

Architecting System Performance; Robust Performance

by *Gerrit Muller* TNO-ESI, University College of South East Norway

e-mail: `gaudisite@gmail.com`

`www.gaudisite.nl`

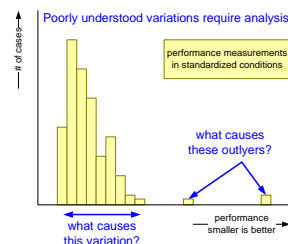
Abstract

Performance should be robust. The performance should be reproducible and it should be well-behaving in extreme conditions.

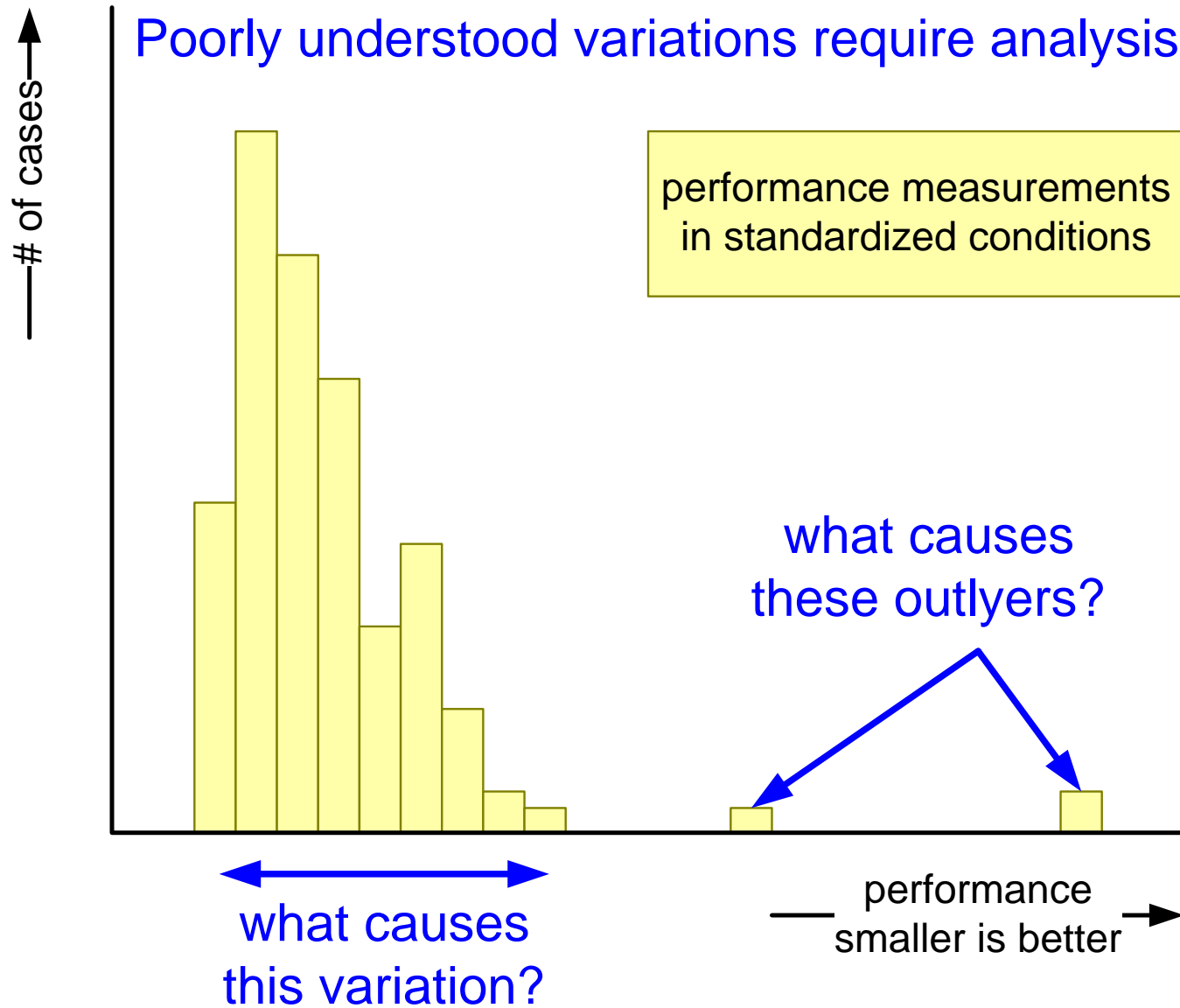
Distribution

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.

