Description

HSDPA (High Speed Downlink Packet Access) and HSUPA (High Speed Uplink Packet Access) provide speeds of up to 14Mbps downlink and 5Mbps uplink. This theory-based course provides an overview of the 3GPP R5 and R6 HSDPA/HSUPA standards and the technologies which are involved. The HSPA+ R7 enhancements are also covered.

Key outcomes

By the end of the course delegates will be able to:

- Explain the relationship between HSPA and UMTS.
- Describe the benefits of HSPA/HSPA+.
- Explain the HSPA/HSPA+ technical enhancements.
- Explain packet flows in HSPA/HSPA+.
- Recognise the migration issues involved with HSPA/HSPA+.

Training approach

This structured course uses Instructor Led Training to provide the best possible learning experience. Small class sizes ensure students benefit from our engaging and interactive style of teaching with delegates encouraged to ask questions throughout the course. Quizzes follow each major section allowing checking of learning.

Details

Who will benefit?

Anyone working with HSPA

Prerequisites

Essential UMTS.

Duration: 2 days

Overall rating:

Generic training | Small class sizes | Hands On training | Our courseware | Customise your course
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Generic training compliments product specific courses covering the complete picture of all relevant devices including the protocols "on the wire." | We limit our maximum class size to 8 delegates; often we have less than this. This ensures optimal interactivity between delegates and instructor. | The majority of our courses use hands on sessions to reinforce the theory. | We write our own courses; courseware does not just consist of slides and our slides are diagrams not bullet point text. | Please contact us if you would like a course to be customised to meet your specific requirements. Have the course your way.

"Friendly environment with expert teaching that teaches the why before the how."  
G.C. Fasthosts

"Excellent course. The small class size was a great benefit..."  
M.B. IBM

"Not many courses have practice added to it. Normally just the theoretical stuff is covered."  
J.W. Vodafone

"Comprehensive materials that made the course easy to follow and will be used as a reference point."  
V.B. Rockwell Collins

"I was very impressed by the combination of practical and theory. Very informative. Friendly approachable environment, lots of hands on."

S.R. Qinetiq
UMTS review

UMTS architecture, components, interfaces, protocols, W-CDMA, standards, 3GPPr5, 3GPPr6, evolution to HSDPA and HSUPA.

HSPA basics

What is HSDPA, what is HSUPA, key features, system capacities, data rates, delays. Key concepts: Adaptive modulation and coding (AMC), QPSK, 16QAM, HARQ, multiplexing, subframes.

HSPA channels

Logical, transport, physical channels, dedicated vs. shared channels, HS-PDSCH, HS-SCCH, HS-DPCCH, code multiplexing. E-DCH, Enhanced DPCCH.

MAC architecture


HSPA migration


Packet flows

Packet data session setup, simultaneous voice and data, QoS, TCP flow control, WCDMA packet scheduler, mobility procedures.

HSPA+ (3GPP r7 and beyond)

What is evolved HSPA? Speeds. Multiple Input Multiple Output (MIMO). Optional all IP architecture. R8 and LTE.

What our customers say

“Absolutely brilliant, very knowledgeable and helpful trainer would recommend to teach anyone. Kept me interested 100% of the time which is very impressive as this does not happen often, if at all!”

O. B. Network Rail

“The best technical course I’ve been on!.”

L. W. Fujitsu Telecoms Europe

“Very well thought out and structured course. Would recommend 100%. Lots of equipment, good quality.”

A.R. Unipart

“Course content is interesting. Relevant to current systems and presented well.”

S.S-T. Arqiva