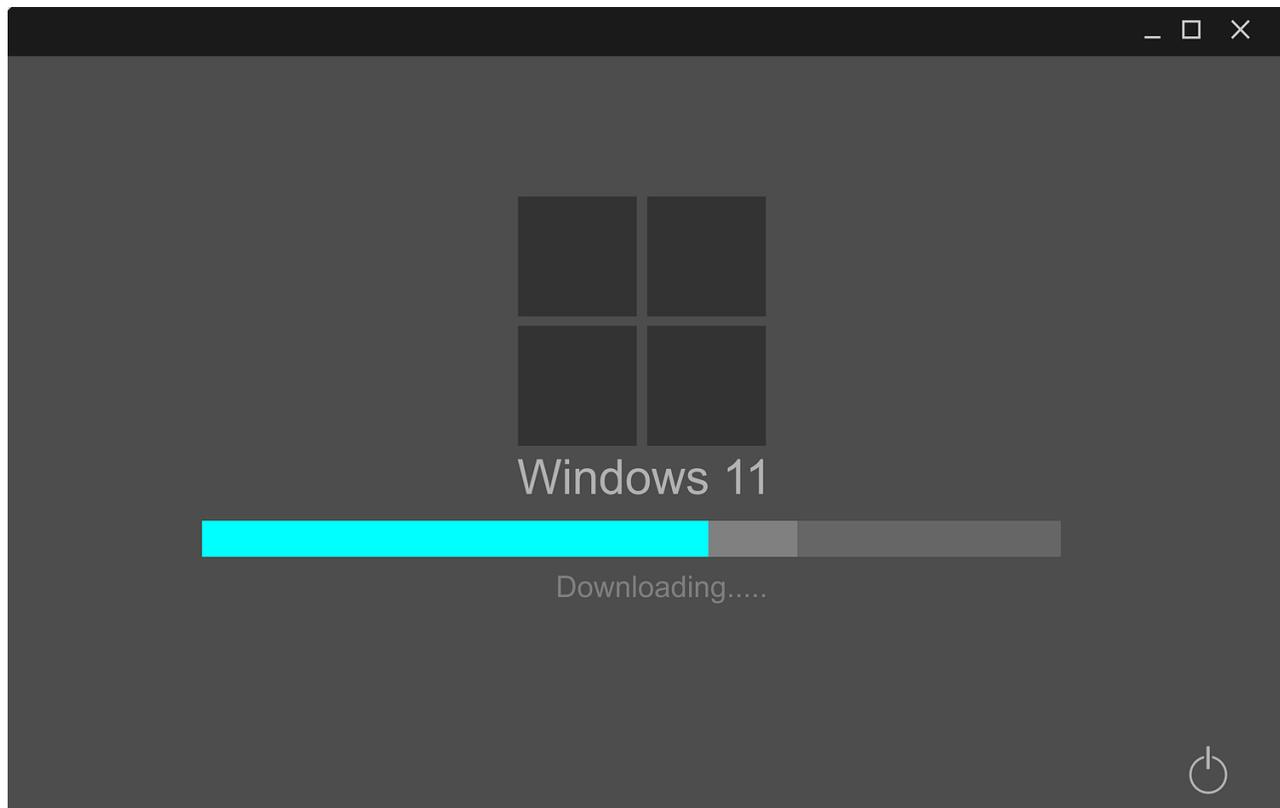


The State of Digital Experience

Q1 2022: Enterprise Windows 11 Readiness



INTRODUCING THE STATE OF DIGITAL EXPERIENCE REPORT

Beginning in [March 2020](#), Riverbed | Aternity has tracked the impact of the Covid-19 pandemic on remote work productivity across nine volumes of the [Global Remote Workforce Productivity Tracker](#). As we enter 2022 with the Omicron variant once again delaying planned “return to office” dates, enterprise IT teams are facing a myriad of critical digital experience initiatives that also deserve examination.

We will continue to monitor and report on remote work trends and application and device performance on a quarterly basis. However, the new State of Digital Experience Report will dive deeper into all aspects of the digital experience, paying particular attention to one key initiative on a quarterly basis. Our first area of focus: Windows 11 preparedness.

Windows 11 officially rolled out on October 5, 2021, with many new features like a redesigned interface, easier virtual desktop customization, streamlined Microsoft Teams integrations, and critical security enhancements. Nearly all enterprises see the value of Windows 11 but a full transition across a large enterprise can take months or even years to complete.

It's clear the transition to Windows 11 will be a top priority for CIOs in 2022, so we examined the current Windows 11 adoption rate and the overall Windows 11 preparedness across nearly two million devices in enterprises around the world.

In this report, we set out to answer the following questions:

1. What has the adoption of Windows 11 looked like thus far?
2. Are enterprises prepared for a widespread Windows 11 transition?
3. What will be required for enterprises to prepare their device inventory to run Windows 11?
4. What are the latest trends in remote work productivity?

KEY TAKEAWAYS

- While the benefits of Windows 11 are clear, some of the device requirements will make a transition challenging. **More than a third of devices currently in use today are not capable of running Windows 11.**
- 23% of devices in use today can be upgraded to run Windows 11 but **12% will need to be replaced entirely.**
- The requirement of Trusted Platform Module (TPM) 2.0 is the leading driver of device replacement. With **10% of devices will need to be replaced due to a lack of TPM 2.0** and another 11% will need to be upgraded to run TPM 2.0 before transitioning to Windows 11.
- **Nearly 1 out of 5 devices will need to be upgraded with more storage** to meet the minimum 64GB of available storage space to migrate to Windows 11.
- Small enterprises showed a faster and more drastic response to the Omicron variant with a **19% increase in the share of remote work** beginning in early December.
- Prior to the Omicron variant, the share of remote work in Europe had dropped **below 60% for the first time since the beginning of the pandemic.**

ENTERPRISE WINDOWS 11 READINESS

WINDOWS 11 PREPAREDNESS

While the benefits to Windows 11 are clear, the device requirements will make migration challenging for many enterprises, particularly during a time when supply chain challenges (highlighted in [Volume 9 of the Workforce Productivity Tracker](#)), may make replacing or upgrading deficient devices challenging. According to our data, 34% of devices currently being used are not capable of running Windows 11. While 22% can be upgraded, 12% will need to be replaced entirely.

