Integrated Access and Backhaul Overview

TPR1048x | Expert-Led Live | 5G Access | ⚙⚙⚙
Course Duration: 4 hours

This training is a high-level technical overview of Integrated Access and Backhaul (IAB) - a 3GPP solution to explore higher frequencies including mmW to provide access to end devices as well as offer a backhaul transport solution for dense 4G and 5G radio networks.

Intended Audience

This course is intended for planning, engineering, and operations personnel.

Objectives

After completing this course, the student will be able to:

- Define IAB and why it is needed
- Sketch the IAB architecture
- Step through the key operations of IAB
- Identify deployment scenarios of IAB for improving coverage and capacity

Course Prerequisites

Welcome to 5G

Outline

1. IAB: What and Why?
1.1 Transport bandwidth
1.2 Coverage fill
1.3 First mile access
1.4 Space limitations
Exercise: Knowledge check

2. IAB Architecture
2.1 gNB BBU split
2.2 Donors DUs and IAB DUs
2.3 Relay
2.4 F1 and Backhaul Adaptation Protocol (BAP)
Exercise: Build IAB-based 5G network
Exercise: Knowledge check

3. IAB Operations
3.1 Multiplexing access and backhaul
3.2 Route management
3.3 IAB resource management
3.4 Backhaul bearer setup
Exercise: Knowledge check

4. IAB Deployment Scenarios
4.1 Cell densification
4.2 Coverage fill
4.3 Coverage extension
Exercise: Knowledge check

Putting it all together
Final Assessment