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# Working Towards Human-Centric Demand Response Solutions

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# Video: Fujitsu's Vision



## ■ Fujitsu's ICT solutions for energy efficiency

**Fujitsu's ICT solutions for energy efficiency**

For energy efficiency  
To alleviate the problem for energy efficiency.

**Versus Solar Monitor**

Kawasaki 25°C 13:00 2014.10.03

Current Energy: 648.97 kW  
Today: 5,862 kWh  
Month: 69,853 kWh

Solar power monitoring  
One of Fujitsu's current photovoltaic generation

**Demand-response solution**  
OpenADR2.0b

The energy savings more efficient suppression instruction

New Energy Enterprises  
Ag...

Demand-response solution  
Through demand-res...  
energy consumers can...

**Fujitsu's total solutions for energy**

トラフィック増大時にも  
自律的に迂回経路を選択し  
通信を修復・維持

Network solution for Smart Me  
With this technology

**Fujitsu's total energy solutions**

Demand Response  
BEMS / FEMS  
HEMS / MEMS  
Smart Meter  
発電・需要予測  
配電監視

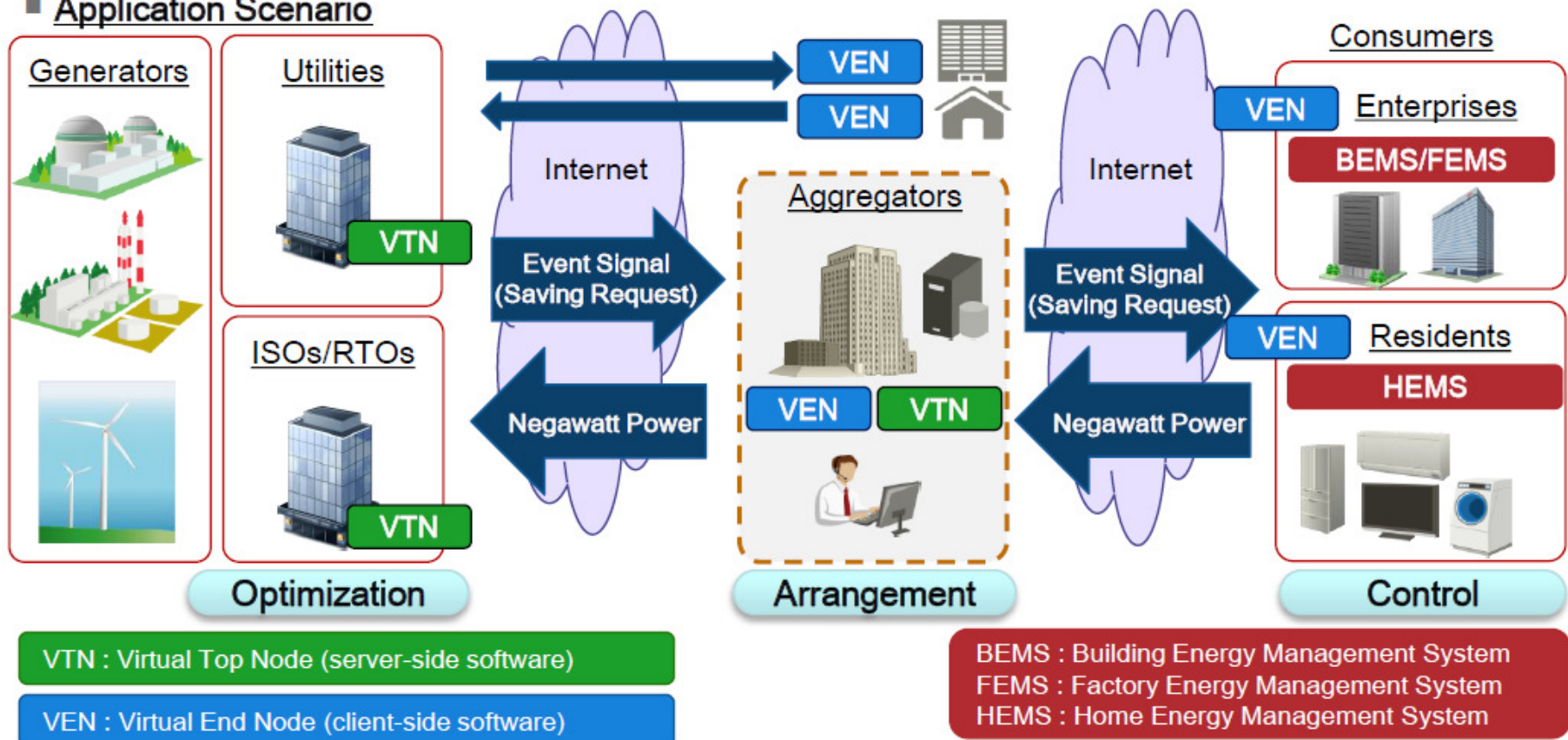
To support society in reducing energy use, Fujitsu continues to develop technologies and is committed to providing a total solution

