



The 1st IEEE Conference on Energy Internet and Energy System Integration

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An Open Solution for Next- generation Real-time Power System Simulation

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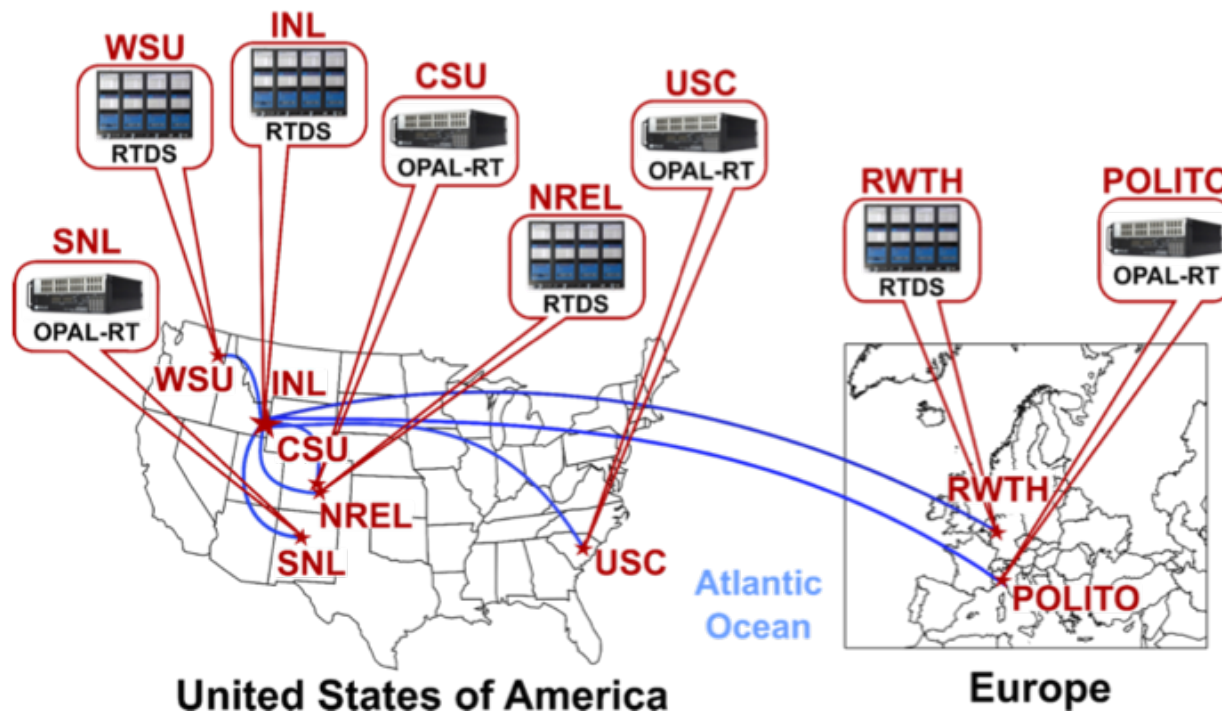
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Background



- Large Scale & Distributed Real-time Simulation
- April-Sept 2017: Global RT-SuperLab
 - 8 labs, 10 DRTS in Germany, Italy and the USA



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Results



VILLASnode

- An gateway for real-time simulation data



VILLASweb

- A web-interface for planning, executing and controlling distributed simulations



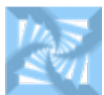
DPsim

- A real-time simulation kernel for the EMT / DP domain



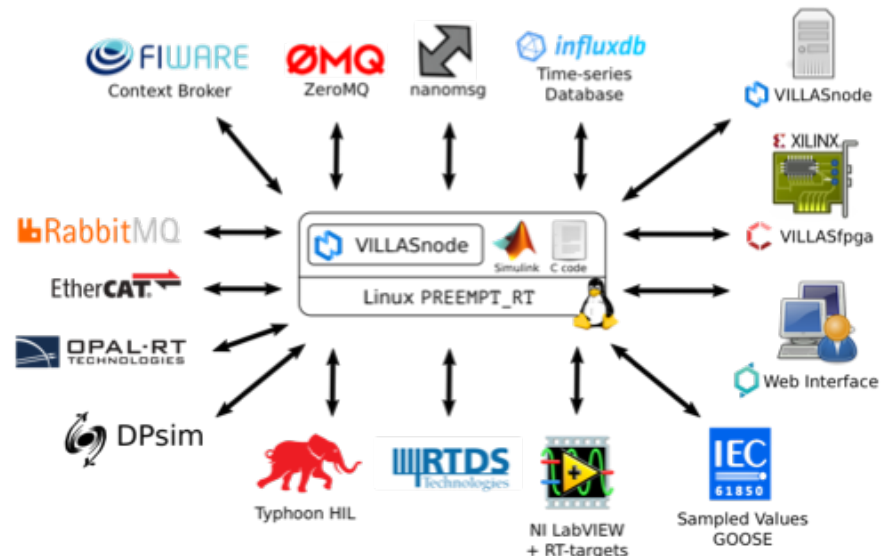
CIM++

- A library for parsing and compiling CIM to Modelica, GLM



Pintura

- Web-based Graphical Editor for CIM models



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Conclusions

- *Open software* supports researchers to setup large scale co-simulations
- *Open interfaces* and *model formats* enable vendor-neutral and heterogeneous setups
- Interface Algorithms must cope with large communication latencies
 - Limits studies to slow time constants over the co-simulation interface



Users and contributions are welcome!
Source code / Documentation available at:
www.fein-aachen.org



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