

Outage Management System **(OMS)**

Presented to:

NH House

Science, Technology and Energy Committee

June 9, 2009

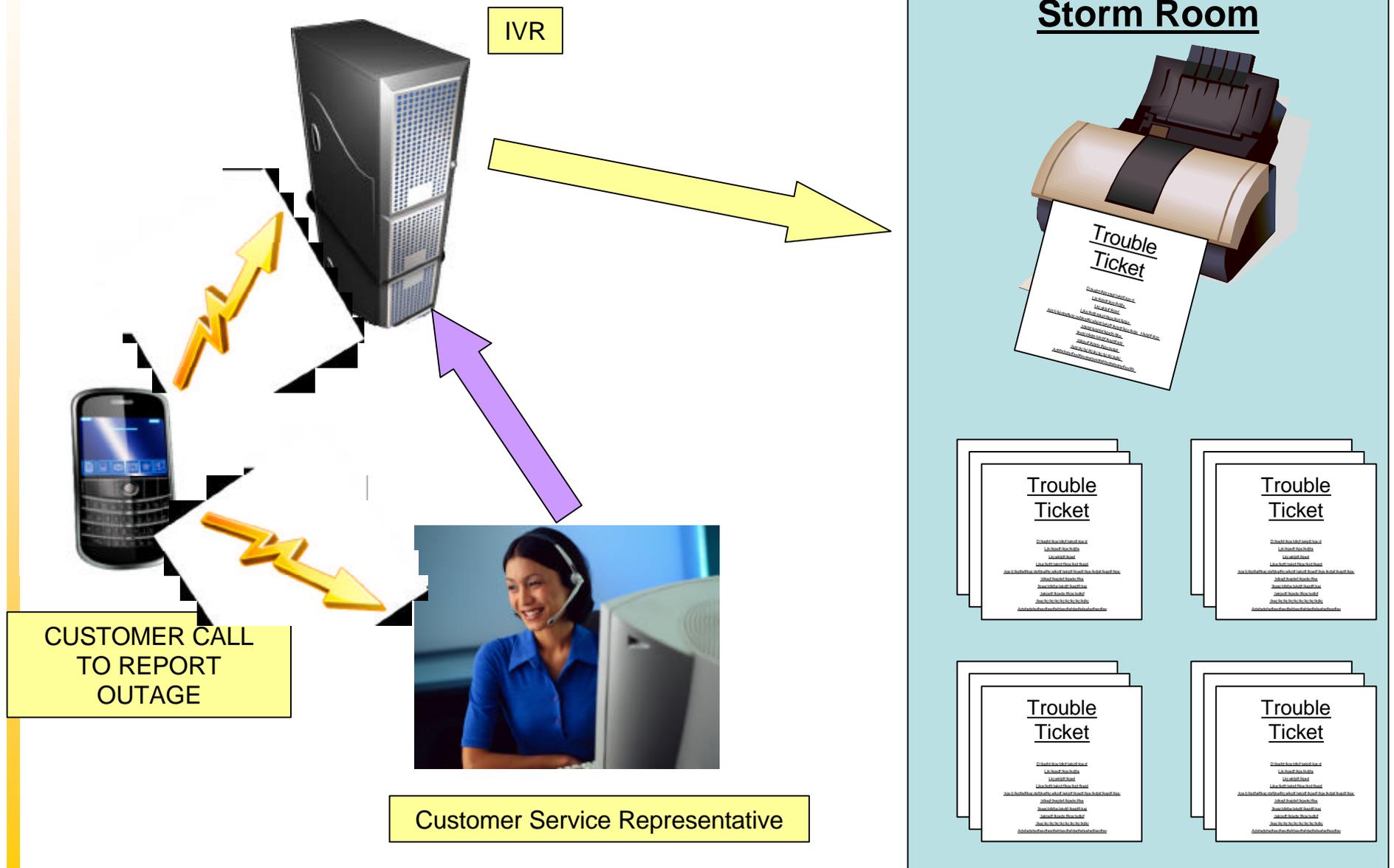
Definitions / Acronyms

- **Outage Management System (OMS)**
 - A computer system used by operators of electric distribution systems to assist in the restoration of power.
- **Interactive Voice Response (IVR)**
 - An interactive technology that allows a computer to detect voice and keypad inputs.
- **Advanced Metering Infrastructure (AMI)**
 - The integration of advanced metering technology with communication technology to allow two-way communication between the utility and the customer meter.
- **Supervisory Control And Data Acquisition (SCADA)**
 - A communication system and computer/control system that monitors and can control an electric power system.

Outage Management System (OMS)

- A computer system that assists in the power restoration process by:
 - identifying the location of fuse(s) or breaker(s) that operated to interrupt a circuit or portion of a circuit
 - translating customer call patterns into specific “problem” locations requiring response by line crews.
 - prioritizing restoration efforts and managing resources based on defined criteria such as the size of outages, and the locations of critical facilities.
 - providing accurate information on the extent of outages and number of customers affected.
 - assisting with crew dispatching and tracking; management of crews assisting in restoration.