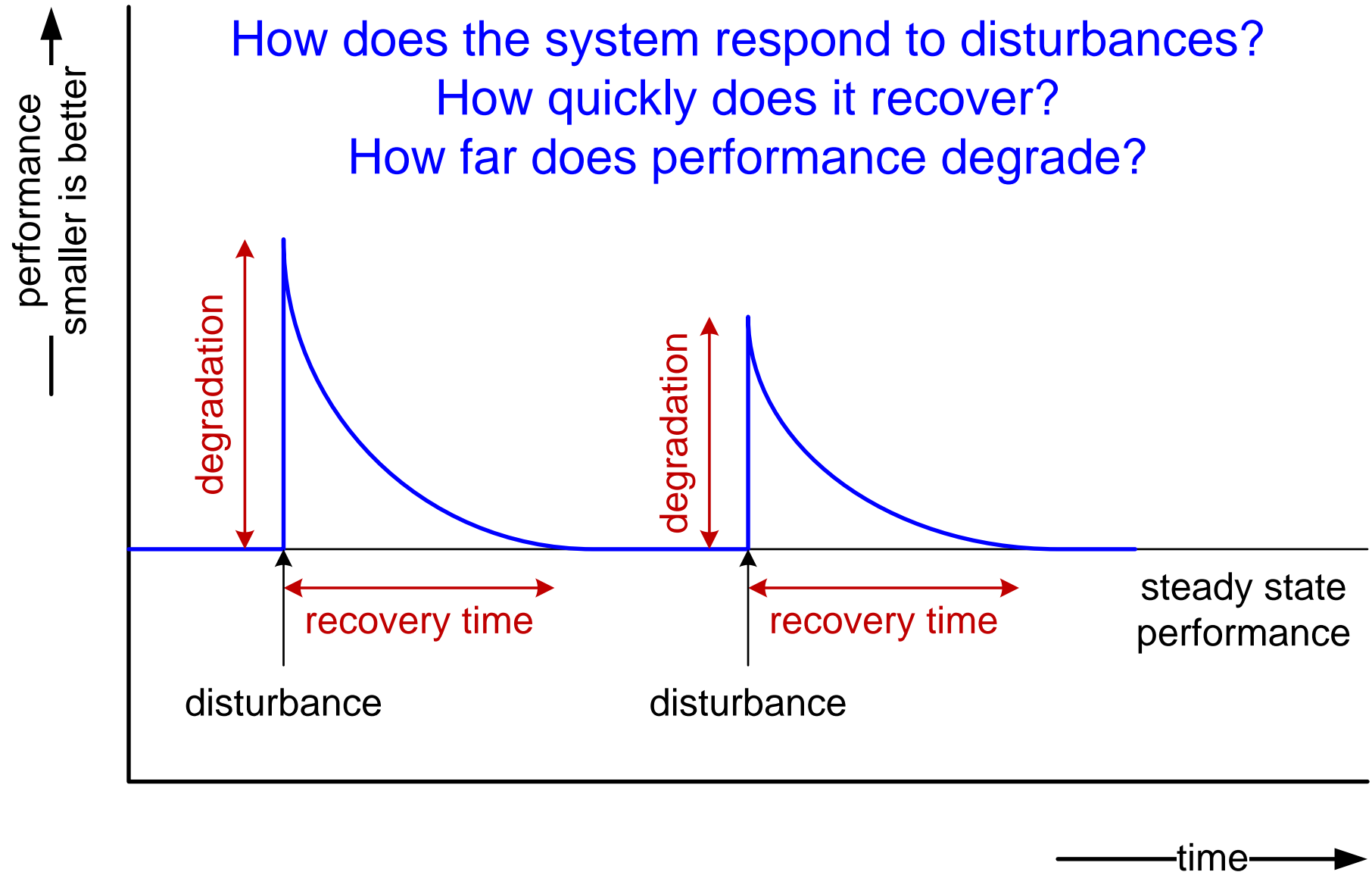
October 20, 2017
status: preliminary
draft
version: 0.2



