

Mastering Systems Integration; Introduction

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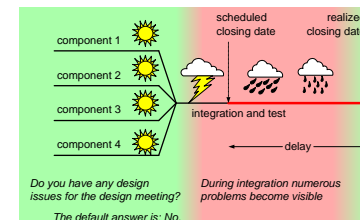
Abstract

This presentation introduces the ideas behind the course Systems Integration. In general, managers, engineers, and scientist understand systems Integration poorly. Typically, they envision a naive aggregation as the reverse of the decomposition. In practice, all aspects that engineers insufficiently designed and understood result in integration problems.

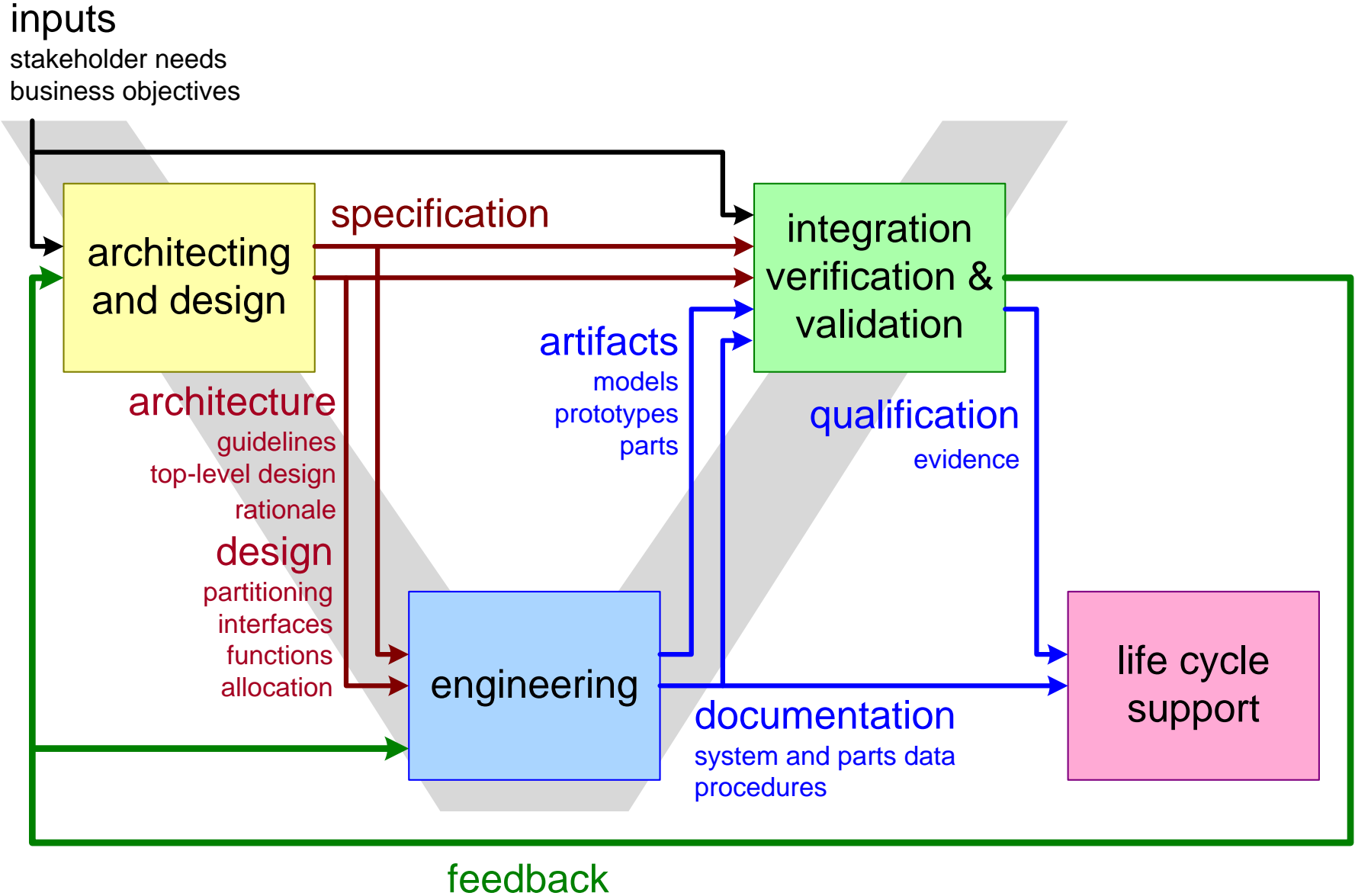
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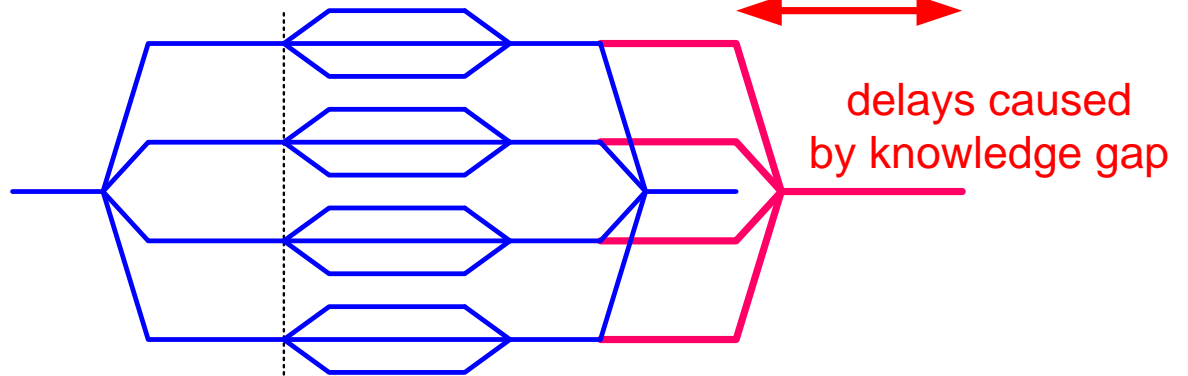
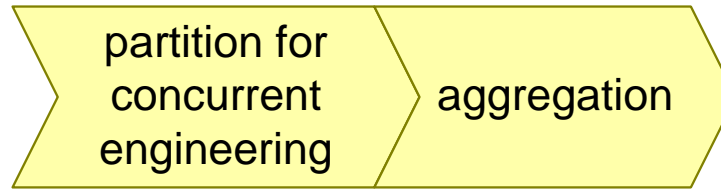
The Role of Integration in Development