The details of the device requirements are outside the scope of this report but can be found in a blog post [here](#). The requirement for Trusted Platform Module (TPM) version 2.0 and Unified Extensible Firmware Interface (UEFI) are by far the biggest reasons devices will need to be replaced with a total of 21% percent of machines requiring upgrade or replacement due to TPM requirements and 15% due to UEFI.

TPM and UEFI are also two of the biggest reasons devices will need to be upgraded along with the requirement for 64 GB of storage space. A total of 19% of devices will need to be upgraded with more storage space, 11% will need to upgrade to TPM 2.0 and 8% will need to be upgraded with UEFI.

Requirement	Replace	Upgrade	Ready
UEFI	7.03%	7.73%	85.24%
TPM	10.04%	10.71%	79.25%
DirectX	0.00%	0.00%	100.00%
WDDM	0.00%	0.03%	99.97%
CPU Arch	0.67%	0.00%	99.33%
CPU Freq	0.00%	0.00%	100.00%
Memory	0.00%	0.69%	99.31%
Storage	0.00%	19.45%	80.55%
Total	12.23%	22.29%	65.48%

Figure 1. Percentage of devices that need to be replaced or upgraded to support Windows 11. NOTE: Devices may be deficient in multiple categories. The total reflects the overall number of devices that will need to be replaced or upgraded.

