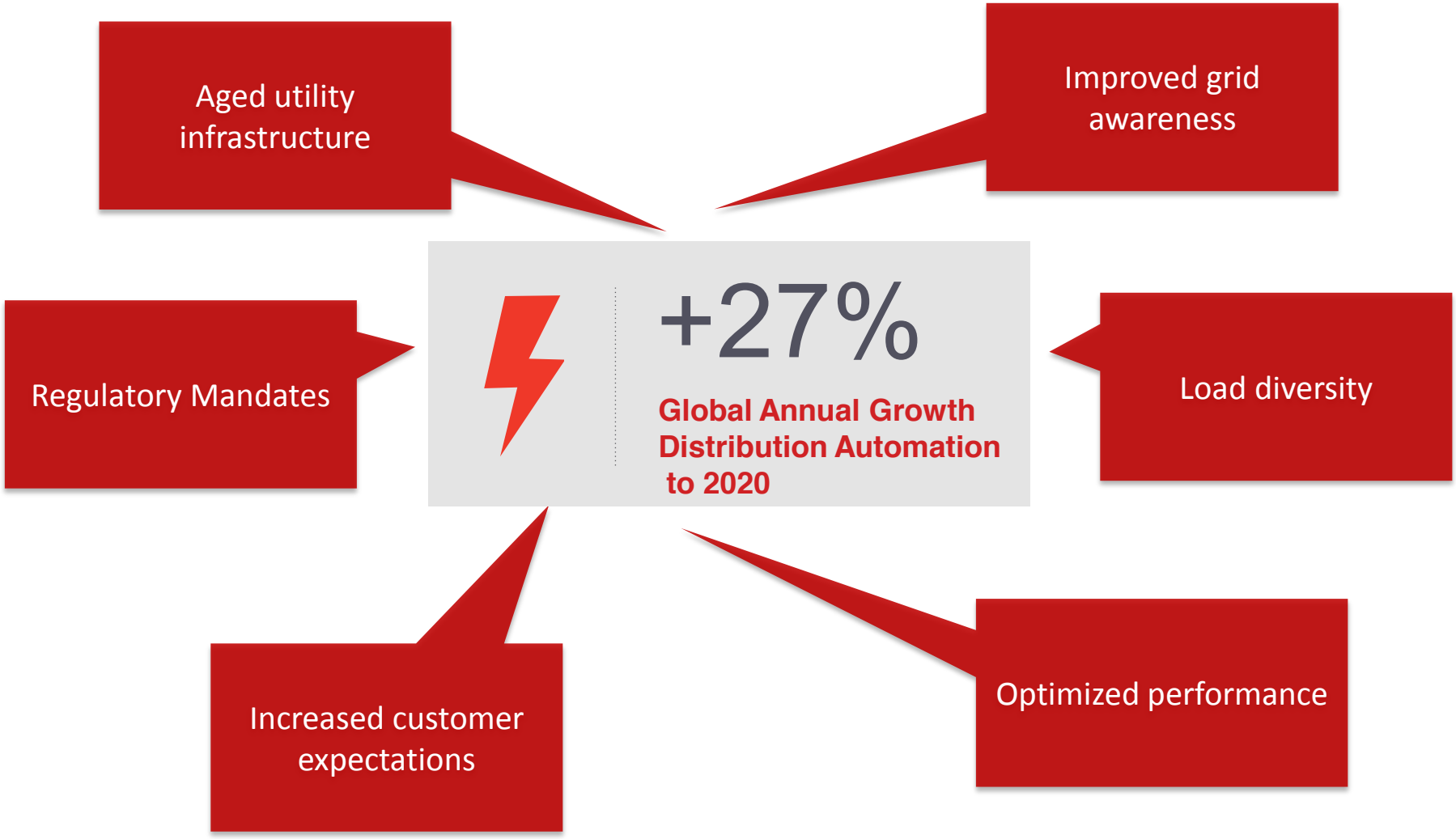
ENABLING MULTI-SERVICE APPLICATIONS WITH IP COMMUNICATION NETWORKS

Tom Johnson, Itron

National Town Hall Meeting Washington DC

