This presentation premiered at WaterSmart Innovations

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Making Waves in the Utility Sector:
Cloud-based Solutions for Water Conservation

Frio River

AIQUEOUS
Smarter Utilities. Smarter Cities.

Presentation Overview

- What is the cloud?
- How does it work?
- Cloud-based solutions for water conservation
- Choosing a cloud-based solution

What is cloud-based software?

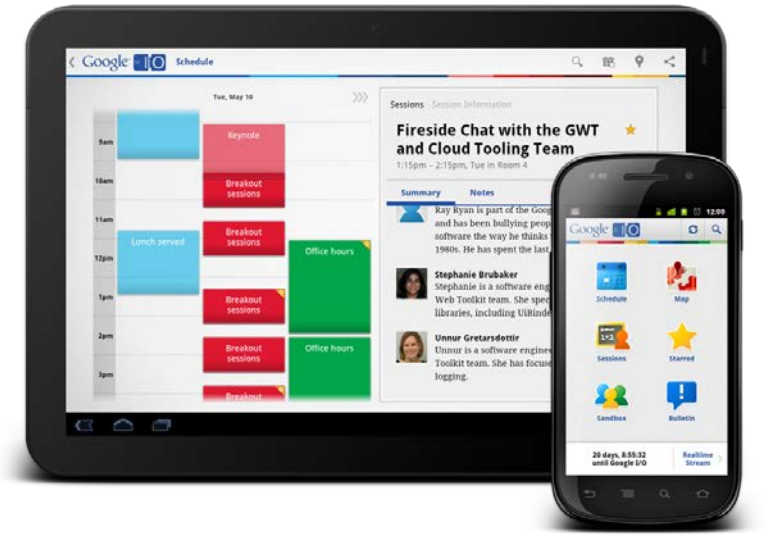
Rio Grande River

The cloud provides software and services

- The concept of cloud computing first appeared in the 1960s—but it did not take off until the late 1990s
- Examples of risk-adverse, regulated markets that have adopted cloud-based solutions:
  - Utilities
  - Government
  - Banking
  - Retail

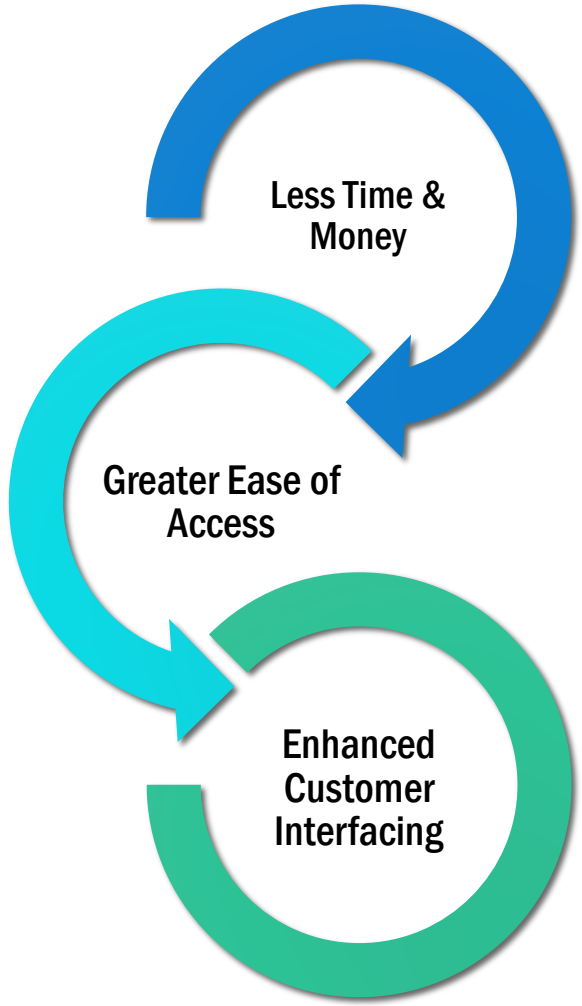
Examples of cloud services

- Google Docs
- Apple iCloud
- Dropbox
- Netflix
- Amazon
- Facebook
- etc.



