LTE RF Optimization: Part 3 - Mobility and Inter-RAT

LTE_423x | Expert-Led Live | LTE and VoLTE | Expert
Course Duration: 1.5 days

This workshop provides insights into the symptoms and possible causes of field performance issues in LTE radio networks using UE logs. RF measurements related to coverage and interference are discussed to analyze coverage holes and overlapping regions. Students analyze LTE signaling messages through UE logs and map them to success and failure events. Students perform root cause analysis and gain an in-depth understanding of these signaling events to network performance. LTE RF optimization areas such as Intra-LTE and IRAT handover operation. This knowledge transfer is obtained through hands-on experience using UE based diagnostic tools and scanner tools.

Intended Audience

This workshop is primarily intended for RF and systems performance engineers involved in LTE design, performance, and optimization.

Objectives

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

- Define the LTE RF KPIs and map them to RAN counters
- Identify various LTE signaling events that map to success and failure operational counters
- Analyze UE logs for root cause analysis of successful and failure events
- Map above events to operational counters and corresponding KPIs
- Intra LTE handovers and
- Inter-RAT handovers

Course Prerequisites

LTE RF Optimization: Part 1 - Coverage and Accessibility

Outline

1. Workshop Overview

2. Intra-LTE Handover Analysis
2.1 Intra and Inter-frequency handover events and trigger parameters
2.2 Handover KPIs/counters
2.3 Handover execution: success and failure scenario
2.4 Summary
2.5 Review exercises

3. Inter-RAT Handover
3.1 Idle mode system reselection
3.2 Inter-RAT handover events and related trigger parameters
3.3 Inter-RAT handover message flow and related KPIs/generic counters
3.4 Handover execution: success and failure scenario
3.5 Summary
3.6 Review exercises

4. Idle Mode Performance
4.1 Bearer inactivity timer
4.2 Paging procedure optimization
4.3 TAU procedure optimization
4.4 Summary
4.5 Review exercises