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RESEARCH

Overview

Large-scale Testbed (LTB)

The CURENT Large-scale Testbed (LTB) is a state-of-the-art research facility designed for rapid prototyping of power systems. As shown in Figure 1, it is a tightly integrated, closed-loop platform consisting of four major independent packages: ***ANDES*** for transient stability modeling and simulation; ***AMS*** for scheduling modeling and simulation; ***AGVis*** for grid geographical visualization; and ***DiME*** for distributed messaging environment. These LTB packages can work independently while being interoperable with each other, making it a versatile and comprehensive platform for power system research and development.

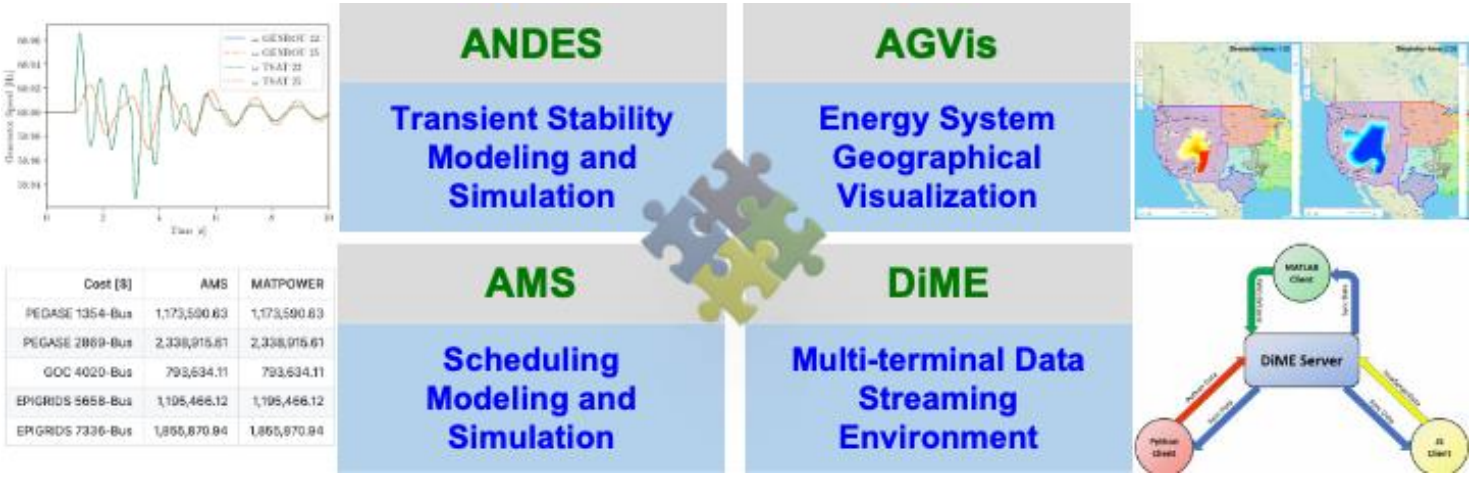

Fig. 1 Overview of the Large-scale Testbed architecture and components

Design Philosophy

The design philosophy of the CURENT Large-scale Testbed (LTB) focuses on creating a versatile and comprehensive platform for power system development and testing. It streamlines development efforts through a modular design for transient stability and scheduling modeling. The modeling efforts are extensible using basic element blocks. With compatible file formats and built-in interfaces, the LTB is interoperable with diverse tools. The proposed hybrid symbolic-numeric modeling method ensures good scalability, as the code generation process is independent of case size. Ultimately, the LTB aims to provide researchers with a handy and efficient tool for advancing power system technologies.

Streamline ***Extensible*** ***Interoperable*** ***Scalable***

Resources

Home: ltb.curent.org

GitHub: CURENT

YouTube: @curentltb

Point of Contact

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