Worst-Case Analysis of Distributed Systems

Organization

Prof. Dr.-Ing. Jens B. Schmitt
(jschmitt@cs.uni-kl.de)
Introduction

- Prof. Dr. Jens Schmitt / Dipl.-Math. Michael Beck
  - Room 36/4{29,40} (Secretary Fr. Erlewein)
  - E-Mail: {jschmitt,beck}@cs.uni-kl.de

- DISCO Lab – AG Verteilte Systeme
  - Web: http://disco.cs.uni-kl.de

- Research Areas
  - Internet Base Technologies: Routing, QoS, TCP, Overlays, ...
  - Performance Modeling/Analysis/Control of Distributed Systems
  - Security in Wireless Networks
  - Wireless Sensor Networks
  - ...

Organizational Issues

- Course Notes & Information
  - Web

- Course Mode
  - 2+1
  - Lectures: Jens Schmitt
    - Tuesdays, 11.45 h – 13.15 h, Room 48-379
  - Lab Exercise: Michael Beck
    - accompanying the lecture
    - no registration necessary
  - Oral exam

- (Desirable) Prerequisites
  - Communication systems
  - Some maths ...
Overview of Lecture

1. Introduction
2. Min-Plus Algebra Primer
3. Network Calculus Basics
4. Advanced Network Calculus
Lecture Philosophy & Background

- Some Maths
  - If you really really hate it, leave it 😔

- Rather deep than broad

- Why and how, less what

- In science → basic tool

- In industry? … little expertise & time

- Performance analysis not only for distributed systems, but here particularly important
Literature