

Object-Oriented Systems Engineering Method (OOSEM)

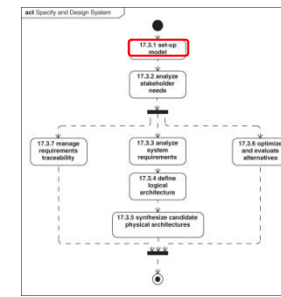
Setup Model

OOSEM Topics

- OOSEM Overview
- Method
 - Setup Model
 - Analyze Stakeholder Needs
 - Analyze System Requirements
 - Define Logical Architecture
 - Synthesize Candidate Physical Architectures
 - Optimize and Evaluate Alternatives
 - Manage Requirements Traceability
 - Integrate and Verify System
- Summary

Module Objectives

- After completion of this module, student should understand
 - Types of modeling conventions and standards
 - Considerations for organizing a model



Set Up Model

- Modeling conventions and standards facilitate consistent representation and style across the model
- Model organization is essential for model management

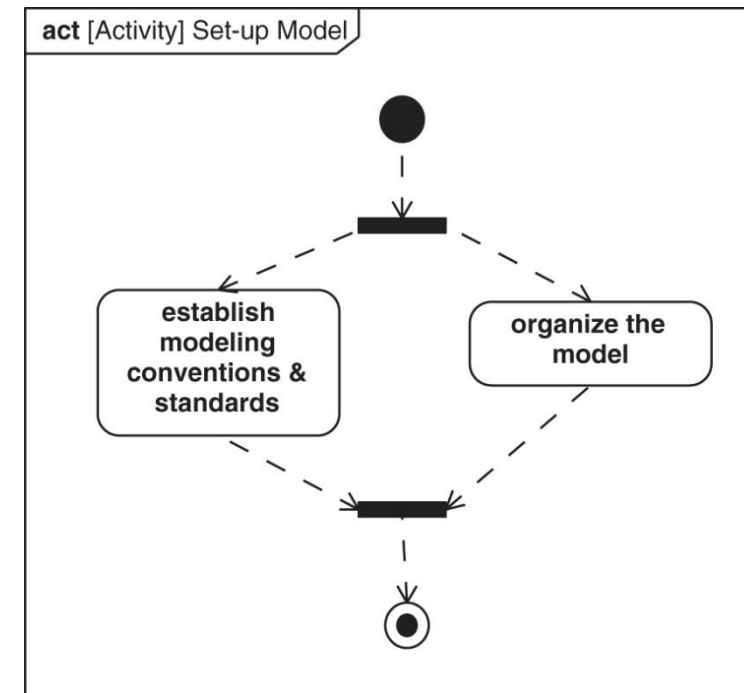


Figure 17.4

Defining Model Conventions and Standards

- Ensure consistency throughout the model
 - Naming conventions for each kind of model element (i.e. package, block, activity)
 - Template and guidelines for each diagram kind
 - User defined stereotypes
 - Domain terminology and definitions
 - Annotating model with element descriptions, rationale, and comments
 - Custom reports and document templates
 - Model checking and validation suites
 - Model metrics
 - Model review checklists

Model Organization

- Packages for process and tool guidance
- Packages for as-is, to-be domains
- Packages for life-cycle enabling system (operational, installation, ..)
- Packages based on system hierarchy
 - Black box, Logical architecture, Physical architecture
 - Applicable nested packages for requirements, behavior, structure, parametrics
- Packages that are generally independent of system hierarchy
 - Value types and units
 - Interface definitions
 - Model libraries
 - Viewpoints
- Profile package for user defined stereotypes

