# **5G Core Network (SA) Overview**

# TPR1049d | On-Demand | 5G Core | Expanded

Course Duration: 4 hours

This training provides a high-level technical overview of the 5G Core Network, which is essential to deploy an end-to-end 5G Standalone (SA) network and exploit new services like network slicing, MEC, and Voice over NR (VoNR).

#### **Intended Audience**

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

## **Objectives**

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

- Sketch the end-to-end 5G Standalone (SA) network architecture focusing on 5G Core (5GC)
- Identify roles and connectivity of 5GC NFs such as AMF, SMF, UPF, UDM, PCF, etc.
- Step through the essential operations like Registration and Data Session Setup
- Sketch deployment of MEC, network slicing, and voice solutions in a 5G SA network

## **Course Prerequisites**

5G Core Network Overview

#### Outline

 5G Core Network Architecture
 1.1 Principles of 5G Core - Virtualization and CUPS
 1.2 Service-Based Architecture (SBA)
 1.3 5G Core network architecture for SA
 1.4 Network functions and services
 Exercise: Build a 5GC network
 Exercise: Knowledge check
 Deeper Dive on 5G Network Functions

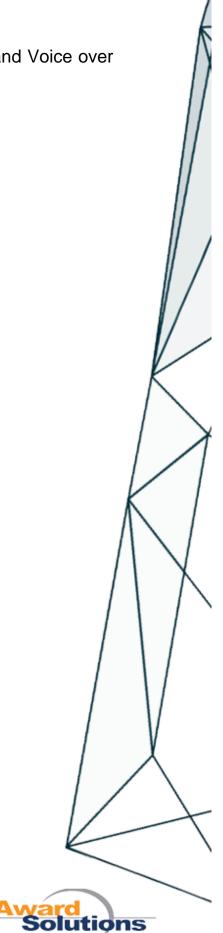
2.1 AMF, SMF, UPF
2.2 Subscriber Management: UDM, UDR, AUSF
2.3 Charging and Policy Functions: PCF, CHF, etc.
2.4 Unique functions: NRF, NEF, NSSF
2.5 Interworking and roaming architecture of 5G
Exercise: Knowledge check

3. Life of a UE using 5GC
3.1 UE registration
3.2 PDU session setup
3.3 QoS in 5G and comparison with 4G
Exercise: Message flow for life of a UE
Exercise: Knowledge check

4. Services in 5G
4.1 Enabling Multi-Access Edge Computing (MEC) using 5G
4.2 Network slicing in 5G
4.3 Voice and SMS in 5G

Exercise: Knowledge check

Putting it all together Final Assessment



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