Architecting System Performance; Level of Abstraction

by *Gerrit Muller* TNO-ESI, University of South-Eastern Norway]
e-mail: gaudisite@gmail.com
www.gaudisite.nl

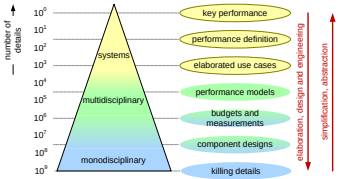
Abstract

A recurring question in modeling and perfromance analysis is when to stop digging. What level of detail is needed to achieve acceptable performance? What level of abstraction result in credible and sufficiently accurate results? How to cope with many levels of abstraction?

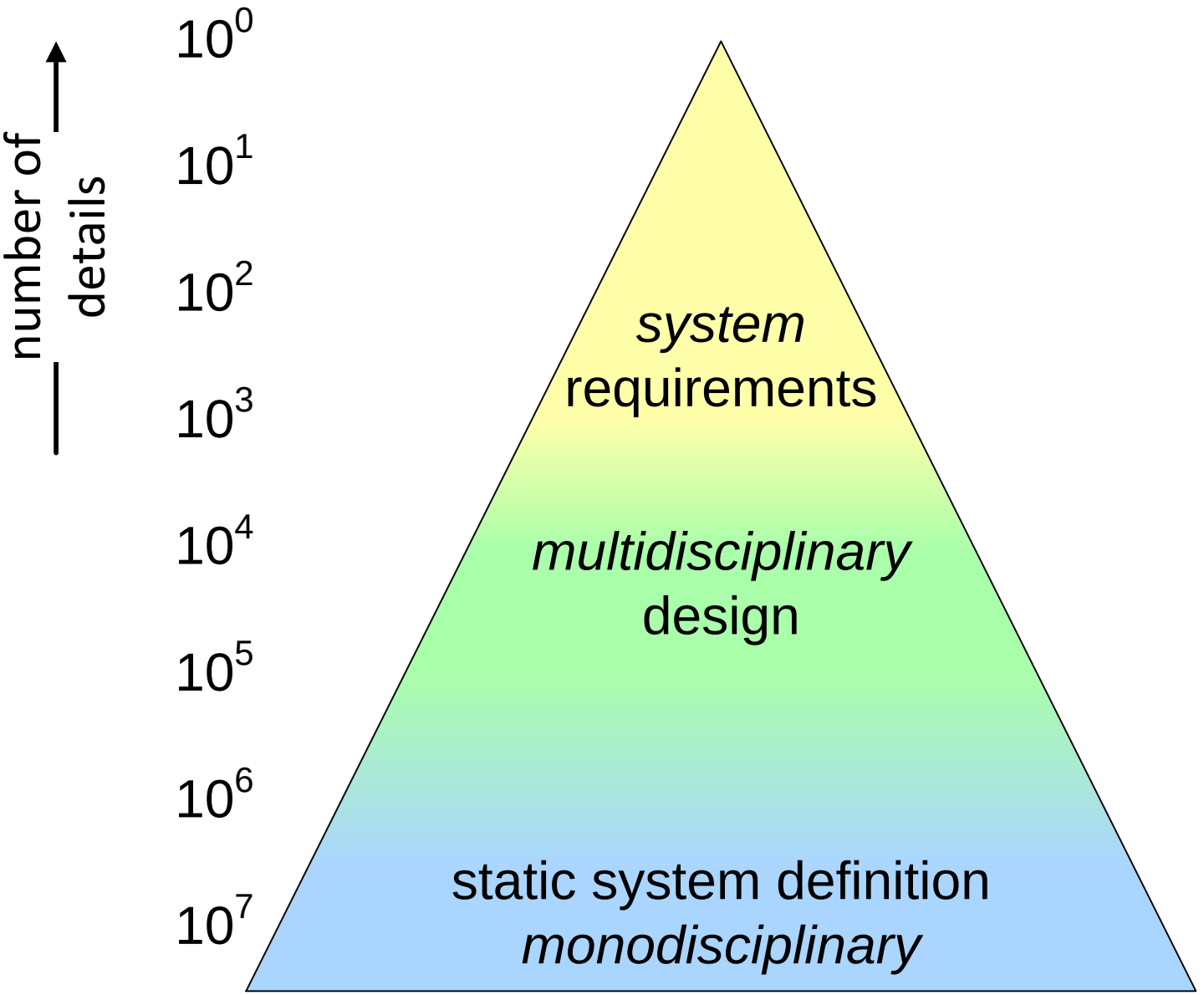
Distribution

This article or presentation is written as part of the Gaudí project. The Gaudí project philosophy is to improve by obtaining frequent feedback. Frequent feedback is pursued by an open creation process. This document is published as intermediate or nearly mature version to get feedback. Further distribution is allowed as long as the document remains complete and unchanged.

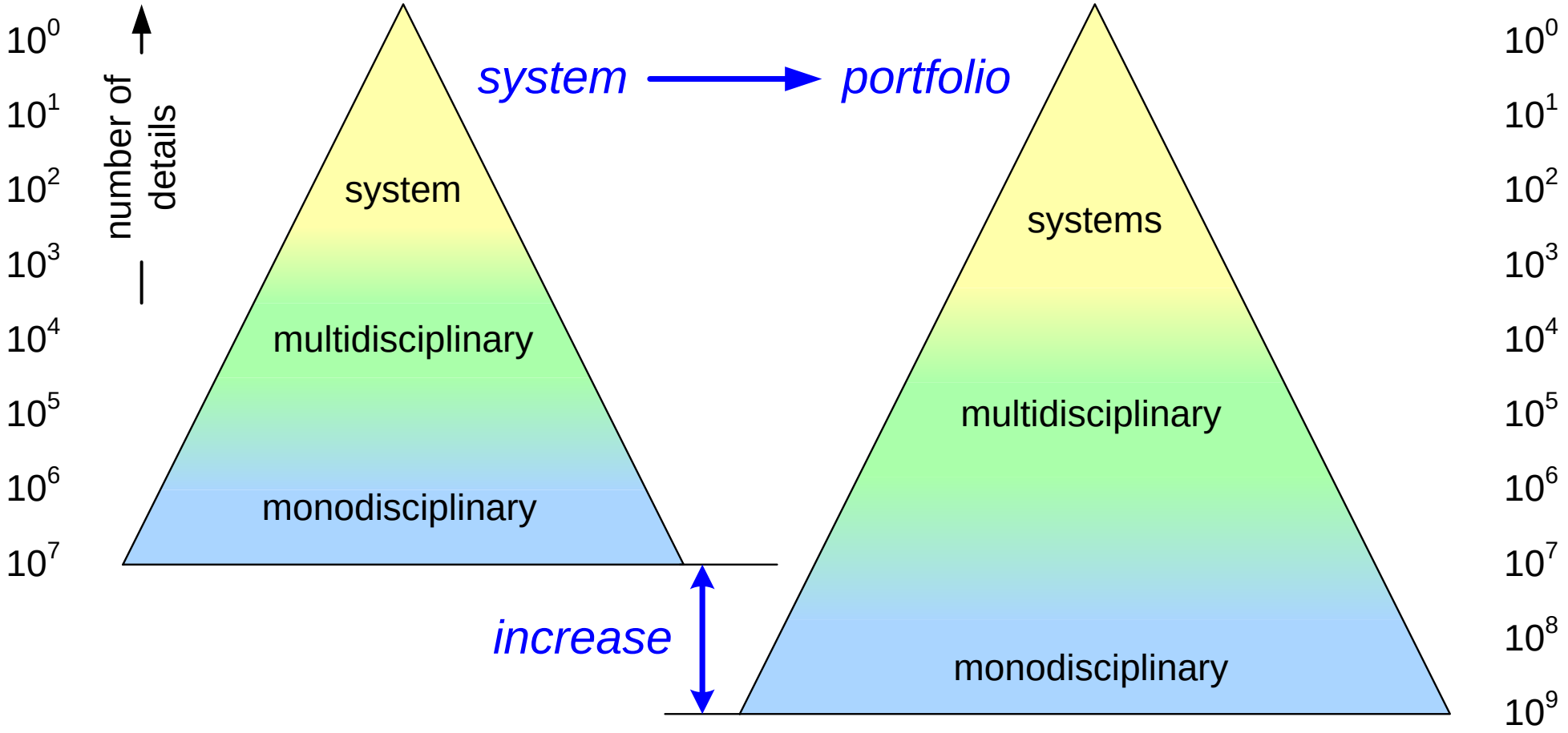
August 21, 2020
status: preliminary draft
version: 0



