Lippis Report

White Paper

Network Security 2.0

Deploying Teleworking Solutions in Scale: Part 1

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by

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Deploying Teleworking Solutions in Scale

Working from home has always been a different IT experience than being in the office. Home connectivity was restricted to dial-in, VPN and client-based solutions. Voice service was usually the house phone. Then broadband came to the market and connection speeds ramped up, offering faster application performance, which was better but still a major downgrade from the office IT experience. This poor experience dampened the growth of teleworking, which was good news for most IT leaders as their concerns were security vulnerabilities and management. But with advanced integration of networks and communications the gap between office and home IT experience is closing fast. In addition a confluence of factors ranging from green initiatives to governmental requirements, work-home life style changes, business expense controls, business continuity and new teleworking solutions are giving business and IT leaders the motivation to embrace and massively deploy teleworking solutions.

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There have long been inhibitors to massive teleworking deployment. IT management has been concerned with the lack of security measures to close vulnerabilities and mitigate exploits from propagating into corporate IT assets from thousands if not more home connections. Operating and managing thousands of far-flung connections is their other inhibitor. Business managers have been concerned with a potential drop in productivity as home workers may be distracted from their work. In short business managers did not have the proper level of trust with their staff and were unfamiliar with a remote working model. Employees need a certain amount of face time with other employees to establish relationships and trust before they can be productive working at home too.

For teleworking solutions to be successful they need to bring office-caliber resources and the office experience to employees working at home or in very small offices. Teleworking individuals also gain value by reducing their commute times and gasoline consumption, and experiencing a more balanced lifestyle in a work/home environment. IT leaders need to be assured that back-doors into their IT assets are closed and secure and that managing thousands to tens of thousands of remote home connections do not require new IT staff or overburden their existing operations. For business leaders teleworking offers a range of benefits including access to a larger labor pool, office expense reduction, increased productivity, a green initiative, gaining tax incentives, business continuity and much more. In short business leaders are starting to understand the value and benefits of the remote working model.

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And it's good that there is something positive for all three stakeholders — users, IT and business leaders — because the world market of teleworking individuals is large and getting larger. The worldwide corporate teleworking population of individuals who spend at least one day a month teleworking from home will show a compound annual growth rate (CAGR) of 4.3% between 2007 and 2011, according to Gartner Group. This population will reach over 112 million by the end of 2011. In the same period, the worldwide corporate teleworking population of individuals who spend at least one day a week teleworking from home will show a CAGR of 4.4% ballooning to 46.6 million by year end 2011. The big teleworking markets are the US, Western Europe and Japan with Asia/Pacific lagging behind.

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There are five fundamental drivers fueling the above growth in teleworking:

Business Dynamics and Benefits: A few fundamental business trends are feeding the need for increased teleworking. One strong trend is globalization being prevalent throughout many different industries which forces business managers to keep their operations agile by attracting and finding talent wherever they reside. The old model of hiring skills that are local to physical facilities is outdated as business leaders are both forced to expand their labor pool reach by plugging remote employees into the corporation. The workforce has and will continue to be distributed. In fact, 62% of corporations have added new branch offices, accounting for an 11% year over year

growth in their deployments according to a recent Nemertes Research study. Further, the majority of new hires are now targeted to branch office staffing ranks. Eight out of ten new hires are staffed into non-headquarter facilities with telecommuting being the natural extension of this new business model. The motivation? Simply to be close to customers, talent attraction, gaining the best skills available on the global stage and maintaining operations when or if man-made and/or natural disaster hits.

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Business and IT leaders are continually reviewing operations to reduce expense. For telecommuting initiatives real estate downsizing and energy consumption are two of the largest operational benefits. From a cost of deployment point of view, the relationship between Total Cost of Ownership (TCO) and Return on Investment (ROI) is inversely proportional to each other. Upfront capital acquisition is off set by lower operational facility cost plus higher productivity, returning the investment over time. In fact, American Century Investments justified the acquisition cost of its 100-plus teleworking solution with reductions in wide area facilities cost. In short, wide area cost savings of reduced PSTN lines and bulk broadband purchases provided the dollars to fund the capital cost of its teleworking solution.

With teleworking solutions scale is important and centralization of complexity allows for a quicker return as new remote sites are added with essentially the cost of the teleworking equipment (a network device and IP phone).

