

Course ID

3G-IMS-STRAT

Course Duration

2 days

Course Title

3G, IMS, and the Carrier Business Economics

Related Courses

- UMTS-FDD: Network Architecture, Operation, and Design (UMTS-FDD, 3 days)
- UMTS-TDD: Network Architecture, Operation, and Design (UMTS-TDD, 2 days)
- HSDPA: Network Architecture, Operation, and Design (HSDPA, 2 days)
- HSUPA: Network Architecture, Operation, and Design (HSUPA, 2 days)
- 1xRTT: Network Architecture, Operation, and Design (1XRTT, 2 days)
- 1xEVDO: Network Architecture, Operation, and Design (EVDO, 3 days)
- 3G LTE/4G: The Next Generation Mobile Networks (3GLTE-4G, 2 days)
- IMS: The Technology, Applications, and Challenges (IMS, 2 days)
- Multimedia Applications: IMS, SIP, and VoIP (MULTIMEDIA, 2 days)
- Internetworking with TCP/IP Version 6 (IPV6, 2-3 days)
- IP-Based Systems: TCP/IP and Mobile IP (IPSYS, 2-3 days)
- VoIP: Protocols, Design, and Implementation (VOIP, 2-3 days)
- VoIP Security (VOIPSEC, 2 days)
- State-of-the-art of VoIP Technology for Professionals, Managers, and Executives (VOIP-EXEC, 1 day)
- Traffic Engineering Models for Network Design (TRAFFIC, 3 days)
- MPLS: Integrated Routing with End-to-End QoS for the Next Generation Networks (MPLS, 2-3 days)

Aimed At

Executives who are responsible for telecommunications planning, design, engineering, deployment, business strategy, marketing, or services creation. Also, industry analysts looking for what happens next in carrier spending and why.

Group Size

5-25

Prerequisites

While there are no specific course prerequisites, the standard presentation of this course assumes a bachelor of science in Electrical Engineering, Mathematics, Physics, or other technical area with exposure to telecommunications. However, the course presentation style can be modified to suit a less technical audience, say of marketing or finance management, as needed.

Course in a Nutshell

Carriers are increasingly looking for ways to differentiate themselves in the marketplace to expand their subscriber base, increase their revenue, or juice up their margin. However, the subscriber growth in many developed countries is starting to slow down due to the already high penetration levels. 3G/4G and IMS will help the mobile operators fundamentally alter the economics of service delivery, allowing them to achieve increased services differentiation without a reduced margin. For mobile carriers with 3G modulation, margin per service is

different for each service, depending on the nature and usage of that service, e.g., SMS and Voice provide good margins, while the so-called Unicast Video does not. In the case of fixed, wireline carriers, convergence with the mobility assets for policy based networking and the continuing drive for lower production costs of capacity will define their spending over the next three to five years. If you are involved with telecommunications engineering, deployment, strategy, marketing, or services creation, it is critical that you understand the economic drivers and business implications of 3G/4G and IMS.

In this course, you will study network economics from all angles including the technologies involved, status of wireless standards, key challenges posed by the technology, financial drivers for its adoption, deployment, and security considerations. You will also study the issue of technology migration from the legacy, circuit switched networks to that of an all-IP IMS domain in multiple scenarios, looking at issues such as capital expenditure, meeting financial targets, parts of the network that may or may not be candidates for cost savings, and the economic issues posed by the potential technology migration options. This will help you better understand where carrier should or will spend money in the next three to five years, and which technologies and companies will come out on top in the value chain.

Customize It!

Let us know your reasons for interest in this course, so we can expand those portions of the course that are pertinent to your job. For instance:

- *Are you an engineer?* Let us know the areas of interest to you – whether planning, growth, capital budgeting, or operations – so we can tailor the course accordingly.
- *Are you coming primarily from the core or radio network side* and would like to “fill in the holes” in your knowledge of “the other side”? If so, we can emphasize those issues with which you are less familiar.
- *Are you in marketing* and interested in value-added services? Let us know so we can focus on the types and economics of the new services enabled by 3G and IMS.

Learn How To

- Identify the margin expansion opportunities for various applications and services afforded by 3G and IMS, including voice
- Gauge the impact of the changing network economics relative to the handset subsidies required to engage the subscribers with new services
- Describe which technologies are likely to be deployed by when, and which technologies are likely to be ‘capped’, and which technologies in today’s CAPEX budget can be leveraged versus ‘fork-lifted’ by when
- Quantify the costs of application development relative to the pricing sensitivities, usage patterns, and penetration rates for new application development and launch

**Course
Outline**

- Introduction
 - Wireless networks: A historical perspective
 - Advantages and disadvantages of legacy technologies
- 2G and 3G Basics
 - Key terminology
 - Modulation types & schemes
 - Evolution of standards
 - Comparing and contrasting 3G vs. 2G
 - Deployment costs
 - Monetization of spectrum
- IMS Basics
 - Key terminology
 - Comparing and contrasting IMS with legacy, circuit switched networks
 - IMS layers, concepts, and elements
 - Definitions/functions per node
 - Policy overview
 - IMS in GSM, CDMA, fixed and WiMAX networks
 - IMS: Key market trends
 - SIP overview
- Engineering Basics: Traffic/Call Flows
 - Mobile to land
 - Land to mobile
 - 2G mobile to 3G VoIP/IMS mobile
 - 3G VoIP/IMS mobile to 2G Mobile
 - Call models
 - Superposition
- Margin per Application Comparison 2G versus 3G/IMS
 - Voice versus VoIP
 - SMS versus 3G/IMS
 - E-Mail versus 3G/IMS
 - Streaming Video versus 3G/IMS
 - Streaming Audio versus 3G/IMS
 - Diffusion curves of adoption
- Current Standards Work: Challenges and Impact on Network Economics
 - IPv6
 - Legacy internetworking
 - RAN performance requirements
 - Session based QoS
 - Non-SIP and legacy applications and admission control
 - LTE
- Wrap-up

- Putting it all together
- End game, economics, strategy, financial drivers
- Future of mobile networking
- Q/A and evaluations

How You Will Learn

- A seasoned subject matter expert/instructor will present this course in interactive lecture format.
- Along with lecture, we use exercises, puzzles, case studies, and interesting group activities to enrich the instruction and drive home the essential points.
- If you already know something about the technology, we will build on that. We'll compare and contrast what's familiar with what's new, making new ideas easier to learn as well as more relevant.
- If your background is less technical, we will use meaningful and ingenious examples and analogies to simplify the complex subject matter.
- You will receive a printed Participant Handbook which will help you remember and retain what you learned in class and apply it on your job.

Revised

Mar. 5, 2007