



GRID SOLUTIONS

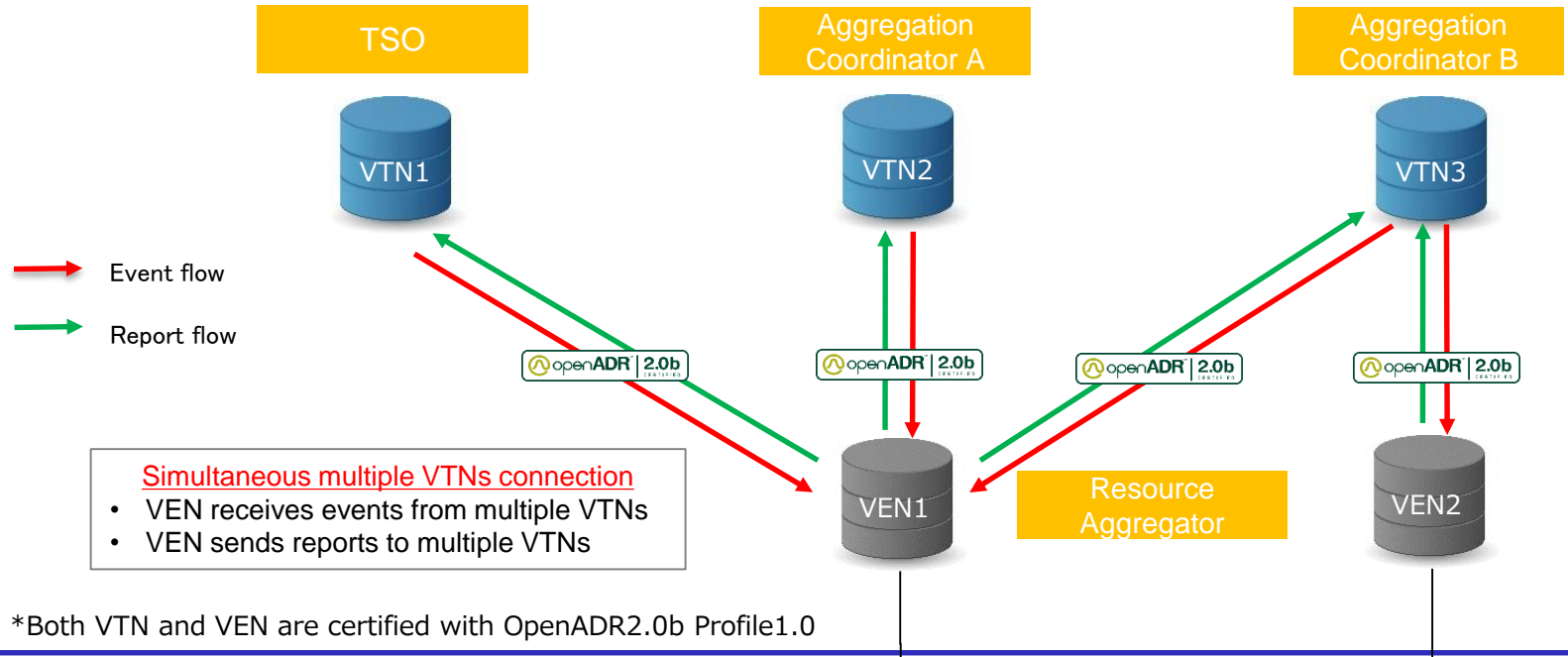
OpenADR Solutions

Grid Solutions, Inc.

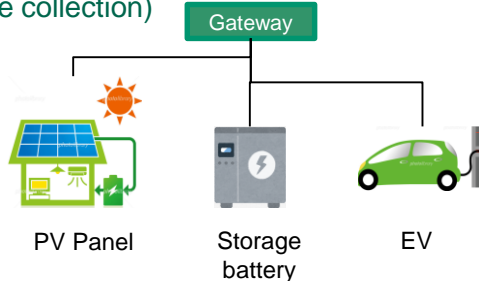


OpenADR Solutions

Scope of our solutions



Resource control
(control instruction / performance collection)





Functions of our OpenADR Solutions

It is equipped with functions that comply with the supply and demand adjustment market and the capacity market.

VTN (Virtual Top Node)

- Communication with VEN is done with the protocol defined by OpenADR.
- VTN dispatches DR events to multiple VENs and receive reports from multiple VENs.
 - ✓ VTN1 and VTN2 send DR events to VEN1, and VTN3 sends events to VEN1 and VEN2.
 - ✓ VTN1 and VTN2 receive the DR report from VEN1, and VTN3 receives reports from VEN1 and VEN2.
- VTN can be linked, via Rest API, with other software such as business logic.

VEN (Virtual End Node)

- Communication with VTN is done with the protocol defined by OpenADR.
- VEN receives DR events from multiple VTNs and sends DR reports to multiple VTNs (*Simultaneous multiple VTN connection)
 - ✓ VEN1 is registered in VTN1, VTN2, and VTN3, and VEN2 is registered in VTN3.
 - ✓ VEN1 receives DR events from VTN1, VTN2, and VTN3, and VEN2 receives from VTN3.
 - ✓ VEN1 sends DR reports to VTN1, VTN2, and VTN3, and VEN2 sends reports to VTN3.
- VEN supports : "baseline report", "performance report", and "controllable amount report".
- VEN can be linked, via Rest API, with other software such as business logic.
- VEN supports multi-factor authentication at login.



Company Overview

- ❑ Company Grid Solutions, Inc
- ❑ Location 4-6-16-1004 Shiba Minato-ku Tokyo 108-0014
- ❑ Founded April 2012
- ❑ CEO Yohei Takahashi
- ❑ Bank SMBC Kashiwa Branch
- ❑ Business Development of Smart grid, Demand Response, VPP solutions
 - ✓ OpenADR solutions
 - OpenADR2.0b certified (VTN, VEN)
 - ✓ VPP solutions
 - ✓ AI-based forecast engine
 - ✓ Participated in a number of national projects