Bindings in AADL

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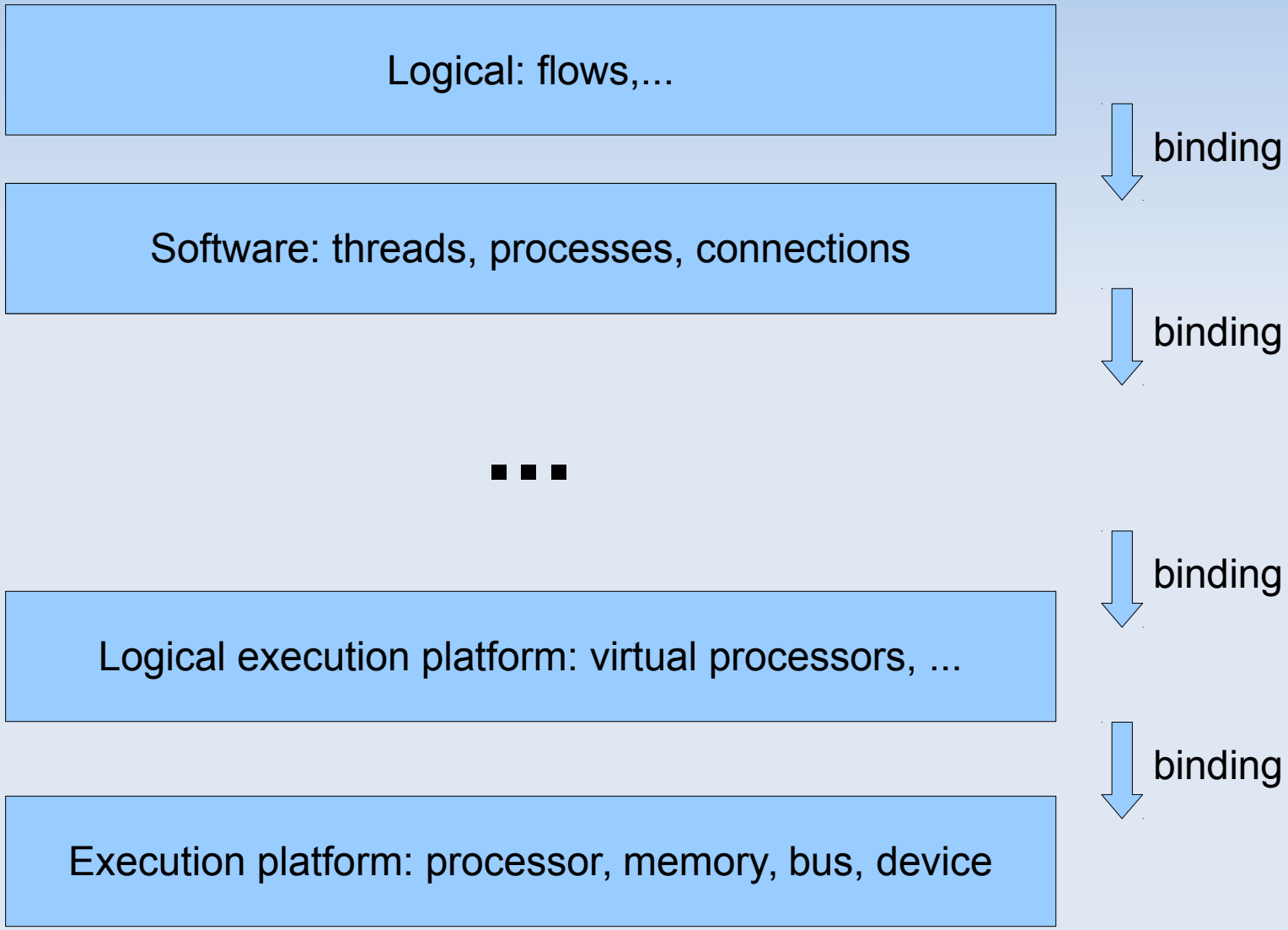
