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🎥 Watch our course intro video.

5G and Transport Networks

Course Description

The continued rollout of 5G is having a very significant impact on the packet transport networks required to support the technology. This course seeks to clarify the key areas which must be considered when dimensioning the transport network, with focus on factors related to the radio and NG-RAN, as well as other areas such as Network Slicing and MEC. The course will then provide an overview of the packet transport technologies being used today, examining the use of OTN, Ethernet and MPLS.

Prerequisites: None

1/2 day
(Live**Onsite**, Live**Online**)

3 hours learning
(Online**Anytime**)

3
CPD Learning Credits

Level: 2 (Intermediate)

This course will contain the following sections:

1. 5G and Transport Networks

Topic areas covered include:

- 5G Packet Transport Fundamentals:
    - Overview.
    - 5G's Impact on the Transport Network.
    - Factors Influencing the Transport Network.

- NG-RAN Overview:
    - Centralized RAN and gNB Disaggregation.
    - Functional Splits.

- Contributing Factors – Radio Features:
    - Adaptive Modulation and Coding.
    - Channel Bandwidth.
    - Massive MIMO.
    - Carrier Aggregation.

- Contributing Factors – NG-RAN Features:
    - Connection Density.
    - Cell Densification.
    - Dual Connectivity.
    - 5G User Plane Redundancy.

- Contributing Factors – Beyond the NG-RAN:
    - Network Slicing and 5G.
    - What is Network Slicing?
    - High Level Slice Orchestration.
    - Multi access Edge Computing.

- Transport Network Topology:
    - High Level Considerations.
    - Transport Network Architecture.
    - Example Disaggregated gNB Deployment.

- PTN Technologies – Physical Layer:
    - Optical Transport.
    - Wave Division Multiplexing.
    - Microwave.
    - 5G Integrated Access and Backhaul.

- PTN Technologies – Ethernet:
    - Ethernet in Mobile Networks.
    - Ethernet and Time Sensitive Networking.
    - FlexE and SPN.

- PTN Technologies – MPLS:
    - High Level MPLS Operation.
    - Traffic Engineering.
    - Protection and Restoration.
    - Virtual Private Networks.
    - Segment Routing.

1/2 day (Live**Onsite**, Live**Online**)

3 hours learning (Online**Anytime**)

3 CPD Learning Credits

Live**Onsite,** Live**Online,** Online**Anytime**
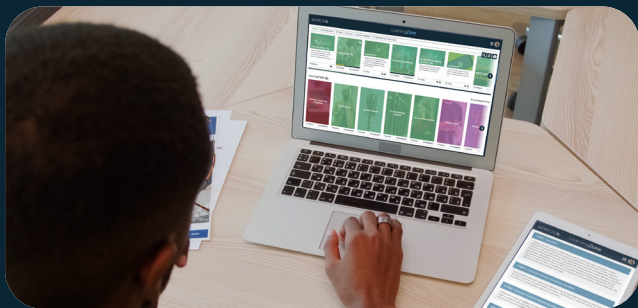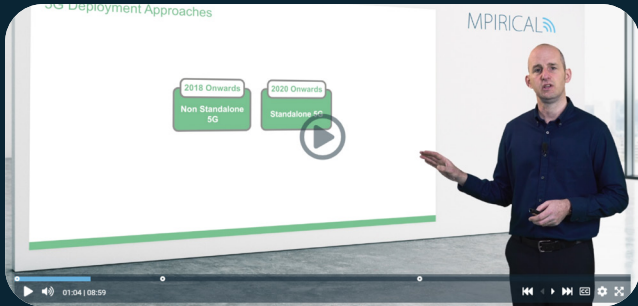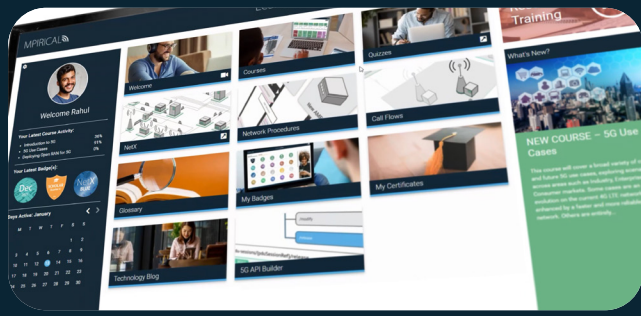
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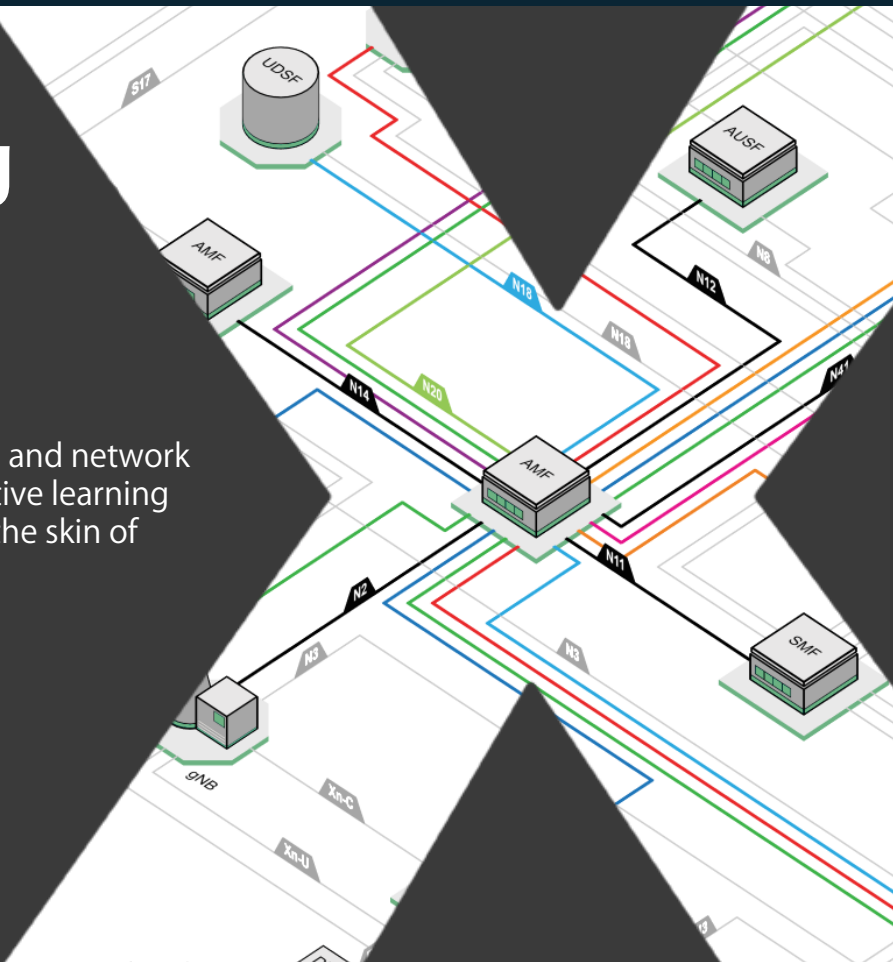
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