White Paper

Get Lean and Green Fast with Telecommuting

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Executive Summary

Similar to the quality control movements of the late 20th century, becoming a green enterprise today may provide your business a competitive advantage. Very soon however, being a green enterprise will be an operational imperative while also bringing your organization considerable savings.

Fortunately, enterprises can substantially reduce both their operational costs and carbon footprint by making one simple change: introducing a telecommuting program for knowledge workers.

But why now? Why should you seriously consider embracing a telecommuting (also called teleworking) program at this time? Here are a few compelling reasons:

- Global Talent: Globally distributed organizations compete for globally dispersed talent. Telecommuting programs help you attract talent far from your traditional headquarters or physical office buildings.

- Young Talent: Today's college graduates expect and demand the flexibility of telecommuting. Not having these programs hampers your ability to recruit the young talent your company needs.

- Loyalty: Telecommuting programs create a greater sense of loyalty in your workforce. These programs reduce (or eliminate) your employees' need to commute. This literally gives them hours of their lives back while also saving them money and reducing their personal carbon footprint. An employee who enjoys the financial benefits and flexibility of telecommuting is hard for your competitor to lure away.

- Pay for Less Energy: Telecommuting programs decrease office-based energy consumption because the telecommuter bears the energy costs for their remote office equipment.

- Use Less Real Estate: Telecommuting programs reduce the amount of office space required, saving your company huge sums of money year after year.

Additionally, an organization with telecommuting programs can market itself as a green employer, thereby attracting an increasing number of candidates who openly value environmental responsibility.

This paper will define different telecommuting models and show how companies are doing telecommuting across the globe. Lastly, it will demonstrate how Siemens Enterprise Communications Group has significantly cut expenses by adopting green telecommuting and how you can do the same.

Contents

Section 1

Commuting, Telecommuting, and the Environment

According to the US-based Carbon Dioxide Information Analysis Center (CDIAC), per capita, Americans produce 20.6 metric tones of carbon dioxide (CO_2) annually. About half of this figure (10 tons) lies within the direct control of the individual. And approximately 40% of controllable emissions can be attributed to commuting. (Sources: Clean Air Cool Planet and Amtrak)

Though the United States is one of the greatest per capita CO_2 producers, other countries also struggle with similar ratios. For example, the average commute distance in the U.S. is approximately 18 miles one-way. In Europe, the average commute distance is shorter, averaging only 13.7 miles each way. Yet commute times in Europe are longer, and characterized by cars idling in traffic - which produces more CO_2. The United Kingdom, for example, has the longest commute in the EU, averaging 45 minutes with Germany following closing behind with an average commute of 44 minutes. Not surprisingly, the UK has the highest per capita carbon footprint in Europe (CDIAC).

Telecommuting has become a powerful means for counteracting the impact of commuting to work. A study commissioned by the U.S. Consumer Electronics Association (CEA) reported that telecommuting saves 9 -14 billion kilowatt-hours of electricity per year – the equivalent energy to power one million U.S. households. The study also estimated that the country's 3.9 million telecommuters reduce fuel consumption by about 840 million gallons and carbon dioxide emissions by nearly 14 million tons annually. Europe reported 4.5 million telecommuters in 2007 and an expected 17 million by 2010, whose commute avoidance will likely have a similar positive impact on the environment.

Nearly 40% of voluntary CO_2 production is a direct result of commuting to work.

Indeed the environmental impact of office buildings is one being taking seriously by governments and corporations around the globe. Japan for example, now provides tax breaks to companies that offer telecommuting to employees. In Thailand, 40% of staffers within the Fiscal Policy Office, a unit of the government's Finance Ministry, are eligible to work from home one day per week. In the United Kingdom the Climate Change Levy (CCL) is a tax on energy delivered to non-domestic users, which provides an incentive to businesses to reduce energy consumption and carbon emissions.

Going green enterprise today may provide your business a competitive advantage. Tomorrow being green will be a competitive imperative – luckily one that will afford your organization considerable savings.

Section 2

Telecommuting Defined

According to the Canadian Telework Association, "Telework, often referred to as telecommuting, occurs when paid workers work away from their normal place of work, usually from home. Organizations that have the greatest success with telework tend to integrate telework so that it fits within their existing legal, financial, administrative, human resources etc. infrastructure. They ensure that telework is voluntary, subject to management discretion, operationally feasible, and results in no additional [net] costs."