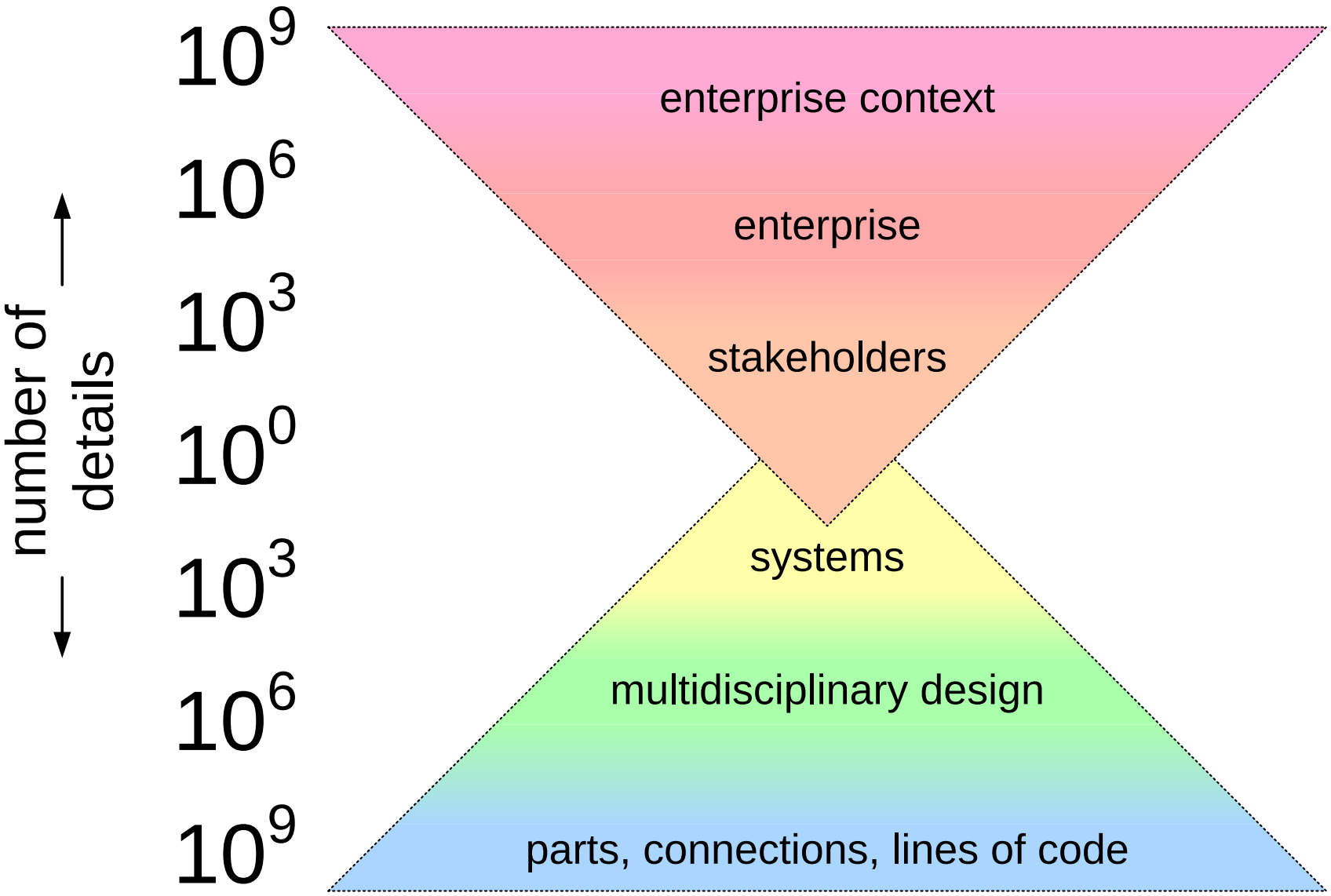
Level of Abstraction Single System