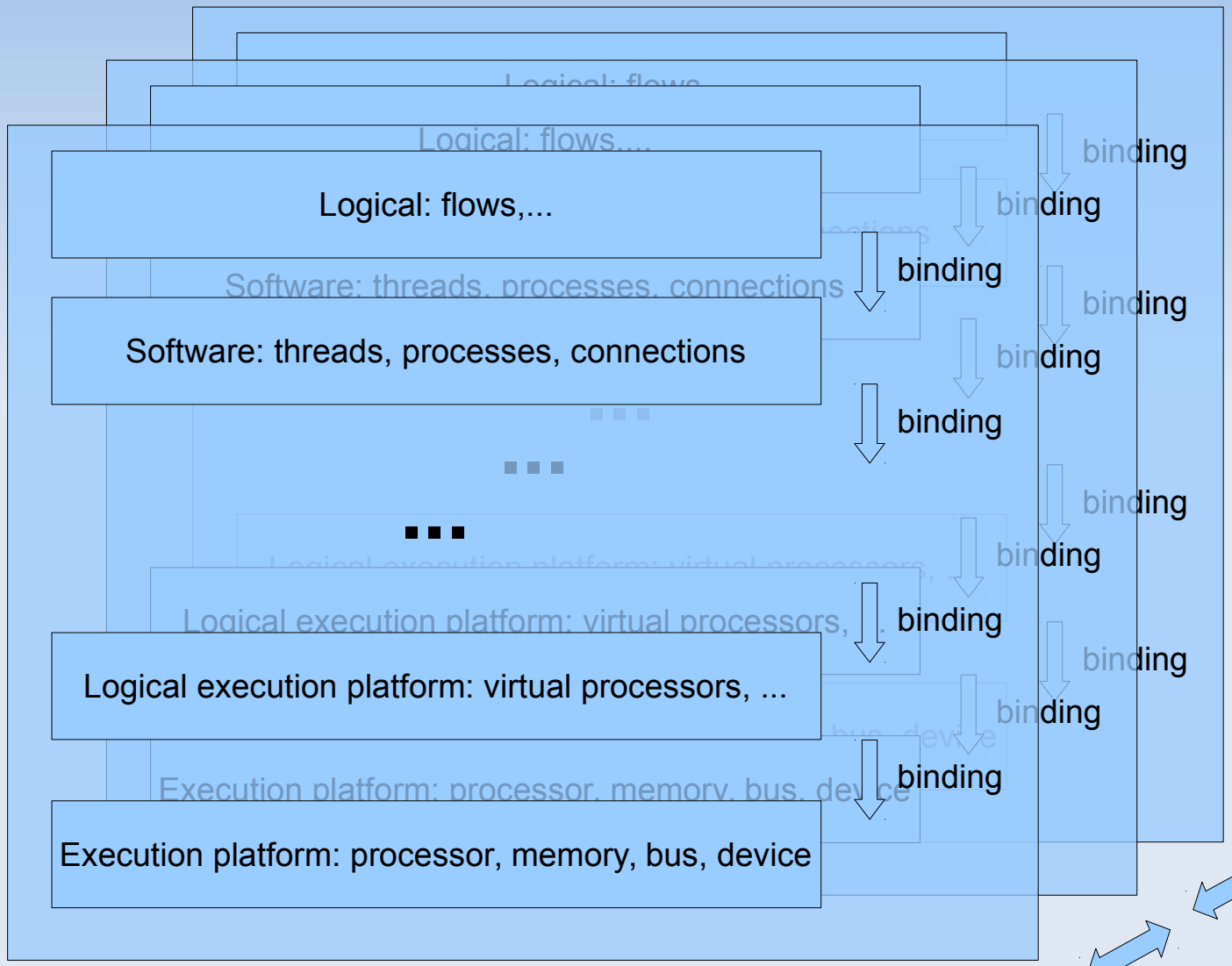
SAE AS-2C AADL Winter Meeting 2016

