Customer Data Privacy in AMI Applications

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Introduction

- Will McNamara, Senior Manager, and Lead for WMP's Regulatory Support & Stakeholder Relations Practice Area
- Along with Smart Grid project management, my primary focus has been concentrated on the regulatory/legislative strategies of electric utilities
- Regulatory support for utilities in multiple U.S. states and federal agencies (DOE, FERC)
- Along with consulting, I previously worked at Sempra Energy (SDG&E) developing regulatory policy initiatives before the CPUC.

West Monroe Partners – About Our Firm

- **Established in 2002**. Founded by a team from Arthur Andersen, West Monroe is full-service business and technology consulting firm
- **Industry-Specific Experience.** Years of high-profile consulting experience
- **Functional Expertise.** Business-minded team with technology at our core
- **Holistic Business Solutions.** Rely on industry, functional and technical expertise to drive strategy, manage execution, and measure results
- **Seamlessly Serve Clients**. Ability to serve the needs of Fortune 500 and remain flexible to provide solutions to more nimble, middle-market clients
- **Geographically Close**. More than 350 consultants serving clients on site across North America
- **Global Presence.** Leverage a strategic alliance with BearingPoint Europe

Three Focus Areas

- A summary of the discourse taking place within individual states and federal levels that is shaping the current policymaking on Customer Privacy issues in the electric utility sector.
- An update on the tactical, privacy-focused efforts taking place at NIST to incorporate security safeguards into smart grid architecture design.
- A discussion of suggested, actionable steps that utilities may want to consider to better define and implementing strategies toward protecting customer data.

Defining Data

Across Industries

- Social security numbers
- Birth dates
- Bank account information
- Street addresses
- Fingerprints

Specific to the Electric Utility Sector

PII collected within meter data

- Interval usage data
- Power quality readings
- Meter event data
- Pricing signals

Types of home appliances

- Frequency and timing of usage
- Consumption amount
- Carbon footprint
- And perhaps many other kinds of data not presently imagined

Impacted & Impacting Technologies

- Smart meters
- AMI communications systems
- Meter Data Management Systems
- Customer Relations Management Systems (CRM)
- Home Area Network Appliances and other smart devices

What are the potential privacy consequences of Smart Grid systems?

According to the Electronic Privacy Information Center….