WINDOWS 11 ADOPTION

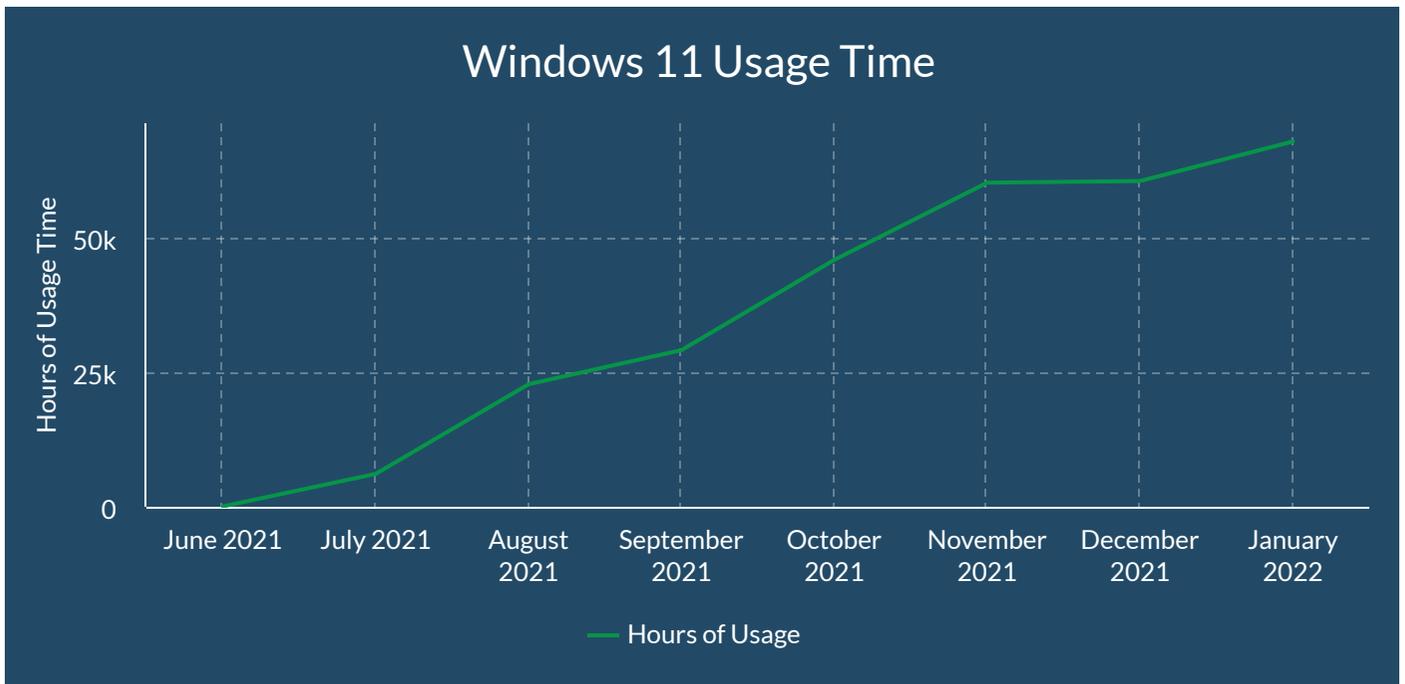


Figure 2 shows the usage time of Windows 11 through January 31, 2022

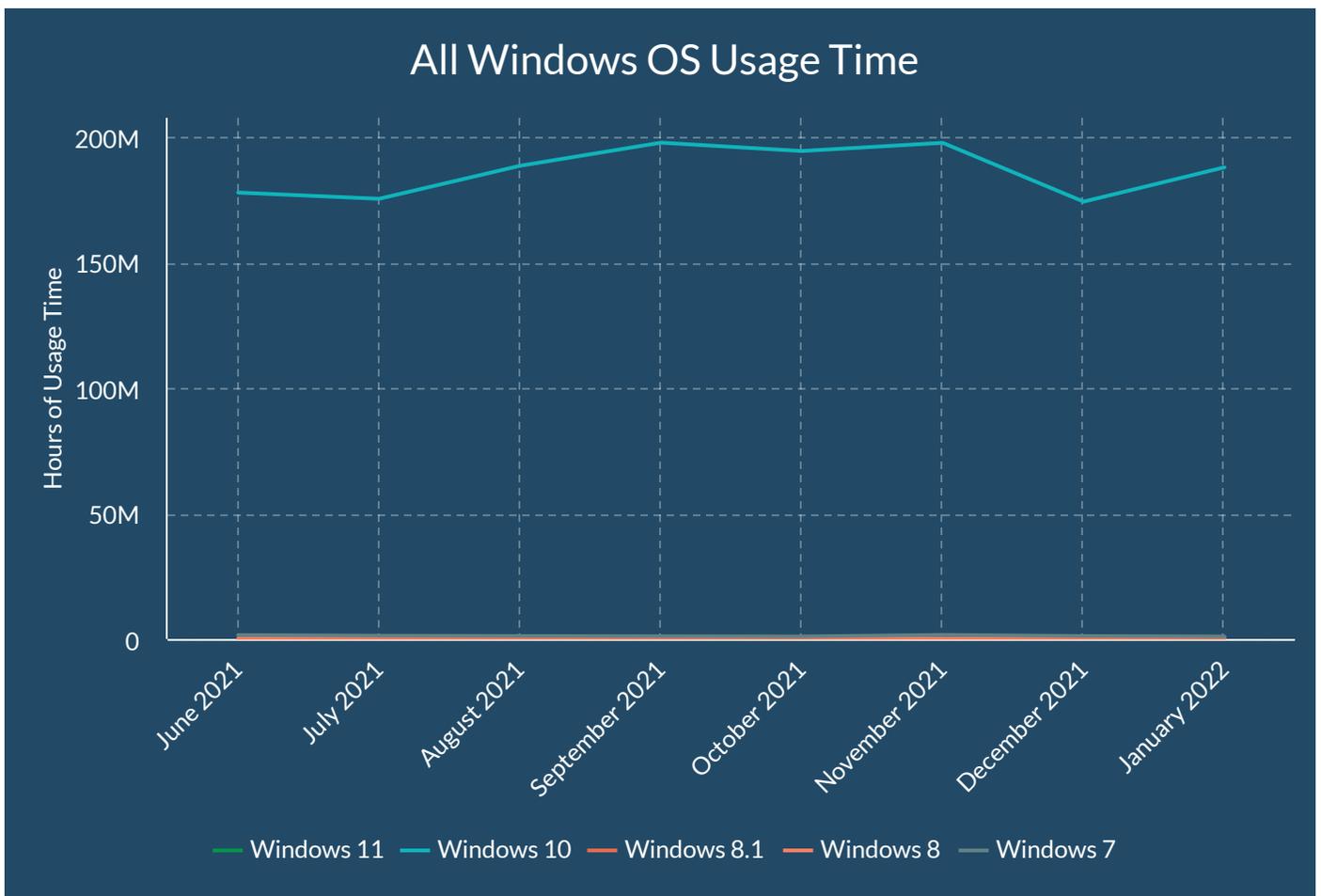


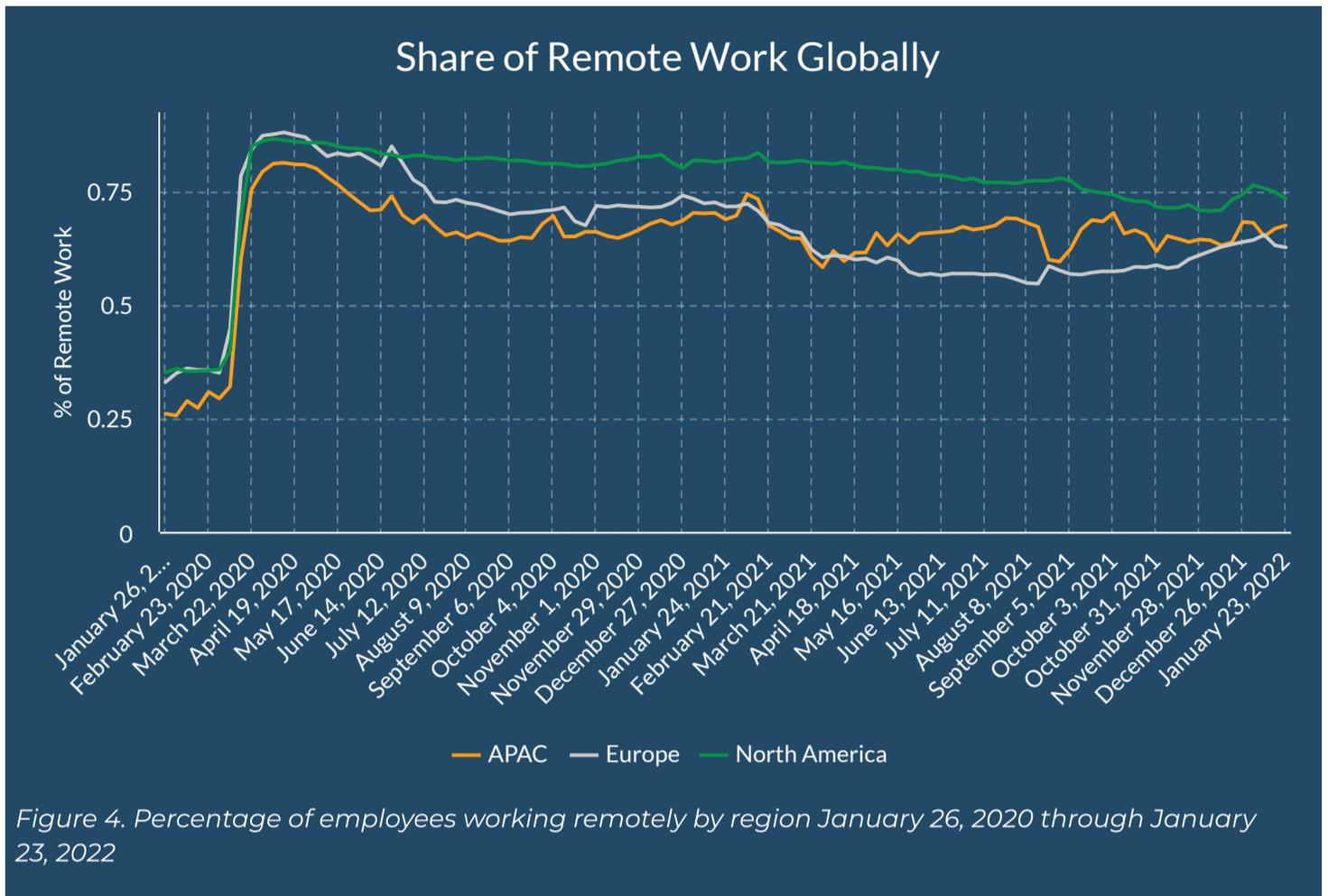
Figure 3 compares Windows 11 usage time to previous Windows OS versions through January 31, 2022.

As companies grapple with when to make the transition over to Windows 11, the rate of test usage is increasing some companies have already made the jump entirely. While small, Figure 2 shows a steady increase in usage time of Windows 11 since it first started to roll out. Compared to the usage time of Windows 10, there is a long way to go.

Q1 2022 DIGITAL EXPERIENCE TRENDS

As we mentioned at the beginning of the report, the State of Digital Experience is expanding to cover a key digital experience initiative on a quarterly basis, but as the world continues to adapt to the changing nature of work, we will track and analyze remote work trends, application, and device performance quarterly. Our goal is to identify trends as employees return to the office and provide the industry with a clear look at the current state of digital experience every quarter.

