



On Cloud Now:
Cloud Technologies
are Here for Utilities



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On Cloud Now: Cloud Technologies are Here for Utilities

You may hear people still talk about the Cloud in terms of the distant future—or that utilities are slow to adopt any new technology—but we found the opposite to be true.

A recent survey of 100 North American electric, water and gas utility executives completed by Zpryme and Oracle Utilities shows that utilities are embracing the Cloud. With 45% using the Cloud in some form today and another 52% planning to use the Cloud—nearly 97% of them told us they have become involved with Cloud technologies, or applications and computing resources delivered as services over a network connection instead of through in-house resources at a utility.

This impressive number deserves a deeper dive into why and how utilities are already taking real steps up to the Cloud.

In this paper, you'll learn:

- The reasons behind why utilities are already investing in the Cloud today
- The sweet spots where utilities are unlocking the potential of the Cloud—from handling emerging technologies to transforming legacy systems
- Turbulence along the way to the Cloud—and considerations for overcoming it
- Recommendations for building out your organization's Cloud strategies

KEY FINDINGS BY THE NUMBERS

45% are using the **Cloud**

52% plan to use the **Cloud**

NEXT-GENERATION TECHNOLOGIES ARE HOT SPOTS FOR THE CLOUD



of respondents say they will send **meter data management** to the Cloud in the next three years



LEGACY SYSTEMS ARE RIPE FOR THE CLOUD, TOO.



already use or plan to use Cloud technologies for their **customer information systems** in the next three years

The Cloud is Now—and Here's Why

This study clearly dispels any misconceptions—utilities are in fact embracing the Cloud. Nearly every executive we surveyed (97%) said that his or her organization is either already using or planning to use the Cloud, or applications and computing resources delivered as services over a network connection instead of through in-house resources at a utility.

Larger utilities seem to be the earliest adopters of the Cloud, but both small and mid-sized utilities are taking to the Cloud as well. (Figure 1) Utilities are considering both:

- Software-as-a-service (SaaS), or Cloud-based applications with more standard offerings under specific terms
- Hosted solutions, which are characterized as having much more flexibility and customization capabilities (Figure 2)

These numbers signify a milestone for the industry: a fundamental change in how utilities are approaching their technology investments. Technology that used to be characterized by large homegrown systems managed by internal utility staff is transforming into more nimble partnerships with outside providers. Why the change in these long-held beliefs? Here is what utilities told us.

The world of technology is changing—and utilities are changing right along with it.

To begin, consider your personal experiences as a consumer of technology. We want the latest technology any time there is something new; we now expect to access our photos and music instantly; we want to choose any song or book from a library that would be too expensive to house in a home computer. Essentially, we want to stay on top of the latest technology changes while effectively managing everything that is important to us.

A similar premise drives the adoption of Cloud technologies within organizations, including utilities. Utilities want all the data and the latest technologies, but don't have the bandwidth to handle it all.

Figure 1. Are you implementing or planning to implement any of your organization's applications through The Cloud? (N=100)

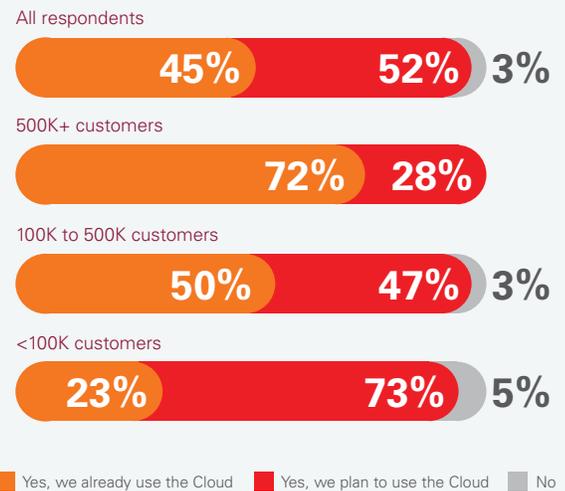


Figure 2. When you look at The Cloud, what types of solutions are you using or considering? [Select all that apply] (N=88)



The Cloud is Now—and Here's Why, continued

With the rise of distributed energy resources, a smarter grid and the need for more advanced analytics, technologies for utilities continue to become increasingly sophisticated and complex. Data is growing exponentially, and technologies that used to last decades are now becoming obsolete in months—just like our smart phones. The Cloud is the answer to this conundrum; no longer are utilities required to invest substantial funds to upgrade and replace their legacy systems with in-house solutions.