Identity Theft

Tracking Personal Behavior Patterns

Determine Specific Appliances Used

Real-Time Surveillance

Reveal Activities Through Residual Data

Profiling

Targeted Home Invasion

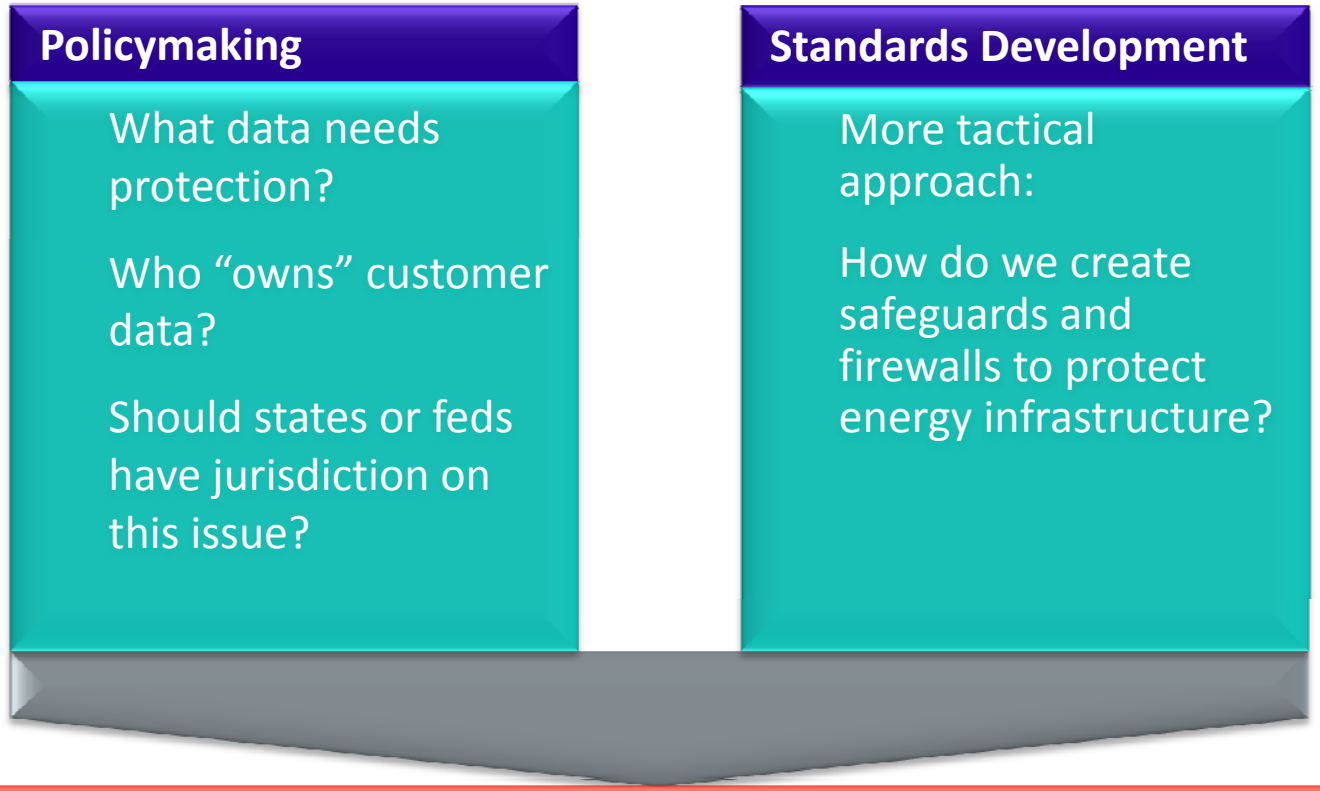
Activity Censorship

Tracking Behavior Of Renters/Leasers

Behavior Tracking

Public Aggregated Searches Revealing Individual Behavior

Two separate, but obviously related tracks:



Efforts associated with these two tracks have significant implications for how electric utilities will operate in the future.

The White House Consumer Privacy Bill of Rights (2/12)

7 Guiding Principles	Customer "Right"
Individual Control	Control over what personal data companies collect from them and how it is used
Transparency	Easily understandable and accessible information about a company's privacy & security practices
Respect for Context	Companies will collect, use, and disclose personal data only in ways that are consistent with the context in which consumers provide the data
Security	Secure and responsible handling of personal data
Access & Accuracy	Ability to correct personal data
Focused Collection	Reasonable limits on the personal data that is collected
Accountability	Expectation that companies shall install appropriate measures to ensure that they adhere to the Consumer Privacy Bill of Rights

CPUC Rulemaking R.08.-12-009 (7/11)

A national model?

Required to provide pricing, usage, and cost data to customers online and update the data at least on a daily basis.

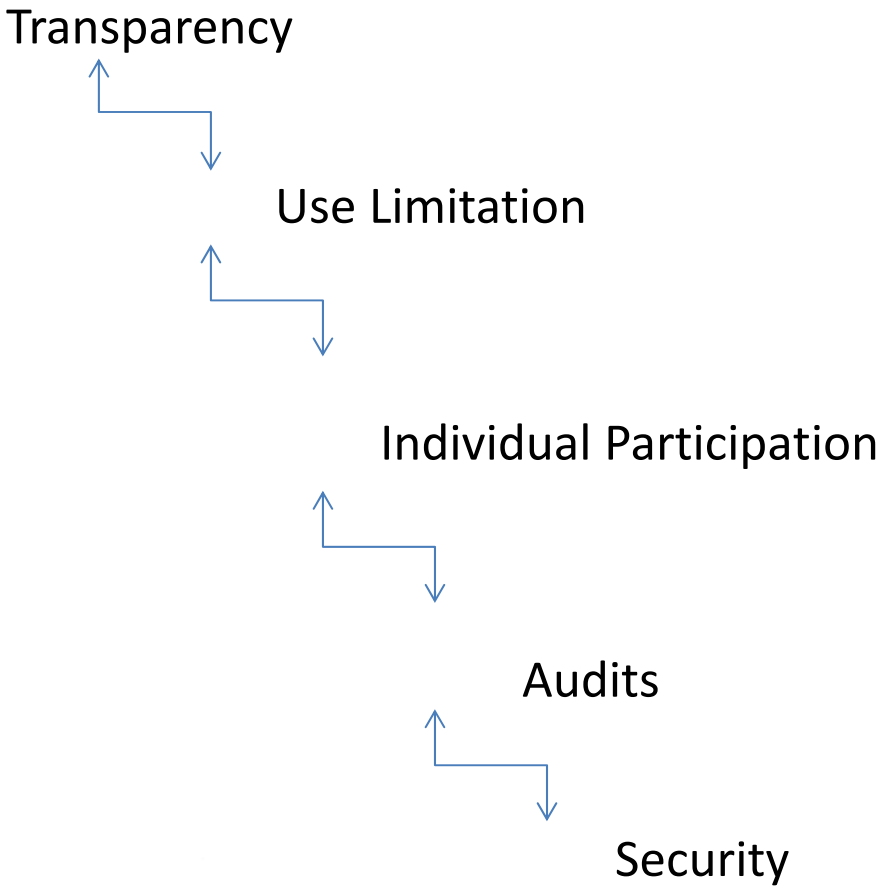
Must regularly conduct independent security audits of their wireless meters.

