



VERTIV WHITE PAPER

Next-Generation Work: Equipping Employees with Secure Remote High-Resolution Video Capabilities

How Vertiv™ Avocent® ADX Ecosystem Drives Workforce Productivity with 4K Streaming and Video Access

Around the world, organizations have embraced remote and hybrid work models. Secure VPN access to virtualized and digital workspaces, as well as SaaS apps, enable many remote users to collaborate easily, spurring productivity. For others, these solutions are not enough. Whether they're developing video games, monitoring the power grid or auditing trades, some remote users need access to higher-resolution imagery as they access on-premises business applications and complete daily tasks. Without high-resolution video imagery, these workers may experience significant eye and work strain as the months of remote work roll on. In addition, these employees may not be able to perform processing-intensive tasks, as other desktop applications consume valuable compute resources.

Computing engineering lab workers have long used secure remote 4K streaming and video capabilities to test equipment, such as desktops and laptops, for large customer orders. Now, other workers can benefit from gaining these same capabilities to execute their daily responsibilities.

In this white paper, we explore why organizations should empower high-value users with high-resolution video capabilities. We also showcase a new management approach that will enable businesses to scale 4K streaming and video access across larger user groups, while improving security and control.

Across Industries, the Need for Remote 4K Streaming and Video Is Growing

Staff who need secure remote access to 4K streaming and video imagery while using on-premises business applications work at:



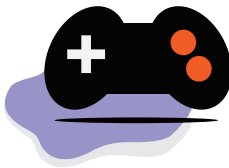
**Computer engineering
labs**



**High-resolution display
manufacturers**



**Software R&D
development firms**



**Video gaming
companies**



**Financial services firms
(trading, trade auditing)**



**Industries with control rooms
(power grid)**

Why Organizations Should Provide Staff with Remote 4K Streaming and Video Capabilities

There are multiple reasons to consider equipping workers with 4K streaming and video access. As remote work continues, organizational leaders want to provide a superior user experience that makes it easy for employees to work, avoid injuries and deliver outstanding results. In addition, if organizations operate in a high-growth industry such as video gaming or IT equipment, they may want to capitalize on growing market demand to drive sales and profitability. Let's take a closer look at these trends impacting these organizations today.

Hybrid work will continue: For decades, organizational leaders believed face-to-face interactions were key to fueling workforce collaboration and productivity. The pandemic has proven that assertion wrong, as robust technology has enabled staff to work remotely and more flexibly. As they balance professional and personal responsibilities, remote workers are ultimately putting in more hours, up to 26 extra hours per month. Despite these pressures, many employees don't want to return to the office.

Gartner anticipates that up to 48% of employees will work remotely at least some of the time after the pandemic, compared to 30% before it.ⁱⁱ As a result, organizations are developing hybrid work models that consider employees' roles, locations, collaboration requirements and personal wishes against their business needs. Digitally savvy workers who want to remain remote likely will be able to do so, due to significant marketplace competition for their skills. They can tap secure remote access and 4K streaming and video capabilities to perform critical jobs, such as creating video games, developing software and testing devices, among other duties.

Workers want a better user experience: Workers have also grown accustomed to a seamless user experience in both their professional and personal lives. At the office, they have access to the latest technology, including high-resolution monitors and video screens and ultra-fast networks. In their personal lives, they enjoy using fit-for purpose apps that minimize steps required to execute tasks. Working with sluggish systems and substandard resolution imagery is not a viable long-term option for staff. By providing workers with multiple monitors and secure 4K keyboard, video and mouse (KVM) over Internet Protocol (IP) devices, workers gain the high-resolution imagery and rich color depth they need to do their jobs.

Organizations need to minimize workplace injuries:

Organizations need to protect employees wherever they work. As they work longer hours sitting at computers in their home offices, staff are experiencing eye and work strain. "Employees working from home may not be adhering to typical office hours," says Todd Pollock, senior vice president of workers' compensation at Worldwide Facilities. "For example, instead of an eight-hour day with two 10-minute breaks and a lunch hour, employees may decide to power through their workday with no break at all, causing physical fatigue and injuries associated with carpal tunnel, neck and back pain, and forward head posture problems from sitting at a computer and rounding the shoulders to lean the head forward."ⁱⁱⁱ Similarly, excessive computer use or blurry imagery is a common source of eye strain. Uncorrected eye strain can harm productivity by 15 minutes per day or 65 hours per year per worker.^{iv}

Providing workers with a low-latency, full-resolution remote access experience to execute their duties can help avoid workplace injuries. Work-related musculoskeletal disorders cost US businesses \$50 billion annually in workers' compensation claims.^v Eye strain, which afflicts up to 65 percent of 130 million American workers, can result in \$8.4 billion in business productivity losses each year.^{vi}

Organizations want to secure equipment and applications:

Employees working in certain industries, such as video game development, may need secure remote access to high-end workstations with 4K resolution. Managing, shipping, securing and supporting a remote fleet of the high-end assets in employees' homes can easily become a logistical and security nightmare. Far better, then, to simply empower workers with remote access to the applications and systems they need with 4K KVM over IP devices.

