

CA Energy Commission Transactive Energy Projects

Is There a Transactive OpenADR in Your Future?

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OpenADR Member Meeting and Open House
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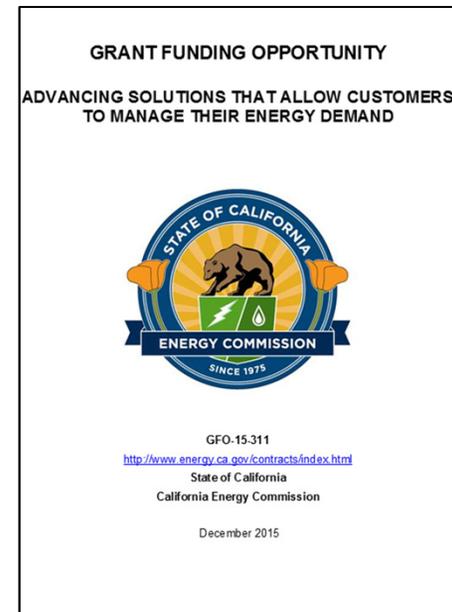
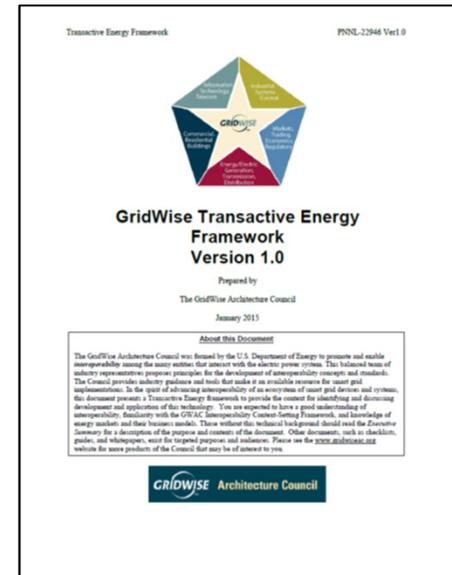
Transactive Energy in the CEC's GFO-15-311 Solicitation

Advancing Solutions That Allow Customers to Manage Their Energy Demand

- **Group 1: Load Management Systems that Facilitate Participation as Supply-side Resources**
 - Operational strategies for participation as supply-side resources
 - Includes onsite renewable generation, CHP, electricity and thermal storage, energy efficiency, electric vehicles, and load management systems
- **Group 2: Load Management Systems that Facilitate Participation as Demand-side Resources**
 - Behind-the-meter load management systems and operational strategies, program designs and retail tariff options
 - Minimize the cost and complexity of customer participation
 - Maximize the potential of large numbers of small loads to improve system load factor, shave peaks, integrate renewable generation and otherwise provide low opportunity-cost resources to the grid.
- **Group 3: Develop One or More **Transactive** Signals to Facilitate Demand Response**
 - Develop, test and operationalize one or more **transactive** signals that can be used by utility customers—and the other Recipients under this solicitation—as a basis for automating their load management strategies

Some Definitions

- TE Framework
 - “A set of economic and control mechanisms that allows the dynamic balance of supply and demand across the entire electrical infrastructure using value as a key operational parameter.” – GridWise Transactive Energy Framework
- Transactive “Signal”
 - “A dynamic price or informational signal that reflects and anticipates system conditions.” – California Energy Commission Solicitation GFO-15-311
 - An incentive or price “signal” that reflects system needs and can be used as a basis for automating load management strategies
 - Combines real-time system information with forecasts of loads and distributed generation production
 - Could be based on ISO/RTO market prices or utility tariffs as well as include information on other indicators of system conditions



Using OpenADR to Transport a DAHP Transactive Signal

From the OpenADR Program Guide:

B.7 Distributed Energy Resources (DER) DR Program

Note that as this is a real time pricing program there really is no differentiation between a simple, typical, and complex use case. Therefore sample data will only be shown for a typical use case.

