Advanced Metering Infrastructure (AMI)

January 14, 2021 (UAB)

January 21, 2021 (City Commission)

Item #180361

GRU℠

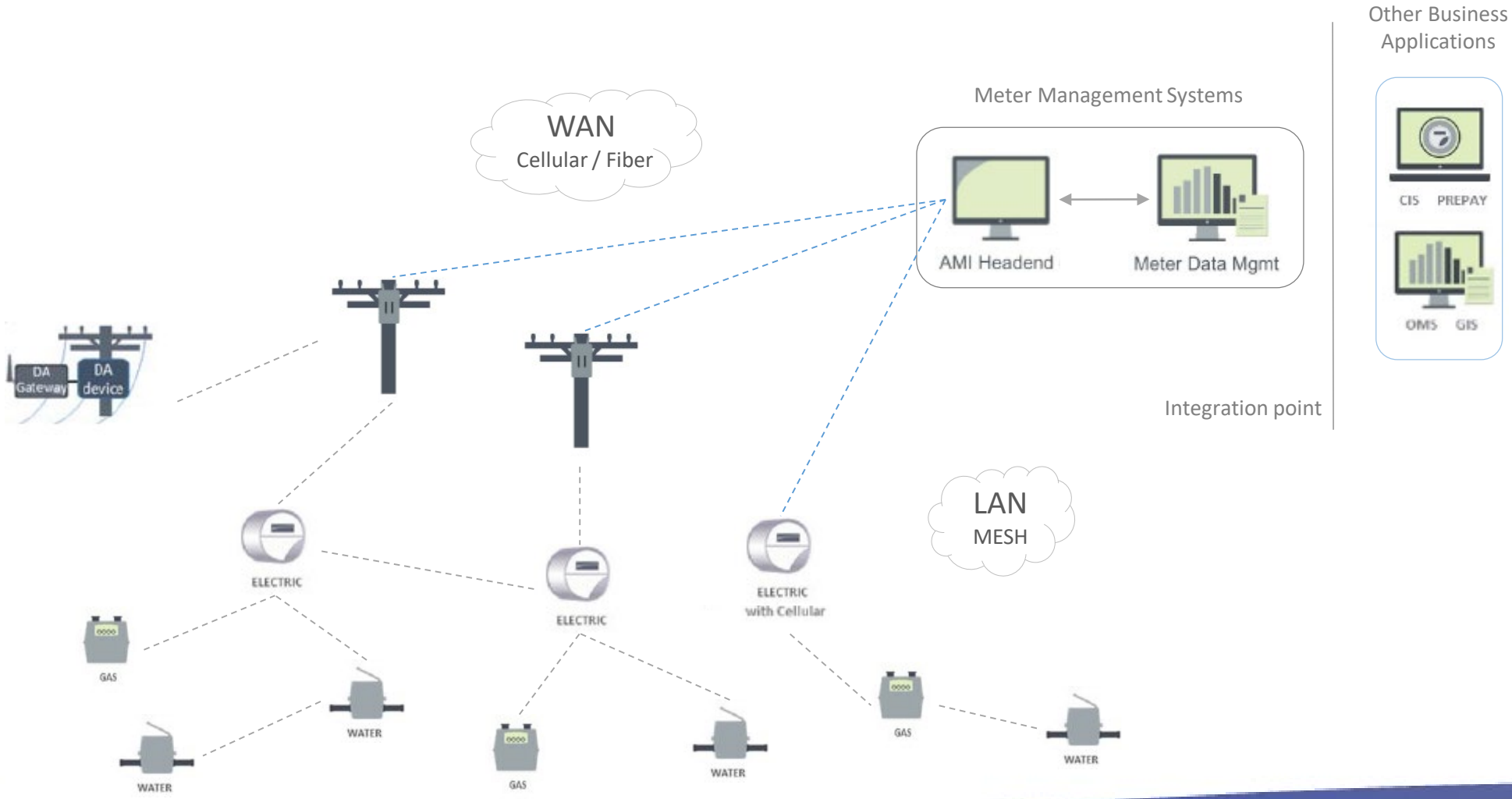
More than Energy

AMI Refresher

- Through two-way communication, the AMI system tracks real time usage of energy consumption and monitors the health of the utilities infrastructure.
- Each day, information is sent electronically to a data collectors located around the city.
- The collectors relay the data to the AMI Head-End System and Meter Data Management System (MDM) for processing.
- The data is then sent to the Customer Information System (CIS) and billing system to prepare bills.
- Customers can then access and monitor their consumption via a self-service Web Portal, empowering them to make informed decisions about budget and conservation.

