

Orchestrating Applications for a Modular and Distributed ADMS Platform

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PNNL

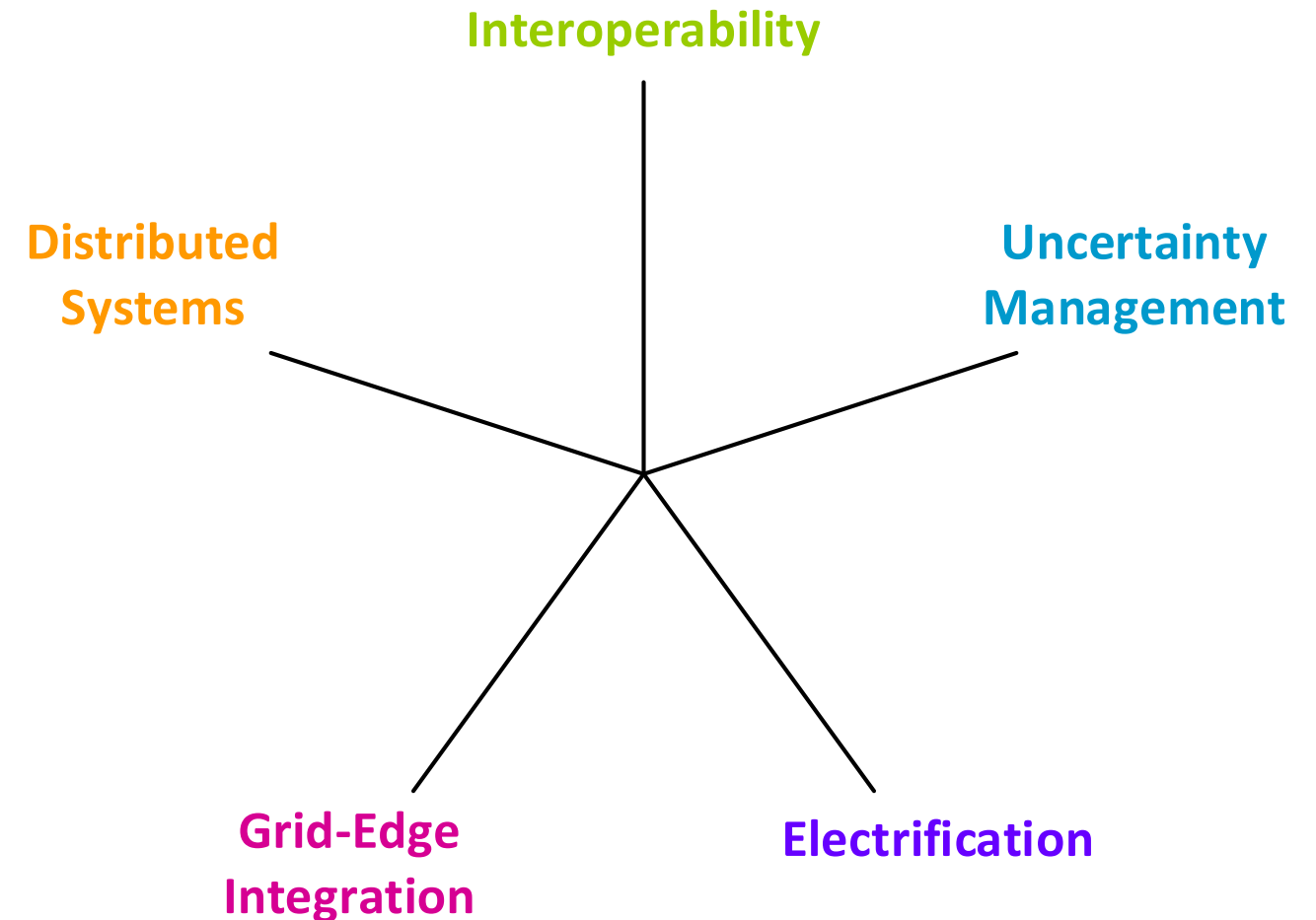
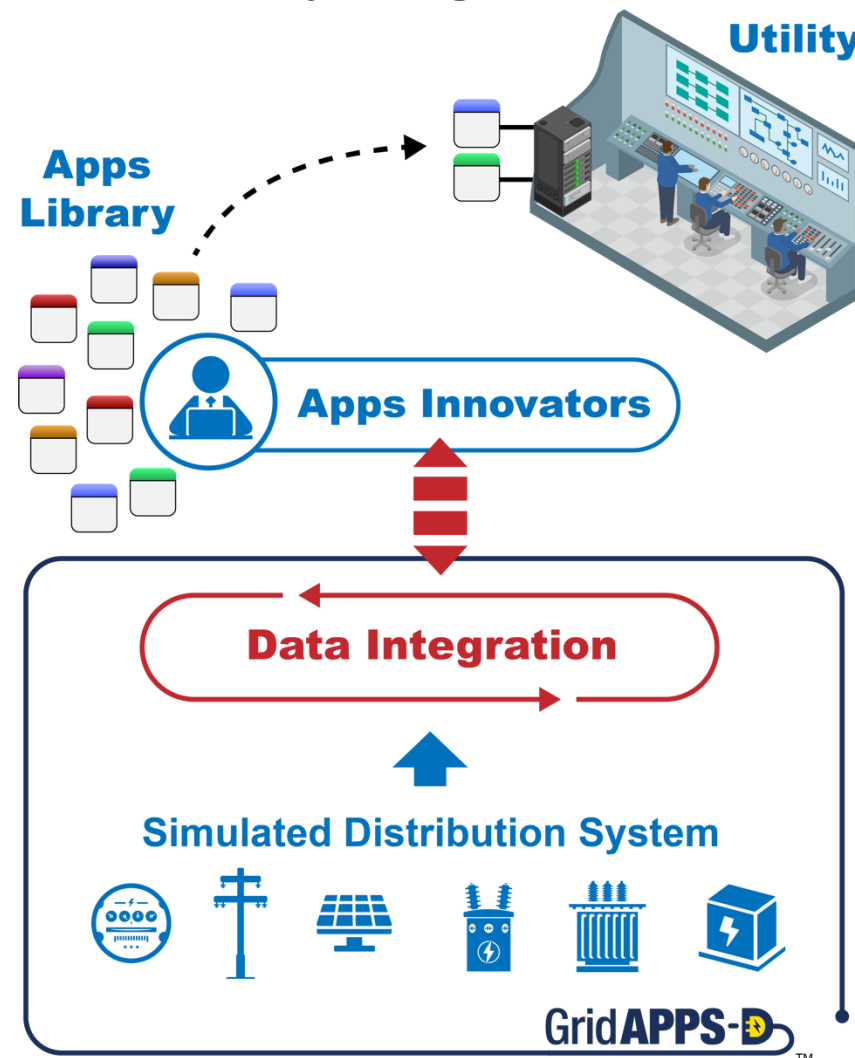


