

NORTEL IT IMPLEMENTATION STEPS FOR A COMPREHENSIVE INTEGRATED WORK ENVIRONMENT



Nortel Best Practice Teleworking that wins awards

Executive summary

For some 15 years, Nortel has actively encouraged teleworking as a way for employees to balance their work and personal lives. Through our Integrated Work Environment (IWE) program, about 80 percent of Nortel employees telework at least once a month, while nearly 10 percent work primarily from home. Each home-based worker saves Nortel about \$9,000 in real estate costs. We've also found that teleworking increases productivity, improves employee satisfaction and

retention, and reduces environmental impact. To achieve these benefits, we provide teleworkers with Nortel unified communications tools carried over a Nortel virtual private network (VPN) infrastructure. Effective human resource practices and office space management are equally important.

Tight integration among Nortel IT, HR and Real Estate ensures that policies, procedures and systems all align to deliver results... to teleworkers and to the bottom line.

Implementation STEPS

Strategy

Nortel employees have been teleworking since 1994. From humble beginnings, teleworking has matured into a component of our comprehensive Integrated Work Environment (IWE) program. IWE recognizes that a growing number of workers are mobile. It provides the technology, the HR policy and the workplace facilities that enable people to work most effectively. IWE differentiates between *home-based workers* (individuals who work predominantly out of

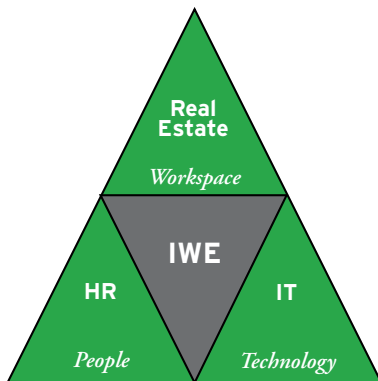
What are the IT Implementation STEPS?

A how-to guide used by Nortel Information Technology in the implementation of a new technology solution or best practice. From implementation strategy to end-user support, our STEPS describe the processes, procedures, tools and/or policies used by Nortel IT including:

- S = Strategy**, preparation and considerations
- T = Timetable** for key activities
- E = Execution** to implement the solution
- P = Prove** to ensure requirements are met
- S = Support** operations of a live service



a home office) and *free address workers* (individuals who work from multiple environments that may include Nortel locations, airports, hotels, customer locations or their homes). A third category of employees, *fixed address workers*, works primarily from an assigned space at Nortel. Home-based workers and free address workers are obviously teleworkers, but many fixed address workers also telework occasionally. In fact, 80 percent of Nortel employees access our network remotely every month.



Nortel addresses teleworking holistically. We've learned that providing the right technology is critically important, but it's not enough. Our teleworking program is run by a combined effort of Nortel IT, HR and Real Estate. As you would expect, Nortel IT provides the communications technology that extends office services to our teleworkers. In addition, Nortel HR has developed the "people policies" to make teleworking fun, fair and effective. Finally, Nortel Real Estate manages and optimizes our office workspace. The IWE program encompasses policy, people, workspace and technology.

Policy

In developing Nortel's IWE policy, we needed to look well beyond the technology. Our IWE policy covers everything from eligibility and approvals to health and safety considerations.

A brief history of teleworking at Nortel

In 1994, a cross-functional team began exploring the telecommuting option for Nortel. We ran pilots at several sites to assess the benefits of telecommuting. These trials evaluated the benefits of telecommuting for employees, their managers and the corporation as a whole. The following year, we transformed the pilots into a long-term program. We provided a consistent set of teleworking guidelines across the corporation, although there were still some variations by region and business unit. In 2004, Nortel Real Estate studied our employees' work habits and use of company-provided workspace. The *Day in the Life@Nortel* study confirmed that employees were abandoning the traditional work environment in favor of work locations closer to customers, work teams, projects and home. Armed with this new insight, Nortel Real Estate, HR and IT partnered to develop a global *Integrated Work Environment (IWE)* program that covers full-time and part-time teleworking along with mobility within Nortel offices.



