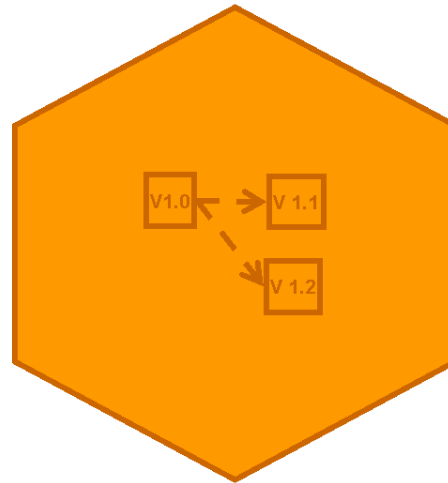


# Configuration Management Essentials



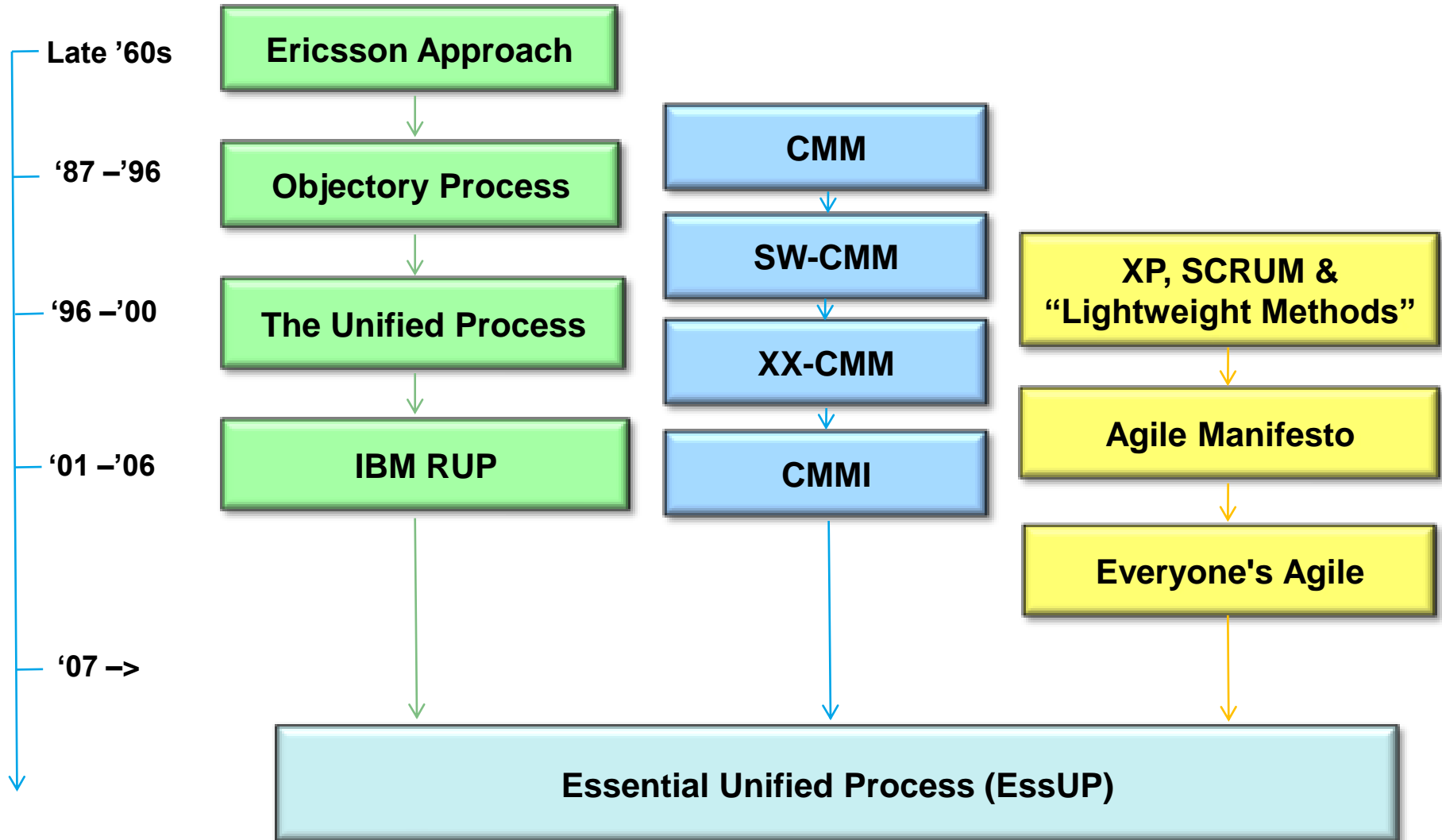
**CM as IJI practice**





- From processes to practices
- Why practices
- The Practices of EssUp
- Configuration Management Essentials

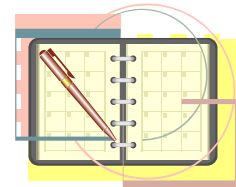
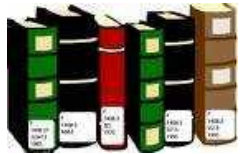
# What did we learn over the past 40 years with software processes?