SHARE OF REMOTE WORK GLOBALLY

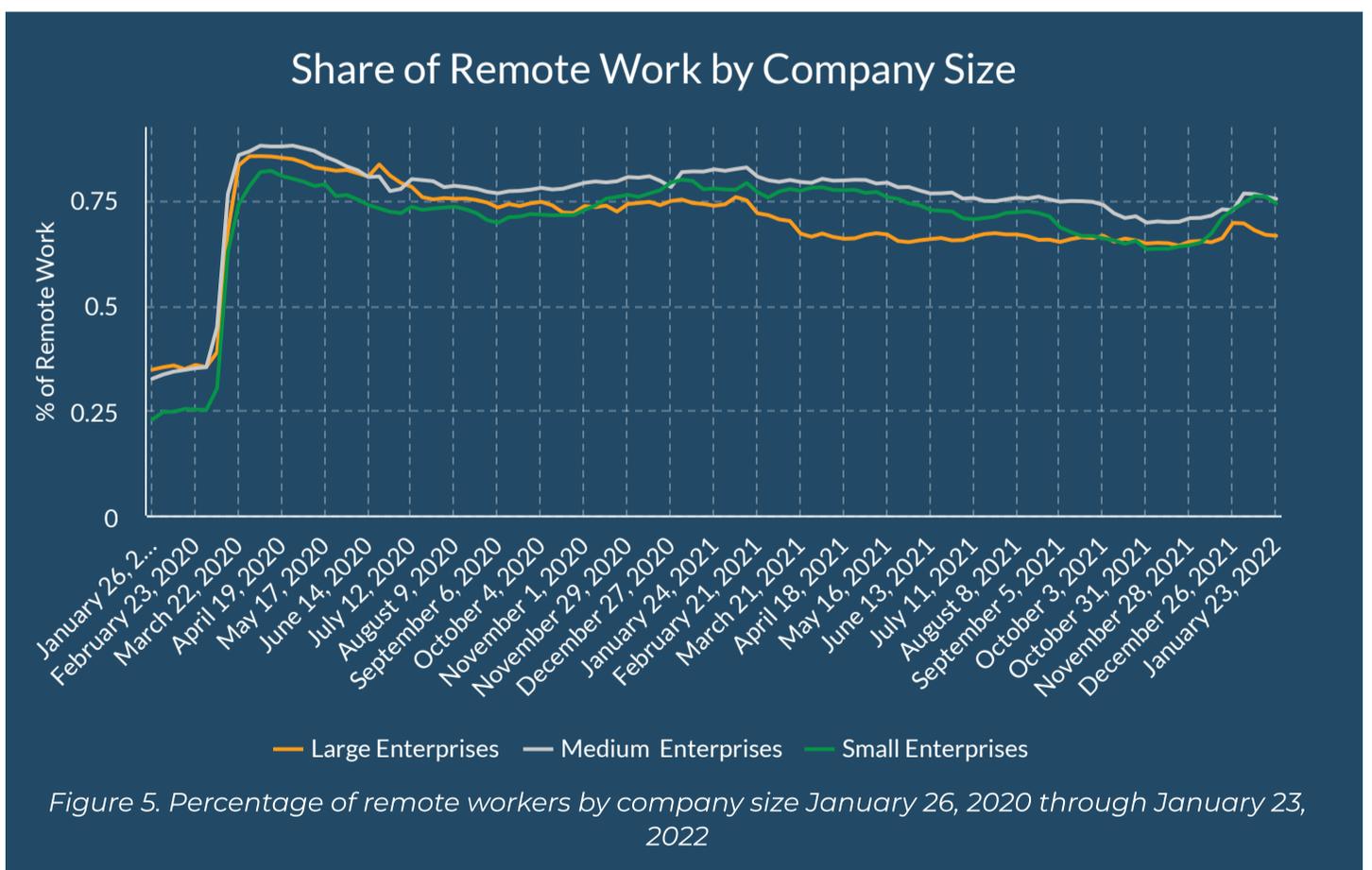


Towards the end of 2021 there was a continued steady return to the office in North America, with the percentage of remote work dropping closer to 70%. However, as the Omicron variant reached North America in late December and into January, many enterprises put a pause on their return to office plans with a 7% increase in remote work from December 5, 2021, to January 9, 2022.

Europe had seen a larger and more steady return to the office with the share of remote work dropping below 60% for the first time since the beginning of the pandemic in May 2021, which continued to drop to a low point of 55% on August 8. However, as Omicron spread throughout Europe in December the share of remote work increased 19% from that August low point to a peak of 65% on January 9.

Asia Pacific continues to be volatile with frequent and large wide swings in the share of remote work. Reaching a low point of 59% on August 29 to a recent peak of 68% on December 26, a 15% increase.

