

How Flexible IT Can Solve Complex Business Problems

From the data center to the cloud and the network edge, emerging technologies are helping companies accelerate time to value.

The utility sector is not generally known for its seamless customer experiences. Often, residents are simply assigned the company that provides their electricity. Customers have little or no insight into why they lose power from time to time, or when outages might be fixed.

That's starting to change, however. Energy providers are beset by competition from new players leveraging novel business models to offer innovative services directly to consumers. These newcomers are often more nimble than established utilities because they don't have cumbersome legacy infrastructure and systems to maintain. Companies that traditionally have been leaders in this space now need to transform how they function or risk obsolescence. And they don't have much time to change their ways.

CenterPoint Energy of Houston was ahead of the curve. In 2008, CenterPoint Energy recognized that they needed to replace millions of analog meters in the field with equipment capable of exchanging digital data. The multiyear initiative aimed to convert the 140-year-old company into a true digital utility.

It paid off on two fronts. Residential customers now receive a wealth of information about their service. They get alerts if a power cut is expected or when it occurs, and are told when service will be restored—a major boost in their customer experience. Second, these new systems contain, and in some cases reduce, CenterPoint Energy's operating costs—savings that are passed on to their customers. Since CenterPoint Energy implemented Smart Meters, the utility

has avoided millions of residential service visits and resolved millions of service calls without human intervention. CenterPoint Energy now operates with much greater agility and efficiency than before, positioning it to thrive in a rapidly changing market.

Across industries, companies risk falling behind if they don't rise to the digital challenge. The pace of change is accelerating. Companies that were startups just a year ago now threaten to supplant established leaders. Companies have less time than ever to prove themselves and to seize new opportunities.

Indeed, the average lifespan of a company listed in the Standard & Poor's 500 index has decreased by more than 50 years in the last century, from 67 years in the 1920s to just 15 years today, according to Professor Richard Foster, executive in residence at the Yale Entrepreneurial Institute. To get ahead of this unforgiving curve, companies need to transform how they operate by means of emerging digital technologies, including the appropriate mix of cloud and on-premise IT infrastructure, Internet of Things (IoT), and edge computing.

"Companies need to use technology to protect and enhance their position in the market," says Rick Einhorn, worldwide vice president, data center consulting at HPE Pointnext, Hewlett Packard Enterprise's newly branded services arm. "Without a plan to adopt and use flexible IT to innovate, they will get left behind."

Digital transformation isn't just a function of technology, however. It also requires institutional alignment across all business functions, including IT, customer-facing organizations and the C-suite. "All the stakeholders need to have a common view of what they are trying to achieve," says Einhorn.



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Because complexity kills agility, IT systems must be architected for simplicity. “Business-IT alignment is the first step in driving simplicity,” Einhorn adds.

Public Cloud isn’t Always the Answer

A few years out from the cloud revolution, many enterprises are discovering that migrating their data, applications and infrastructure wholesale to the public cloud doesn’t make sense, especially in terms of cost and security. Instead, companies across industries are turning to hybrid IT solutions that combine traditional and cloud infrastructure. Businesses that carefully calibrate the right mix of cloud, managed services, and traditional IT optimize their flexibility and can act more quickly.

CenterPoint Energy is a case in point. CenterPoint is an energy delivery company that includes electric transmission and distribution, natural gas distribution, and competitive energy services operations. CenterPoint needed an efficient way to analyze the big data collected by its 2.3 million smart meters. Because CenterPoint is also implementing a long-term intelligent grid project, the company sought to improve infrastructure reliability while deploying innovative new technologies.

As a public utility, CenterPoint must protect the personal data of more than 5.5 million customers, says Dr. Steven Pratt, chief technology officer for the \$12 billion company. For security reasons alone, all-cloud infrastructure was a non-starter. “We had to be very cognizant that there would be sensitivities with putting customer data off-premises in a cloud solution. Those had to stay in our data centers,” he says.

The CenterPoint Energy Technology Operations team supports 450 applications, 68 of which are mission-critical apps that help keep energy flowing in the event of untoward weather events. “We cannot be isolated from a cloud-services provider in the event we have a hurricane,” Pratt says.

Pratt’s architecture team redesigned certain systems and applications to run off-premises in a cloud/managed-services environment, making sure they were well-integrated with the utility’s on-premises systems and ensuring appropriate data privacy and security were maintained. To realize this vision he partnered with HPE’s IT services organization within HewlettPackard Enterprise that employs 25,000 specialists in 80 countries.

“Our relationship with HPE has been extremely strong,” Pratt says. “They did not come in as a vendor, they came in as a partner. They did not come in to dictate, they came in to collaborate. And I think those two things form the best possible relationship that any two organizations can have.”

Beginning in 2008, CenterPoint deployed intelligent meters to 2.3 million consumers in Houston. The new meters replaced traditional analog models that had been in service for decades (and are still used by most utilities). “We finally had devices that could communicate and send data back to us,” says Pratt.

This wealth of data helped CenterPoint understand energy usage trends and much else. As a result it could operate more efficiently and serve customers more responsively. But the sheer volume of data was a growing problem. “It became clear to us that we needed the right tools and infrastructure to leverage the data and do analytics,” says Pratt.

HPE Pointnext designed the infrastructure and data replication for a new data center for CenterPoint’s critical applications, and then assisted in the migration of CenterPoint’s mission critical systems. HPE also implemented a data warehouse on the performance-optimized HPE ConvergedSystem 900 for SAP HANA. This has enabled CenterPoint to predict the nature of a customer call in seconds by rapidly processing millions of data points.

