Mind the Gap

How application delays affect company performance

In an innovation-powered economy, ideas need to travel at the speed of thought. Yet even as our ability to communicate across companies and time zones grows rapidly, people remain frustrated by downtime and unanticipated delays across the increasingly complex grid of cloud-based infrastructure, data networks, storage systems, and servers that power our work.

More than 40% of business users say they avoid using some software applications at work because they run too slowly.

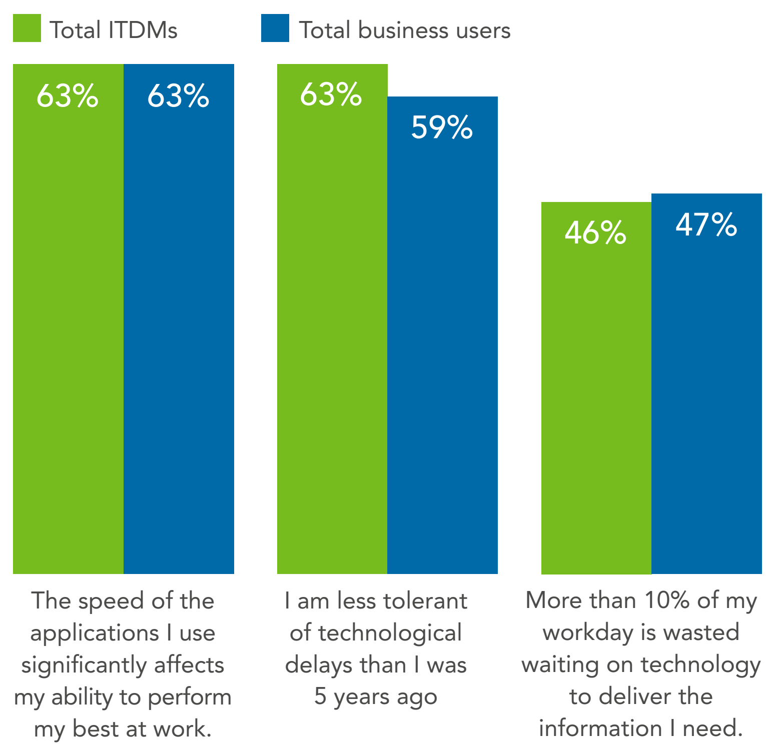
Today it's not just gamers or Netflix binge-watchers who are concerned about those spinning buffer wheels that delay their digital gratification. Software developers and IT professionals (we call them IT decision-makers, or ITDMs) have significant concerns as well, as data centers evolve and IT teams are required to configure applications from a variety of vendors. As the promises presented by the Internet of Things begin to marry connectivity and cognition, delays in propagating and refreshing data can cause real drains on worker time and economic losses.

This App-Data Gap represents a significant problem in the business world. A new survey of nearly 3,000 IT professionals and business users based in the US, Germany, the UK, Australia, and Southeast Asia demonstrates its scope and scale around the world. Worse, IT professionals don't seem to be aware of the magnitude of the problems residing within their own companies, allowing the small delays from the App-Data Gap to add up to big headaches.

Just under half of employees surveyed say they lose more than 10% of their work day—about 48 minutes—just waiting for software to load. IT decision-makers feel that pain too: 43% say they lose between 11 and 30 minutes each work day because of delays they encounter while trying to use applications.

Workers today are less tolerant of the App-Data Gap

Please indicate your level of agreement with the following statements. *"Agree" and "Strongly agree" responses*



A sizable perception gap also exists for some ITDM respondents when it comes to recognizing how significant the frustration with the App-Data Gap is in the workplace. While 41% of business users say they avoid using some software applications at work because they run too slowly, only 18% of ITDMs think their users are either unsatisfied or very unsatisfied with the way software systems work at their companies.

ITDMs are also much less forgiving than business users: 61% say that poor software performance has a "significant" or "enormous" negative impact on their opinion of a particular software brand, compared with less than half of business users.

Based on a calculation derived from the survey results, US companies may be losing as much as $7.5 billion annually as their employees wait for various software applications to load.

