Abstract

A short specific overview of an architecture is a powerful means during product creation. This article addresses how to create such an overview. One of the main issues is the need for breadth, what needs to be included and for whom, and the balancing act of providing sufficient depth, what are crucial details that are part of this top-level description. Also the way of describing is discussed, from stakeholder needs to ambiguity and the level of formalism.
## Approach to Create Architecture Overview

- **Top-down** identify stakeholders, concerns, views and models
- **Identify scope**: *product, market, system, context*
- **Bottom-up** fact finding and quantification
- **Top-down** identify *stakeholders, concerns, views and models*
- **Determine most relevant issues**: *important, valuable, critical, costly, ...*
- **Define overview** *structure and presentation*

- **Iterate and communicate many times**
What does Customer need in Product and Why?

Customer What
Customer How
Product What
Product How

Customer objectives
Application
Functional
Conceptual
Realization

internal Operational view
(process, organization, people, sales, service, purchasing, manufacturing, suppliers)

drives, justifies, needs
enables, supports
Bottom up fact finding and quantification

**Customer objectives**
- figures of merit
- patients/physician
- physician income
- success rate
- failure rate
- integral cost

**Application**
- typical quantities
  - # patients
  - # physicians
  - # exams/day
  - # exams/patient
  - # information/patient

**Functional**
- critical specs
  - productivity
  - response time
  - capacity

**Conceptual**
- working ranges
  - # transactions
  - # queries
  - peak & average

**Realization**
- critical numbers
  - network speed
  - CPU speed
  - memory size
  - power consumption
  - query duration
  - transaction overhead

**Internal Operational view**
- market size
- market share
- growth rate
- product life cycle
- business model
- market segments
- maintenance effort
- update frequency
- service crew
- # suppliers
- partners
- competitors
- effort
- cost
- time
- project size
- # engineers/discipline
- # teams
Architecture Overview

Architecture

Subset of which architect is aware

Flattened into

Architecture description

Actually written by architect(s)

overview
Role of Architecture Description

How to Create an Architecture Overview

Gerrit Muller

version: 1.2
March 6, 2021
SAFSOParchitectureDescription
Stakeholder of an Architecture Overview

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

- **Customer**
  - Objectives
  - Architecture overview

- **Functional Application**
  - Customers
  - Application experts
  - Marketing, sales

- **Conceptual**
  - Software engineers
  - Hardware engineers
  - Testers

- **Realization**
  - Maintainers
  - Other systems

- **Internal Operational View**
  - Auditors
  - Quality officers
  - Managers

- **External Operational View**
  - Service engineers
  - Purchasing managers

How to Create an Architecture Overview

9 Gerrit Muller

version: 1.2
March 6, 2021
OHT stakeholders
Form and Medium

Architecture description

mock-up

prototype

active content

dynamic content

How to Create an Architecture Overview

version: 1.2
March 6, 2021
OHToverviewForm
Payload: the Ratio between Content and Overhead

1. aap
2. noot
3. mies

diagrams

tables

1. aap
2. noot
3. mies

tables

contents
2..18 pages

meta information
max 2 pages

history
changes

front page

title
identification
author
distribution
status
review

How to Create an Architecture Overview
11 Gerrit Muller

version: 1.2
March 6, 2021
DGpayload
Language Recommendations

- Keep your sentences short
- Prefer active verbs
- Use 'you' and 'we'
- Choose words appropriate for the reader
- Don't be afraid to give instructions
- Avoid nominalisations
- Use positive language
- Use lists where appropriate

from Plain English Campaign
http://www.plainenglish.co.uk/files/howto.pdf

Not for academic writing
Ideal Structure does not Exist