Benefits of using the cloud

- Cost Savings
- Automatic software updates
- Enhanced security
- Facilitates collaboration



Solutions for water conservation
Pecos River

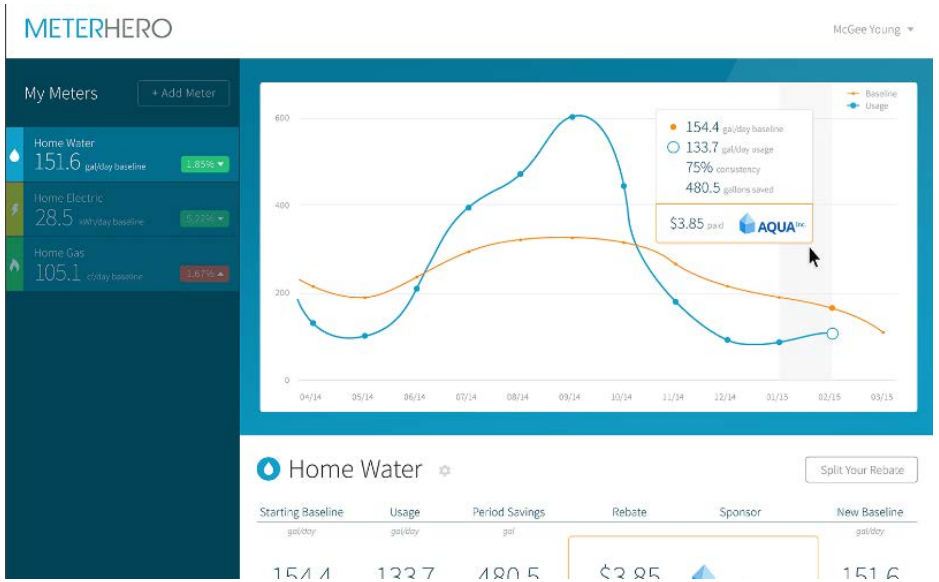
Types of cloud-based solutions

- Behavior-based programs
- Smart irrigation technology
- Program management platforms

Behavior-based programs

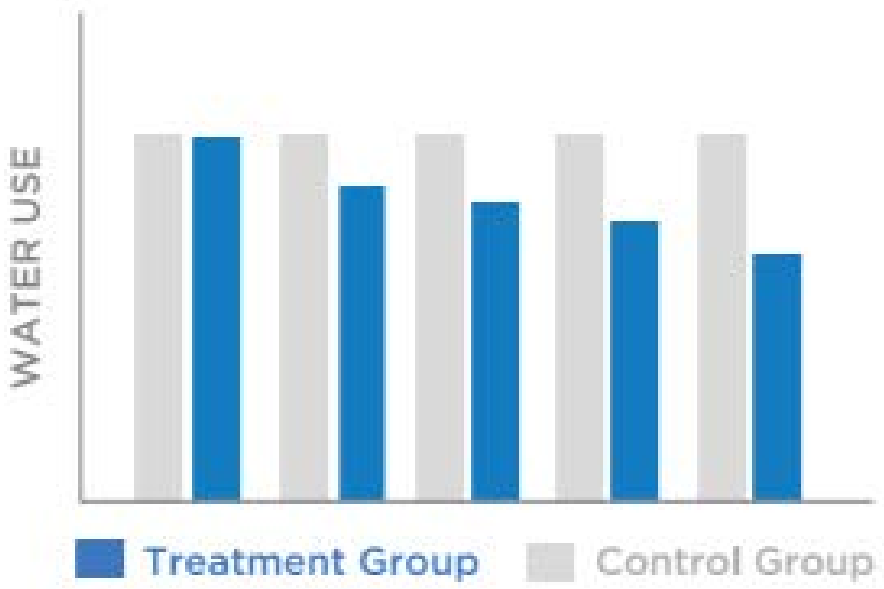
- **Platforms facilitating messaging and other outreach strategies to encourage reduced consumption**

- **Providers:**
  - Dropcountr
  - AquaHawk
  - Meterhero
  - Smart Utility Systems (Smart iQ)
  - WaterSmart

