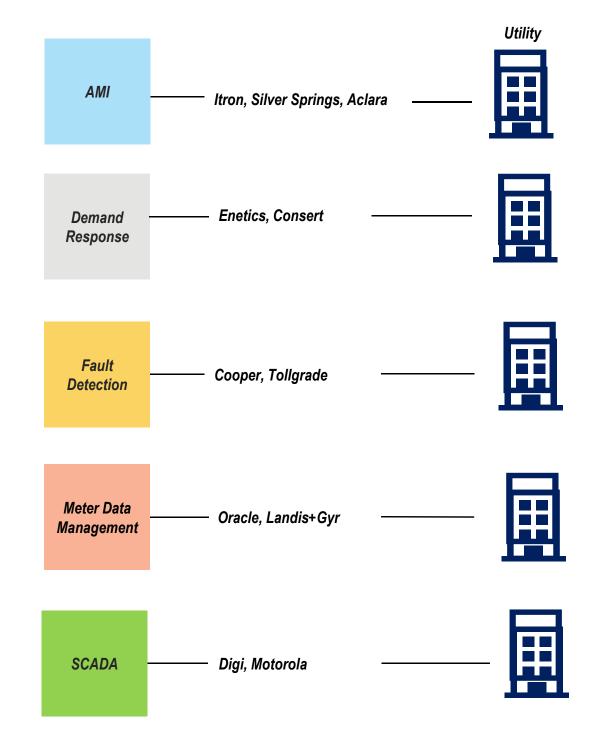
Hawaii Electric

May 10, 2017



2005-2016 Grid

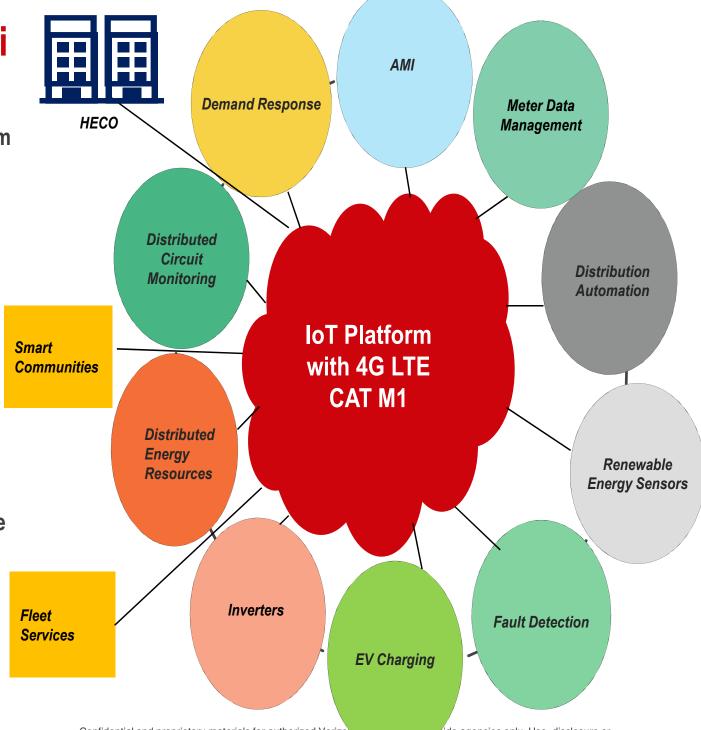
- Disparate Point Solutions
- Private Radio w/ Collectors
- 2G and 3G Backhaul
- Stranded Meters
- Slow to Deploy
- Billions of \$ Spent
- Zero Applications Integration
- Additional Resources Req'd





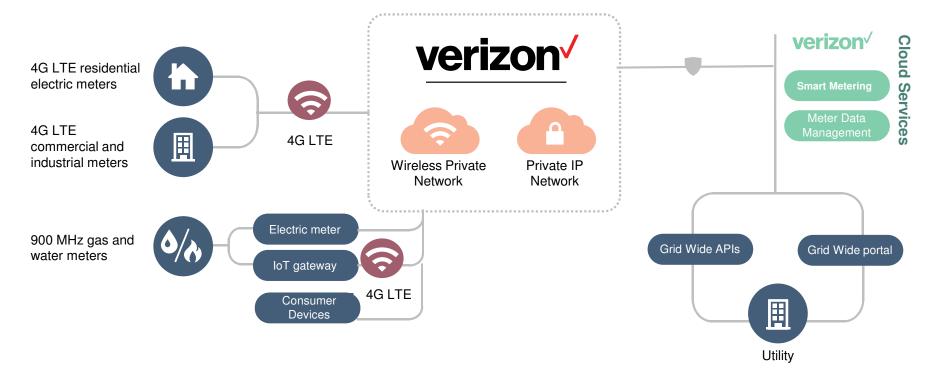
2017 Grid for Hawaii

- Integrated IoT Services Platform
- 4G LTE CATM1 Network
- Standards Based
- Scalable
- Fast to Deploy
- Near Real Time Power Quality
- Analytics to be Proactive
- Frequency, Volt / Var Reading
- HAN Tools and Integration
- Customer Engagement Tools
- Improved Customer Experience
- Sustainable Hawaii





How it works





Sense

A 900 MHz connected device decodes, normalizes and transmits meter data.

Gateway

Data passes via LoRa or 900MHz to a Grid Wide 4G module in an electric meter or IoT gateway.



Network

Data passes over your 4G LTE private network to the Verizon Private IP network.



Cloud app

Grid Wide cloud application digests the data from your smart meters and sensors.



Analyze control

Alerts based on the insights from the cloud applications are sent to people, enterprise systems or IoT devices.



Share

You can exchange Grid Wide data with other systems, monetizing it and enriching it with thirdparty data.