# Software Processes are hard to adopt

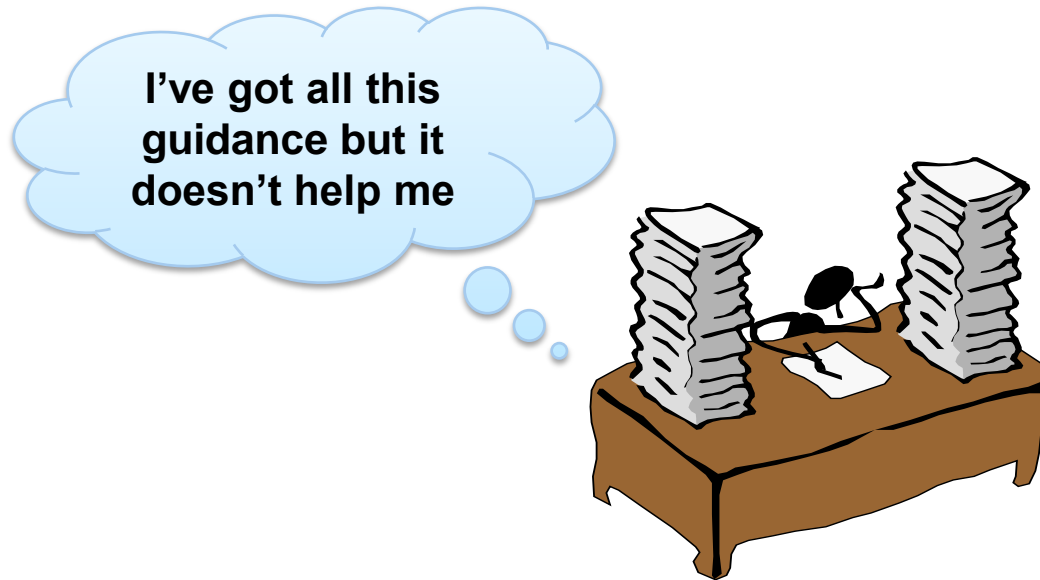
The image displays a collection of software development literature and digital content. On the left, several book covers are visible, including 'Pragmatic Unit Testing', 'Documenting Software Architectures', 'Extreme Programming Explained', 'Patterns of Enterprise Application Architecture', 'Use Case Modeling', 'Software Architecture in Practice', 'Object-Oriented Software Engineering', 'User Stories Applied', 'COPE: J2EE Patterns', 'Software Reuse', 'Java Threads', 'Aspect-Oriented Software Development with Use Cases', 'The Object Advantage', 'Refactoring', 'Test-Driven Development by Example', 'MSF for Agile Software Development', 'The Unified Software Development Process', 'IBM Process: Enterprise Managing Using IBM and IBM WebSphere', 'The Unified Process: Overview', 'Visual Studio 2005 Team System', and 'Wikipedia'. The central-right portion of the image shows a screenshot of the Rational Unified Process (RUP) overview page, which features a diagram of the process phases (Inception, Elaboration, Construction, Transition) across iterations. The bottom right corner shows a screenshot of the Wikipedia website in English, displaying the 'WIKIPEDIA' logo and a list of languages.

# Problem with Processes (Methodology, Method...)



- Every process tries to be complete
  - As a consequence every successful process will grow until it dies under its own weight
- Every process usually becomes just shelf-ware
  - Law of Nature: People don't read process descriptions
- Every branded process is just ideas "borrowed" from other processes
  - With some new idea(s)
- The project has to adopt an entire process
  - No-one uses an entire process or limits themselves to practices from one process
- The process is out of sync with what the team does...
  - ...and the project – process gap gets wider and wider

# Individuals just need enough to get the job done



- Not the whole composed process
- Just the bits needed for the specific point in time
- Context sensitive to the problem at hand



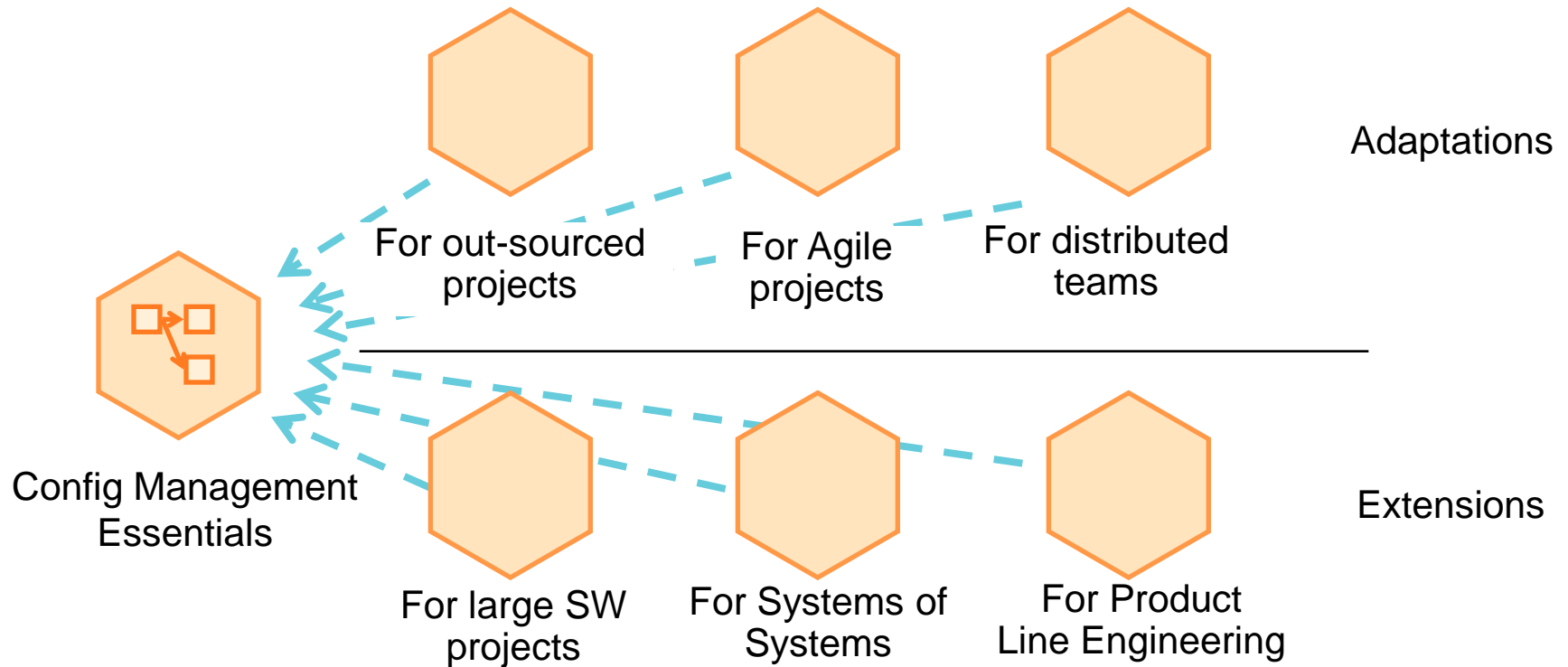
- From processes to practices
- Why practices
- The Practices of EssUp
- Configuration Management Essentials

