



How to implement a robust software architecture using open source solutions

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www.inaetics.org
<https://github.com/inaetics>

Agenda



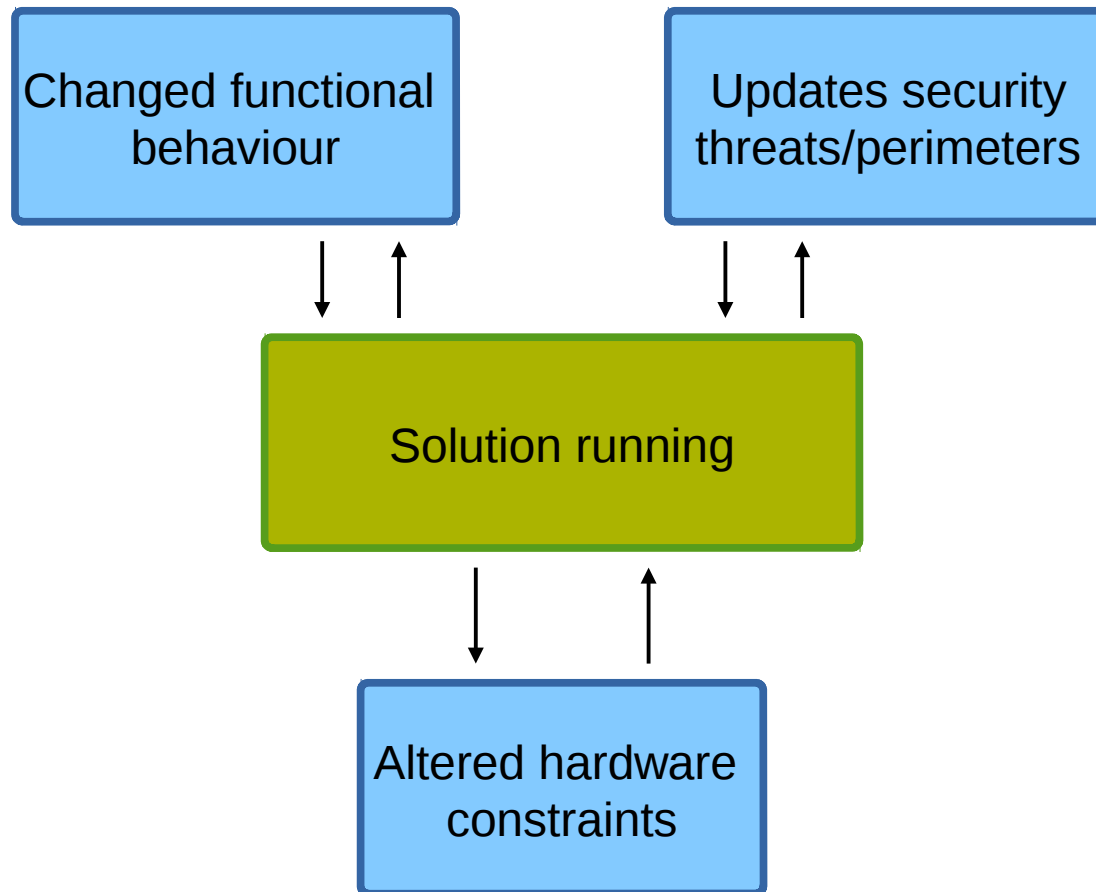
1. Introducing INAETICS
2. Conceptual architecture
3. Technology selection
4. Demonstrator
5. Roadmap

investing
in **your** future
European Regional Development Fund
European Union





INtelligent robust ArchitecturE for Time Critical Systems

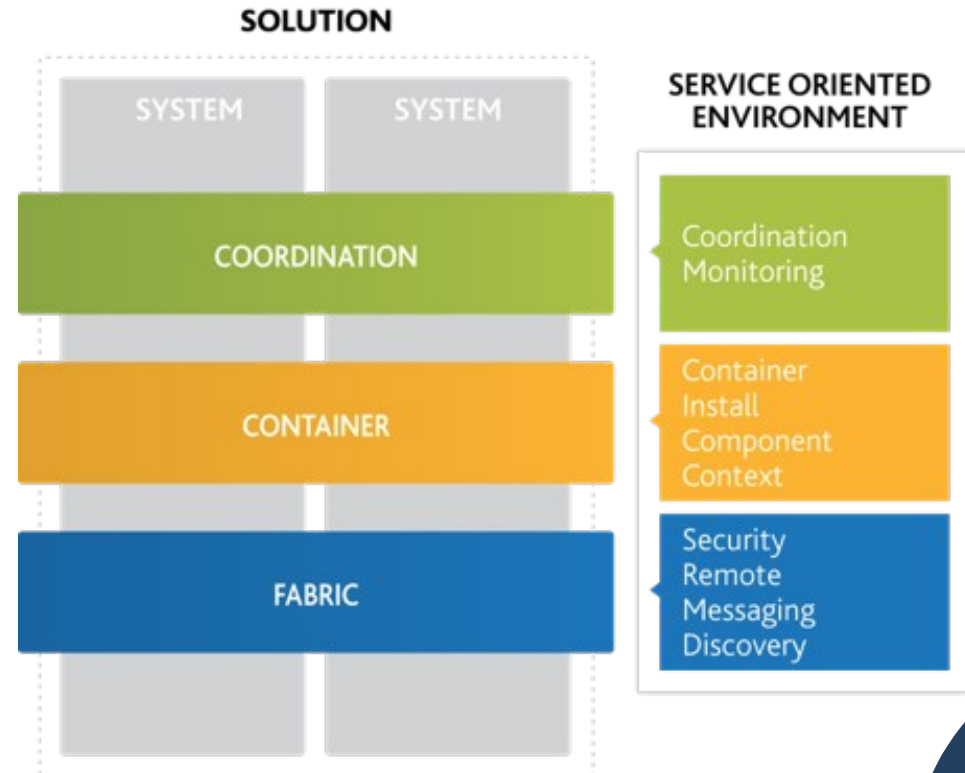


Conceptual architecture



Design choices

- Service architecture
- Logical layers
- No single point of failure
- Technology agnostic
- Open source

