System Architecture: The Silver Bullet?

by *Gerrit Muller*   University of South-Eastern Norway-NISE

e-mail: `gaudisite@gmail.com`

`www.gaudisite.nl`

Abstract

Many people jump onto systems architecting methods with the false expectation that these methods will solve most of their problems. A major reason to do this is uncertainty. The real world, unfortunately, is full of uncertainties, and systems architecting can help in dealing with these many uncertainties. However, systems architecting will not make uncertainties disappear, neither will it prevent effort to be spend on unexpected issues.

Silver Bullets do not exist.

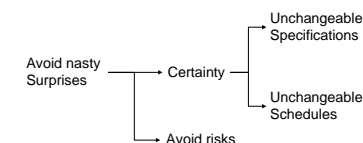The critical success factors for applying system architecture methods are described.

September 1, 2020
status: preliminary
draft
version: 1.8

Avoid nasty Surprises → Certainty → Unchangeable Specifications
Certainty → Unchangeable Schedules
→ Avoid risks

Avoid nasty
Surprises

Certainty

Unchangeable
Specifications

Unchangeable
Schedules

Avoid risks
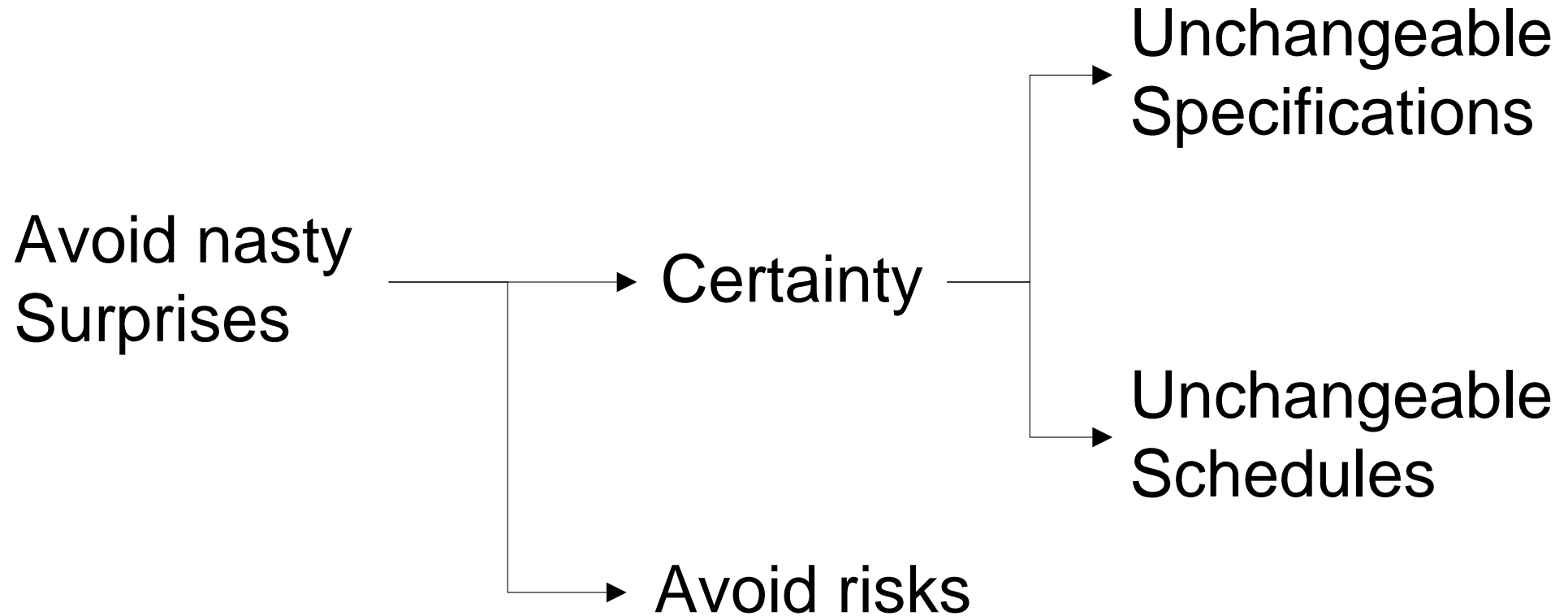
Nasty Surprises Of Reality

- incompetent people

- human mistakes

- lack of collaboration or synergy

- misunderstanding or miscommunication

- changing markets

- fast moving competition

- unforeseen physical, chemical, mechanical properties

- mother nature (illnesses, floods)

Critical Success Factors for System Architecture Process

- Know-How

- Common Sense

- Pragmatics

- Critical attitude

- Social skills

- Drive

- Vision

Examples of Critical Questions

- Do we address the right problem or requirement?

- Is the customer/user on-board?

- Is this design adequate?

- Consists the input data from facts, wishes or ideas?

- Do we need so many people for the implementation?

- Does this process or organization fit the problem?

Summary

- Most people want to avoid nasty surprises

- Most people are looking for certainty

- Silver Bullets do not exist

- System Architecture is not a golden bullet

- Critical Success Factors: Know-How, Common Sense, Pragmatics, Critical attitude, Drive and Vision