

mpirical tutorials

focused training in a fast moving world

“Value for money and high quality service”. In the current economic climate, and especially in the telecommunications sector, these have become ever more crucial requirements. This spans all areas of operation, and no where is this more important than in the field of technical training. **mpirical** recognize this fact and our range of training support products meet these requirements in all respects. Where appropriate, **mpirical** courseware has been developed in accordance with the 3GPP technical specifications and as such, **mpirical** have been granted the right to use the 3GPP logo.

Our philosophy is to deliver focused training through a combination of pre-learning (**mpirical** launcher), modular one day instructor led tutorials and post course online forums incorporating technical updates and “frequently asked questions”. This combination exceeds many two day courses run by other training providers and enables organizations to build their own specific training programs. **mpirical’s** approach ensures those attending spend the minimum time away from their work place while receiving the highest level of training.



mpirical training offers:



- 4 hour eLearning
- Online or CD Rom
- Twelve 20 minute lessons
- Interactive quizzes
- Pre or post knowledge assessment
- Fully searchable
- Reference guide
- Customized and dual branded
- Part of a broad training portfolio



- 1 day focused training
- Practicals / Workshops where appropriate
- Categorized into learning zones
- Comprehensive colour notes - also provided on CD Rom
- Embedded **mpirical** companion
- Delivered anywhere worldwide
- Virtual Classroom Training option
- Technical updates & FAQs
- Post course feedback analysis

To ensure **mpirical** meets your exact training requirements, we are able to provide a comprehensive development package ensuring your team get the right training at the right time. For further information or to discuss your customized solution, please contact us at enquiries@mpirical.com or visit our web site at www.mpirical.com

What you will learn

- WiFi - 3G friend or foe? The fundamentals of WLAN & Cellular convergence ensuring end users perceive seamless integration
- GPRS operation as a bearer of IP datagrams within a wide area network
- the proposed architecture and operation of a converged WiFi, 2.5G and 3G cellular network
- mobile IP operation with regards WiFi and Cellular networks plus the role of security brokers and DIAMETER
- the need for combined authentication including the options currently available and those under development within the IETF EAP/SIM and EAP/AKA Authentication standard
- convergence of the billing platforms ensuring end users receive one bill regardless of the technology and location of the network

Pre Requisites

This tutorial assumes a sound understanding of WiFi operation.

WLAN
System
Engineering



Tutorial Content

GSM & GPRS Launcher

The GSM/GPRS Launcher provides the pre-learning requirements for the WLAN & Cellular Convergence tutorial ensuring attendees have a sound appreciation of GPRS operation. This four hour, highly interactive, eLearning product covers the fundamentals of cellular systems, their operation and network architecture. The drivers that led to the GPRS requirement are also explored along with the new procedures and functional entities required to support GPRS operation. The launcher includes quizzes and a comprehensive test of understanding to ensure those attending WLAN & Cellular Convergence have acquired the necessary knowledge to gain the maximum benefit from the tutorial.

WLAN & Cellular Convergence Tutorial

This one day tutorial provides a technical analyses of the principles and methodologies involved in IEEE 802.11 (WiFi) and cellular convergence. This includes:

- converged network architecture - a detailed look at both tight and loose interworking between WiFi and 2.5G / 3G cellular networks. Database integration in addition to signalling and transmission paths will also be addressed
- mobile IP - its operation with regards home agents, foreign agents and mobile nodes plus the importance of security brokers and DIAMETER
- the use of mobile IP as the converging technology with regards to both WiFi and cellular networks. Network operation will be discussed including the options for seamless handovers
- network security including authentication options to combine both WiFi and 2.5G and 3G networks. SIM Authentication via SMS will also be addressed
- the future development authentication will be discussed with regards the current EAP/SIM and EAP/AKA Authentication proposals from the 3GPP and IETF. This will include the associated interworking with the cellular security databases
- billing convergence - combining the RADIUS billing systems of WiFi with the CGF used in packet switched cellular networks.

Who Should Attend

WLAN & Cellular Convergence is aimed at engineers or those in an advisory role who wish to examine the issues and methodologies of WiFi and Cellular data convergence.

Further Training

For a further insight into mobile data, mpirical recommend the following training.

GPRS
System
Engineering