Although a telecommuting program can be implemented in many ways, all forms of telecommuting share two common characteristics:

- Geographic distribution of an organization's workforce

- Access to enterprise-based communications and applications

Following are descriptions of common telecommuting models:

Partial Telecommuting: By far the most common form of telecommuting is that which involves an employee working both at home and in the office. For example, an employee may work two days per week in the office and three days per week elsewhere, such as at home or at a client location. Ideally, this model involves a "hot desking" or desk-sharing program in which an enterprise makes in-office work stations available to remote or mobile employees as needed. In this model, an employee requiring in-office work space simply "signs-in" to a desk for the day. Since telecommuters spend much of their time off-site, the enterprise supplies fewer workstations than employees' – typically one work station for every three telecommuters. This model enables significant savings in real estate, equipment, and energy needs, all with a reduced environmental impact resulting from commute avoidance.

Pure Telecommuting: Less common, but increasing in popularity is the pure telecommuting model in which an employee works almost exclusively from their home office and requires no in-office space. There are many instances when a pure telecommuting model makes both business and environmental sense, such as in sales and consulting organizations, or when an organization must expand its talent search beyond an immediate geography.

Teleworking in the Contact Center: As the world seemingly gets smaller and organizations increasingly offer "follow the sun," 24/7 customer service and support, more and more contact centers are staffed by remote, home-based agents. The telecommuting model in the contact center makes it much more feasible to staff part-time employees to cover peak hours or even unexpected spikes in call volume. A spokeswoman for JetBlue Airways explains, "When things get busy, like in a weather event, we can send an email to all [at home] agents asking them to log in to help. The response is immediate – we don't have to wait for them to come in."

For a contact center, telecommuting enables substantial benefits. Beyond real estate savings and the high-cost of paying idle agents, telecommuting provides an employment perk which keeps agents loyal in positions that have notoriously high (and expensive) employee turn over. Additionally, the commute avoidance enjoyed by remote agents reduces both fuel consumption and CO_2 emissions. Palo Alto-based LiveOps, a distributed call center operation, contracts with over 10,000 remote agents working out of their homes, saving $4.2 million annually in commuting costs.

According to WorldatWork, at least 12.4 million U.S. workers telecommute at least one day a month with an estimate that over 100 million will be doing so by 2010.

Teleworking Practicalities: In order for telecommuting to truly work – for the organization, its customers and its employees – the telecommuter needs full access to in-office applications and communications such as email, the company Intranet, a single business telephone number, voice mail, conferencing features, critical business applications and ideally video conferencing. Telecommuters shouldn't be incurring extra communication expenses that are cumbersome to bill back to the company, and often, far more expensive than the communications available via an enterprise-based system. Common and expensive "workarounds" include using a cell phone as a primary business phone, making international calls from a home phone or billing day-to-day communications to a corporate calling card. A sound telecommuting program eliminates the need for these costly practices by providing employees with the communications infrastructure they require to work productively and cost efficiently at home.

Teleworking Infrastructure: Technologies like IP telephony, unified communications, and high-speed internet allow both partial and pure teleworkers access to the communication tools necessary to execute their jobs from home offices. Additionally, high-speed internet connections to homes have proliferated over the last decade, making remote access to enterprise network systems fast and efficient. According to a 2008 Gartner report, approximately 54% of U.S. homes now have high-speed access. The penetration rates are even higher in the Netherlands, Switzerland, United Kingdom, France, Sweden, Belgium, South Korea, Hong Kong, Canada, Singapore, and Taiwan. Gartner predicts that the U.S. internet penetration rate will increase to over 77% by 2012. Indeed the proliferation of in-home, high-speed internet access, coupled with advances in enterprise IT security, underscore the steady increase in teleworking that the U.S., Europe, and Asia have seen in recent years.

Section 3

Green and Beyond: The hard and soft benefits for the tele-commuting organization

"Fortunately for the environment going green reduces both carbon footprints and costs," writes Tim Clark of the FactPoint Group, a Silicon Valley research firm. Going green with telecommuting affords benefits well beyond costs. Key areas where telecommuting programs deliver additional value to an organization include:

- Corporate Responsibility: If you haven't noticed, going green is today's hottest and most widespread trend. In business and society in general, being green improves your image. For a business, this means being better positioned to attract a fast-growing segment of environmentally aware – and demanding – customers and employees. A sound telecommuting program is an effective way for enterprises to get in on the green scene while creating substantial real estate and energy cost savings.