# Fujitsu's Demand Response Solution



- Benefits for utilities, aggregators, households and companies, as well as vendors that develop and sell BEMS/FEMS/HEMS.
- Supports the latest international DR standard - OpenADR2.0b
  - Awarded the certification for 2.0b VEN and VTN software, one of world's first

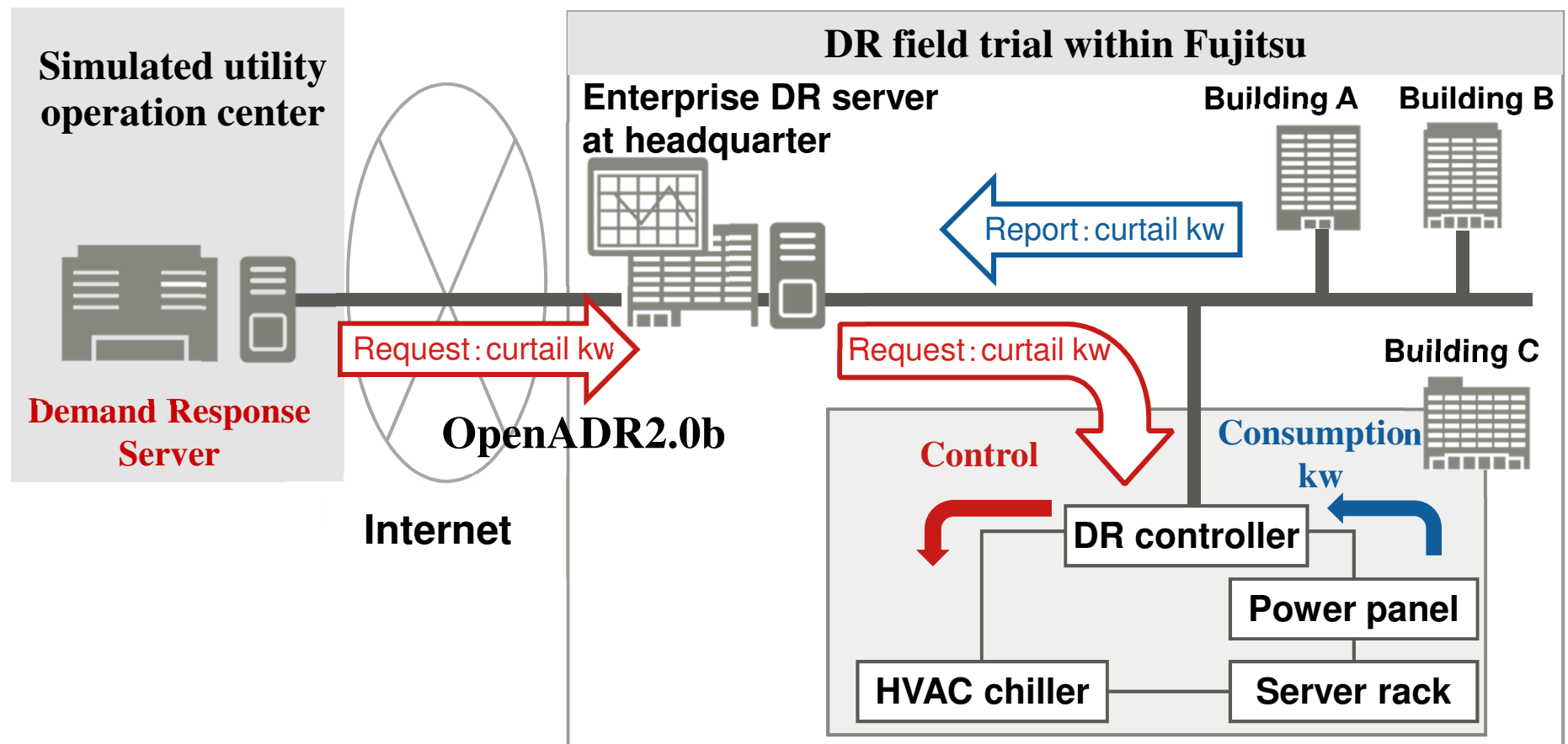
## ■ Application Scenario



# Demand Response in Enterprise Environment **FUJITSU**

Fujitsu developed OpenADR 2.0b standard-based DR solutions for enterprise environment and successfully conducted field trial within Fujitsu corporation

- Enterprise electricity load forecasting
- Auto-control for HVAC chiller