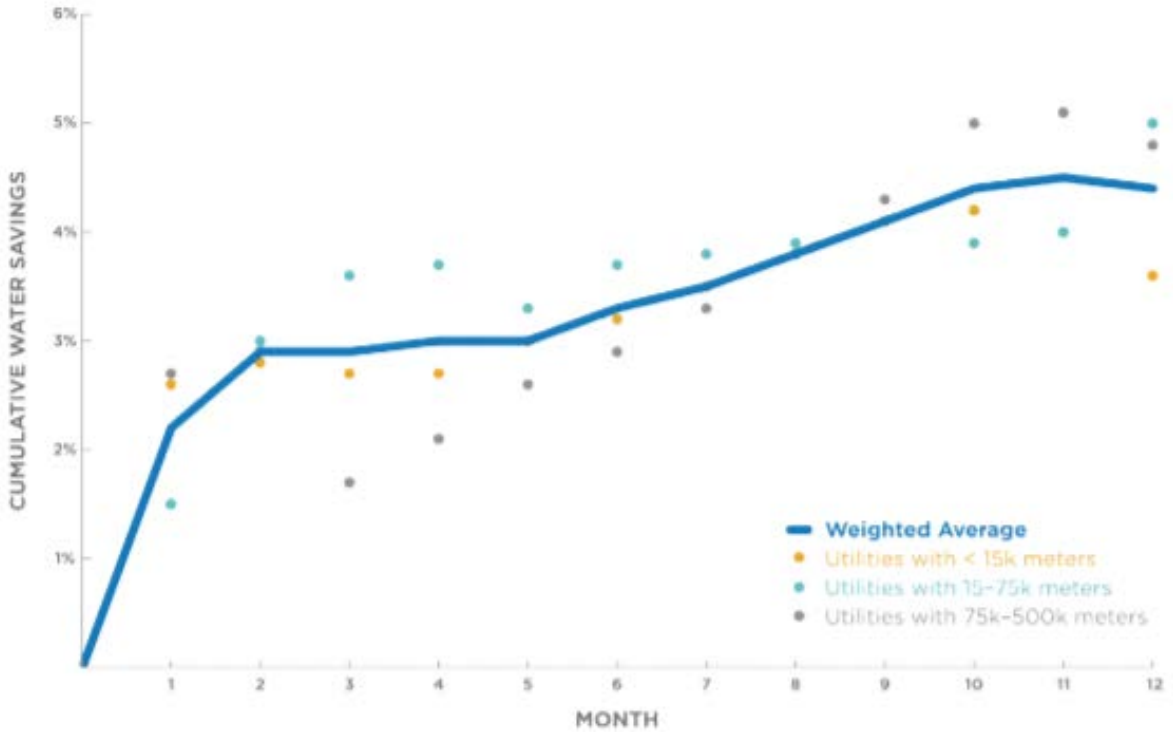


Behavior-based programs

Reduced water use by treatment group



5% cumulative savings in first 12 months



Behavior-based programs

- **Benefits:**
  - Can yield program savings not provided by pure data visualization
  - Can improve customer engagement
  - Can improve strategic communications
  - Can build greater trust between utility & customer
- **Challenges:**
  - Securing adoption by customers
  - Measuring associated water savings
  - Training customers on how to interpret results/information
  - Potential increase in call volume

Smart irrigation platforms

- **Smart controller providers:**
  - Residential controllers
    - Skydrop*
    - Rachio*
    - Weathermatic*
    - WeatherTRAK*
    - Hunter*
    - Sprinkl+
    - Cyber Rain+
    - Rain Bird +
  - Commercial controllers
    - Banyan*
    - Weathermatic*
    - Hunter *
    - WeatherTRAK*
    - Cyber Rain+
    - Rain Bird +