The Pain of Systems Integration

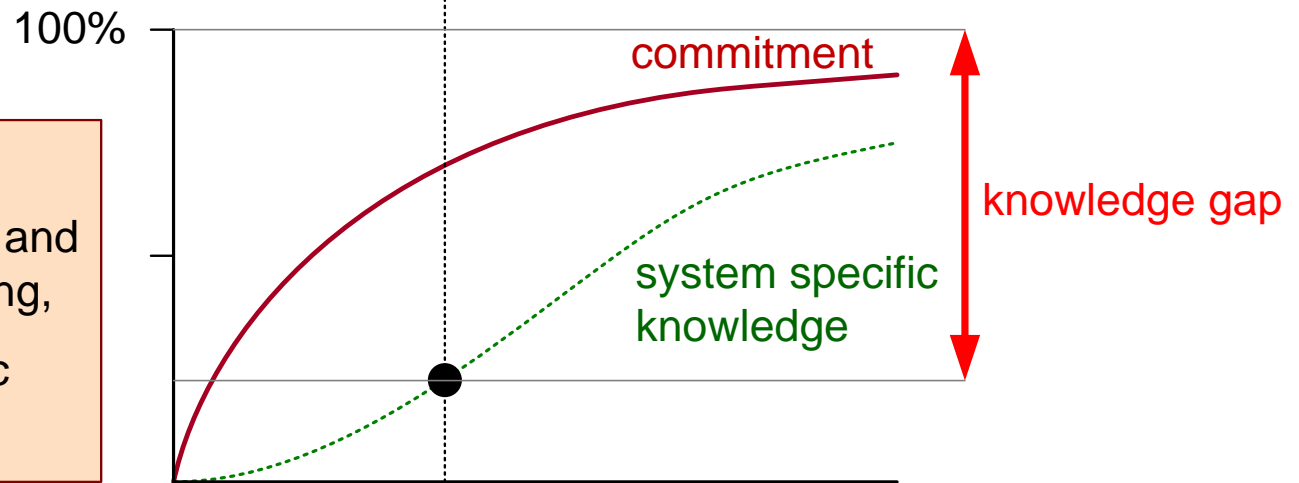
traditional project management focus

- time
- cost
- resources



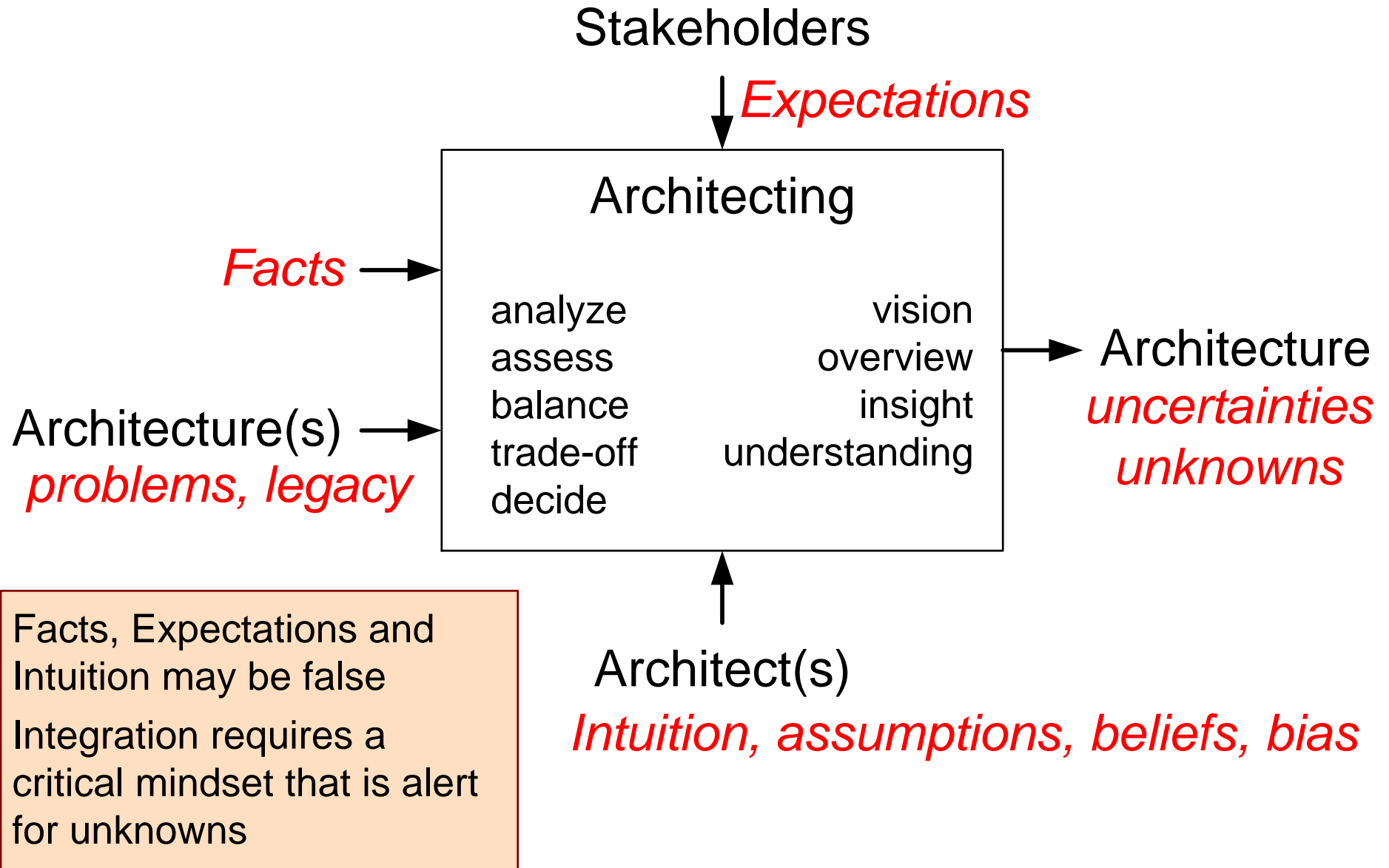
problem

when specifying parts and during project planning, the system specific knowledge is low