Managing Events without OMS



Managing Events with OMS

CUSTOMER CALL TO REPORT AN OUTAGE

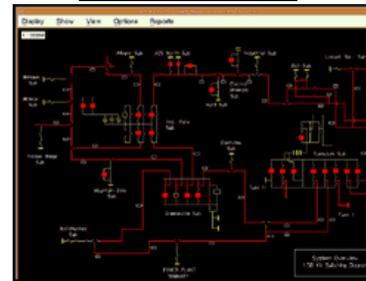


IVR



Customer Service Representative

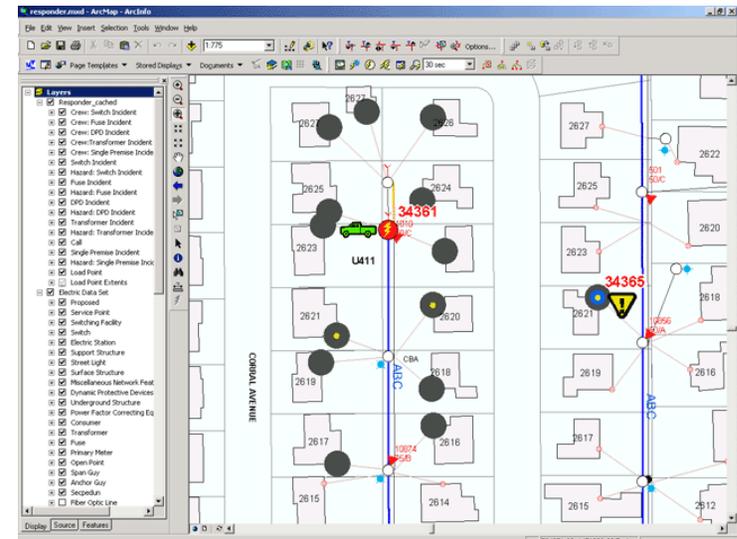
SCADA



AMI

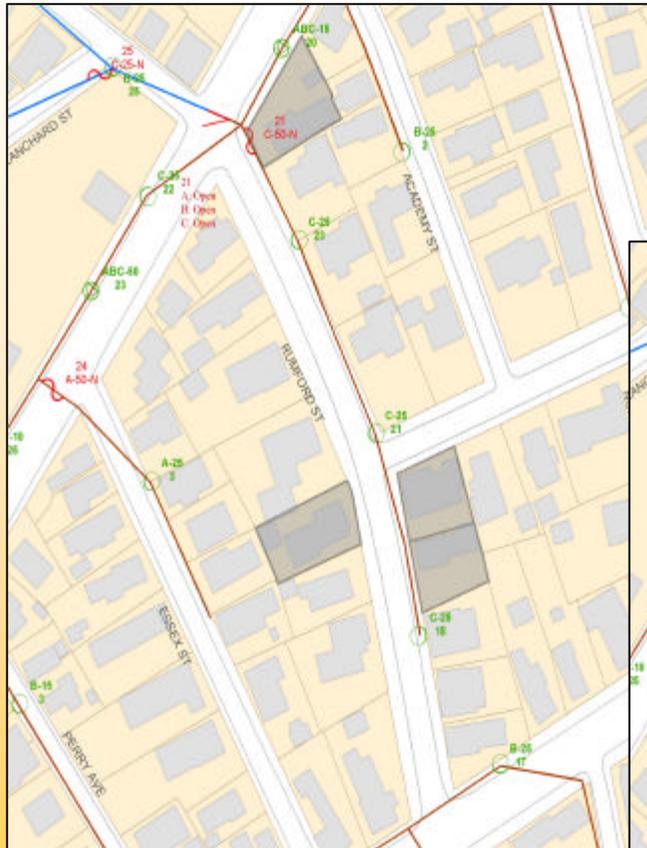


OMS

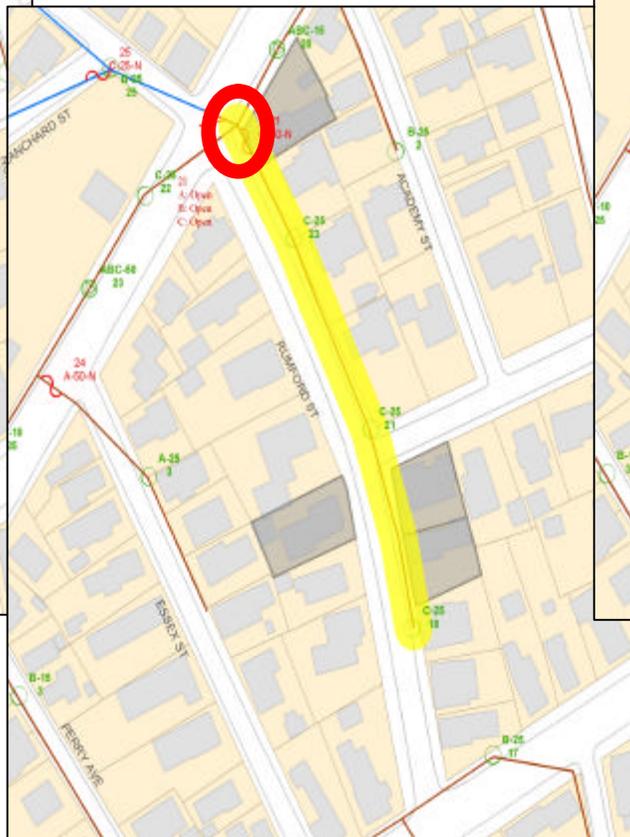


SCADA picture property of efacec Advanced Control Systems
OMS picture property of Telvent Miner & Miner

