

## 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 flexible and comprehensive platform for power system research and development.

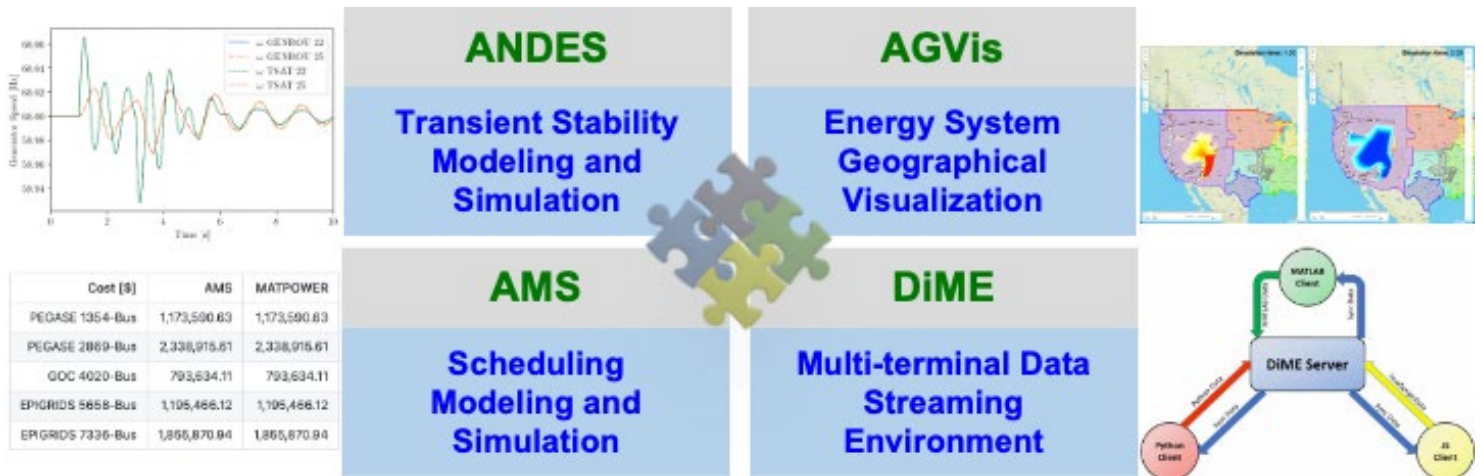


Fig. 1 Overview of the Large-scale Testbed architecture and components

## 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 hybrid symbolic-numeric modeling method ensures good scalability, as the code generation process is independent of case sizes. Ultimately, the LTB aims to provide researchers with a handy and efficient tool to advance power system technologies.

## Resources



[Web: ltb.curent.org](http://Web:ltb.curent.org)



[GitHub: CURENT](https://github.com/CURENT)



[YouTube: @curentltb](https://www.youtube.com/@curentltb)

## Point of Contact



**Fangxing "Fran" Li**  
 Director & LTB Project Lead  
 Phone: +1-865-974-8401  
 Email: [fli6@utk.edu](mailto:fli6@utk.edu)



**Streamline**



**Extensible**



**Interoperable**



**Scalable**