Tangible consequences

As companies and organizations grow more complex, so does their IT infrastructure. Today's IT-intensive organizations often depend on applications hosted across a range of delivery models, from on-premises workstations to managed services to SaaS-based applications—and all can be affected by data delays. Data lags can be caused by a number of issues, including network congestion, processing delays, storage issues, configuration problems, or propagation bottlenecks (delays in the time it takes for a request to travel from the sender's computer to a cloud-based system).

These delays can be significant. Based on a calculation derived from the survey results, US companies may be losing as much as $7.5 billion annually of worker time due to delays and downtime, as their employees wait for various software applications to load. And as the cloud grows more pervasive, users are growing restless: 71% of all business users say they experience delays either occasionally or frequently while accessing software at work, and over half say they are less tolerant of technological delays than they might have been five years ago.

Americans are especially impatient with delays—and for good reason: 56% say they lose more than 10% of their work day waiting for technology to deliver the information they need—compared with 42% in the UK, 39% in Australia, and 30% in Germany. Overall, nearly one in five employees experience more than six delays per day when they attempt to use software.

Delays also affect performance: nearly two-thirds of all users, and 76% of US respondents, say that the slow load time for applications they use significantly affects their ability to perform at their best.

Generational perspectives

No one likes to wait. A full 50% of both Millennials and Baby Boomers say "3 to 5 seconds" seems too long for a program or web page to load (Generation X respondents are only slightly more forgiving: only 44% feel that amount of time is too long). But the App-Data Gap appears to be most salient among Millennials, who perhaps as "digital natives" come into the workplace with higher expectations of their technology—and a lower threshold for accepting underperformance.

For example:

- More than three-quarters (77%) of Millennials say that sub-optimal application performance affects their ability to achieve their personal best, compared with just half of Boomers and 72% of Gen Xers.
- Half of Millennials say they've stopped using a cloud-based application because it runs too slowly—significantly more than others.

1. Based on survey results showing an average of four software-caused delays per work day, of an average of 7 seconds per delay. Assuming an average wage of $33.37 per hour (BLS), and a workforce of 121.4 million (BLS), and assuming an average of roughly 238 work days per year, this implies a cost of $7.5 billion (delays/employee-work day x 7 seconds/delay x 1/60 minutes/second x 1/60 hours/minute x $33.37/hour x 121.4 million employees x 238 work days/year = $7.5 billion/year).

42% of Millennial business users say their employer is to blame when software performs poorly.