PNNL is operated by Battelle for the U.S. Department of Energy



Advanced Distribution Operations and GridAPPS-D

Vision: An ecosystem of interoperable distribution system management software applications for utilities, solution providers, and researchers to support an advanced multi-stakeholder, multi-objective grid.



Mission: to support the ability of utilities to operate the emerging grid of the future through research, development, and demonstration of advanced algorithms and systems.

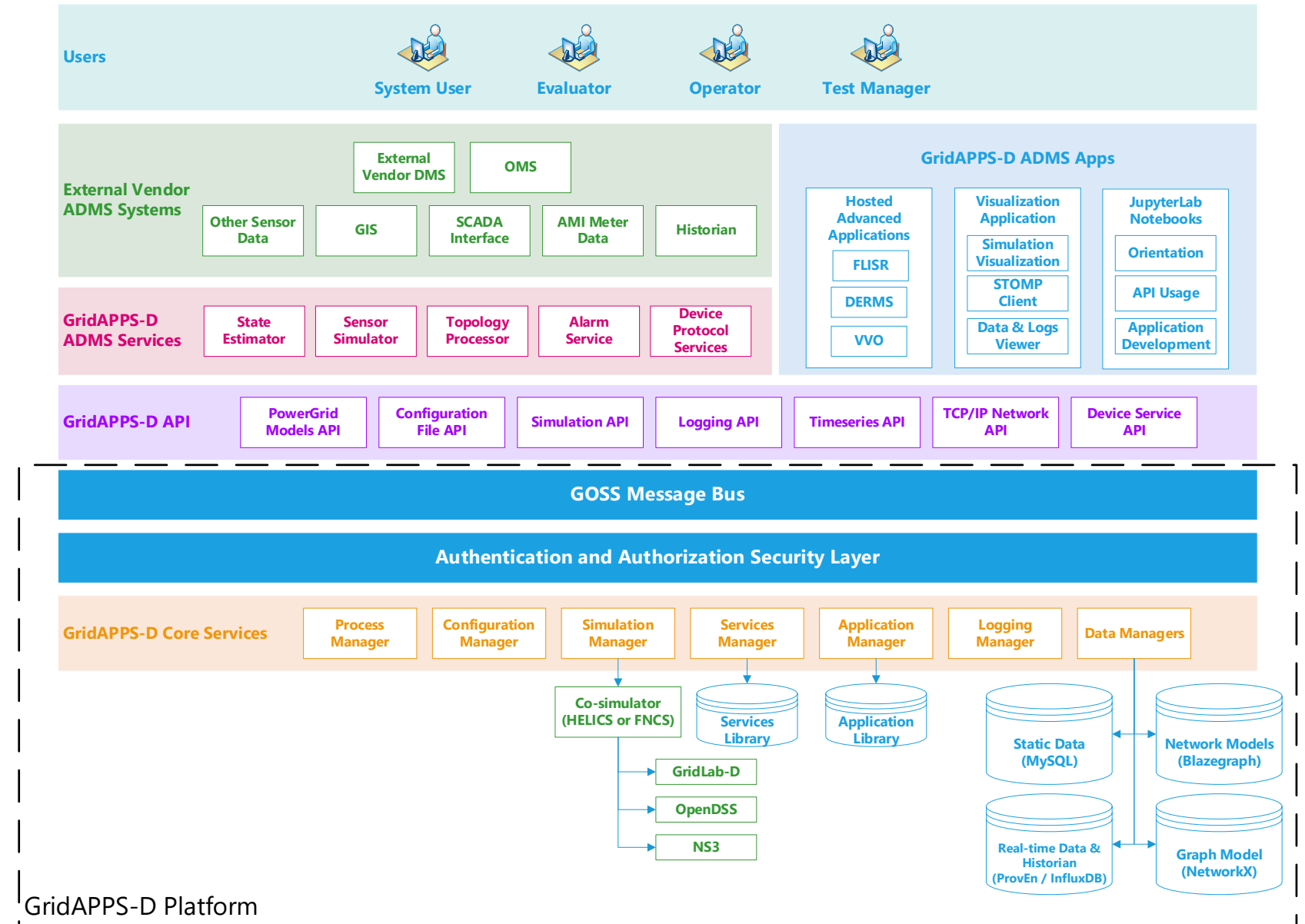
Open App-Hosting Platform Paradigm

Why have an Open Platform?

