

Architecting System Performance; Robust Performance

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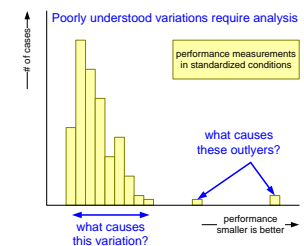
Abstract

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

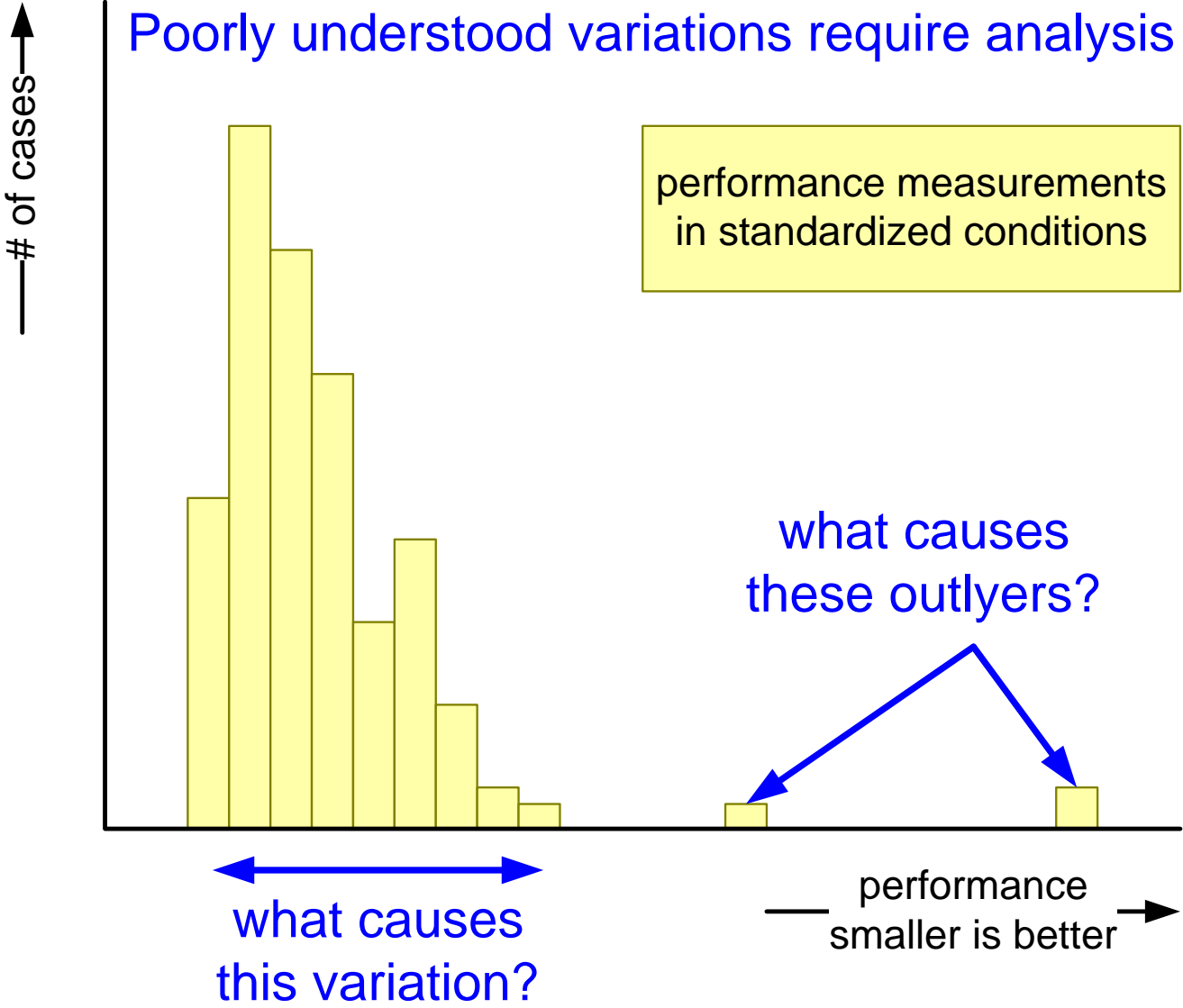