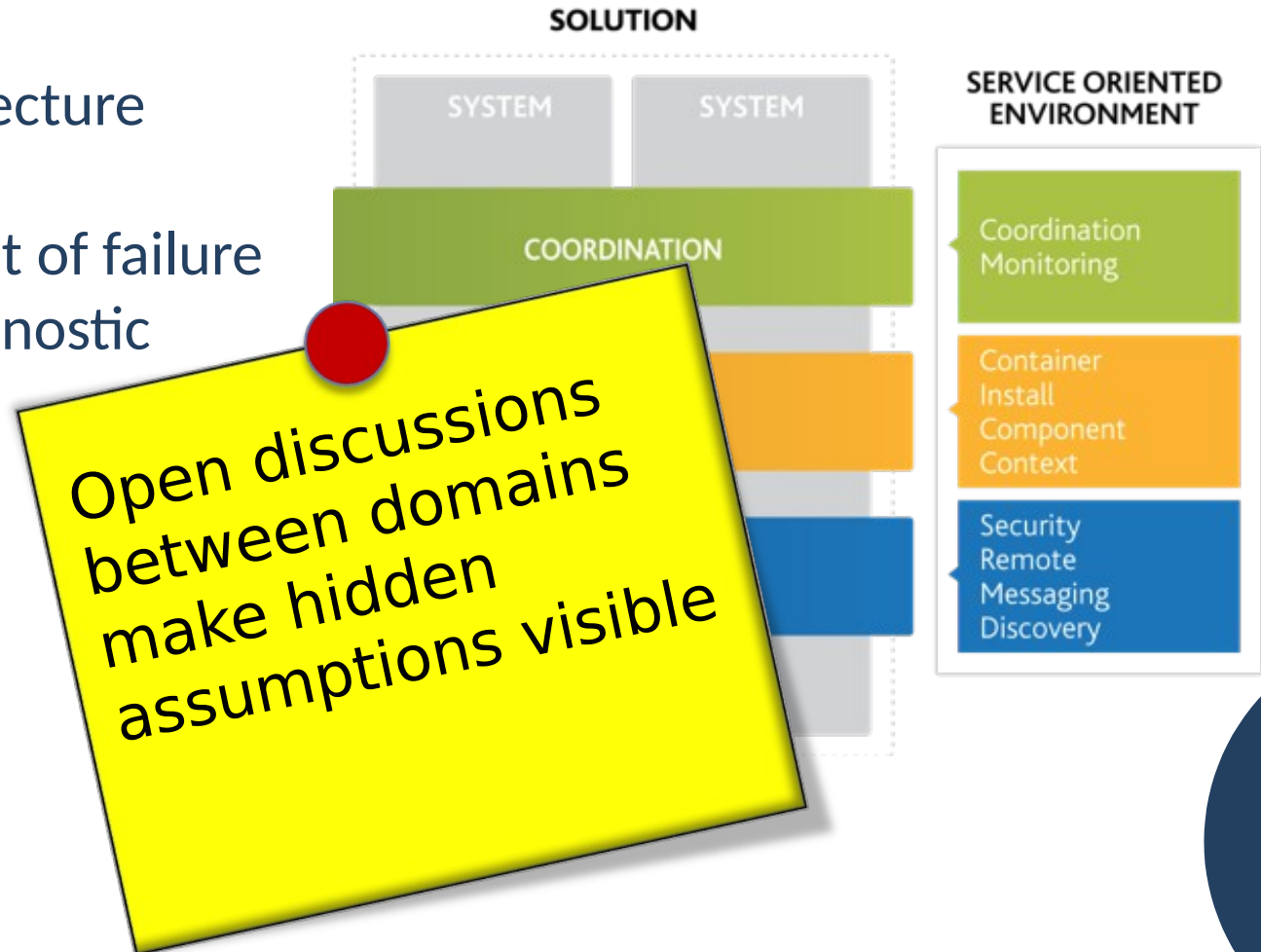


Conceptual architecture



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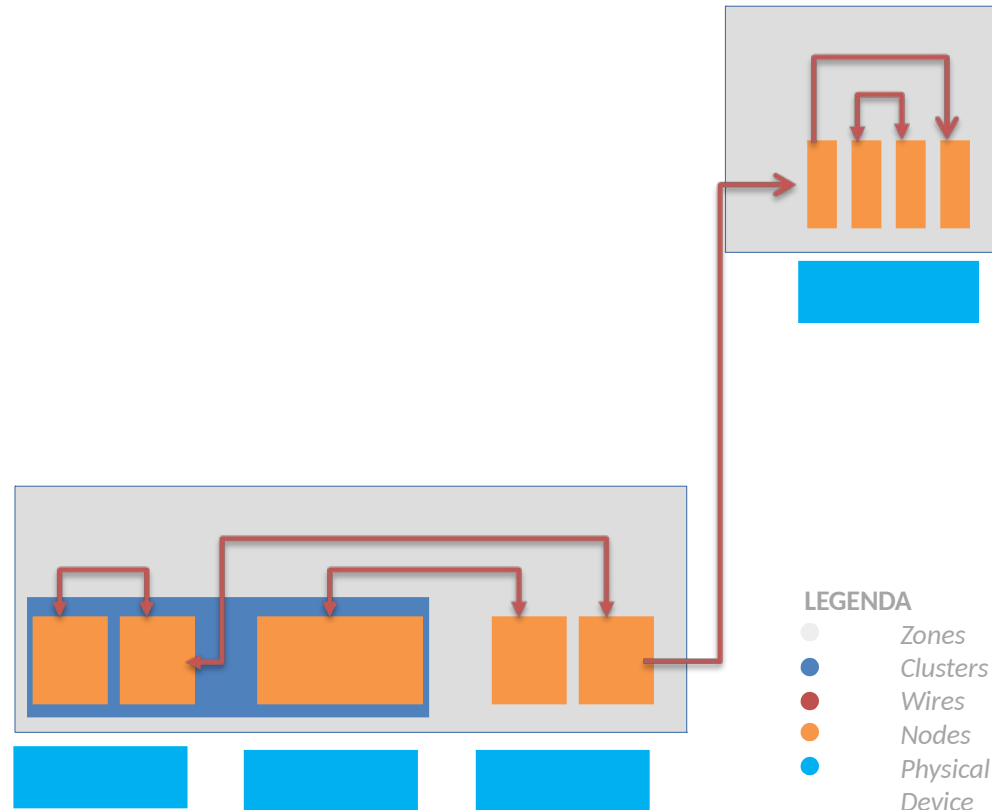


Fabric Layer



Is Composed of:

