

**BEFORE THE ILLINOIS COMMERCE COMMISSION OF THE STATE OF  
ILLINOIS**

Illinois Commerce Commission  
On Its Own Motion

Notice of Inquiry Regarding the  
Regulatory Treatment of Cloud-Based  
Solutions

NOI 16-01  
(Filed February 10, 2016)

**FIRSTFUEL SOFTWARE, INC. COMMENTS ON ILLINOIS COMMERCE  
COMMISSION'S NOTICE OF INQUIRY REGARDING THE REGULATORY  
TREATMENT OF CLOUD-BASED SOLUTIONS**

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**I. INTRODUCTION**

FirstFuel Software, Inc. (FirstFuel) is pleased to submit the following comments in response to the February 10, 2016 issuance of the Illinois Commerce Commission's "Notice of Inquiry Regarding the Regulatory Treatment of Cloud-Based Solutions" and in accordance with Section 1700.340 (b) of the Illinois Administrative Code.

FirstFuel Software is a customer intelligence company that enables utilities to become trusted advisors for their business customers by delivering demand side management and customer engagement solutions via cloud-based Software-as-a-Service (SaaS). FirstFuel uses advanced analytics to benchmark and assess building energy performance remotely, creating rich energy profiles that can be used to identify efficiency opportunities, increase customer participation in

utility demand side management programs, and deliver, monitor, and verify energy savings.<sup>1</sup> FirstFuel combines machine learning with deep building science expertise to help remotely disaggregate whole building energy usage data into its end uses and patterns of activity – without on-site visits or installed devices.

FirstFuel joins the Joint Software Provider Parties in offering comments on the Cost, Reliability, Cybersecurity, and Regulatory Barriers sections of this Notice of Inquiry. The comments below focus on the Additional Benefits of Cloud Deployments section.

## II. DISCUSSION

### 1. Describe the types of cloud-based technologies are available for electric, gas, and water utilities.

FirstFuel Software has developed a cloud-based SaaS platform that enables utilities to better understand their commercial customers and improve customer engagement through advanced meter data analytics. These tools primarily support energy efficiency program implementation but also improve customer education and support the customer service capabilities of the utility.

Specifically, FirstFuel provides:

- **FirstEngage:** A web-based customer engagement platform that leverages both monthly and “smart meter” data to inform utilities’ business customers about their specific customer usage patterns and offers alerts, mobile access, and personalized tips on ways to save.
- **FirstAdvisor:** Online data analytics software for utilities to analyze and segment customers based on energy savings potential, industry, demand

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<sup>1</sup> Additional background regarding FirstFuel is available at [www.firstfuel.com](http://www.firstfuel.com).

profile, geography, and other factors. Directing the right programs to the right customer at the right time helps utilities to target their programs to specific customer needs and drive down the cost of marketing and customer acquisition.

- **FirstAudit:** A remote building audit product that analyzes meter, weather, and other building data to provide equipment-level savings recommendations for commercial buildings in a fraction of the time and cost of traditional on-site audits.

FirstFuel's platform leverages machine learning and data science techniques that are optimized for cloud-computing environments due to the need for speed, scale, and security when serving millions of utility customers. Our flexible SaaS-based model enables utilities to scale their software deployments to meet the needs of their customer base and add or refine features over time. As millions of Illinois consumers become connected to advanced metering infrastructure (AMI), or "smart meters", digital data analysis and customer engagement solutions are becoming critical gateways to increasing awareness and uptake of energy efficiency actions, which are in turn important customer benefits of AMI deployments.

In FirstFuel's experience, cloud-based computing arrangements offer the most scalable and cost-effective platform to perform large-scale utility data analytics. By leveraging cloud computing infrastructure, FirstFuel processes tens of millions of secure meter reads per day on behalf of utility and government clients in North America and Europe. By building software in the cloud, FirstFuel is never limited by the capacity of our information technology (IT)

infrastructure and can ensure that our clients are always served by a state-of-the-art IT platform.