- Regulation and Incentives: If green regulation hasn't yet affected your business, it may soon. And there is no better way to get ahead of the regulation curve than to start now. For example, in June 2008, the United States House of Representatives voted to require federal agencies to expand telecommuting within their workforces. Similarly, the Japanese government offers tax breaks to companies that have teleworking programs and in Singapore a special fund supports companies that implement family-friendly programs like telecommuting.

- Employee Talent: In a May 2008 online survey, the Telework Coalition found that 87% of respondents would limit a job search based on potential commute costs. In fact, 28% of respondents said they were already looking for a new job because of the cost of commuting. By offering teleworking to key employees with skill sets that are hard to replace, enterprises build loyalty by enabling a better work-life balance, while minimizing employees' commuting expenses.

- Workforce Productivity: It's no secret that happy and relaxed workers are more productive than those who are overwhelmed and stressed by the challenges of balancing family obligations, a long commute, and a full-time job. In a 2008 survey by Computing Technology Industry Association (Comp TIA), 67% of respondents said their organizations were productive thanks to part-time and full-time telecommuting. Similarly, in the March 2008 issue of *The TeleWorker*, American Express claimed that its telecommuters produce 43% more business than in-office workers.

- Business Continuity and Disaster Recovery – Natural disasters, the threat of terrorism, and workplace violence have all forced companies to look at different ways to protect their most valuable asset – their people. Increasingly organizations are looking at Business Continuity Planning (BCP), and while most managers view IT systems as the major component of a business continuity plan, teleworking plays a vital role in keeping operations going should something happen to the corporate office.

- Availability to Customers: Customers need access to your organization, and increasingly expect support outside of standard business hours – particularly in a crisis. Delivering this level of customer support – whether in a formal call center setting or simply increasing the hours of availability for customer-facing employees – is greatly eased by providing employees easy access to enterprise communications from their homes.

In the face of disaster it's often teleworkers that keep a business running when the corporate office is not accessible.

Section 4

Who is Doing It

It's true. Many companies are already doing it. In an April 2008 survey, WorldatWork found that 42% of U.S. companies have a telework program, up from 30% in 2007. In Canada, the 2008 figure jumped to 40% from 25% in 2007.

Let's look at how enterprises today have mainstreamed teleworking within their organizations and, in the process, garnered many of the benefits we've already discussed.

- IBM: IBM has two programs that reduce the commute to work for its employees. One is based on the pure teleworking model and designates the home office of participants as the employees' primary office. The second program, the Mobile Employees Program, uses a partial teleworking model, allowing employees to work from home a designated number of days each week. More than one-third of IBM's global workforce (more than 100,000 employees) participates in one of these two flexible work programs. The programs are instrumental to helping employees better balance their personal and work responsibilities while delivering a concrete benefit to the environment. In the United States alone, IBM's work-at-home programs conserved approximately 8 million gallons of fuel and avoided more than 61,600 metric tons of CO_2 emissions. This directly contributed to IBM's rank of 15th on the list of FORTUNE 500 companies participating in the U.S. EPA's Best Workplaces for Commuters[SM] program.

- Sun Microsystems: Almost 24,000 Sun employees worldwide work away from the office 1-2 days per week. In 2007 the company's teleworking program prevented 32,000 metric tons of CO_2 release into the atmosphere. On average employees saved 104 hours per year (2.5 weeks) of commute time and avoided 3,700 miles of driving, $1,770 of car wear and tear, and $870 of fuel (when gas was $3.26/gallon). Sun also discovered that home equipment energy consumption was half that of what is needed for an office employee and, through the telecommuting program, was able to save nearly $68 million in real estate costs. Telecommuters cite Sun's Open Work program as the No. 1 reason they would recommend the company.

- British Telecommunications Group (BT) – At BT over 2000 employees telework regularly and nearly 80% of them state they have become more productive since beginning to work this way. Productivity increases are attributed to reduced disruption, less commuting time, less stress, and greater flexibility about when and where to work. The teleworking program also provides an improved work-life balance which translates directly into decreased absenteeism. An average BT teleworker is absent only 3 days per year as compared to 12 days for their office-based counterparts. Not only does BT understand that their telecommuters are more productive but the program also has saved the company over $51M in real estate, recruiting, and absenteeism costs.

