Welcome to O-RAN Part 2: Disaggregation of the 5G RAN

5G_111d | On-Demand | 5G Access |
Course Duration: 1 hour

This training, part of a multi-part Welcome to O-RAN series, provides insights into how aspects of 5G RAN disaggregation contribute to an open, O-RAN architecture. In this course, you will learn how RAN disaggregation lends itself to an open, virtual, multi-vendor RAN. You will explore open fronthaul (Option 7-2x) for O-RAN and how O-RAN nodes are implemented in the O-RAN reference architecture.

Intended Audience

This course is designed for a broad audience of personnel working in the wireless industry.

Objectives

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

- Describe key drivers for 5G RAN disaggregation (RAN latency, fronthaul bandwidth, resource pooling)
- Explain the 5G split RAN architecture
- Identify different RAN components and interfaces (CU, DU, RU and Fronthaul, Midhaul, Backhaul)
- Describe the implementation of the 5G RAN in an O-RAN architecture (O-CU, O-DU, O-RU, O-Cloud)
- Explain O-RAN operational interfaces and the need for open fronthaul
- Describe O-RAN management interfaces (O1, O2, E2 and A1) and their operations

Course Prerequisites

No Prerequisites

Outline

1. Requirements for the 5G RAN
1.1 History of RAN Evolution
1.2 5G RAN Requirements
1.3 5G RAN Standards

2. Building Blocks of Open RAN
2.1 Disaggregating the Protocol Stack (Split RAN)
2.2 Split RAN and Location Flexibility
2.3 Disaggregating the Software Stack (Cloud RAN)

3. Migrating to Open RAN
3.1 Distributing RAN Intelligence
3.2 Multi-Vendor RAN Management
3.3 Extending the Vendor Ecosystem

4. Benefits and Challenges of Open RAN
4.1 Summarizing RAN Evolution to O-RAN
4.2 Migrating to Open RAN

Final Assessment