The future of work within the professional services sector
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The corporate world pivoted rapidly to support remote work as the arrival of COVID-19 forced many Professional Services organizations to shift almost overnight to work from home policies. Even as countries begin to emerge from lockdowns, for many, the world of work has changed forever. Most firms’ are shifting to a new hybrid model, with employees attending the office at most for a few days a week.

This brings new challenges to enterprise IT departments now tasked with supporting a complex hybrid workforce. This paper assesses the need to ensure the right tools are in place to enable staff to work from whatever location they choose. The future of hybrid work is underpinned by three key foundations, namely reliable and high-speed connectivity, provision of the appropriate collaboration tools for remote workers, and security. The paper also examines how the current and future market developments will help address these requirements.
The new reality of hybrid work

As economies globally emerge from lockdowns and other pandemic-induced restrictions that saw many firms pivot to remote work, the focus has now shifted to enabling the post-pandemic workplace and what this means for both employers and employees. The success of remote working has surprised many, but also raised new challenges as to whether employees will now be keen to return to previous ways of working.

GlobalData’s surveys of employers in the professional services sector¹ show only a small proportion expect the majority of their employees to return to the office in the next 24 months. In contrast, almost a third expect most of their staff to work from home, with the majority (up to 60%) expecting a hybrid future, with a mix of remote and in-office work. This survey included Professional Services firms in the Law/Legal Services, Accounting, Consulting, Architectural & Engineering, Construction and Advertising Agency fields. Expectations from employees broadly match those of employers, with the greatest preference again for the hybrid approach. In fact, the future of work is likely to be increasingly one of ‘work from anywhere.’ In this increasingly fluid scenario, work locations may vary week to week, and embrace a wider range of locations to include local coworking spaces, other community facilities, and on occasion even coffee shops or libraries.

¹ Professional services are occupations in the services sector that typically bill per hour of labor.
While much of the discussion in this paper focuses on the shift to a more dispersed workforce, it is important for decision makers to consider the differing needs of various categories of workers:

- **Senior management** – partners of firms, predominantly in office, relying on superior network performance and high levels of security, across various locations.
- **Professional staff** – billable staff leveraging digital tools at home, mobile or in office, where performance reflects firm brand.
- **Back office** – support teams, now in hybrid mode requiring quality tools for operation efficiency.
- **Call center** – inbound/outbound teams, either in home or office settings, leveraging new voice and collaboration tools.
- **Mobile workers** – field teams leveraging mobile devices (4G, 4G LTE, or 5G) or local office/hotspots.

The key challenges for supporting the hybrid workforce

Many firms are reacting positively to the shifting preferences of their employees, with indications that the productivity of remote employees was overall higher when compared to working in the office as shown in the chart above.

However, the new hybrid world of work creates additional challenges for decision makers, with a large pool of hybrid employees requiring the ability to access key enterprise applications and corporate data regardless of location. Employees need to have both the right tools to engage and collaborate with their fellow employees that are following a hybrid work model, as well as reliable and high-speed connectivity.

As adaptive workplaces become the norm, the physical fabric and layout of offices is being reimagined to better support the new realities of work, all with the common goal of bringing more flexibility to office layouts. Examples include a larger proportion of office space dedicated to informal collaboration spaces, as well the automated personalization of workspaces to reflect the growth of hot desking.
With more physically flexible office spaces, it is key to ensure that the new office environment allows both those on premises and those working remotely to communicate and collaborate effectively. This extends from more meeting rooms with the requisite screens and related hardware to allow effective remote participation, to ensuring that remote workers have the right connectivity and collaboration tools to work effectively.

For some firms, the shift to hybrid work and more flexible workspace will translate into a reduction of office space. A survey by CBRE indicated that 81% of large companies (i.e., with over 10,000 employees) plan to reduce the total size of their office portfolio over the next three years. Over half of large companies indicated cuts of 10–30%, with 9% planning to cut by more than 30%. This can translates into material cost savings, savings that can be reinvested both in reconfiguring the remaining offices as well as providing better support to remote employees.

