance and Troubleshooting

On-Site or Virtual Live Instructor-led

Course Description

This extensive Virtual Live Instructor-led course provides the skills required to perform maintenance and a high-degree of troubleshooting, and will walk the student through a practical understanding of the Nokia (formerly Siemens) EWSD switching system and its various module options. It discusses the use of maintenance terminals such as the OMT, EAI, and SYPD, including the use of the Smart Commander, and its BCT Boot, BMML, and Alarm Console programs, and also looks at system output messages such as Maintenance Message Numbers (MMN) and Fault Location Numbers (FLN). Several Electronic Document Delivery System (EDDS) books are reviewed, including the Trouble Locating Manual (TLM), Trouble Analysis Procedures (TAP), and Detailed Level Procedures (DLP). Key Books such as 0200, 0825, and 1088 are covered in detail.

Previous types of troubles are reviewed and used as exercises, including line and trunk maintenance, but also parts of the Switching Network (SN), Line & Trunk Groups (LTG), Digital Line Unit (DLU), and DIU control modules. The IOP architecture is also included, with a discussion of how OMTs (terminals) are connected.

Our non-intrusive exercises equip the student to conduct day to-day maintenance activities, perform troubleshooting procedures, including cabling and parts of the backplane, and much more. The course is flexible, allowing the most important content for a particular group of students to be emphasized.

Target Audience

Technical staff such as Central Office Technicians, NOC/SCC, certain management personnel, and those seeking cross-training or system interoperability with the EWSD switch.

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Prerequisites

A basic understanding of telecommunications and switching principles is helpful due to the accelerated nature of the course. This can be found in our
-Virtual CO BootCamp course (Central Office TDM Switch Fundamentals)

Course Outline

Module 1 : Telephony Overview

- T&R, E&M
    - Battery
- Analog Signals
    - Digital: A/D & D/A Conversion
- PCM
- Stored Program Control (SPC)
- Analog & Digital Talk Paths

Module 2 : EWSD Theory of Operation

- EWSD Topology
- Functional Block Diagram
- Time Stage
- Switching Network/Space Stage
- Hardware Modules:

    CP - IOPC, IOP:MB, IOP:UNI, Memory, OMT/SYPC interfaces

    MB

    CCG

    SN - LTG interfaces

    LTGC/LTGK/LTGO - incl. DIU/LDI options

    DLU - Local, Remote, DLUA, DLUB, DLU(x) Semi-Shelfs

CCNC incl. SS7 Concepts

HDD & MOD Backup

RSU/RCU/OneUp, SASC

SLC-Series Remotes (SLC-96)

GR-303 RDT

IPH - Packet Handler

SE - other Service Equipment, Ringing, DSX, RAD-PAD, etc.

- End-to-End Call
- Review

Module 3 : Man-Machine/SmartCommander

- Input/Output & Man-Machine
- SmartCommander - UNIX & Windows
- Basic Craft Terminal (BCT) Boot
- Basic Man-Machine Language (BMML) Commands
- Command Assistant
- Basic Command Structure: operator - device - action
- SC: SYSD (Iss 017+)

Module 4 : BMML Commands

- Command Operators: CONF, DIAG, DISP, DUMP, STAT, etc.
- Command Examples: TESTSUB, DISPDN, LTGCTL, STATSUB, STATDLUMOD, etc.
- Practice Looking-Up Commands
- Network Commands: CONFLTG, DIAGDIU, CONFSN, etc.
- Examples
- Review

Module 5 : Documentation

- Electronic Document Delivery System (EDDS) - Compiled HTML (.chm)
  - Book 0200 - Documentation Catalog
  - Book 0825 - Installation and Acceptance
- Book 1088 - Maintenance Summary Guide
  - Job Site Documentation: Orders, Installation, Drawings, ECD, CLL
- System Output Messages: MMN, FLN
- TLM, TAP, DLP

Module 6 : Maintenance

- Listing Troubles, Lockouts, Blocked Devices
- Directory Numbers & SLMs - lookup
- Locating a Module
- Replacing Modules:
  - ESD Practices
  - OST & Power-Removal Requirements
  - Module VCC level
  - Correct Module Extraction & Insertion
- Test Modules - LCMM, FMTU, MTAM
- Alarm Modules - ALEX
- Trunk Modules - DIU, ATE:TM
- COPYGEN System Image
- Examples

Module 7 : Troubleshooting

- NOC/SCC Interaction

- ESD Precautions

- Commands: STATSSP, STATSN, DISP & SRCHALARM, etc.

- Alarm Messages

- Using the MMN

- Using the FLN

- Diagnostics & Configuration: CBL, MBL, CONF, ACT, etc.

- Recoveries:

    Emergency Action Interface (EAI)

    NSTART0 - 3

    ISTART1 - 2x

- Examples

Module 8 : Block Diagrams

- EWSD System Functional Block Diagram

- SN-LTG-DLU Interconnection Diagrams

- HTI-RTI Connections

- IOPC Diagrams

Module 9 : Frame Images

Delivery Method

LIVE Virtual Instructor-led with a flexible approach that adjusts content most relevant to students. Includes various non-intrusive labs, demonstrations, and exercises to help students focus on and retain the material presented.

Equipment Requirements

(This apply's to our hands-on courses only)

Students must have Virtual and or remote access to a EWSD Switch for this training.

BTS always provides equipment to have a very successful Hands-On course. BTS also encourages all attendees to bring their own equipment to the course. This will provide attendees the opportunity to incorporate their own gear into the labs and gain valuable training using their specific equipment.

Course Length

5 Days