Multi Level Architecture



Levels and Layers



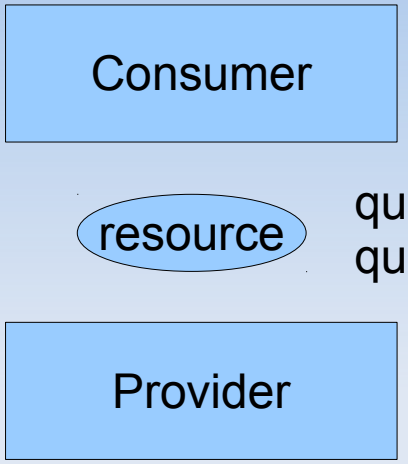
including refiement of binding

detailed

- extension+refinement
- Implemented_As

abstract

Binding

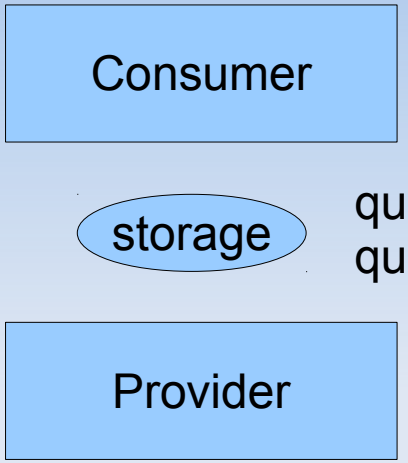


Semantics of multiplicity ???

Analysis Targets

- Resource consumption (AADL Core?)
- Reliability (EMV2?)

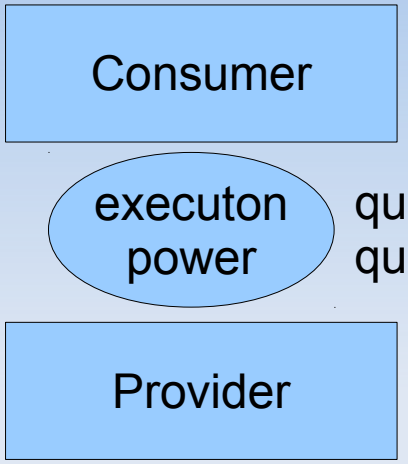
Memory Binding



memory
system
process
...

<u>Semantics of multiplicity:</u>
one of,
partly one partly another
duplication-triplication

Process Binding



requires

quantity,
quality characteristics

can provide

uses

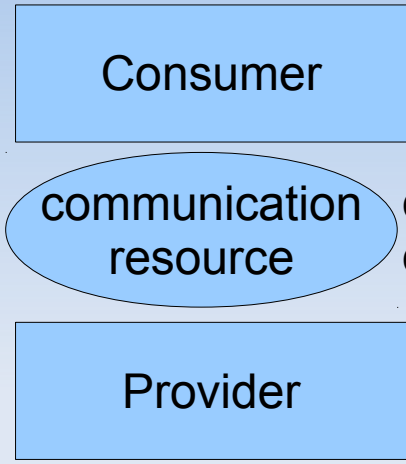
no abstract quantity
only in terms of concrete executor functionality?

provides

processor
system
virtual processor
process (vm)
...

<u>Semantics of multiplicity:</u>
one of,
partly one partly another
duplication-triplication
parallelization

Connection Binding



requires

quantity,
quality characteristics

uses

bandswidth, latency
protocol
QoS (loss probability, loss detection, ordering, …)

can provide

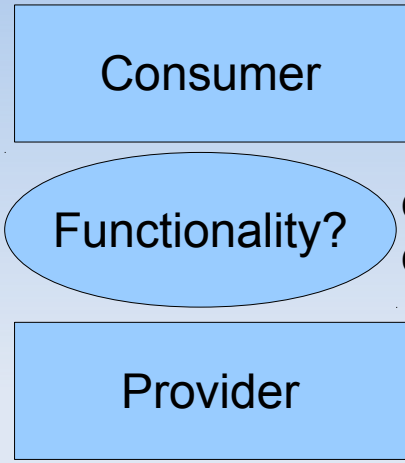
bus
system
virtual bus
flow
sw and hw components
...

provides

<u>Semantics of multiplicity:</u>
one of,
partly one partly another
duplication-triplication
parallelization

sequence, several sequences,
diamond

Functional Binding



requires

quantity,
quality characteristics

can provide

uses

API
protocol?
QoS?

provides

system
process

...

<u>Semantics of multiplicity:</u>
one of,
partly one partly another
duplication-triplication
parallelization

Thank you!

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