Proposed AMI Water Meter Pilot Program

Objective: The aim of this pilot program is to assess the potential benefits of transitioning from our current proprietary mesh network AMI system to a new AMI system that utilizes the Amazon Sidewalk Network. This transition seeks to address issues with meter functionality, simplify installation and maintenance processes, and achieve cost savings.

Background: Our current AMI system, which relies on a proprietary mesh network, includes approximately 14,000 meters. However, about 8,000 of these meters are currently non-functional, resulting in inefficiencies, data gaps, manual reading, and estimated billing. The existing system is composed of three separate components: the meters, a communication network, and a web portal service, leading to complex installation and troubleshooting.

Existing AMI System

Proposed AMI System

The proposed AMI system utilizes the Amazon Sidewalk Network—a widely accessible, low-bandwidth network—to transmit data. It is important to note that the proposed AMI system is not manufactured by Amazon but instead uses Amazon Sidewalk for communication. This new AMI system promises a streamlined approach with a single, integrated unit compared to the three separate components of the existing setup.

Pilot Scope

- **Duration and Location:** The pilot would span six months and involve deploying the new AMI units across a representative mix of meters throughout the City's water system. The areas will be selected to evaluate performance under various conditions and ensure comprehensive testing.

Key Components

- **AMI System Installation:** The new AMI unit, will replace the register, the ETRU, and the MIU of the existing AMI meter system. The new units simplify the system by integrating communication capabilities into a single piece of equipment, thereby reducing installation complexity and troubleshooting challenges.
- **Data Collection:** The new system provides real-time water usage data, which will be compared with the current system's data to evaluate accuracy and reliability.
- **Customer Feedback:** Customers will be surveyed to gauge their experience with the new meters, focusing on ease of use, perceived accuracy, and overall satisfaction.

Evaluation Metrics

- **Accuracy and Reliability:** The accuracy of the new AMI meters will be compared to manual readings and the performance of existing meters. System reliability will also be assessed.
- **Operational Efficiency:** The pilot will measure the impact on installation times, maintenance requirements, and operational costs compared to the existing three-component system.

- **Customer Satisfaction:** Feedback will be gathered on the new system's usability and the perceived quality of service.
- **Cost Analysis:** The proposed system's monthly fee is $0.70 per meter, this fee covers use of the AMI system's web portal and reporting services. A detailed cost comparison will evaluate overall financial benefits.

Expected Outcomes

- **Enhanced Data Accuracy:** Improved precision in water usage data and billing.
- **Operational Simplicity:** Streamlined installation and reduced maintenance due to the single-unit design.
- **Cost Savings:** Lower monthly fees and potentially reduced operational costs.
- **Increased Customer Satisfaction:** Anticipated improvements in service transparency and meter reliability.

Risks and Mitigation

- **Technical Integration:** Any technical issues with the new system will be addressed through thorough testing and dedicated support.
- **User Adaptation:** Training and support will be provided to ensure smooth transition and user adaptation.

Conclusion: This proposed pilot program aims to evaluate the effectiveness of a new Amazon Sidewalk-based AMI system in improving meter functionality, operational efficiency, and cost-effectiveness. Successful implementation could result in significant enhancements in data accuracy, simplified system management, and reduced operational costs, providing a strong foundation for a broader deployment of the new AMI technology.
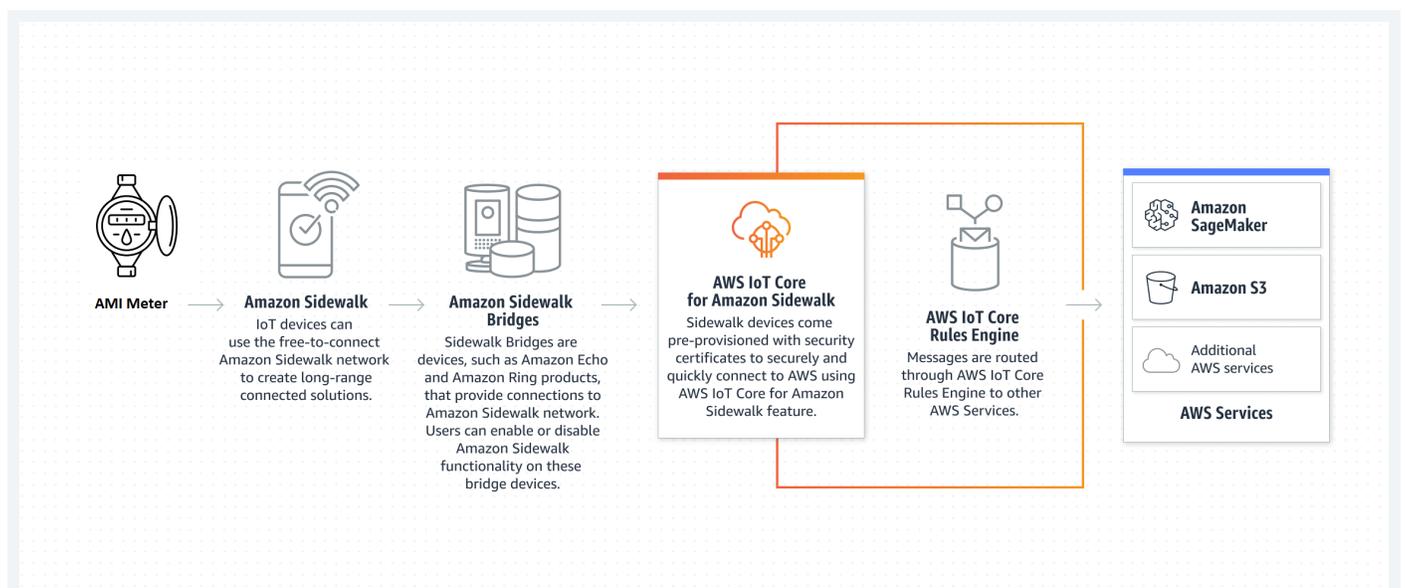
The AMI Meter device communicates to the Amazon Sidewalk Network. The meter data is securely routed through the Amazon Web Services to the AMI Meter portal and reporting services.