- Zones
- Clusters
- Nodes
- Wires

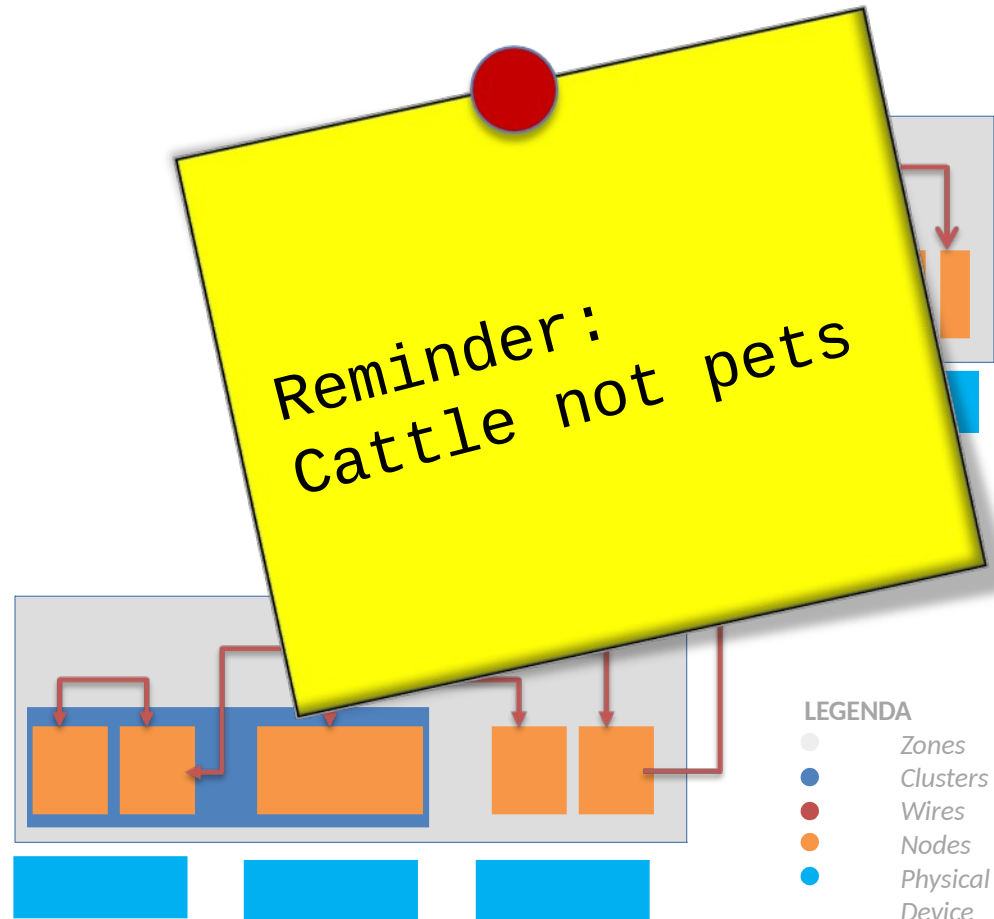


Fabric Layer



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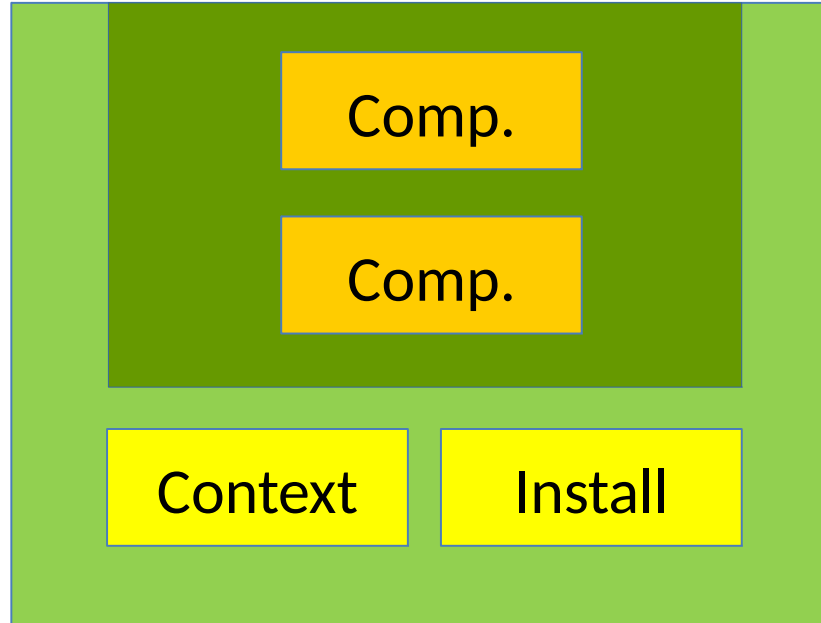