July 11, 2013

GRID OPTIMIZATION MARKET OVERVIEW



OPTIMIZING MULTI-SERVICE SOLUTIONS



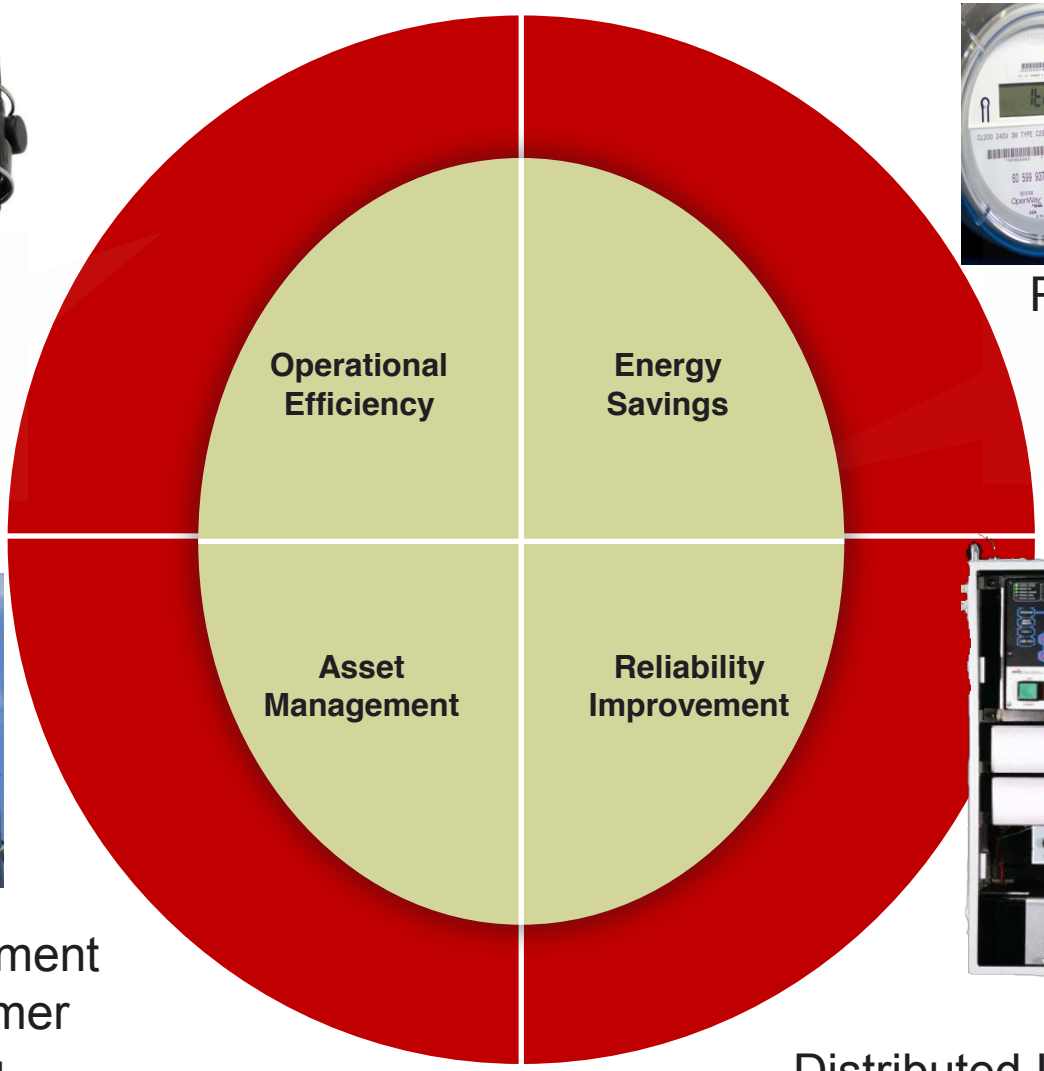
