

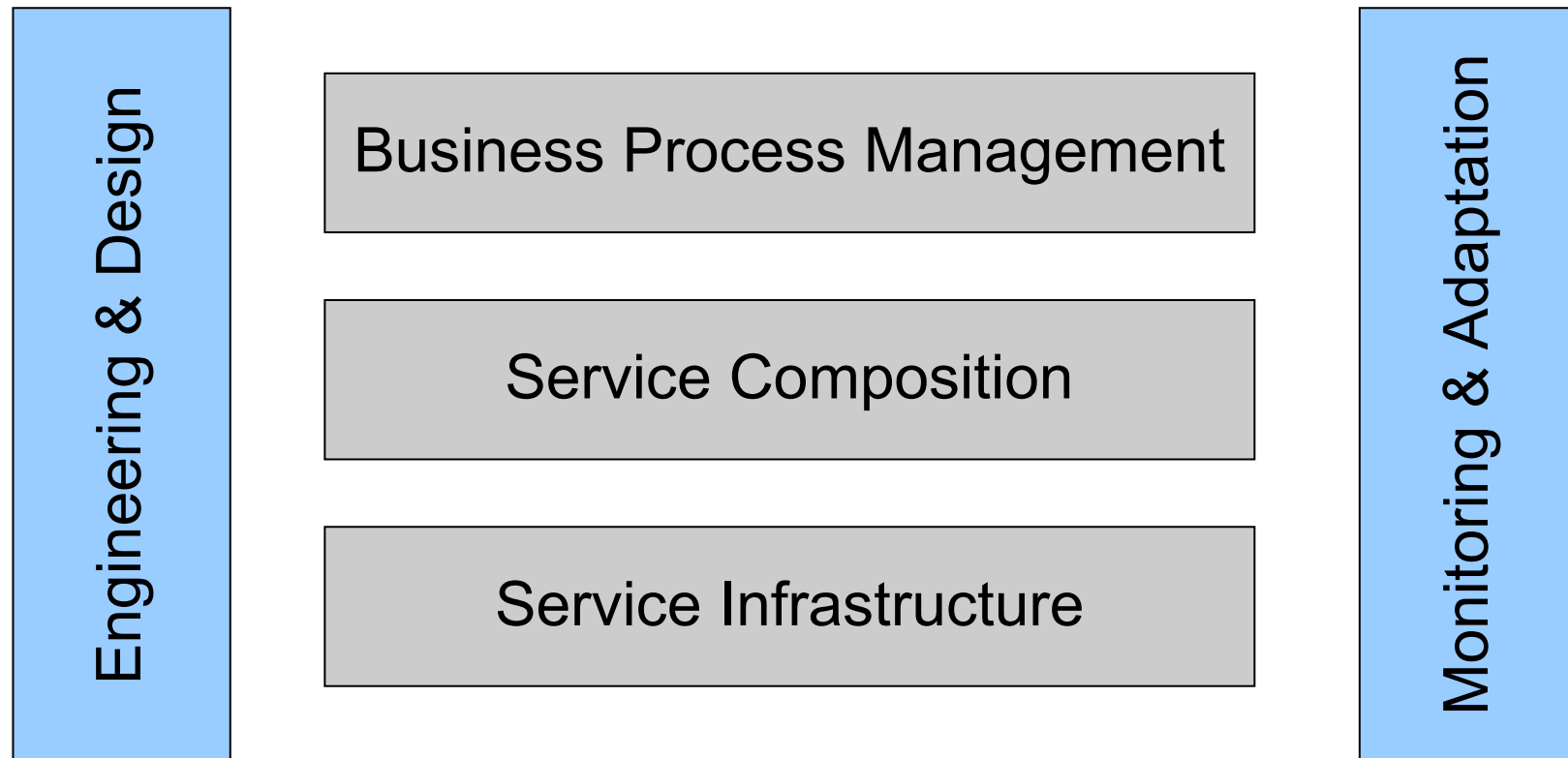
Self-managing service based applications

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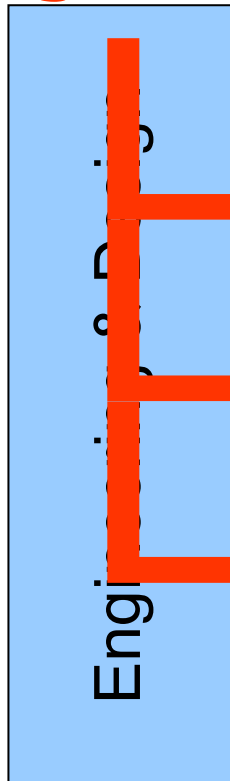
Service based applications



