PROCESS

A Survey of Interactive Execution Environments for Extreme Large-Scale Computations

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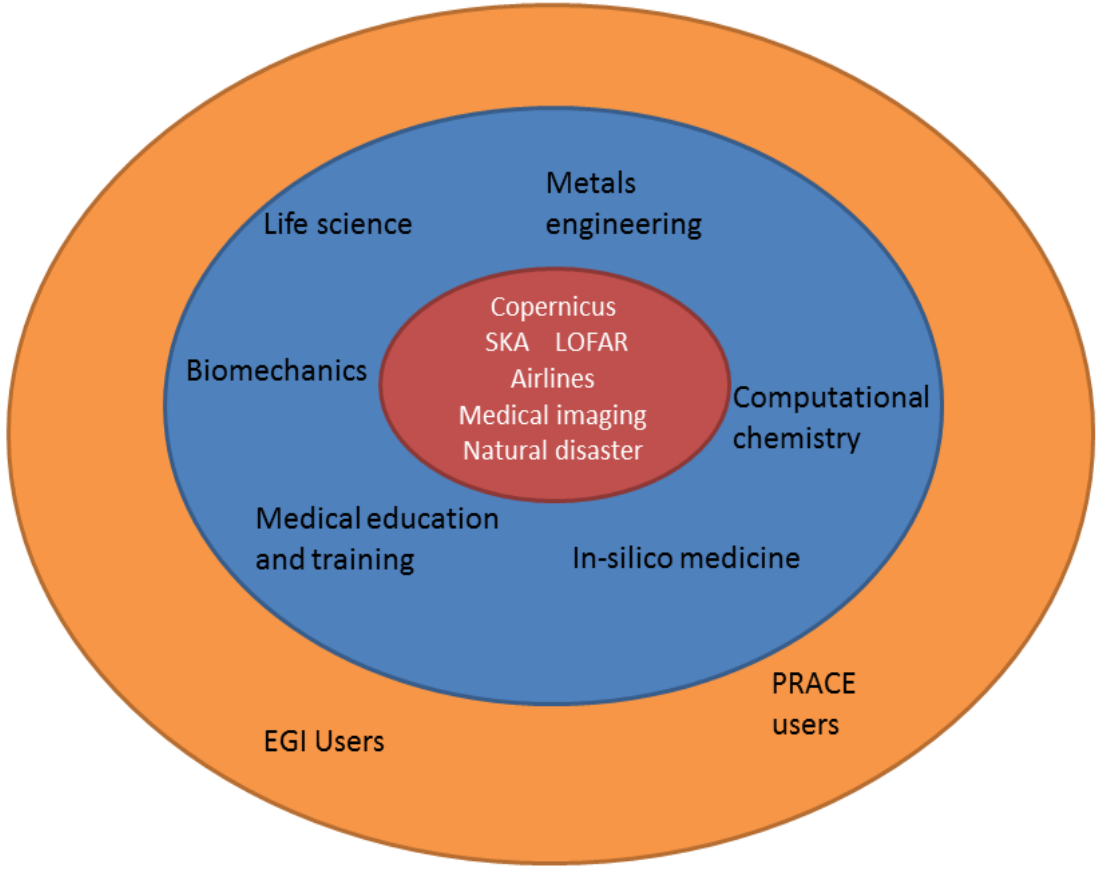
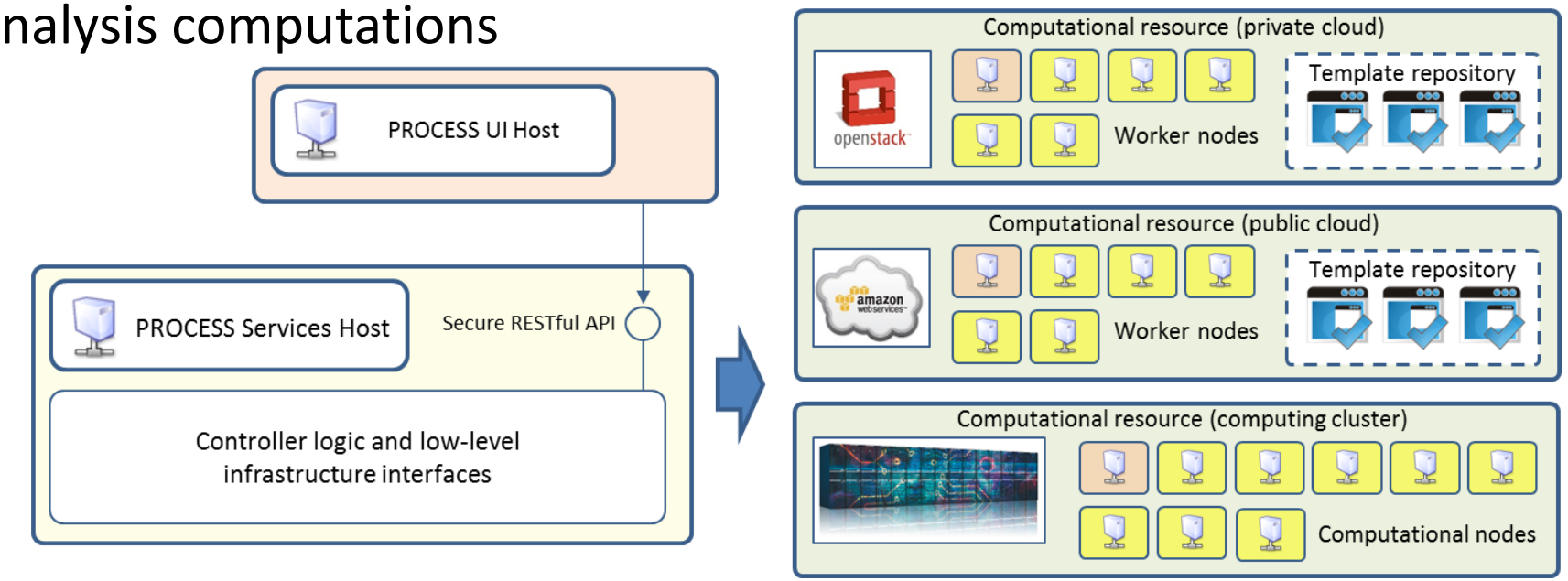
Goals of the PROCESS project

- To provide exascale computational and data services that will accelerate innovation
- To validate these services in real-world settings, both in scientific research and in industry pilot deployments:
  - Square Kilometre Array - a large radiotelescope project
  - medical informatics
  - airline revenue management
  - open data for global disaster risk reduction
  - agricultural analysis based on Copernicus data



Extreme large computing services

- based on *"focus on services and forget about infrastructures"* idea
- support computational activities: analysis, data mining, pattern recognition etc.
- use heterogeneous research datasets
  - input and output data from modelling, simulation, visualization and other scientific applications stored in data centers and on storage systems available on European e-infrastructures.
- support HPC data analysis computations



Survey of interactive execution environments

- This work provides a basic description of the available mechanisms and tools which support creation and sharing of executable documents for data analysis.

- Focus on:
  - integration of scripting notebooks with HPC infrastructures to support building extreme large computing services
  - Extensions required to add support specific to exascale processing