

NIST Smart Grid Program

Energy Data Access – Standardization and Data Transfer

CPUC Energy Data Access workshop
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Federal Government Interest in Data Access

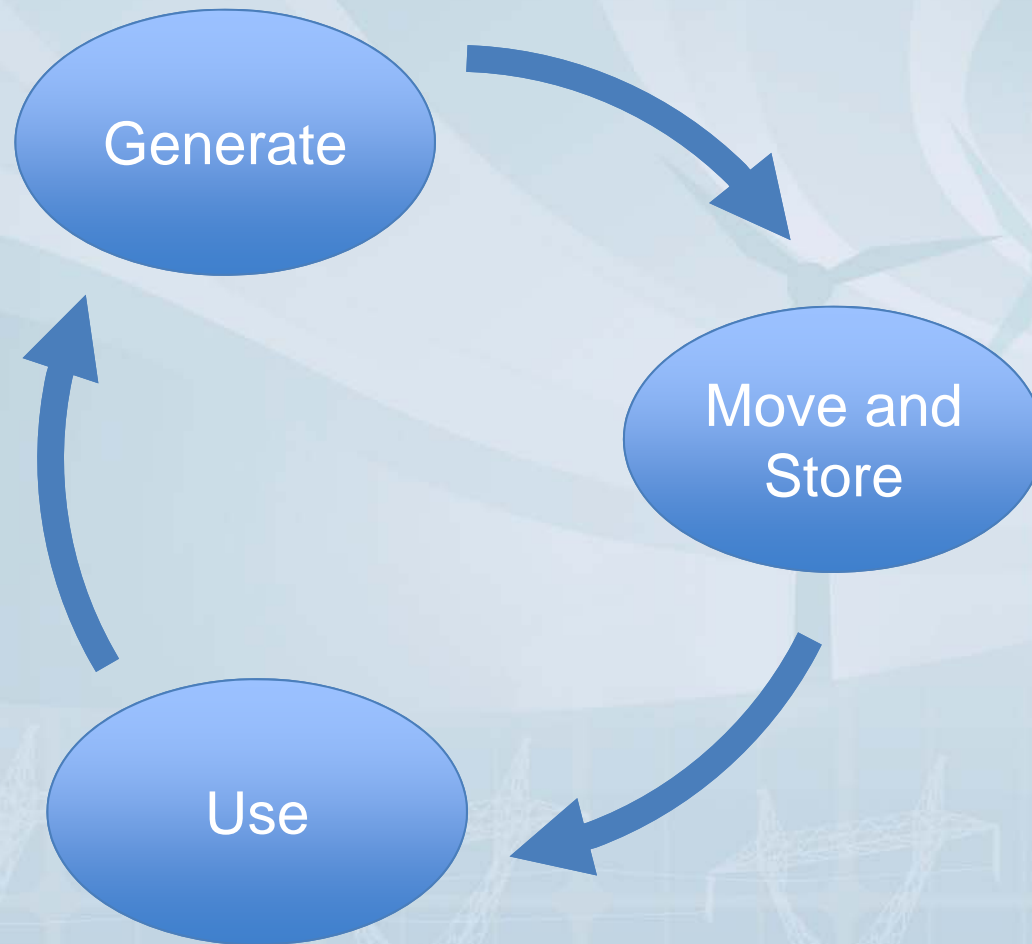
- Smart Disclosure
 - Timely release of complex information and data in standardized, machine readable formats in ways that empower and enable consumers to make informed decisions
- Open Data Initiatives
 - Make government data and other public information widely available and useful
 - Energy.data.gov, ...
- My Data Initiatives
 - Support consumers and others to access their own data, preserving privacy and maintaining security
 - Blue Button, industry-led Green Button, ...
 - Green Button Download My Data
 - over 16million consumer with access,
 - commitments for over 36million
 - Green Button Connect My Data



