

PROMPT Software Testing

Some aspects on why and how we do integration testing



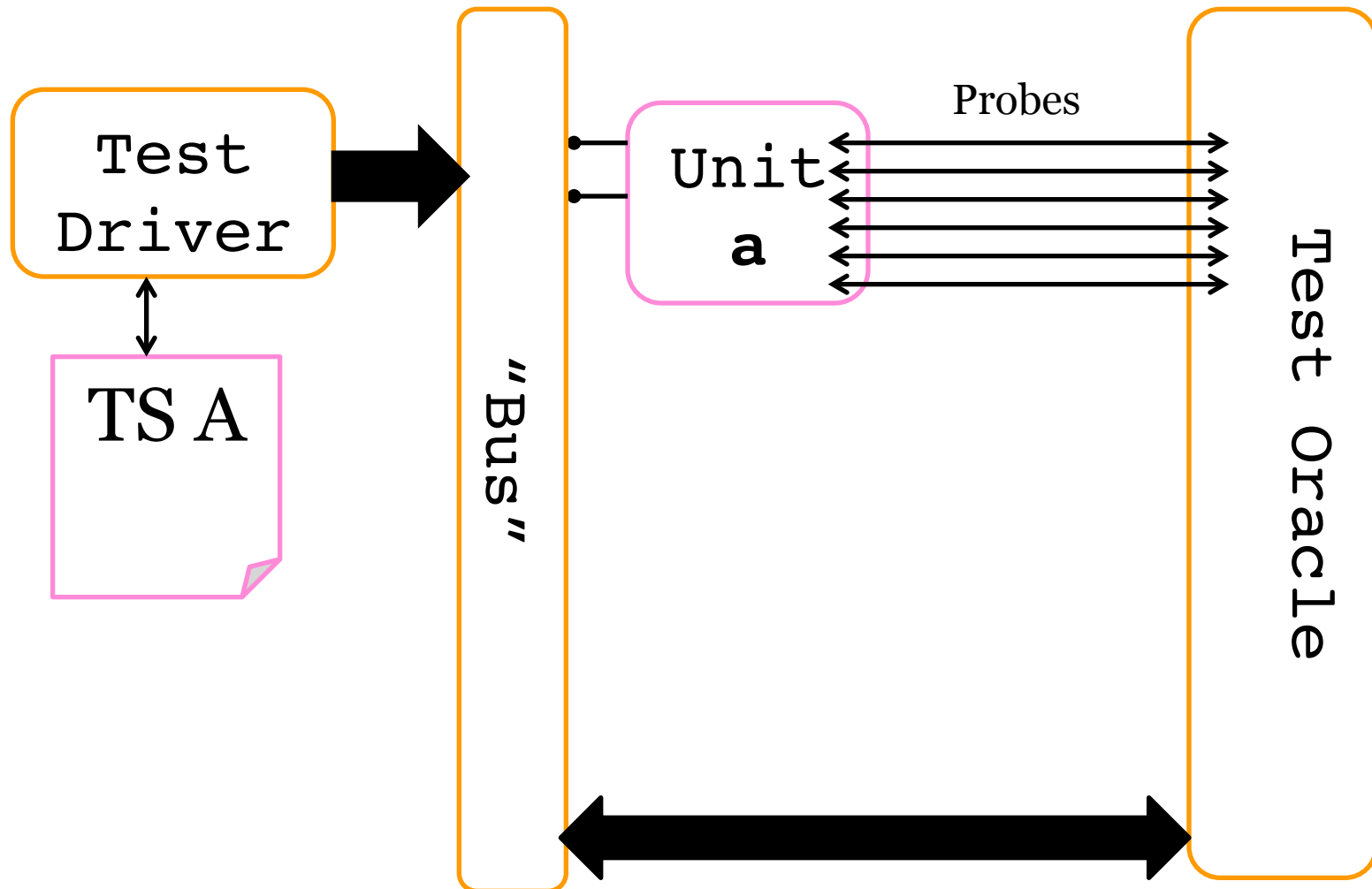
>PROMPT



