UNIFIED MODELING LANGUAGE
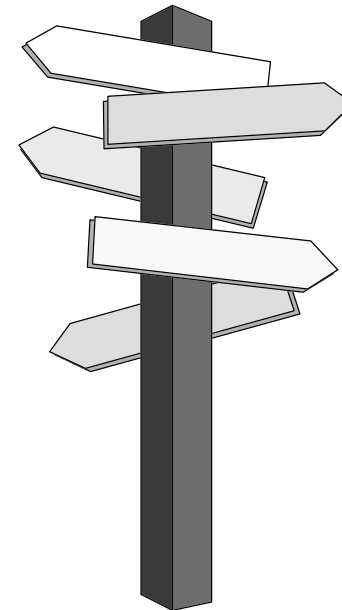
Aitecon

Physical Structure Modeling

Radovan Červenka, October 1998 (version 0.04)

Context

Physical Structure Model

$\rightarrow$ **(physical) static structure of SW components and system's deployment on HW devices**

Consists of:

- Component Diagrams
- Deployment Diagrams
- Element Descriptions

Used (mainly) in:

- Design $\Rightarrow$ component architecture and HW deployment
  (mainly for distributed systems)

Implementations Diagrams

Component Diagram

→ dependencies among software components, including source code, binary code and executable components

Deployment Diagram

→ physical relationships among SW and HW components in the delivered system
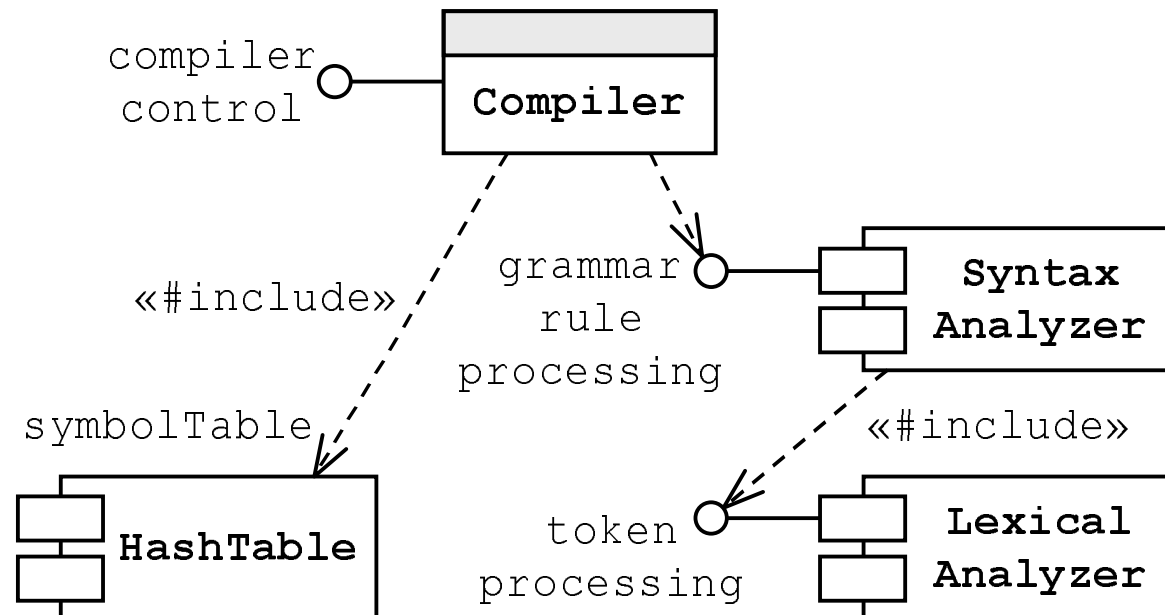
Component Diagram

