instartlogic

WHITE PAPER

Zero Patience, Zero Wait

The New Customer Reality

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Zero Patience, Zero Wait: The New Customer Reality

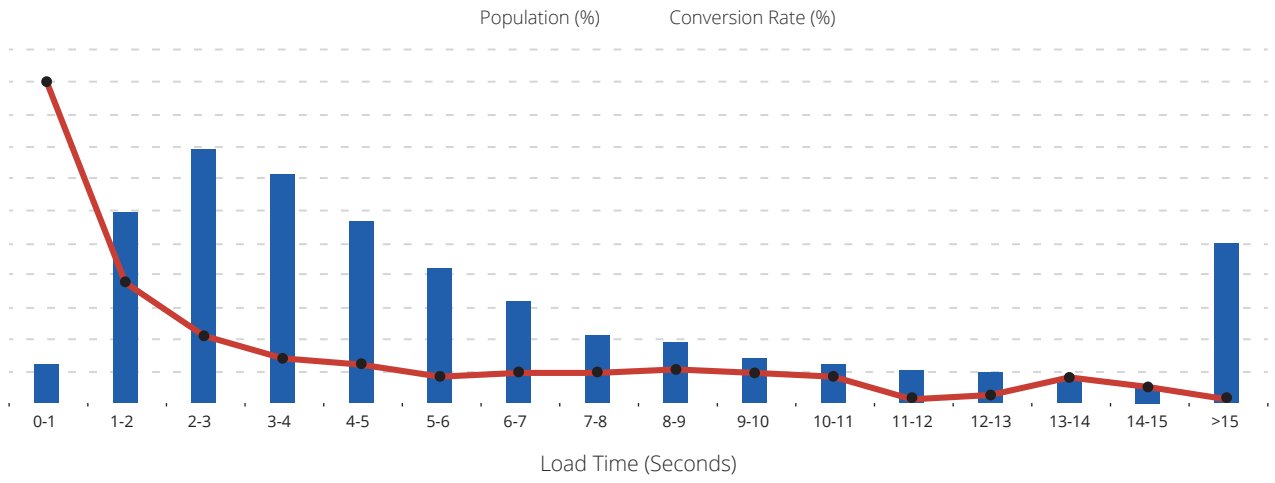
Gone in half the blink of an eye. Online customers, that is. Visitors are less likely to return to a site that is even 250 milliseconds slower than a competing site. That's according to Harry Shum, a Microsoft executive who led Research and Development efforts in search for the company's Bing search engine. That's an interval of time equal to about half the amount of time it takes a human to blink.

This sentiment that milliseconds matter has been repeatedly echoed by Google scientists and other leading web performance experts. Soon half a blink might shrink to a quarter or an eighth of a blink. Customers' expectations for page load times continue to go down. A study by Equation Research1 found that over 70% of all mobile users expect sites to load quickly, up from 58% two years earlier. Lack of speed kills customer satisfaction. Slow sites also kills profits.

One Second Can Boost Conversions by 2%

One of the leading online retailers, WalMart Labs, has an engineering team in Silicon Valley and is strongly focused on web performance. The goal of WalMart is building a "zero-wait" experience for users. The accompanying chart, from a presentation by Walmart Labs1, shows the impact of page load on conversions
taken from real customer data at Walmart.com. Customers who converted to a sale experienced page load times of 3.22 seconds. Customers that browsed but didn't buy experienced page load times of 6.02 seconds. After Walmart optimized its sites to improve page load times, the Operations team recorded that every 100ms improvement led to a 1% increase in incremental revenue and every 1 second improvement led to a 2% boost in conversion rates. In other words, a quarter of the time it takes you to blink can mean an incremental revenue boost or decline of 1%. Given this clear evidence that speed is profitable, one would think that web publishers would be rapidly speeding up their websites. In fact, that's not necessarilythe case.

Conversion Rate Vs. Load Time



Sites Are Actually Not Speeding Up

Despite the growing evidence of the need for speed, site speed by some measures has actually gotten worse. On tests of the leading 500 retail sites as ranked by Alexa during the winter of 2013, the median page load was 9.3 seconds. This was a significant increase from load times of 7.7 seconds in the same period a year earlier. The slower loads were likely due to the fact that these pages had grown by 31% in size on average over that period, according to the HTTP Archive. At the same time, pages had grown more complex with more components baked into every page. The median "Time To Interaction" – the period during which a consumer waited before they could click on something in a site – was five seconds, well above what zero-patience consumers expect on today's networks and devices.

E-commerce / M-commerce: Showrooming Means Compare Now and Buy Now

Nowhere is the "zero-patience" problem more evident than on smartphones. The near ubiquity of smartphones is now well established. Two-thirds of U.S. mobile phone users owned smartphones in 2013. In other markets, such as China and India, the percentage is even higher. An April 2014 report by PriceWaterhouseCoopers found that 71% of Chinese used mobile shopping, while only 32% of Americans did; 37% of Chinese used smartphones for dining reservations, while the percentage in America was only 13%; 35% of Chinese purchased stock using smartphones, while only 5% of Americans did.

The smartphone is also used often at the moment of physical purchase – a moment when people definitely do not want to wait. During the holiday shopping season of 2013, 70% of shoppers used a mobile phone while in a retail store during the holidays. Among these people, 62% accessed that store's site or app and 37% of respondents accessed a competitor's site or app. For shoppers who are looking to buy while not in the store, comparison sites and shopping engines make it very simple to purchase the same item from myriad different vendors. In head-to-head competition, making a user wait even a 250 milliseconds means you have lost the "zero-patience" customers.

Zero-patience extends well beyond e-commerce. The hyper-competitive online travel business is another zero-patience battleground.

