Mastering Systems Integration; Impact of Change

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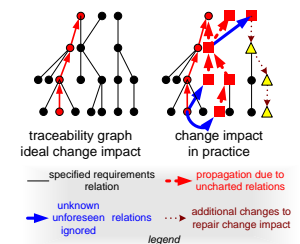
Abstract

This presentation explains the imact of change. A frequent problem is that people do not foresee the imoact of changes they make to the system. A naieve assumption is that traceability or dependecy graphs will show them such impact. Realty then hits them during systems integration.
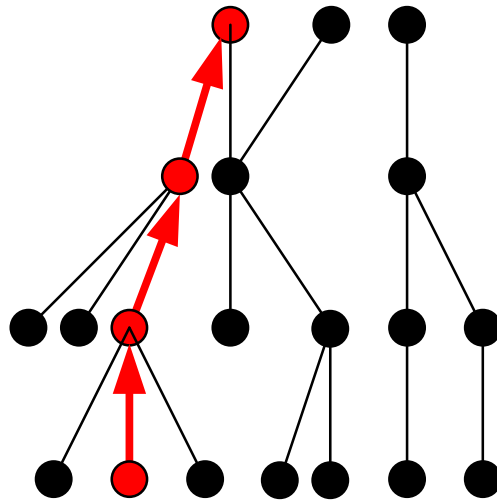
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traceability graph
ideal change impact

change impact
in practice

specified requirements relation
propagation due to uncharted relations
unknown unforeseen relations ignored
additional changes to repair change impact
legend

Impact of Change due to Unforeseens

traceability graph
ideal change impact

change impact
in practice

_____ specified requirements
relation

- ▶ propagation due to
uncharted relations

➡ unknown
unforeseen relations
ignored

· · ▸ additional changes to
repair change impact

legend

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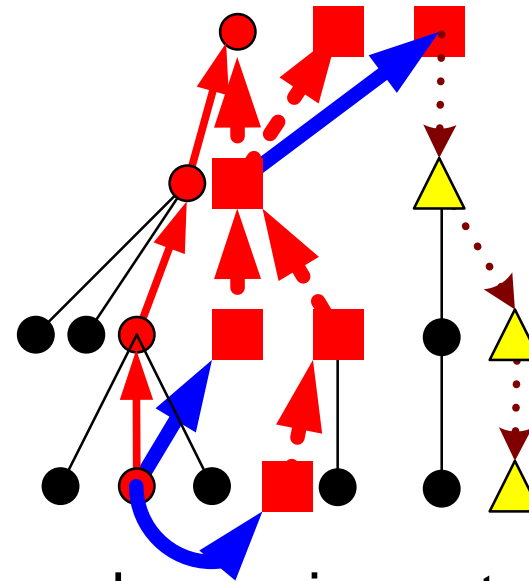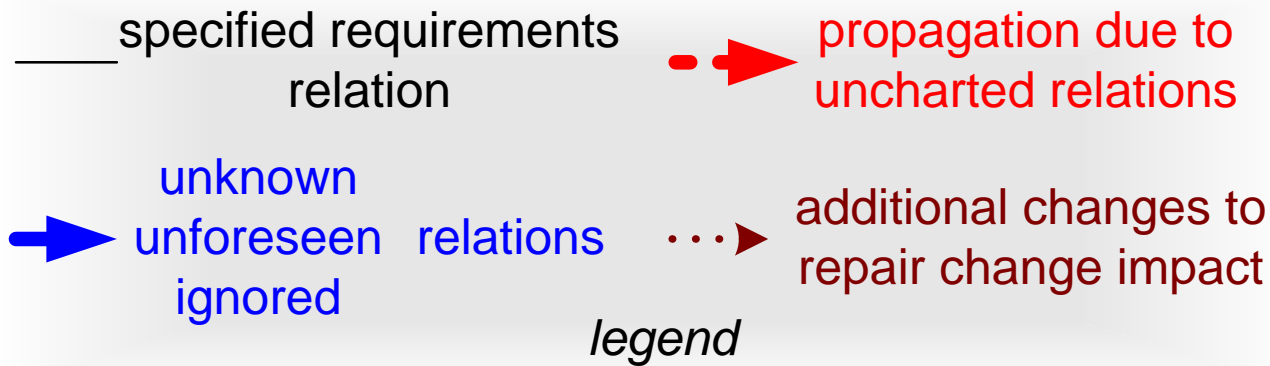
Root Cause is Often Elsewhere