Beyond providing a tailored office design to support hybrid work, environmental and safety concerns will need even greater attention. The uncertain outlook for the pandemic and the risk of future mutations means that features such as touchless entry systems and occupancy monitoring will be the norm, though there is still a need for these to be more fully integrated into wider systems that regulate office environmental conditions rather than as standalone features.

Vaccination status is a key issue, and specifically the question of whether employers can require staff to be vaccinated. This issue will be determined by a mix of the decisions of individual employer as well as state and other local laws. In the absence of formal laws or guidance, many companies are now making decisions themselves. A number of large corporations across multiple sectors have announced vaccine mandates for some or all of their employees.

Beyond the physical workspace, the world of hybrid work also brings challenges in ensuring that employees have the right connectivity, collaboration tools to do their work effectively, regardless of location and security. The following poll shows that the main challenges include supporting staff working from home, providing robust networking and connectivity.
cloud migration, and issues around security, specifically secure access service edge (SASE and zero trust capabilities. Zero trust is a reversal of the classic approach to enterprise security that assumed all assets and operations were protected behind a perimeter. Rather, zero trust starts from the premise that every access request must be verified and authorized before being granted.

Technical challenges, stemming from issues in hardware, software, and connectivity, can seriously impact the productivity and sense of inclusion of remote employees. Maintaining corporate culture and a sense of belonging will be harder in the world of hybrid work, issues that will require more attention from executives and will further underline the importance of appropriate collaboration tools and robust connectivity to prevent the emergence of a two-tier workforce.

The fast shift to remote working in the early stages of the pandemic highlighted more than ever the criticality of robust connectivity and the digital tools and services that it enables. The fact that most companies were able to adapt and support a distributed workforce rapidly was testament to the strength of existing corporate systems and connectivity. However, although networks in many cases did meet the challenge of the rapid shift to home working, the fact that over a quarter of firms ranked connectivity as the leading technology challenge highlights that issues remain.

Data from AT&T showed how traffic surged on its fixed line network after the pandemic first struck, with monthly usage reaching 318GB per subscriber at the end of 2020. The company expects usage data to continue to rise, reaching 1.5 terabytes per month by 2025. Beyond higher usage, there will be a clear shift in traffic patterns towards more symmetrical data traffic, with the balance of downlink to uplink moving from 10:1 currently to around 5:1 by 2025. Both these shifts will place increasing demand on home networks, with usage extending beyond the work-driven to reflect online activities of other household members.

Only a select group of senior executives may previously have benefitted from corporate upgrades to their home connectivity, with most employees working with much lower bandwidth at home as compared to that available in their offices. As well as having immediate impact on their ability to work effectively, unstable connections and low upload speeds associated with many home broadband networks can also disrupt server and database transfer performance.

The pivot to remote work drove both a huge increase in direct cloud traffic, bypassing the traditional and secure access routes via company VPNs and secure gateways. The growth of remote work also accelerated existing moves towards BYOD devices, often unauthorized, which may lack appropriate security features.

These factors have increased the surface area vulnerable to cyber-attacks. The need to architect and secure networks when supporting a more distributed IT domain is a major challenge, with the previous paradigm of central controlled and secured resources increasingly irrelevant in a world where a large proportion of work is now done off-premises. In essence, the challenge now is to extend the concept of the secure, trusted network from the corporate premises to the network edge, where this may in fact be located, whether the home office or other remote locations. The risks of security breaches are further emphasized by the significant growth in the number of cyberattacks that have occurred over the course of the pandemic. Cyberattacks surged 29% during H1 2021 versus the same period the previous year, according to Checkpoint. A recent report from SonicWall indicated that global ransomware attacks increased by 151% in H1 2021, to 305 million. The huge rise in cloud traffic reflected the adoption of collaboration tools to enable remote work, with the enterprise use of common tools such as Cisco WebEx, Zoom, Microsoft Teams, and Slack seeing an increase in usage of up to 600%. However, the immediate challenges of the COVID-19 crisis meant that many tools were deployed in a hasty patchwork manner, without full security reviews or appropriate training for staff. The use of disparate tools from multiple providers can further reduce the effectiveness and security of work.
“Data from AT&T showed how traffic surged on its fixed line network after the pandemic first struck, with monthly usage reaching 318GB per subscriber at the end of 2020. The company expects usage data to continue to rise, reaching 1.5 terabytes per month by 2025.”
Supporting the hybrid future