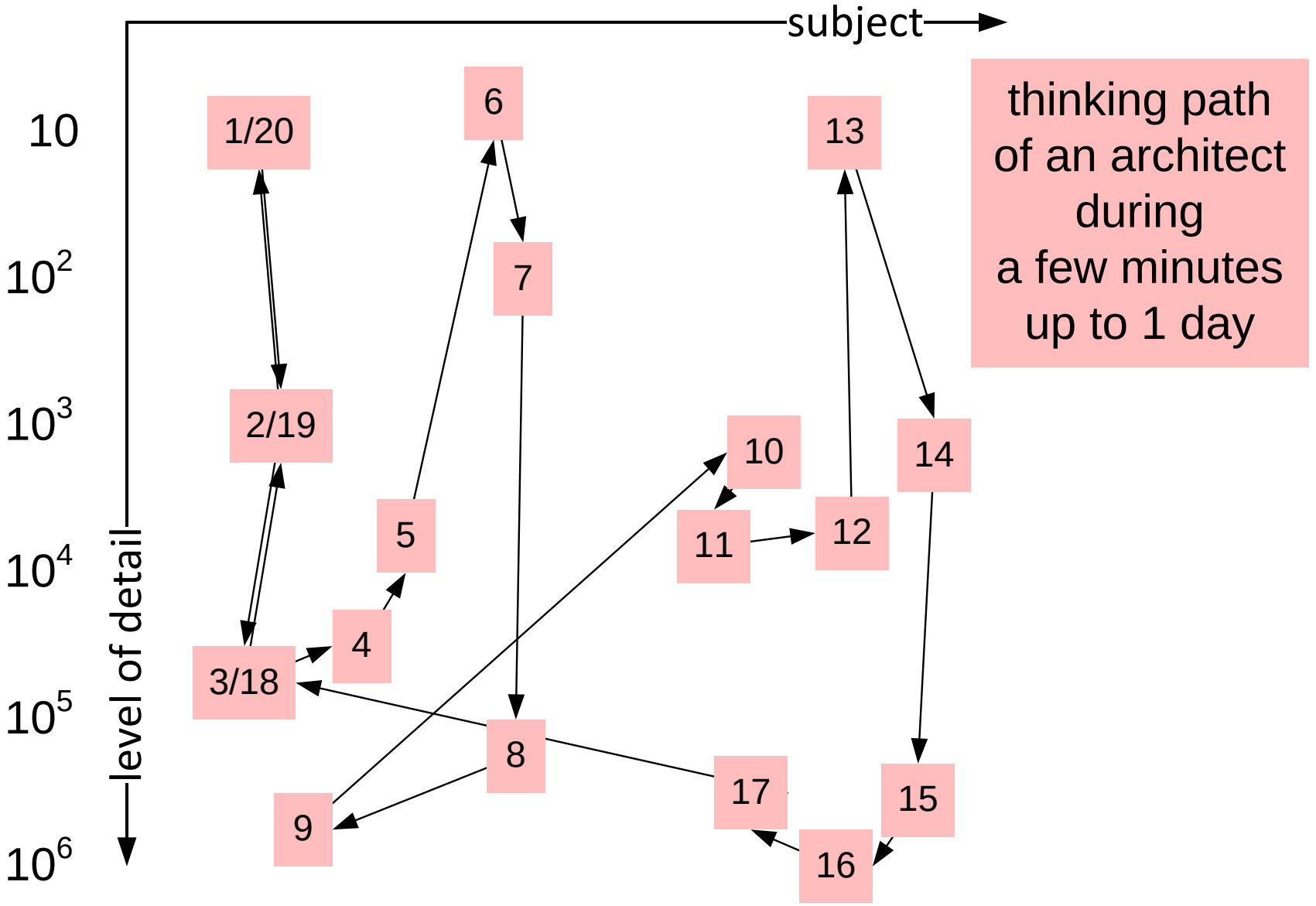
From system to Product Family or Portfolio