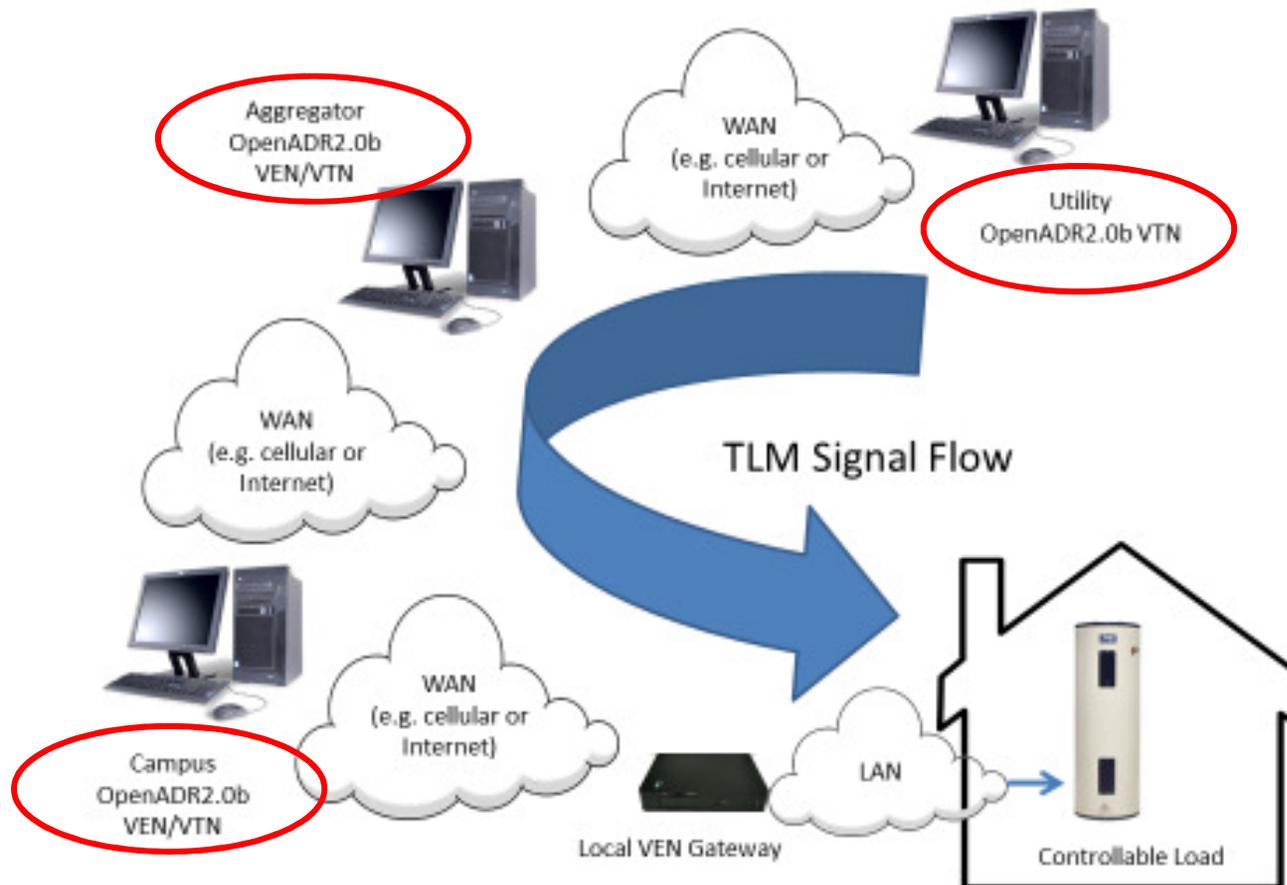
DER

B.7.1 ~~XXXXXXXXXXXX~~ Scenario 1 - Typical Use Case, B profile

- Event
 - Notification: Day ahead
 - Start Time:midnight
 - Duration: 24 hours
 - Randomization: None
 - Ramp Up: None
 - Recovery: None
 - Number of signals: 1
 - Signal Name: **ELECTRICITY_PRICE**
 - Signal Type: price
 - Units: USD per Kwh
 - Number of intervals 24
 - Interval Duration(s):1 hours
 - Typical Interval Value(s): \$0.10 to \$1.00
 - Signal Target: None
 - Event Targets: venID_1234
 - Priority: 1
 - VEN Response Required: never
 - VEN Expected Response: n/a
- Reports
 - None

Put Transactive Signal here

A Transactive Signal Moving to a Controllable Load





Together...Shaping the Future of Electricity

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