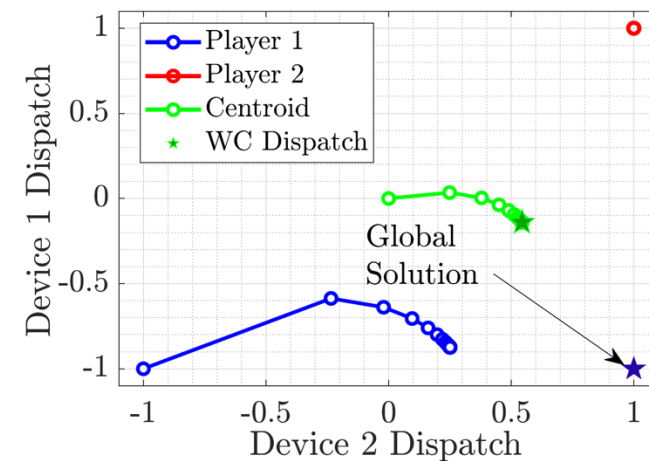
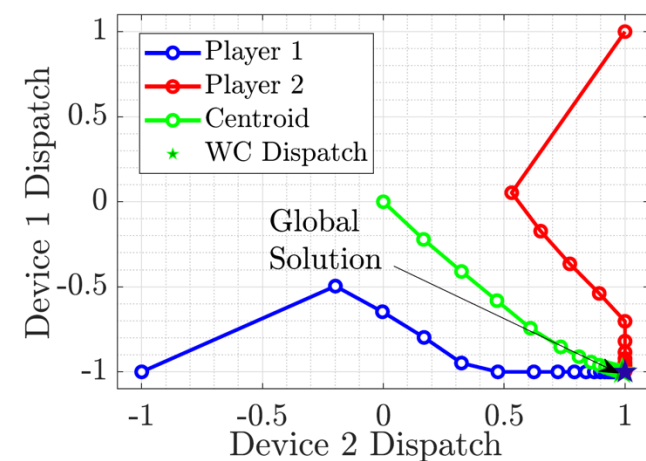
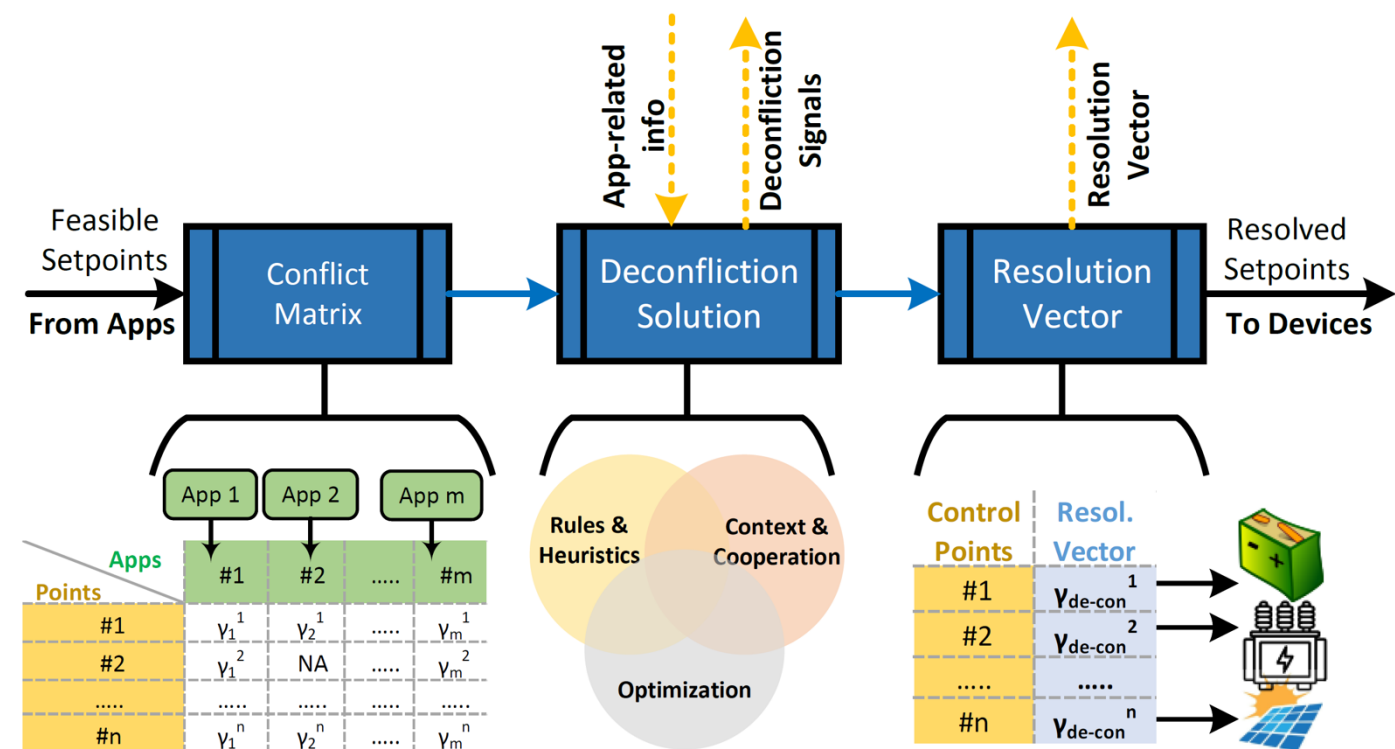
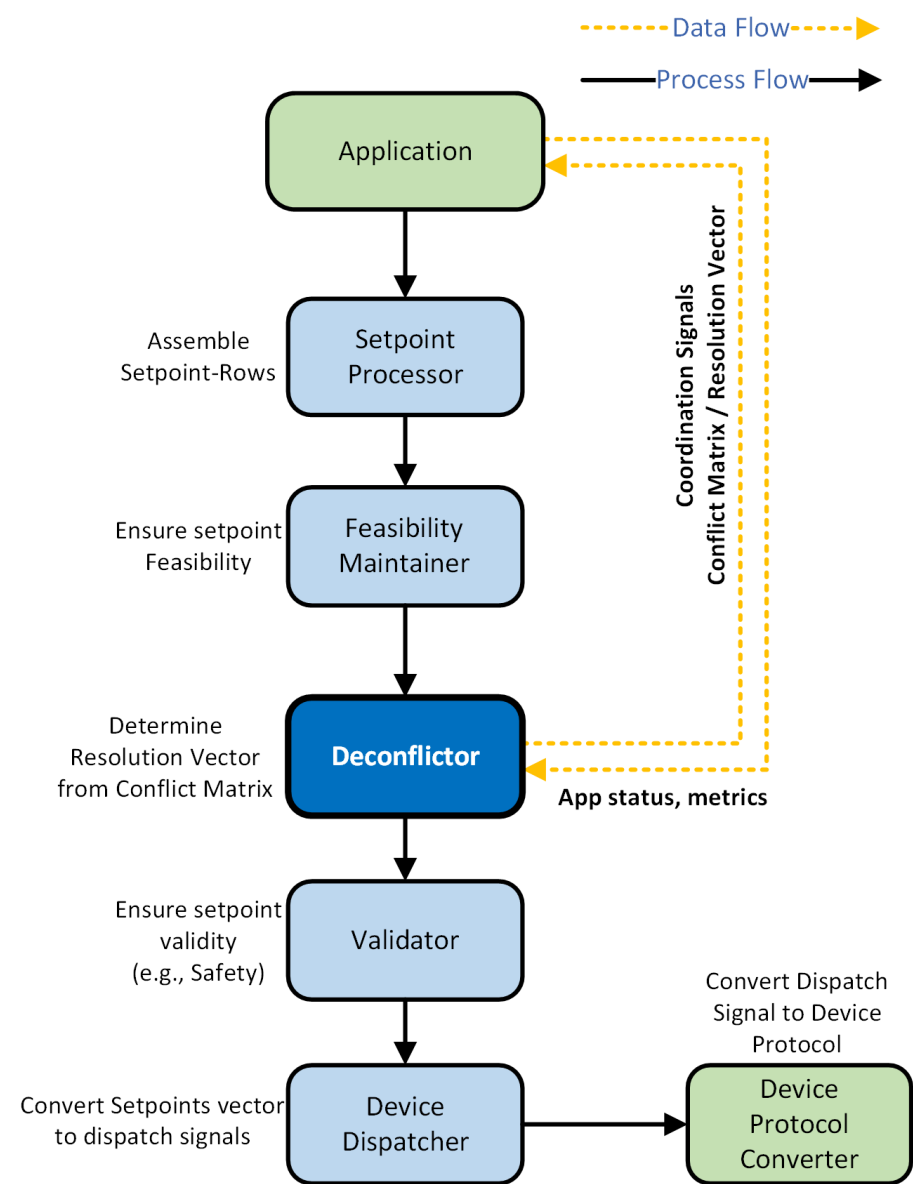
- Leverages marketplace of ideas.
- Reduces barrier to entry for specialized app developers.
- More integration by the app developer and less by the system operator.