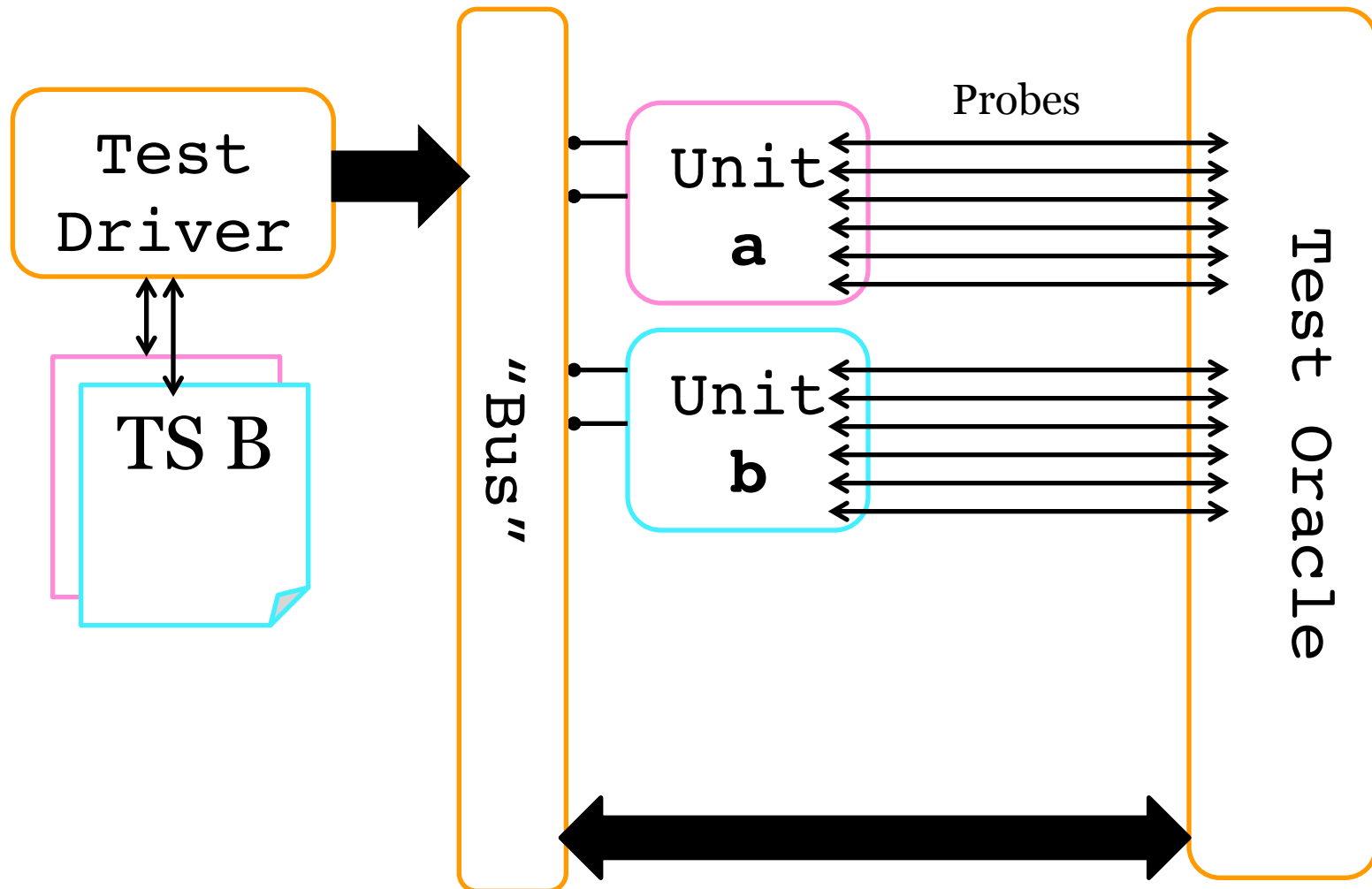
Outline

- Performance
- Deployment (with respect to test environment scale)
- Organizational / Spatial perspective