Container Layer

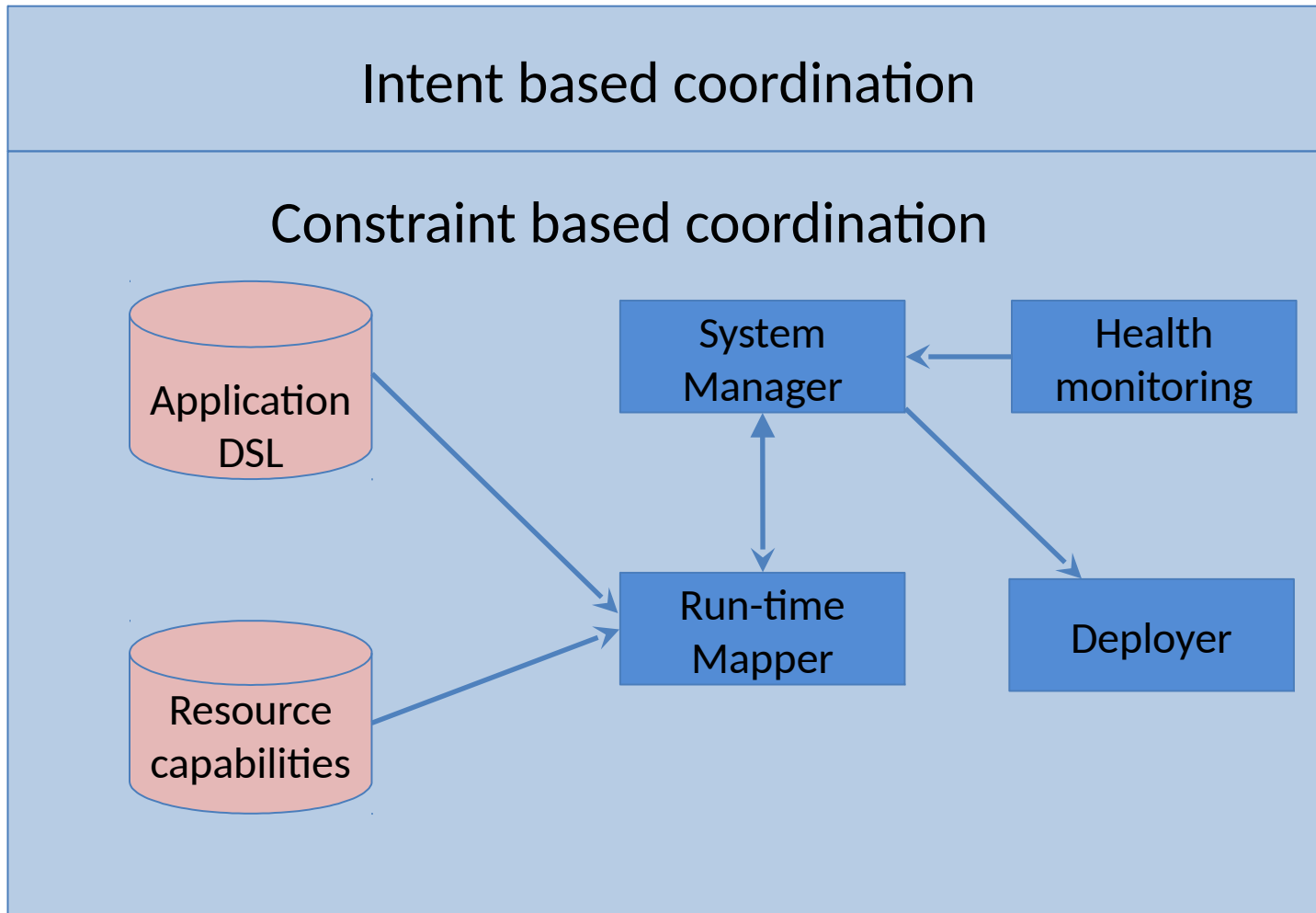


Is composed of

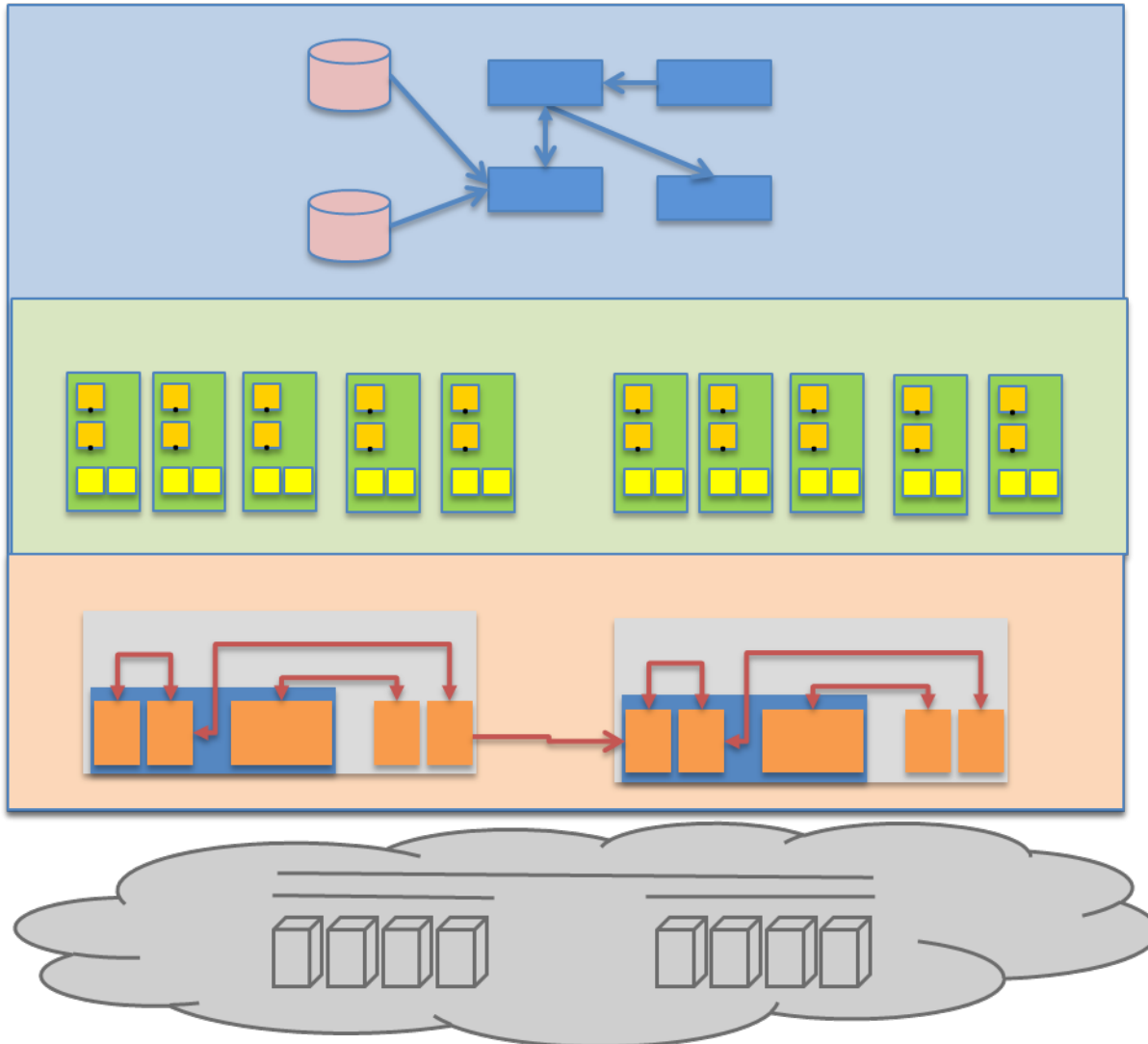
- Containers
- Context
- Install
- Components



Coordination Layer