Sensors and Faulted-Circuit Indicators



Power Quality VVO EOL Voltage Endpoints



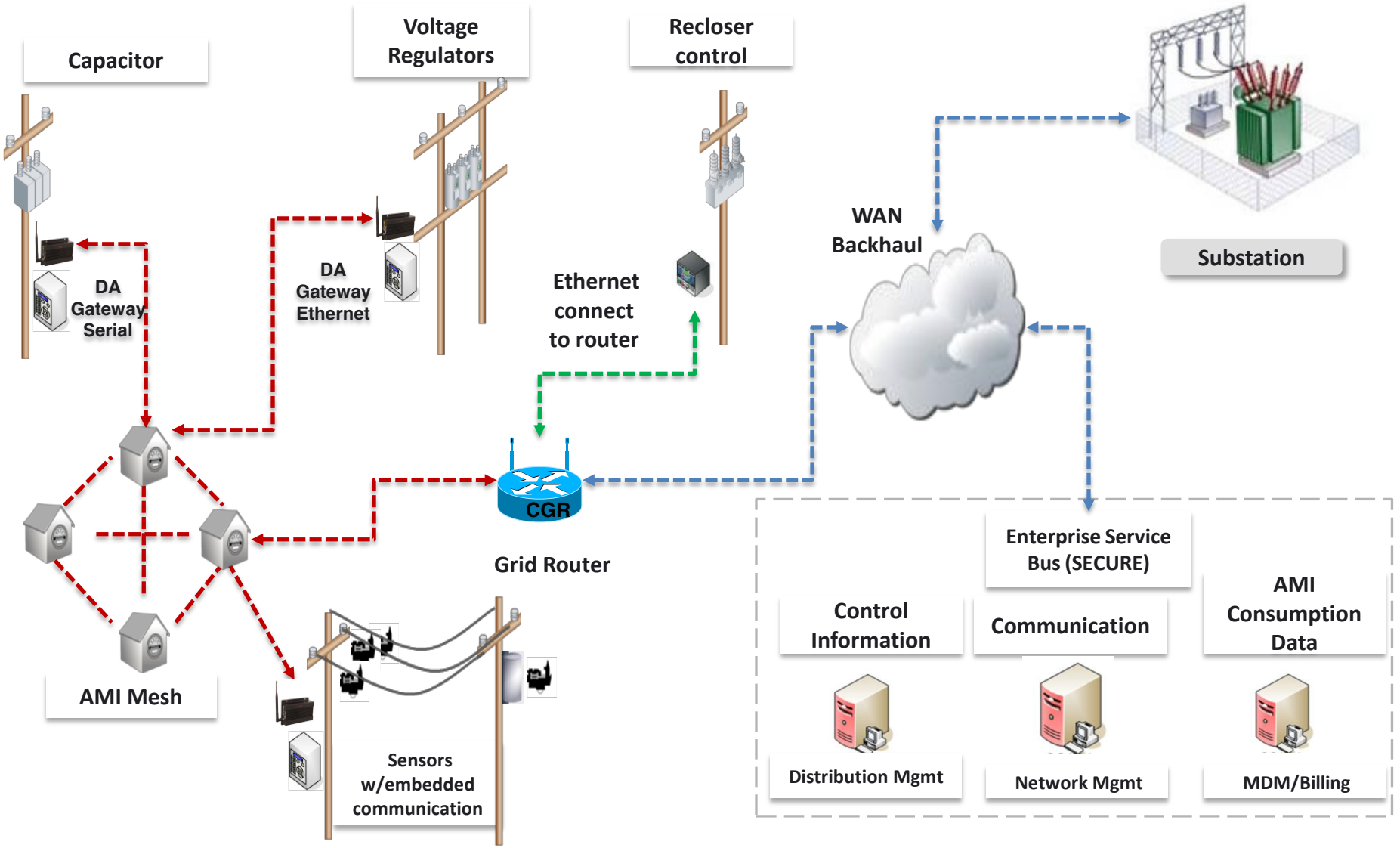
Asset Management and Transformer Monitoring





