Lessons learned

Techniques

- Limitations of formal specifications
- Cost of technical staff training
- Ease of communication between different system stakeholders by using object-oriented modeling techniques and OMT as notational convention

Process

- Importance of simplifying the development process

Products

- Continuous evolution of current domain model
- Reference architecture requires several iterations to be completed

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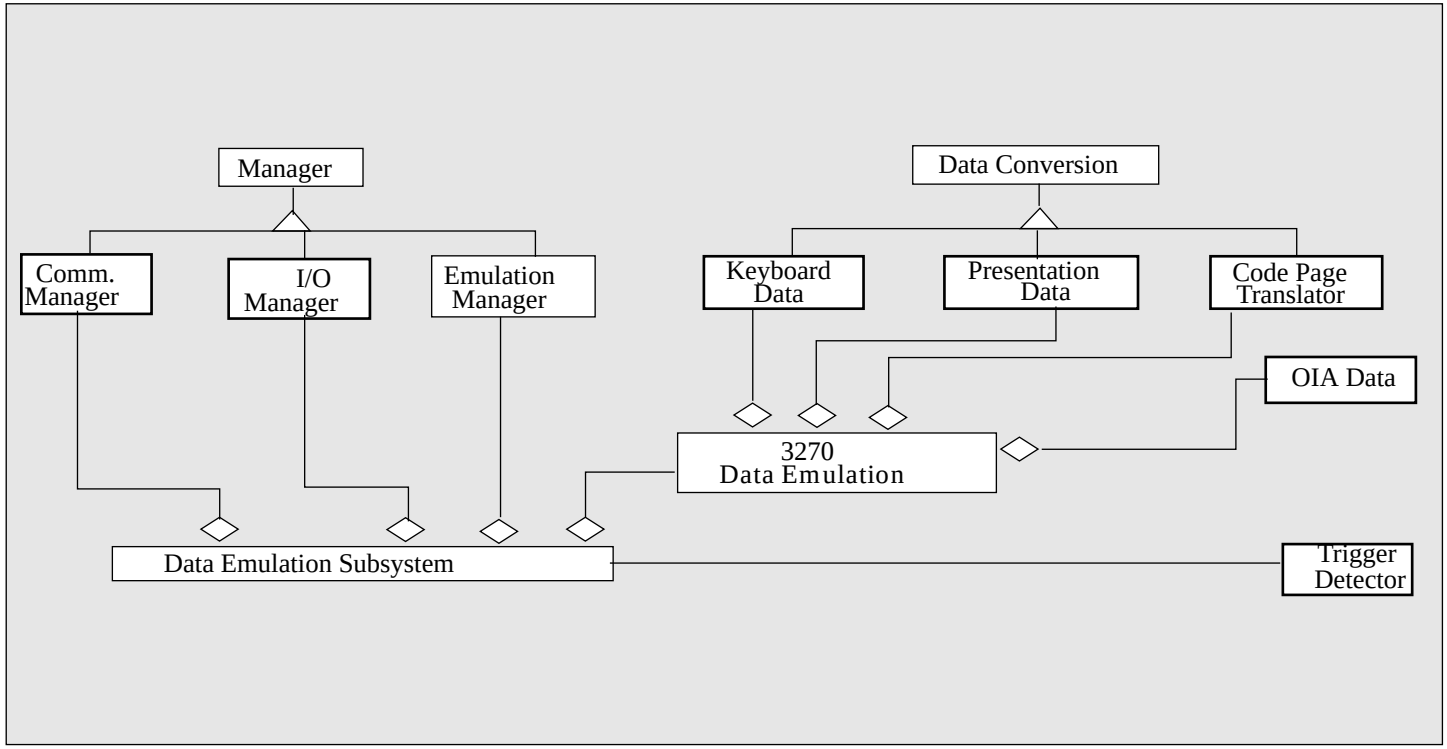
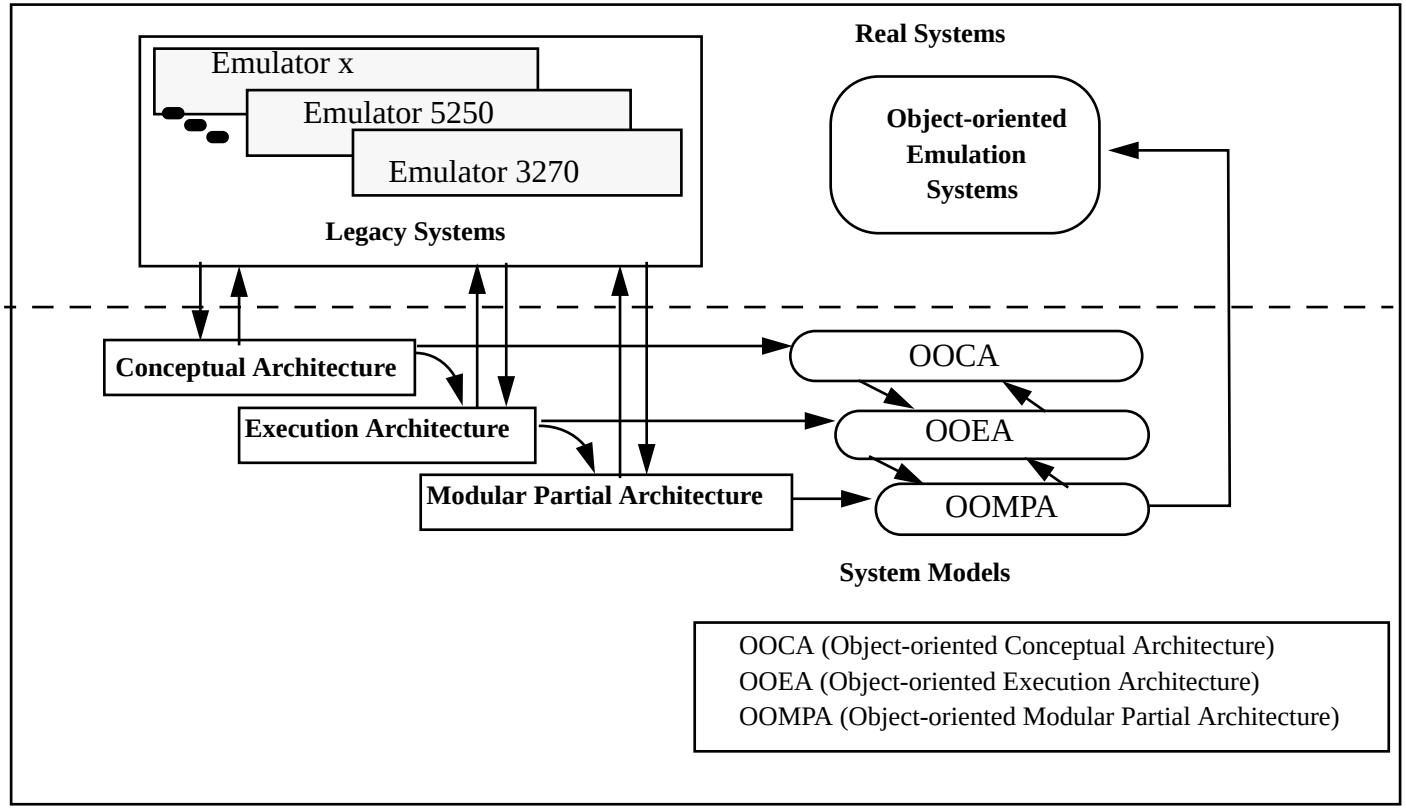
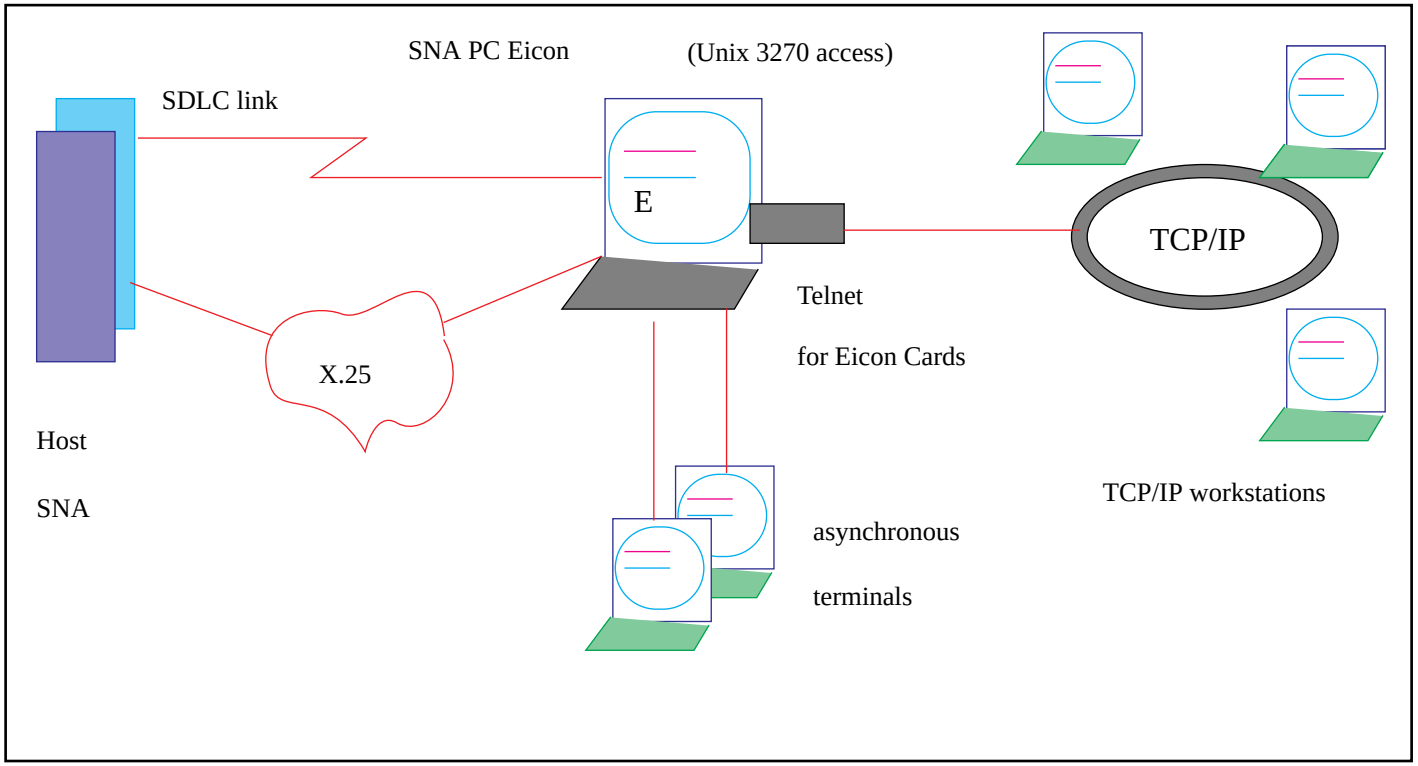
• Experience (3)