Travel and Hospitality: Book Now, Browse Faster

In 2013, online travel bookings tallied a record $129 billion, according to PhoCusWright. Mobile bookings topped $25 billion. So clearly there is plenty at stake in online travel. In a December 2013 test of a wide range of major travel sites on desktop and mobile platforms, site performance company Compuware found that even the fastest travel site required more than 4 seconds to load. Worse, many other sites were considerably slower. Performance on mobile sites is generally far worse than on desktop or laptop versions. For example, Keynote Systems found that TripAdvisor loaded in 2.58 seconds on the desktop for the week ending March 16, 2014 but loaded in a startling 9.26 seconds on an iPhone4 and 8.34 seconds on an iPad2.

This is a critical for the web-based travel business. Travel sites sell the same inventory from the same group of hotels, airlines, and rental car companies. So customers are extremely likely to abandon slower sites. PhoCusWright found that 43% of online travel and lodging shoppers will abandon a site after 3 seconds of waiting and 20% will open another travel site in a new window. So for travel sites violating the zero-patience credo, customers will book elsewhere and probably never come back.

Entertainment Sites: Tickets Now or Tickets on Some Other Site

If a show is a hot ticket, milliseconds can mean the difference between a prime seat and a far lesser option. Like travel sites, ticketing sites are all generally selling the same product. Often they are also competing for inventory with their performance as a differentiator. For ticketing sites, the difference must come in interior page performance rather than initial load times. Some observers found that these types of searches within the sites themselves often took more than 10 seconds, an unacceptably long wait that will chase customers away.

For ticketing sites wishing to compete with the two global giants - Ticketmaster and StubHub – speed will likely be a successful way to differentiate from the incumbent leaders. That's because those two giants have shown up as some of the largest or slowest-loading sites among the Alexa Top 100 sites. Ten seconds equals 50 blinks of an eye, a shockingly long period to wait. These load times, too, were on laptops and desktops. Mobile load times are likely far slower.

Enterprise: Zero-Patience Means "I Won't Use the Tools"

Software-as-a-Service applications are taking the enterprise by storm and are present now in the vast majority of businesses large and small. Unlike traditional installed applications, SaaS applications are delivered over the Internet to desktops, laptops, smartphones or tablet devices. Unlike the consumer web, employees in companies cannot necessarily choose their own SaaS services. IT departments attempt to limit the choices to sanctioned SaaS products to reduce security risks, manage IP and to better control costs. Users, however, vote with their fingers and thumbs. Slower SaaS apps can significantly reduce usage, slashing the ROI of company IT investments. This also results in "ghost licenses" that are paid for but hardly used.

Like the consumer-oriented on-demand software services mentioned above, SaaS companies can lose customers, suffer from reduced conversions, and get bad reputations when their application delivery is not snappy. And like consumer-oriented services discussed above, SaaS services show a big difference in their web performance levels. Among file sharing sites, for example, on desktops and iPhone4s the homepage of Box.net – the best performer – loaded significantly faster than SugarSync – the worst performer. In fact, Box was a whopping 8 seconds faster on iPhone4. In other tests of hosted CMS services, the largest and most popular, WordPress, actually tested the worst and loaded more than twice as slowly as marketing tool HubSpot. So SaaS offerings do have different performance levels. This is particularly frustrating for sales teams and other employees in the field who are operating off of mobile devices where network connections are less predictable and can result in serious application lag time.

What About the Tools for Speed?

Unfortunately, the traditional tools for speeding up website performance cannot deliver the same type of performance boost for the newer generations of highly-dynamic and mobile web applications. CDNs are primarily designed to deliver static cached content and they struggle with highly personalized and mobile experiences that are now the norm for e-tail, travel, ticketing and SaaS web apps. Front-End Optimization services and software promise to accelerate throughput of web apps but often break websites and user experiences, resulting in subpar performance. Traditional tools for application delivery in the enterprise, such as ADCs and WAN Optimization, fall down when presented with massive, distributed user bases that are highly dynamic and consume dynamic amounts of bandwidth and data. For these reasons, web applications cannot rely on old solutions to accelerate performance and enhance user experiences.

Instart Logic's Software - Focused Approach to Application Acceleration

Instart Logic has designed a new type of web application acceleration service from the ground up to address the "zero patience" customer. Rather than rely on outdated cache-based systems that cannot easily scale, Instart Logic created an novel, patented browser virtualization layer specifically to leverage the power and agility of software to dramatically accelerate dynamic applications, personalized data feeds, rich images and highly variable mobile network conditions. This client-cloud technology provides true application and device awareness needed to accelerate performance across all of critical attributes. Because Instart Logic's client-cloud platform understands exactly how to maximize user experience and speed in the least amount of time, it can deliver performance improvements far beyond the realm of what is possible with legacy CDN, caching, and hardware or virtual-machine based application delivery technologies.

Conclusion

Zero patience is a phenomenon that all companies delivering a product over the Internet will have to deal with in order to continue growing and to win more customers. With alarming rapidity, customers' expectations for web experiences grow more and more demanding. To date, many companies in the travel, retail, entertainment and enterprise segments have delivered highly variable and often poor performance that puts them at risk of losing customers. To deal properly with the zero patience phenomena, site publishers will need a whole new set of tools to speed up their websites and deliver premium, immersive experiences. These tools will need to handle dynamic, personalized, client-centric web applications without forcing numerous returns to the origin server to retrieve data, a long journey that impedes performance. The zero-patience phenomenon will drive development of an entirely new breed of zero-patience tools to speed up web applications in ways never before possible.

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Sources

1 http://www.webperformancetoday.com/2012/02/