Distributed Systems

ID2201

introduction

Johan Montelius

What's a distributed system

- Give me three examples.
- Give me a definition:
  - Coulouris: "..one in which hardware or software components located at networked computers communicate and coordinate their actions only by message passing"

Why?

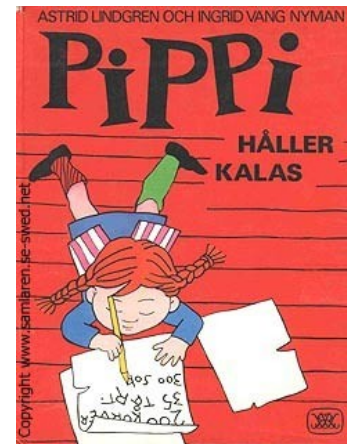- Why do we build distributed systems?

What's the problem

- Are distributed systems different to ehh.... non-distributed systems?
- Why are they special?
- What problems will we have?
- Are the differences on a gradual scale or do we have fundamental differences?

Concurrency

Communication

Communication

Time

Security

Coordination

Failure

Handle the problems

- How can we solve
    - communication,
    - security and,
    - coordination,
- ... in a world with
    - failures and
    - no notion of time?
- Can we hide all problems?

Summary

- There are fundamental problems related to distributed systems:
  - not just more of the same
- You will learn how to handle them.