SHARE OF REMOTE WORK BY COMPANY SIZE



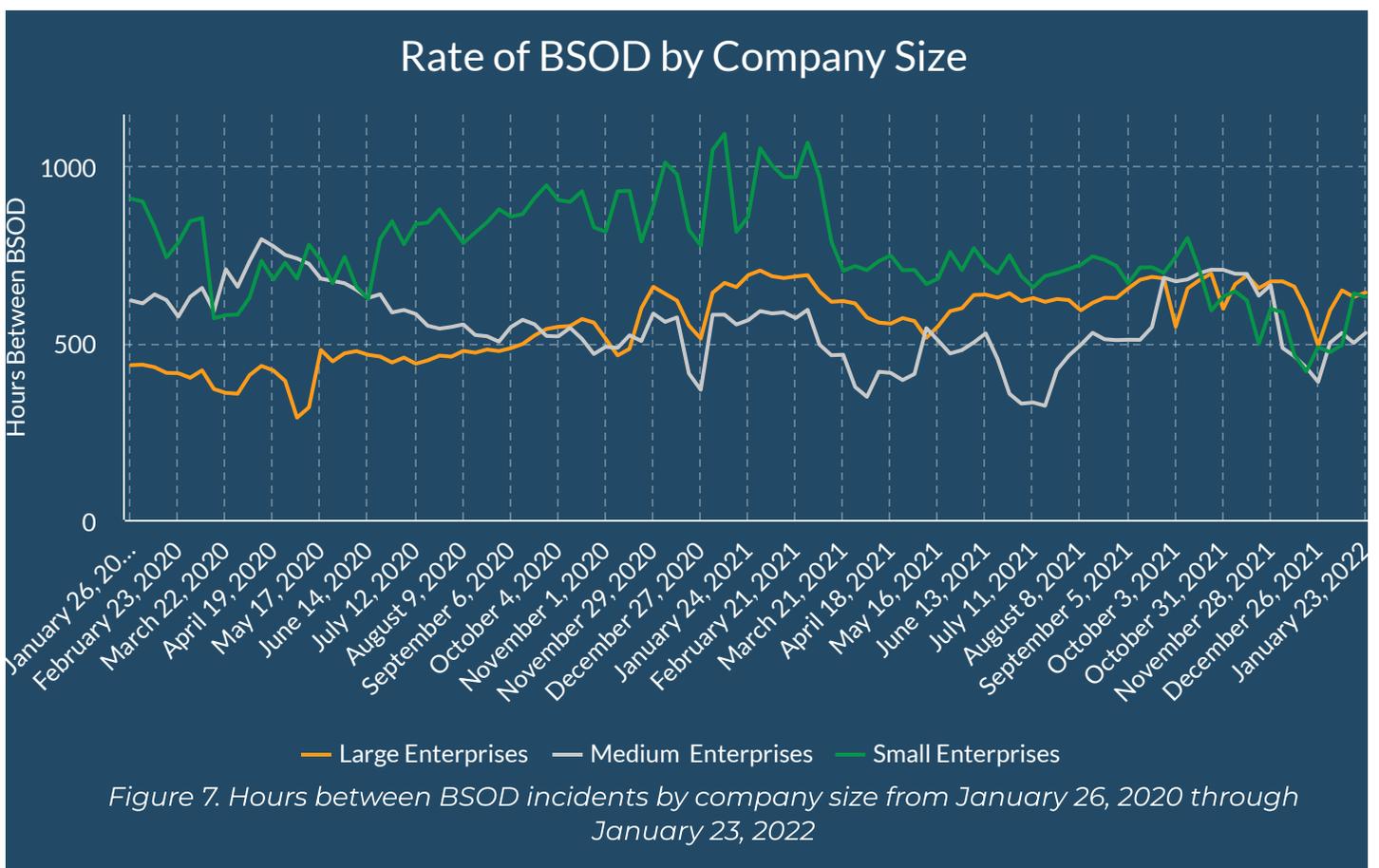
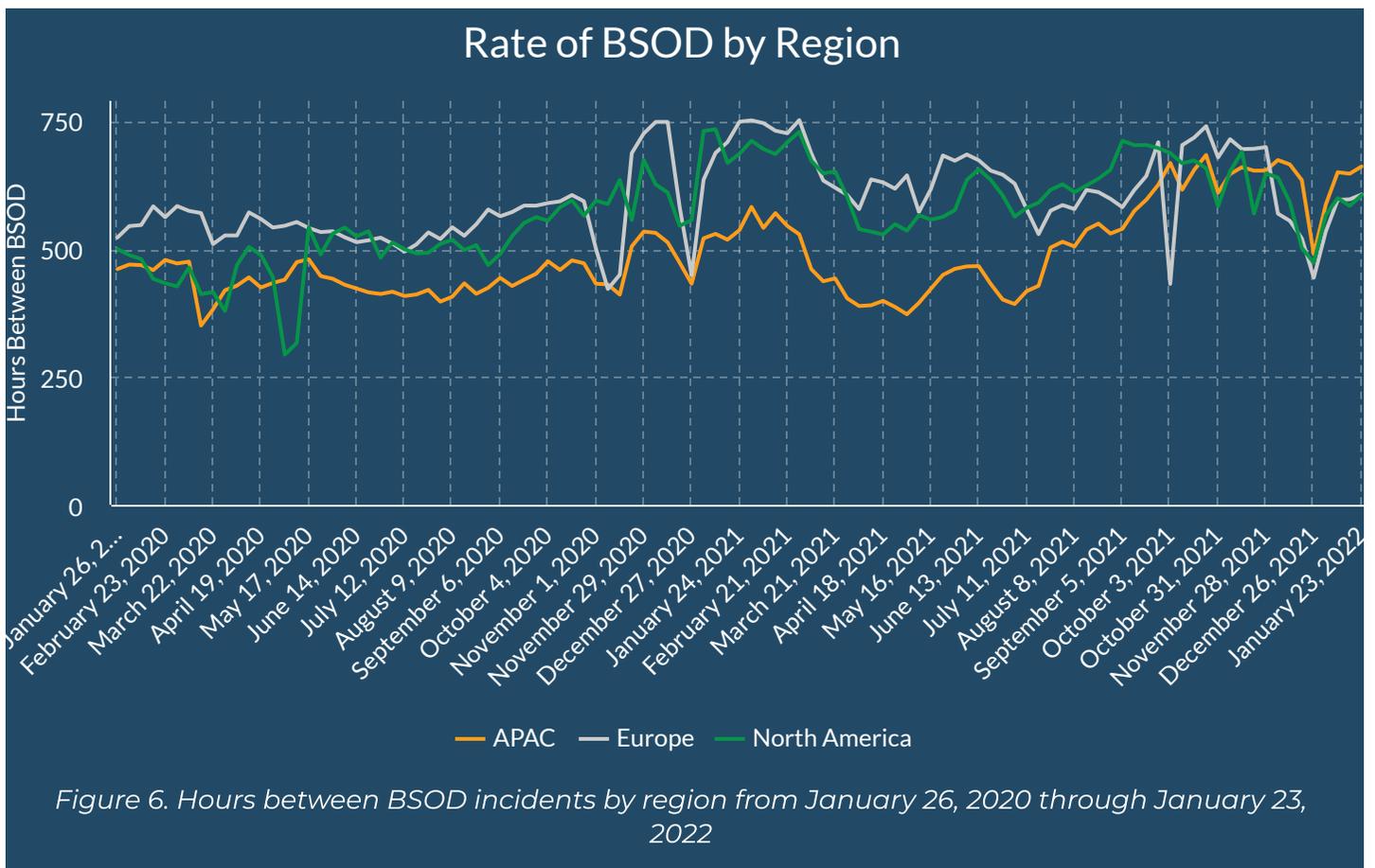
When looking at the share of remote work by company size, it's clear that companies of all sizes took Omicron seriously with a notable spike in remote work beginning in early December. However, small enterprises had a much more drastic reaction to Omicron with the share of remote work increasing 19% from November 21 through January 9. This is likely evidence of the increased flexibility many small enterprises have compared to large and medium enterprises

Prior to the emergence of Omicron, the largest enterprises had been slow to return to the office with the share of remote work holding steady around 65%. Employees at small and medium enterprises had shown a consistent return to the office with small enterprises at 64% and medium companies at 70% for remote work share prior to Omicron.