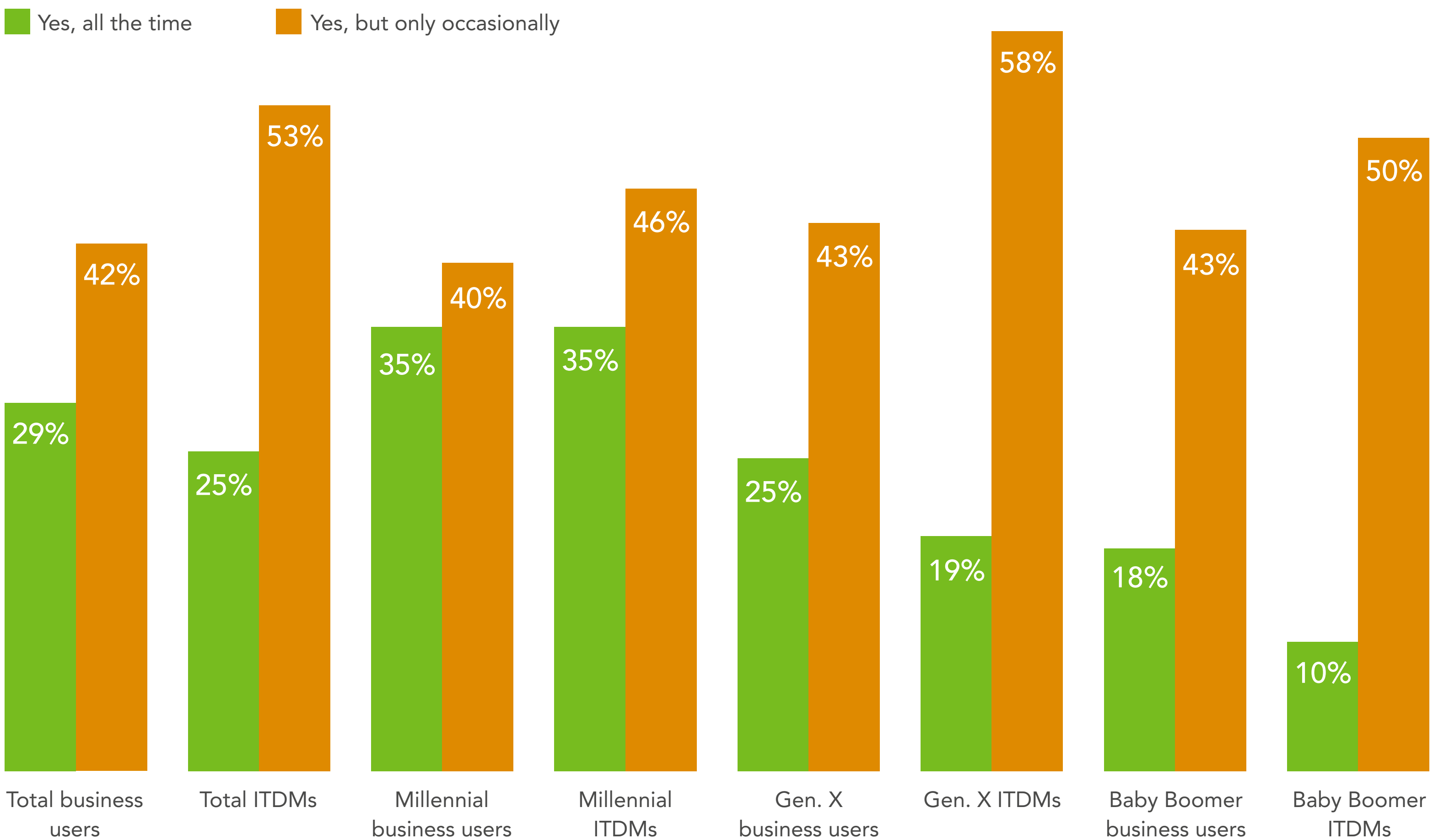
- Over three-quarters of Millennials say they occasionally or constantly experience delays when accessing or inputting information with business software, compared with 60% of Boomers. This could suggest they are using the technology more frequently, or relate to the delays more acutely.
- More than 4 in 10 (42%) Millennial business users say their employer is to blame when software performs poorly, more than any other age group.

The App-Data Gap also affects productivity among younger users most significantly. Nearly half of Millennial workers agree or strongly agree that more than 10% of their work day is wasted waiting on technology to deliver the information they need, compared with just one-third of Boomers.

This suggests that younger workers (who will soon dominate the workforce) may be harder to retain if they feel the technology available to them at work doesn't efficiently support them, putting companies at a disadvantage.

Millennials more likely to experience delays with business software

Do you experience any delays when you access/input information while using business software applications at work?



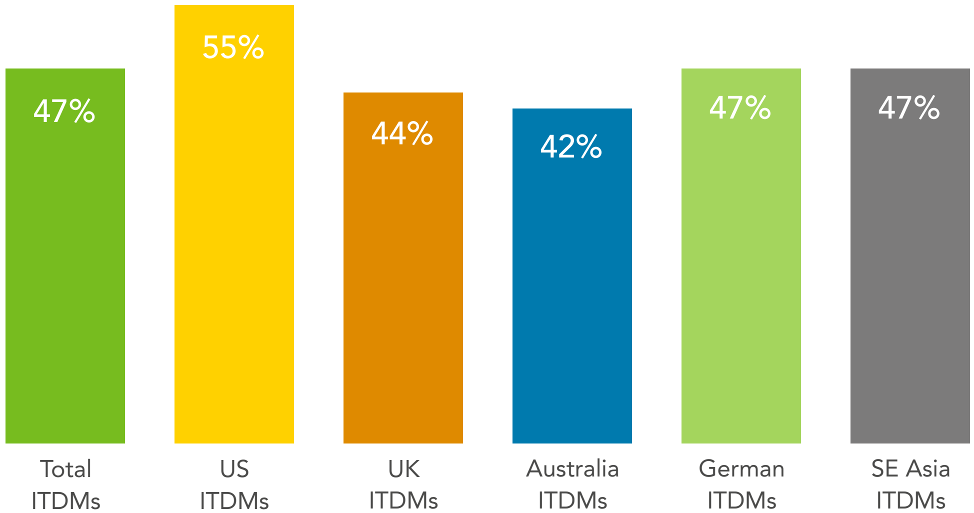
Regional differences

The App-Data Gap appears to be much more pronounced in some countries than in others, with survey respondents from European nations less bothered by delays. This may also reflect cultural attitudes in addition to digital infrastructure issues.

