EUCloudEdgeIoT.eu

Towards deployment of Cloud-Edge-IoT solutions across the computing continuum

From Market pathways to Large scale pilots

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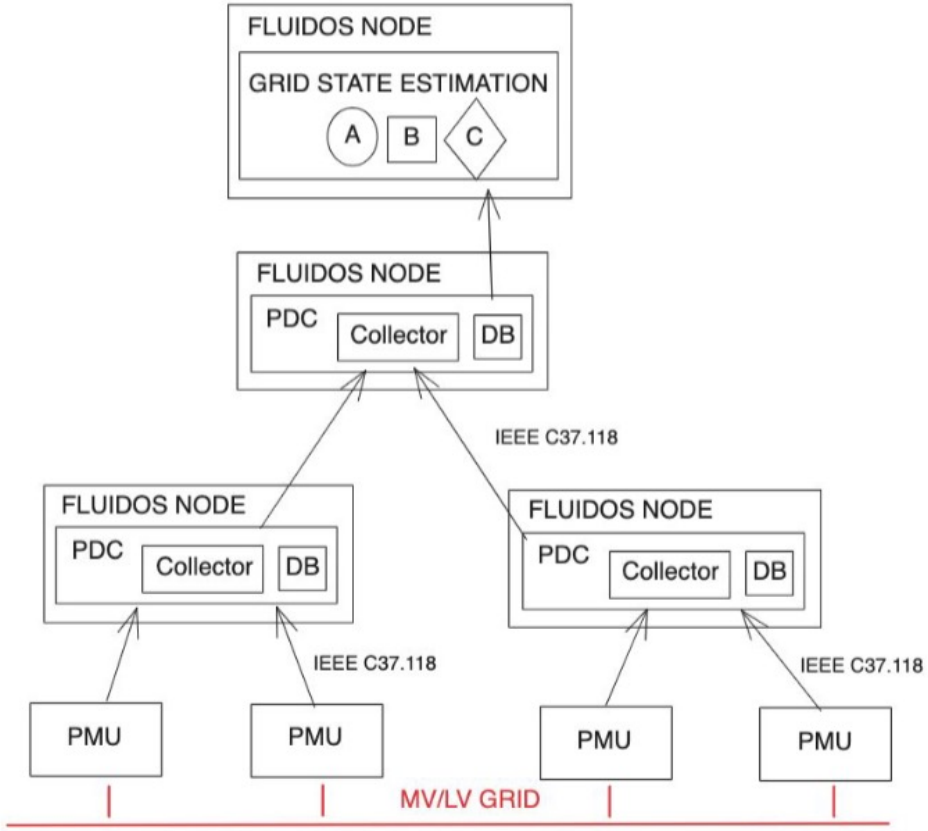
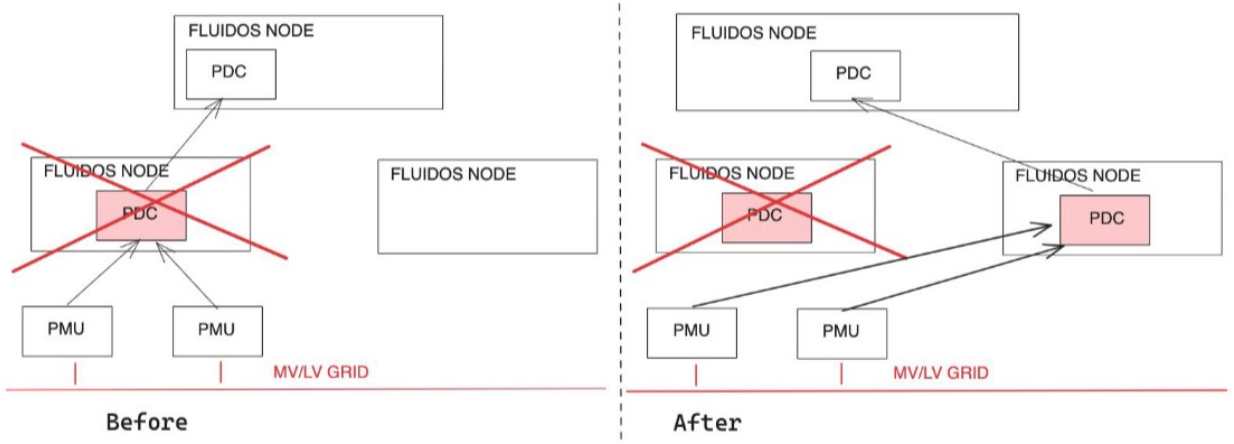
The Challenge

- Massive number of additional energy sources
- Distribution grid relies on PMU's to measure and collect data for PDC
- Traditionally PMU were used in the Transmission Grid
- Scalability: Introducing PMU's in the Distribution grid
- Resilience: consistent data collection is crucial for managing the grid



Key Actions from Vision to Impact & Demand Side Interaction

- Virtualize applications for orchestrating deployment of PDC's and real-time data analysis at the edge
- Reduce latency and improve resiliency avoiding the need of operator physical assistance in case of outages



Results

- FLUIDOS enables PDCs and analysis applications to continue functioning even if communication with control centres is interrupted by migrating PDC services to an adjacent node in case of fault.
- FLUIDOS can automatically orchestrate PDCs based on the latency between the node and PMUs, thereby improving the power grid state estimate or responding to faults.
- FLUIDOS ensures service isolation from other applications on the hosting node with different usage permissions. It also provides logging and anomaly detection capabilities and *survival* capabilities in case a portion of the grid is disconnected from the main network, hence preserving its operations in case of a cyberattack.