**2. In electric utilities:**

- i. Identify specific software services not currently deployed in Illinois available to engage customers in distributed generation, distributed storage, demand response, and energy efficiency programs. Are those tools available as on-premise and cloud solutions, or is only one option available?**
- ii. Identify specific services not currently deployed in Illinois that could provide customer engagement portals that improve customer engagement; increase customer satisfaction; and help meet regulatory mandates for verified energy savings and demand reduction.**

i. To FirstFuel's knowledge, customer engagement platforms have not been deployed to all Illinois electric customers. Although these tools are available as both on-premise and cloud solutions, there are speed, scale, and cost-effectiveness benefits of a cloud-based solution that can ramp up quickly as AMI are deployed across the state. Cloud-based platforms are well positioned to collect data from multiple sources, aggregate information dynamically, update customers in real-time, serve content on a range of devices from mobile phones to widescreen displays, and perform complex calculations for millions of customers at a time – all critical functions for the delivery of a modern data analytics or customer engagement platform.

ii. Various Illinois utilities have expressed interest in data analytics and customer engagement platforms, as evidenced by their comments on at least three presentations on similar topics at the Illinois Energy Efficiency Stakeholder

Advisory Group (SAG) in fall 2015.<sup>2</sup> In other jurisdictions, analysis of customer end-use data is playing an increasingly important role in utilities' ability to deliver energy savings and satisfy customer expectations. For example, large electric power utilities in Maryland, Massachusetts, California, and New York have all announced large-scale deployments of energy data analytics in recent years, typically paired as a crucial part of investment in, and roll-out of, advanced metering infrastructure.

For an example of utility customer engagement through data analytics, Baltimore Gas & Electric noted in its 2015-2017 energy efficiency program plan that, "These time-saving and cost-effective tools may be used to better educate and motivate customers and have significant potential to generate more qualified leads, save time and resources, and drive deeper participation into the core [commercial and industrial energy efficiency] programs."<sup>3</sup>

Across the utility industry, investments in energy data analytics and customer information systems are projected to grow rapidly. According to a recent report from Navigant Research, global spending on utility customer information systems and analytics is expected to total nearly \$37 billion from 2014 to 2023.<sup>4</sup> As a leading state for smart grid technology deployment, Illinois and its utilities can reasonably be expected to explore the range of customer engagement and

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<sup>2</sup> For more information, visit the Portfolio Planning page at <http://www.ilsag.info/portfolio-planning-process.html> and individual utility responses to proposals at [http://www.ilsag.info/mm\\_2016\\_1\\_25-26.html](http://www.ilsag.info/mm_2016_1_25-26.html)

<sup>3</sup> Baltimore Gas & Electric. Retrieved at [http://webapp.psc.state.md.us/newIntranet/Casenum/NewIndex3\\_VOpenFile.cfm?ServerFilePath=C:\Casenum\9100-9199\9154\526.pdf](http://webapp.psc.state.md.us/newIntranet/Casenum/NewIndex3_VOpenFile.cfm?ServerFilePath=C:\Casenum\9100-9199\9154\526.pdf)

<sup>4</sup> Navigant Research. "Utility Customer Information Systems and Analytics Spending Is Expected to Total Nearly \$37 Billion from 2014 to 2023" April 29, 2015. <http://www.navigantresearch.com/newsroom/utility-customer-information-systems-and-analytics-spending-is-expected-to-total-nearly-37-billion-from-2014-to-2023>

data analytics opportunities available to maximize the customer facilitated by smart meter data.

