

## 5G Policy Control in an Hour

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### CONTENTS

This course provides a condensed overview of the Policy Control concept in the 5G system. It focuses on the functional extensions of the 5G Policy Control Function (PCF) in comparison with the existing Policy and Charging Rules Function (PCRF), defined for the earlier generation systems. It is intended to give a quick and concise summary of how the 3GPP has expanded on the technological aspects of the Policy Manager concept in the 5G standards.

“5G Policy Control in an Hour” provides a birds-eye view of the topic, focusing on the principles for access, mobility, User Plane Quality of Service and User Plane routing in 5G. It presents the variety of input parameters from different sources that the PCF uses for its decisions, in order to illustrate what can affect the policies for service access and handling for the various applications expected to utilize the 5G systems.

It has been designed to be fully covered by students within one hour. This course also exists as a full two-day course.

### PREREQUISITES

General technical knowledge of the 5G system, as well as familiarity with the 4G PCRF are necessary to follow the information provided in this course.

NOTE: This course is not delivered with the FoldOut methodology.

### PCF vs PCRF

- Comparison of the input sources: where does the PCRF and the PCF get information from, respectively
- Comparison of the policy information distribution: what is affected by the policy decision taken by the PCRF and by the PCF, respectively

### Input sources for PCF

- NFs that serve as input sources for the PCF:
  - UDR
  - AF/NEF
  - CHF
  - NWDAF
  - AMF
  - SMF
- Interfaces, and the parameters provided from the various input sources into the PCF

### Access and Mobility related policies

- The PCF policy decisions at 5G UE Registration for initial network access
- The AM Policy Association concept for 5G UE access and mobility handling
- AMF → PCF event reporting for UE access and mobility handling
- Provisioning of access and mobility rules to the UE

### Session related policies

- Provisioning of service access rules to the SMF
- The PCF policy decisions at PDU Session Establishment: handling of the initial settings for
  - QoS
  - Routing

- Charging
- The SM Policy Association concept for PDU Session management
- SMF → PCF event reporting for PDU Session management

## **5G User Plane management**

- Provisioning of the User Plane parameters to the:
  - UPF
  - gNB
  - UE
- Interfaces, and the parameters provided to the entities handling the User Plane