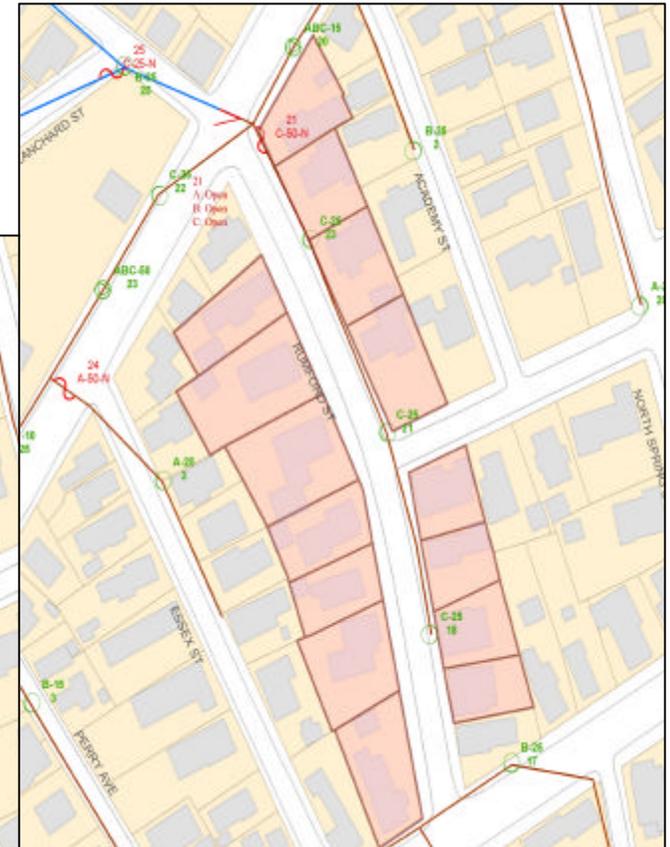
OMS Localized Example



Isolate Affected Circuit