Service based applications



Engineering

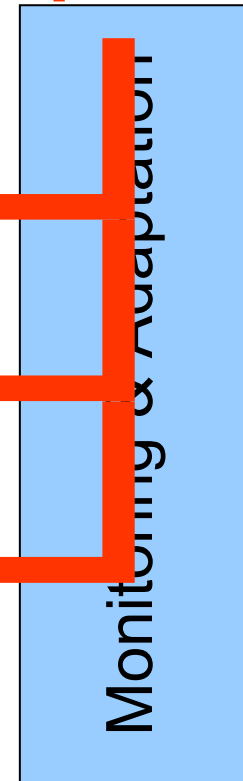


Business Process Management

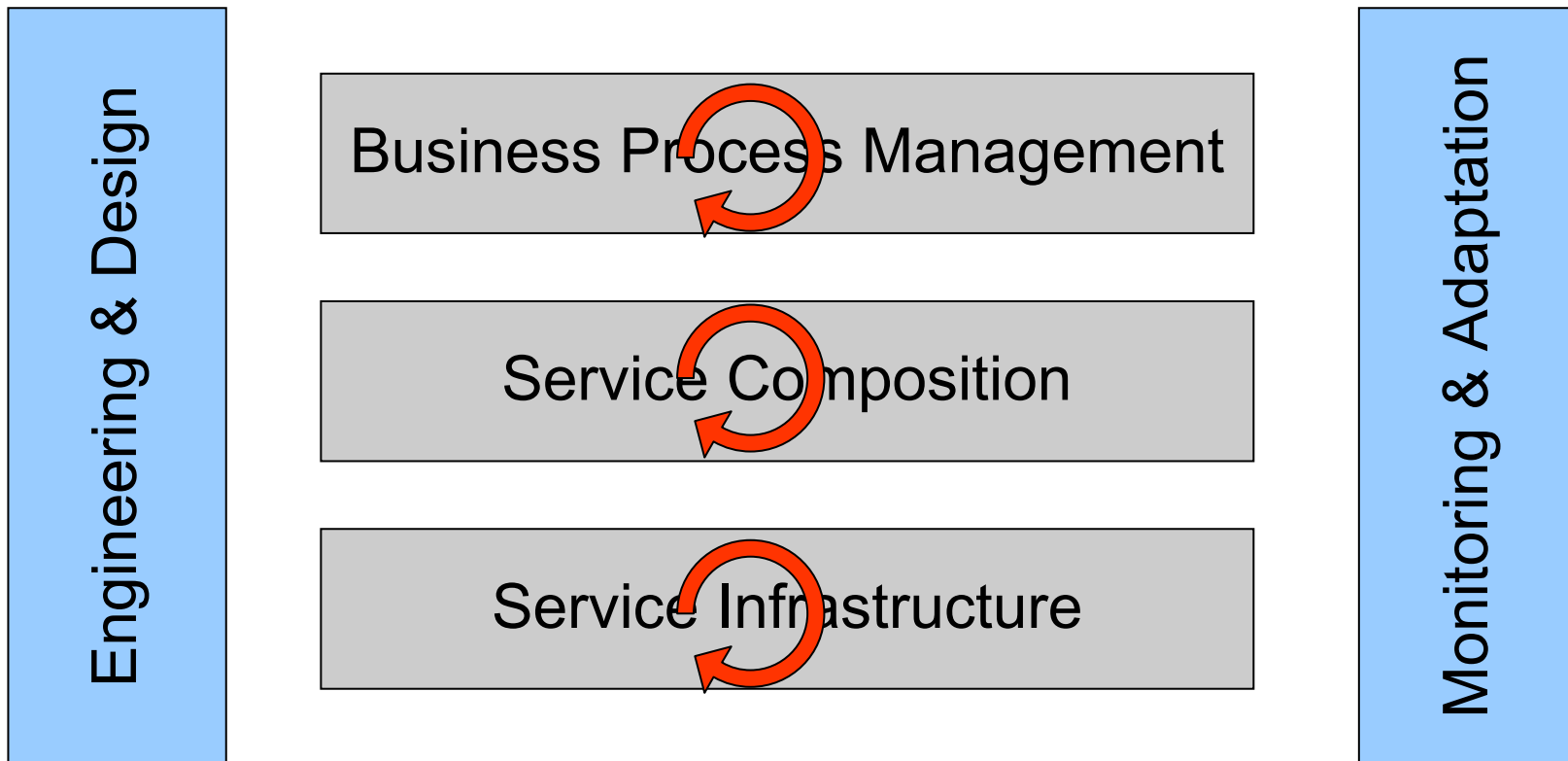
Service Composition

Service Infrastructure

Adaptation



Self-* adaptation at the different layers



Business Process Management

- Is self-* adaptation possible at all at this level?
- Does the dynamic business models of the Internet economy require self-* at this level?

