

Make your water system smarter.

Modernizing your water system is simpler than you think.



Solution brief

When it comes to making your water system more intelligent, the U.S. water industry has an enormous challenge of aging infrastructure. Building an intelligent water system with powerful, reliable tools to connect and manage thousands of endpoints is complicated and costly. Plus, many utilities are heavily invested in existing infrastructure, which can put off plans to upgrade to intelligent water systems. Many companies also lack technical expertise and in-house staff to support connecting to the internet of things (IoT).

Despite the challenges, connected machines promise near real-time data that transforms operations. Intelligent water systems help you remotely monitor, manage and control water systems from the source through the water distribution network, so you can:

- Improve conservation.
- Increase efficiency.
- Improve quality of supply.
- Reduce nonrevenue water.
- Help your customer service.

The success of IoT in other industries helps make the decision to move to an intelligent water system easy. And Verizon offers an end-to-end solution that makes it easy to get started. Grid Wide Utility Solutions: Intelligent Water is a fully scalable, secure, managed, hosted, cloud-based software platform as a service. It offers utility companies a cost-effective, efficient, easy on-ramp to intelligent water-system modernization through solutions like smart metering, water data management, distribution monitoring and control.

How it works

Grid Wide: Intelligent Water is based upon a distributed, intelligent software platform that has an integrated security framework which is used to provide strong digital identity for users, systems and devices. It also delivers both application- and network-level security services. The secure policy-based management and control capabilities allow you to both efficiently and cost-effectively provision, configure, monitor, manage, control and read utility

distribution-network devices remotely. You can easily create, deploy and manage policies using Grid Wide: Intelligent Water services. These are then dynamically assigned and deployed to targeted smart meters or IoT gateways for local policy enforcement.

Data is transmitted via point-to-multipoint topology over a variety of open and proprietary wireless protocols from smart meters and sensors to the IoT gateways or electric meters. Then data moves across the Verizon 4G LTE wireless network on the Verizon Private IP wide area network to the Grid Wide: Intelligent Water application, which is fully managed in the Verizon Cloud. Grid Wide: Intelligent Water data insights help you better manage:

- Quality of supply.
- Leaks and anomalies.
- Water consumption.
- Water system infrastructure.
- Distribution network assets.
- Workforce and operations.

Grid Wide: Intelligent Water solutions

Water Smart Metering

Verizon has simplified smart metering by integrating all of the essential hardware, software, open and proprietary protocols, and 4G LTE components into a single, cloud-based IoT platform-as-a-service solution.

Verizon Grid Wide: Water Smart Metering helps you with:

- **Meter reading and control.** Obtain billing and operational meter data; manage service connects and disconnects.
- **Leak detection and isolation notifications.** Accurately pinpoint leaks in near real time, lower nonrevenue water and increase overall customer satisfaction.
- **Actionable insights.** Access scheduled and on-demand data in industry-standard formats; monitor consumption and water quality-of-supply information; and detect events and failures in near real time.

Meter Data Management

Billing data collected from a meter has to be validated and verified to remove anomalies and to account for standard customer-usage patterns. Our optional Grid Wide: Meter Data Management (MDM) service comes pre-integrated with our Water Smart Metering solution to deliver an end-to-end meter-to-cash platform.

Verizon Grid Wide: MDM offers you:

- **On-time and accurate billing data.** Recapture revenue plus stay on top of current billing.
- **Billing data management.** Manage and store billing data for historical use and analysis.

Distribution Monitoring and Control

Having near real-time information and other key water-supply data empowers you to quickly make adjustments to changing conditions. Our Distribution Monitoring and Control (DM&C) solution gives you a clearer view into your operations, offering invaluable information from water system assets like switches and sensors.

Verizon Grid Wide: DM&C offers you:

- **Remote monitoring and control.** Collect and use near real-time operational data to improve service reliability and quality of supply, while driving proactive maintenance versus reactive repair.
- **Leak detection, location and isolation.** Quickly identify issues to decrease the duration and the number of customers affected.
- **Asset management.** Monitor equipment and other assets to keep them running optimally, extend asset lifespan and upgrade based upon service versus time.