Component

→ physical module of code

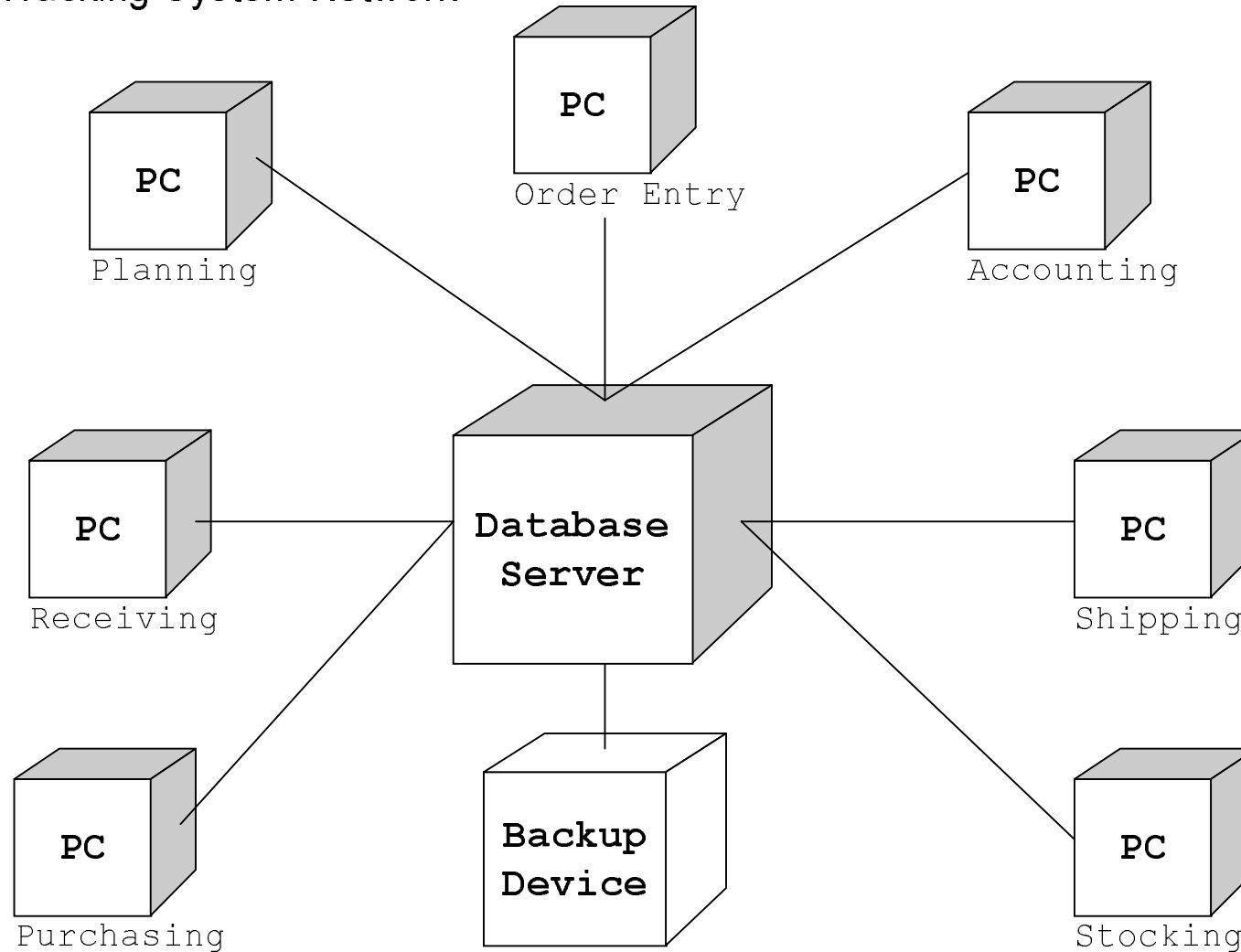- components can have specified interface

Component Relationships

- dependencies with various stereotypes (e.g. «#include»)
- composition

Example of Deployment Diagram

Inventory-Tracking System Network

Processor and Device

Processor

$\rightarrow$ piece of HW capable to execute programs

- may show a list of processes

Device

$\rightarrow$ piece of HW incapable of executing programs

Connection

$\rightarrow$ HW (physical) connection between two processors, two devices or processor and device

- the type of communication can by specified by a stereotype, e.g. «TCP/IP»

Summary

Component Diagram

- **Component**

- **Component Relationships**

Deployment Diagram

- **Processor**

- **Device**

- **Connection**