Abstract
This module described the overview of the complete architecting method.
Overview of CAFCR and Threads of Reasoning

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Abstract
The described architecting method uses the CAFCR model as starting point. Qualities are used as orthogonal dimension to integrate the CAFCR views. Story telling is used to add specifics. Threads of reasoning combine all the information into a coherent overview.

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status: finished
version: 1.5
From vague notions to articulate and structured architecture description:

- articulated
- structured
- problem and solution
- know-how

Architecting:

- vague notion of the problem
- vague notion of potential solutions

Architecting method:
- basic methods
- framework
- submethods
- integration methods

Architecture description:
- articulated
- structured
- problem and solution
- know-how

Spec Design Report

Overview of CAFCR and Threads of Reasoning

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AMOmethod
Overview of architecting method

**method outline**

**framework**

- **C**ustomer objectives
- **A**pplication
- **F**unctional
- **C**onceptual
- **R**ealization

**submethods**

- + key drivers
- + value chain
- + business models
- + supplier map
- + stakeholders
- + context diagram
- + entity relationship models
- + dynamic models
- + use case
- + commercial, logistics decompositions
- + mapping technical functions and several more
- + construction decomposition
- + functional decomposition
- + information model and many more
- + budget
- + benchmarking
- + performance analysis
- + safety analysis and many more

**integration**

via qualities

**explore**

specific details

**reasoning**

market vision

a priori solution know-how

story

use case

detailed design

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The “CAFCR” model

What does Customer need in Product and Why?

Customer What

Customer How

Product What

Application

Functional

Conceptual

Realization

drives, justifies, needs

enables, supports

Overview of CAFCR and Threads of Reasoning
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CAFCRannotated
Five viewpoints for an architecture

- Customer objectives
- Application
- Functional
- Conceptual
- Realization

Customer What

Application How

Functional What

Conceptual How

Realization

What does Customer need in Product and Why?

Overview of CAFCR and Threads of Reasoning

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AMOintegratingCAFCR
Abstract
The basic “CAFCR” reference model is described, which is used to describe a system in relation to its context. The main stakeholder in the context is the customer. The question “Who is the customer?” is addressed.
The “CAFCR” model

What does Customer need in Product and Why?

Customer What
Customer How
Product What
Application
Functional
Conceptual
Realization

drives, justifies, needs
enables, supports
Integrating CAFCR

**What** does Customer need in Product and **Why**?

Customer What
- **Customer objectives**

Customer How
- **Application**

Product What
- **Functional**

Product How
- **Conceptual**

**Realization**

- **Context understanding**
- **Intention**
- **Objective driven**
- **Opportunities**
- **Constraint awareness**
- **Knowledge based**
CAFCR can be applied recursively

Short introduction to basic “CAFCR” model

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CAFCR_recursion
## Market segmentation

<table>
<thead>
<tr>
<th>Segmentation Axis</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographical</td>
<td>USA, UK, Germany, Japan, China</td>
</tr>
<tr>
<td>Business model</td>
<td>Profit, non profit</td>
</tr>
<tr>
<td>Economics</td>
<td>High end versus cost constrained</td>
</tr>
<tr>
<td>Consumers</td>
<td>Youth, elderly</td>
</tr>
<tr>
<td>Outlet</td>
<td>Retailer, provider, OEM, consumer direct</td>
</tr>
</tbody>
</table>
Example of a small buying organization

Who is the customer?

- CEO: Chief Executive Officer
- CFO: Chief Financial Officer
- CIO: Chief Information Officer
- CMO: Chief Marketing Officer
- CTO: Chief Technology Officer

purchaser
operator
maintainer
user
department head
decision maker(s)
Short introduction to basic “CAFCR” model

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BCAFCRplusLifeCycle

CAFCR+ model; Life Cycle View

- **Customer objectives**
- **Application**
- **Functional**
- **Conceptual**
- **Realization**

Life cycle operations:
- maintenance
- upgrades

Life cycle development:
- manufacturing
- installation

Life cycle sales, service, logistics, production, R&D
• make a bottom-up analysis of your product:
  1. realization
  2. conceptual
  3. functional
  4. application
  5. customer objectives
  6. qualities

• use time boxes of 15 minutes per view

• show the most dominant decomposition of that view, as diagram or as a list