Technology Enablement: The convergence of multiple services and technologies into one small package that exploits a broadband connection are the main contributors to the high growth in teleworking. Being able to integrate unified communications, IP video services, firewall, intrusion prevention, content filtering, routing, switching, wireless LANs services and application delivery into one device that operates over a high speed broadband connection nearly eliminates the office-home IT experience gap. This advanced integration of networks and communications enables teleworkers to be just as productive as they are in the office by delivering nearly the same application performance and communication options available in the office. In short some teleworking solutions are delivering a virtual office experience such as Cisco's new Cisco Virtual Office announced September 9, 2008.

For IT management, new teleworking offerings provide solutions to network security and scale. Some teleworking solutions have centralized complexity and distributed functionality so that adding new home users is straightforward and does not require user configuration. The use of tunnels for voice, data and management allow IT personnel to perform routine tasks such as updates, download policy rules, new configurations, etc. to thousands or tens of thousands of telecommuters with zero user touch. Layered identity- based security authenticates and identifies both user and device, isolates domains and locks out stolen/lost or hacked devices. In addition updated exploit signatures are distributed to teleworkers centrally by IT operations assuring business managers that their IT assets are protected with the latest defenses. All of these operations are performed without the teleworker having to touch their computer, network device or IP phone, a huge advantage for both teleworkers and IT management and a departure from past approaches.

Productivity: With high speed networks and integrated communications teleworkers now have access to all the resources, tools and technologies that they need to be as efficient and productive in a home office as they are in their corporate offices. Many find that they are more productive in their home office as they are able to focus with minimal interruptions. To address business manager concerns about keeping remote employees productive and plugged in, there are a wide range of communication tools available including UC,

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social networking sites such as Facebook and twitter, instant messaging, IP Video conferencing, etc.

In particular Facebook pioneered a concept called the News Feed which has been widely adopted by other networks. When you log into Facebook, you're treated to an immediate stream of information about other people in your network. You immediately know about changes in their lives or schedule, when and where they've gone on vacation, what project they're working on, what they're reading, what conferences they're attending and what they think you should be reading and attending. Other services like FriendFeed have expanded this idea to a broad range of online services. Twitter adds immediacy that other services don't. The "friending" feature of social networks is the single most important factor that can keep remote employees plugged into the organization. Instant Messaging (IM) is the replacement for the water cooler, offering quick messages between staff or small talk. Unified Communications (UC) brings all the corporate voice services such as presence, direct dial, call log, directory, click-to-call and click-to-conference to the home office. In addition corporate collaboration tools such as webex allow remote employees to host or be a guest in customer and employee presentations and meetings while click-to-conference enables life video sessions between teleworkers and other employees.

Business Continuity: Business continuity or employee resiliency is another important driver for teleworking. Having a large teleworking infrastructure allows businesses to be productive and continue essential operations during disasters such as pandemics and massive storms plus man-made disasters by keeping key employees networked from home.

Regulation and Corporate Green Initiatives: Consider that a typical US employee commutes approximately 7,000 miles per year. On average there are .45 tons of CO_2 emitted into the atmosphere for every 1,000 miles driven. Gartner says that there are 13.3 million US telecommuters working at home at least one day a week. These teleworkers save some 8.5 million tons of CO_2 from being emitted into the atmosphere and as the price of gasoline rises they also save disposable income.

This math is becoming well understood around the globe. Many governments including the US, Japan, France, Sweden, Germany, et al have mandatory requirements for government workers to telework while providing business incentives to do the same. In central London a congestion charge is imposed on motorists in downtown areas to provide additional incentive to telecommute. The same was proposed in NY City. States like Washington are legislating telecommuting, requiring Seattle to penalize companies for not reducing year-over-year average employer commute times. Look for only more business incentives and regulations to cut down CO_2 emissions and traffic congestion.

Some business and IT leaders questioned the energy savings benefits of teleworking as they believed that energy consumption shifted from corporate to personal. Sun Microsystems commissioned a study to address this question and found that an employee working from home consumed less than 50 percent of the energy that would have been spent if they had come into the office. The findings of this study put an end to questions about teleworking energy conservation.

The above five drivers are replacing old inhibitors with strong motivation to business and IT leaders to develop and deploy massive teleworking initiatives. In Part 2 of "Deploying Teleworking Solutions in Scale" we'll focus on different uses of teleworking and provide a teleworking architectural view and framework that business and IT leaders can use as they plan their own initiatives.