BLUE SCREEN OF DEATH RATES

Device performance is a key factor in employee productivity and enterprises need to keep a close eye on their overall device performance to plan device refresh and maintenance policies intelligently and efficiently.

The blue screen of death or BSOD is the most severe measurement of poor device performance. No matter the cause, when the BSOD appears, work is immediately lost and productivity is halted. An increase in the rate of BSOD is a clear indicator that enterprise IT teams should take a close look at the overall health of their device inventory to determine the cause.



In figures 5 and 6, you can see the volatility of hours between BSOD for both employees globally and by company size. When comparing to figures 1 and 2, it's clear that while BSOD rates are currently volatile, remote work is not impacting it.

Figure 6 may provide the answer as you can see clearly that large enterprises are much more stable than small and medium organizations. This could be because larger organizations have more resources dedicated to IT monitoring and testing. Large organizations are often able to identify and mitigate issues before rolling out new devices or updates. At the same time, many organizations with fewer resources deploy updates without as much testing and tend to see a higher rate of BSOD failures.

APPLICATION CRASHES

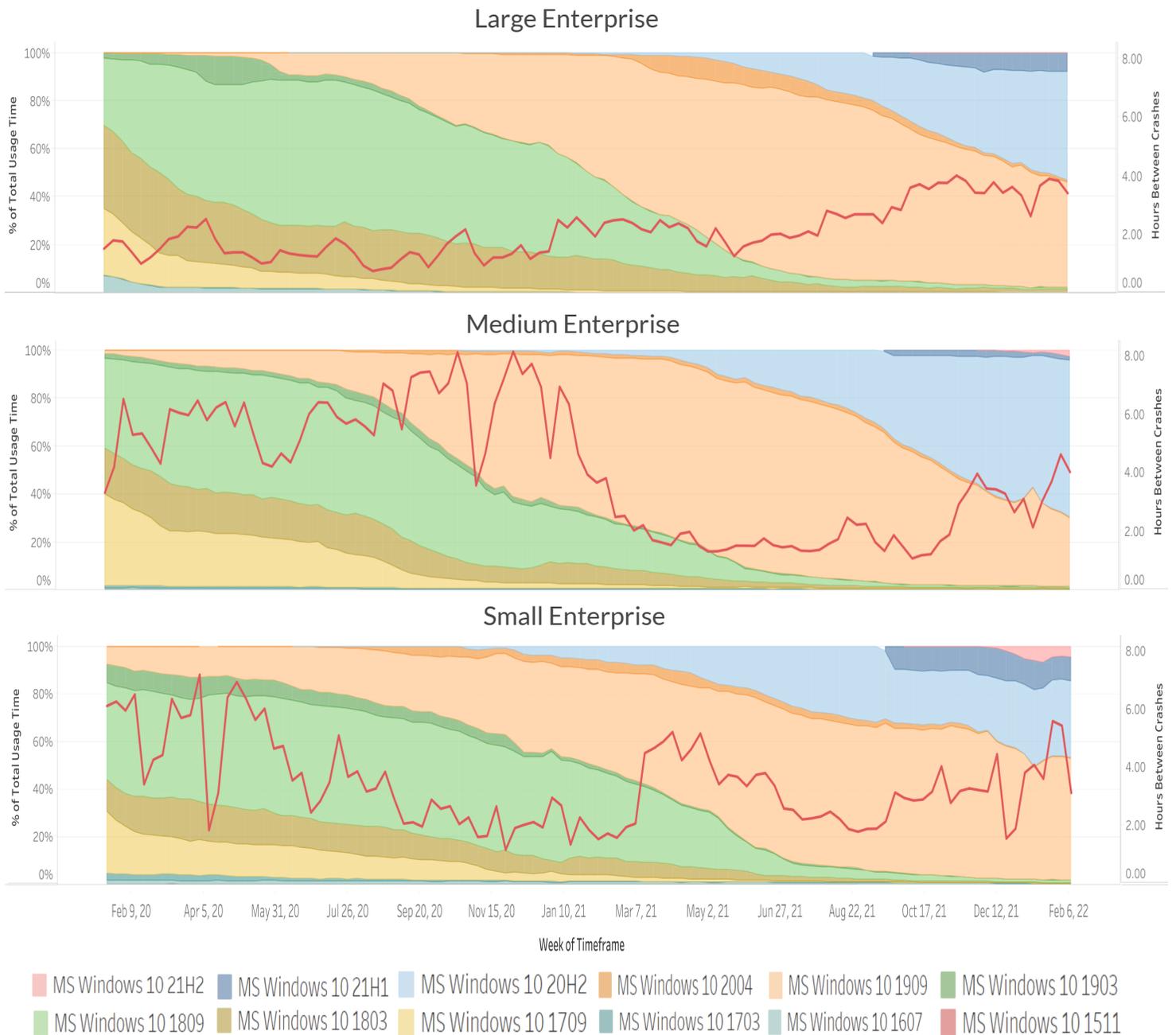
While BSOD failures can be the most severe impact to productivity, application crashes are a more frequent occurrence and can be a large drain on employee productivity and satisfaction over time. Application crashes are closely tied to OS updates and frequently see an uptick following the rollout of a new OS version.

For large enterprises, application crashes remain relatively stable, again suggesting more rigorous testing and validation before rolling out updates. However, beginning in May 2021 and corresponding with the increased use of MS Windows 10 20H2 update, application crashes have increased by roughly 37%, suggesting instability in that update that is still causing a problem for large enterprises.

Small and medium enterprises show much more volatility in their application crash rate with a notable increase in crashes following the immediate shift to remote work at the beginning of the pandemic in March 2020 with a gradual return to normalcy.

Small enterprises in particular showed a correlation with application crashes and the increased use of Windows 10 20H2 after rolling that update out much sooner than medium and large enterprises.