* ET-based controllers

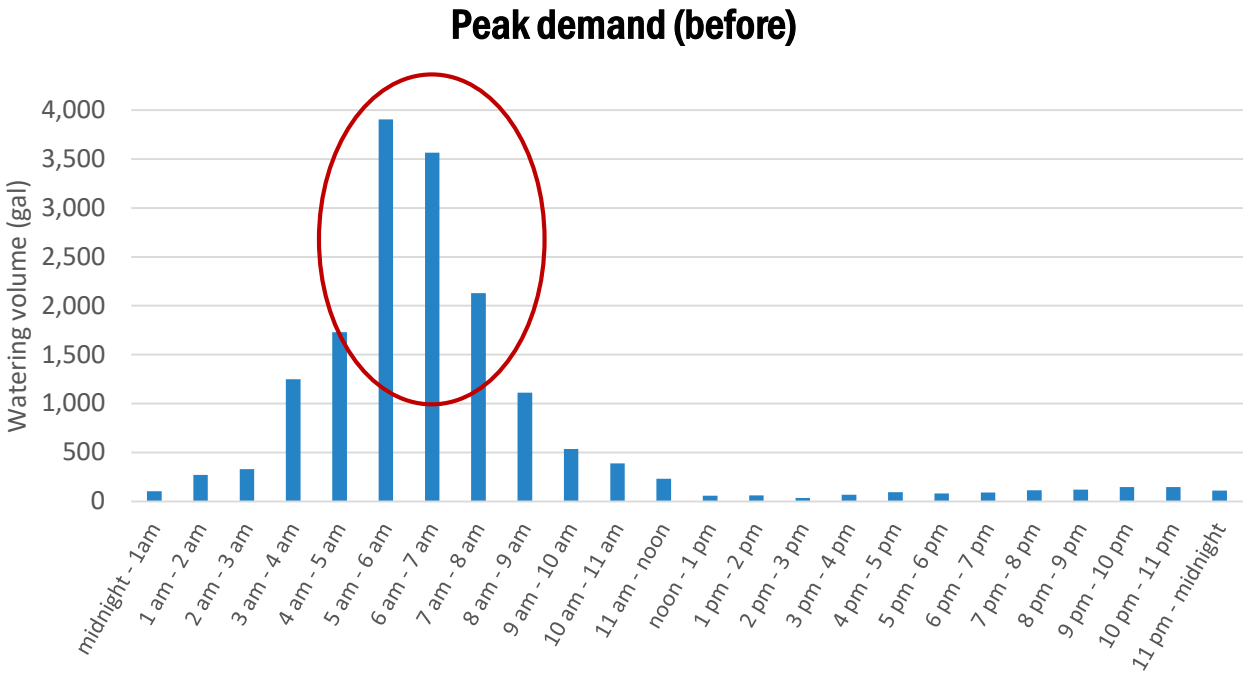
+ Weather-based controllers

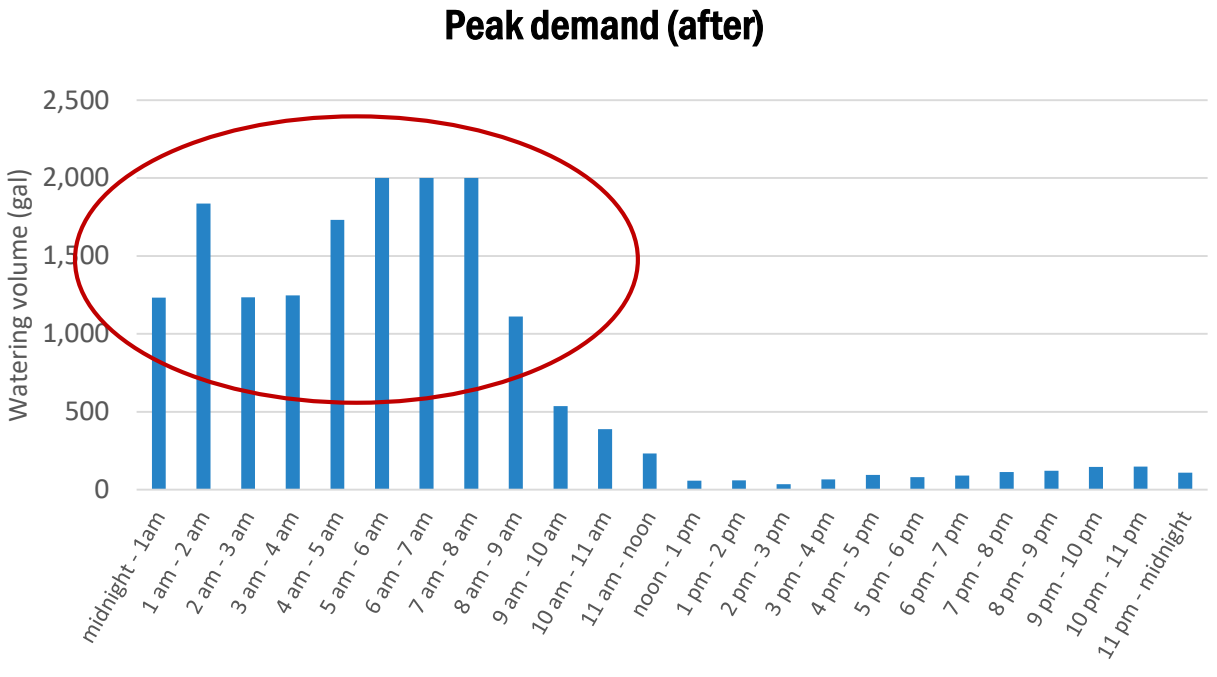
Smart irrigation platforms

Conservation Savings			
Cohort	Low	Medium	High
% Water Savings	-10%	2%	23%
Total Savings (all cohorts)	123,931 gallons		
% Total Water Savings	9%		
Price per Gallon Saved*	$0.05		
Household Financial Savings			
Cohort	Low	Medium	High
% Savings	-10%	1%	27%
# of summers until payback*	Not beneficial	54	2

Estimated water savings greatest among high water users (23%)