Why Deconfliction?

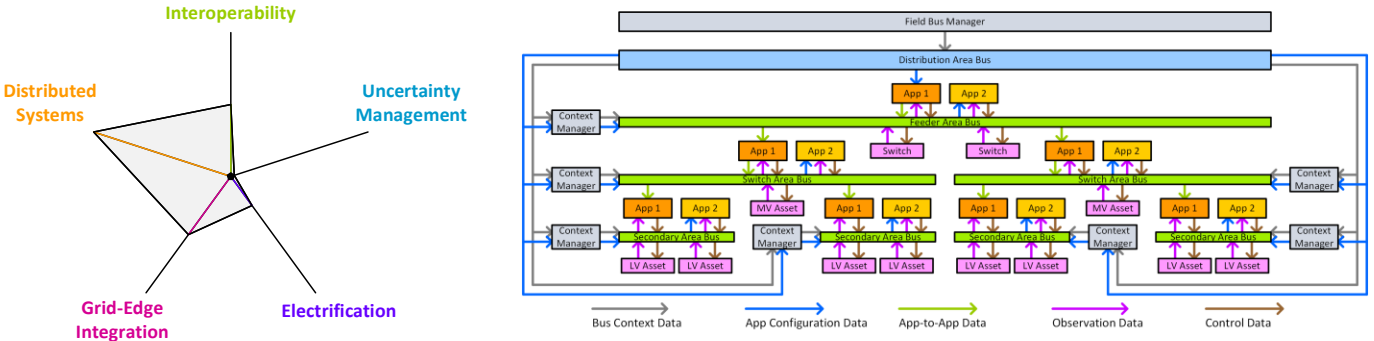
- Apps may produce conflicting control setpoints.
- Apps may be less trustworthy.



