

# Overview of IMS

eLearning | Average Duration: 2.5 hours | Course Number: IPC\_107

The Internet Protocol Multimedia Subsystem (IMS) is a significant core network evolution that uses common Internet-based protocols to provide global, access-independent and standard-based IP connectivity and service control. The IMS architecture is a key enabler of various types of multimedia services to end-users. IMS helps provide a network that fulfills the promise of all-IP networks, allowing a combination of real-time and non-real-time services to be delivered to a single device. IMS is access network independent and, hence, promotes interoperability between wireline, cellular, WLAN, CATV, FTTH and other types of access networks. This course explores the various concepts used in the IP Multimedia Subsystem (IMS) including architecture, network components and interfaces. **Please note that this course does not cover any specific access technology.**

## Intended Audience

This course is intended for those seeking a high level understanding of the IP Multimedia Subsystem (IMS). This includes those in sales and marketing, product planning, product management, design, integration, verification and deployment.

## Learning Objectives

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

- List the driving forces, requirements and goals of the IP Multimedia Subsystem (IMS)
- Identify the building blocks used to construct the IMS
- Describe the functions of the IMS architecture that support multimedia functions
- Explain the roles of SIP, MEGACO, DIAMETER, and the enabling technologies used in the architecture
- Describe how functions such as mobility, and call processing are carried out in the new architecture
- Explain end-to-end service establishment flows in the IMS architecture
- Describe scenarios that illustrate interworking with the PSTN

## Suggested Prerequisites

- [IPC\_104] IP Convergence Overview (eLearning)

## Course Outline

### 1. Setting the Stage

- 1.1. Trends for telephony services
- 1.2. Evolution of mobile networks
- 1.3. Define IMS
- 1.4. Benefits and challenges of IMS
- 1.5. IMS service examples

### 2. IMS Architecture

- 2.1. Origin of IMS
- 2.2. Architecture reference models
- 2.3. Components and functions

### 3. Signaling and Transport

- 3.1. IMS reference points
- 3.2. Role of SIP, DIAMETER and H.248/Megaco
- 3.3. Basics of voice transmission
- 3.4. QoS management in IMS
- 3.5. RTP and RTCP

### 4. IMS Scenarios

- 4.1. IMS registration
- 4.2. IMS session setup
- 4.3. Role of application servers
- 4.4. Examples

### 5. Interworking

- 5.1. Interoperability between PSTN and IMS
- 5.2. Compare PSTN call establishment with IMS to IMS call
- 5.3. Establishing a call with the PSTN
- 5.4. Messages required for a call to the PSTN

### 6. Summary

#### Put It All Together

Assess the knowledge of the participant based on the objectives of the course