# What about an easier way?

- A practice provides a way to **systematically** and **verifiably** address a particular aspect of a problem.
  - A Practice has **a clear beginning and an end** allowing it to be applied separately
  - It may be a peer practice or extend an existing practice
- Our practices are supplied as a set of cards and guidelines defining a way of doing something



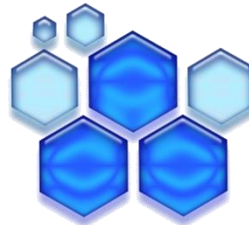
# Good practices can be used in many situations



Starting with the essentials allows the practice to be easily adapted and extended.

# Why a practice for Configuration Management?

- Configuration Management is part of all major process (maturity) models as RUP, V-Model or CMMI
- Although the importance of Configuration Management is accepted in general, it is often neglected in projects
- Reasons are:
  - no-one has thought of/planned CM or too late
  - full-blown Configuration Management processes (CM) as defined in e.g. RUP, CMMI are not applicable in a specific project
  - described CM Processes do not fit to the way of working of a specific project
  - existence of a CM tool is assumed to be enough
  - source code management is assumed to be enough



## What is Essential?

- It is the key things to do and the key things to produce
- It is about what is important about these things
- It is less than a few percent of what experts know about these things
  - Law of nature: People don't read process books
- It is the placeholder for conversations
  - Law of nature: People figure out the rest by themselves
  - Training helps
- It is the base for extensions

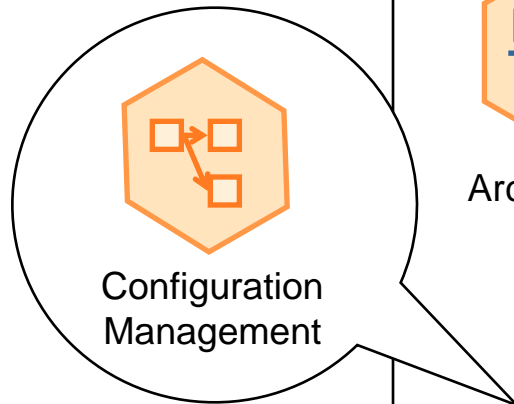
Starting with the essentials makes the practice easy to learn and adopt.



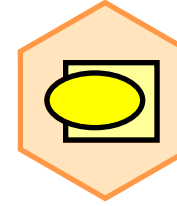
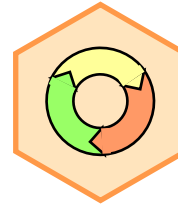
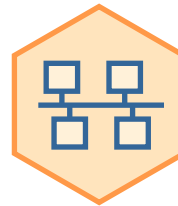
- From processes to practices
- Why practices
- The Practices of EssUp
- Configuration Management Essentials

# The Practices of the Essential Unified Process

## Technical Practices



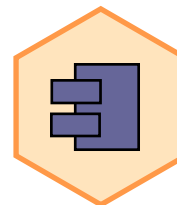
## EssUP Practices



Architecture

Iteration

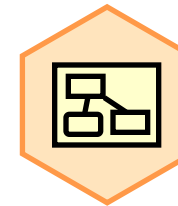
Use Case



Component

Product

## Cross-Cutting Practices

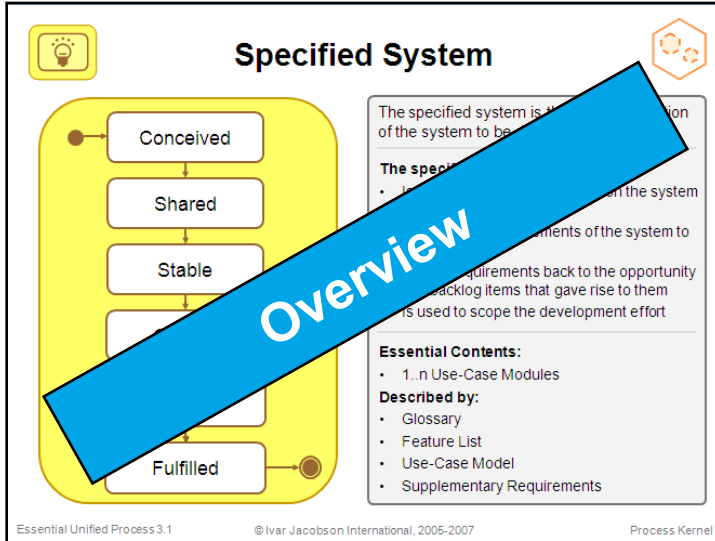


Process

Team

Modeling

# The „Essentials" are in the cards



**Specified System**

The specified system is a... of the system to be...  
 The specified system is... of the system to...  
 requirements back to the opportunity...  
 is used to scope the development effort