- Matsushita Electric Industrial Co: One of the largest consumer electronic firms in the world, this Japanese powerhouse allows nearly half of their 76,000 office-based employees to work from home once or twice a week. The program was introduced in response to work culture changes throughout Japan, which now encourage flexible work models in hopes of increasing the country's birth rate and accommodating an aging population. "The program will allow our employees to have job flexibility to take care of children or the elderly," says company spokesman Akira Kadota. "On the other hand, it will allow the company to secure talented workers as the country is faced with the problem of an aging society. We have to change ourselves in accordance with a change in society."

- JetBlue: When JetBlue first offered telecommuting to their reservation agents in the year 2000, the airline employed forty agents, seven supervisors, and four support staff people. By 2006, the call center workforce had grown to 1,500 agents. Now 80% of their reservation agents work from home. The company reports that the move to telecommuting has increased productivity while avoiding the use of expensive office space.

- LiveOps: LiveOps, a leading distributed call center headquartered in Palo Alto, California, stated in a 2007 press release that its use of home-based customer service agents has avoided the use of over 1. 4 million gallons of fuel per year and the associated carbon emissions. By working from home, LiveOps' 10,000 home agents have saved a staggering $4,281,248 ($3.00/per gallon) in gas money. According to CEO Maynard Webb, "Companies and governmental organizations are all finding ways to support the cutting of carbon emissions. One by one, 10,000 LiveOps home agents are helping, too. By running their own home-based businesses, home agents have cut out their daily commutes, saving them time and money and also sparing the environment."

LiveOps remote agents are avoiding the burning of 1,427,028 gallons of fuel each year.

Section 5

Why Siemens for Green Telecommuting

For over a decade, Siemens has embraced telecommuting as a way of promoting a better work-life balance while improving the business' cost structure.

Since the 1990's Siemens has embraced telecommuting for its knowledge workers. As IP technology has advanced and remote access has became more pervasive, Siemens continues to enhance our telecommuting portfolio by delivering solutions that make teleworkers more productive. Out of 2,600 North American employees, Siemens Enterprise Communications provides complete remote worker service to approximately 500 remote workers. Remote workers are issued an IP phone for their home office, as well as access to unified communications tools including video and audio conferencing. Remote workers also easily access additional corporate tools such as email and various business applications. By leveraging IP technology Siemens has seen a 70% reduction in the cost to support remote workers as well as significant productivity improvements. These 500 remote workers have collectively avoided the annual consumption of over 107,000 gallons of fuel and the associated 1,750 metric tons of carbon dioxide they would have produced while commuting.

With operations worldwide, a Siemens teleworker benefits from the ability to view the availability status of colleagues around the globe. Unified Communications tools like secure instant messaging, audio conferencing, video conferencing, and web collaboration streamline communications, which enable workers to transcend barriers of time and distance inherent in global business. For example, instead of driving to the office for a video conference call between team members located in the U.S. and Germany, Siemens teleworkers access tools such as OpenScape UC Application, OpenScape Video, and OpenScape Voice from the comfort of their homes. This is a crucial capability for teleworkers to have access to, especially when collaborating across time zones involves non-standard work hours for some team members.

Environmental responsibility is also deeply engrained into Siemens corporate culture and global business practices.

In 1993, Siemens was among the first companies in the telecommunications industry to consider the environment in the design, manufacturing, deployment, and recycling of its enterprise equipment. We took this approach as a matter of corporate responsibility.

Since then, we have made great strides in lowering the capital and operating costs of our equipment. We've done so by carefully evaluating the holistic product life cycle, the total energy consumption of our solutions and components, and the business process efficiencies that our communications solutions provide. In addition, Siemens has embraced open standards over the years to enable enterprise customers to mix interoperable, best-of-class components with both new and legacy systems – an important design element which enables customers to get the most out of their existing equipment.

Practicing What We Preach.