Connectivity

Connectivity is a key component of a powerful digital workplace where employees in distributed locations can seamlessly communicate and collaborate. The increase in home working and an accelerated move towards cloud transformation mean connectivity and network services need to adapt to a more distributed environment and a work-from-anywhere (WFA) model. A single, unified, and centrally administered platform that can enable faster and efficient communications is a key prerequisite of this new landscape. This platform should also allow rapid deployment of services to new users and to simplify the management of end users and devices, reducing the time burden on IT staff.

A particular challenge is that home networks rarely offer the speeds or reliability of corporate networks. However, significant improvements are being made in many markets, with the US seeing ongoing fiber-to-the-premises builds that will bring high-speed connectivity to millions more homes across the country. Both telecom and cable operators in the US are focused on providing higher speed connectivity to more households, though fiber-based networks hold an advantage over cable networks in offering higher uplink speeds. Fiber builds will potentially see further support from the Biden administration’s proposed infrastructures plan, which highlights the need for ‘future proof’ infrastructure.

Complementing fiber builds, telecom operators are also further improving both the coverage and capacity of mobile networks. This will further support businesses as they look beyond work from home and consider how they can support a ‘work from anywhere’ environment which includes mobile access services such as LTE and increasingly 5G. 5G promises both faster speeds and lower latency, allowing seamless collaboration and communication from one mode and location to another.

5G fixed wireless is increasingly viewed as a capable substitute where existing fixed broadband connections are not available. Mi-Fi, also used by remote workers is a portable, battery powered wireless device that taps into mobile phone networks to create a mini broadband hotspot. These solutions offer dedicated bandwidth to remote workers, seemingly with the same level of data security they would have in physical offices. AT&T introduced a host of joint network offerings with the Ericsson-owned Cradlepoint that combine 5G wireless service with value-added services to offer wireless wide-area network connectivity.

A hybrid model is emerging as a complement to these solutions, both for added redundancy for key workers as well as complementing the fixed wireless offering. Hybrid LTE routers are already available, combining a traditional fixed network connection with wireless support over LTE. With 5G coverage improving, similar hybrid routes offering 5G connectivity are likely to prove attractive for key workers that need added reliability in their home.

Along with other telecom operators, AT&T plans to deploy mid-band spectrum towards the end of 2021 that will complement its nationwide 5G network on low band spectrum and allow the operator to deliver faster speeds and reliable connectivity across mobile, fiber, and fixed wireless networks. Its business fiber network already connects more than 2.5 million business customer locations with fixed and wireless solutions nationwide.

Homeworking has also changed the dynamic for SD-WAN. SD-WAN found momentum in the digital workplace by providing a unified and centrally administered platform that virtualized many of the attributes of a traditional WAN. The next evolution to SD-Branch enabled the management of enterprise-grade services across distributed corporate offices. SD-WAN positioning
now emphasizes its high reliability and quality for voice calling and videoconferencing, as well as security for messaging, document sharing, and other capabilities.

As an example of a commercial offer, in April 2021, AT&T added Cisco’s Teleworker solution to its SD-WAN portfolio, which uses the employee’s existing home internet connection and layers on a full SD-WAN stack with one piece of hardware. AT&T also recently announced alliances with Palo Alto and Fortinet to further add value to its SD-WAN teleworker integration.