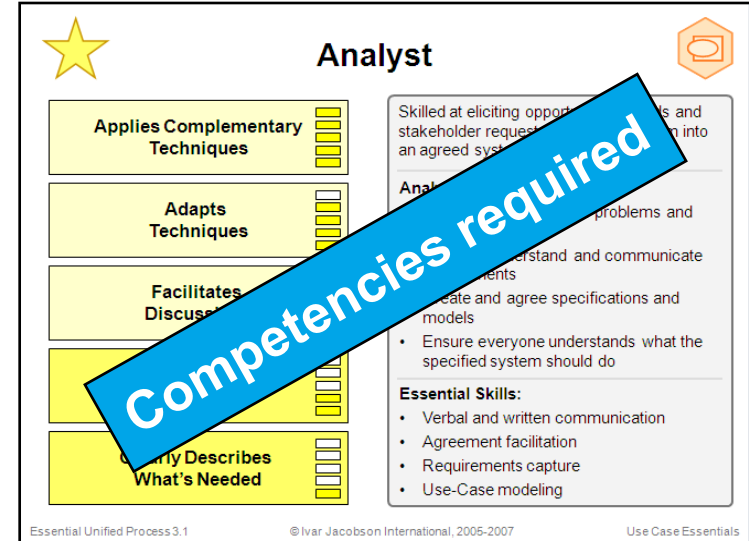
**Essential Contents:**

- 1..n Use-Case Modules

**Described by:**

- Glossary
- Feature List
- Use-Case Model
- Supplementary Requirements

Essential Unified Process 3.1 © Ivar Jacobson International, 2005-2007 Process Kernel



**Analyst**

**Applies Complementary Techniques**

**Adapts Techniques**

**Facilitates Discussions**

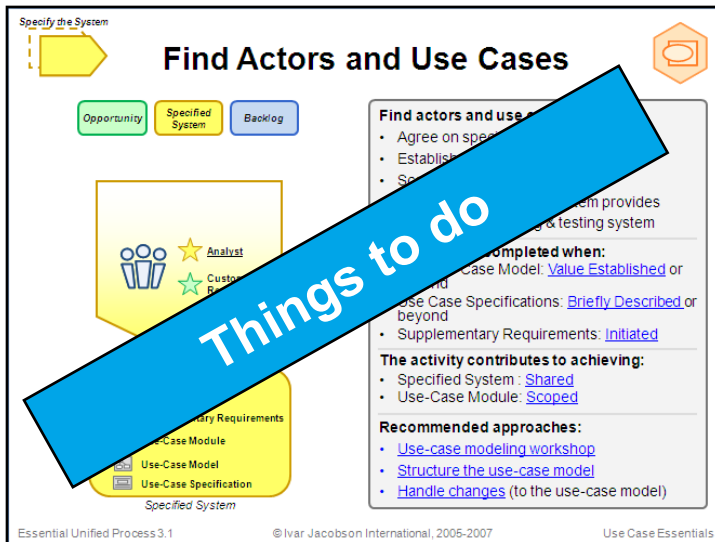
**Clearly Describes What's Needed**

Skilled at eliciting opportunities and stakeholder requests and...  
 Analysts... problems and...  
 understand and communicate...  
 create and agree specifications and models

**Essential Skills:**

- Verbal and written communication
- Agreement facilitation
- Requirements capture
- Use-Case modeling

Essential Unified Process 3.1 © Ivar Jacobson International, 2005-2007 Use Case Essentials



**Find Actors and Use Cases**

**Find actors and use cases**

- Agree on specifications
- Establish the system boundaries
- Specify the system requirements

**Completed when:**

- Use-Case Model: [Value Established](#) or [Customized](#)
- Use-Case Specifications: [Briefly Described](#) or beyond
- Supplementary Requirements: [Initiated](#)

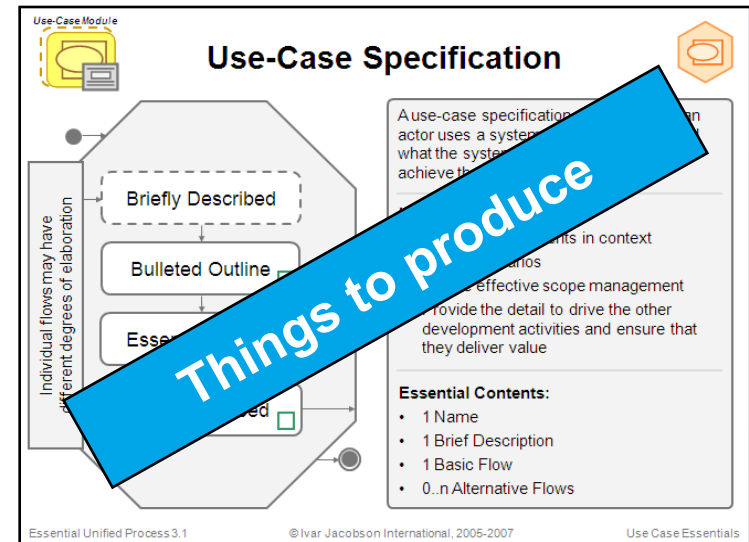
**The activity contributes to achieving:**

- Specified System: [Shared](#)
- Use-Case Module: [Scoped](#)

**Recommended approaches:**

- [Use-case modeling workshop](#)
- [Structure the use-case model](#)
- [Handle changes](#) (to the use-case model)

Essential Unified Process 3.1 © Ivar Jacobson International, 2005-2007 Use Case Essentials



**Use-Case Specification**

A use-case specification...  
 what the system...  
 achieve the...  
 parts in context  
 scenarios  
 effective scope management  
 provide the detail to drive the other development activities and ensure that they deliver value

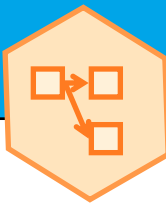
**Essential Contents:**

- 1 Name
- 1 Brief Description
- 1 Basic Flow
- 0..n Alternative Flows

Essential Unified Process 3.1 © Ivar Jacobson International, 2005-2007 Use Case Essentials



- From processes to practices
- Why practices
- The Practices of EssUp
- Configuration Management Essentials