CenterPoint Energy used those data insights to create new customer experiences. Consumers can now communicate with the utility via text message, email, phone, and seven other channels. CenterPoint sends alerts informing residents if and when their power is out, and for how long.

“Today, we know pretty much in real time what the cause of a power problem might be,” says Pratt. “We estimate when the issue will be resolved and we continue to provide updates until it is resolved.” This is especially important in Houston, which Pratt calls “the air-conditioning capital of the world.” As a result, CenterPoint’s customer satisfaction ratings have continue to rise.



The Four Imperatives of Digital Success

1

Optimize your computing infrastructure via the appropriate mix of on-premises and cloud platforms.

2

Remove IT complexity wherever possible.

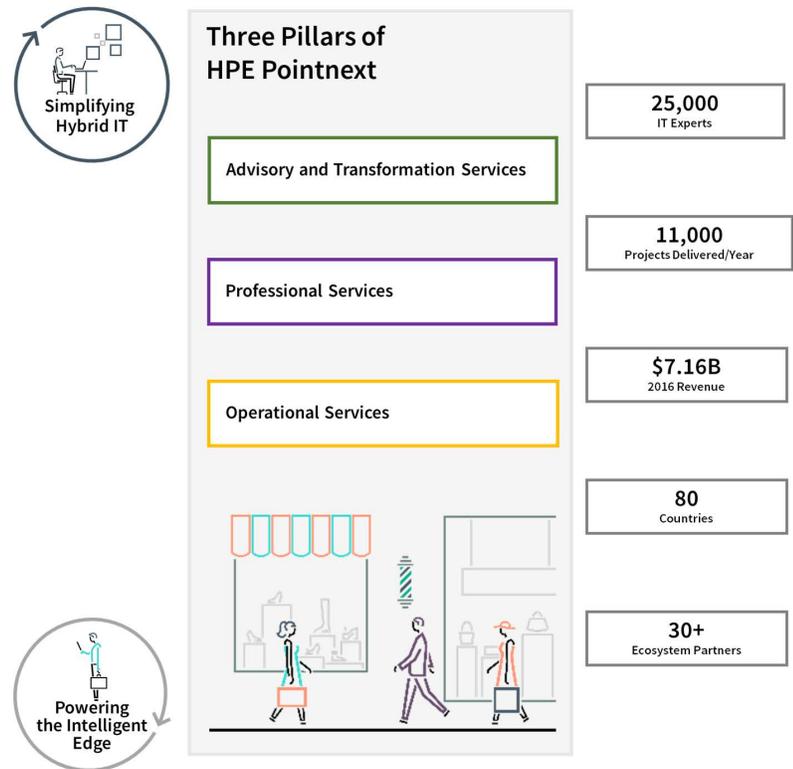
3

Focus on enabling speed to market.

4

Seek help from trusted partners.

HPE POINTNEXT Services for Digital Transformation



Hewlett Packard
Enterprise

IT's Grand Challenge

Many IT professionals struggle to balance the need to innovate and reduce time to market while still keeping IT systems running—often in a cost-constrained environment. “Resources are not expanding,” says Einhorn. “With limited resources, how does IT prepare for the new generation of apps and data that will move the business forward? How do you prepare for that while meeting the demands of your business today?”

Increasingly, those demands involve using technology to improve customer experiences in transformative ways. More than 67 percent of technology leaders at Forbes Global 2000 enterprises expect their top initiatives to be related to digital transformation by 2018, according to a recent HPE survey.

Leveraging flexible IT resources that dial up when needed with maximum reliability and security allows IT to focus on what it can do to better serve customers. “Offering new, improved experiences requires new ways of thinking aligned with flexible, fast and resilient infrastructure,” Einhorn says.

Technologies such as hybrid IT, edge computing, and the IoT can help companies boost agility and response times. “Instead of computing being done in an on-premises or cloud data center, we’re going to see that move to the edge,” Einhorn says.

For example, energy companies can use edge computing and analytics to analyze oil as they take it out of the ground. In the transportation industry, autonomous vehicles will be equipped with sensors that generate data constantly. Self-driving cars need to process this



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data locally because they must react instantly to avoid running stoplights, colliding with other vehicles and running down pedestrians. “They don’t have time for the system to send the message back to the data center, even if it just takes a few milliseconds,” Einhorn says.

To enable edge computing, HPE created Micro Datacenter, a fully capable “data center in a box” that includes storage, server, integrated management system, cooling, and uninterruptible power supply. This first-of-its-kind technology can be used to power applications like predictive maintenance that live on the “edge” of a company’s operations.

Organizational Alignment is Critical

Although digital transformation requires full alignment between IT and other business functions, IT executives still struggle to earn the proverbial seat at the table with their business and operations counterparts. Stumbling blocks include finding a common language and explaining how IT initiatives can drive business objectives.

It helps to view the digital transformation journey as a series of small projects, as opposed to one massive undertaking. Individual projects map to discrete business objectives that are different for every business and every industry.

“What are your top business goals that IT needs to help with?” asks Einhorn. “Things like driving efficiency, innovation, new revenue streams, new customers, new business models, new products, better customer experience?”

All these goals require a flexible IT architecture that enables your business to seize opportunities and respond nimbly to new challenges. Says Einhorn, “This is about optimizing your infrastructure today and for next-generation business capabilities.”

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