

OpenADR: What's Our Goal?



Automating DR programs is the goal of the OpenADR Alliance and the OpenADR 2 standard



Until now there was no such thing as a standardized Demand Response (DR) program. Each DR program design tends to be unique, fitting the structural and regulatory requirements of the geographic region it is deployed in. For each DR program there are numerous possible deployment scenarios involving a variety of factors.

Automating DR programs is the goal of the OpenADR Alliance and the OpenADR 2 standard. While OpenADR clearly defines the expected behavior when exchanging DR event related information, a number of OpenADR characteristics such as the event signals used, the reports required, and the targeting methods used are deployment dependent.

This deployment dependent variability in the use of OpenADR creates interoperability challenges for both utilities and OpenADR device implementers as OpenADR usage models must be worked out on a deployment by deployment basis.

The OpenADR Alliance has developed a DR Program Implementation Guide and Certification Program with the goal of standardizing the use of OpenADR in specific commonly used Demand Response programs. Utilities, consultants and vendors engaged in designing and implementing automated DR programs have endorsed¹ and plan to take advantage of examples of typical DR programs as models for their own DR program implementations. Equipment manufacturers benefit from understanding a more standardized set of DR Program usage models so they can validate interoperability as part of the development process rather than on a DR program deployment specific basis.

As the industry standardizes on DR program designs, along with the reduced customizations, the more standardized eco-system can design and implement DR programs in a dramatically more rapid timeframe. This lowers the costs of program design and implementation as well as the costs of the systems and software to execute these programs.

The emphasis in the guide is on keeping things simple by providing a small set of clear recommendations that address the majority of the details required to deploy a typical DR program. This also enables interoperability testing of equipment deployed in programs using the recommendations in this guide.

The OpenADR Alliance has defined a new DR Program Certification Program to further insure that capabilities of vendor products to meet the specific designs of the DR Programs defined in the Guide.

1. For a current list of endorsers and their letters of endorsement see <http://www.openadr.org/dr-program-guide>

Demand Response Program Types

The Guide contains templates for the most common DR programs.

- 1. Critical Peak Pricing (CPP):** Rate and/or price structure designed to encourage reduced consumption during periods of high wholesale market prices or system contingencies by imposing a pre-specified high rate or price for a limited number of days or hours.
- 2. Capacity Bidding Program (CPB):** A program which allows a demand resource in retail and wholesale markets to offer load reductions at a price, or to identify how much load it is willing to curtail at a specific price.
- 3. Thermostat Program (Thermostat)/Direct Load Control (DLC):** A demand response activity by which the program sponsor remotely controls a customer's electrical equipment (e.g. air conditioner) on short notice. These programs are primarily offered to residential or small commercial customers.
- 4. Fast DR Dispatch (Fast DR)/Ancillary Services Program:** A demand response program that provides incentive payments to customers for load response during an Emergency Demand Response Event. An abnormal system condition (for example, system constraints and local capacity constraints) that requires automatic or immediate manual action to prevent or limit the failure of transmission facilities or generation supply that could adversely affect the reliability of the Bulk Electric System. These type of programs may sometimes be referred to as "Ancillary Services".
- 5. Residential Electric Vehicle (EV Charging) DR Program:** A demand response activity by which the cost of charging electric vehicles is modified to cause consumers to shift consumption patterns.
- 6. Public Station Electric Vehicle (EV Charging) Real-Time Pricing Program:** A demand response activity which aims to more efficiently match the price of charging at work or public charging stations to the cost of electricity.
- 7. Distributed Energy Resources (DER) DR Program:** A demand response activity utilized to smooth the integration of distribute energy resources into the smart grid.

DR Program Certification Program

The OpenADR Alliance has developed a new DR Program Guide Certification Program designed to further the interoperability of products certified as OpenADR compliant. The new Certification is a simple add-on to the current OpenADR "b" Profile Certification that is being required by utilities worldwide.

The test harness can validate interoperability of VTNs and VENs supporting programs defined in the guide. And the Program Guide provides program implementers with the confidence that certified products can be used to support a wide-range of DR programs.



Join the **OpenADR** Alliance

Industry stakeholders worldwide are working together to foster the development, adoption and compliance of the Open Automated Demand Response (OpenADR) standard through collaboration, education, training, testing and certification.

Anyone with an interest in facilitating and accelerating the use and adoption of the OpenADR standard for price- and reliability-based demand response are encouraged to join the OpenADR Alliance.

More information on the OpenADR Alliance is available at www.openadr.org

OpenADR Alliance

275 Tennant Avenue, Suite 202,
Morgan Hill, CA 95037
+1 408 778 8371
info@openadr.org