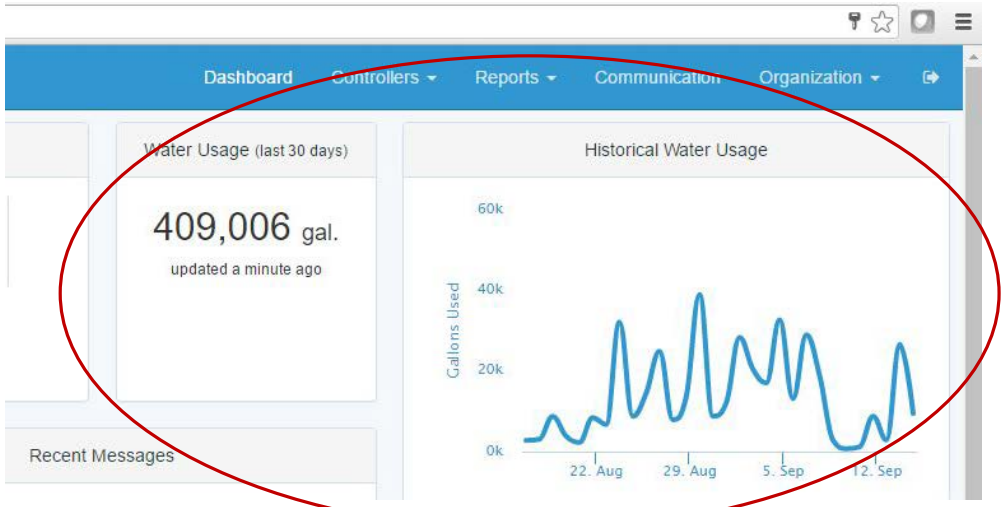
Smart irrigation platforms



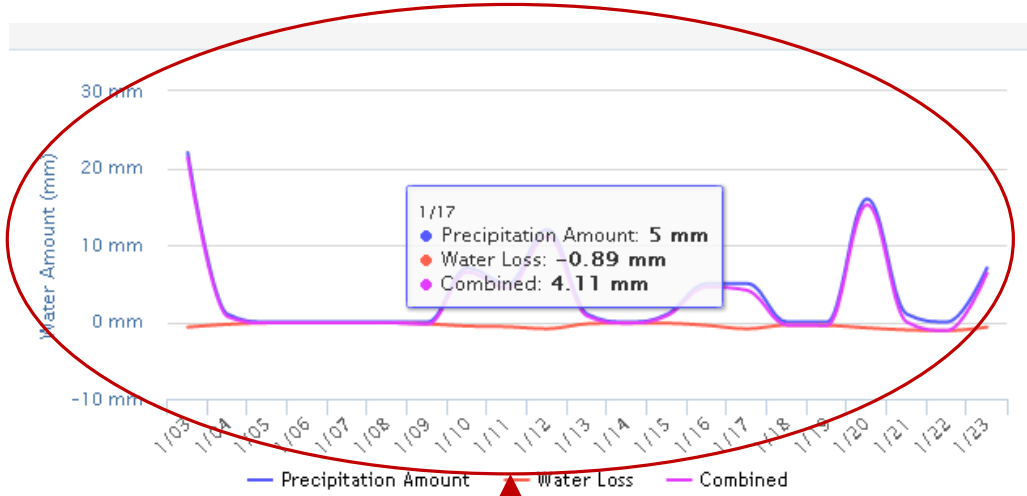


Use control settings available through smart irrigation technology to spread out watering schedules and reduce peak demand

Smart irrigation platforms



Track current & historical water usage



Monitor precipitation & evapotranspiration conditions