**Manages Programs**

**Manages Large Projects**

**Manages Small Projects**

**Provides Effective CM Leadership**

**Plans and Tracks CM**

Skilled in understanding configuration management principles and tools. Furthermore, he should be meticulous in handling details and forceful in applying regulations and procedures

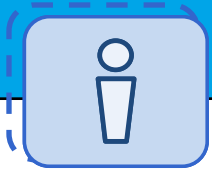
### **Configuration Manager helps the team to:**






- Establish rules and regulations for team work
- Control access to common work products
- Keep work products tidy

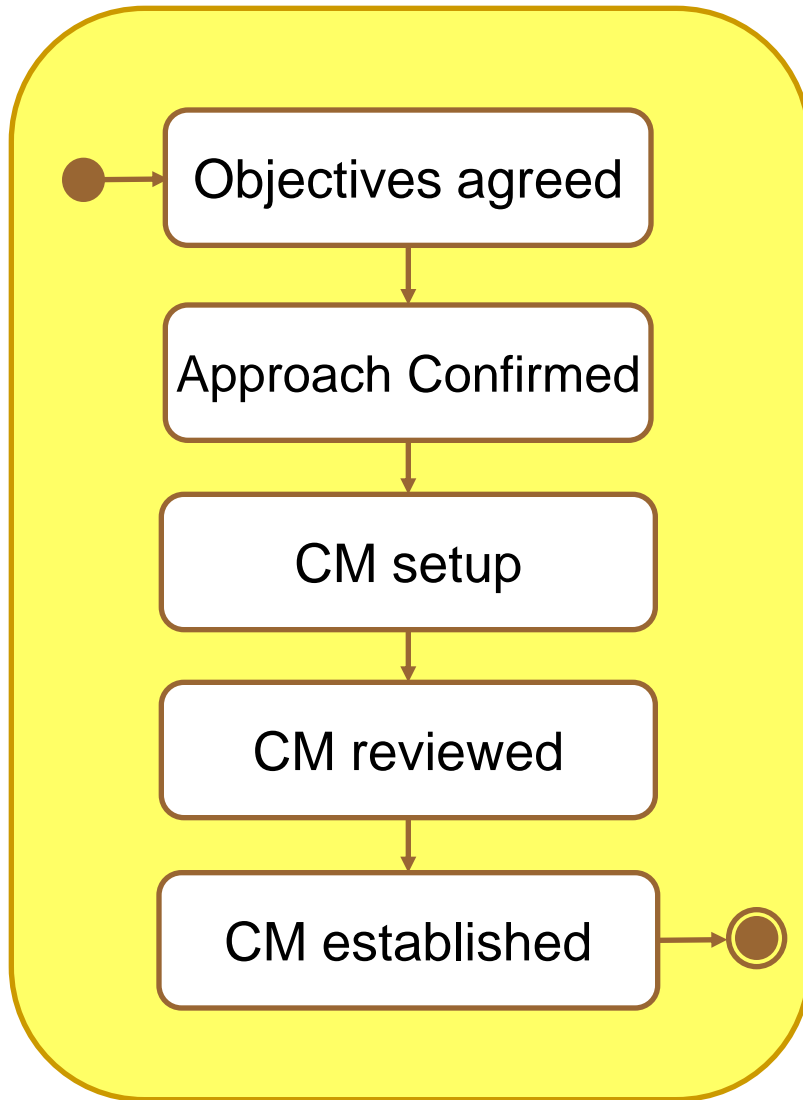
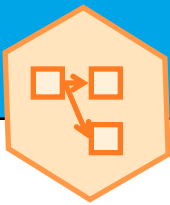
### **Essential Skills:**

- Experienced in configuration management principles and tools
- Being meticulous
- Interest and ability to keep things meticulously tidy
- Ability to convince the team to apply rules and regulations

# Competencies required: Team



 Customer Representative	 Analyst	 Developer	 Tester	 Project Lead
Directs the Business	Applies Complementary Techniques	Shapes Enterprise Systems	Leads Large-Scale Testing Efforts	Manages Programs
Actively Manages Scope	Adapts Techniques	Shapes Systems	Plans Testing	Manages Large Projects
Ambassador User	Facilitates Discussions	Designs Interfaces & Interactions	Leads Testing	Manages Small Projects
Project Advisor	Builds Models	Designs Internals Of Elements	Specifies Test Cases	Provides Effective Team Leadership
Subject Matter Expert	Clearly Describes What is Needed	Writes Good Code	Executes Tests	Plans and Tracks Progress



Configuration management (CM) focuses on establishing and maintaining consistency of a system and its work-products throughout development and maintenance.