Must file plans as to how they will manage access to customer data:

- Must include option for customers to authorize third parties to receive their backhauled smart meter data directly from the utility.

NIST is leading standards development

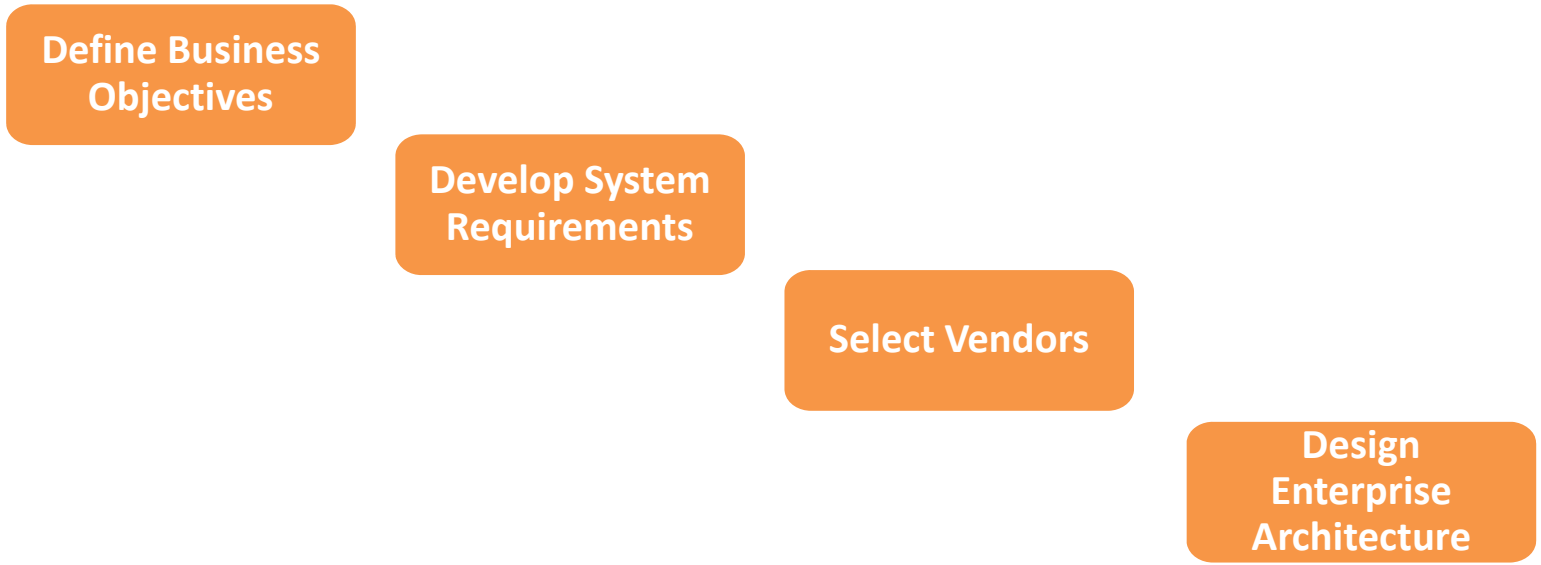
NIST's Privacy Controls



- It is out of NIST's efforts that privacy "best practices" will likely emerge.
- FERC could then adopt these best practices as mandates.
- NIST has revised its Federal Information Security Management Act (FISMA) to include new privacy controls into its security framework.

Privacy By Design is an approach that has been used at HydroOne and SDG&E.

Methodology used to “bake in” NIST Privacy Controls and other best practices into AMI / Smart Grid system design.

