



*Verizon's
Global Energy &
Utilities Practice
May 2012*

**Metro Washington
Council of Governments
– Energy Advisory
Committee**

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Utility “Tele” Communications Industry Trends (1/2)

- **Digitization of the Utility operations is driving a steady evolution**
 - However where most Utilities are putting their Strategic Interest is in the “Smart Grid”
- **Smart Grid put utilities in a state of revolution for the first time in 100 years**
 - Electromechanical controls are being replaced by IP controls
 - IP controls present a new risk, cyber attacks
 - Utilities need to adopt new systems, processes, and customer models
- **Utilities are embracing hybrid solutions with technology service providers**
 - Traditionally have done all IT and telecom internally; Communications Technology explosion is rendering that approach as potentially impractical
 - Increasing reliance on public telecom carriers for non-critical applications, and some aspects of critical activities
 - Growth in Outsourcing is increasing (think Cloud)
- **Regulators are taking interest**
 - Does Utility Technology investments have quantifiable benefits for rate-payers?
 - NERC CIP compliance is growing
 - State of California, being a leader, is exposing Utility consumer issues due to advanced technology
 - Regulators encouraging utilities to work with a broader Eco System

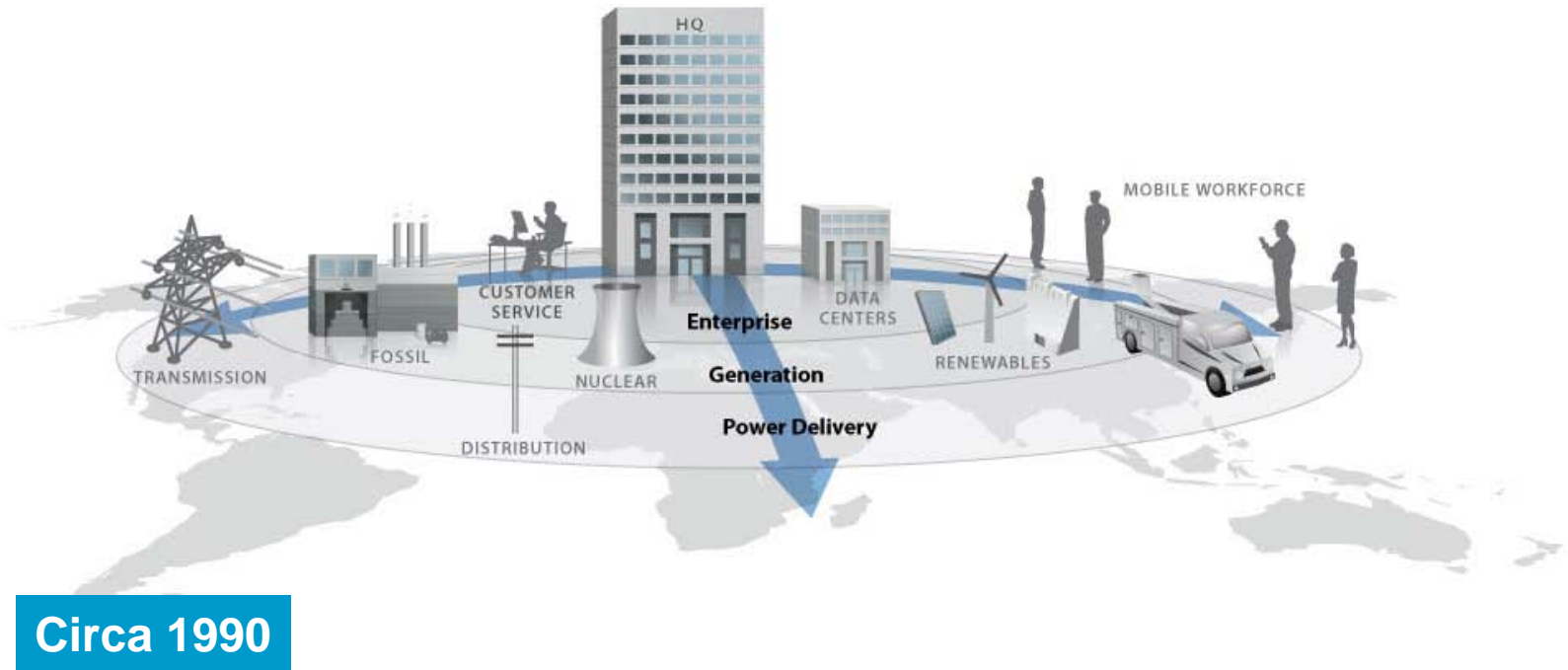


Utility “Tele” Communications Industry Trends (2/2)

- **Supply and demand are stagnant, bringing M&A activity back to the front**
 - Slow economy means less need for energy (varies by region)
 - Major deals announced almost on a weekly basis
 - Companies pursuing mergers or extensive business transformation
- **Green and renewable energy opportunities are massive**
 - Utilities burn coal and are among the worst polluters on earth, but consumer demand makes it unavoidable
 - Regulators and consumers drive demand for green and renewable power
- **Risk management is more important than ever**
 - Technology Investments today will have significant impacts tomorrow in varied and different ways.
 - » In particular, The Smart Grid is new territory with no Best Practices....yet
 - FCPA, international compliance, other regulatory challenges