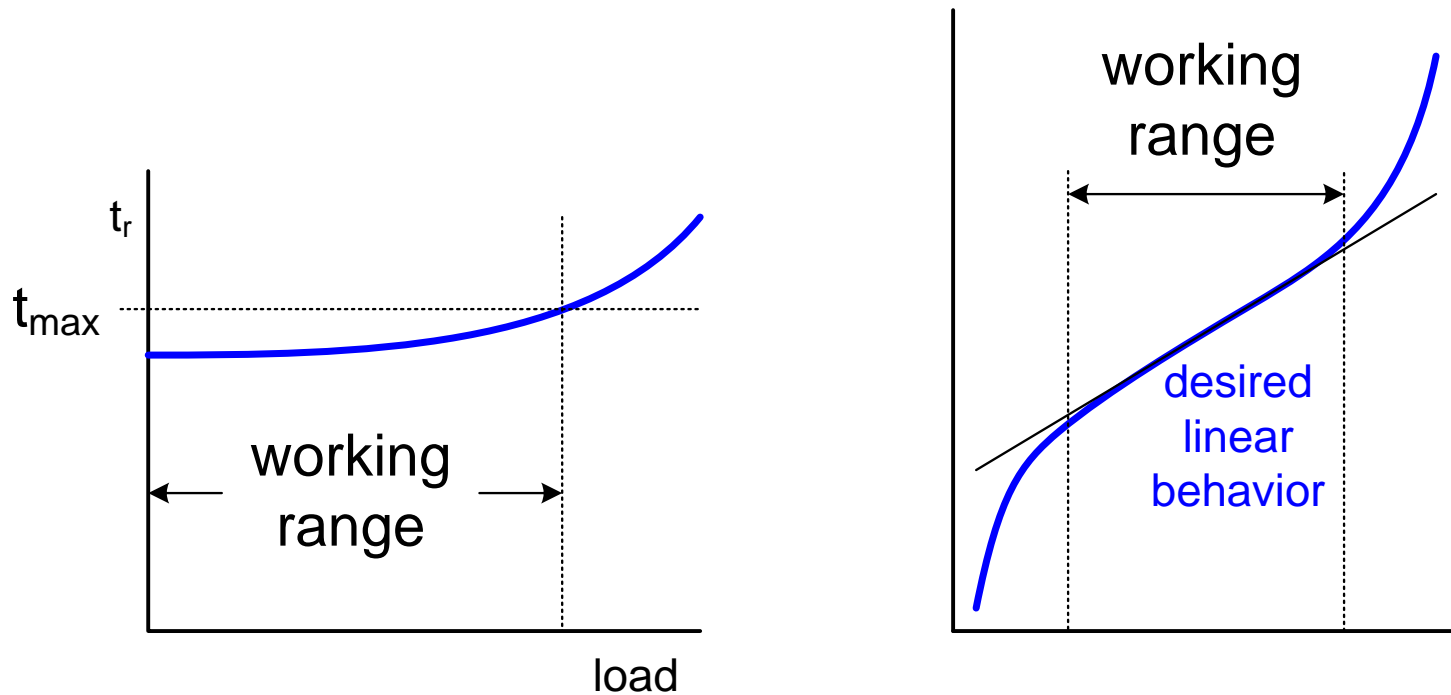
Variations are Suspect



Coping with Disturbances



Measure to Validate Working Range



A system design assumption is often:
the performance of this function
{ is constant | is linear | doesn't exceed x | ... }

The working range is the interval where this
assumption holds

Validate Understanding of System Performance

Characterize the system	use the system in varying conditions measure performance as function of the conditions
Stress testing	where does the design fail? (go beyond specified limits)
Load testing	keep the system in heavy load condition observe how it keeps performing measure variations
(Accelerated) Lifetime testing	age the system observe how it keeps performing