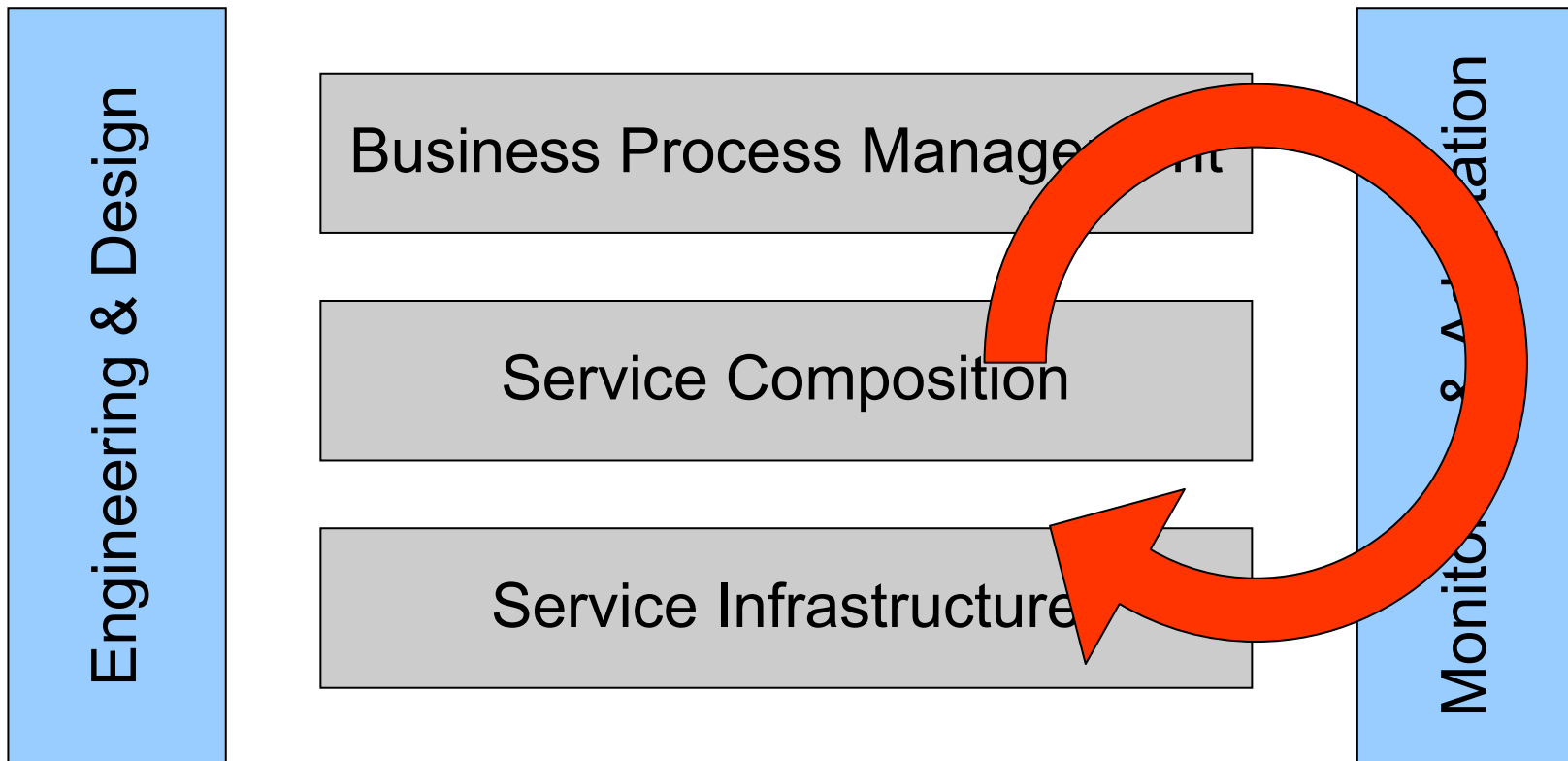
Service Composition

- Some efforts to apply self-* (service binding, re-try strategies...)
- A general model for self-* at this level is needed!

Service Infrastructure

- “Basic” self-* techniques already available for Grid/Network (computational/storage resources, bandwidth, ...)