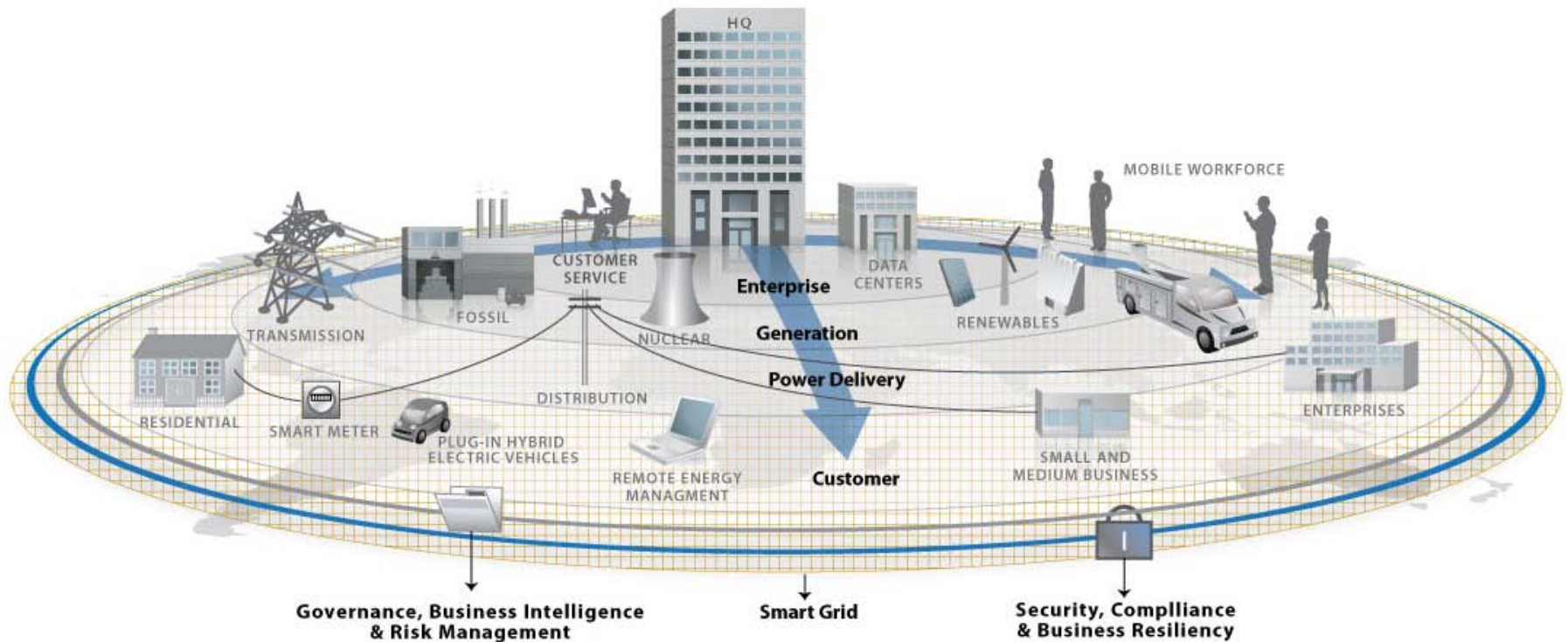


Utility Industry Framework Traditional *Enterprise* view



Utility Industry Framework

Opportunities and New Risk



Circa 1991-2010



Challenges to the Extended Utility Enterprise

Customer Service Enhancements

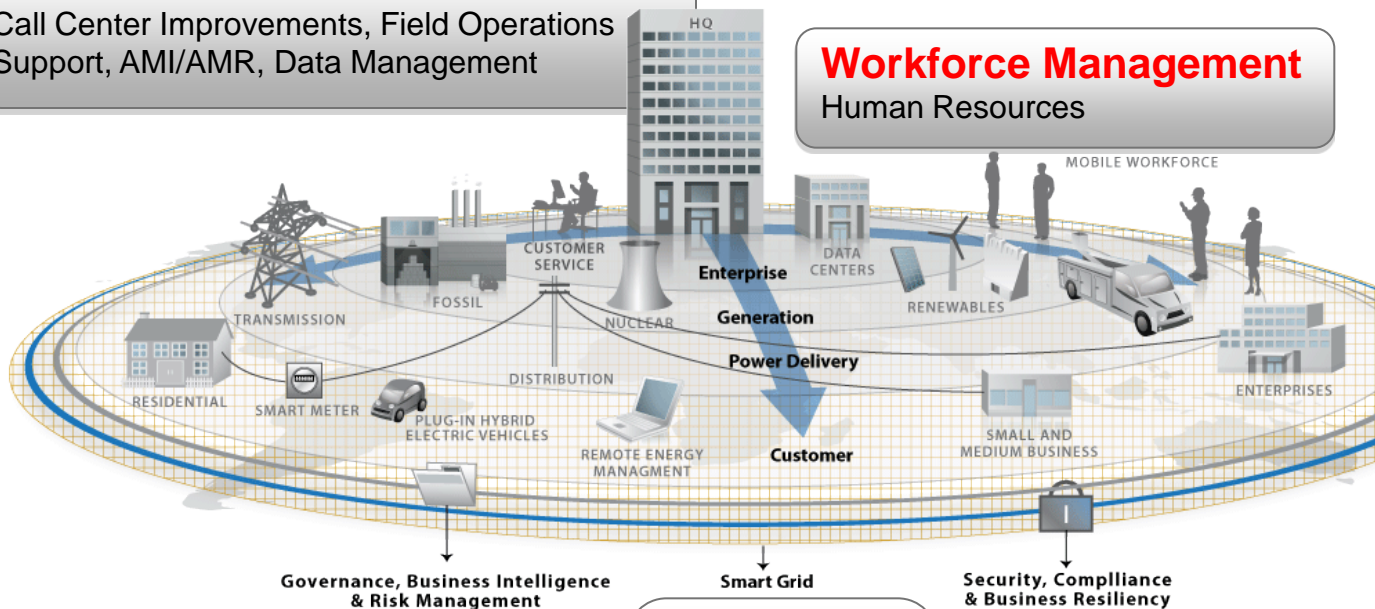
Call Center Improvements, Field Operations Support, AMI/AMR, Data Management

Workforce Management

Human Resources

Energy Efficiency

Green Energy Sources, Energy Smart Buildings and Intelligent Homes, Smart Appliances and Equipment Installation, Smart Data Centers