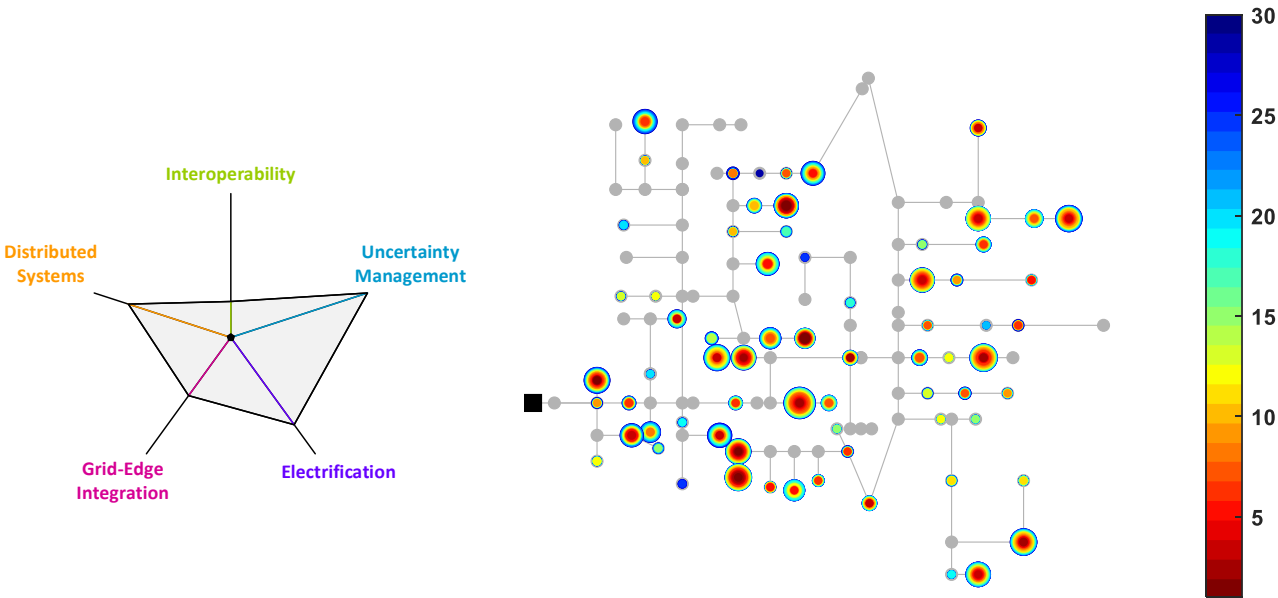
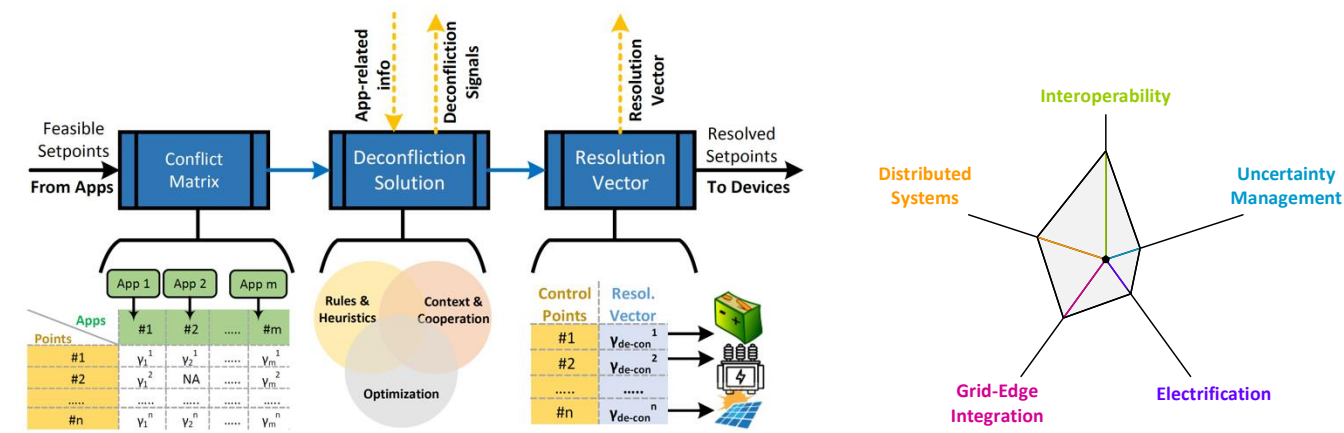
Deconfliction as a Framework for App Cooperation



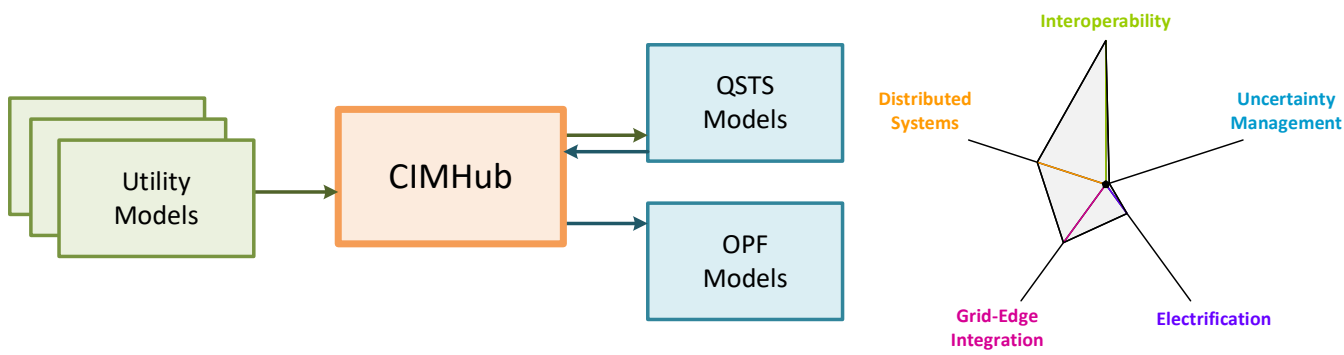
GridAPPS-D at DSO-Scale



Application Deconfliction



Stochastic Dynamic Operating Envelope



Standards-Based Model Exchange between Entities

Thank you!

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