

Cross-layer Optimized MAC for Time Division Duplexing (TDD) in WCDMA

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Outline

- My background
- Resource allocation and control for WCDMA-TDD system under severe traffic asymmetry
- Multidisciplinary aspects
- Status and plans
- Summary

My Background

- Current degree program
 - Major: Electrical Engineering
 - starting and expected completion date: 08/1999~06/2004
- Prior experience
 - BS and MS degrees from Kyungpook National University in 1990 and 1992 respectively
 - 1992~present, Korea Telecom, Seoul, South Korea
- Goals
 - To achieve in-depth networking knowledge for industry

Resource Allocation and Control for WCDMA-TDD System Under Severe Traffic Asymmetry

- Research area

- Resource allocation and control for wireless mobile communications system, especially for WCDMA-TDD system

- Problem

- Adaptive resource allocation and control in MAC layer under severe traffic asymmetry and its burstiness between uplink and downlink

- Methodology

- Make use of optimized slot asymmetry ratio and physical layer statistics

Multidisciplinary Aspects

- Integrated approach on MAC design
 - Research addresses issues from networking (higher-layer) and communications (physical layer) perspectives

Status and Plans

- Current status
 - Analytical work is almost done.
 - OPNET simulation under way.
- Short term plan
 - Have preliminary exam soon
- Long-term plan
 - Have final Ph.D. exam
 - Return to Korea Telecom

Summary

- My background
- Research area and methodology
- Multidisciplinary aspects
- Current status and future plans