Conceptual architecture



Technology selection



Criteria:

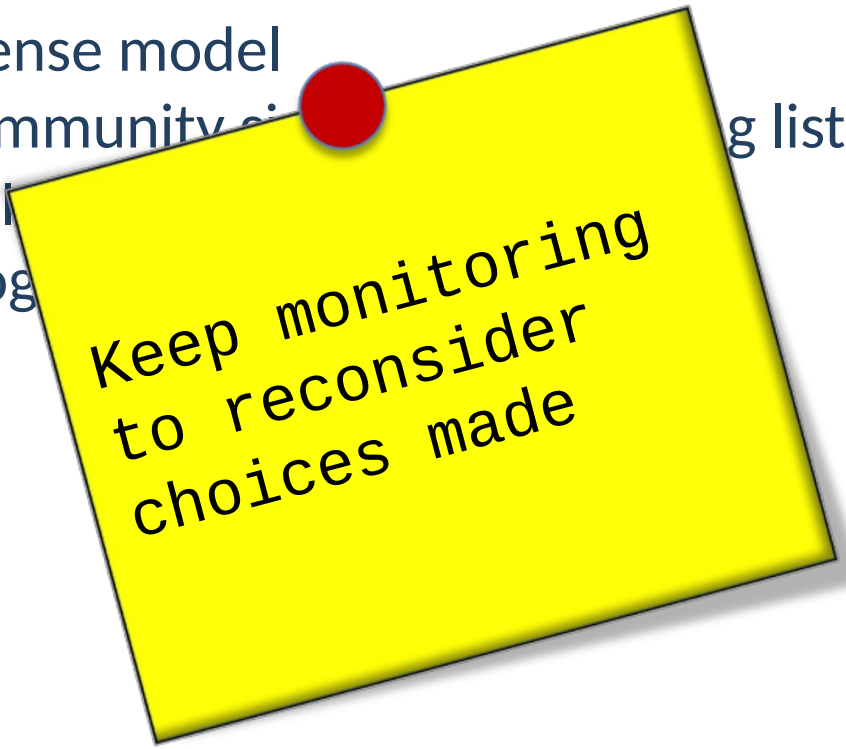
- Permissive license model
- Relevance
- Fit with INAETICS vision
- Supported programming language(s)