## Low incentives

*Engagement, Reliability*



## Initial investment & installation labor



## Ecosystems

*Standards*

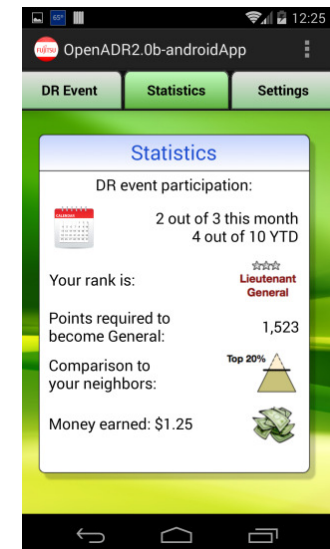
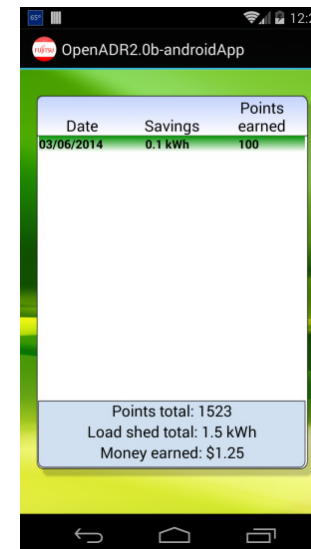
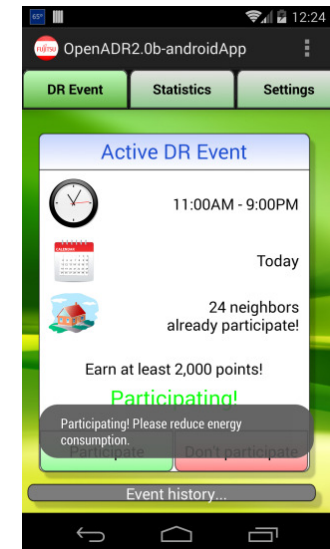
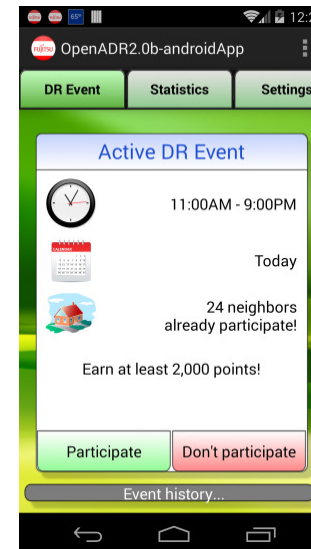




# Mobile App DR solution for Residential DR



- A bi-directional, real-time channel between utilities and consumers
  - ⇒ Better reliability
- Cost-effective platform
  - ⇒ Low cost, easy installation
- User-centric control platform for multiple IoT devices
  - ⇒ Enhanced engagement to DR
- Standard based solution
  - ⇒ OpenADR 2.0b compliant cloud VEN



