



XTran for Network Engineers – Course Description

Remark: This course is the former 'XTran for Service Engineers', now offered under a new name.

Target Audience

XTran **Network Engineers** who are responsible for **configuring, maintaining, and troubleshooting** XTran networks.

Course Prerequisites

Basic knowledge of telecommunications (Eth and WAN technologies) and electronics.

Course Objectives

After completing the training, students will be able to:

- Understand the positioning of XTran and MPLS-TP technology.
- Identify the components of XTran nodes and their roles.
- Set up a new XTran network, or expand it by integrating additional nodes, configure tunnels, Ethernet services, and Circuit-based services.
- Use TXCare to configure the network, handle alarms, manage databases, and deal with advanced networking functions.
- Perform hardware installation, replacement, and firmware upgrades.
- Utilize TXCare for network OAM functions as monitoring and troubleshooting.

Exercises

Hands-on training is included.

Duration

5 days

Content

The Basics

- **MPLS-TP** is introduced and justified as the ideal OT network technology, while **XTran** – developed by Belden – is presented as the optimal solution.
- The **key XTran hardware components** are explored, building a small network from scratch using these elements.
- **TXCare** is introduced as XTran's Network Management System. We will cover essential tasks such as configuration, alarm handling and database management.
- **Tunnels, protection schemes** and basic Ethernet **services** are explained and checked out.

Modules and Connections

- We provide a comprehensive overview of all **Ethernet-based interface modules in XTran**. We delve into Ethernet connections, progressively introducing more advanced options. We will also introduce the IP routing capabilities using the 9-L3A-L.
- We explore the full range of Circuit Emulation Service (**CES**) **interface modules**, guiding students through installation, replacement, application configuration, fine-tuning, and peripheral connection — primarily for E1 interfaces.

XTran OAM

- We discuss additional TXCare functionality as **Remote Client, User Management** and **Network Upgrades**.
- We explain **installation and replacement procedures** for various hardware components and discuss how the network can be **expanded**.
- We have a look at hints, best practices and **troubleshooting** techniques for diagnosing and resolving issues in XTran networks.