Technology selection

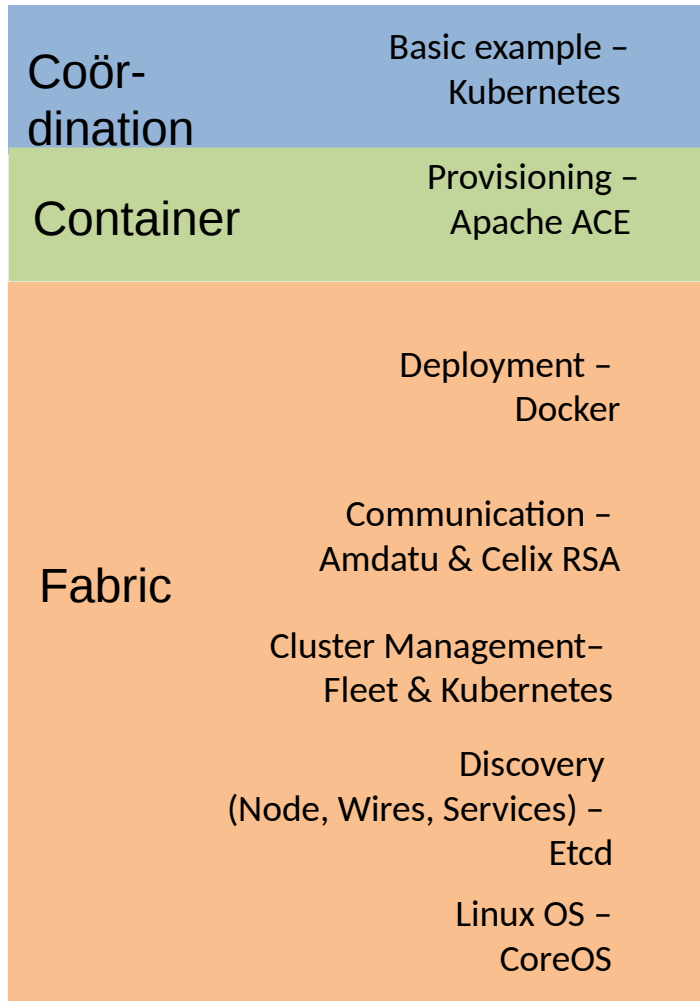


Criteria:

- Permissive license model
- Relevance (community interest, long list)
- Fit with INAETI
- Supported program



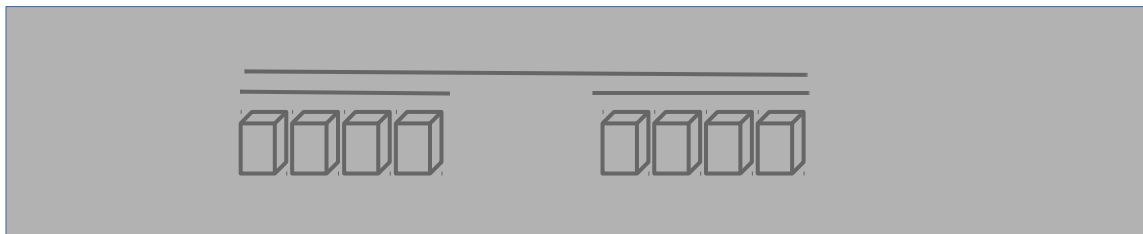
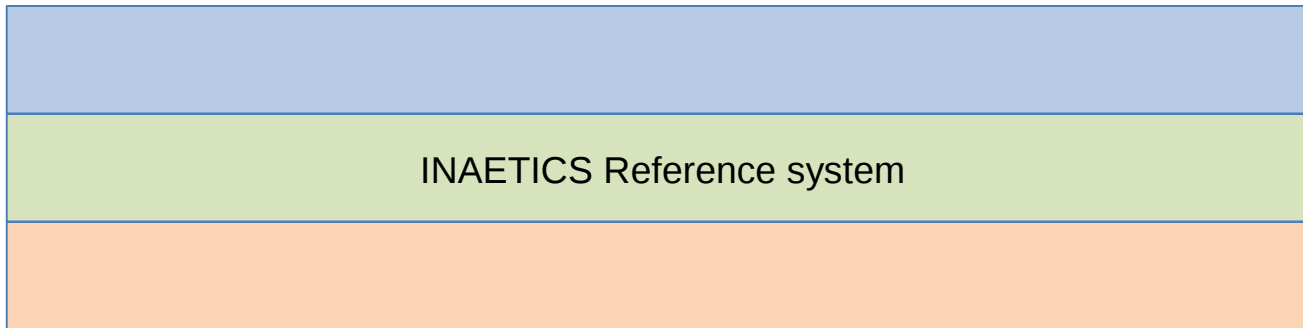
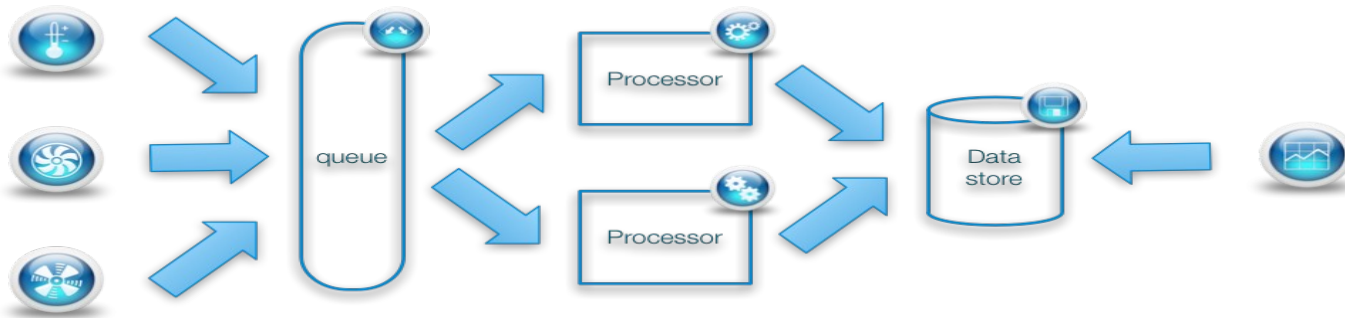
Technology stack



