

# GridUnity® DER Interconnection Study Bootcamp February 7<sup>th</sup>, 2022

## GridUnity | Who We Are

**Company:** GridUnity, Inc.

Vision: A world powered by intelligently distributed clean energy resources

History: Founded 2010 - Platform v1 release Q1 2016

Industry Leadership:

- Founded the Distribution Planning Consortium (DPC) in 2018
- **Solution:** An energy analytics Platform-as-a-Service company offering cloud applications and analytics for utilities, ISOs, and developers:
  - Accelerates interconnection of all T&D applications
  - Provides speed, standardization, and scale through rules-based automation of Interconnection processes and engineering analysis
  - Offers the workflow flexibility necessary to support ongoing regulatory change
  - Enables a learning model that encourages continuous data accuracy improvements, compatible with machine learning
  - Drives operational efficiency, effectiveness and transparency
  - Cyber Security NIST 800-171 Compliance
  - Multiple years serving large utilities and independent system operators in dynamic environments

### Industry-leading Customers







### GridUnity Platform Services & Solutions



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## GridUnity | The Role of Automation



### Automation is critical for:

- Long running analysis
- High Volume
- Fast Response Times
- Frequent Refresh
- Well understood processes

Automation never replaces engineering expertise and experimentation, it just frees up engineers to do more interesting analysis and design future automation

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## GridUnity | Integration Capacity Analysis (ICA)

Integration Capacity Analysis (ICA) Use Case Description

### Process

576 hours time series w/ AMI data Queued generation modeled

Run Time Hours -> Days per study

**Volume** 100's of studies per month

**Response Time** <30 business days (<10 if applicant is waiting)

**Refresh Interval** 3-4 months



Sample Use Case - Hosting Capacity Analysis

## GridUnity | Data Quality Examples

	Description	Impact
Default/Unknown Equipment	Missing conductor sizes and devices ratings	Incorrect impedance values will make powerflow results less accurate. Incorrect ratings can result in overloads.
Incorrect Capacitor and Regulator Settings	Voltage setpoints, deadbands	High or low voltage issues
Incorrect Breaker and Recloser Settings	Pickups, time delays	Miscoordination or undetected reduction of reach
Disconnected Sections	Incorrect conductivity	Missing load
Unknown Phase	A single phase load or lateral	Unbalanced voltage/current

# GridUnity | Data Quality

### Grid Model Management (GMM)

- Data quality is critical to the automation of power flow and fault analysis
- GMM performs quality checks to ensure the issues are caught prior to result publication

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Dashboards summarize issues to enable administrators to address systemic issues or patterns



### Example 12kV Radial Distribution Circuit

- 8 MW Peak Load
- 2615 kW of Generation
- 742 kW of Queued Generation
- Able to integrate up to an additional 1.6 MW generator is some locations