Smart irrigation platforms

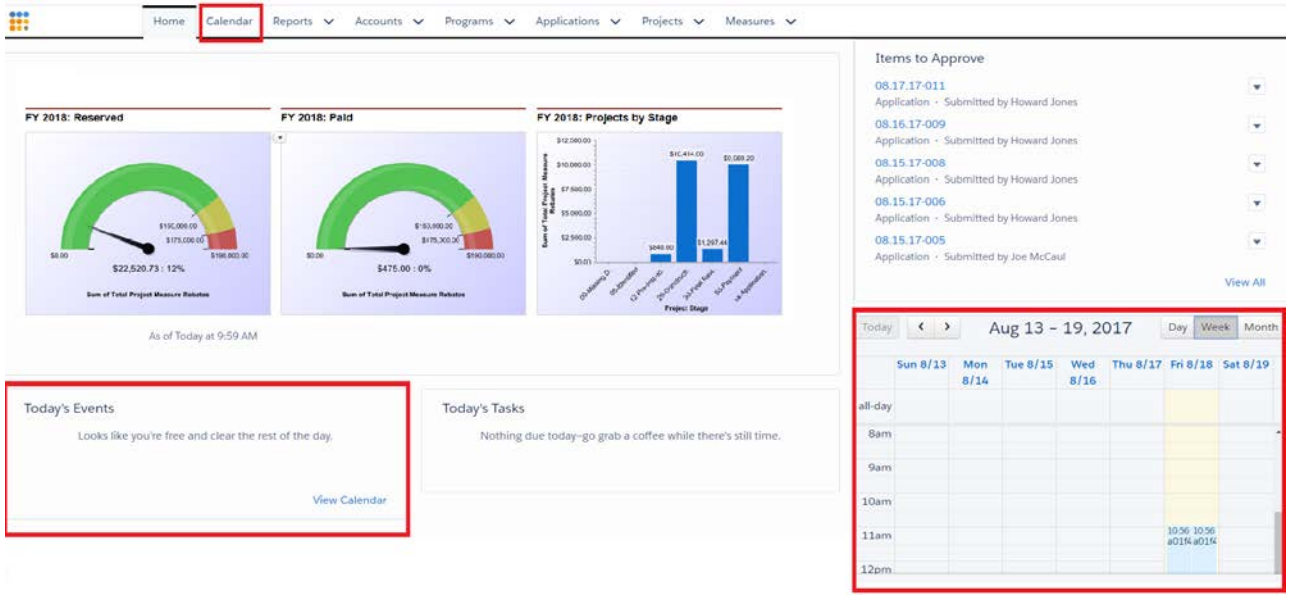
- **Benefits:**
  - Water savings
  - Can help manage peak demand
  - Can increase customer satisfaction & notification
- **Challenges:**
  - Securing adoption by customers
  - Customer technical training/ obstacles
  - Measuring associated water savings

