OPENADR CASE STUDY- DISTRIBUTED ENERGY RESOURCES
SUNPOWER VIRTUAL POWER PLANT

PROJECT GOALS

SunPower's VPP platform needs to interface with utility DERMS platforms to ensure its customers' SunVault storage systems are charging and discharging in concert with the needs of the utility grid. It needs to enroll the customers in the program, dispatch according to the utility's schedule, handle customer opt-outs and report performance data to the utility. Since SunPower is a national installer, it needs to be able to communicate with dozens of utilities across the country.

PROJECT IMPLEMENTATION

Implementations in the ConnectedSolutions program, Southern California Edison's VPP2 and CT-ESS program all required SunPower to develop to the OpenADR specification. These programs involve several California and New England utilities. OpenADR allowed SunPower to develop a more uniform implementation than having to develop multiple different API integrations.

The implementation utilizes all four OpenADR services:

- Register: registering the VEN to the VTN
- Events: receiving events from the utility, sometimes targeted to specific sites using resourceIDs
- Opts: allowing users to opt out of specific events using their MySunPower app and relaying that back to the utility
- Reporting: sending the utility continuous telemetry data to report on battery or site performance on an ongoing basis

SunPower can report on just the performance of the battery or on the overall consumption of the home. SunPower's OpenADR certification shows utilities that choose to use the protocol that it is ready to handle their DERMS integrations.

TECHNICAL INTEGRATION AND PARTNERS

Utility DERMS providers typically integrate the OpenADR protocols on behalf of their customers. Those providers usually test and certify their integration with the OpenADR Alliance, to ensure interoperability with the systems managed by the utility's program partners.

ABOUT THE OPENADR ALLIANCE

The OpenADR Alliance brings together system operators, utilities, aggregators, controls vendors and solution providers to facilitate and accelerate the use and adoption of this international standards (IEC 61850.) Industry stakeholders worldwide are working together to foster the development, adoption and compliance of the OpenADR standard through collaboration, education, training testing and certification. Collaboration includes technical working groups – the most recent was the creation of an Electric Vehicle Interest Group.

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