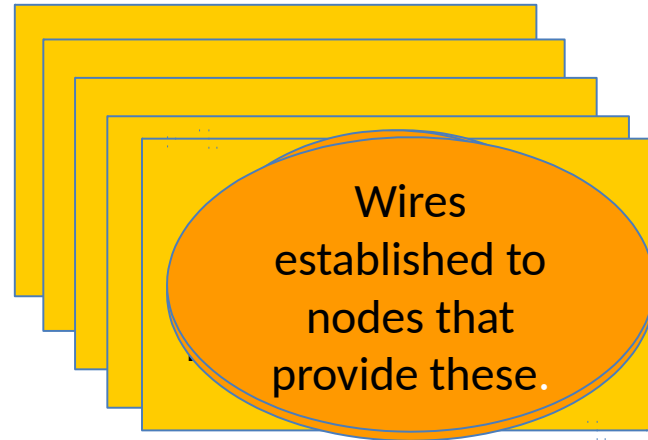
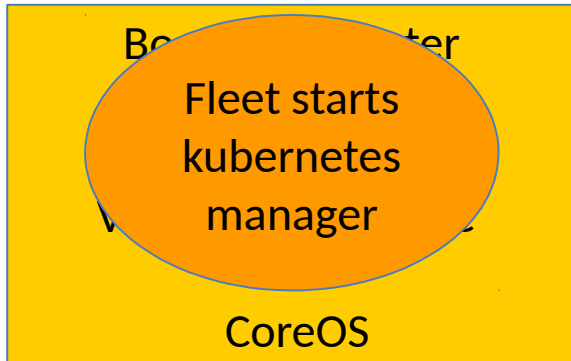
docker



Demonstrator



Demonstrator start-up



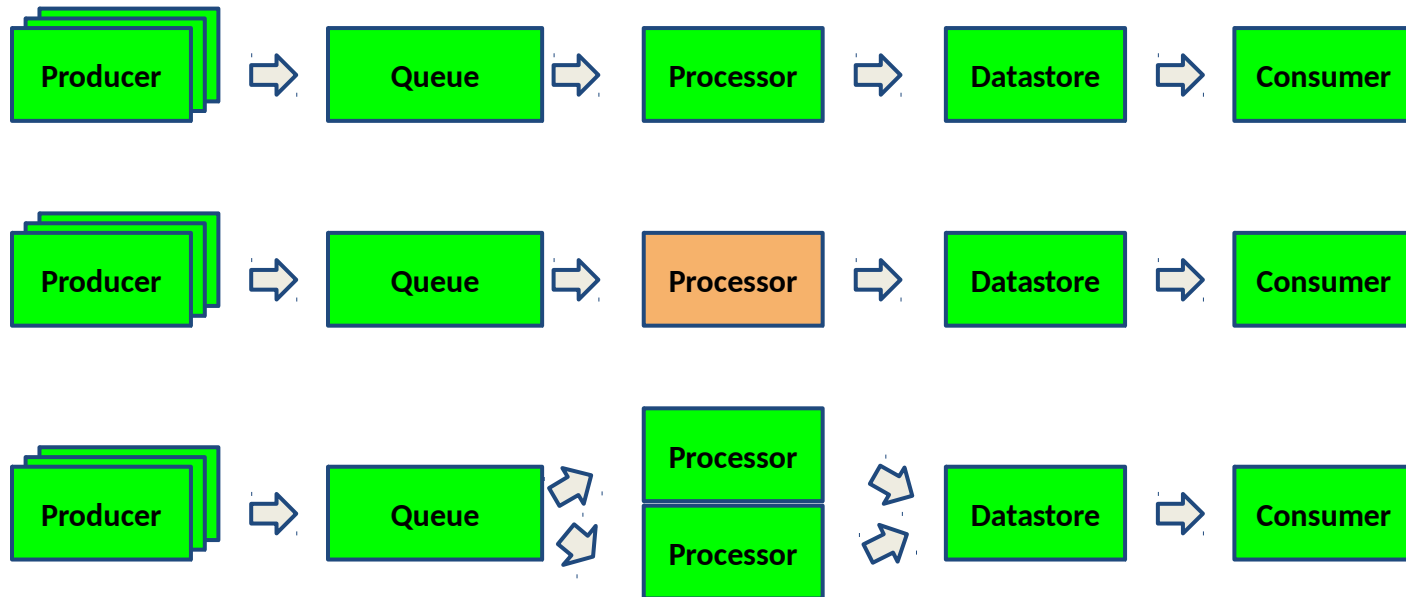
Browser to view/control
application contacts
kubernetes services



