5G Advanced in 3GPP R18

TPR1062 | Expert-Led Live | 5G Access | Expert
Course Duration: 4 hours

5G Advanced represents the next milestone in the 3GPP 5G evolution path and starts with 3GPP Rel 18. The features and enhancements in 5G R18 build upon the 5G baseline features defined in earlier releases (5G R15, R16, and R17) to further boost network performance and address new use cases. This course explores 5G R18 features and enhancements for devices, radio networks, and core networks, facilitating enriched 5G network performance. Notable improvements discussed in this course include AI/ML for 5G RAN, 5G support for UAV, XR and media services, coverage enhancements, enhancements for RedCap devices, network slicing, NTN, and NPN.

Intended Audience

This training is intended for planning, engineering, and system integration teams.

Objectives

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

- Identify the driving factors for 5G Advanced R18 enhancements
- Describe the role of AI/ML in 5G Advanced R18
- Explain the key new features defined in 5G Advanced R18
- Describe the 5G Advanced R18 key feature enhancements

Outline

1. What and Why 5G Advanced R18?
1.1 Drivers for 5G R18 enhancements
1.2 NR-focused features in the 5G roadmap
1.3 Network-focused features in the 5G roadmap

2. Role of AI/ML in 5G R18
2.1 AI/ML for 5G RAN - What and Why?
2.2 AI/ML for network energy saving
2.3 AI/ML for load balancing
2.4 AI/ML for mobility optimization
Exercise: Knowledge check

3. Key New Features in 5G R18
3.1 Features for more flexible spectrum usage
3.2 Features enriching XR and media services
3.3 NR support for Unmanned Aerial Vehicles
Exercise: Knowledge check

4. Key Feature Enhancements in 5G R18
4.1 Enhancements for RedCap devices (eRedCap)
4.2 5G R18 NR coverage enhancements
4.3 5G R18 enhancements for network slicing
4.4 5G R18 enhancements for SNPNs
4.5 5G R18 enhancements for NTNs
Exercise: Knowledge check