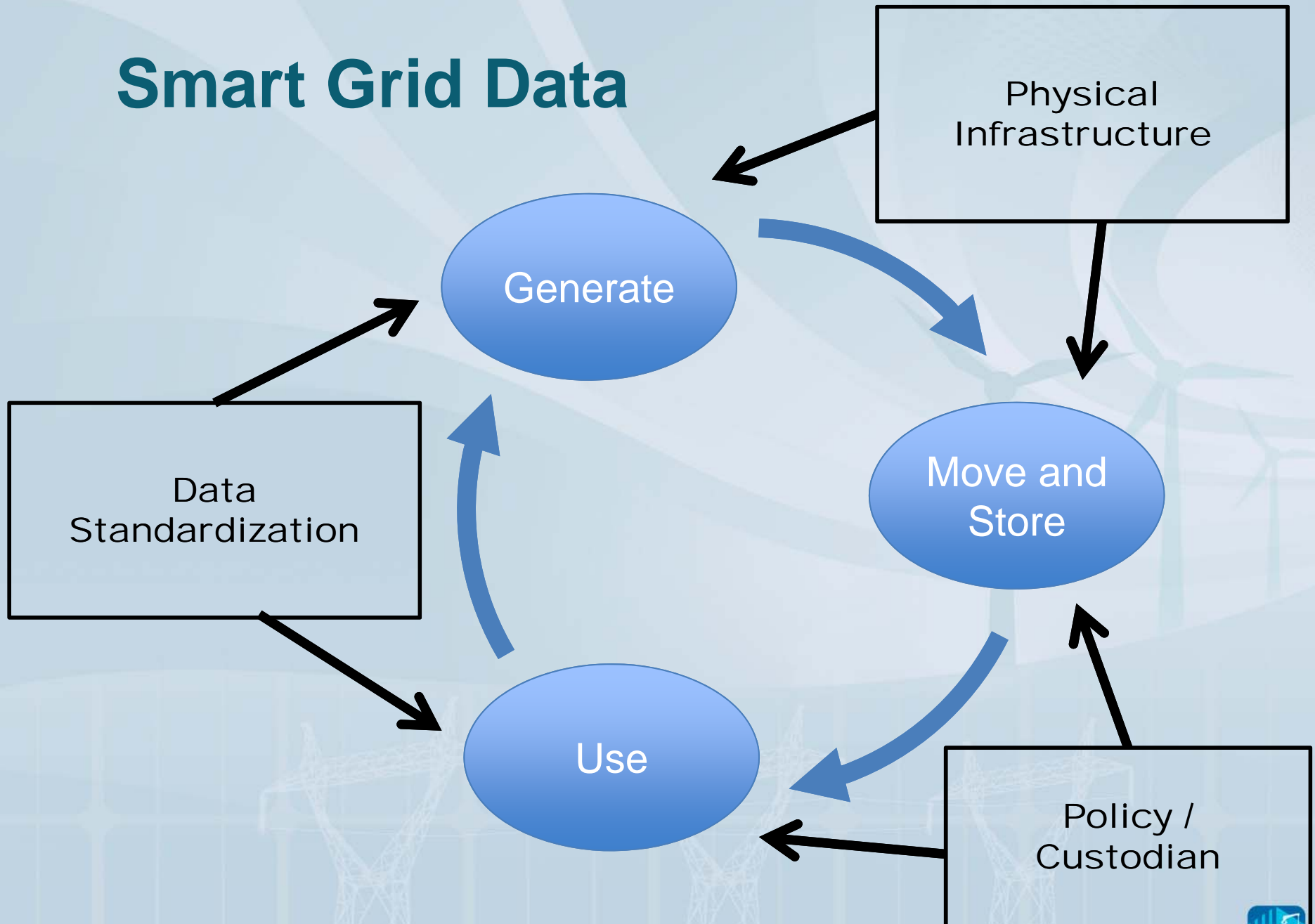
**Green Button
Download
My Data**



Smart Grid Data



Smart Grid Data



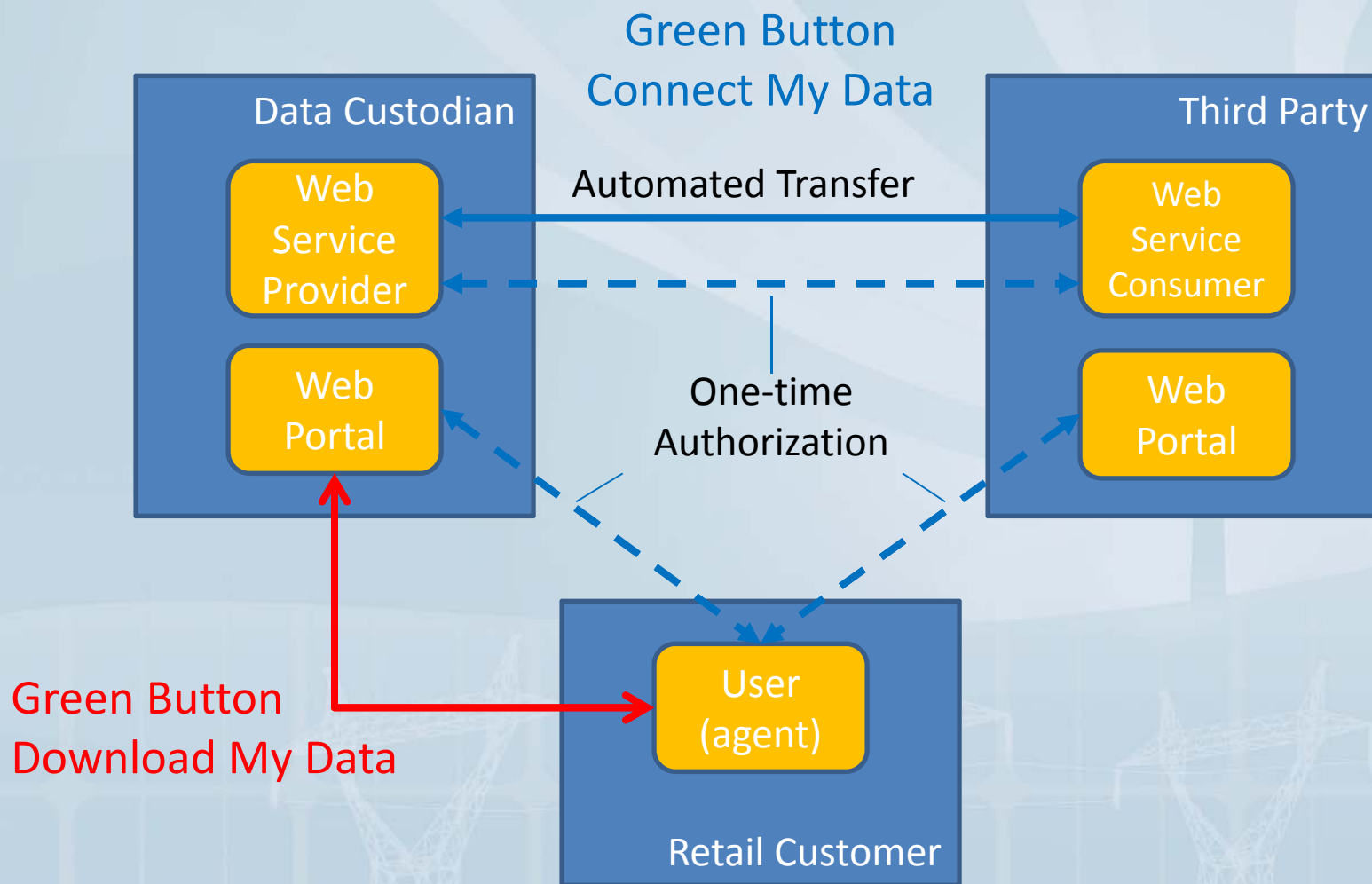
Smart Grid Data – Energy Usage Information

- Physical Infrastructure
 - Smart Meters
 - Meter Communications and Utility Back-end Systems
- Privacy / Custodian
 - US privacy blueprint and privacy efforts
 - US States policies on data access
 - Third Party data access authorization by consumer
 - NIST SGIP Cyber Security Working Group, NISTIR 7628
 - NAESB (North American Energy Standards Board) REQ-22, ...
- Standardization
 - Energy Usage Information Basics – NAESB PAP10 REQ-18
 - Green Button is based on NAESB ESPI (Energy Service Provider Interface) REQ-21

Goal: Ecosystem of innovative smart grid products and services (and research) based on energy usage data