Simplify your smart metering solution.

Integrated Reporting and Data Analytics

Continuously monitor for utility-supply event alerts like backflow, no-flow or leaks from managed meters in your intelligent water system. Instant SMS and email alert notifications can be sent to specified users when defined events and conditions occur within the network. In addition, an intuitive service event monitor can be used to accurately visualize and pinpoint utility supply events and conditions within the distribution networks. These advanced features can be integrated with your field operations and communications systems to provide near real-time utility-supply event and conditions information to network operations staff and field crews.

Verizon Grid Wide: Integrated Reporting and Data Analytics provide:

- **Dashboards.** Near real-time actionable information to gain insights into water supply conditions to enhance the efficiency of water management.
- **Event notification and reporting.** Detect leaks, backflow and no-flow events to protect water supply quality, lower nonrevenue water, and enable conservation and sustainability.



Security Infrastructure Services

The adoption of smart grid digital technology delivers many cost-saving and conservation benefits, and with them cyber threats. Our Security Infrastructure Services help utilities identify and mitigate risks to your infrastructure and devices.

Verizon Security Infrastructure Services provide:

- Public Key Infrastructure (PKI) and Pre-Shared Key (PSK) service.
- Solutions to provision and manage digital identity of managed devices.
- Digital signing and authenticity services.

Simplified deployment

Grid Wide: Intelligent Water is a fully managed as-a-service model, hosted on the Verizon Cloud. By integrating all of the technologies you need for successful water systems modernization, we've saved you the complexities and cost of building your own solution. No capital investments in software, platforms, networks or communications equipment like routers, firewalls and servers. No time spent staffing and training an IT/OT team.

Simplify your water system modernization with the Verizon IoT Gateway.

The Verizon IoT Gateway is an intelligent device that is fully integrated with the Grid Wide platform, helping water utilities connect, manage, optimize and control distribution network devices. The gateway supports open standards and technologies, with open interfaces providing support for proprietary water-meter reading protocols, helping with scalability and avoiding proprietary technology lock-in.

Better results

For the first time, you get actual data on what's happening system-wide. Grid Wide: Intelligent Water collects data, securely transmits it, provides actionable insights and enables you to make near real-time business decisions using that data. The solution includes preconfigured data and analytics dashboards to manage usage anomalies, detect leaks and tampering, and reduce water loss.

With better data, you can keep customers informed, improve customer service and dispatch field works for preventative maintenance. Plus you can use Grid Wide data for future growth planning, and for developing water management programs to further improve service and lower costs.

Low capital investment

Grid Wide: Intelligent Water also offers predictable pricing per meter per month – not the capital expenditure you might expect. You can implement smart meters as part of your normal swap-out plan. Or you can ramp up faster, depending on your budget. The service-based model means you can begin modernizing problem areas right away on a pay-as-you-go basis, rather than putting off all updates until larger capital budgets are approved. Verizon has built and manages this solution for you, so you don't have to invest in development and management.

Why Verizon

When it comes to modernizing your water system, the network matters. We offer America's largest, most reliable 4G LTE network. Our network was rated number one in overall network performance for the fifth consecutive testing period among the four national wireless companies in the United States by RootMetrics in its National RootScore® Report.¹

In fact, 98% of the Fortune 500 rely on our services and technologies.² More businesses choose Verizon than any other wireless carrier.

More coverage, fast speeds and reliable connections. So you can connect what's important, with help from a trusted partner. Verizon.

Learn more.

To learn more about Grid Wide: Intelligent Water, please contact your Verizon Wireless business specialist.

VerizonEnterprise.com/gridwide

1 Based on RootMetrics® 2015 2nd Half U.S. National RootScore Report: July to December 2015 for mobile network performance test result of four mobile networks across all available network types. Results may vary. The RootMetrics award is not an endorsement of Verizon. See www.rootmetrics.com

2 Internal Verizon research.