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Teleworking is the Future, and Purpose Built Infrastructure Will Get Us There

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As businesses move beyond the digital frontier, they're embracing new business models made possible by sophisticated technology – from experimenting with artificial intelligence to pushing the limits of software-defined networking. In this environment of rapid change, remote workers play a critical role as firms outgrow office-centric thinking. Last year, the number of workers telecommuting rose to 37 percent, as more employers tap into the flexibility and productivity benefits of "work-from-anywhere" arrangements. Even so, the rise of the remote worker has forced businesses to find solutions to new employee communication challenges.

The web as we know it was not designed with the voice and video needs of today's businesses in mind, and remote workers are casualties of this fact. Adding to the challenge, Internet Service Providers, (ISPs), haven't uniformly invested in the robust yet costly infrastructure necessary to ensure high fidelity voice over internet protocol (VoIP) calls. In search of a solution to subpar VoIP performance, many companies are laying blame at the feet of their Unified Communications (UC) providers.

Cloud-based UC services can offer a consistent and responsive user experience across multiple devices, ensuring that an employee across the country can seamlessly work and collaborate as needed – regardless of device. In many cases, the quality of this experience is highly dependent on the Internet connectivity of the end user. When paired with a slow, unreliable Internet connection, even the best tools will frustrate teleworkers. Facing mounting pressure from their clients to provide consistent call quality in all environments, UC providers need new solutions.

Not every answer to inefficient and sometimes unreliable Internet routing is equal. The primary differences between UC providers' approaches lie in back-end infrastructure; choices made here dramatically alter the end user's experience and quality of service. Behind every great UC platform is a well-engineered, fast, and powerful network. As UC providers scout for more reliable alternatives, purpose-built infrastructure is beginning to play a leading role in defining the future of the teleworker.

New technology meets old infrastructure

While many firms have accommodated and even encouraged remote workers, teleworkers often struggle with unique communication challenges. Even when teleworkers have access to a UC platform, their experience remains far from ideal. Frequently, remote workers contend with poor call quality and a highly-fragmented user experience. Throughout the call, there may be notable delays in voice transmission, leading to frequent interruptions and cross-talk. In some circumstances, the call might drop completely.

Traditionally, businesses could rely on Multi-protocol Label Switching (MPLS) or a competing protocol to ensure reliable and high fidelity communications. Unfortunately, MPLS-capable infrastructure bears a high cost for both customer and provider as it requires a dedicated circuit to be provided by the Local Exchange Carrier (LEC). These circuits typically take weeks, if not months, to provision or reconfigure. The capital expenditures and support staff required to maintain such networks limit the reach of this approach to headquarters or large branch offices, leaving plenty of forward-thinking organizations poorly equipped to cope with the rise of teleworkers.

Networks designed for the Internet age

Businesses can't afford constant disruptions to their internal or external communications, and foregoing the benefits of a mobile and remote workforce simply isn't an option for most organizations. Firms have put pressure on their UC service providers to resolve longstanding quality issues, and these providers are increasingly seeking new solutions to reduce the network latency, jitter, and packet loss that all contribute to poor call quality.

Today, most UC solutions providers route calls over the public Internet, which can be cost effective but often affects the user experience. Internet traffic does not take the most efficient path; it takes the most cost-efficient path, resulting in sub-optimal routing. While some level of degradation is acceptable, real-time voice communication is particularly vulnerable to poor network performance. While you can wait for a video to buffer, delays in transmitting or receiving real-time voice data can easily break down the flow of a call or render speech unintelligible. To meet the needs of remote workers and their employers, UC providers must look to their own partners' infrastructure.

Increasingly, UC providers are turning to purpose-built infrastructure to improve their service quality. However, many VoIP providers today are not true providers; instead they are VoIP re-sellers who rely on another company's infrastructure or resources, often connecting with them on the same public Internet connection that they use to connect to their customers. While these re-sellers have presented an affordable and reliable solution for UC providers in the past, new business demands are making these arrangements untenable.

The infrastructure teleworkers need

Purpose-built infrastructure leveraging technologies such as MPLS-TE and Anycast, along with a dedicated fiber backbone, can provide the speed, reliability and interoperability remote workers and their UC providers require. While a dedicated network is a boon in its own right, optimized traffic routing, better integration with UC platforms, and end-to-end VoIP support can make a remarkable difference in call quality, particularly for a decentralized workforce. Businesses have long recognized the need for enterprise-grade communication infrastructure between offices, and the rise of the teleworker demands that businesses and UC providers offer the same level of support to their off-site employees.

At the same time, UC providers leveraging purpose-built infrastructure can better integrate effortless calling functionality within the services they offer and support. Rather than simply linking an end user via call forwarding, customers can place calls from within the UC platform directly. This allows tighter integration to be achieved via application program interfaces (APIs) – allowing businesses to unify their communications into existing software such as customer relationship management and help-desk software.

As teleworkers continue to play an important role in their organizations, easily accessible, more integrated, and highly-reliable real-time communication will become central to business success.

UC providers face mounting pressure to improve call quality in distributed environments. Leveraging a purpose-built infrastructure is critical to addressing this concern.

From a remote employee's perspective, instead of having to use two phone numbers (office and mobile), with the right UC provider and underlying network, the highly-productive workflow possible in a physical office can remain largely unchanged. Disruptions from poor app integration and subpar call quality remain the only obstacles. Remote workers are only truly untethered from the office when they can expect the same call quality no matter their location, taking advantage of enterprise-grade communications infrastructure no matter their distance from corporate HQ. As employees push for greater workplace flexibility and businesses seek to remain agile, private communication networks will be the key to supporting a truly global workforce.