# Mobile App for DR and Home Energy Management **FUJITSU**

- Control over mobile app or cloud

- Use cases of DR programs:

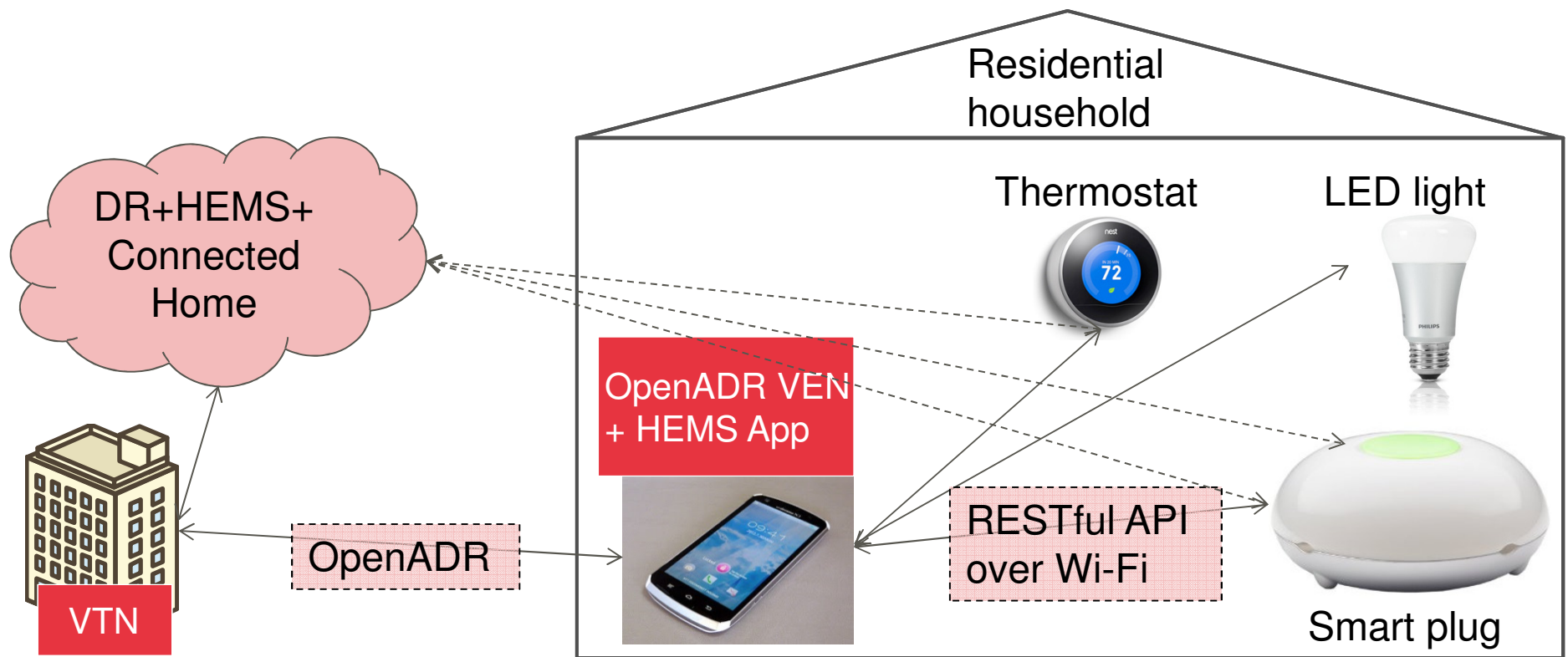
  - Automatic control (for CPP/DLC)

  - Manual control (for behavior DR, peak-time rebate)