Similarly, employees may need remote access to confidential on-premises business applications, where working on devices directly is obviously not an option. For example, employees working in banking, who are executing high-dollar trades (or auditing them), use desktop applications that are sensitive and confidential in nature. That's also true for healthcare workers and staff working in such functions as corporate R&D, regulatory compliance and data privacy. These workers, too, benefit from using 4K KVM over IP devices.

Computing and software sales are growing: The drive to remote work means that organizations are gobbling up laptops, desktops and peripherals, as well as expanding usage of both virtualized and cloud-based business applications. Typically a slow-growth, low-margin business, hardware sales are smashing records. The global computer hardware market is slated to grow from \$863 billion in 2020 to \$1.2 trillion by 2025.^{vii} Similarly, global business analytics and enterprise software sales are expected to surge from \$261 billion in 2020 to \$440 billion in 2025.^{viii}

Both industries are dominated by a small number of vendors, who will want to move fast to capitalize on these near-term growth opportunities. That means equipping staff, such as software R&D teams; computer engineer lab workers, who test laptops and desktops devices; and testers of large high-resolution displays, such as those used for retail, wayfinding and event purposes, with the remote access and 4K streaming and video capabilities they need to ensure device quality and functioning. In addition, device manufacturers can use 4K KVM over IP devices to equip a global workforce and enable follow-the-sun processes to drive throughput and meet customers' demands for urgent bulk orders.

Avocent® ADX Ecosystem -- a Flexible, Scalable Platform That Supports Remote 4K Streaming and Video Access

Obviously, equipping remote workers isn't as simple as shipping them 4K KVM over IP devices. These devices and user sessions need to be centrally monitored and controlled. That means IT teams need a flexible, secure system to manage user access and devices remotely, scale with business needs, and provide the responsiveness and uptime required to support business growth.

Avocent® ADX Ecosystem is uniquely designed to meet these needs. This robust, scalable solution includes a management platform; rack manager; interface modules; and 4K keyboard, video and mouse over internet protocol (KVM over IP) devices. IT teams can grant and manage secure, remote access to on-premises business applications, while providing 4K streaming and video capabilities to key user groups. In addition, embedded Linux firmware enables IT to make critical improvements that will enhance operational efficiency over time.

Conclusion

Whether organizations are seeking to enable remote workers, provide a better user experience or scale with business growth, Avocent® ADX Ecosystem can help them achieve their objectives.

Avocent ADX Ecosystem provides IT teams with the transparency, security and automated processes they need to manage more users and devices. Meanwhile, Vertiv™ Avocent® HMX 8000 High Performance IP KVM Systems empowers workers with the flexible, secure access; 4K streaming and video access; and rich image quality they need to drive their productivity, while avoiding physical discomfort and workplace injuries.

In this era of remote and hybrid work, organizations are looking for new solutions to drive growth, without compromising their security or the user experience. Use Vertiv™ Avocent® ADX Ecosystem to seize new opportunities and drive more revenue in the competitive digital marketplace.

Learn more about [Vertiv™ Avocent® ADX Ecosystem](#) today.

ⁱ Evelina Nedlund, "Employees Work an Extra 26 hours a Month When Remote," article, *Benefit News*, October 21, 2020, <https://www.benefitnews.com/news/employees-work-an-extra-26-hours-a-month-when-remote>

ⁱⁱ *Prepare for the Future of Remote Work: 4 Key Impacts Remote Work Will Have On the Workplace*, Gartner, white paper, page 1, July 2020, <https://www.gartner.com/en/human-resources/trends/remote-work-revolution>

ⁱⁱⁱ Alicja Grzadzowska, "Workers' Comp Liabilities Facing Work from Home Employees," article, *Insurance Business America*, May 14, 2020, <https://www.insurancebusinessmag.com/us/news/workers-comp/workers-comp-liabilities-facing-work-from-home-employees-222421.aspx>

^{iv} Antonio Moraes, "How to Reduce Employee Eye Strain During the Pandemic," article, *Benefits Pro*, December 11, 2020, <https://www.benefitspro.com/2020/12/11/how-to-reduce-employee-eye-strain-during-the-pandemic/>

^v "Workers' Comp Liabilities," *ibid*.

^{vi} "How to Reduce Employee Eye Strain," *ibid*.

^{vii} *Computer Hardware Global Market Report 2021: COVID-19 Impact and Recovery to 2030*, Market Report Synopsis, December 2020, The Business Research Company, <https://www.thebusinessresearchcompany.com/report/computer-hardware-global-market-report-2020-30-covid-19-impact-and-recovery>

^{viii} *Business Analytics & Enterprise Software Global Market Report 2021: COVID-19 Impact and Recovery to 2030*, Market Report Synopsis, December 2020, The Business Research Company, <https://www.thebusinessresearchcompany.com/report/business-analytics-and-enterprise-software-global-market-report-2020-30-covid-19-impact-and-recovery>



Vertiv.com | Vertiv Headquarters, 1050 Dearborn Drive, Columbus, OH, 43085, USA

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