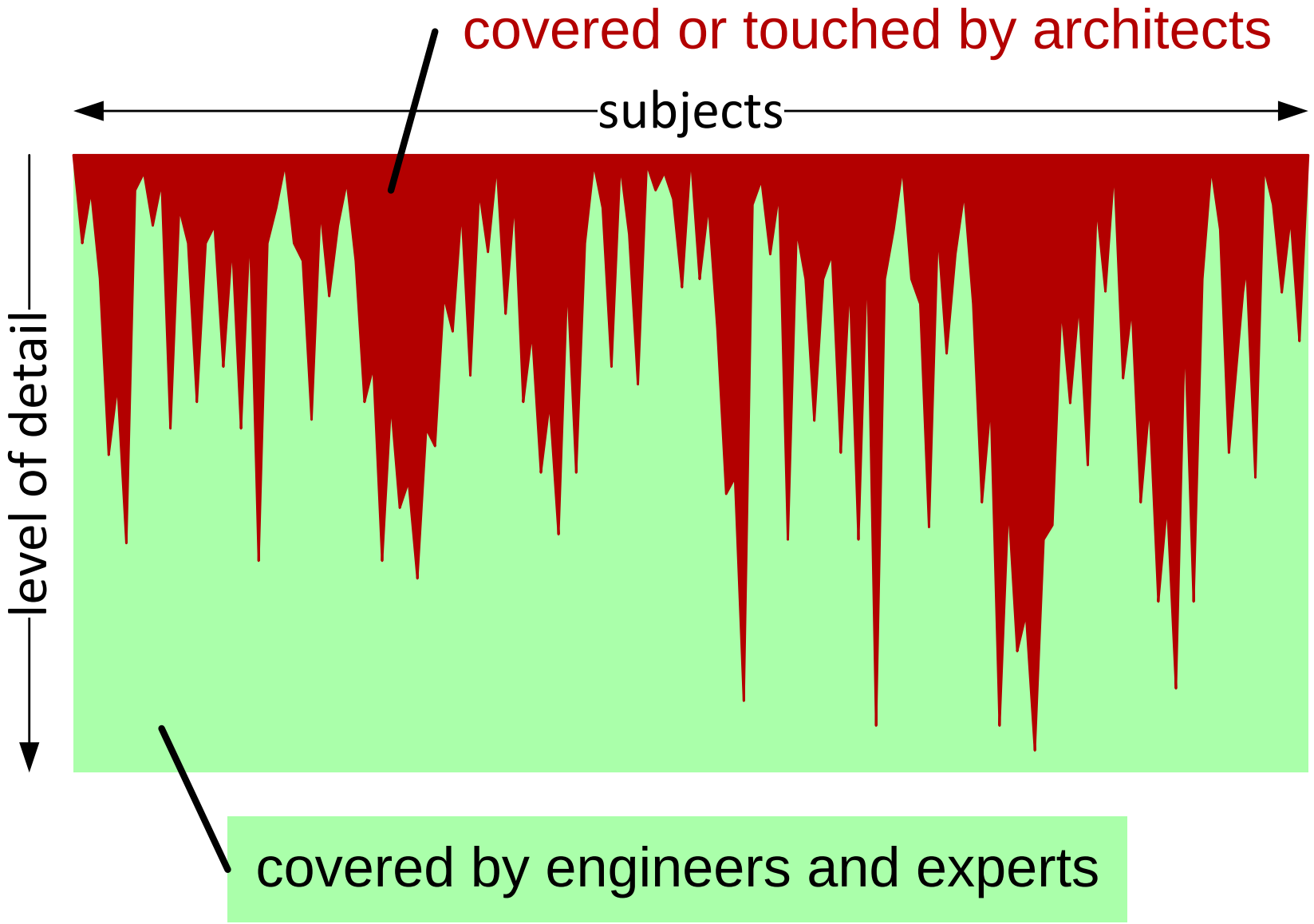
Product Family in Context



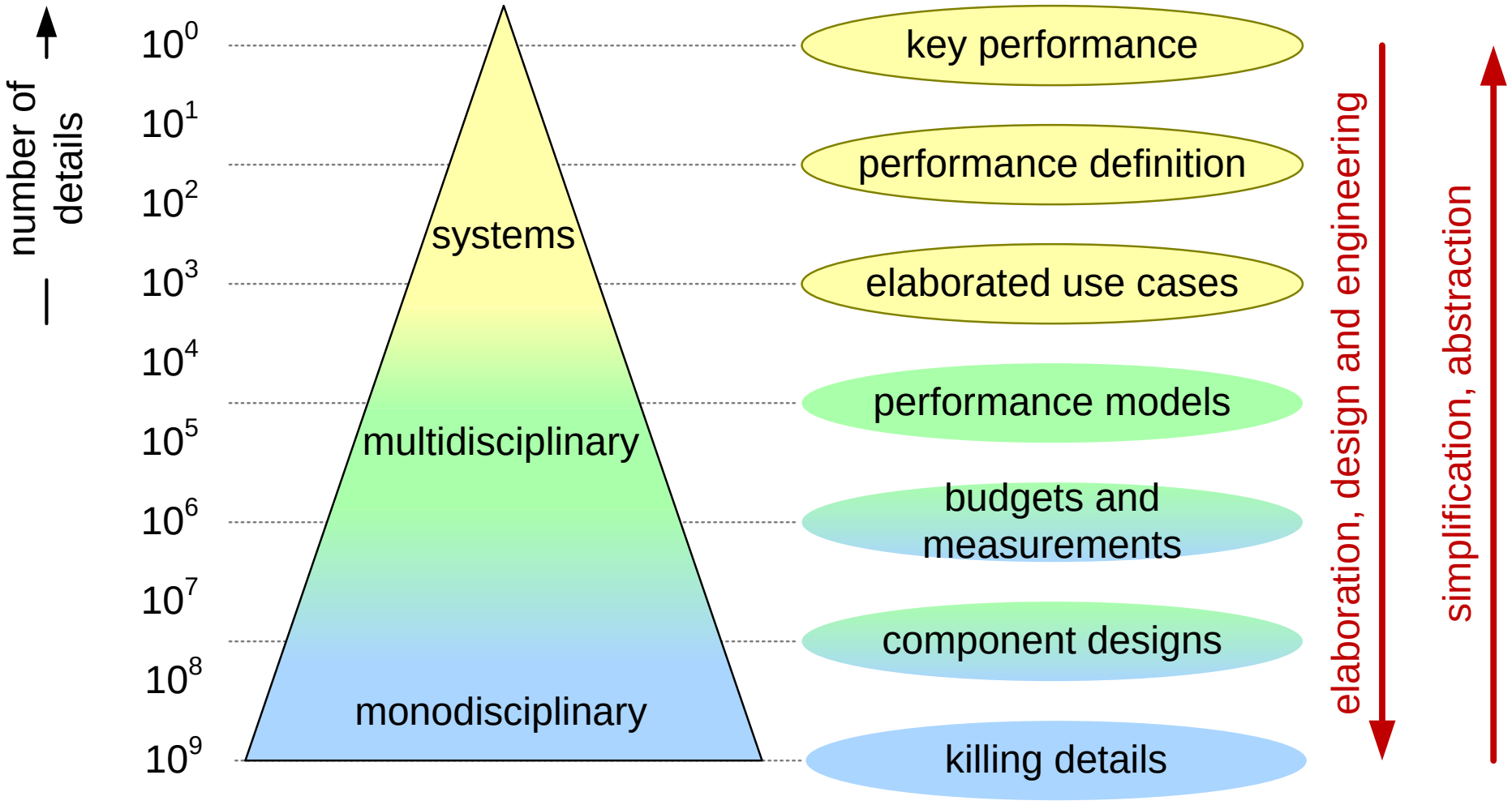
The seemingly random exploration path



