OpenADR/EPRI DER Workshop
Alliance Context and Considerations for Evolution

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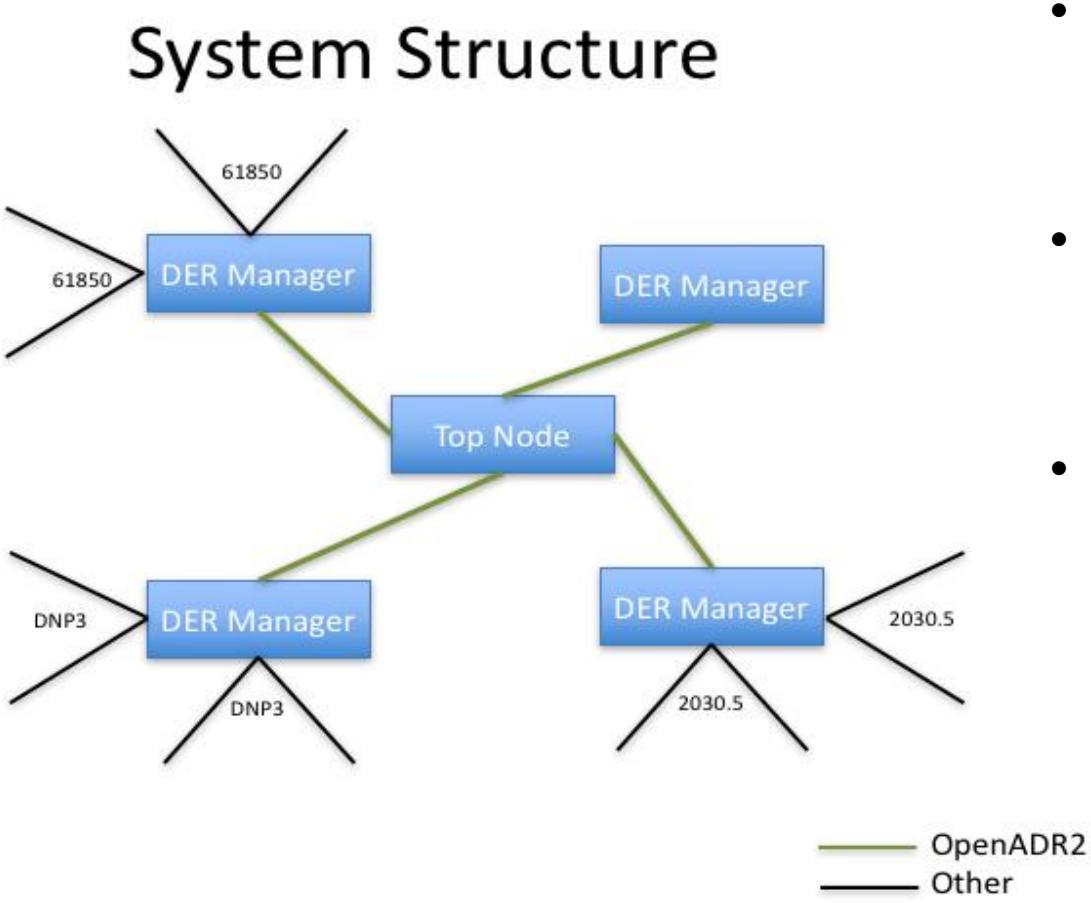
Workshop Context

- The OpenADR Alliance is seeking input and suggestions on evolving, extending, and clarifying the OpenADR architecture to better work in ***systems*** using DR and DER
- Better ***systems*** with DR and DER need to leverage the strengths of OpenADR
  - Decoupled implementations
  - Independent innovation
  - Flexible and scalable deployments
  - Service Orientation—*what* to do, not *how* to do it
- No other deployed environment does these as well.
- OpenADR and its profile base, Energy Interoperation, were designed to be transport, business model, and management style agnostic.

Palettes of Standards

- No monocultures—***systems*** draw on and compose large numbers of standards and specifications
- Use standards and systems where they can be beneficially used
  - Device management and device information models
    - IEEE 2030.5/SEP2
    - DNP3
    - SunSpec
    - ASHRAE/NEMA 201 (soon ISO)
  - Service-Oriented "glue"
    - IEC 62376-10-1/OpenADR2
    - OASIS Energy Interoperation

An Example



- In this picture OpenADR relationships connect the DER managers
- Use MarketContexts to define multiple aggregation patterns
- Mix and match

Product Evolution Process

- Understand Business Needs
  - Gather goals, needs, possible solutions (this workshop)
  - Validate business needs, costs and benefits for possibilities including value ranking/analysis
- Propose specific evolutionary points and steps
  - Select and define several possibilities in more detail
  - Evolution and steps need to retain and extend core value

Roger Akoff - data, info, knowledge, wisdom

- Define and validate evolved product
    - Additional reports?
    - Implementation guides?
    - Service elaboration and/or evolution?
    - Additional services?
- Validate that evolved product(s) meet Business Needs

Aside on "Evaluation"

- Analysis needs to address at least four columns
  - In OpenADR 2.0b
  - In the OpenADR profile base (Energy Interoperation)
  - Needs additional specification
    - e.g. standard report types, how to use groups in Targets
  - Possible through XML extensibility
- Most functional statements in The Matrix were anticipated by and are part of Energy Interop including "not here"
- Roles in ***System*** deployments must be understood as part of business value analysis

Product Evolution Thoughts

- Heard at this workshop…
  - Define additional reports for DER aggregation/actor capabilities—EV, smart inverters, VEN-in-the-cloud aggregations
  - Projected use and supply
  - Extend enrollment or registration from the profile base
  - Integrate transactive energy services—simplify many actions
  - Consider extending set of signal types
  - Write down strategies for system deployment
    - How to implement actors presenting the VEN surface for better system design
    - Provisions for e.g. connect/disconnect

Conclusions

- Maintain value
- Validate business need and value related to cost (broadly defined)
- Increase value—Extend OpenADR to improve ***systems*** value
  - Profile Base, Energy Interoperation, has most capabilities apparently needed
  - Extensible types in the OpenADR/Energy Interop schemas
- Validate proposed solutions with members, users, and potential new users