

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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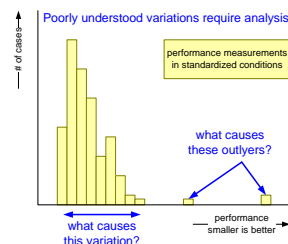
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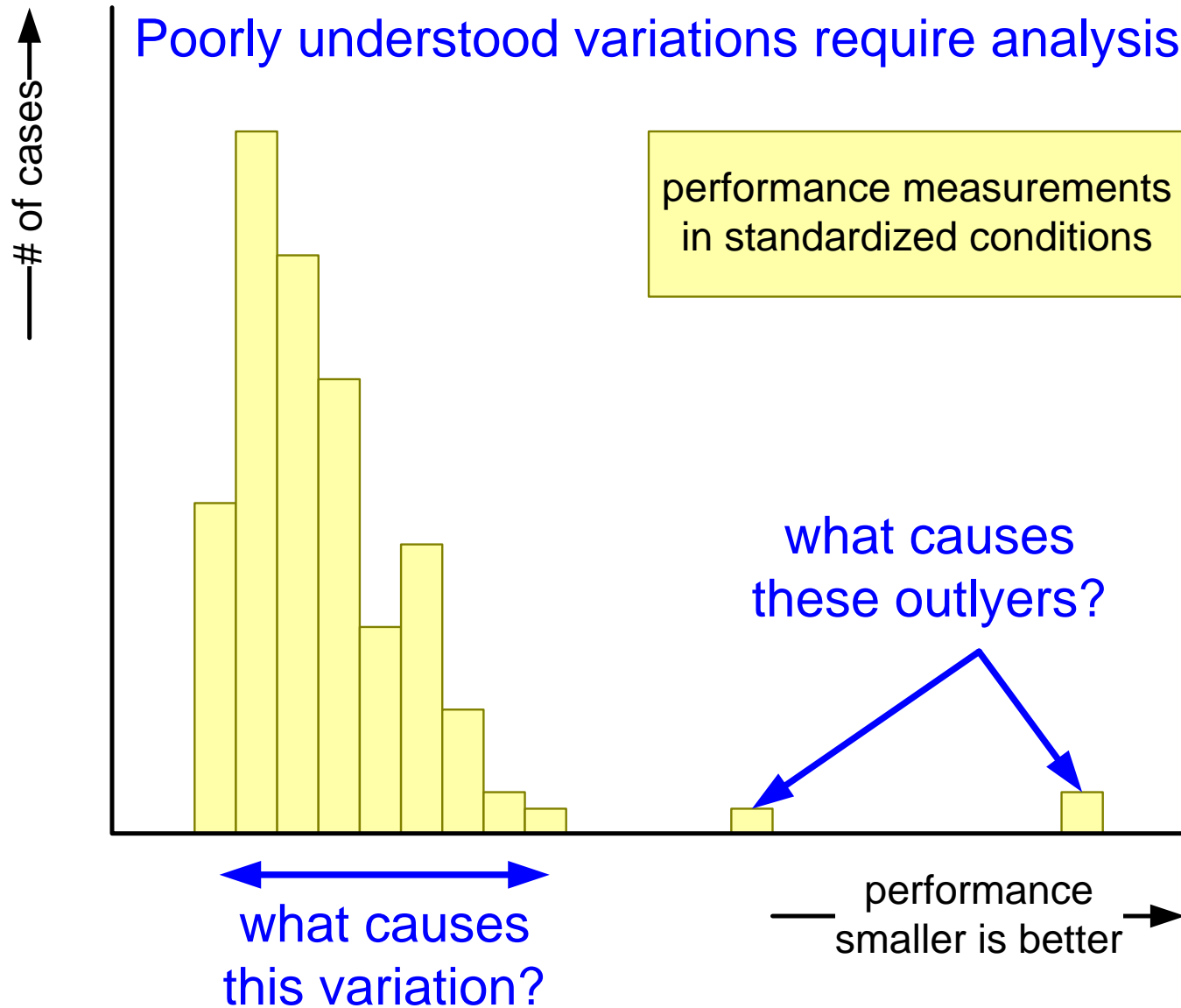