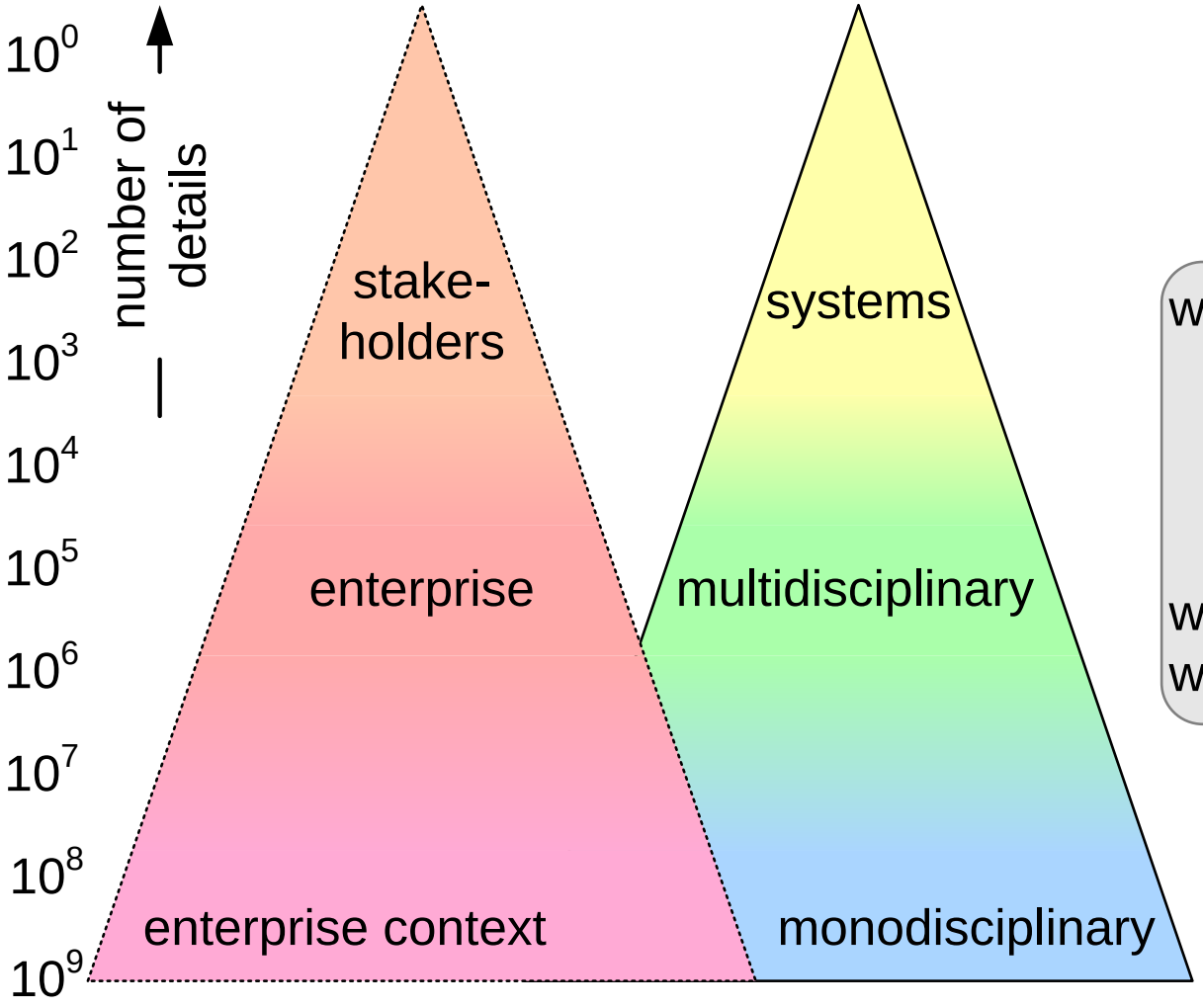
Coverage of problem and solution space



Many Levels of Abstraction



Fidelity Properties



low fidelity

- low effort
- fast

what fidelity is needed for:

- planning
- training
- validation
- design exploration?

what configurations do we need?

what can we afford?

high fidelity

- large effort
- slow