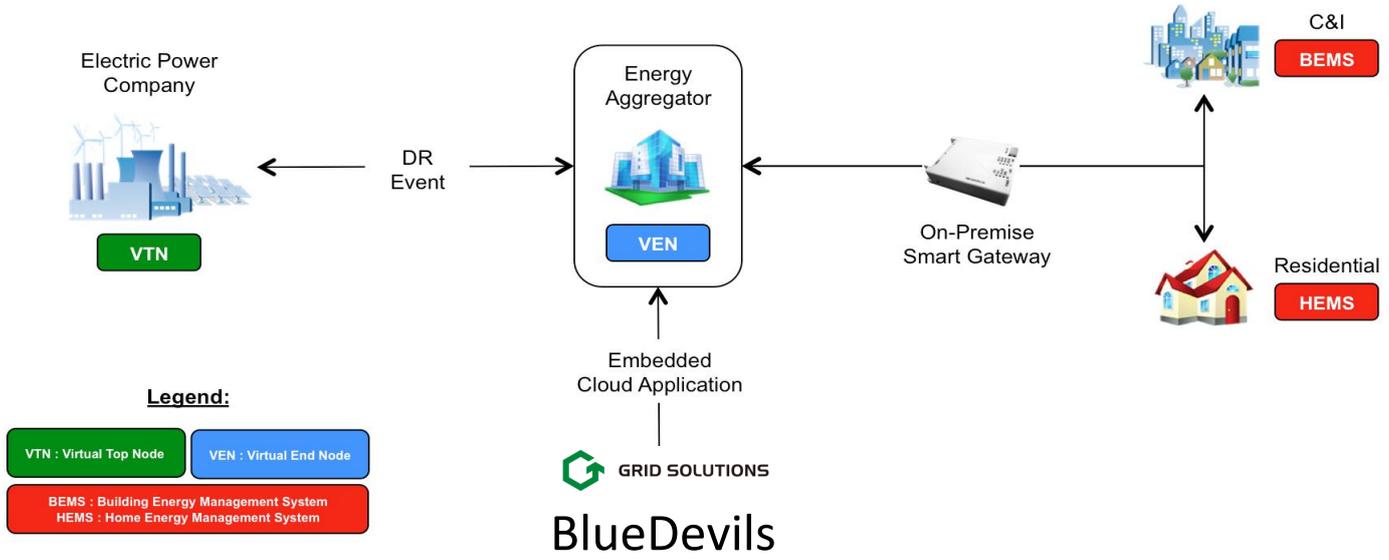


# BlueDevils

Demand Response Application



## Flow of Demand Response



**BlueDevils**

In the past, utility companies invested in grid capacity to meet the peak hour consumption. Demand Response seeks to adjust the demand for power instead of adjusting the supply. Demand response provides an opportunity for consumers to play a significant role in the operation of the electric grid by reducing or shifting their electricity usage during peak periods in response to time-based rates or other forms of financial incentives.

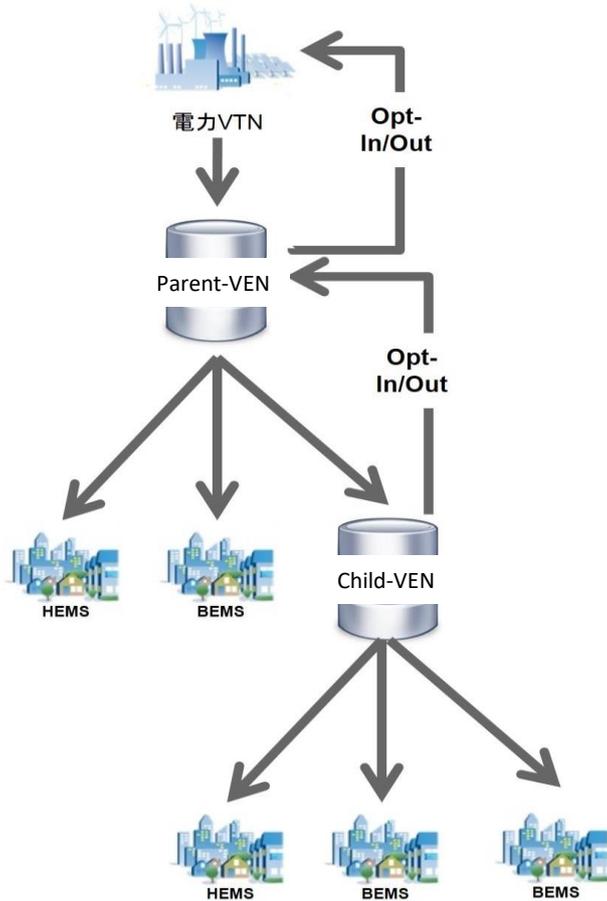
**BlueDevils** is an OpenADR2.0b



certified cloud-based Virtual End Node (VEN) solution for demand response aggregators.

BlueDevils enables aggregators to monitor, analyze, and manage DR events dispatched from utilities.

**OpenADR** (Open Automated Demand Response) is an open and standardized way for electricity providers and system operators to communicate DR signals with each other and with their customers using a common language over any existing IP-based communications network, such as the Internet.



## BlueDevils's Features

- BlueDevils can filter and automatically distribute DR events to customers who are more likely to participate in an event based on customers' attributes. Automatic distribution works as follows:
  - Match DR event contents with customer-declared schedule preferences (customer can/cannot participate), and distribute a DR event only to the customers who declared they could opt in that time slot.
- BlueDevils can select "automatic opt-in" setting. For instance, a Fast DR event leave customers with little response time. In this case, automatic opt-in features works highly effectively.
- BlueDevils can be set up as a stand-alone or a multiple-layer (VTN – Parent BlueDevils – Child BlueDevils). The latter hierarchical structure is suitable for an aggregator who makes DR transactions with sub-aggregators.
- Same tasks can be performed via REST API just like GUI. Collaboration with external software is possible via API.
- BlueDevils can connect to an outside server in times of log in authentication. Currently BlueDevils supports basic authentication.
- BlueDevils can send a DR notification email via external SMTP server. BlueDevils supports both HTML-based emails and text-based emails.

## BlueDevil Specifications

### OpenADR 2.0b Certification

- Profile 2.0b certified, HTTP both in Pull and Push mode
- Communication with VTN is done on SSL protocol for security reasons

### User Interface

- GUI ( via Web browser )
- REST API (What can be done on GUI can be done via API)