GRU℠ More than Energy

GRU AMI System Design

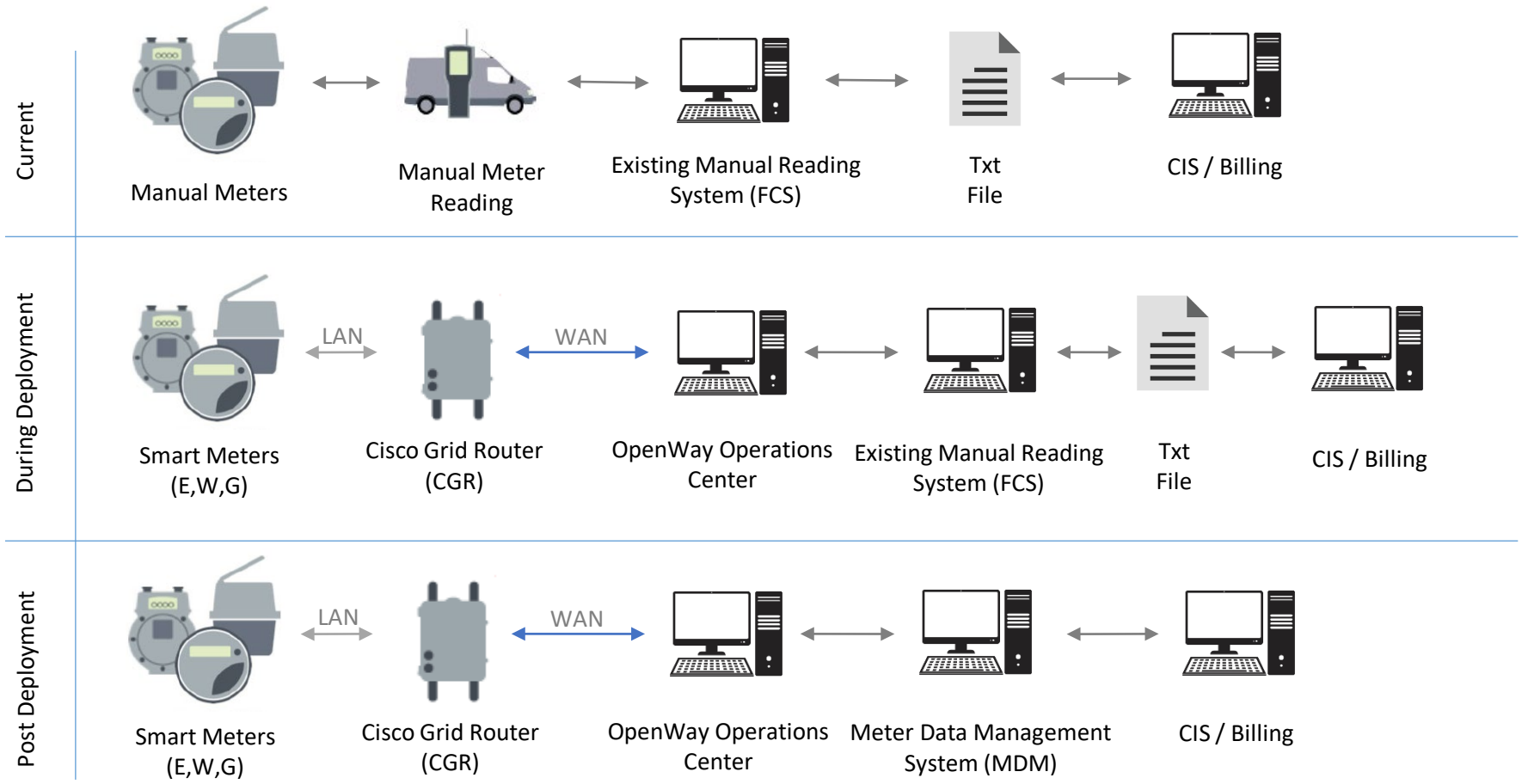


*Wide Area Network (WAN)
*Local Area Network (LAN)

GRU SM
More than Energy

Meter Reading Evolution

Deployment during CIS upgrade



GRU More than Energy

AMI will be a long lived asset

Experts estimate of the lifecycle of project assets

- Meters - 20 years
- Field area network - 10 years
- Use of hosted software - 20 years

*With a hosting model, vendor is responsible for making sure the system is meeting application up time service levels. In addition, provisions have been made to allow GRU to move on premises.

