

# **BUILDING VIRTUAL BATTERIES** FROM CONNECTED THINGS

### GRID-EDGE FLEXIBILITY MAKES ENERGY CLEAN, AFFORDABLE, AND EASY TO USE

Energy flexibility is vital to moving the grid toward more renewable energy.

Our Nimble™ energy flexibility platform aggregates grid-edge distributed energy resources (DERs) like water heaters, electric vehicle chargers, HVAC systems, and batteries into dispatchable grid resources, managed as a virtual battery. The Nimble platform lets each device decide when to use energy, according to customer needs, and balances this energy demand with real-time grid and market conditions.

Our solutions scale easily to manage millions of devices without complicated top-down DER management, so utilities can set it and forget it. The Nimble platform ensures electricity customer privacy, data security, and ultimate control for guaranteed quality of electricity service. Customers can use the Nimble app to control their devices and get valuable energy usage information.



**NIMBLE** 

The Nimble platform offers a full range of grid-edge flexibility services in four modules:

#### **PeakCrusher**

Gradually ramps DERs up to pre-heat/cool the systems, down during the peak event, and then back up again after events, all without adding new load spikes.

### LoadShaper

Automatically monitors market conditions to shape the net load from DERs, minimizing real-time energy market costs or tracking with local renewable energy schedules.

#### **FastTracker**

Tracks virtual battery energy demand with real-time signals to provide ancillary services. Our patent-pending algorithms produce tracking performance similar to state-of-the-art natural gas plants or utility-scale energy storage systems.

#### **GridSolver**

Manages grid constraints in real-time by integrating data sources such as AMI, micro-PMUs, network models, and SCADA/EMS data. GridSolver dispatches DERs to mitigate overload, under-voltage, and over-current conditions.

## **OUR ADVANTAGES**

Scalable

Guaranteed quality of service

Easy to use

Private and secure

### NIMBLE PLATFORM OFFERS **FULL STACK OF GRID SERVICES**

Peak reduction Renewables smoothing Energy price arbitrage Ancillary services

### NIMBLE PLATFORM COORDINATES MULTIPLE DEVICE TYPES



### **MELLO**®

Our smart thermostat for water heaters retrofits on electric resistance water heaters, turning them into smart flexible energy resources. Customers use the Nimble app to control their hot water and get energy usage information.



#### PACKETIZED-ENABLED WEBASTO EV CHARGER

The Packetized-enabled Webasto (AeroVironment) electric vehicle charger coordinates electric vehicle charging with real-time grid conditions while ensuring electric vehicle owners to obtain the charge they desire.



### **NYLE + NIMBLE WATER SOURCE HEAT PUMP**

Nyle Systems' residential and commercial water source heat pumps with Nimble software inside offer high efficiency water heating and grid flexibility in one unit.



#### **COMING SOON**

In partnership with device manufacturers, we will soon have HVAC thermostats, batteries, and air source heat pumps connected with the Nimble platform.

### **CUSTOMERS INCLUDE**

Burlington Electric

Central Electric Power Cooperative

Green Mountain Power

Lakeland Power (Canada)

Pacific Gas & Electric

Vermont Electric Cooperative

Washington Electric Cooperative

### **CONTRACT MODELS**

Service contracts

Revenue-sharing contracts

Virtual battery contracts