Cyber-Security Opportunities
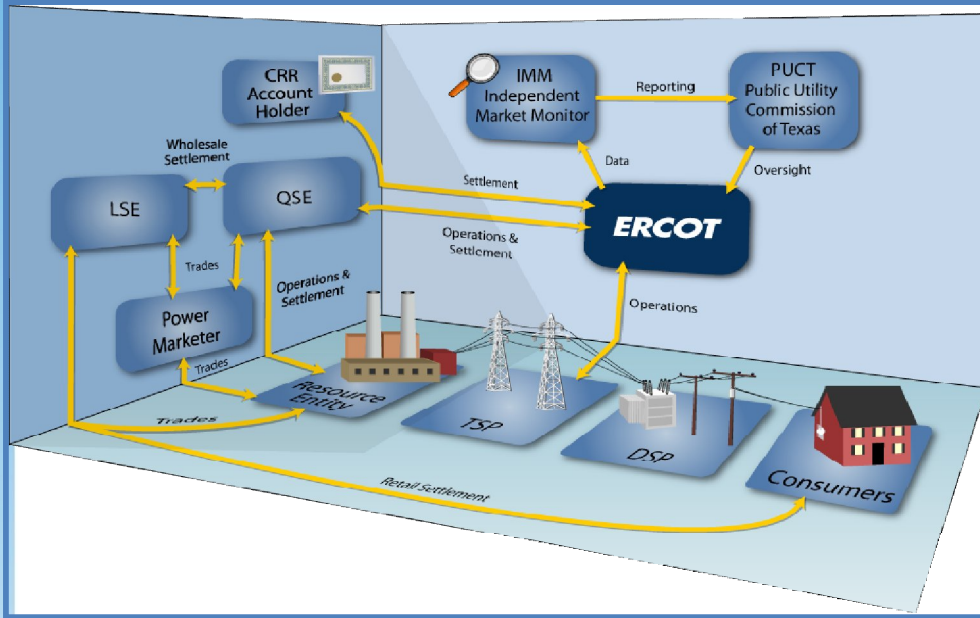
Donny Helm
Director – Technology Strategy and Architecture
Oncor Electric Delivery

December 5, 2012
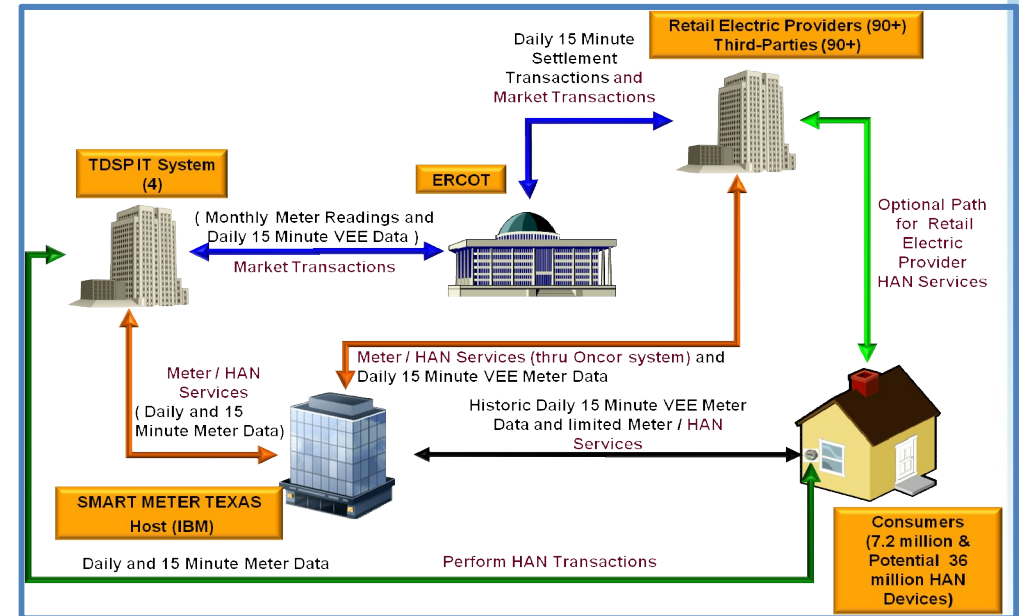
Convergence of Technologies / Concepts
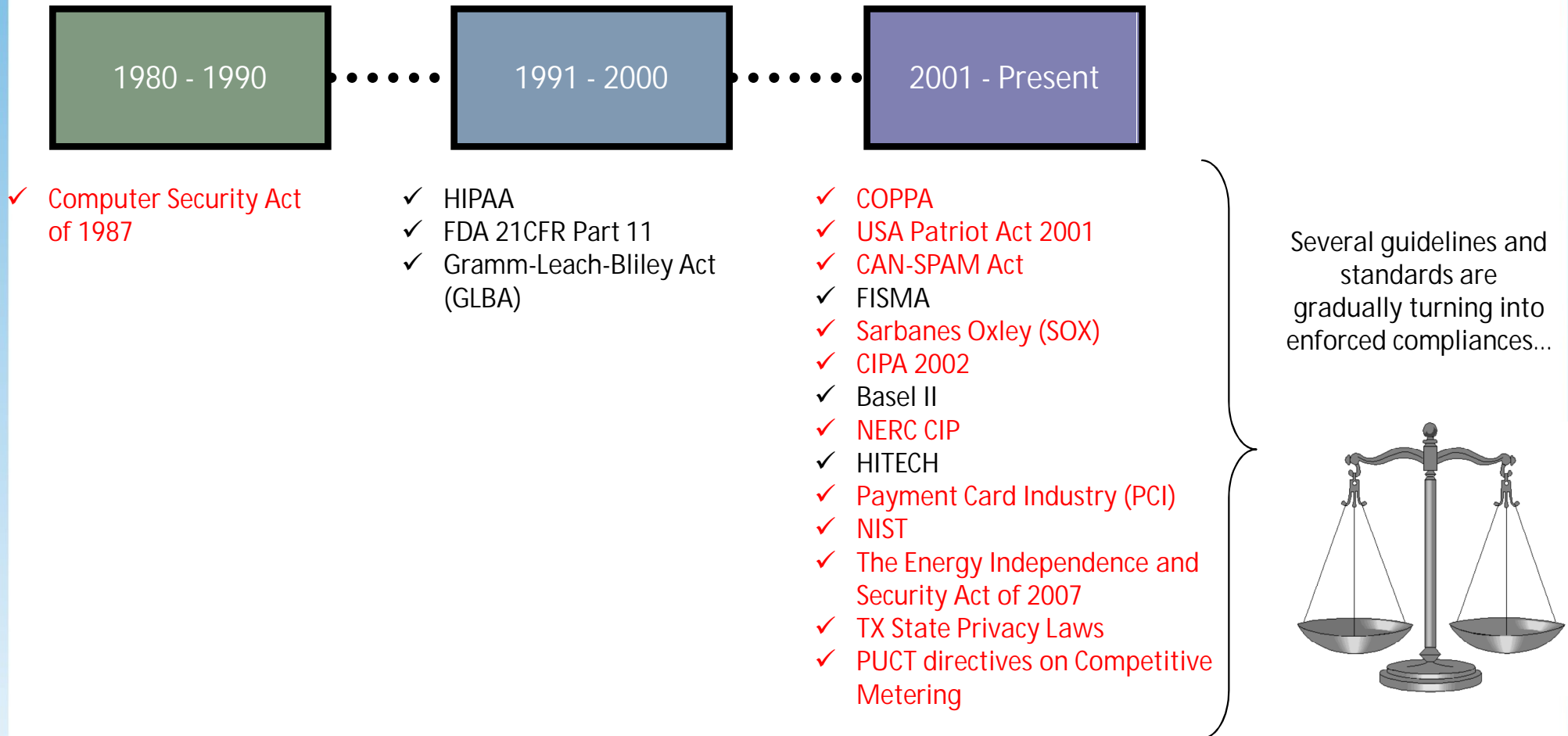