Regulatory and Compliance

Federal, State and Local regulatory and compliance requirements

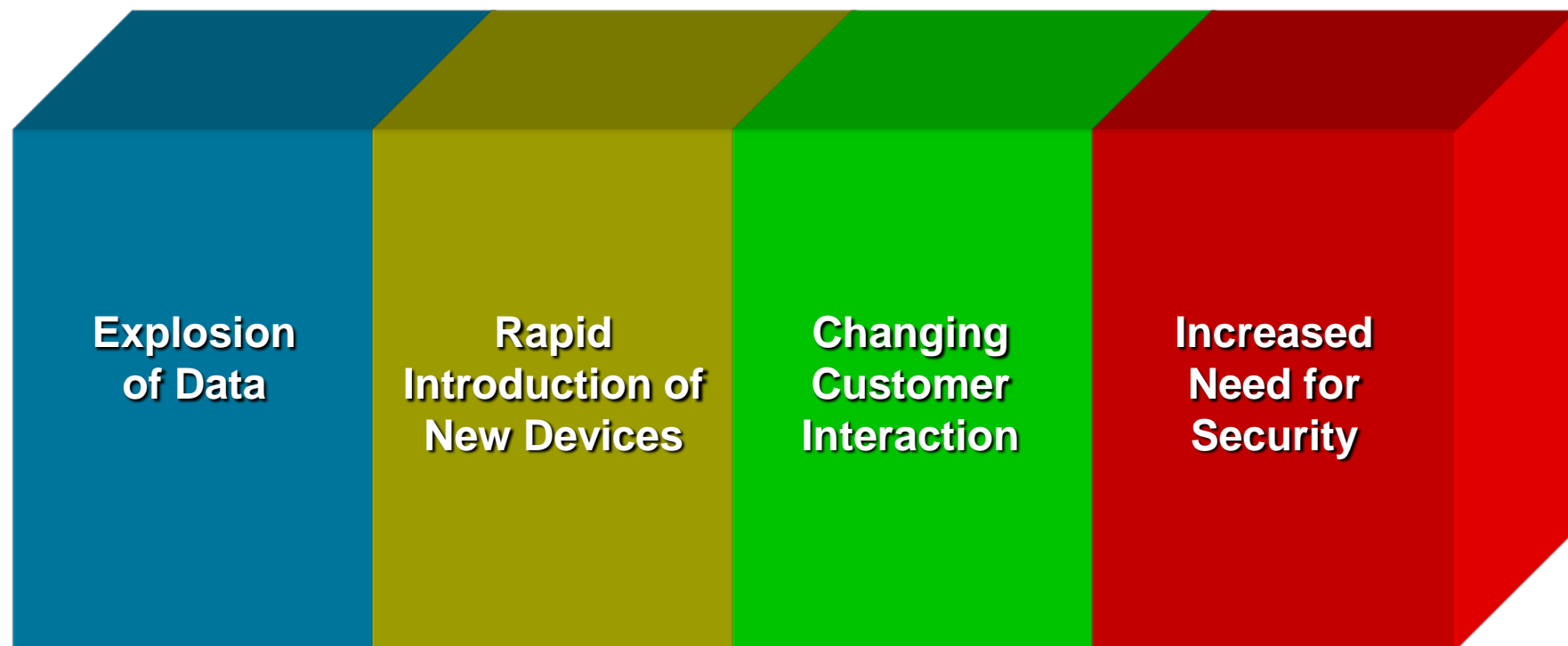
Smart Grid

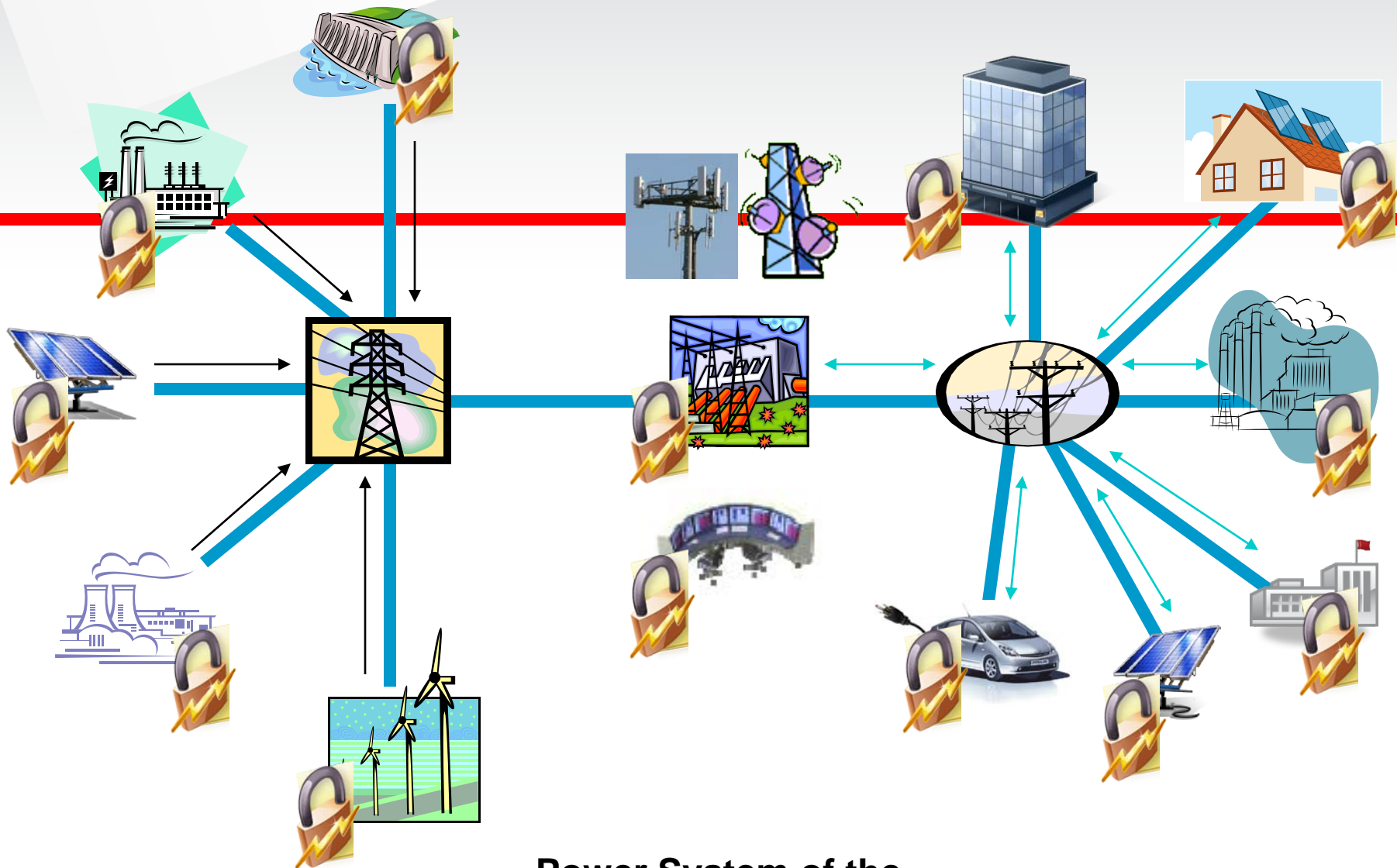
Funding, Design and Construction, Business Analytics, Demand Response

Security and Reliability

Physical and Cyber Security, O&M of Generation and T&D, Outage Management

Enhanced Technology = Enhanced Communications Challenges





**Power System of the
“Future”....What drives What
and How to Secure it?**



Verizon's Smart Grid Activities

SynchroPhasers

Determine grid status in near real-time

Substation Automation

Perform load balancing; automate decision making

CONTACT CENTER

FIELD

CUSTOMERS

DATA CENTER

CUSTOMERS COLLECT DATA THE EASY WAY

Outage Management

Providing power availability information to utilities

Asset Monitoring

View status, location, uptime of connected assets

Smart Grid Connect

Cloud-based meter-to-cash solution (MDM as a Service)

Pilots, POC's and deployments underway to prove the concepts and deliver benefits



Thank you!

Questions?



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