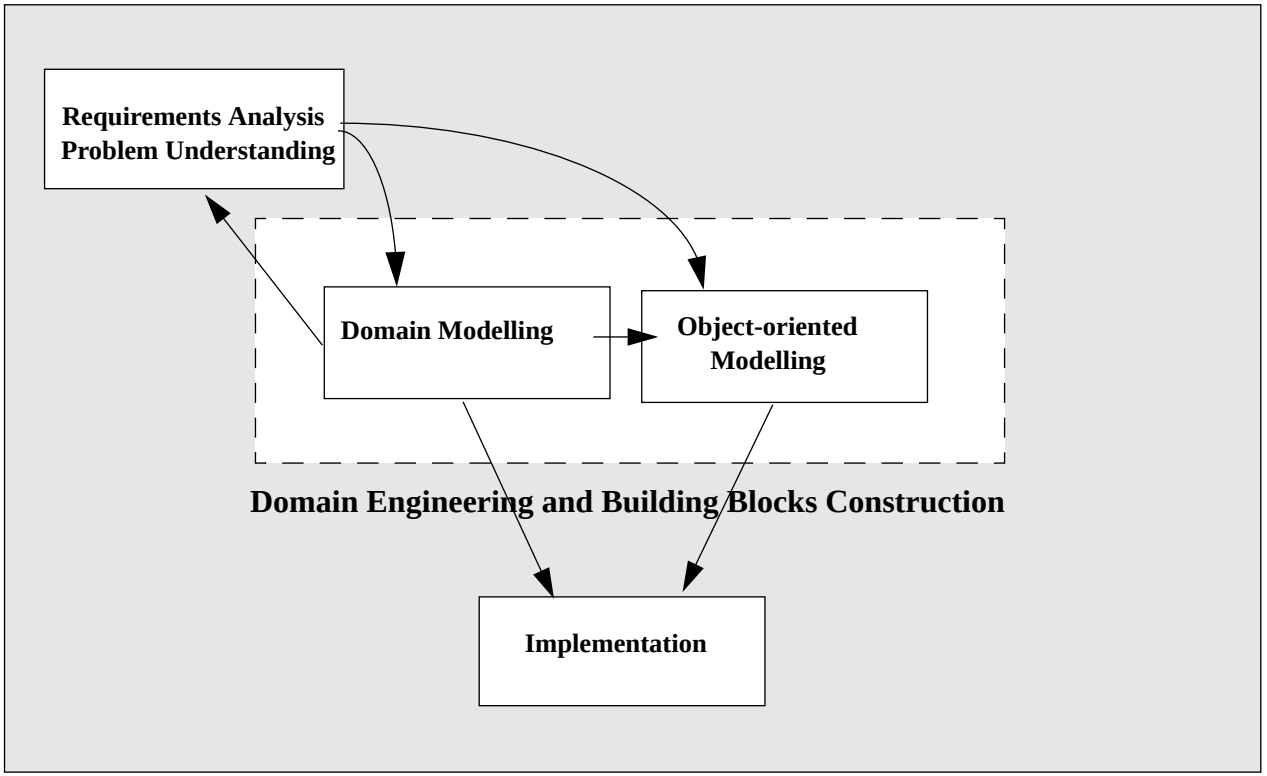
• Experience(2)



• Experience(1)



Process Overview



MODL

Techniques

- Object-oriented methods
- Formal specification techniques and languages
- Combination of both

Process

- Development steps overview

Products

- Domain engineering
- Reference architecture

The Usefulness of Software Architecture

A software architecture (SWA) identifies a collection of functional modules shared by a *family of products*, and the relations between such modules. A SWA can me described using different *views* for capturing distinct properties of a software system.

Our approach is based on two principal views:

- **Static**
- **Dynamic**

Why formal architectures?

Legacy software systems reengineering problems:

- Inability to recover design.
- Inability to understand well large and complex systems.
- Inability to modify, extend implemented software systems.
- Increased cost of software development .
- Lack of high quality systems.

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Formalizing Software Architectures: An Industrial Experience

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