Hands-On

Litespan-2000 and 2012 Maintenance & Troubleshooting

Course Description

The Litespan-2000 Maintenance & Troubleshooting course provides extensive information on the design, use, and maintenance of the Alcatel/DSC Litespan-2000 and Litespan-2012 (OC-12) Digital Loop Carrier systems.

The course will provide the skills necessary to perform day-to-day maintenance, plus show how to troubleshoot faults. Various types of documentation will be discussed. This course should also greatly assist personnel when working with next-tier technical support.

Students Will Learn

- **A review of telephony basics, including Tip & Ring, DS1, ADSL, ATM, SONET**
- **The primary cards and modules used within the Litespan-2000/2012 series**
- **Copper-fed and Fiber-fed options**
- **Features including POTS, digital carrier, SLC-series, GR-008 and GR-303 interfaces, plus COT/RT configuration and TCP/IP and Ethernet**
- **Various documentation including Litespan Standard Practices and Litecraft Pro**
- **Switchover and redundancy options**
- **How to find the physical location of a fault & fix hardware faults**
- **Transaction Language 1 (TL1)**
- **Basics of system provisioning**
- **And much more...**

Target Audience

The course is intended for those who are responsible for the maintenance and troubleshooting of Central Office systems, plus NOC personnel and first responders who respond to alarms. No previous switching background is required, although some familiarity with CO equipment will be beneficial.

Course Outline

Module 1 Telephony Overview

- Lines T&R, talk battery, AC, DC
- Digital Transmission A/D & D/A conversion, PCM, packets
- PSTN Technologies POTS, DS1/DS3, OC-3, OC-12, SONET, DSL, ATM
- Circuit Switching
- Telcordia GR Interfaces
- SLC Remotes

Module 2 Introduction to the Litespan Platform

- Litespan-2000 & Litespan-2012
- System Theory of Operation
- Common Shelf & Channel Bank Shelves
- 2000-Series Circuit Packs TCU, TSI, SFW, SFE, SCU, DCT, TCP, ACU,
- MTI, ORU, OTU, BCU, etc.
- 2012-Series Circuit Packs TDS, AUX, TSI, HSW, HSE, SCU, TCP, ACU,
- MTI, BB, BCU, etc.
- Relay Racks, Cabinet options CBA, ONU, LSC-224, CPE-448, LSC-672,
- LSC-1000, LSC-2016, CPE-24, etc.
- Copper Fed Option
- Fiber Fed Option
- Redundancy
- Starspan FITL System
- Review

Module 3 Remotes

- SLC-Series 5 - Subscriber Loop Carrier
- SLC-96 Subscriber Loop Carrier
- GR-008
- GR-303
- TR057 & COT/RT Configuration

Module 4 Documentation

- Litespan Release Guide & Standard Practices
- - Installation
- - Module & Circuit Pack Descriptions
- - OMAPS/OAMP
- - Provisioning Overview
- - Alarms
- Litecraft Pro
- TL1 Introduction

Module 5 TL1 Messages

- Using TL1 Syntax
- VT100 Command Line & Litecraft Pro GUI
- Maintenance:
- - ACT, ALW, DLT, ENT, OPR, REPT, RTRV, SET, WHO
- Troubleshooting:
- - BOOT, CPY, DGN, EDIT, INIT, OPR
- TL1 Command Lookup
- Examples

Module 6 Maintenance & Troubleshooting

- Litecraft Pro
- - Logging In & Out
- - OA&M
- - Reviewing Alarms
- - Performance Monitoring
- Alarm Lookup: TAD, DLP, & TAP documents
- Circuit Pack Replacement, Verifying the Repair
- System Backup
- Examples
- Review

Module 7 Summary

- Block Diagrams
- Frame Images
- End-to-End Call Example
- Class Exercises
- Course Evaluation

Notes

The course is designed to run for 5 days in a classroom setting, but length is easily customized to provide a greater understanding of foundational topics, such as SONET, PCM & ATM theory, or shortened to review only the most important topics of interest. More complex troubleshooting concepts can be introduced with this course including various installation documents, such as those which show in detail how system devices are interconnected, or debugging logs, etc. Field trips to actual premises are used when available, allowing students an opportunity to see and understand where all the packs and modules of the system are found, and how they are connected.

Delivery Method

Instructor-led with a flexible approach that adjusts content most relevant to students. Includes various 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)

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