Cross-layer (self-) adaptation



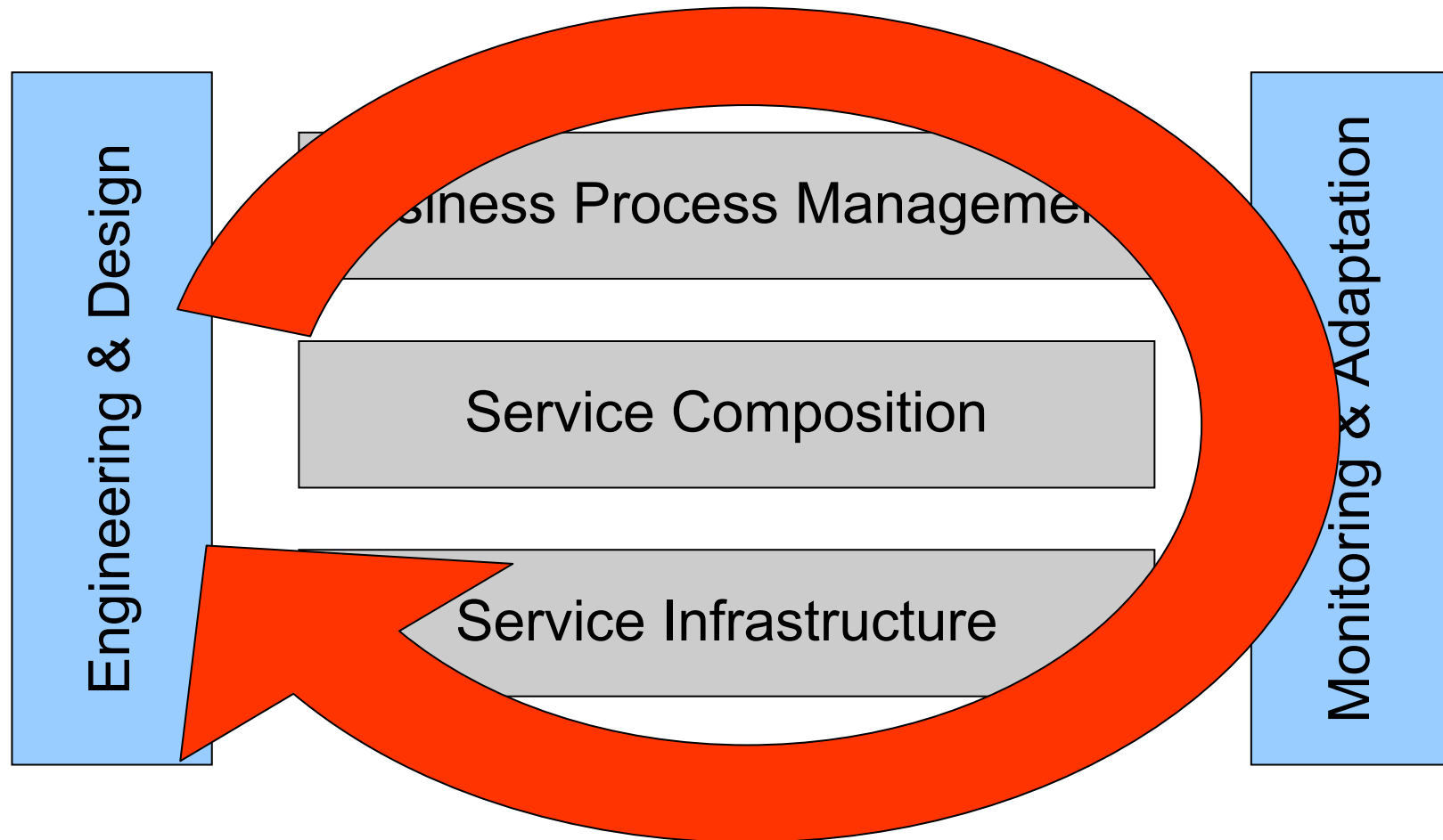
Cross-layer self-*

- Service-based applications are multi-layer applications
- In most cases, problems/obstacles have effects at all layers
- Adaptation has to be cross-layer
- Self-* behaviors within a single layer need to coordinate with self-* behaviors at the other layers

“Bounded” self-*

- It is necessary to specify and control what self-* is possible as well as what self-* has to be prevented

Engineering and Adaptation



Design for (self-)adaptation

- Adaptability of service based adaptation has to be taken into account from the very beginning of the design
- This is true in particular for self-adaptation!

Adaptation through re-design

- No much room for self-*?