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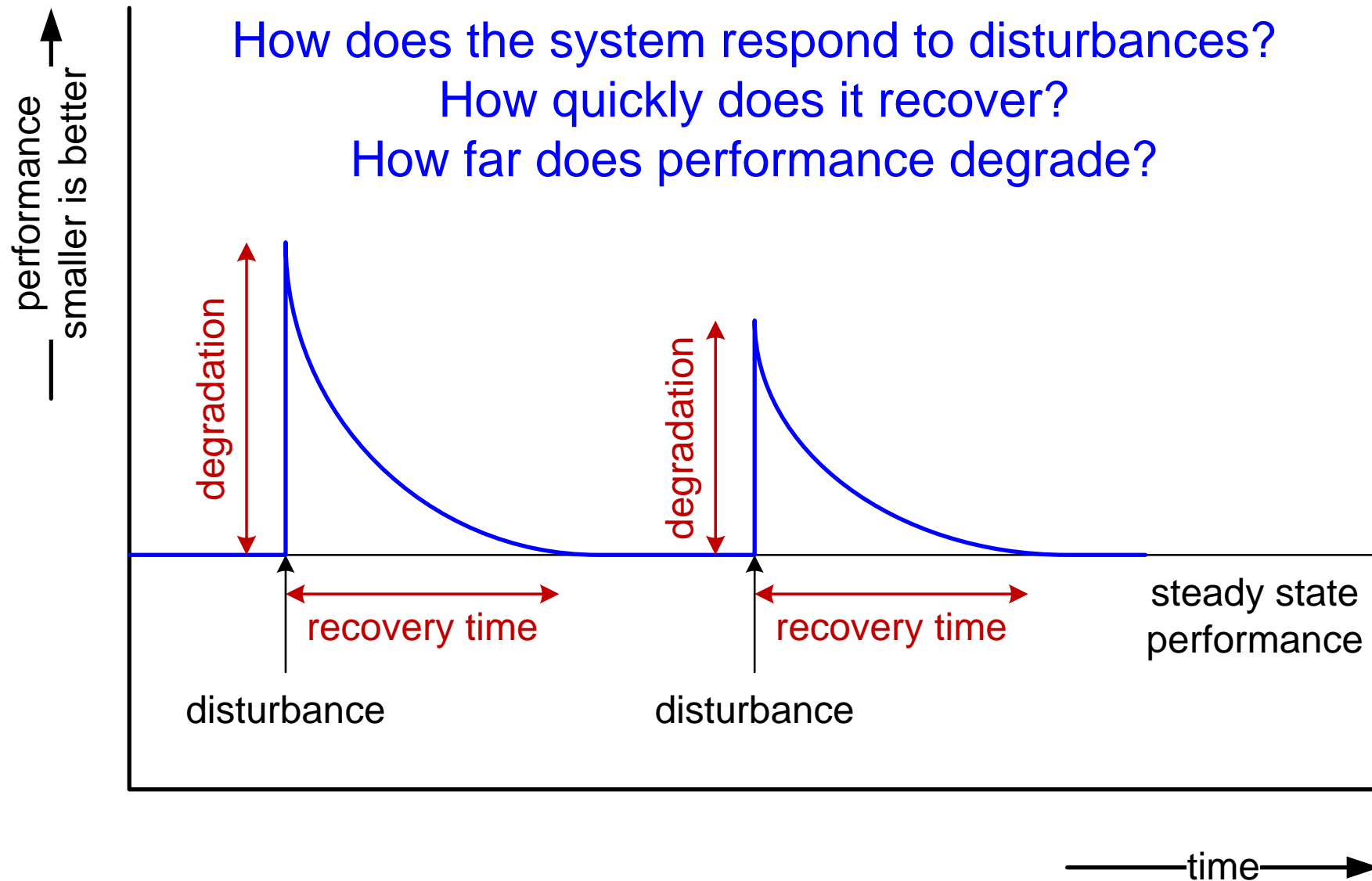
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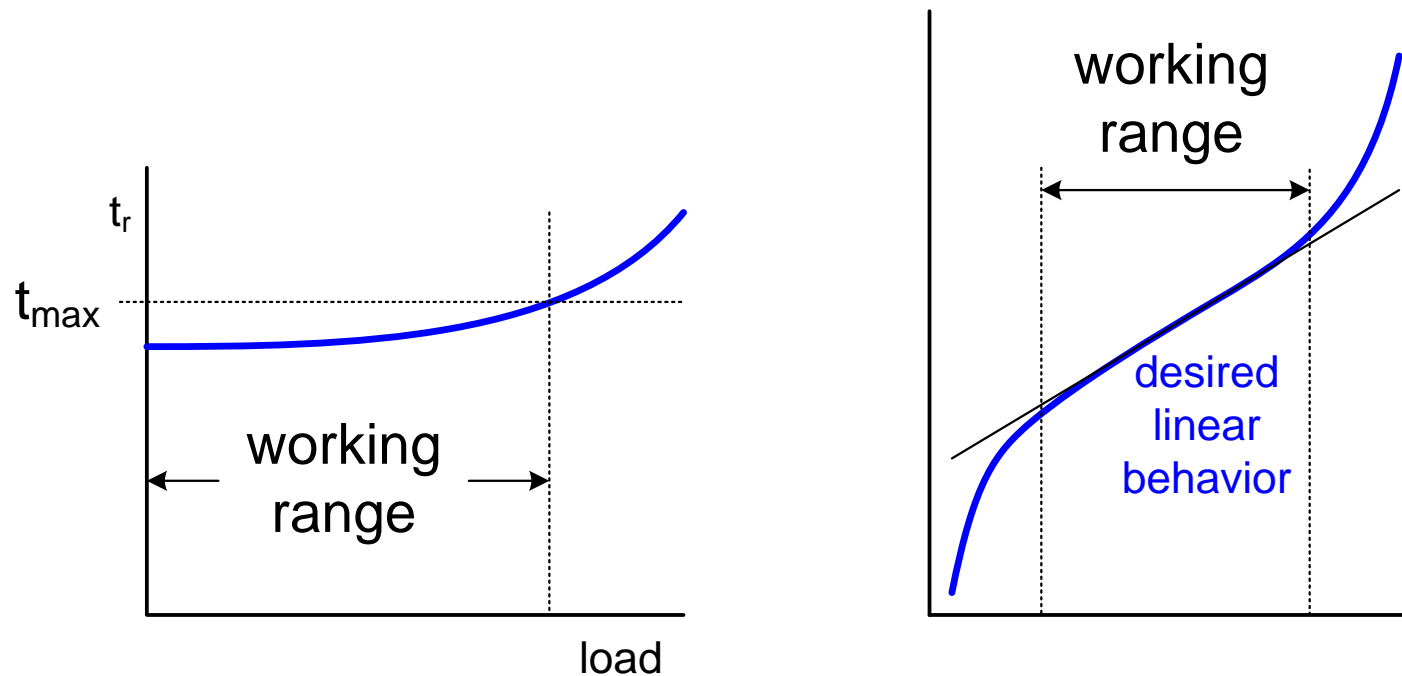
Variations are Suspect



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