OS Adoption vs. Application Crashes



PAGE LOAD TIMES

Each employee will have unique circumstances that can impact their digital experience and productivity. Web page load time is a critical metric that affects employee productivity. Many factors affect the amount of time it takes a web page to load – the performance of the user's device, the network they use to connect to the page, and the design and performance of the web page itself.

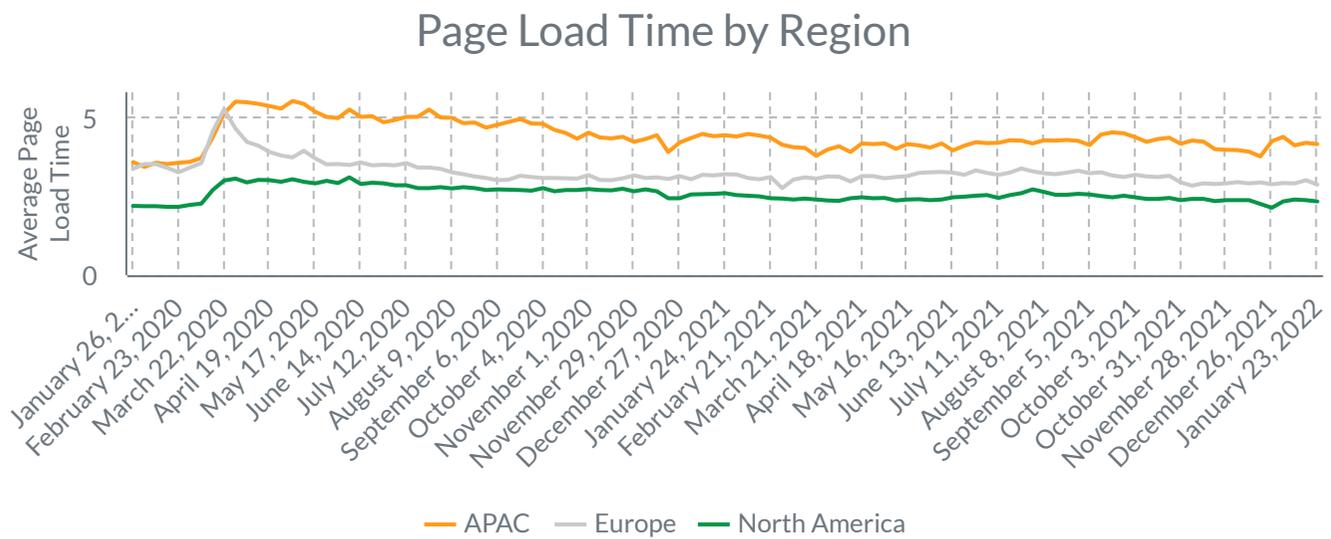


Figure 9. Average page load time for employees from January 26, 2020 through January 23, 2022

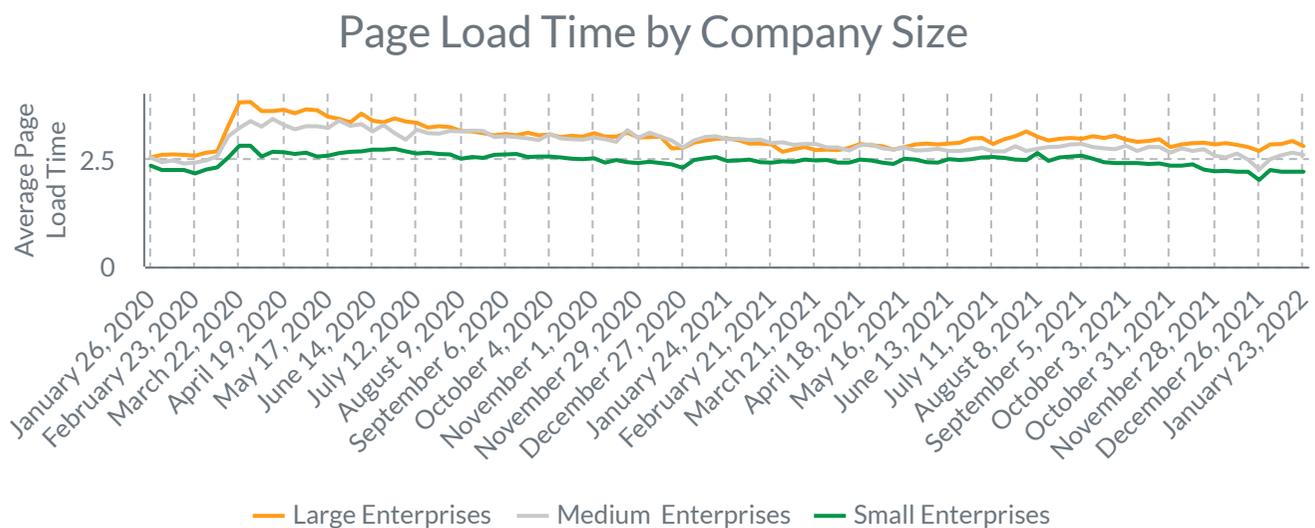


Figure 10. Average page load time by company size from January 26, 2020 through January 23, 2022

As Figure 9 shows, page load times globally are roughly mirroring the trends from figure 4. All regions showed a gradual improvement as people returned to the office with a spike that mirrors the increase in the share of remote work following the emergence of the Omicron variant in December.

