FATHOM DROUGHT WATCH

10 July 2015 | Volume 1 | Issue 14

DATA ON TAP

Increasing the granularity and understanding of water use data is key to the successful mitigation of the impacts of drought and increased volatility in the water cycle by allowing utilities to be proactive in managing water risk. This implies that our utilities' data platforms will be increasingly important as management tools. Unfortunately, there is a tremendous disparity in our data capabilities across water utilities due in large part to the extremely fragmented nature of water utilities – particularly in the United States.

According to United States Environmental Protection Agency (USEPA), in 2010 there were 52,873 Community Water Systems (CWS) serving 300.2 million people,[1] with the majority of these systems being small utilities. In fact, only 8% of these water systems serve populations of more than 100,000 people. As a result of this fragmentation in the utility space, the majority of water systems in the United States face significant challenges, such as lack of financial resources, aging infrastructure, increased costs due to lack of scale, management limitations, lack of long-term planning, and difficulty in complying with current and future regulations.[2]

IT'S NOT EASY…

Siloed data and big data is a key management issues facing municipalities, as "most states and localities have been unable to integrate in an appropriate way the streams of data they already have, especially since it's divided up among agencies, departments and programs."[3] In most instances, though, our utility staff are not information technology experts, nor are they data scientists or programmers – they specialize in delivering high quality, safe and efficient water to customers. The specialized skills needed to be successful in data technologies are typically in short supply in utilities, particularly in the small- to mid-size range, which is where most of the utilities fall in the United States.

Lacking scale and skills, being financially constrained and facing increasing demands for data systems to be deployed quickly – utilities can have data projects go sideways and budgets and time lines expand. The result is that many data oriented initiatives fail, with one in six public sector information technology initiatives exceeding budget by more than 130% and taking almost 1.5 times longer to implement than originally scheduled.[4] This type of outcome can not only deal a staggering blow to municipal utility budgets, but can seriously affect a utility's brand.

Large utilities are not immune from these issues either. At Australia's Sydney Water Corporation, a project to automate customer information and billing was cancelled, forcing the water company to write off over A$60 million. Prior to cancellation, the final project estimate for the Customer Information and

Billing Systems was A$135.1 million, compared to the original budget of A$38.2 million.[5]

Compounding the issue is that the complexity and degree of reliance on data systems is increasing, while at the same time the velocity of change in software systems continues to accelerate. The evidence suggests that project duration and degree of uniqueness increase the risk for overruns of costs and schedule. Every year of project duration increases the cost risk by 4.2 percentage points. Projects described as "unique" are three-times more likely to turn into an albatross, as a result of poorly defined system requirements, unmanaged risks and the inability to handle the project's complexity.[6]

The specialized nature of today's data systems requires skills and resources that are not often available to small to mid-sized utilities. And in the absence of those skills, there is increased risk.

> "Big software failures tend to resemble the worst conceivable airplane crash, where the pilot was inexperienced but exceedingly rash, flew into an ice storm in an untested aircraft, and worked for an airline that gave lip service to safety while cutting back on training and maintenance."[7]

BUT IT IS GETTING EASIER

Fortunately, tools are emerging that provide options for utilities to avoid these pitfalls. Reducing the complexity of systems through modularization and rapid deployment can significantly reduce risk of failure. Cloud-based services, such as infrastructure-as-a-service, software-as-a-service and platform-as-a-service, allow for economies of scale to be derived from the collective services, eliminating the requirement for centralized IT resources.

System deployment with standardized application plug-ins allow for rapid deployment and provide an agile surface on which to evolve systems over time, eliminating the down-side of being locked into specific technologies/legacy systems. Cloud systems also facilitate data analysis and can harness substantial computing power and storage.

By adopting a flexible, standard-driven, cloud-based service model, utilities can significantly reduce their cost, schedule and reputational risk associated with software deployment. These systems also cost significantly less due to the standardization approach and the elimination of software capital costs and wholesale integration exercises.

FATHOM: SOFTWARE-AS-A-SERVICE

FATHOM is at the forefront of this new revolution in utility software, offering utilities the ability to access highly functional water and financial management tools and systems on a subscription basis. FATHOM offers a "big data" platform through the normalization and homogenization of data across platforms.

FATHOM reduces technology adoption costs by standardizing the operational processes associated with meter data management, customer service and billing, and customer presentment. With the FATHOM Revenue Assurance Audit, a geospatial data and field analyses to verify and validate that the physical assets against the logical assets and tariffs with in the software systems, lengthy business process mapping and coding exercises are eliminated to reduce adoption time frames. In addition, this also prevents the persistence and migration of bad data in the data systems, which finds revenue previously

lost in the data.

As a cloud-based service, FATHOM provides best-in-class tools and practices at a fraction of the cost of a particularized or customized solutions. FATHOM can be adopted rapidly and can immediately increase revenue, decrease costs, and decrease consumption. The result is real-time, spatially relevant information available instantaneously across the utility enterprise – from operations to customers – that allows for rapid adaptation to water volatility.

REFERENCES

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