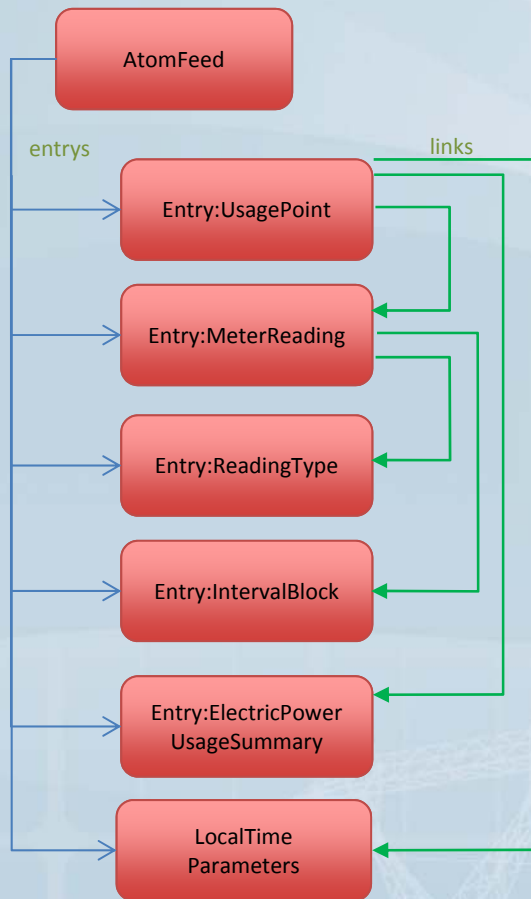


Roles and Relationships in Green Button NAESB ESPI standard

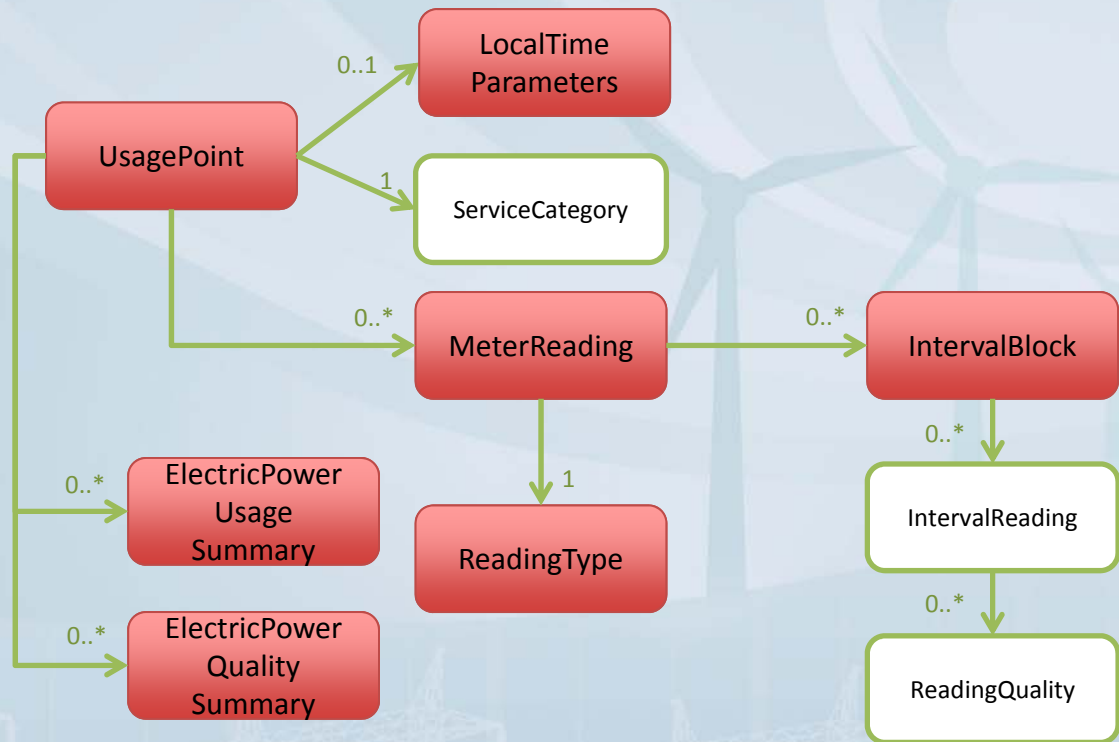


Composition of Energy Usage Information

Syntactic Model
Atom Feed View



Information Model
Profile View



Note: This information is multidimensional. Many different reading types, summaries, and readings possible. i.e. not “flat”



Implementations

- Green Button Download My Data
- Green Button Connect My Data
- Implementation agreements – pin down flexibility of standard working with user community (profile)
- Details: interval/monthly, data range 13+ months (standard is agnostic on time intervals), cost, electricity/gas+, UTC/local time, push/pull, ...
- Testing and certification - UCAIug (SGIP PAP20) ...
- Web applications, import of data by programs such as EPA's Yardstick residential tool (uses Portfolio manager engine)



Energy Data Access

- Observations
- Conclusion

