

HSPA PLANNING AND OPTIMIZATION

"The HSPA Optimization training significantly contributed to the Optimization project."

–Kent Lydell, Manager Radio Networks, 3, Sweden

Course Description

Mobile networks of today are true multimedia networks, providing telephony, data and video services to mobile end users. Historically, mobile networks have been optimized for mobile telephony services. The data related traffic has surpassed the telephony generated traffic. In addition, the end user expectations on the mobile data services, in terms of high quality, lead to tougher requirements on network performance, such as bandwidth availability, packet loss and delay. The course HSPA Planning and Optimization is intended for operators and system integrators who need to understand the network mechanisms behind QoS and learn the optimization techniques available in order to meet the system requirements. Moreover, the analysis of typical KPIs is presented in order to assess and evaluate the optimization performed on the system.

Content

HSDPA INTRODUCTION

- Drivers for HSDPA
- HSDPA Architecture
- Comparing HSDPA with R99 data channels

HSDPA CARRIER STRATEGIES

- Deploy HSDPA on a separate carrier or share spectrum with R99
- Pros and cons with different strategies
- HSDPA impact on R99



COVERAGE AND CAPACITY OF HSDPA

- Coverage for different rates and how it can be improved
- HSDPA Capacity and how it can be improved
- Benefits of 16 QAM and 64 QAM in real network deployment

OPTIMIZING THE RADIO NETWORK FOR HSDPA

- Benefits of Code multiplexing
- Benefits of Dynamic code allocation
- Pros and cons of different scheduler strategies

- Handling chatty applications
- Handling VoIP over HSDPA

OPTIMIZING OTHER PARTS OF THE NETWORK

- Optimizing and dimensioning of Iub
- Optimizing core network parameters for HSDPA
- Optimizing the PC client for HSDPA

HSUPA INTRODUCTION

- Drivers for HSUPA
- HSUPA architecture
- Comparing HSUPA with R99 data channels

COVERAGE AND CAPACITY

- Coverage for different rates and how it can be improved
- HSUPA capacity and how it can be improved
- Benefits of 2ms TTI

OPTIMIZING THE RADIO NETWORK FOR HSUPA

- Optimizing noise-rise thresholds -Stability aspects and impact on R99
- Handling chatty applications
- Handling VoIP over HSUPA
- Optimizing soft handover settings to minimize inter-cell interference

OPTIMIZING OTHER PARTS OF THE NETWORK

- Optimization and dimensioning of Iub
- Optimizing core network parameters for HSUPA
- Optimizing the PC client for HSUPA

FEATURING USEFUL TOOLS FOR OPTIMIZATION OF HSPA

- Studying different examples of e.g.
- TEMS

- Wireshark
- Fping
- Doctor TCP
- Protocol analyzers

Target audience

The target audience is radio engineers.

Pre-requisites

The participants are expected to be experienced within radio network planning / optimization.

Course length

2 days

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