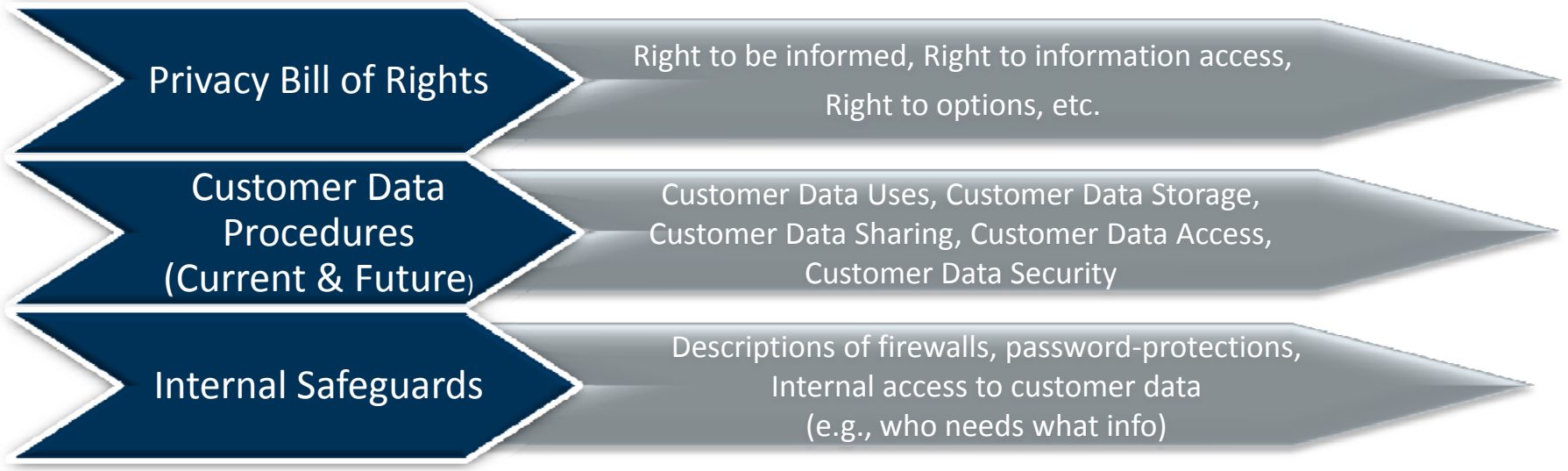


Additional Standards Recommendations have come from the FCC

- Recommendation #1: NERC should clarify its Critical Infrastructure Protection (CIP) security requirements.
- Recommendation #2 (related): The FCC should be authorized to assess the reliability and resiliency of commercial broadband networks specific to customer privacy and transmission of PII.
- Recommendation #3: Congress should consider amending the Communications Act to enable utilities to use the proposed public safety 700MHz wireless broadband network.
- Recommendation #4: As it begins its rulemaking to adopt NIST standards, FERC should adopt consumer digital data accessibility and control standards as a model for the states.

All Utilities should conduct a Customer Data Privacy Assessment (CDPA)

- A CDP is a Strategy Roadmap that is specific to customer privacy.
- Defines utility-specific policies & protocols throughout the development, implementation, and continuation of an AMI / smart grid program.
- Objective: *identify, plan for, and implement customer privacy safeguards that will be needed as a utility deploys new smart grid technologies.*



A Step-By-Step approach to the CDPA:

What Are Your Data Needs?

- Determine the specific needs for customer data within your utility.
- Will aggregated or anonymous customer date be sufficient?
- Is there a business need to gather PII?

Use Case

- Evaluate specific internal process to identify privacy protection gaps

Benchmarking

- Take advantage of policy and standards development elsewhere.
- Consider “Privacy By Design” as one possible methodology.

“Bake In” Privacy Protections

- Incorporate privacy protections from the start deployment strategy, through system requirements and vendor selection.
- Wrong Approach: Installing technologies and then looking for privacy safeguards

Final Thoughts…

- Along with defining the benefits associated with AMI / smart grid, utilities will need to do a better job of articulating the "data privacy protection narrative."
- Evaluate the security and customer data privacy of cloud based AMI applications, data analytic applications, and back office solutions thoroughly.
    - *Costs for cloud applications can be a strong incentive, but security and customer data privacy is actually more difficult to achieve and needs to be designed in.*
- Determine what new system requirements may be needed to support Opt-Out programs.
- Establish an internal committee or council to monitor ongoing policy developments.
- Socialize a privacy and / cyber security plan throughout the utility organization and seek to obtain buy-in from the highest levels, not just from IT but from operations, legal, regulatory, along with the CEO and CFO.
- Get customers engaged early and often.

Thank You

I am happy to discuss any of these topics further with you:

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