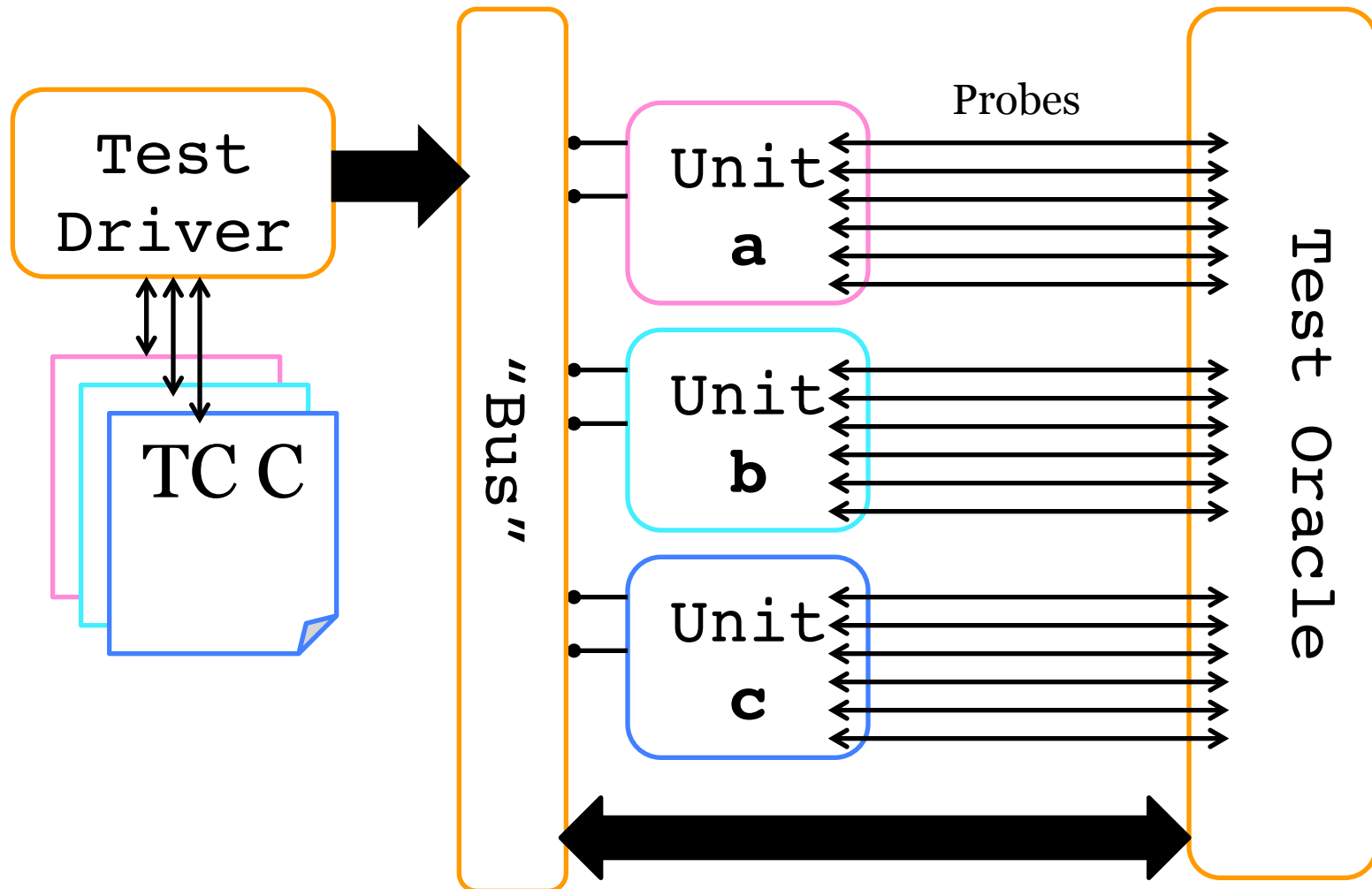
Performance Perspective



Performance Perspective



Performance Perspective





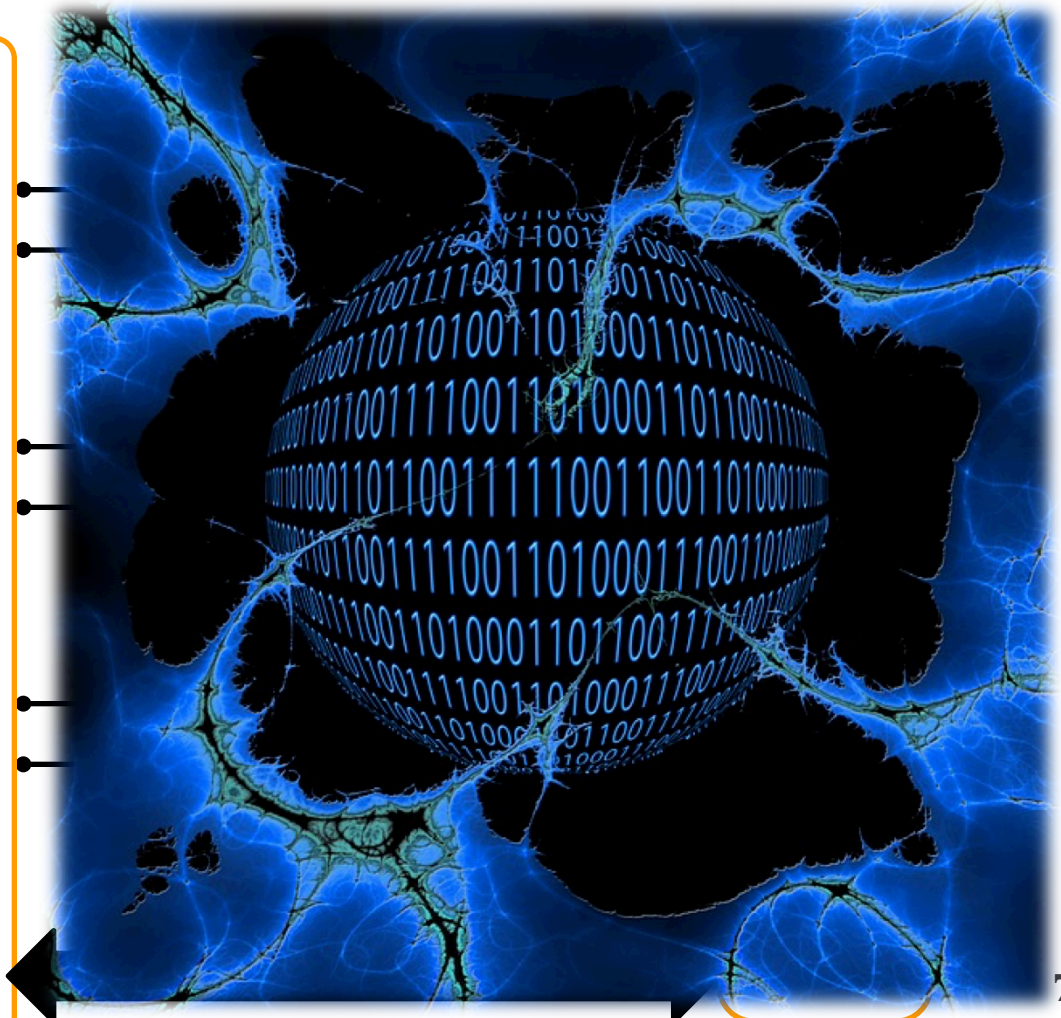
The uncomfortable math...

- 100 Test cases per function
- Each function built up by 100 units
- Average 1 minute per test case
- 100 units
- Big bang makes $100 * 100 * 100$ minutes
- About two years.
- OK maybe you only have $100 * 100$ still it's a long time
- IT does not scale well and...