To differentiate and increase the effectiveness of their solutions, vendors are increasingly bringing automation features to the table, and moving towards using AI algorithms to allow operators to run their networks with less redundancy, and offer more sophisticated self-service capabilities to their clients and partners. Palo Alto Networks’ latest additions to its SD-WAN solution portfolio include machine learning-based capabilities to further simplify network operations. Cisco completed the acquisition of ThousandEyes, Inc. in the second half of 2020, which adds a cloud intelligence platform to the Cisco offering, allowing IT teams to gain full visibility over the digital delivery of applications and services and the underlying infrastructure.

The reality for many enterprises will be that most remote employees will not need the enhanced capabilities of an SD-WAN. However, for more senior executives or indeed for specific critical staff or ‘power users’, which could include for example contact center staff or those with particularly data-heavy processes, then these solutions will be increasingly popular.

The standard for in-building networking, whether the office or home, will, in most instances, remain Wi-Fi. As gigabyte connectivity becomes the de facto reality for a growing proportion of both enterprise-based and home workers, so the limiting factor in the network shifts from being the connection up to the premises to the Wi-Fi network providing indoor coverage. The latest iteration of Wi-Fi promises to address this, with Wi-Fi 6 offering both higher network capacity, security, and device management as compared to its predecessor (Wi-Fi 5).

As Wi-Fi 6 matures, it will be the primary way to connect assets/devices and support employee communications. However, with few devices or routers compatible with Wi-Fi 6 today, this will be a medium-term outcome but one that should be reflected in enterprise IT strategies going forward. The longer-term outcome will see many devices integrating multiple wireless technologies and capable of connecting to the best network available at any particular location.
Challenge:
Firm desired a globally secure, high performance network to handle video case loads and move to a multi-cloud architecture. The solution required seamless connectivity for traditional office settings and remote workers to support business continuity.

Solution:
AT&T worked with the firm to assess its needs and match technologies to the right location. The solution provided a global MPLS, Ethernet and Dedicated Internet solution that leverages multiple wireline and mobility options based on site specific business requirements and user personas.
Collaboration

Collaboration tools have already demonstrated their critical role in ensuring the coexistence of the digital and physical workplace, both internally – with agile teams, and externally – with firms. By providing employees with a single interface across the tools they use every day, collaboration tools encourage a productive and cohesive digital work environment.

The next generation of collaboration technology brings several tools together under one umbrella, underpinned by AI, enabling employees to share and collaborate on documents in real time. For example, Cisco’s Webex Teams tool brings together file sharing, universal search, and video meetings. The ‘Voicea’ voice-assistant derives insights from WebEx meetings by listening in, taking notes, and setting reminders for follow-up meetings. Cisco can now leverage the capabilities of Voicea and offers AI-based enhancements to its Webex and Contact Center platforms.

In March 2021, Cisco launched a preview of real-time language translation capability for Webex meetings. The feature uses AI to translate English into more than 100 languages. In addition, it has recently announced several new devices supporting the hybrid work environment, including the Webex Desk Camera, Desk Hub, Desk, and Wireless Phones (for frontline communications). These complement devices such as the Webex Room Navigator announced in October 2020, which help optimize meeting space utilization.

Intelligent software embedded into collaboration tools to assist workers by reducing the information overload and extracting the insights that help them make more informed decisions has emerged as a recent technology tool. The key is to automate the process, so that actions can be triggered as part of a pre-set workflow instead of requiring manual intervention. Robotic process automation (RPA) software incorporating AI and machine learning are increasingly used in contact centers to help engage more effectively with customers and build loyalty. For example, IBM’s Watson Assistant is a virtual assistant developer program that allows enterprises to integrate intelligent bots with business and collaboration applications. Watson can create profiles for each end user’s behaviors and preferences and initiate conversations to make recommendations.

Augmented reality (AR) and virtual reality (VR) are already emerging as key technologies for remote collaboration⁷. Already seeing

⁷ https://www.verdict.co.uk/augmented-reality-ar-metaverse/
widespread uptake in factories and for specific use cases such as engineering design. AR is also poised to start playing a role in offices and for both work from home and field workers.

