

OTN for High-Speed Transport & DCI Networks

COURSE DESCRIPTION:

This course provides a practical and in-depth introduction to Optical Transport Network (OTN) technology as used in today's high-speed transport, metro, backbone and data centre interconnect (DCI) networks.

Participants will learn how high-capacity services (100G and 400G) are mapped, groomed, monitored and transported using OTN standards (ITU-T G.709 and G.872), and how OTN works together with modern DWDM and coherent optical networks. The course focuses on real-world transport and DCI use cases, including service grooming, performance monitoring, protection, multi-vendor interoperability and the relationship between OTN and modern routed optical (ZR/ZR+) architectures. It is a vendor-neutral, market-driven course designed for engineers working in telco, metro, backbone and data centre environments.

WHO SHOULD ATTEND:

This course is designed for professionals who work with or are moving into high-speed optical transport and data center interconnect (DCI) networks, including:

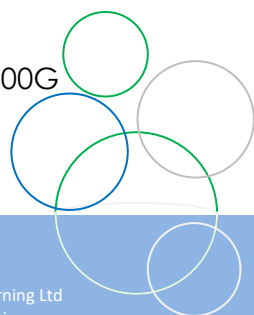
- Transport / Transmission Engineers working on metro, backbone and long-haul networks
- NOC Engineers responsible for monitoring and troubleshooting OTN-based networks
- Data Center Interconnect (DCI) Engineers supporting high-capacity 100G/400G links
- Mobile Backhaul Engineers working on 4G/5G optical transport networks
- Network Engineers transitioning from IP/MPLS to Optical Transport
- System Integrators & Vendor Partner Engineers supporting multi-vendor transport solutions
- Pre-Sales & Solution Engineers involved in optical transport and DCI design
- Telco, ISP and Carrier Engineers working in core and aggregation transport networks

PREREQUISITE TRAINING:

Basic knowledge of DWDM, Ethernet and optical transport concepts is recommended. Prior DWDM training is beneficial but not mandatory.

SOME COURSE BENEFITS:

Participants will gain a practical understanding of OTN-based transport, 100G–400G service grooming, performance monitoring, and real-world applications in DCI,





metro and backbone networks, with a clear path to 800G and future high-capacity transport.

COURSE OBJECTIVES:

- Understand how OTN works as the digital layer of modern transport networks
- Understand 100G/400G service transport with a roadmap to 800G
- Understand FEC, performance monitoring and TCM for real network operations
- Understand OTN grooming and cross-connect switching
- Apply OTN to DCI, metro, backbone and mobile transport networks
- Compare OTN with ZR/ZR+ routed optical networking

FORMAT:

2-days, theory classroom, with quizzes and hands on exercises.
Maximum attendees 12 per course

CONTENT:

Day 1:

- Introduction to OTN and its role in modern transport networks
- OTN architecture and key standards (G.709, G.872)
- OTN frame structure: OTU, ODU and OPU
- Client signal mapping into OTN (100G & 400G)
- Roadmap to 800G and terabit transport
- Forward Error Correction (FEC) in high-speed OTN networks
- OTN performance monitoring and TCM fundamentals
- End-to-end vs per-segment monitoring concepts
- Review, quiz and practical example discussion

Day 2:

- OTN grooming and cross-connect switching principles
- OTN for Data Centre Interconnect (DCI)
- OTN for metro and backbone transport networks
- OTN for mobile 4G/5G transport networks
- Multi-vendor OTN interoperability (IrDI & IaDI concepts)
- OTN vs ZR/ZR+ and routed optical networking
- OTN in long-haul and subsea transport (overview)
- OTN operations and fault handling in NOC environments
- Review, real-world case studies and final Q&A