Demonstrator



- Scale - out





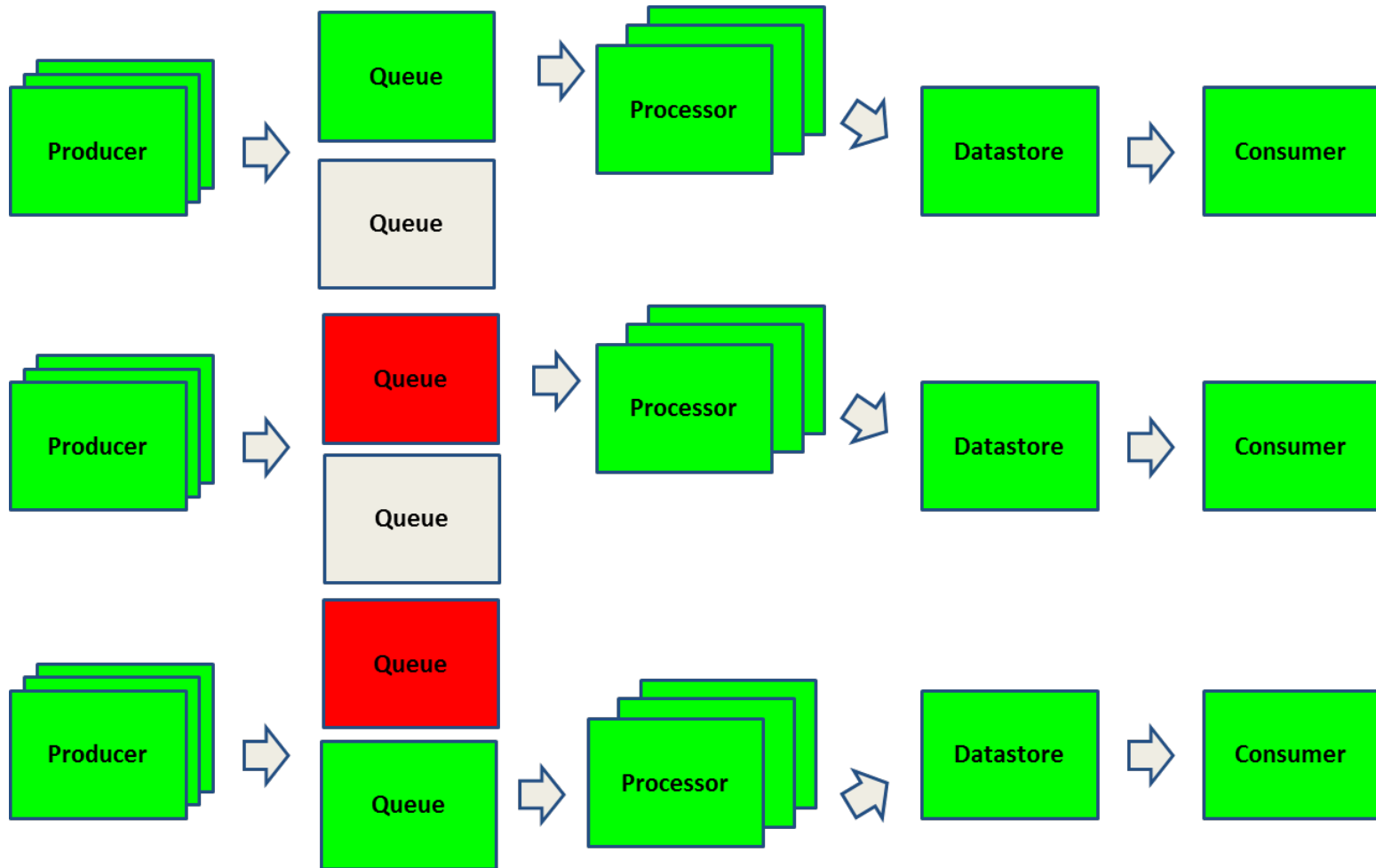
Film showing scale-out on Vagrant

`/home/inaetics/SmarterSystems/scaling.mp4`

Demonstrator



- Fail-over





Film showing fail-over on Vagrant

`/home/inaetics/SmarterSystems/failover_machine.mp4`

The INAETICS roadmap



October 2015

INAETICS 1.1

December 2015

- + Security policy
- + Component DSL and Services IDL
- + Secure Wiring
- + Async Wiring
- + Architectural documents on Fabric, Security, Coordination

Research constraint-based coordinator

?

- + Security Manager
- + Application DSL implementation

More INAETICS information



Visit the Luminis/Thales booth to see INAETICS in action on bare-metal machines (Intel NUCs)

Give it a try!

<https://github.com/inaetics/kubernetes-demo-cluster>



QUESTIONS



Visit the Luminis/Thales booth to see INAETICS in action on bare-metal machines (Intel NUCs)