Where we stand today

- ✓ Contract negotiations initiated and nearing completion with technology and installation vendors. (Itron/Aclara)

- ✓ Negotiations include the drafting and review of various documents below:
  - Master Sales Agreements (MSA)
  - Statement of works (SOW)
  - Order Document
  - SaaS Agreement

- ✓ Internal and external meetings held with the IT group to discuss and plan integrations with the current CIS as well as the future state of the CIS.

- ✓ Site surveys conducted by utility personnel to categorize meter populations and determine what meters would be replaced vs. retrofitted.

- ✓ Workshops conducted with meter installation vendor to discuss expectations for customer care and service as well as safety inspections for various meter change outs.

Where we stand today (continued)

- ✓ Workshops conducted with all service type groups to determine SLA's of the installation process as well as the meter population during and after deployment.
- ✓ Workshops conducted to establish the deployment strategy for both and external and internal deployments.
- ✓ In conjunction with internal legal resources, external legal counsel was procured to review all agreements for accuracy and risk identification mitigation.
- ✓ A risk register was built to identify risks and mitigation strategies in the following areas:
  - Safety and health
  - Environment
  - Financial
  - Schedule
  - Performance/Quality
  - Utility Reputation (Community, Customers)

Our “Why”

- ✓ Improve safety for both our customers and personnel.
- ✓ Promote superior information gathering and sharing.
- ✓ Provide improved customer choices and engagement.
- ✓ Improved customer experience and satisfaction.
- ✓ Deliver advanced Smart City functionality.
- ✓ Improve reliability for the utility.
- ✓ Qualitative and quantitative return on investment for the Utility.

The GM's "why"

AMI is a tested industry product with ubiquitous deployment across the nation.

AMI is not a cutting edge technology, but a proven technology.

GRU's process's are ripe for conversion from low tech to high tech.

GRU can eliminate/re-direct and reduce massive amounts of:

- Truck rolls
- Manual meter reads
- Customer service calls
- Time lost before leaks are detected
- Equipment repair and more

BOTTOM LINE: GRU WILL REDUCE COSTS AND SAVE MONEY WITH AMI

Key Business Drivers

Increasing
Customer Expectations

Advanced Metering
Opportunities / Improved
Efficiencies

Evolving
Workforce

GRU SM
More than Energy

Benefits Overview

- Operational Benefits:
  - Improving the accuracy of meter reads
  - Remote turn on/offs
  - Energy theft detection and response to power outages, while eliminating the need for on-site meter reading
  - Meter reader safety

- Financial Benefits:
  - AMI brings financial gains to GRU by reducing equipment and maintenance costs
  - Increasing individual meter accuracy
  - Enabling faster restoration of electric service during outages and streamlining the billing process.

- Customer Benefits:
  - AMI benefits customers by detecting meter failures and meter leaks early
  - Faster service restoration
  - Improving the accuracy and flexibility of billing.
  - Time-based rate options that can help customers save money and manage their energy consumption.

Key Customer Benefits

- Fewer unplanned outages/ increased reliability
- Faster restoration times and improved services
- Improved power quality
- More information and control
- Increased convenience
- Reduced fees and costs
- Customer safety

Key Utility Benefits

- Monitoring and managing operating conditions
- Capacity planning
- Model validation
- Distributed energy resource management
- Asset Monitoring and Diagnostics
- Outage management
- Measuring and verification
- Identifying unsafe working conditions

What's the Cost to Implement?

Capital Expenditures

$ 40.9 million

O&M during the period

$ 6.2 million

Total Implementation Cost

$ 47.1 million

What's the Total Cost of Ownership?

Total Implementation Cost

$ 47.1 million

O&M & Capital over the remaining 19 years

$ 32.5 million

Total Cost of Ownership

$ 79.6 million

Here's the cost savings it will produce

Total Cost Savings over 21 years

$ 81.2 million

Netting to a return of:

$ 1.6 million

Recommendation

- Authorize the General Manager or his designee to execute a Master Agreement with Itron for a term of 21 years that includes the purchase of the metering assets, network infrastructure, software licenses, professional services to implement the project and the provision of ongoing software as a service for the hosting and ongoing maintenance of the software in a secure cloud. The Master Agreement set of documents includes SaaS, SOW, Order Document and MSA which are all subject to approval by the City Attorney as to form and legality.

- Authorize the General Manager or his designee to execute an agreement with Aclara SGS for the installation of Smart Meters for the AMI solution. The agreement and SOW are subject to approval by the City Attorney as to form and legality.

Questions?

GRU℠
More than Energy