These realities are driving utilities to invest in the Cloud. Nearly 50% of survey respondents listed keeping pace with technology changes and improving their flexibility as key drivers for their Cloud investments. (Figure 3)

With all of these new technologies, another question for utilities is: Do we need to become a technology company? Do we want to take on that role in addition to our core focus of providing reliable and safe utility services to our customers?

This survey reveals that the answer for many utilities is: no. They are not looking to become technology companies. Utilities are realizing that the Cloud can help them increase their focus on their core competencies (48%) as well as reduce their spending on technology infrastructure (58%), and ultimately pass technology demands onto someone else. (Figure 3)

Looking at it from the angle of different business areas, utilities are finding a variety of factors make certain business areas and applications strong candidates for Cloud technologies. (Figure 4) Areas that require rapid innovation (53%) are top candidates for the Cloud, and nearly half of respondents listed several other important factors, including:

- A need for a low-cost solution
- A need for customization
- Lack of internal expertise
- Changing business models

The Cloud is here, and utilities are finding sweet spots where they can gain traction with the Cloud and then build from there. The question is: What are those starting points for the Cloud? Where are utilities diving in?

“Look carefully at your current business needs, and accurately estimate how quickly they will evolve.”

Figure 3. Please rank the importance of the following benefits in terms of what your organization is looking to achieve from Cloud applications over in-house solutions. [Chart shows how often the response was ranked in the top three] (N=85)

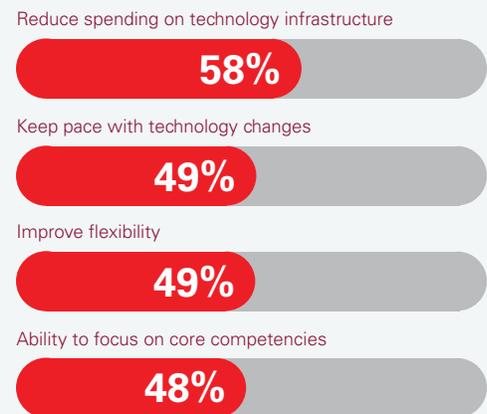


Figure 4. What characteristics of different business areas would make them strong candidates for The Cloud? [Select all that apply] (N=93)



The Sweet Spots for the Cloud

Next Generation Technologies

Many of the technologies that utilities are taking to the Cloud today revolve around smart grid efforts and next-generation technologies—things like meter data management (MDM), big data analytics, and distribution automation and network management. In fact, nearly 90% of respondents say they are using or plan to use the Cloud for MDM within the next three years. (Figure 5)

These applications are newer investments for utilities that are rapidly evolving. Utilities—realizing they aren't technology companies but still need to keep up technology advancements—are finding opportunities for the Cloud.

Legacy Systems are Ripe for Change, too

Hot areas for the Cloud are definitely ones undergoing significant change, but utilities are also seeing opportunities for transformation in more traditional areas of their organizations. These areas often leverage legacy applications that are becoming increasingly complex and expensive to upgrade and maintain. The ownership experience with these technologies is no longer viable—keeping pace with fixes, patches, platforms, and upgrades is cumbersome at best.

Utilities are seeking opportunities to replace legacy systems—such as CIS, ERP, work and asset management, and outage management—with more nimble, flexible applications that address the evolving business processes in these areas. (Figure 6)

Figure 5. Please describe the timing of when you expect to utilize Cloud applications at your utility for the following **next generation technologies**. Is it 0 to 3 years, more than 3 years, or never? (N=91)

