

MOBILE BROADBAND OPTIMIZATION IN HSPA NETWORKS

Course Description

Data connectivity over HSPA networks is characterized by high throughput and short response times. These capabilities contribute to higher end-user satisfaction, especially for interactive services like websurfing and downloads. From the end-user service viewpoint (TCP/IP and above), the mobile network infrastructure is yet another access network. However, there are many issues in the mobile network that will affect the end-user service behaviour. Although these issues are not visible, nor controlled by a typical internet based service, they require attention by the mobile operator.

Optimizing the mobile network for high broadband performance will require broad understanding of mobile and Internet features. The configurations related to PDP context, APN, IP, NAT, TCP window size etc, together with mobile network related features like handover and cell change, radio level retransmission, end-user data scheduling mechanisms, RAB drop issues, congestion, downswitching, etc. will impact the end-user service behavior. This course covers the important issues that influence end-user service behaviour and points out possible alternatives for optimization.

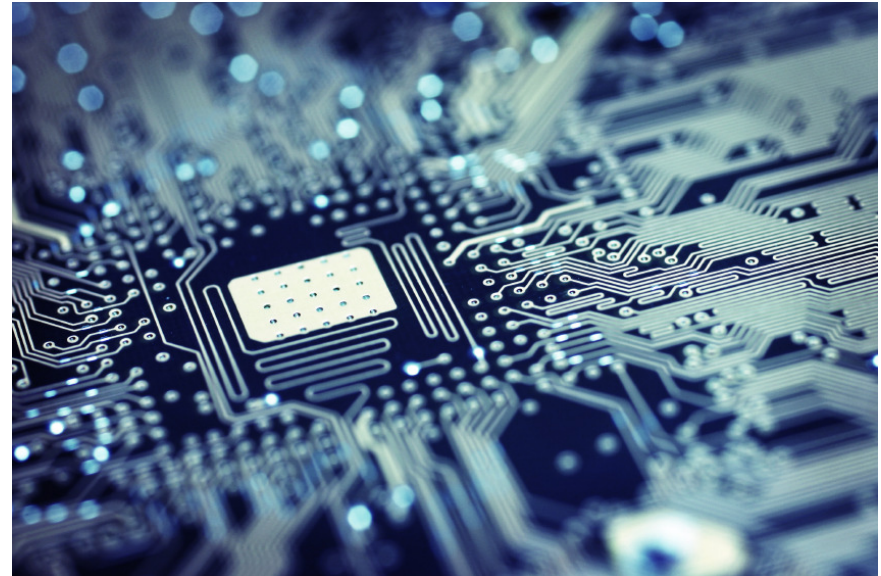
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TRAINING OBJECTIVES

After course completion, the participants will be able to explain:

PRINCIPLES & MECHANISMS FOR MOBILE DATA CONNECTIVITY

- DHCP, lease time, address allocation and invocation, public and private IP addresses
- PDP context activation procedures and GTP mobility and tunneling capabilities
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- Inactivity and expiration timers, PDP context modification and deactivation procedures
- TCP capabilities, configuration options impacting on the behavior of data connections
- The role of operator NAT and Firewall on end user service behavior
- Application (VPN, HTTP etc) dependant capabilities
- The role of UE, RNC, SGSN, GSGN on all aspects above.

THE HSPA PRINCIPLES & MECHANISMS FOR PS DATA SERVICES

- Procedure for RRC and RAB establishment (R99 and HSPA)
- Mobility features handover, cell selection/reselection and cell change for Data RABs
- Retransmission mechanisms on RLC and physical layer (ARQ, HARQ)
- Resource management with Admission and Congestion control, channel switching
- Scheduling and priority handling between service classes and between data users
- Applicable KPIs revealing the data connection qualities.

THE DEPENDENCIES BETWEEN PS DATA SERVICE QUALITY AND END-USER SERVICE PERFORMANCE

- RRC and RAB accessibility impact on the end-user service
- RAB retainability (related to mobility, RAB drop etc) impact on the end user service
- PS service integrity (downswitching, BLER, re-transmissions etc), impact on end-user service behavior
- List possible changes in order to improve the network performance related to the mobile broadband service.

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Target audience

The target audience for this course is Radio Network and Core Network Engineers.

Pre-requisites

Participants need previous working knowledge from network operations, planning or design of WCDMA and HSPA systems.

Course length

2 days

Widermind communicates the knowledge you need to develop and implement new technologies for current and future network operations. Our clients are telecom operators, system integrators, system suppliers and consultancy firms.

Based in Stockholm, Sweden, we develop courses backed by a comprehensive network of associates. Our instructors employ technical and pedagogical skills that have made Widermind training well known and appreciated as one of the best services in the field.

You are warm welcome to contact our representatives at:

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