ESS Model Organization

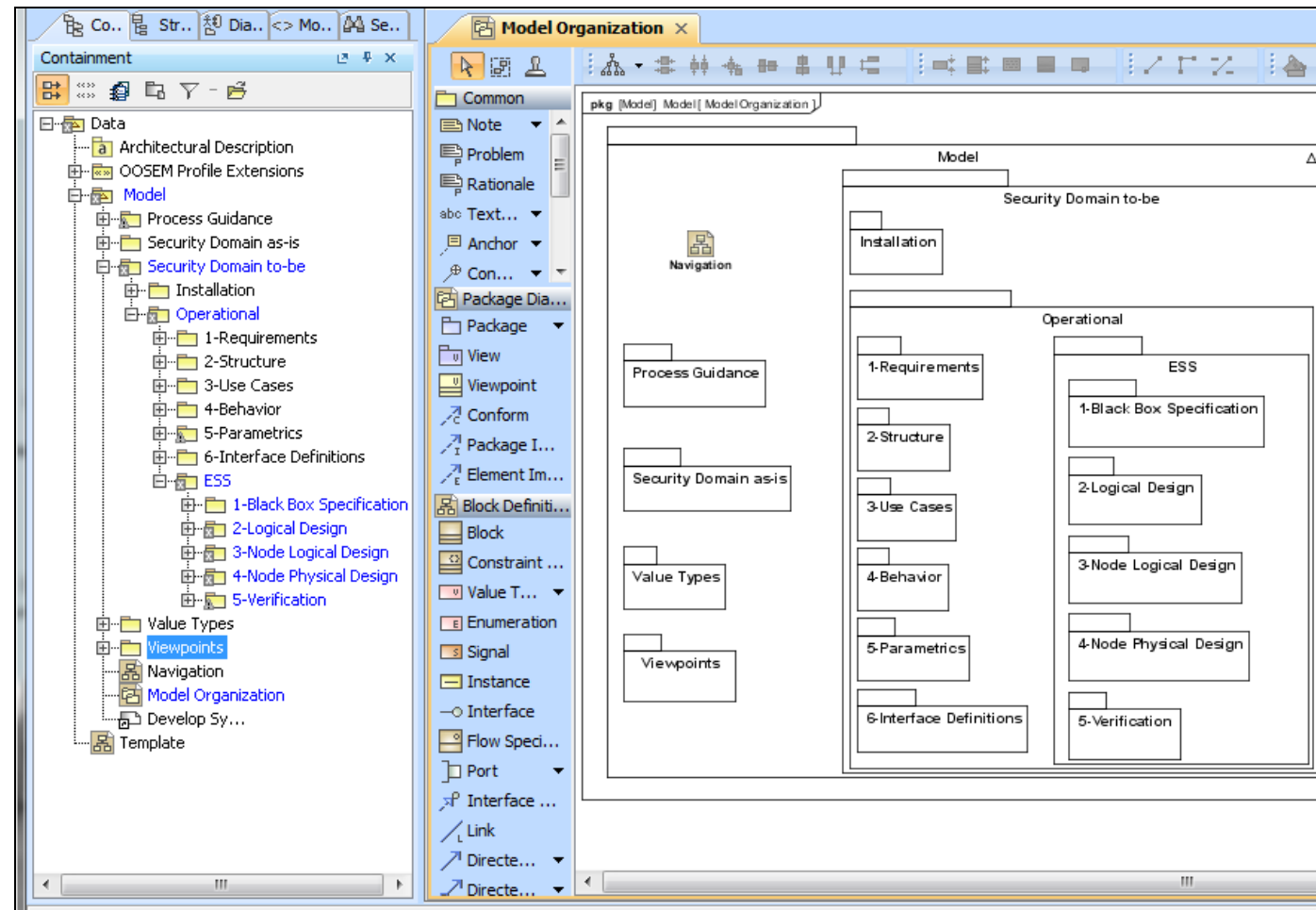
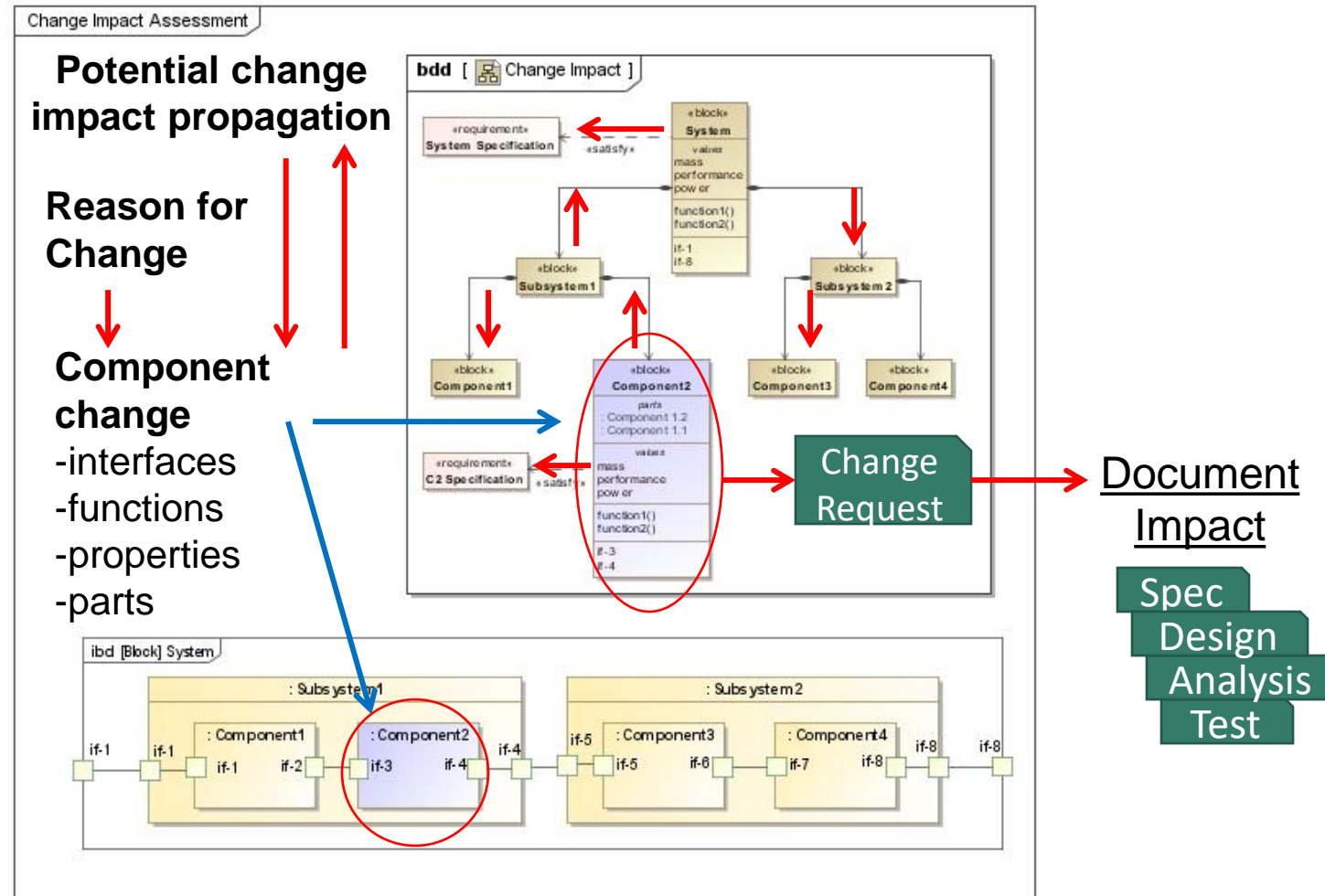


Figure 17.4

Configuration Management Considerations

- Check in/check out based on package structure
 - Provides access and change control (e.g., read/write privileges)
- Branch/merge
 - Trunk represents baseline model
 - Create a branch off the trunk to develop proposed updates to baseline
 - Merge branch back into trunk to create updated baseline
- Implement appropriate level of CM based on design maturity
 - Version control during early phases when change occurs frequently
 - Disciplined change control process and impact assessments for more mature designs

Potential Change Impact Propagation



Summary

- Naming conventions, templates, stereotypes, and custom reports are defined to ensure consistency across the model
- Model complexity requires that a well thought-out model organization be developed to manage the model