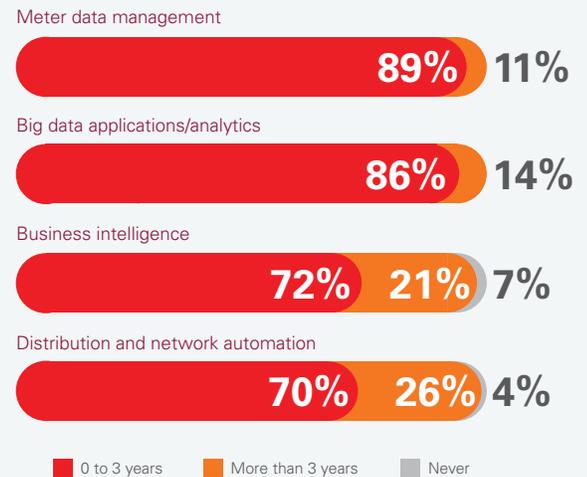
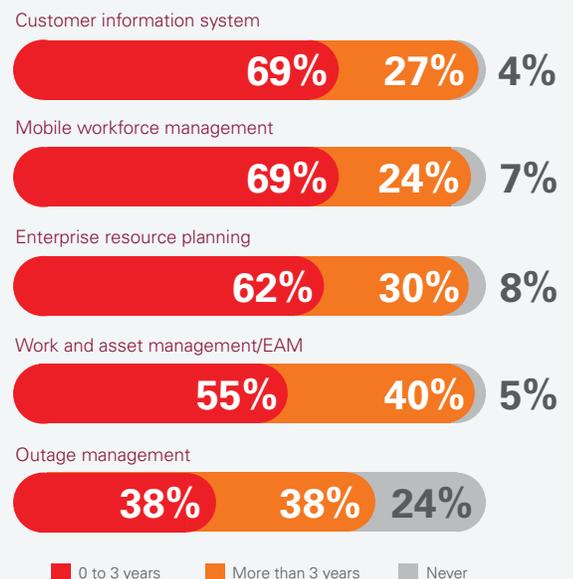


Figure 6. Please describe the timing of when you expect to utilize Cloud applications at your utility for the following **legacy systems**. Is it 0 to 3 years, more than 3 years, or never? (N=91)



Turbulence on the Way to the Cloud

Utilities are moving to Cloud, but that doesn't mean there aren't going to be some bumps along the way. With the overwhelming acceptance of Cloud technologies by utilities, the challenges we see today aren't necessarily excuses to avoid the Cloud anymore, but rather concerns that utilities must study carefully and manage effectively.

Respondents rated how concerned they are with several aspects of the Cloud: a "1" rating signals that it is not a concern and a "5" indicates a significant concern. Privacy, with a rating of 4.31, is a big concern for utilities, followed by control (3.90) and security (3.89). (Figure 7) These issues rank well ahead of any concerns about cost for Cloud technologies.

Another concern for utilities is system integration (3.75). This concern includes both integration with existing in-house applications as well as other Cloud applications. Utilities are becoming increasingly connected across their organizations, not just in terms of applications, but data as well, so there is a need to ensure that Cloud technologies fit well into the broader organization.

These concerns point to the need to ask your technology and service providers the right questions about their Cloud technologies, and truly understand their approaches and plans. These concerns also point to the need to understand the Cloud from an enterprise perspective and how the Cloud works across an organization.

“Do your due diligence and certainly talk to other utilities using the same, or similar methodologies.”

Figure 7. On a scale of 1 to 5 where 1 = not a concern at all to 5 = significant concern, how would you rate the following regarding Cloud applications over in-house solutions? [Chart shows how often the response was ranked in the top three] (N=94)



Recommendations

The Cloud is here, so how do utilities best prepare?

Start your Strategy for the Cloud Now

There are sweet spots for the Cloud today—like MDM or big data analytics—and the Cloud will be spreading across utilities over the next few years. It will not be business as usual. It is important to have a strategy in place that will effectively answer questions such as: How will our business processes change? How will our IT group evolve? What will our utility look like with the Cloud? If they haven't already started, get those conversations going on how to prepare for and leverage the Cloud.

Align Business and IT

Our research reveals there is no clear-cut answer on who should drive decisions (Figure 8) for the Cloud. Cloud leadership can come from many parts of the utility, but regardless of who leads, multiple groups across a utility must come together to ensure the Cloud's successful deployment. Alignment among business and IT groups is essential to ensure the long-term value of the Cloud, and that it truly serves the business needs of the utility.

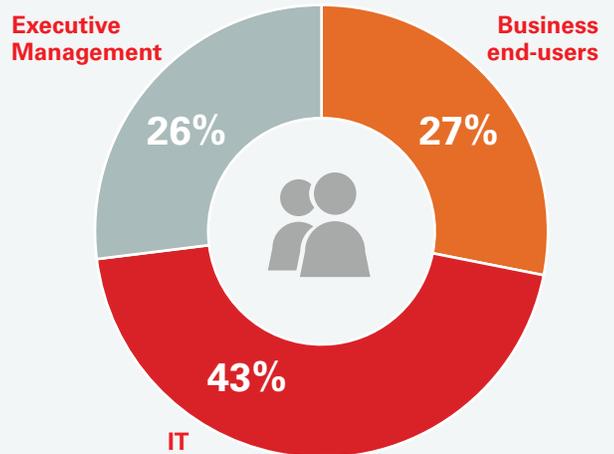
Ask the Right Questions

Another important partner in all of this is your Cloud provider. These providers must thoroughly understand and be aligned with your organization's business and technology objectives. Whether dealing with privacy or security, you will be placing a lot of trust in these groups. Don't hesitate to ask plenty of questions and challenge prospective providers on their approaches to the Cloud.