AR headsets and smart glasses are used to access online environments, like Spatial’s collaboration platform that allows workers to use 3D avatars in a virtual workspace. There could also be augmented versions of collaboration platforms, where people can display digital files and whiteboards inside the virtual space and stream group content to non-participants. Microsoft is betting on the integration of augmented/virtual/mixed reality with collaboration and business applications. In particular, the Microsoft Mesh mixed reality platform will enable geographically distributed teams to join collaborative and shared holographic experiences on various devices.

Facebook is also active in the space, with the company’s Horizon Workrooms already available in beta version after being trialed internally for the last six months. As with Mesh, Workrooms promises a more immersive and richer interaction with co-workers as compared to simple video calls. Workrooms also reflects Facebook’s long-standing belief in the future of mixed reality platforms and the company’s own expectations that a large proportion of its workforce will work remotely in the future. Other vendors are bound to follow suit with their own offers over the coming months.

Productivity tools emerge as a critical area of investment from the GlobalData Professional Services Study, with almost 50% of respondents planning to invest in it. The increase in remote work has seen a reported spike in the use of tools that let employers track what their employees are doing and how long they spend doing it. Examples of these tools include ML software that measures how quickly employees complete different tasks and suggests ways to speed them up. While AI and advanced analytics allow employers to assess employee productivity on the basis of outcomes rather than presence, the level of surveillance involved may risk undermining trust and to be perceived by employees as an Orwellian surveillance tool.

User experience is also critical to enable a productive digital work environment. Simplicity of use will help remote workers not only remain productive, but also lessen meeting fatigue. Businesses will also want to ensure that remote workers feel as engaged and included as on-site employees. Cisco is providing noise cancellation and speech enhancement technology across its portfolio via its acquisition of Babble Labs. This transaction complements Cisco’s focus on secure collaboration by processing noise removal 100% at the source where the noise happens. Microsoft is redesigning the calling interface in Teams to place contacts, call records, and voicemail messages side by side and make them accessible with one click.

Cloud

Even prior to the pandemic, firms were exploring more extensive cloud deployments. In many cases staff who often work remotely and increasingly rely on cloud-based applications validated the benefits of on-demand IT consumption benefits in terms of productivity and cost savings.

If anything, the COVID-19 shift to remote work hastened movement to the cloud, with cloud spending during the early part of 2020 increasing dramatically. And this trend continues, with the top four hyperscalers continuing to experience strong revenue expansion in 2021. Alibaba, Amazon Web Services, Google Cloud, and Microsoft Azure combined are projected to bring in more than $115 billion this year in cloud revenues.

With many legacy apps and varied compliance requirements, and corporate mandates dictating some application workloads stay on premise, hybrid cloud is the preferred choice for professional service firms. Hybrid environments introduce extra challenges around management and orchestration.

Partner ecosystems that include the hyperscalers, vendors, and telecom operators are emerging to provide all of the elements enterprises need to manage and secure these environments. Telecom providers who deliver secure cloud connectivity services across hybrid and multi-cloud environments may have an opportunity to help professional services firms navigate the management and security across hybrid environments. There has been a
Collaboration case study
Global consulting firm

Challenge:
Firm does not have a standardized solution companywide for Voice and Collaboration, in addition employees experienced poor voice and video quality.

Solution:
AT&T assessed the needs of the firm including Brand Impact and recommended a global solution that fits current and future needs and balances costs and revenue impact. Firm adopted an AT&T Solution with Cisco Webex – Cloud Connected Audio and Hosted Collaboration. In 2 weeks, AT&T implemented the platform that met the firms needs for legacy integration with the flexibility to add future strategic capabilities as business needs arise.
tremendous uptick in cloud-based collaboration growth with Zoom’s 326% 2021 revenue expansion over the prior year a proof point of that.

Organizations are also assessing the current state of their cloud deployments. Many of the pandemic-driven cloud migrations that took place in 2020 were so rapid-fire in nature that some management and security elements were left out of the equation. Enterprises are working through corrections, addressing gaps, and considering new vendors to close gaps and better orchestrate these environments.

