



ETwater

**A unique microservice architecture for a
Cloud-based smart irrigation platform**

About the Client



- **Industry:** Engineering
- **Locations:** USA
- **Client since:** 2014 - now
- **Services Used:** Cross-border Teams; Mobile Labs
- **Technologies:** Java/Spring, PHP/Symfony2, JavaScript, Backbone.js, Python/Keras/Caffe, XGBoost, MongoDB, ELK, RabbitMQ, Amazon AWS, Git, JIRA

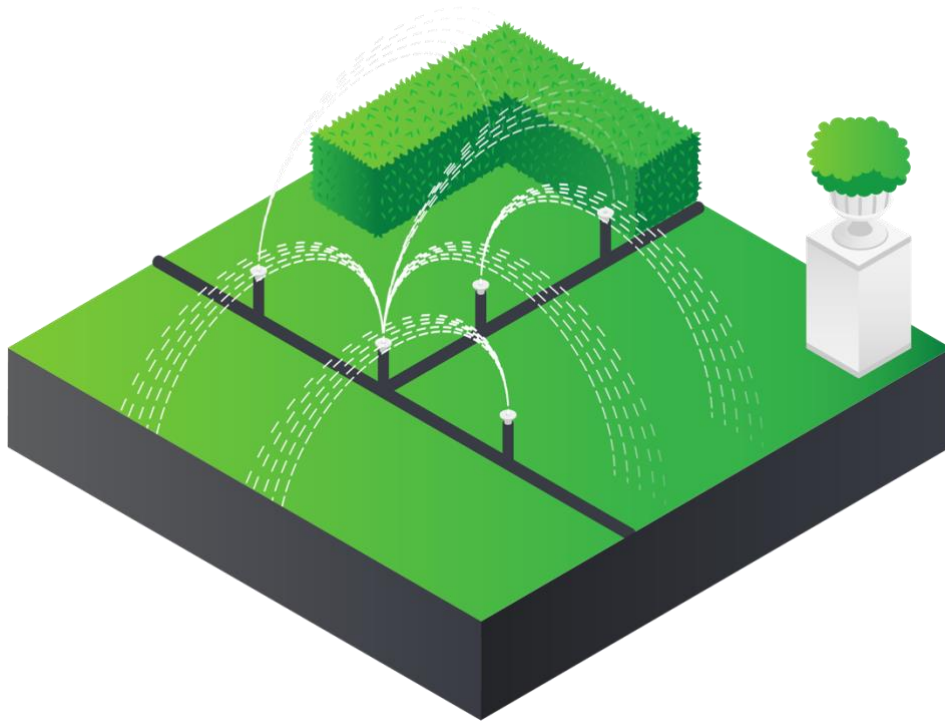
**Astounding 30-50% and greater in water saved reported
by ETwater clients.**

The Background

ETwater, a Jain Irrigation company, has over fifteen years of experience working with the largest businesses, municipalities, and HOAs in the US to reduce and optimize water consumption. It is the only smart irrigation company with a patent to centrally process big data to implement predictive watering schedules based on plant types, soil and slope conditions, and environmental factors.

With reliable, anywhere-connectivity over 3G and 4G wireless networks, and real-time monitoring and management capability from any smart device, ETwater offers unparalleled control and water savings. Moreover, the ETwater open platform can be integrated into any existing or future building management systems.

ETwater develops optimal irrigation schedules based on each individual landscape, real-time weather information, and 17 environment variables, including ET, wind, solar, and upcoming weather. The system then processes this information and notifies thousands of smart controllers about the peculiarities of irrigation for their specific site via a cellular network.



The Challenge

ETwater is a recognized pioneer of smart irrigation. Since 2005, the ETwater cloud-based platform has automatically created a daily landscape watering schedules for its customers to use only the precise amount of water necessary, eliminating all overwatering waste to keep landscapes perpetually healthy and green. The ETwater solution compiles site-specific data from the environmental sources and weather provider Accuweather. Analyzing the water depletion amounts of the landscaping- based on the plant types, soil composition, slope and more, and then adjusts the watering schedule for any changes in the weather and forecast of rain.

The company was expanding its business and needed to ensure higher scalability of their system.

The Strategic Partnership

Skelia's partnership with ETwater started in 2014, and the two companies sparked a partnership that has been active for 6 years now.

Skelia's mission was to transition the ETwater platform from the monolith architecture to microservices and deploy it on Amazon Cloud. The team was in charge of architecture design and core system development for a smart irrigation platform that manages water flow through controllers.

To carry out the task, Skelia assembled a dedicated cross-border team made up of a dozen technology experts, software developers, a UI designer, a project manager, and data scientists.



The Results

Skelia successfully developed a new cloud-based microservice solution for the client. All major enterprise accounts successfully transitioned their water management to the new platform and were excited about the enhanced functionality and cost savings. The updated platform included:

- Integrated data science, machine learning, and predictive analytics to automatically adjust irrigation for site-specific scheduling of every client
- Flawless management of the existing clients and adding new clients (management of client groups and accounts, sites, and users)
- Easier integration with the local engineering and IT infrastructure of clients
- Seamless adding of new customizable features to the clients
- Creation of specialized computer vision and mobile (native and hybrid) applications



“They’re highly educated and just as good as Silicon Valley engineering and experience. They’re performing far much better than the companies we’ve worked with in the past.”

Kevin Heverin,

*Director of Marketing and Product
Management, ETwater*