

Highly Available Composable Services Reality or Wishful Thinking?

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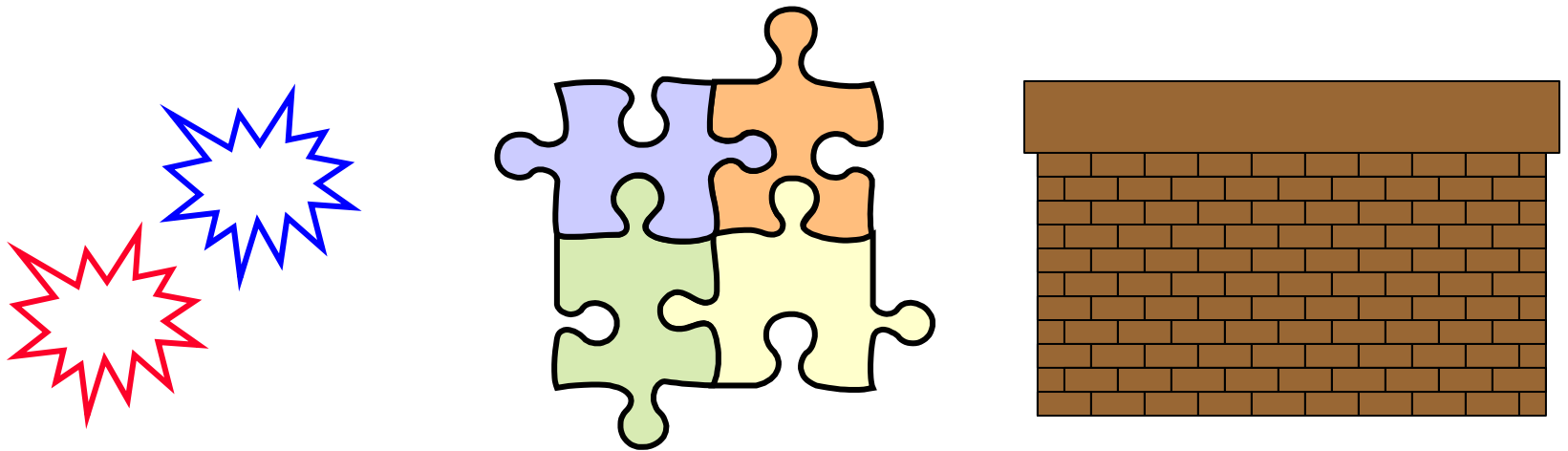
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Composability

- **Composition:** "The act of combining parts or elements to form a whole"
- **Composability:** "The ease of forming a whole by combining parts"

Parts: The *component (sub) systems* or the **components**

Whole: A *system of systems*



Why do we compose?

- To “build” larger, complex, scalable, integrated (...) entities
(keep, improve, add)
- A composition should bring into existence new *emerging services* that are more than the sum of the *prior services* of the components.

$$2 + 2 = 4+$$

... a composition should be more than mere “integration”

What is a useful composition?

- USEFUL depends on the intent of a composition
 - Structured (modular, trusted, validated) building blocks?
 - Scalable Enhancers? (over design, revisions, certification, ...)
 - Emergent properties?

What is composable? What are the processes? Policies? Limits? ... What is **NOT** Composable?

- Composition, Compositionality, Composability, Integration, Aggregation, Plug & Play ...
- Is it systems we should be interested in or "services"?
- Is complexity mgmt/functionality the main driver?
- Where does it best apply, and where is it a fallacy to pursue? (Systems, SW, RT, RT-SW, Time, Security, Dependability, V&V...)
- Is it useful in reality or just for academics ???
- What are thrust areas to meaningfully realize it - art/science?
- Are "closed" systems/services more composable than "open"?
- ❖ Composability is only as useful as the richness of the component specifications (functional & extra-functional), and the compositional frameworks supporting the component interactions!