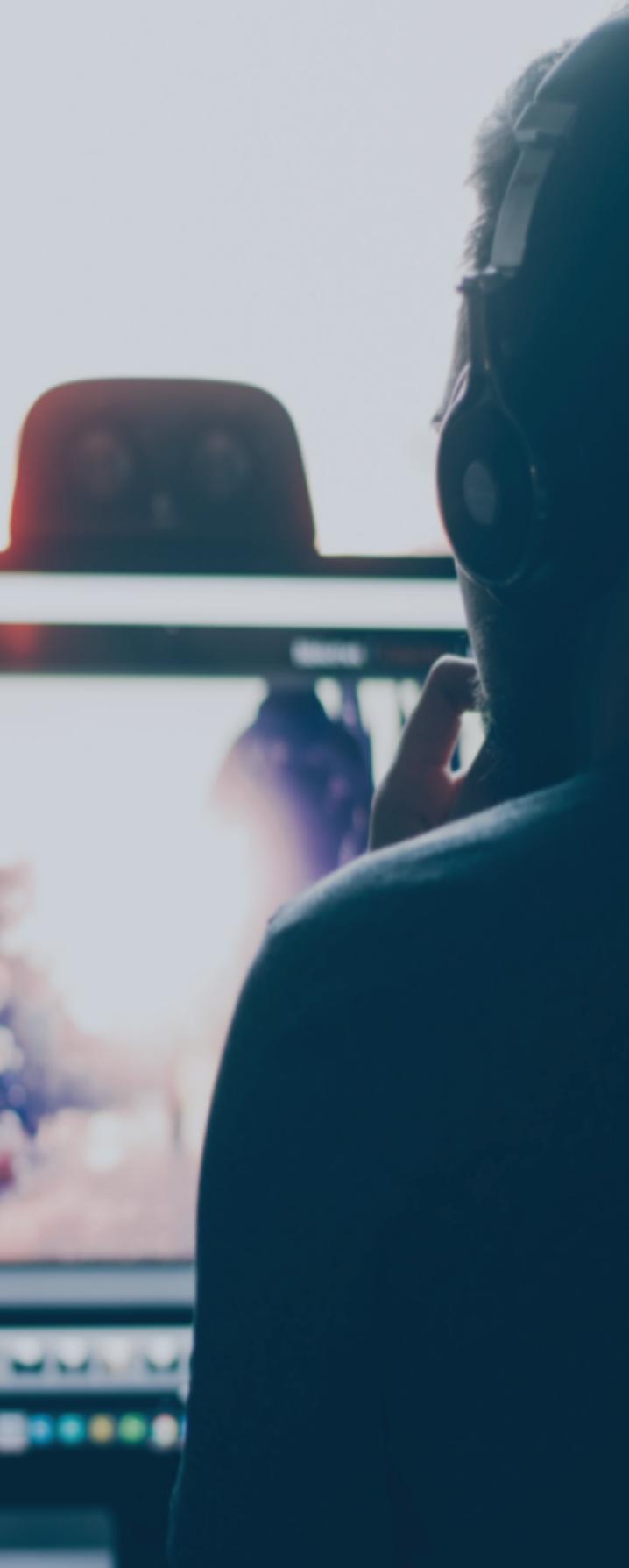
Figure 10 shows that companies of all sizes had been trending downward prior to Omicron. For large enterprises, performance improvements seemed to have stalled as they were slower to reopen offices. There was a gradual improvement in performance for small and medium enterprises as people returned to the office, followed by drastic drops as they responded to Omicron.

We believe enterprises will continue to decrease page load time when the share of remote work share falls. Still, as the reality of hybrid or remote work becoming permanent sets in, workers will enhance their WIFI capabilities to minimize the gap in experience between home and office. IT teams will need to continue making technology investments that support digital employee experience tailored for the work-from-everywhere enterprise to maximize employee productivity.

RECOMMENDATIONS FOR BUSINESS AND TECHNOLOGY LEADERS

Migrating to Windows 11 will be a multi-month or even years long process for many enterprises and they will be forced to conduct this migration while continuing to adapt to hybrid work and potential return to office initiatives. The following recommendations will help enterprises put themselves and their employees in a position to succeed while delivering a consistently positive digital employee experience.

- **Thoroughly analyze your device fleet prior to a Windows 11 migration.** All enterprises will need to migrate to Windows 11 sooner or later. One of the keys to a successful migration is a well-designed device refresh program that is based on the specific device requirements and the performance of your device inventory. Before beginning to replace or upgrade devices, enterprise IT teams should closely examine their device inventory to identify exactly which devices need to be replaced, which can be upgraded, and which can run Windows 11.
- **Conduct in-depth testing of application performance before a widespread rollout of Windows 11.** As we've seen through other OS system upgrades, there can be many downstream effects on device and application failures. Enterprise IT teams should undergo thorough testing before starting a Windows 11 migration and closely monitor device and application performance as the migration begins.
- **Don't overlook the effect of regular OS updates on device and application performance.** While Windows 11 will be a large migration project, it can be easy to overlook regular OS updates and the potential impact on device and application performance. Small and medium enterprises in particular should closely monitor the device and application performance trends following updates to ensure there are no unforeseen issues.
- **Focus on maintaining flexibility.** As displayed by the emergence of the Omicron variant, the pandemic continues to be unpredictable and remote and hybrid work will continue to be a challenge for IT teams.
- **Continue to hone remote and hybrid work monitoring.** IT teams must continue to monitor the impact on employee productivity and satisfaction related to remote work. It's clear that even with a gradual return to the office a high percentage of employees will continue to work remotely.
- **Consider acceleration technologies for Cloud, SaaS and remote workers.** Modern networks are hybrid by design. This provides more lanes for digital traffic, but it does not assure an improved digital experience for end users. Modern acceleration solutions can be parked in the cloud for IaaS, PaaS and SaaS workloads as well as deployed on user machines to eliminate the negative effects of latency and network congestion specifically for remote workers.



ABOUT THE RESEARCH

The State of Digital Experience is based on data aggregated from millions of employee devices from hundreds of global companies being managed by Riverbed | Aternity via the Aternity Digital Experience Management platform. The reports are generated via Riverbed | Aternity's built-in, advanced analytics and custom reporting capability.

Past reports include:

[Application Performance](#) - An analysis of how the performance of business applications impacts the digital experience of WFH employees across industries and countries.

[The Next Normal](#) - Analysis of how continued remote work creates a Remote Work Productivity Tax - a reduction in productivity for employees working from home relative to those who have returned to the office.

[Collaboration App Sprawl](#) - A look at the expansion in usage and change in share of leading collaboration applications like Teams, Zoom, and Webex.

[Hybrid Work Decision Making Guide](#) - Analysis of how the digital experience of employees working from home compares to that of employees in similar roles working in the office, and the implications for remote work policies.

About Riverbed | Aternity

Riverbed | Aternity enables organizations to maximize visibility and performance across networks, applications and end-user devices, so they can fully capitalize on their cloud and digital investments. Riverbed | Aternity solutions enable organizations to visualize, optimize, remediate and accelerate the performance of any network for any application, while supporting business objectives to mitigate cyber security risk and enhance the digital experience for all end-users. The Company offers two best-in-class product lines: visibility – including NPM, APM and EUEM – that delivers actionable insights; and network and acceleration solutions, including application acceleration (SaaS, client and cloud acceleration), WAN optimization, and enterprise-grade SD-WAN. Riverbed | Aternity's 30,000+ customers include 95% of the Fortune 100.

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