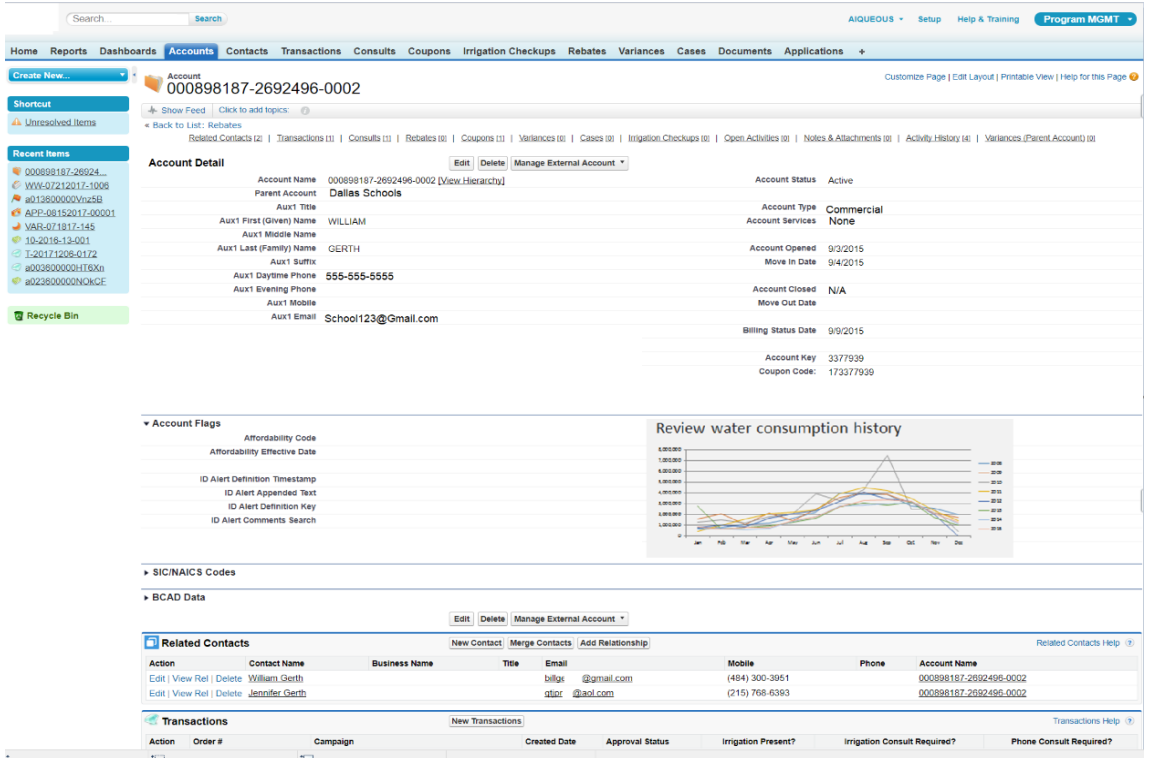
Program management platforms

- **Providers:**
  - AIQUEOUS (WaterWays)
  - ConserveTrack
  - iEnergy (Nexant)
  - Droplet Technologies