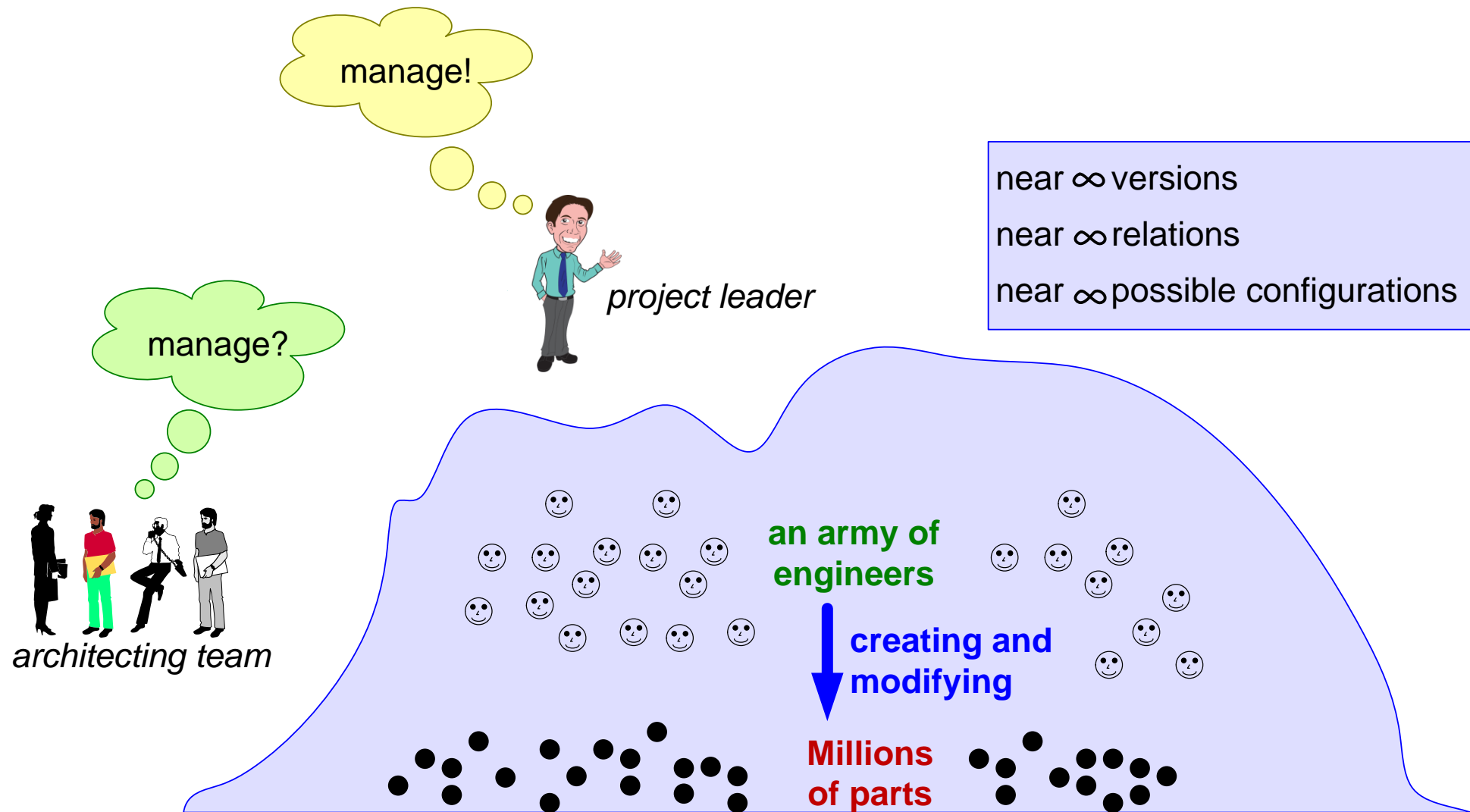


after: *Systems Engineering and Analysis*, Fifth Edition
 Benjamin S. Blanchard • Wolter J. Fabrycky
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 Upper Saddle River, New Jersey 07458

The Art of Architecting



The Engineering Ant Hill



Systems Integration Approach

Systems Integration starts when the project starts

The Integration perspective **drives** the project schedule by addressing the **major risks** from

volatility, uncertainty, complexity and **ambiguity**

Systems Integration strives to **Fail Early**; it is an early verification and validation

Systems Integration requires **multidisciplinary teamwork**, e.g.

Integrators, Testers, Architects, Designers, Engineers, Project Leaders, and others

Systems Integration complements Systems Architecting