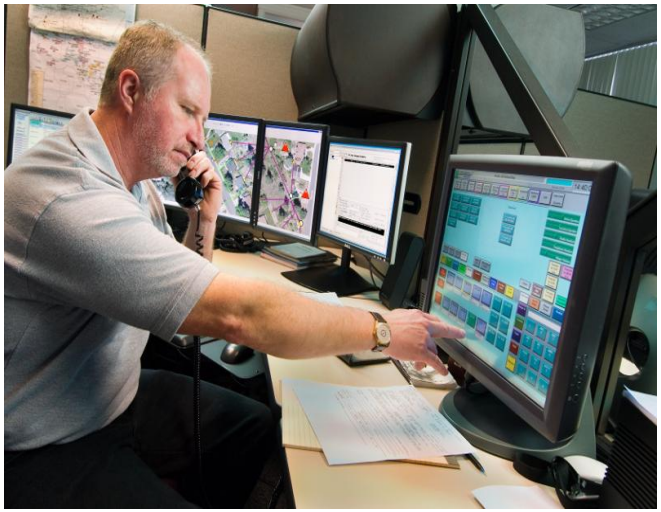
Distributed Intelligence

IP COMMUNICATION PATH



ARCHITECTURE FOR TODAY AND TOMORROW

- Device deployment
  - Communicate with legacy devices and customize data collection
- Access and control
  - Operate devices remotely
- Advanced functionality
  - Access data trending and logs
  - Application and event management
  - Load shifting/capacity grid allocation and device reconfiguration



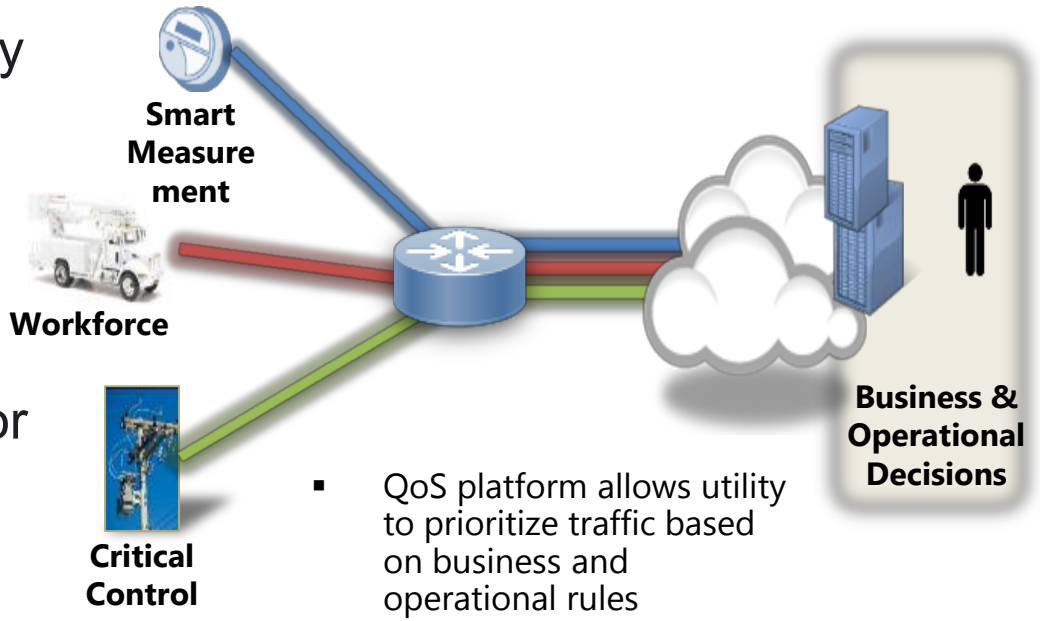
WHY IP?

- Example:
  - 32-bit IPv4 address represented in 8-bit segments: **192.168.010.010**
  - 128 bit IPv6 address represented in 16 bit segments **21DA:00D3:0000:2F3B:02AA:00FF:FE28:9C5A**

- The key benefits of IPv6 include:
  - Simplified message packet header for routing efficiency
  - IP Security (IPSec) implementation
  - Improved support for both IP grid devices and computing systems
  - Enhanced multicast support with increased addresses and efficient mechanisms for improved traffic prioritization

QUALITY OF SERVICE

- Isolate and managed traffic based on policy and criticality
- Ensure adequate bandwidth management
- Deliver high service-levels for identified applications



- QoS platform allows utility to prioritize traffic based on business and operational rules
- Distributed all the way into the mesh network and endpoints

CONCLUSIONS

- A single IP network can support multi-service applications with appropriate latency and response for optimization solutions
- IP traffic can support both legacy and new/future controls through both IPv4 and IPv6 addressed messages
- Quality of Service and message prioritization provides mesh network with capability to deliver low latency performance
- IP Communication networks can exist with single communication technology or be “blended” for reach or to achieve higher performance requirements

THANK YOU

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