Performance Perspective



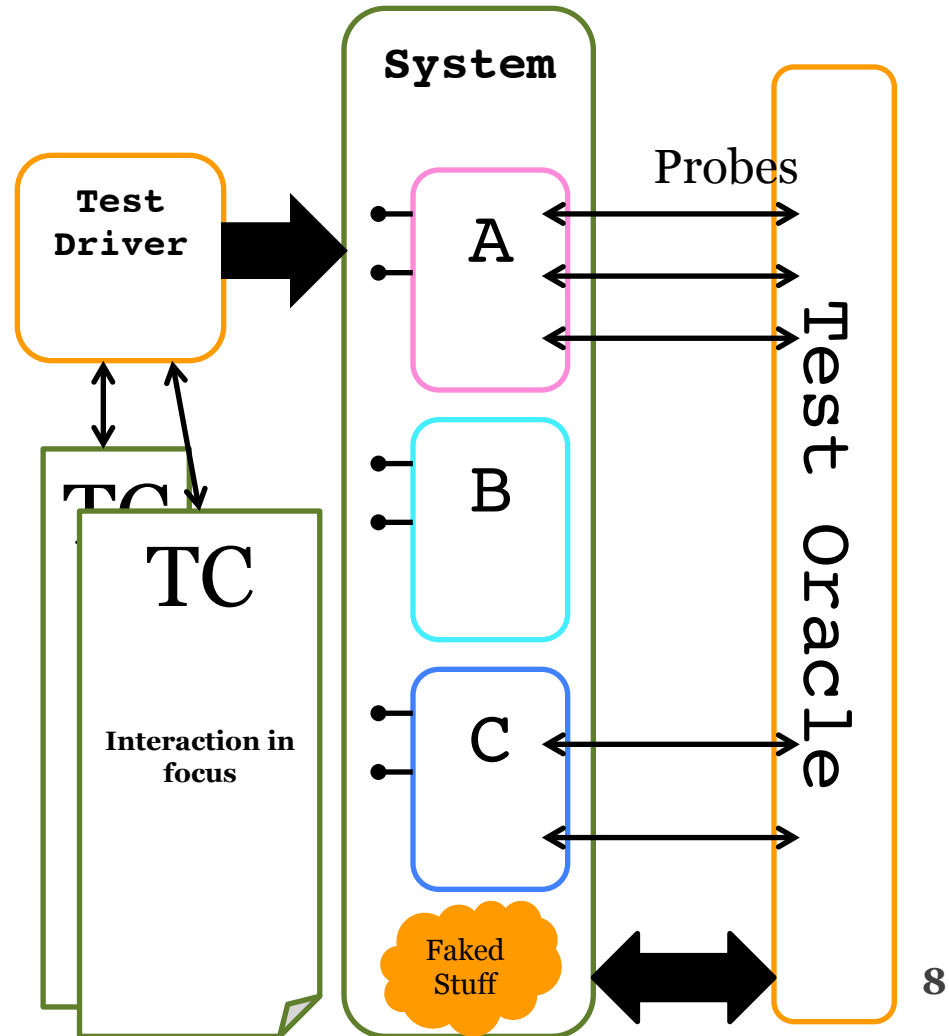
“Bus”





We need to shift focus ...

- Interface issues
- Communication Protocol mismatch
- Certain Side effects
- Shared resource handling
- ...





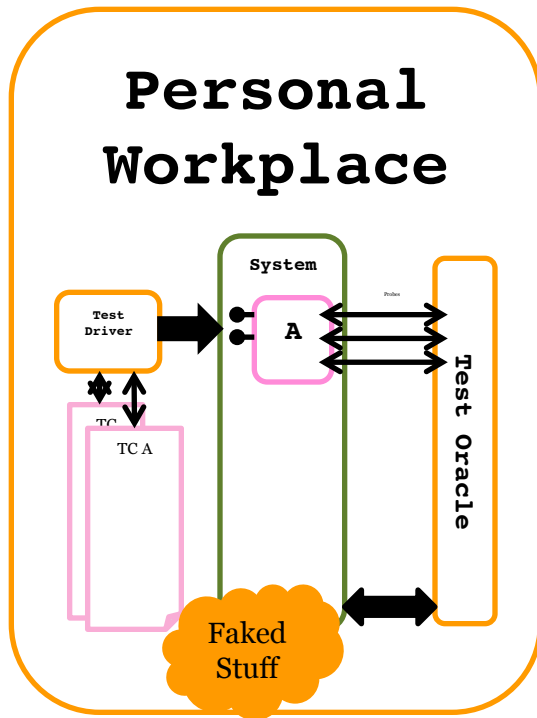
Is there more to it ???