Physical decomposition

Functional decomposition
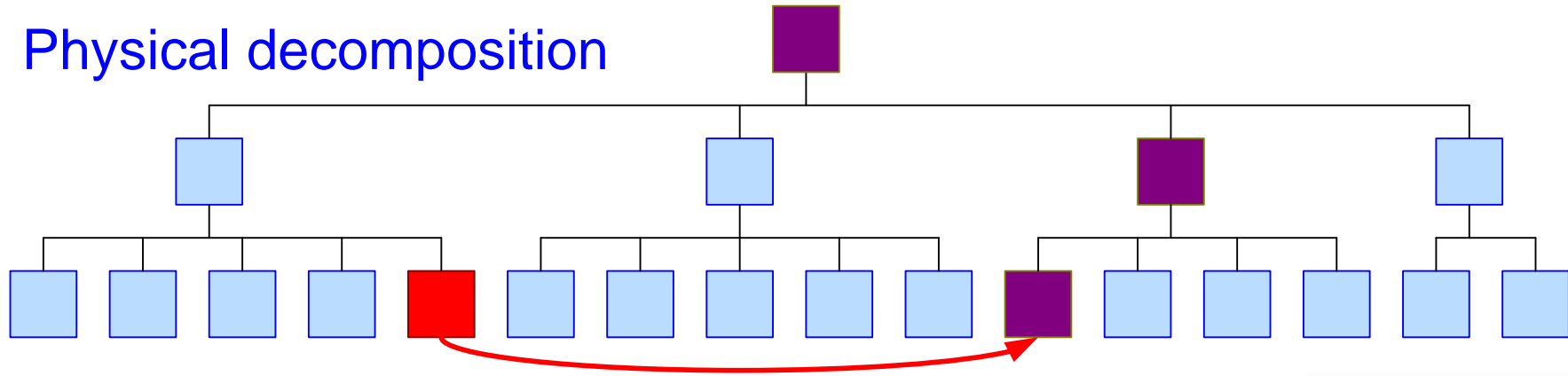
legend

failure

root cause
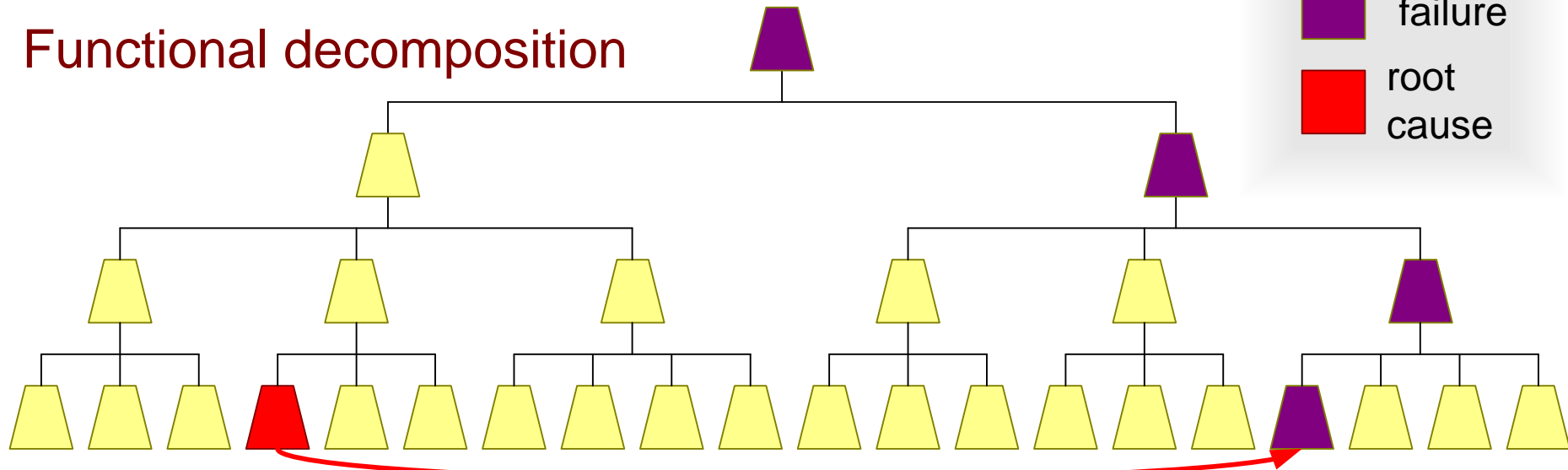
unknown or unexpected relation

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"Nothing has been changed..."

test result: system fails

Physical decomposition   Functional decomposition

trouble shoot identifies failing component and function

Physical decomposition   Functional decomposition

first questioning does not reveal suspicious changes

Physical decomposition   Functional decomposition

second questioning reveals synchronous change

Physical decomposition   Functional decomposition

unknown relation caused fault

Physical decomposition   Functional decomposition

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