

EXECUTIVE BRIEF

Elasticity: Dynamically Adapting to Business Spikes

Challenge

Company websites must be robust and flexible enough to support a dynamic digital customer environment that scales up — and down — rapidly and with little advance warning.

At Stake

Companies that can rapidly adapt to customer and market demand have a huge competitive advantage.

Solution

Work closely with business leaders to identify initiatives, campaigns, and actions that will likely result in traffic spikes. Build out infrastructure that can accommodate planned and unplanned traffic surges. Leverage a combination of public, private, and hybrid clouds — working with hosting and managed service providers to help determine which infrastructure and applications to host in which environment.

The digital transformation sweeping through industry after industry demands that company websites, eCommerce sites, mobile apps, and other customer-facing properties be robust and flexible enough to support a new world in which customers — and the marketers working to engage them — are calling the shots.

“We have put a digital shift first and foremost on all of our marketing efforts, rather than taking an in-store or print-first approach,” says Lucille DeHart, CMO of Maidenform Brands.¹ “Our IT and marketing teams have to respond quickly both internally and externally to what consumers are telling us.

Even though we’re already embracing technology, we need to embrace it in a way that makes us smarter, faster, and better across traditional platforms.”

The combination of digital-first marketing initiatives and increasing customer demand for digital interaction is taxing IT infrastructure in new ways — and driving a need for extreme IT flexibility in the face of unprecedented demand elasticity.

Customer Interaction is More Digital, More Creative

“Companies are driven to initiate more interactive communications with their audiences, to interact with consumers whenever and wherever they are through any device, and to make those interactions more relevant with technologies that incorporate services like geo-location or in-store beacons,” says Darnell

Fatigati, Senior Manager at CenturyLink. “They are doing this in creative ways, such as through online promotions that incorporate gamification, like scavenger hunts, contests, and other digital events.”

Pepsi’s ‘Every 2 Minutes’ Campaign

Take, for example, PepsiCo’s 2013 “Every 2 Minutes” campaign and [website](#). The campaign urged consumers to collect codes worth a certain number of points from Mountain Dew and Doritos products. They could start banking the points online in late September and then bid with them between Nov. 5 and Dec. 9 — every 2 minutes — to win Xbox One entertainment systems, before the Microsoft game console became available for public sale.

“It was basically an eBay-type auction site for Xbox games and consoles,” says Thomas Moran, Senior Director, CenturyLink. “It’s a good example of a campaign that ran for only a few months, but required infrastructure comparable to what an auction site needs, which is very high-demand, very instantaneous response.”

Relatively speaking, it’s not difficult to set up a web platform that would do the job PepsiCo needed for the Every 2 Minutes campaign. However, what is difficult is setting up a web platform

with enough server and storage power to support the traffic that hits the site. The main difficulty is that you can’t determine with certainty what that traffic will be. Companies can make good educated guesses, but they can’t anticipate, say, a tweet from a consumer saying he scored an Xbox One during the auction, inciting his followers — and his followers’ followers, and so on — to check out the site themselves.

An unexpected surge of traffic on a promotional site like Every 2 Minutes would be what one might call a good problem to have, but it would be a problem nonetheless for a company that did not expect the traffic or have the infrastructure to support it.

“Launching those types of digital promotions requires more capacity, because you’re driving more and more people to your web properties, and you need to be able to support that demand when they come,” says Fatigati.

Scaling for Your ‘Peak’ Business Periods

And it’s not just planned promotions that are taxing infrastructure. “Most businesses also have peak periods,” says Kevin Conway, Global Director of eCommerce, CenturyLink. “It could be 13 times a year that a business spikes, or it could be mostly around the October-to-December holiday season. There are times, too, when marketers send out a three-million-person email campaign, and the site just gets crushed. Having the capability to flex up and flex down very rapidly to address demand spikes — especially the unplanned ones — is something that companies all need to have.”

Conway notes that social media is often a driver for unplanned surges in traffic — surges so great they can even disrupt the

social media sites themselves. Twitter probably anticipated and prepared for a spike in traffic during this year’s Academy Awards ceremony. But what it couldn’t have anticipated was that host Ellen DeGeneres’ “selfie” with celebrities would be retweeted more than two million times immediately after it was posted. The traffic from all of the retweeting disrupted service on the site for more than 20 minutes.

Such challenges have consequences ranging from annoying to life-threatening as more and more organizations provide services online and through mobile and cloud-based apps.

Overprovisioning Wastes \$\$

But it's not just the ability to scale up that's important; companies also need to be able to scale down when demand is lower. Otherwise, they are just wasting precious computing cycles — and dollars.

"By elastic we mean you need it to flex immediately, because you can't afford to wait to increase capacity and accommodate greater customer demand," says Fatigati. "But it also means that when you're not using it anymore, you can then turn it down really quickly."