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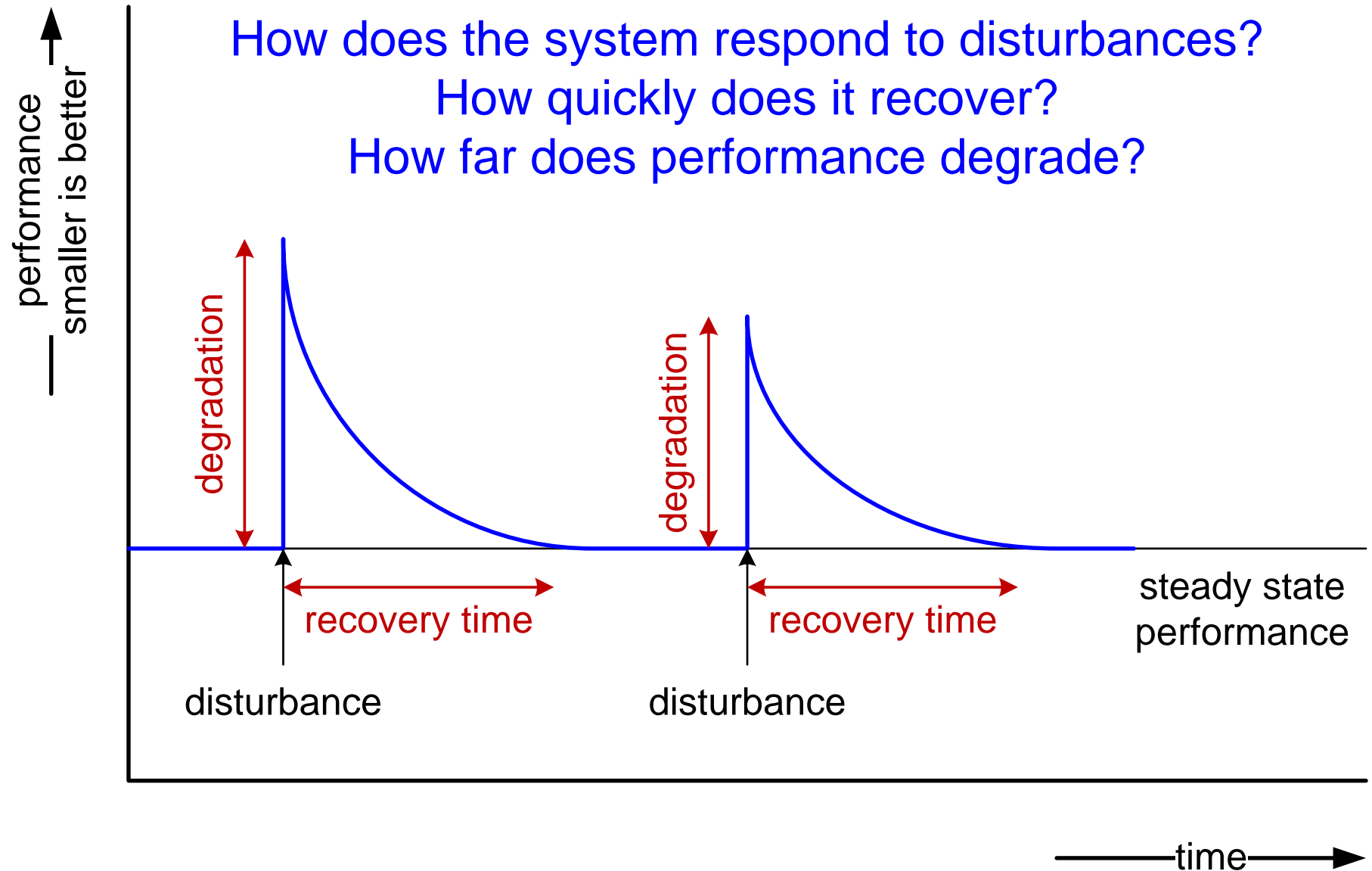
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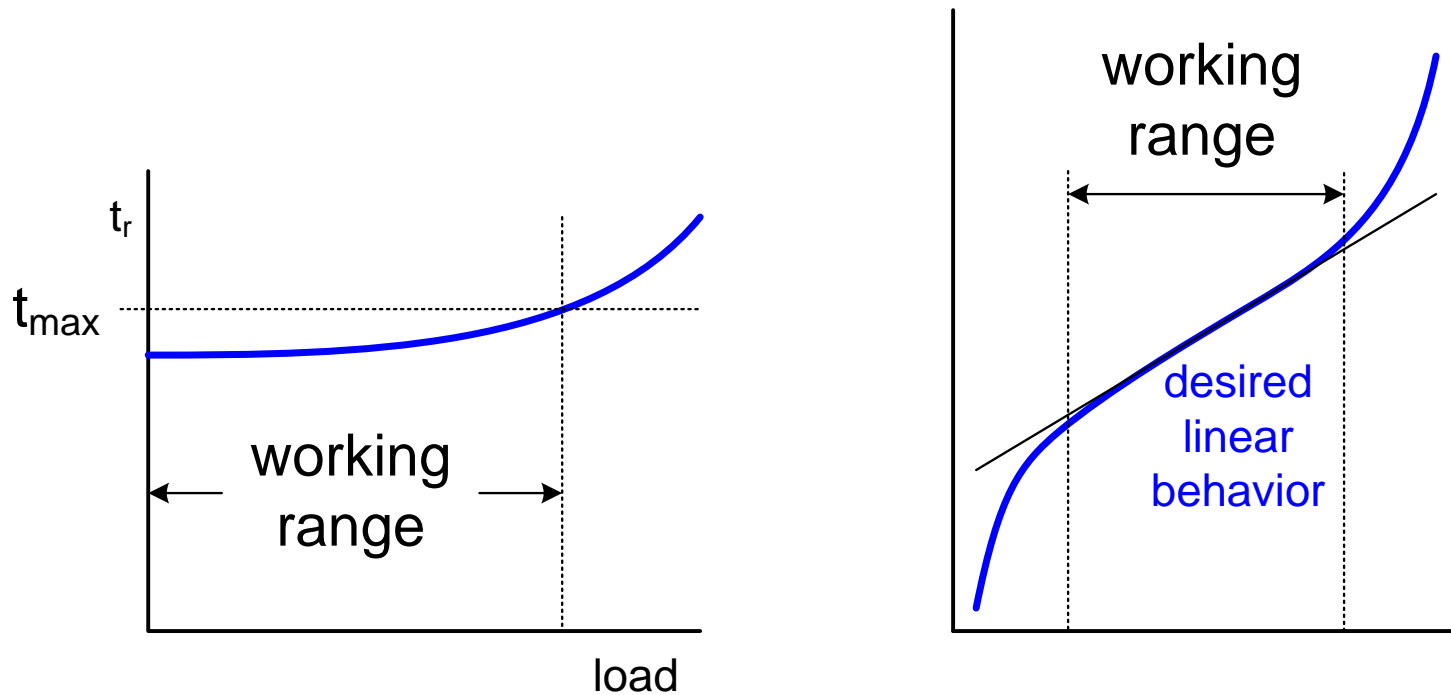
Variations are Suspect



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