



# The Evolution of Energy Management

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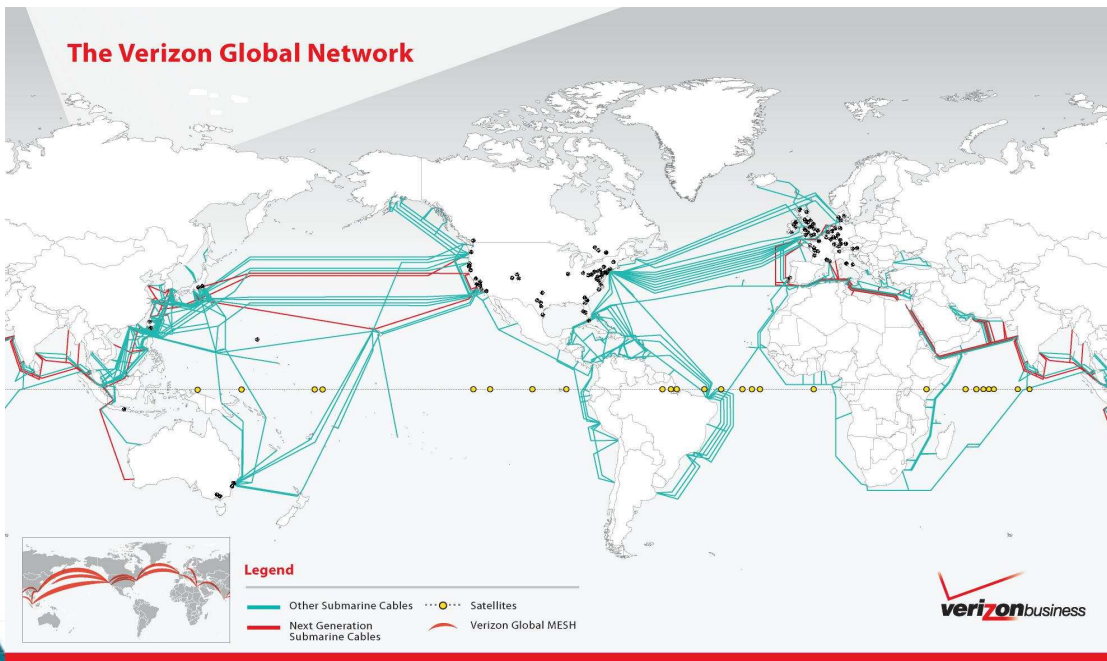
Managing Principal, Global Energy & Utilities Practice

Verizon

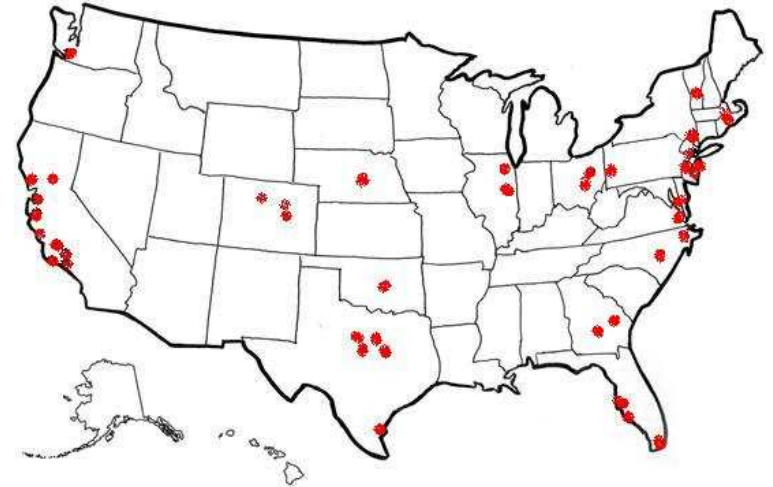
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# Verizon's Energy Footprint

- 485,000 Route Miles across 150+ countries
- 100+ Data Centers Worldwide; 50+ in the United States
- 20,000+ buildings
- 9.9B kWh of Electricity Used in 2009

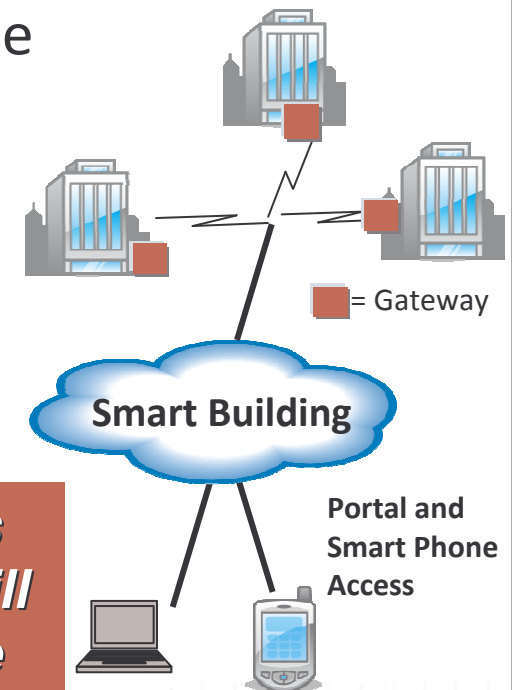


## US Data Centers



# Smart Building Solutions

- “Smart Building” is a broad term encompassing trends toward green design, operations, and maintenance of buildings
- Smart buildings have integrated systems that work together and leverage the smart grid to achieve sustainability goals, maximize productivity, and minimize energy use
- These systems are often also called:
  - Energy Management Systems (EMS)
  - Building Automation Systems (BAS)
  - High-Performance Building (HPB)
  - Building Management Systems (BMS)



***Forrester predicts that enterprise IT organizations will dominate this market because sustainability will ultimately be about information, not infrastructure***

# Challenges Addressed

## Challenges

- High energy costs and carbon footprint
- Lack of integration of building systems
- Lack corporate-level view of energy use
- Changing use patterns
- Desire to grow sustainability initiatives

## Benefits

- Lower costs
- Better reporting
- Predictive analytics
- Ability to aggregate and trade energy
- Higher property values
- Incentives and rebates
- Other intangibles

***Smart building systems will enable a host of cost-saving and sustainability initiatives***

# Key Trends and Predictions (1/2)

- Traditional BMSs will become obsolete
- Smart building solutions will become the fundamental platform for enabling corporate sustainability strategy
  - Transparency into carbon emissions and other resource use is the prerequisite to setting reduction targets and identifying and prioritizing sustainability projects to reach those targets
- Small and medium firms are driving the growth in the market
  - Their business models are not sustainable in the long run; will need to grow exponentially or be acquired to provide ongoing support
- Partnerships will increase between software vendors and service providers to offer a complete managed solution
  - Solutions will increasingly be delivered “as a service”

***The market is still in “startup” mode; consolidation is on the horizon***

## Key Trends and Predictions (2/2)

- Primary adopters will be in the manufacturing, utility, and government sectors
  - US Federal agencies are bound by law to reduce consumption
  - Expansion of “Smart Cities”
- Utilities will partner with new providers to promote and resell these solutions, sharing the customer relationship
- Solutions will be expanded to encompass supply chain capabilities and to predict future energy consumption and related carbon emissions

***Smart building solutions will be adapted to multiple industries; partnerships and pilots are key to identifying leaders***

# Summary

- Energy Management is a new and evolving industry
- Growth driven by small firms proving capabilities through pilots and reliance upon partnerships
- Focus is on integrating systems and finding value in data
- Utilities will adopt and resell these solutions