Sometimes spikes occur even on a day-to-day basis, says Moran. "Right now the biggest user of Internet bandwidth during peak

hours is Netflix.² Applications like that or HBO Go have significant spikes in demand during peak viewing periods, like 7 pm to midnight, but then overnight and early in the morning there's very little demand."

In order to deal with traffic surges, companies often provision for the "worst" and hope for the best. "They overprovision," says Fatigati. "They look at the maximum total capacity needed for the year and potentially longer, and they build out based on that. There are cost implications to that — they have to have a much bigger capital budget for equipment that gets used only part of the time."

Throttling Wastes Opportunity

Even worse, some companies are actually throttling back their ability to engage or sell because they know their infrastructure can't withstand additional traffic.

As an example, Conway notes a major floral company that declines television appearances on certain holidays because it knows its existing infrastructure can't stand the heat, so to

speak. "That's using technology as a disabler, not an enabler," adds Fatigati.

Ensuring that websites and infrastructure can support internal and external customers without overprovisioning has been a problem since the dawn of eCommerce, but it's exponentially more challenging in this digital-first, customer-centric economy.

Leveraging Clouds for Elastic Scalability

The good news is that while social, mobile, and big data are driving opportunities and setting the pace, the fourth big tech enabler — the cloud — is supporting companies' ability to thrive no matter what comes their way. Companies are leveraging a combination of public, private, and hybrid clouds, working with hosting and managed service providers to help them determine what infrastructure and applications to host where.

"Companies are struggling to figure out which are the most appropriate workloads to be putting on public clouds versus private clouds versus hybrid clouds," says Fatigati. "Parts that need to scale suddenly can do so, but more sensitive areas can be put behind more security. These are difficult decisions, and you really have to understand the pros and cons of each."

Conclusion: Cloud Partners Provide Elasticity in Multiple Dimensions

For all these reasons, many companies are choosing to work with hosting and managed service providers, both to gain the ability to expand and contract infrastructure as necessary and to leverage the best practices and expertise that providers develop from working with a variety of companies across industries. As more and more customer interactions occur over IT systems,

cloud technology puts responsibility for uptime into the hands of professionals who focus on nothing else.

"Customers aren't completely sure how to leverage the cloud as part of a larger transformational initiative to support this emerging 'all-digital' landscape," says Fatigati. "They don't

know what the answer is. They're not cloud experts; they're not infrastructure experts. But they do know they need to figure out how to use technology to succeed and are looking for guidance and best practices that can be applied from other successful deployments or solutions."

The digital transformation of business is far from over. And as business becomes increasingly driven by customer demands and

across digital channels, hosting providers will be extending new capabilities to their customers, as well.

"Think about it as the evolution of cloud economics to address the needs of the enterprise," says Moran. "You can look at elasticity as 'scale up' or 'scale down,' but there's also the elasticity of transformation over time."

Elasticity: Key Issues and Actions

- Customer interaction is increasingly digital in today's business environment.
- Companies are leveraging social, mobile, cloud, and big data technologies to monitor consumer opinion, promote their brands, engage with customers, and serve them.
- Companies can make only educated guesses about demand surges that impact their websites, eCommerce sites, and mobile or cloud apps.
- Cloud platforms enable companies to use only the computing power they need.
- Computing infrastructure must be able to accommodate expected and unexpected surges — without overprovisioning that wastes money.
- Business and technology leaders must work closely together to determine the applications and processes that can and should reside in the cloud.
- The right hosting provider provides needed elasticity and actively supports organizations in their ongoing infrastructure evolution.

About Digital Customer Experience Solutions from CenturyLink Business

CenturyLink's website hosting, content management system (CMS), and eCommerce solutions are built for global enterprise performance and agile marketing innovation. CenturyLink's solutions accommodate a broad range of website deployments. These include simple, self-managed sites utilizing on-demand cloud infrastructure for short-term campaigns, microsites, or development efforts, as well as fully managed production websites that may include CMS and eCommerce platforms hosted on dedicated or hybrid cloud platforms. CenturyLink hosts mission-critical, high-traffic consumer-facing websites and eCommerce sites, including for 30 percent of the Fortune 100. It creates the agile, high-performance digital consumer experience that marketers and eCommerce teams seek, with the control, stability, security, and predictable cost that IT teams demand.

About CenturyLink Business

CenturyLink, Inc. is the third largest telecommunications company in the United States. Headquartered in Monroe, LA, CenturyLink is an S&P 500 company and is included among the Fortune 500 list of America's largest corporations. CenturyLink Business delivers innovative private and public networking and managed services for global businesses on virtual, dedicated and colocation platforms. It is a global leader in data and voice networks, cloud infrastructure and hosted IT solutions for enterprise business customers.

For more information visit www.centurylink.com/enterprise.

1 Lucille DeHart interview Courtesy of Argyle Journal, November 26, 2013. Click here for the complete interview.

2 "Netflix's Share of Internet Traffic Grows," The Wall Street Journal, May 14 2014, © 2014 Dow Jones & Co., Inc.

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