WATER ONLINE

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Future Of Cloud-Based Apps In Utility Operations

Source: Aquana

As the water utility industry moves beyond older, standard meters to modern, wireless-communication smart meter devices, a world of opportunities opens. Increased technology in water utility management presents the greatest opportunities for small to medium sized utilities where manpower and financial resources are the leanest. Incorporating automation, centralized data management and cloud-based applications helps fill in the gaps that budget shortfalls and limited workforce availability create. Chief among these optimizing technologies are the variety of cloud-based applications tailored specifically for the water utility sector. Cloud-based apps offer billing solutions, remote water usage monitoring and control as well as field safety and operations management tools.

Cloud-based Apps Defined

It is helpful to have context on the difference between cloud based applications and those which are housed on-site. Many organizations operate with a centralized server and application network housed at their physical location. In these cases, applications are installed on individual computers using program software, requiring IT staff to frequently maintain and update it over its lifetime. Alternatively, cloud-based applications are hosted on remote servers and are accessed through the internet on any device or computer regardless of physical location.

The rise in adoption of cloud-based applications in water utility management has dramatically increased in recent years. Demand for remote work which began during the COVID pandemic continues today. Through cloud-based applications utility management teams are able to collaborate and communicate seamlessly on tasks such as entering and updating field work orders, controlling remote shutoff and monitoring water usage. These tasks are conducted and conveyed to teams in real time.

Application Example: Remote Water Shutoff

Historically, it has been costly and labor-intensive to shut off water temporarily by sending employees and vehicles to the location. Technology has shifted that paradigm and created enterprise friendly cloud-based utility applications to access and control service locations individually. At Aquana, cloud-based web and mobile apps enable utilities to monitor and control water use from anywhere. From the app, utility personnel set up real-time notifications, manage unlimited users, export billing reports, configure leak and burst event actions, schedule valve position commands one at a time or in batch, and more. The software platform heads up display gives quick visual reference to the smart meter activity, water consumption and state of health across the service connections.

Aquana's Cloud-based Application Includes:

- Enterprise friendly multi-utility support
- Real time insight into water systems and usage
- Schedule actuation for a single valve or in batch
- Configurable rule sets for actuation and notification
- APIs integrate with CIS and billing software

In addition to the operational efficiency created by using a cloud-based application to manage water services, organizations benefit further by connecting multiple applications together. Configurability and interoperability are hallmarks of cloud-based applications. As defined by Amazon Web Services, an Application Programming Interface or API defines which applications communicate with each other using requests and responses. An API also provides directions and structure for developers who connect the two software platforms. APIs facilitate rapid and seamless integration within existing water utility environments. In the case of Aquana, the cloud-based application has successfully integrated with a variety of billing software applications to enable easier assessment of timing for remote shutoff due to non-payment. The Aquana app also works with Center for Internet Security (CIS) benchmarks that are internationally recognized cybersecurity standards.

What New Possibilities Lie Ahead

Moving forward, machine learning and artificial intelligent attributes will increase within cloud-based applications. This ML/AI infusion will leverage data analytics to begin cross platform communication, driving real time decisions. For example, the entire process of delivering water to a service location from monitoring, control and billing will one day all take place with fewer humans in the loop.

Layered actions will improve efficiency. Meaning more than just detecting a leak, software and hardware will work together to shut off the water, alert the service location, diagnose the cause of failure, order repair and remediation all nearly instantaneously.