#### A good configuration management:

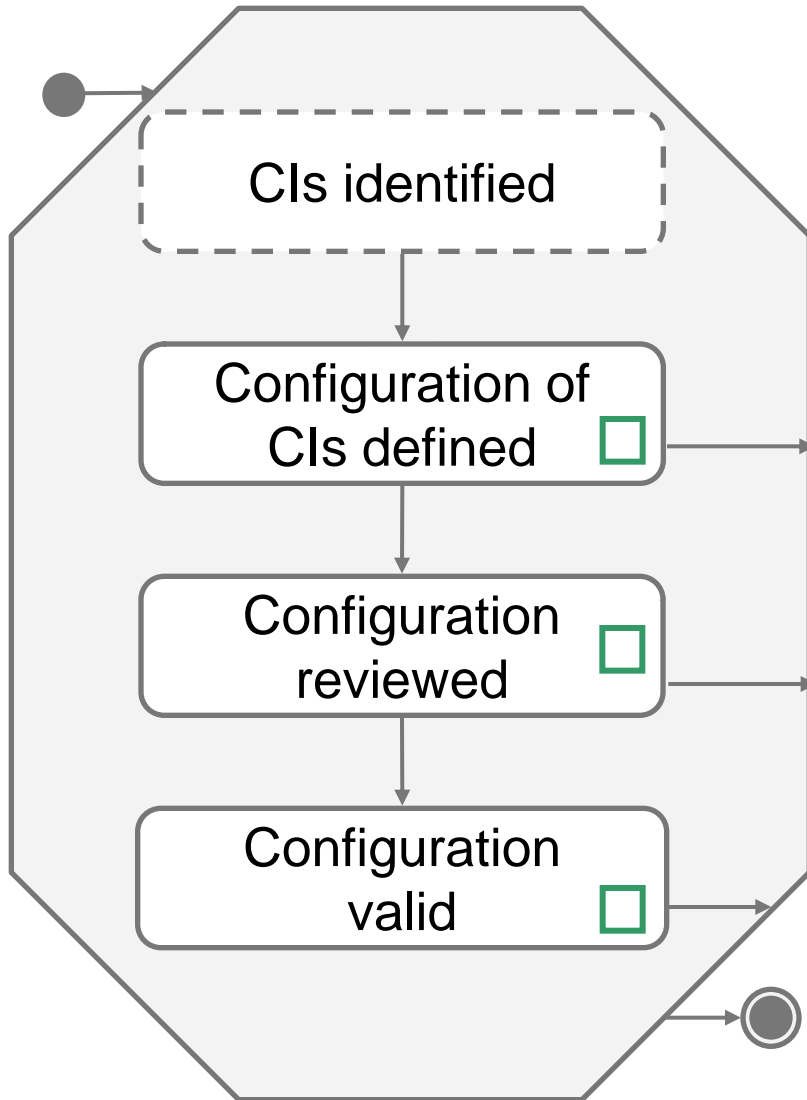
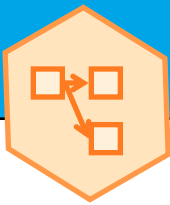
- Allows teams to independently work on work products
- Allows to track changes on work products
- Allows to have a consistent status of the system at any moment of time

#### Essential Contents

- Configuration Item(s)
- Configuration
- Build
- Configuration Management System

#### Described by:

- Configuration Management Policy
- Configuration Management System



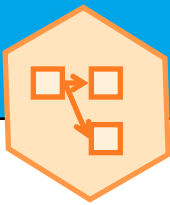
A configuration describes one valid combination of configuration items for a specific objective.

## A Configuration can define a

- System architecture
- Product configuration
- Testplan
- Bill of materials

## Essential Contents:

- Configuration items
- Relationships between Cls
- Rules for building configurations
- Versions of Cls
- Baselines

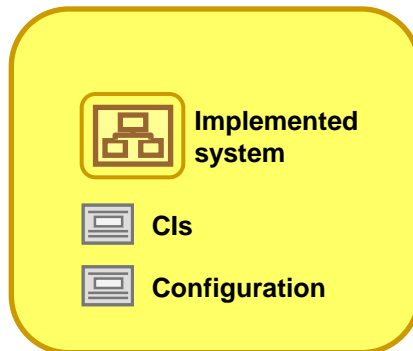
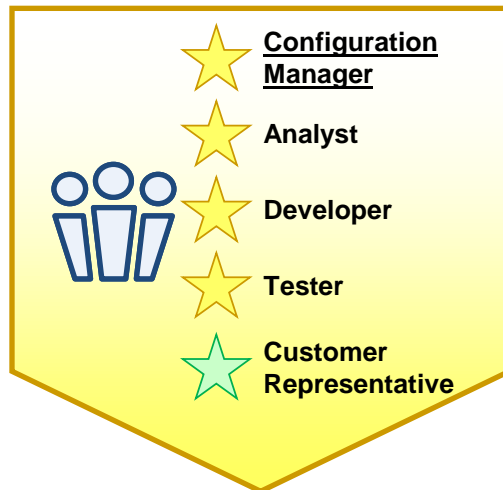


Opportunity

Project

Specified System

Implemented System



Configuration Management

## Define Configurations:

- Define 1...n valid configurations of a product/system
- A configuration can consist of a single configuration item or a hierarchal combination of CIs
- Find the appropriate number of CIs for your configuration to meet your objectives and to keep the change and version control manageable
- Define baselines for an agreed-to state of the configurations

