

C-RAN [Advances in LTE-RAN Series]

Instructor Led Live Virtual Class | Duration: 0.5 Day | Course Number: TPR1002

Centralized RAN, or C-RAN, is poised to completely transform the way Radio Access Networks are traditionally designed. C-RAN reduces OpEx, CapEx, and energy consumption while boosting overall capacity, coverage and spectral efficiency. The session starts with an introduction to C-RAN and how it solves the challenges faced by traditional RANs. The course describes the Common Packet Radio Interface (CPRI) technology and highlights its role in C-RAN operation. The session closes with a discussion of how C-RAN facilitates implementation of LTE and LTE-Advanced features such as ICIC, CoMP, and Carrier Aggregation.

Intended Audience

Technical and marketing personnel requiring an understanding of new technologies being deployed in LTE Radio Access Networks

Learning Objectives

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

- Compare and contrast C-RAN with traditional RAN architectures
- Identify the expected benefits of C-RAN and describe the potential challenges associated with deploying C-RAN
- Discuss the use of CPRI within the context of C-RAN
- Describe how LTE-Advanced features can leverage C-RAN

Suggested Prerequisites

- A working knowledge of LTE radio networks and the LTE air interface

Course Outline

1. C-RAN Drivers

- 1.1. Wireless growth
- 1.2. Impact on the RAN

2. C-RAN Architecture

- 2.1. The Four Cs of C-RAN
- 2.2. Benefits and challenges

3. CPRI

- 3.1. CPRI overview
- 3.2. CPRI and C-RAN
- 3.3. Bandwidth and distance requirements

4. C-RAN and LTE-Advanced

- 4.1. Inter Cell Interference Coordination (ICIC)
- 4.2. Co-ordinated Multi-Point (CoMP)
- 4.3. Carrier Aggregation (CA)