**CPP:** Critical Peak Pricing

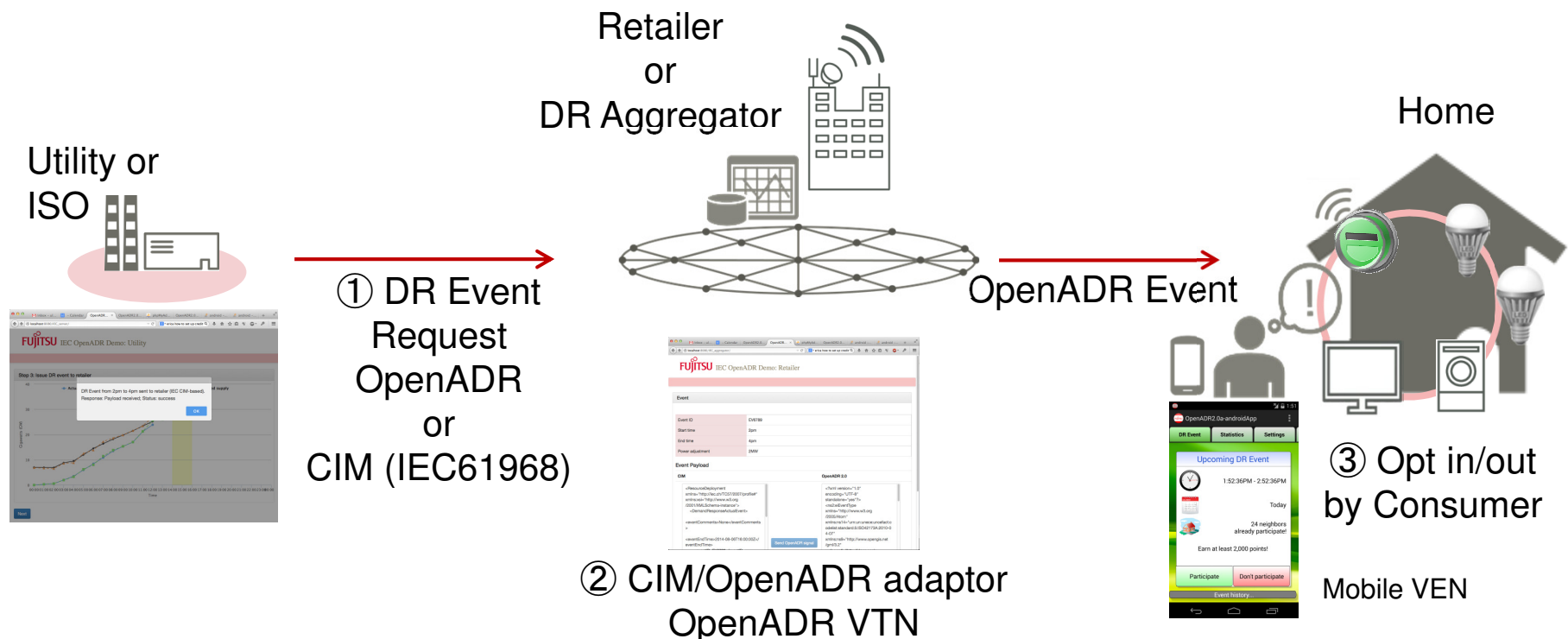
**DLC:** Direct Load Control

**HEMS:** Home Energy Management System



# Kiosk Demo at OpenADR booth

- Fujitsu OpenADR Solutions for Energy Management
  - Cloud based VTN and VEN solution
  - Certified OpenADR 2.0b compatible product
  - Towards compliance with IEC CIM (Common Information Model)
  - Cost-effective platform supported by mobile app