Starting in 2007 Siemens Enterprise Communications implemented a program that, over a six month period, replaced all PBX hardware in our 19 U.S. offices with a centralized, software-based OpenScape IP Telephony solution. The new solution is housed in a Texas data center and supports both office-based and teleworking end users with a small set of servers. In addition to full-featured telephony, the solution provides Unified Communications solutions including unified messaging, all-media presence and availability information (voice, instant messaging, audio & video conferencing), and workgroup collaboration. The solution is also integrated with Microsoft Office Communicator. By consolidating all voice and data operations and executing telecommuting initiatives, Siemens is on track to realize a payback period of 24 months on the original multimillion dollar investment. Approximately 25% of the savings *are a direct result of telecommuting initiatives*. This includes reduced office space requirements as well as more efficient use of telecommunications services. Thus far the organization has achieved a sizable reduction in travel expenditures using high-definition video and a massive reduction in audio conferencing expenses by using OpenScape UC Application for conferencing instead of paying external service providers. The recent project in the U.S. was just the start. Siemens Enterprise Communications is now implementing software-based OpenScape solutions to unify all communications globally. This will make green telecommuting an immediate possibility for thousands more employees worldwide.

Siemens OpenStage IP phones are the most energy-efficient phones in the industry, utilizing an ultra-low power state that reduces consumption by up to 60% when the device is idle.

Siemens Green Telecommuting Solutions

Siemens delivers a broad range of telecommuting options to our customers with a flexible portfolio of Unified Communications solutions. Taking "telephony as an application" to the next level, **OpenScape Voice** provides optimal and easy-to-implement tools to keep teleworkers productive and in contact with colleagues and customers.

Deploying a remote **OpenStage** IP phone is as easy as plugging it into a teleworker's home network. The user then has access to all the telephony features available to in-office workers. **OpenScape UC Application** allows remote workers to easily make themselves available via a single business telephone number – allowing them to take their voice calls over their

PC, mobile phone, home phone, or in-home OpenStage IP phone. Additionally, the solution provides "presence information," the status and availability of colleagues over any media on any network, greatly easing collaboration of dispersed teams. **OpenScape Contact Center** solutions support remote agents, providing them with all the communication tools they need to deliver top customer service – but without the commute and costly office space. **OpenScape Video** conferencing provides the personal touch for remote workers and can be deployed in multiple configurations ranging from high-end conference room equipment to web cameras on laptops.

Companies focused on the green aspects of telecommuting will see significant savings using Siemens **OpenScape** solutions. For highly distributed organizations, of only a couple hundred or tens of thousands, only two hardware servers are required to provide full IP Telephony capabilities to all end users – whether they work in the office, at home, or both. Compare this to the hardware, energy, and real estate requirement needed to support the dozens of servers required by other vendors for the same functionality, and you'll see what we mean when we declare that Siemens develops and delivers Green IT components designed with power efficiencies and minimal footprints (real estate and carbon) in mind. In fact, our **OpenStage** IP phones are the most energy efficient in the industry, utilizing an ultra-low power state that reduces consumption by up to 60% when the device is idle.

For current HiPath customers, VPN licenses enable remote access to communications and applications such as the company Intranet, voice mail, and HiPath features. Users log-in at home just as they do in the office. When logged in at home the system automatically opens up their in-office IP work station for use by others, such as visitors from other locations or sales professionals who are only occasionally in the office. By using the optiClient softphone (available with ISDN and DSL connections) for voice communications, teleworking solutions can be implemented with no extra investment in telephones. As with OpenScape-based solutions, all the communication features teleworking employees need are available by remotely accessing the in-office HiPath network.

Final Thoughts

If the Green precepts of reuse, reduce, and recycle can be expanded upon to include resources such as – space, equipment, energy, and human capital, than telecommuting is the single best green initiative an enterprise can make. Investment is minimal and the returns are great. Teleworking enterprises vastly improve their corporate image while increasing their competitiveness with a growing segment of demanding and environmentally aware customers. Teleworking enterprises also increase their ability to attract and retain their industry's top employee talent. Over time, teleworking enterprises virtually always experience employee productivity increases and clear cost reductions. Most importantly teleworking programs deliver a measurable impact on the environment – the most significant and enduring advantage of all.

About Siemens Enterprise Communications

Siemens Enterprise Communications is a joint venture between the private equity firm The Gores Group, a leading private equity firm, and Siemens AG. The joint venture incorporates Siemens Enterprise Communications GmbH & Co. KG and the businesses of Enterasys Networks and SER Solutions, creating a new leader in enterprise communications – strong in unified communications, contact centers and secure networks. More than 14,000 employees worldwide follow an Open Communications approach, providing enterprise communications and data networking solutions for enterprises of all sizes. This enables business processes to be more productive, faster and more secure within any network or information technology infrastructure.

For more information about Siemens Enterprise Communications, please visit www.siemens.com/open

Communication for the open minded

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