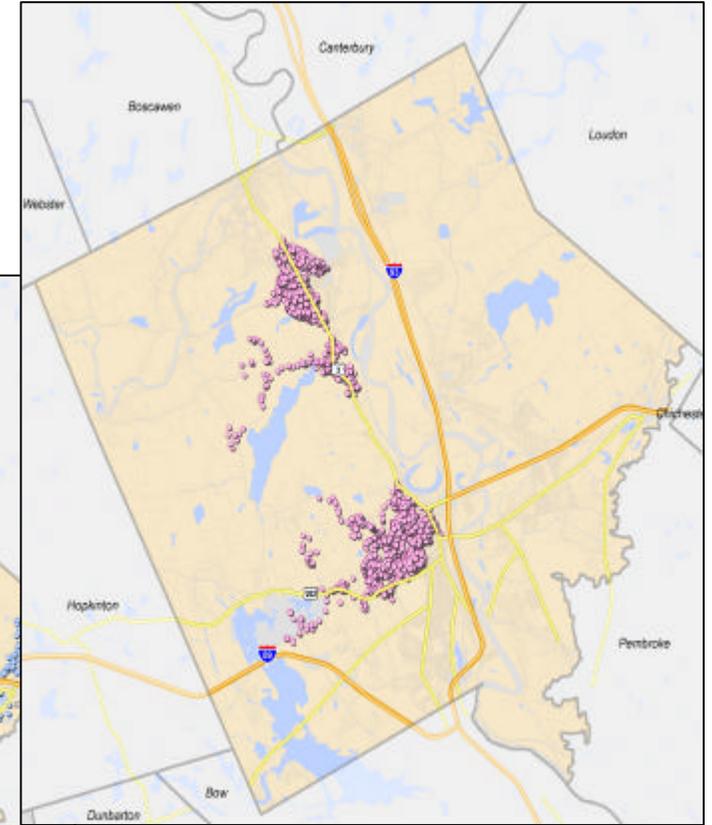
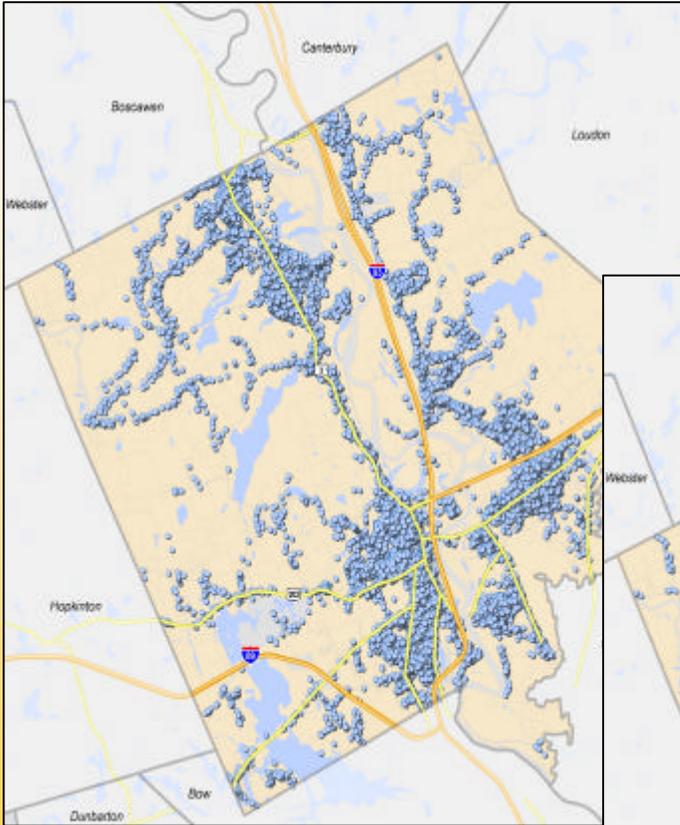
Receive Customer Calls