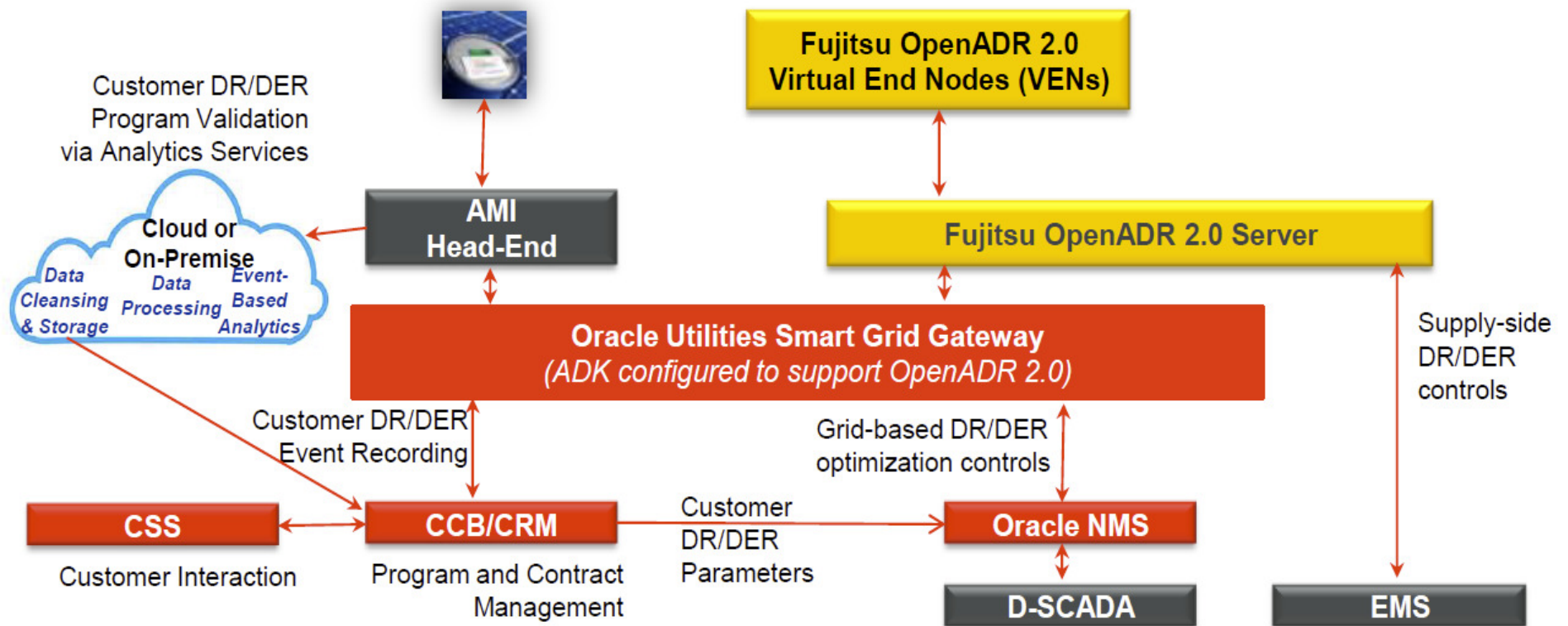


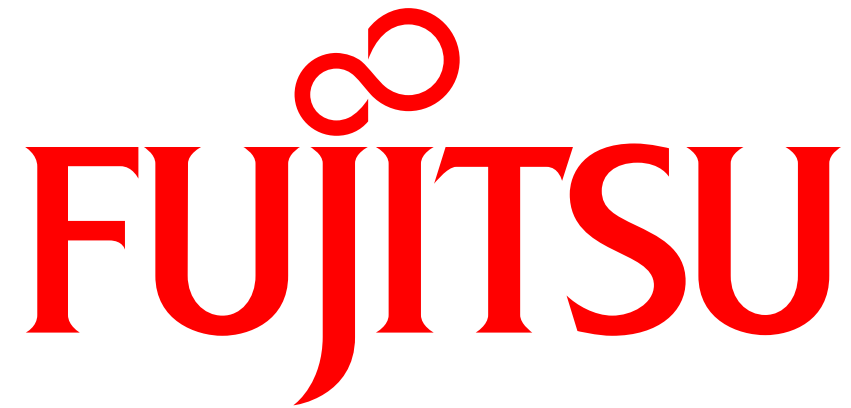
# Fujitsu OpenADR Solution Integrates with Oracle Utilities Smart Grid Gateway



- Fujitsu OpenADR solution interfaces through Oracle Smart Grid Gateway to leverage the Oracle Utilities energy management applications stack
- A joint demo is shown at Oracle booth

Customer Demand Response and Distributed Energy Resource Interaction





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