**3. In water and gas utilities:**

- i. Identify the types of software or services not currently deployed in Illinois that could improve customer engagement and increase customer satisfaction.**
- ii. Identify the types of software or services not currently deployed in Illinois that could detect leaks and inefficiencies, improve conservation, and lower operating costs.**

i. The opportunities for gas and water utility customer engagement are similar to those available to electric power utilities.

ii. Multiple gas utilities have also expressed interest in data analytics capabilities through the SAG planning process. Although most gas and water utilities do not have the benefit of smart meter interval data, FirstFuel routinely works with utilities who operate with monthly meter data and uses this information to expand the relevance of the insights to customers. In FirstFuel's experience, this information can be enhanced through our platform's ability to aggregate disparate customer datasets and present information in such a way as to facilitate conservation and efficiency programs.

**4. Describe any additional feature benefits to a utility when adopting a cloud-based solution. For example, what are the benefits of cloud software that analyzes consumption patterns, identifies malfunctioning meters, reduces unbilled energy, or engages in predictive maintenance and load forecasting, among other things.**

Cloud-based data analytics have become the industry standard in a range of businesses from retail to healthcare to financial services. In Illinois and in other

jurisdictions, utilities stand to gain from a variety of benefits already enjoyed by other firms:

- **Enhanced Customer Service** – In recent years, Illinois utilities have made remarkable progress in reducing complaint volumes at the Commission and improving customer satisfaction. According to industry sources such as J.D. Power & Associates<sup>5</sup> and Accenture<sup>6</sup>, personalized communications are essential to securing utility customer satisfaction in the longer term. Analytics software platforms enable utilities’ customer service staff to quickly generate customer-specific insights when a customer dials into a call center, and they can ensure that utilities send relevant alerts and messages to customers based on their personalized energy profiles and preferences. The cloud/SaaS model reduces the development and integration period for such software.
- **Flexible Portfolio Planning** – An improved understanding of customer energy demand at the building-by-building level can facilitate better program planning for energy efficiency portfolios, as well as enable utilities to use demand-side management as a true integrated resource in grid maintenance and long-term planning efforts. These efforts often bring together disparate datasets and require large-scale data analysis that is more cost-effective to conduct in a cloud-based computing environment.
- **Enhanced Performance Measurement and Reporting** – Better data

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<sup>5</sup> J.D. Power & Associates. “Electric Utility Business Customer Satisfaction Survey 2016” <http://www.jdpower.com/press-releases/2016-electric-utility-business-customer-satisfaction-study>

<sup>6</sup> Accenture. “New Energy Consumer” <https://www.accenture.com/us-en/insight-new-energy-consumer-architecting-future.aspx>

analysis can facilitate improved measurement and verification of energy efficiency efforts, as well as methods for measuring and rewarding utility performance toward other policy goals. In other states, such meter data-backed M&V has started with small groups of customers, before scaling up to larger populations. The SaaS model enables utilities to only purchase the number of software licenses that they need at a given time, scaling up or down as needed.

- **Improved Online Account Management and Billing** – Customers who are accustomed to on-demand access to telecommunications data, entertainment, and online retail order information will expect utility data to be available on a range of online platforms from laptops to tablets to smartphones. For mobile platforms, SaaS and cloud computing can significantly speed up the user experience by conducting heavy data processing in the cloud, as opposed to on a less powerful device, such as a mobile phone. In addition, SaaS-based customer engagement platforms can make utility bills more interactive, accessible, and interpretable for customers, who are not always aware of the different components and charges that make up the bill.

These are just a few of the benefits that cloud computing arrangements can provide for Illinois utilities. As information technology transitions to the cloud in other industries, utilities should not be left behind. And as utilities increasingly build grid infrastructure not only through poles, wires, and pipes, but in bits and bytes, cloud computing should be considered on equal footing to on-premise computing arrangements.

### III. CONCLUSION

FirstFuel Software applauds the Commission for taking up this important topic and urges the commission to continue its investigation of cloud computing and SaaS with the goal of clarifying its treatment for Illinois utilities and placing these technologies on an equal playing field as on-premise computing. FirstFuel looks forward to supporting the Commission, utilities, and all stakeholders throughout this process.

Dated: April 29, 2016

Respectfully submitted,

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