## The activity is completed when

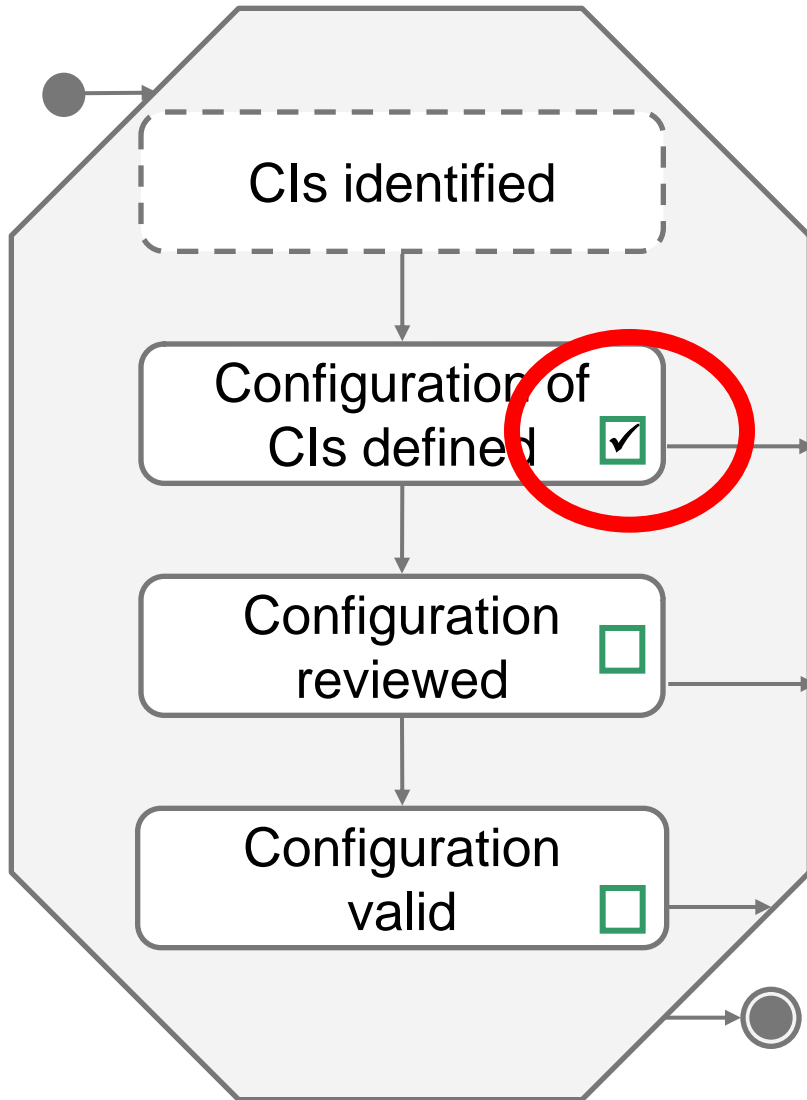
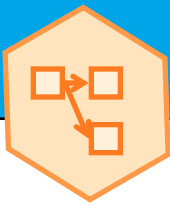
- Configuration Management: [Approach Confirmed](#) or [Configuration Management setup](#)

## The activity contributes to achieving:

- Specified System : [Stable](#)

## Recommended approaches:

- [Workshop](#)
- [Stakeholder Interview](#)
- [Analyze system architecture](#)



A configuration describes one valid combination of configuration items for a specific objective.

## A Configuration can define a

- System architecture
- Product configuration
- Testplan
- Bill of materials

## Essential Contents:

- Configuration items
- Relationships between Cls
- Rules for building configurations
- Versions of Cls
- Baselines

- Use the cards to
  - Establish your way of working in a project
  - Document your way of working and your results
  - Get new colleagues to quickly adopt your way of working
- Downsize heavy processes and define your project specific CM practice
  - Ensure that the practice fits to the overall CM process
  - Ensure that the practice supports the way of working your project needs
  - Adapt the practice to new/ similar projects

# Thank you for your attention!



**Ivar Jacobson International GmbH**  
Keltenring 7  
D-82041 Oberhaching  
Tel : +49 179 52 76 802

<http://www.ivarjacobson.de>



Rudolf Hauber

[Rudolf.Hauber@ivarjacobson.de](mailto:Rudolf.Hauber@ivarjacobson.de)



Susanne Mühlbauer

[Susanne.Muehlbauer@ivarjacobson.de](mailto:Susanne.Muehlbauer@ivarjacobson.de)

# Kommen Sie an unseren Stand und...

## Gewinnen Sie einen Nintendo Wii!

Beantworten Sie die Fragen.  
Geben Sie die Karte zur  
Teilnahme an der Auslosung  
an unserem Stand ab.



Name: \_\_\_\_\_ Firma: \_\_\_\_\_

Email: \_\_\_\_\_

Telefon: \_\_\_\_\_

Ich möchte den IJI Newsletter.

### Was bedeutet die Abkürzung EssUP?

- Essential Unified Process
- Exiting Unified Process
- Essence of the Unified Process

### Arbeiten Sie in Ihrer Organisation nach einem definierten Softwareentwicklungsprozess?

- Ja
- Nein

### Was ist das Konzept des EssUP?

- Practices und Use Cases
- Modulare Inhalte und Karten
- UML und komponentenbasierte Entwicklung

### Wieviele Mitarbeiter Ihrer Organisation sind in der Entwicklung tätig?

- 1-50
- 50-300
- Mehr als 300

### Welche Produktivitätssteigerung erwarten Sie durch die Verwendung der Practices?

- 5%
- 10%
- 20%

### Was ist die derzeit größte Herausforderung in Ihrer Organisation?

---

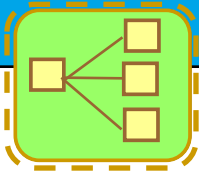
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# Backup

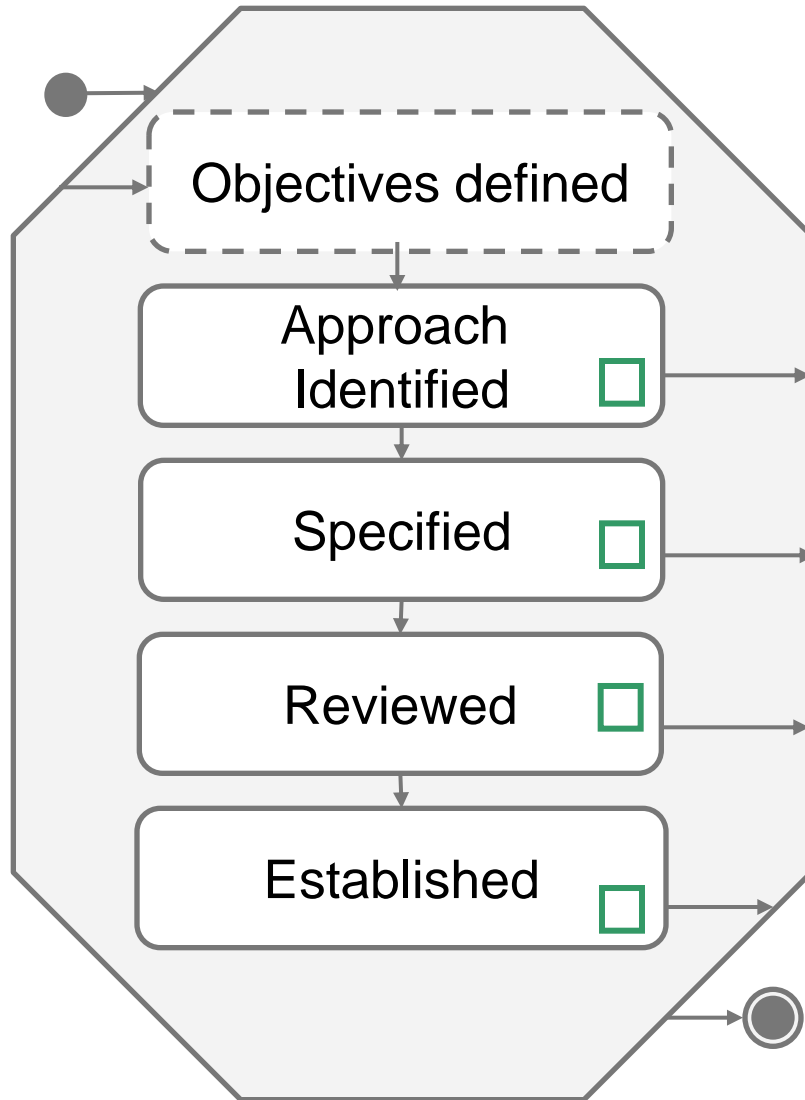
# What is the background?