The Cloud is a real path for transformation into a more nimble, flexible organization that can better adapt to today's changing marketplace. There are opportunities to begin leveraging the Cloud today, and taking steps toward that transformation.

To learn more about what the Cloud can do for your organization, contact: Creighton Oyler, Vice President, Oracle Utilities, creighton.oyler@oracle.com

Figure 8. Who drives the decisions regarding Cloud-based applications? (N=93)



“Whether your utility is considering SaaS or hosted solutions through the Cloud, start your strategy now and ask the right questions.”

Survey Methodology

Oracle Utilities and Zpryme completed the survey for this report between October and November 2015. More than 100 utility executives and directors completed the 22-question online survey about their organizations' approaches to the Cloud. Below is a breakdown of survey respondents by company size, type and location.

Figure 9. What type of utility? (N=100)

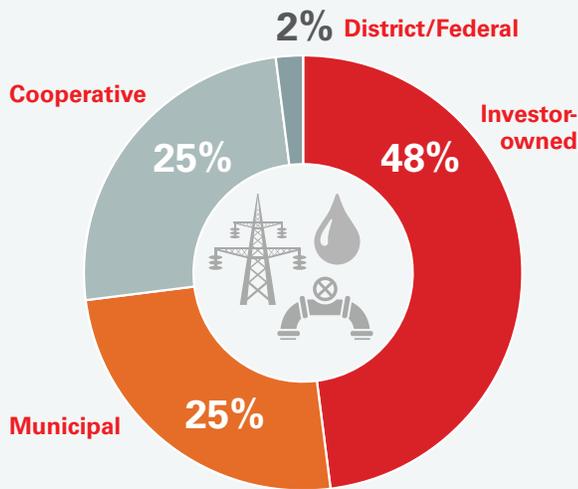
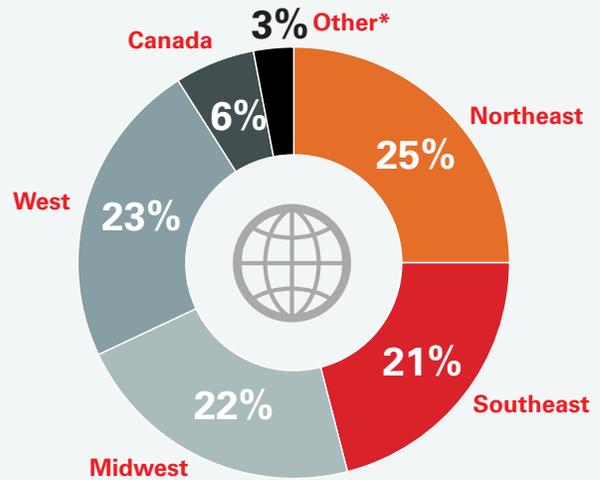
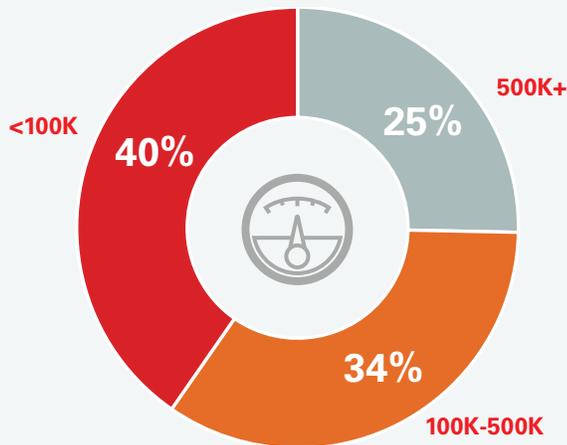


Figure 11. In what region of the U.S. is your organization located? (N=99)



* Australia, Spain, South Africa

Figure 10. What is the size of your utility by total meters across all commodities? (N=100)



OF THE 100 SURVEY RESPONDENTS:

97 electric utilities



39 natural gas utilities



29 water utilities