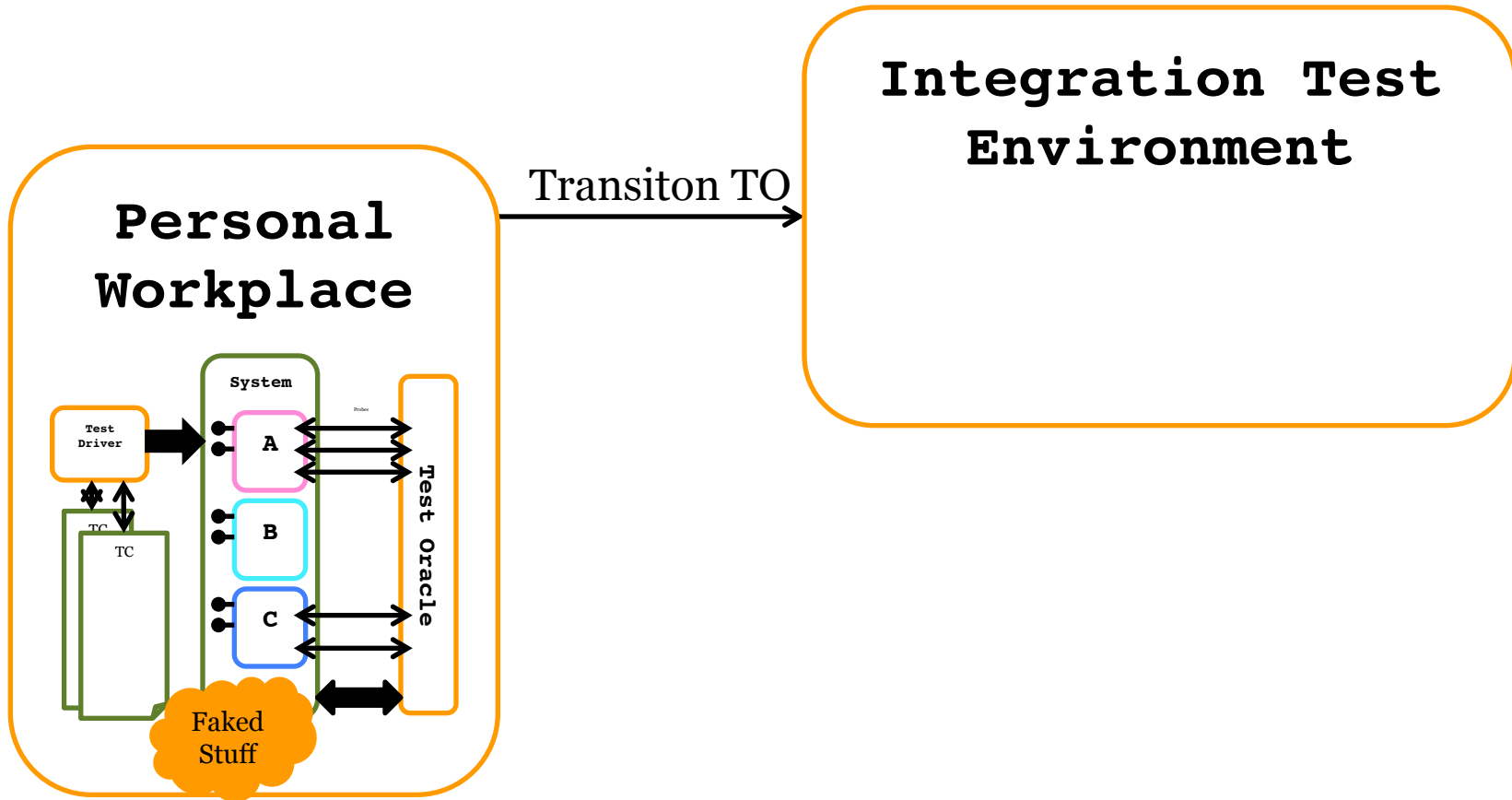
Deployment Perspective



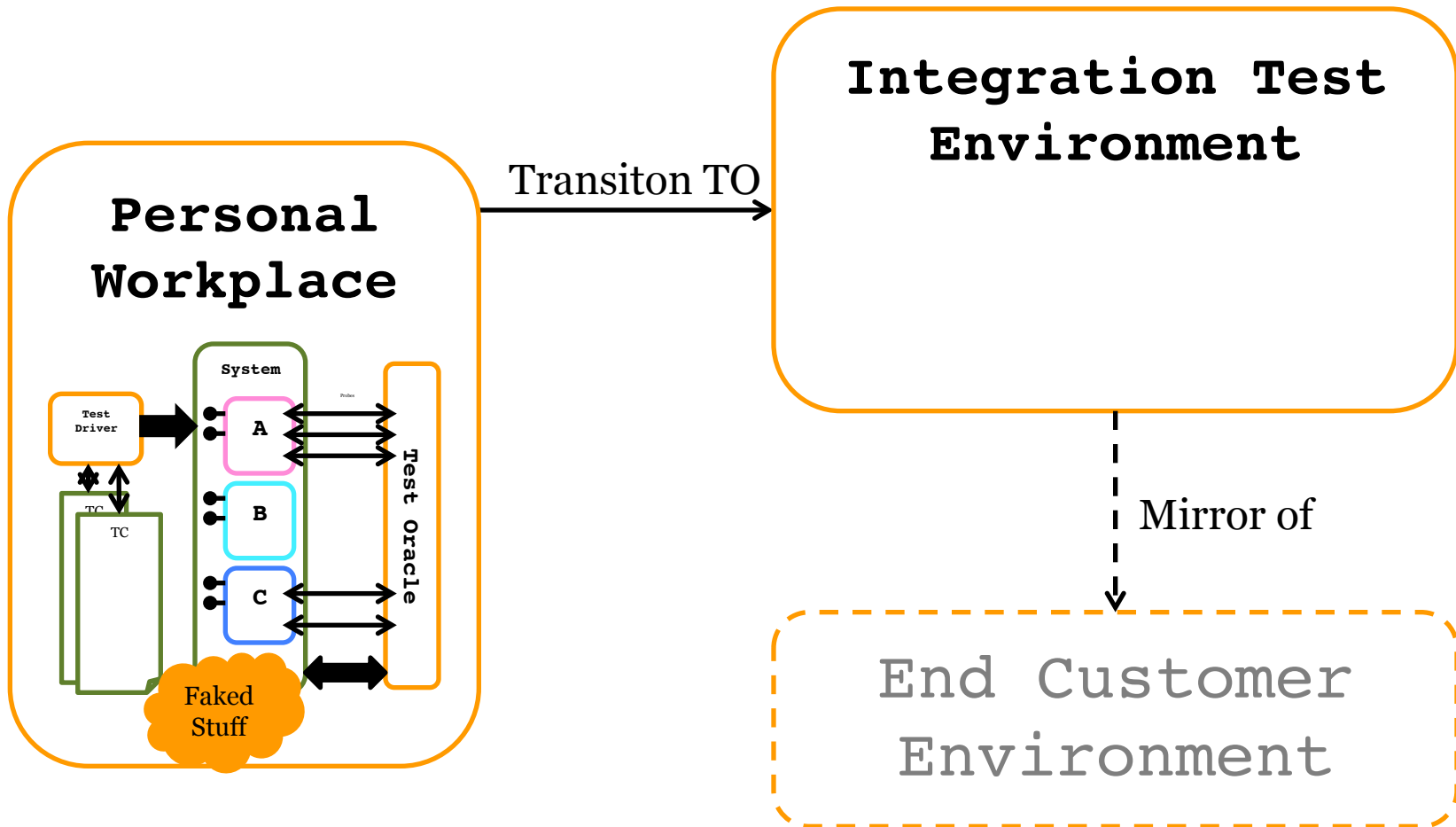
Deployment Perspective



Deployment Perspective

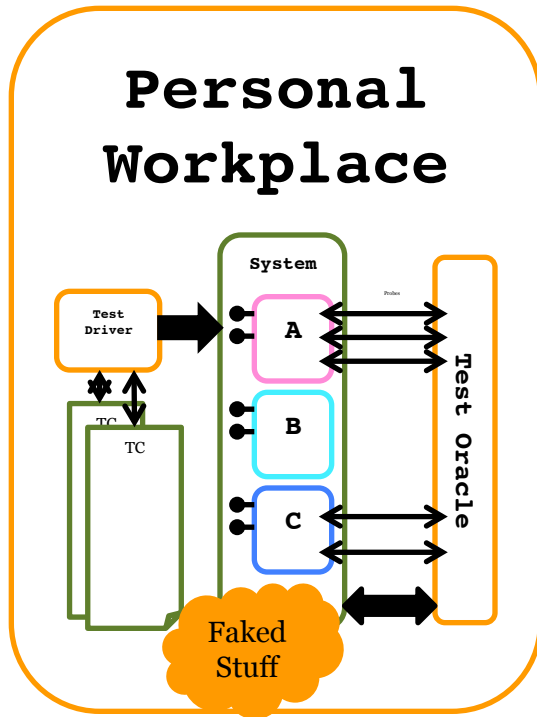


Deployment Perspective

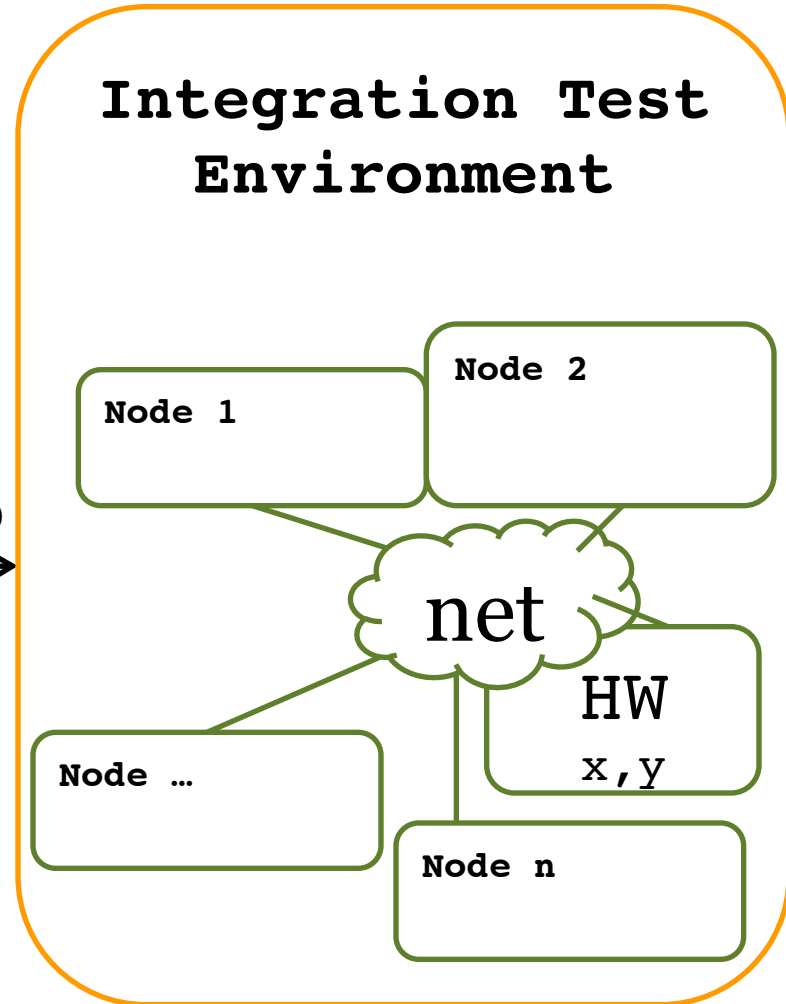