- Global organisation founded by Dr Ivar Jacobson
- Company mission is to *'help project teams and organizations be more successful in the way they develop software'*
- Vision *'provide direction and practices definition to the industry and to maintain our thought leadership position'*
- Formed early 2004 with offices in UK, US, Scandinavia, Australia, Singapore, China and since 2008 in Germany.





# Configuration Management Plan



The Configuration Management Plan details the schedule of activities, the assigned responsibilities, and the required resources, including staff, tools, and computer facilities for Configuration Management.

## Configuration Management Plan:

- Defines identification policies for CIs
- Defines the versioning strategies
- Defines the baselining strategies
- Defines the archiving strategies

## Essential Contents:

- Objectives and Scope
- List of configurations and configuration items
- Roles and responsibilities
- Tools, procedures, activities
- Metrics

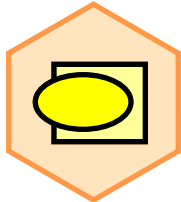
# Configuration Management activity overview

- **Plan CM**
  - Plan CM to Define Configuration Management Process
- **Identify configuration**
  - identifying the attributes that define the aspects of a configuration item.
- **Handle change**
  - ensures that changes are made within a project in a configuration management consistent manner and that the appropriate stakeholders are informed of the state of the product and changes to it.
- **Account configuration status**
  - record and report on the configuration baselines associated with each configuration item at any moment of time
- **Verify configuration**
  - ensures that functional and performance attributes of a configuration item are achieved.
- **Setup a Configuration Management System**
  - ensures that a configuration management system is established to control work products.

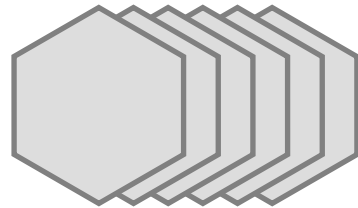
- **Configuration Management Plan**
  - The Configuration Management Plan details the schedule of activities, the assigned responsibilities, and the required resources, including staff, tools, and computer facilities for Configuration Management.
- **Configuration Item**
  - Configuration Items (CIs) are the elements that are under change and configuration management. A (virtual) project repository stores all these CIs and accessed via a private workspace to enable independent work of the project team.
- **Configuration**
  - The arrangement of a system or network as defined by the nature, number, and chief characteristics of its functional units.
- **Configuration Management Status Report**
  - The report of the status of the configuration management, the managed configurations and CIs

# Practices können individuell eingesetzt werden

## Ein Team beginnt mit Use Cases

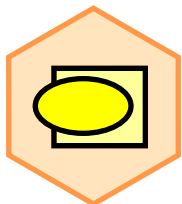


Use Case



Existing Local Practices

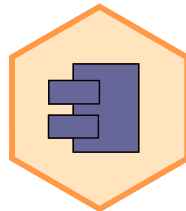
## Ein kleines Team befasst sich mit Wartung



Use Case



Scrum

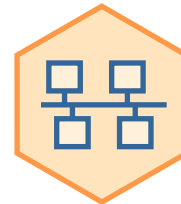


Component

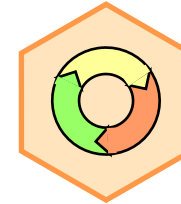


Team

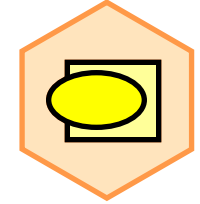
## Ein großes Projekt



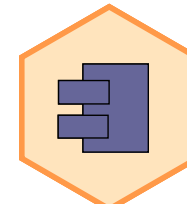
Architecture



Iteration



Use Case



Component



Prince2



Process



Team



Modeling

...oder jegliche Kombination hiervon.  
(mit oder ohne Einführung von lokaler Practices).

- **Configuration Item**

- Configuration Items (CIs) are the elements that are under change and configuration management. A (virtual) project repository stores all these CIs and accessed via a private workspace to enable independent work of the project team.
- Stages:
  - Identified
  - CM managed
  - change handled

- **Configuration**

- The arrangement of a system or network as defined by the nature, number, and chief characteristics of its functional units.
- Stages:
  - Configuration items identified
  - Configuration of CIs defined
  - Configuration reviewed
  - Configuration valid

- **Configuration Management Status Report**
  - The report of the status of the configuration management, the managed configurations and CIs.
  - Stages:
    - content defined
    - Created
    - updated