

Operating Systems Principles and Programming

Principes et programmation des systèmes d'exploitation

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PARKAS group at ENS: <http://www.di.ens.fr/ParkasTeam.html>
Parallelism of synchronous Kahn networks

Organization

Practical Information

- 9 lectures (slides in English) and 9 labs (in French)
- Oral examination
- Questions are welcome
- If you are lost, do not wait before asking for help

Prerequisites

- Attending lectures and labs
- Programming, reading code and documentation after lab hours

<http://www.enseignement.polytechnique.fr/informatique/INF583>

Contents

Course

- Principles and design of operating systems
- Operating system programming
- Concrete examples

Labs

- Corrections for most exercises
- Balanced between principles, algorithms, system design, kernel internals and system programming

Outline

- 1 Survival Kit
- 2 An Operating System, What For?
- 3 System Calls
- 4 Files and File Systems
- 5 Processes and Memory Management
- 6 Process Event Flow
- 7 Communication and Synchronization
- 8 Concurrency and Mutual Exclusion
- 9 Threads
- 10 Network Interface
- 11 Kernel Design
- 12 Introduction to Virtual Machines