Delivery of Power

Delivery of Information / Services

Increasing Number of Data Privacy Laws and Standards…some of which will continue

1980 - 1990	1991 - 2000	2001 - Present

- ✓ Computer Security Act of 1987

- ✓ HIPAA
- ✓ FDA 21CFR Part 11
- ✓ Gramm-Leach-Bliley Act (GLBA)

- ✓ COPPA
- ✓ USA Patriot Act 2001
- ✓ CAN-SPAM Act
- ✓ FISMA
- ✓ Sarbanes Oxley (SOX)
- ✓ CIPA 2002
- ✓ Basel II
- ✓ NERC CIP
- ✓ HITECH
- ✓ Payment Card Industry (PCI)
- ✓ NIST
- ✓ The Energy Independence and Security Act of 2007
- ✓ TX State Privacy Laws
- ✓ PUCT directives on Competitive Metering

Several guidelines and standards are gradually turning into enforced compliances…

Guidelines in Italics (and red) have some direct or indirect implications on how Utilities manage customer information.

Areas of Security Involvement

AMIT – Advanced Metering Implementation Team
DHS – Department of Homeland Security
DOD – Department of Defense
DOE – Department of Energy
ERCOT – Electric Reliability Council of Texas
ES-ISAC – Electric Sector Information Sharing and Analysis Center
FBI – Federal Bureau of Investigations
FERC – Federal Energy Regulatory Commission
GAO – Government Accountability Office
Grid-Interop – Grid Interoperability
GridSec – Grid Security
HAN – Home-Area-Network
IANS – Institute for Applied Network Security
ICS-CERT – Industrial Control Systems Cyber Emergency Response Team
NAESB - North American Energy Standards Board
NERC – North American Reliability Corporation
NESCO – National Electric Sector Cybersecurity Organization
NIST – National Institute of Standards and Technology
OpenSG – Open Smart Grid
PUCT – Public Utility Commission of Texas
SEP – Smart Energy Profile
SGIP – Smart Grid Interoperability Panel
UTC – Utilities Telecom Council

Challenges / Lessons Learned

- Establish a cyber-security blueprint
  - Standards
  - Multi-year Roadmap
  - Vendor Engagement and Requirements
  - Resource Skills Development
  - Understanding Solution Scale
  - Audit Controls
- Convergence of IT and OT Functions
- Managing Customer Experience and Communications
- Understanding Technology Functionality
- Continue to Actively Engage with Standards Development