In general, respondents from the US and Southeast Asia are more demanding of their technology infrastructure than those in the UK and Germany. Some 71% of American respondents, for example, say they are less tolerant of technological delays today than they were five years ago, significantly more than respondents in any other region. And large majorities of respondents in the US (76%) and Southeast Asia (73%) agree that the speed of applications they use significantly affects their ability to perform their best.

American ITDMs feel your pain

How frustrating do you think employees find slow application performance? *"Very frustrating" and "Extremely frustrating" responses*



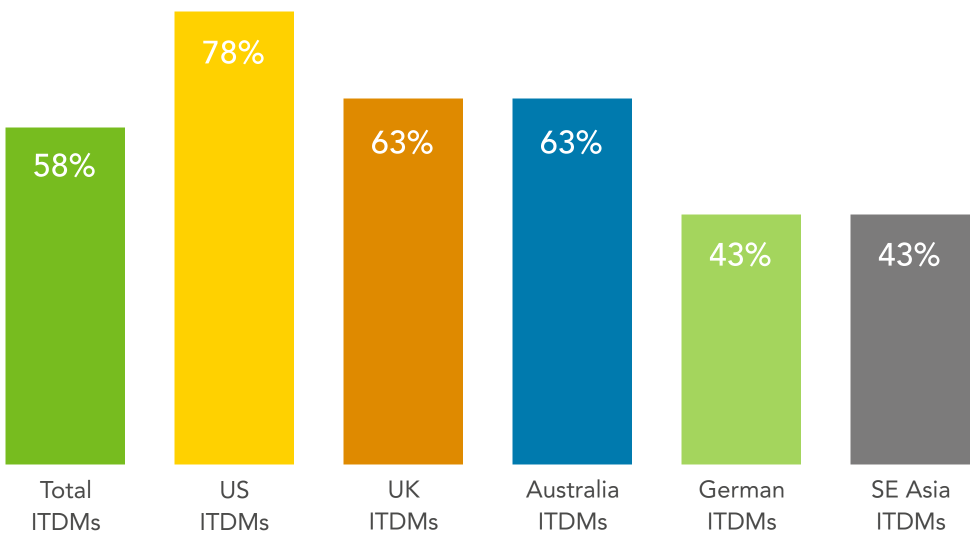
Narrowing the App-Data Gap

Corporate IT departments need to better understand the frustrations and priorities of their employees. For example, respondents identify email delays both as the number-one reason for declining workplace productivity, and as the most critical business application for their company's overall competitiveness and service to customers. Yet only half of ITDMs say that they provide "above average" or "outstanding" email performance to their end-users.

And many ITDMs may not understand the important connection between application lag times and data infrastructure. For example, while 78% of US ITDMs see data storage solutions as "critical" or "very critical," that figure drops to 43% in Germany and Southeast Asia.

US-based IT professionals much more likely to view storage as critical

How critical is storage to the performance of the applications you support and provide to your users (or your company's employees)? *"Critical" and "Very Critical" responses*



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While it may be easy to dismiss the App-Data Gap as a minor cost of doing business in an increasingly connected world, organizations that ignore the issue as a petty annoyance may actually be doing a disservice to their company's overall competitiveness.

To help alleviate App-Data Gaps, firms can ask themselves three key questions:

- Do you understand which data applications cause the most frustration for your workers?
- Are there areas of your business that require data-intensive processes that could slow the business down?
- Have you carried out a rigorous assessment of your company's data infrastructure to determine where potential latencies are worst?

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Nimble Storage (NYSE: NMBL) is the leader in predictive flash storage solutions. Nimble offers a Predictive Flash platform that combines flash performance with predictive analytics to predict and prevent barriers to data velocity caused by complex IT infrastructure. Nimble customers experience absolute performance, non-stop availability, and cloud-like agility that accelerate critical business processes. More than 7,500 enterprises, governments, and service providers have deployed the Nimble Predictive Flash Platform across more than 50 countries. For more information, visit

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