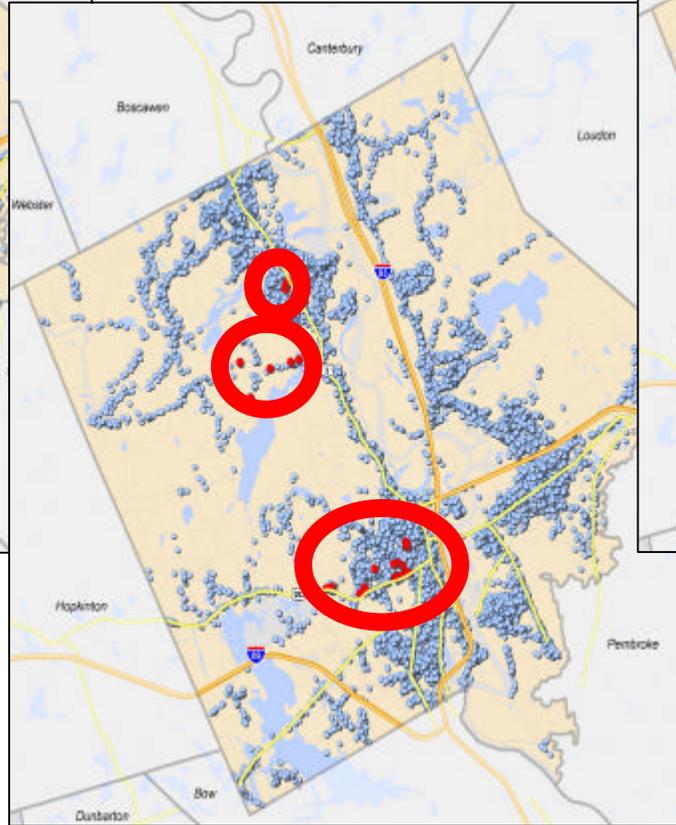
Model Outage Extent

OMS Wide-scale Example

Receive Outage Calls

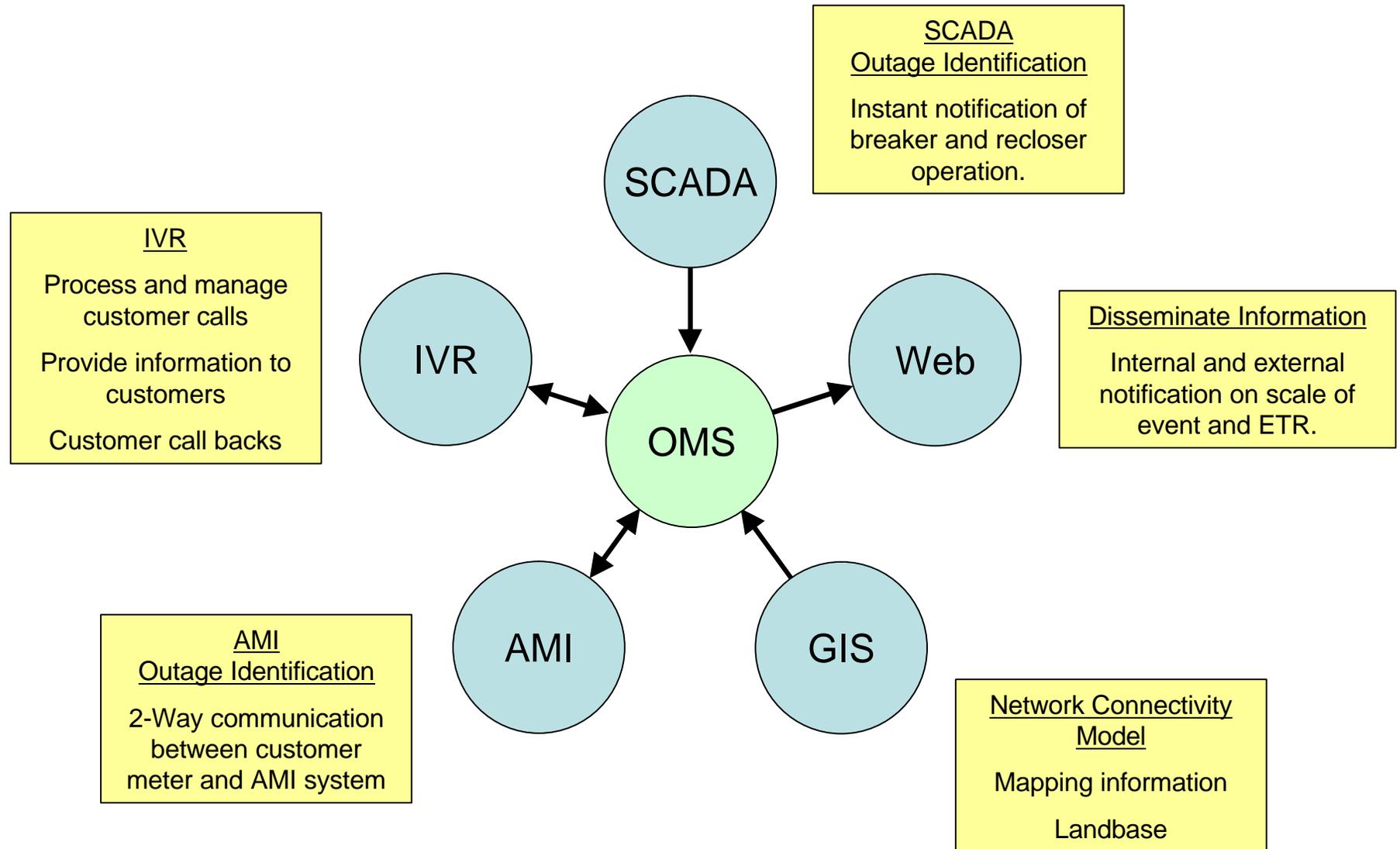


View All Customer Meters



Model Outage Extent

OMS Information Flow

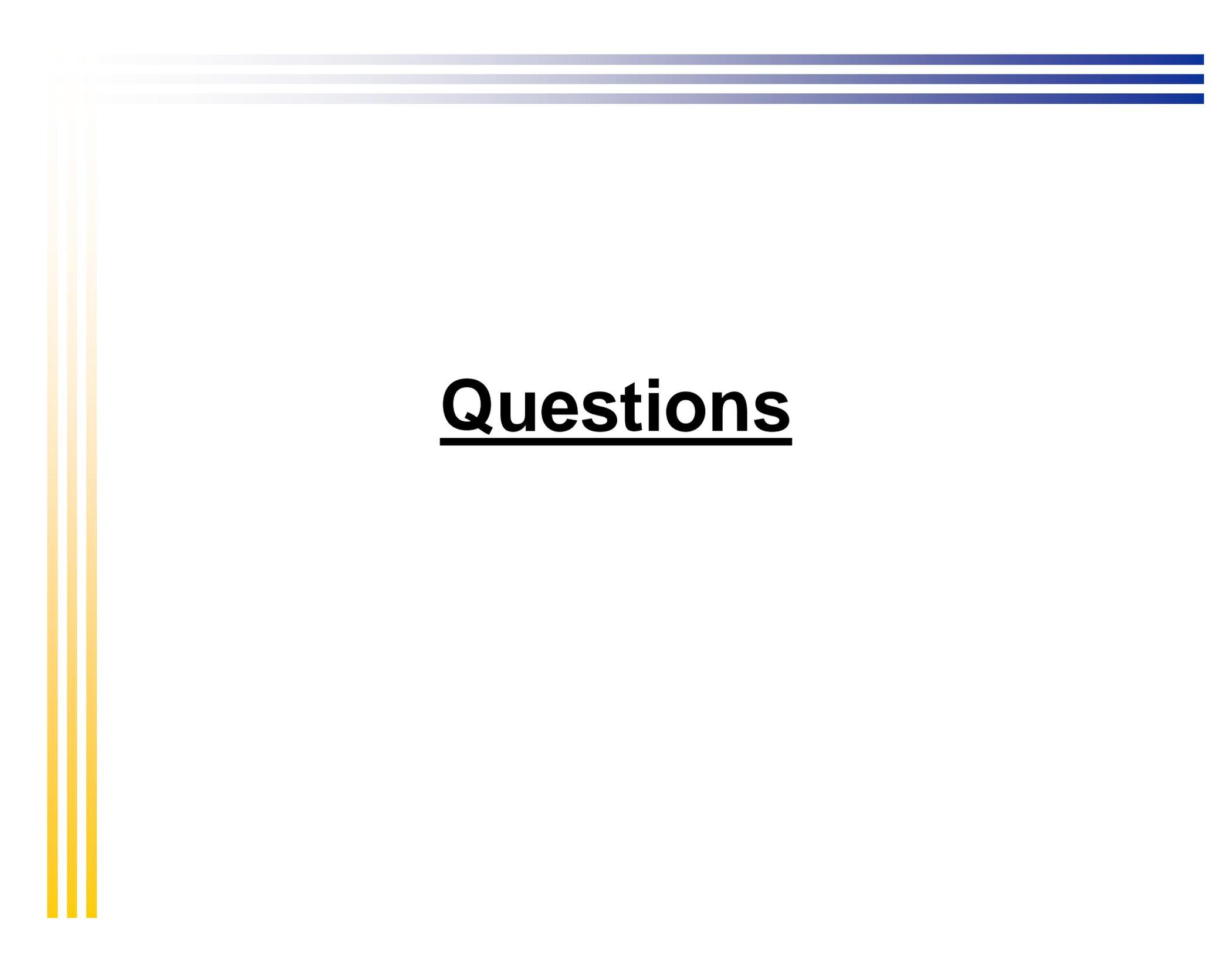


OMS Benefits

- **Manages the overwhelming complexity of a major event.**
 - OMS is most helpful when there are many scattered outages
- **Vastly increases the speed of trouble analysis, allowing managers to make better/faster decisions.**
 - Quickly predicts the number of individual outage locations, the extent of each outage and the scope of the restoration effort as a whole.
- **Improves prioritization of outages and other priorities such as critical facilities and life support customers.**
- **Provides better information to key stakeholders (customers, emergency officials, regulators, elected officials, media, etc.) about the extent of outages, customers affected, progress of restoration, and the estimated restoration time.**

OMS Limitations

- **The OMS does not “manage” the utility’s restoration.**
 - It is not a substitute for the utility’s Emergency Restoration Plan (ERP).
- **The OMS does not provide information about “damage”.**
 - An OMS only “knows” what it is told. i.e., the number and locations of customers who have called, information from SCADA, etc.
- **The OMS does not automatically know the status of the utility’s distribution system.**
 - OMS is dependent on sources of information, such as customer calls.
- **The OMS does not directly provide estimated restoration times or other information that would be valuable to customers.**
- **An OMS can become overwhelmed in extreme situations, and may not be able to deliver promised benefits in all scenarios.**



Questions