Security

The pivot to work from home/distance learning was swift and, in many cases, not carefully executed from a security perspective. Key security elements such as anti-malware, multi-level authentication, and end point protection weren’t always incorporated into new hybrid or remote work operations exposing vulnerabilities that cybercriminals were all too quick to exploit. As noted earlier, the number of ransomware attacks rose by an astounding 150% in 2020, according to research from firewall vendor SonicWall. The number of ransomware incidents continues to soar, with security vendor CheckPoint reporting a 102% increase in 2021 with the costs associated with these attacks having more than doubled. COVID-19-related phishing scams became an even more prominent issue early in lockdown, underscoring the need for more comprehensive and effective security awareness training. The overall increase in threats drove firms to reevaluate their acceptable use policies to educate remote users how to better protect themselves and corporate data from exposure.

Security is an acute pain point. In a 2021 GlobalData survey of 205 enterprises, 37% ranked cybersecurity in their top three challenges.

More firms are incorporating security policies specific to remote work such as multi-factor authentication as they prepare for potentially permanent hybrid or remote work models. Firms are also re-examining what changes they need to make with respect to identity and access management to address hybrid work environments.

Identity and access management (IAM) is rapidly evolving as enterprises move more workloads to the cloud. With no real perimeter walling off virtual cloud environments, organizations need a security mechanism to tap into assets that potentially are running across multiple provider environments. Cloud-based IAM solutions provide that function for both remote and in-person work staff.

SASE is a big part of the future of work conversation. Network service providers and technology vendors are working in tandem to drive home the concept. While the approaches will vary based on specific enterprise need, there is an understanding that security needs to be an integral element in network and application delivery. And security policies need to be developed and executed on as part of a unified process which extends corporate IT security controls to the home network.
“Security is an acute pain point. In a 2021 GlobalData survey of 205 enterprises, 37% ranked cybersecurity in their top three challenges.”
The new hybrid world of work creates new challenges for decision makers, with a large pool of hybrid employees requiring the ability to access key enterprise applications and corporate data regardless of location. Employees need to have reliable and highspeed connectivity, as well as the right tools to engage and collaborate with their fellow employees that are following a hybrid work model. With remote work now a permanent feature for many, firms should give the same attention to health and safety and welfare considerations as to those working in corporate premises. As well as connectivity and software tools, this can cover the provision of basic resources such as keyboards, suitable monitors, and other relevant CPE.

Enterprise collaboration tools are an area of rapid innovation, with the recent inclusion of embedded intelligent software to assist workers by reducing the information overload and extracting the insights that help them make more informed decisions. The next iteration will see growing support for features such as AR and VR, building on the era of increasingly ubiquitous connectivity and taking remote collaboration to new levels.

The shift to remote work has further accelerated the migration to cloud-based infrastructure and services. These solutions are well suited to the needs of a more dispersed workforce, while for the firm they offer advantages around ease of deployment, scalability, and cost effectiveness. Partner ecosystems that include the hyperscalers, vendors, and telecom operators are emerging to provide all of the elements enterprises need to manage and secure these new work environments. Telecom providers who deliver secure cloud connectivity services across public and private clouds may have an opportunity to help professional services firms navigate the management and security across hybrid environments.

From an enterprise perspective, there is the overriding need to balance the user experience for remote staff with security considerations. A more distributed workforce, with a growing number of connected devices, significantly increases the surface area vulnerable to attack, with numerous datapoints showing that threat actors have been quick to act upon these opportunities. The need to adopt solutions based on the principles of SASE and zero trust is set to increase rapidly, with the need to take a holistic view of networks, security, applications, and devices as part of an integrated IT estate.

With the right solutions in place, technology can help ensure that employees are able to work effectively regardless of location, whilst enterprises are reassured that key considerations around cybersecurity are not compromised. Continued innovation of these connectivity, security, and collaborative tools will help businesses adapt to the changing realities of work, continue to make informed and proactive business decisions, and to deliver a more inclusive employee experience as the hybrid workforce becomes the new norm.
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