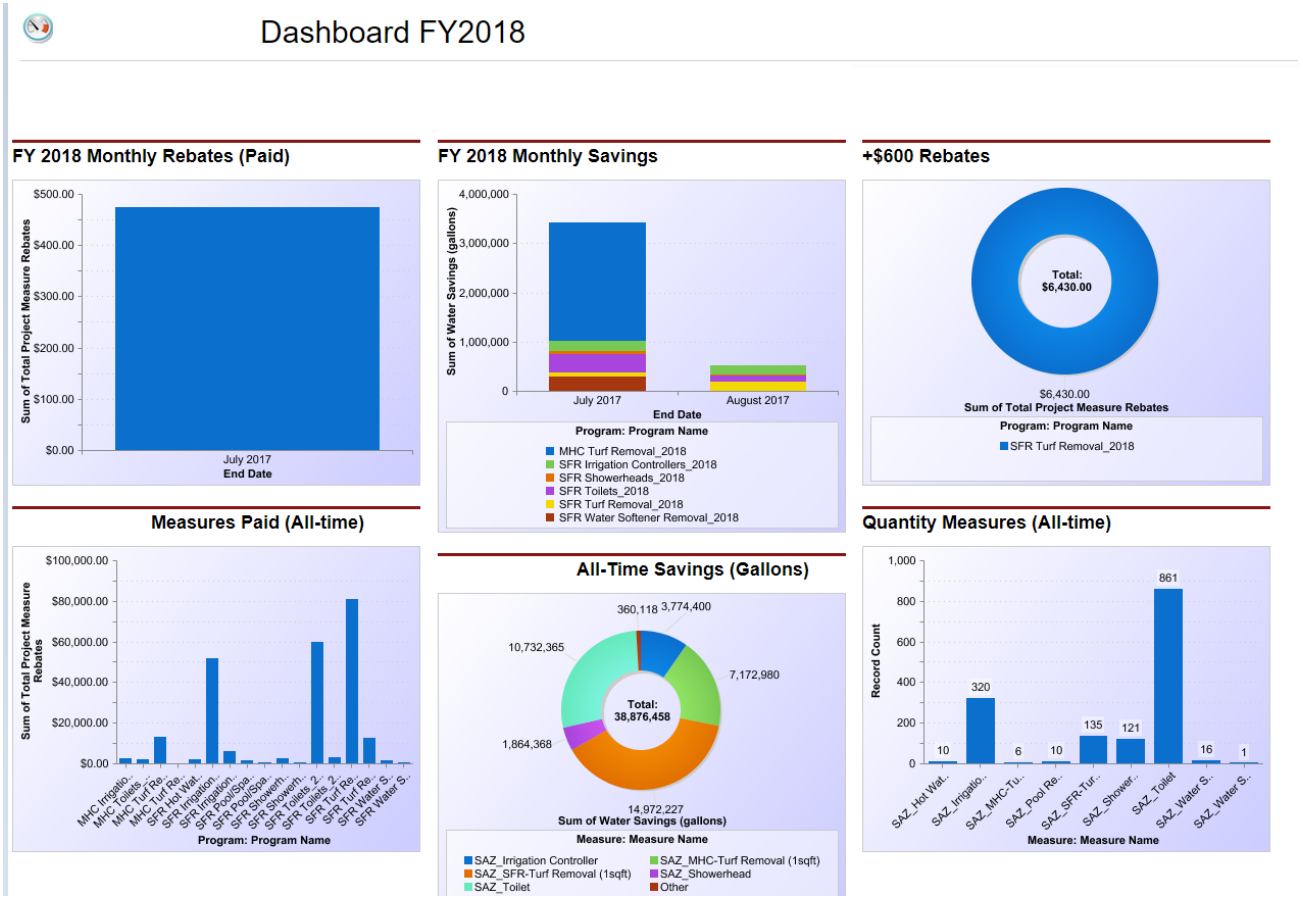
DROPLET
TECHNOLOGIES

Program management platforms





Program management platforms



Program management platforms

- **Benefits:**
  - Organizes/simplifies program management
  - Can help create more efficient workflows (e.g., reduced paperwork, call volume)
  - Can reduce audit risk
  - Can improve effectiveness of customer outreach
- **Challenges:**
  - Getting IT department onboard (if necessary)
  - Department apprehension regarding data security
  - Getting customers to switch to electronic submissions

Choosing a cloud-based solution

Medina River

Where should you start?

1. **Identify what problem you are trying to solve**
   - Water Conservation
   - Customer Engagement
   - Water Waste
2. **Figure out your options**
   - Can this be cost-effectively developed in-house in a timely manner?
3. **Identify and engage internal stakeholders**
   - IT, Management, Billing, Procurement

AIQUEOUS

Smarter Utilities. Smarter Cities.

Dan E. Merchant III | Vice President of Operations

Certified Energy Manager

dmerchant@AIQUEOUS.com

(802) 598-5467