Deployment Perspective



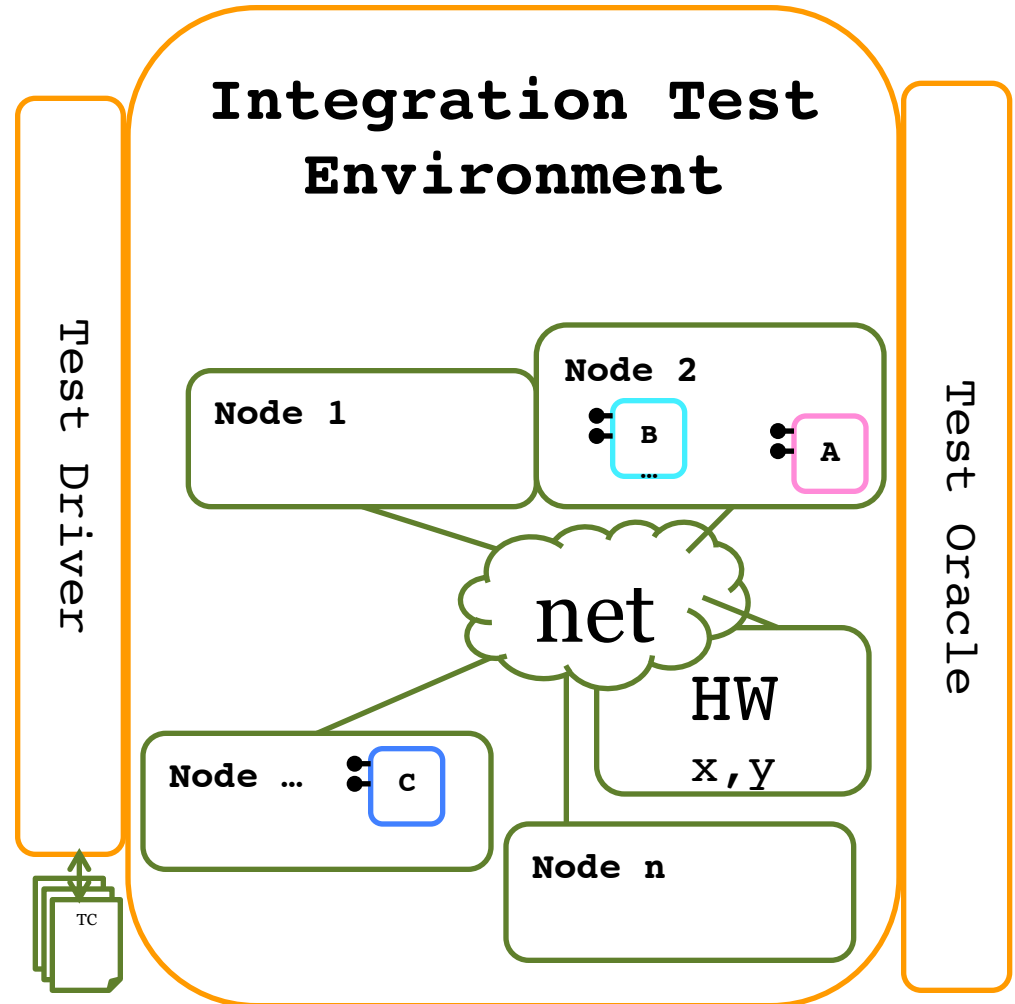
Transition TO



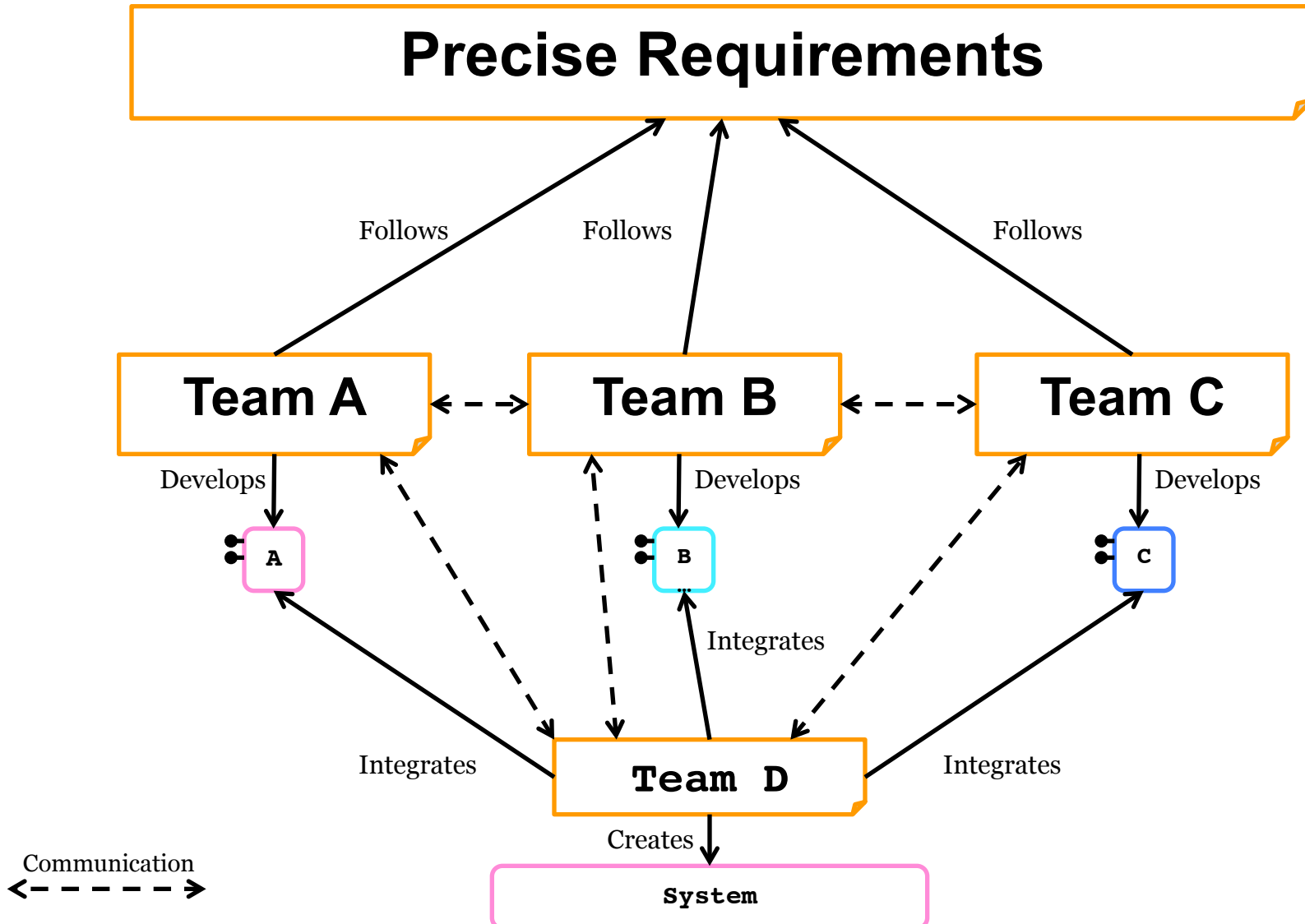


Deployment Perspective

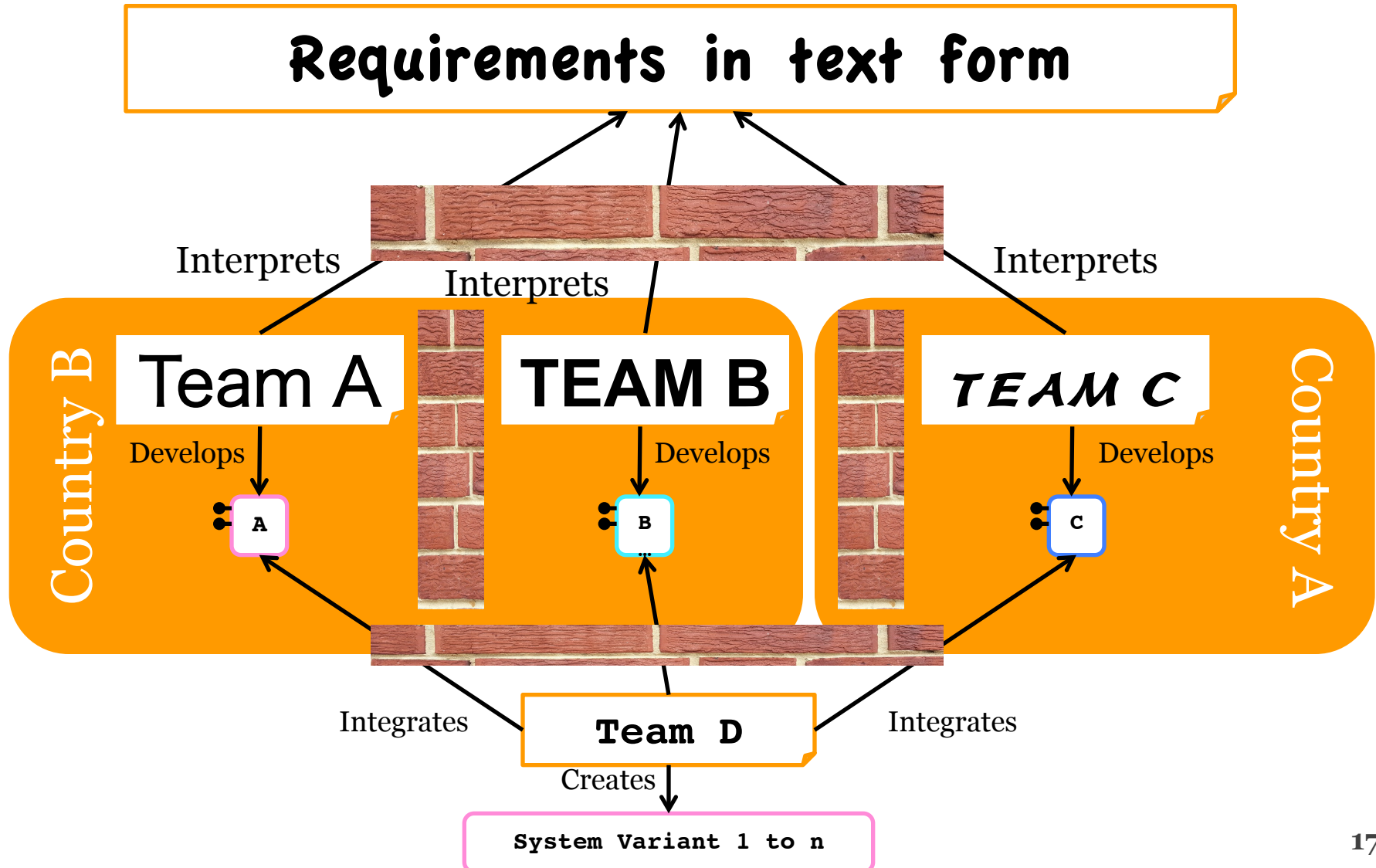
- Non functional properties
 - Timing
 - Memory consumption
- Bus / network outages
- Congestions
- HW Failure handling
- (Robustness)



Organizational Perspective I



Organizational Perspective II





Organizational Perspective

- Different interpretations of the requirement



Summary

- Avoid BIG BANG
- Think about what you want to find
- Instrument wisely
- Do not forget to test for what you absolutely do NOT want to find (negative testing)
- Tear down the walls and Talk to each other 😊

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Some aspects on integration testing



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