People

Teleworking must be suitable for the employee's job function and personal situation. We provide guidelines for assessing job suitability, training requirements (employee and manager), team dynamics and feedback requirements. A tool helps employees assess their personal suitability for teleworking and discuss the results with their managers.

Workspace

We optimize workspace utilization by reclaiming office space vacated by teleworkers. Home-based workers must relinquish any dedicated office space in a Nortel building. Conversely, we need to provide drop-in space for teleworkers because we know they will be visiting Nortel offices periodically.

Technology

Our teleworking technology is based on unified communications carried over a VPN infrastructure. It consists of three components:

- Nortel unified communications client
- Nortel VPN infrastructure
- Enterprise IP phone at home

The [Nortel unified communications client](#) loaded on every corporate laptop provides powerful tools for teleworkers:

- Nortel VoIP soft client, integrated with our IP telephony infrastructure to provide single-number reachability for each employee
- Nortel CallPilot multimedia messaging that supports voicemail and fax messages
- Reservationless audio and video conference bridge for each employee, including participant list and chair-person controls
- Rich presence, including “on the phone” status
- Secure instant messaging

Our [Nortel VPN infrastructure](#) provides end-to-end security between the teleworker’s computer and our enterprise network. It enforces our security policies, including access control, authentication and encryption. Nortel VPN TunnelGuard checks for updated firewall and anti-virus protection on the user’s PC before completing the connection. All the user needs is a high-speed Internet connection. Even insecure Wi-Fi networks don’t pose a threat.

For home-based teleworkers, we go a step further to make them technically indistinguishable from their office-based colleagues. We provide a fully featured IP phone at home that offers the same rich features as office-located phones.

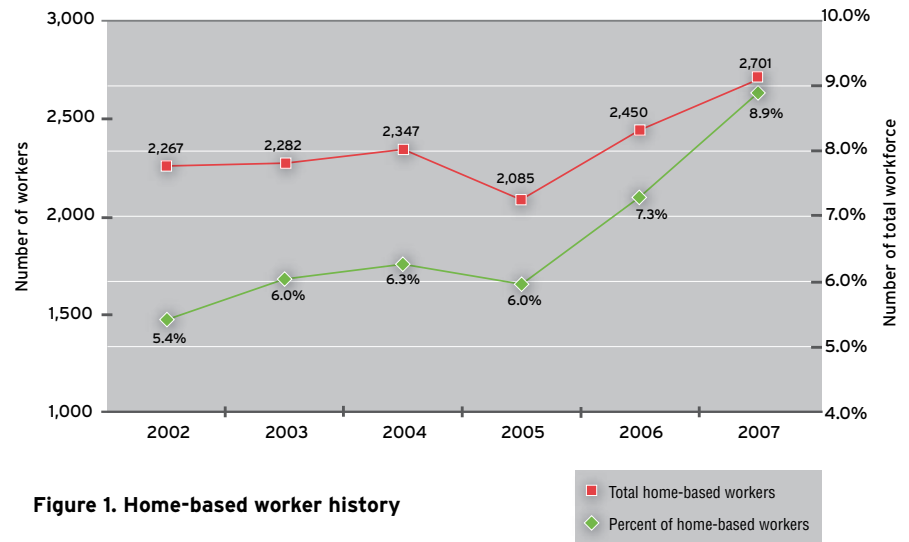


Figure 1. Home-based worker history

Item	Months from start	Notes
Team and plan	0	Assemble HR-IT-RE team and establish plan.
Business case	1	Build initial business case.
Design pilot	2	Engineer solution, select equipment, design pilot trial.
Run pilot	3 - 7	Operate small-scale pilot program. Assess and refine design, technology selection and deployment process.
Teleworking policy	2 - 6	Develop and approve a corporate policy on teleworking. This requires contributions and approval from real estate, human resources and IT.
Approval and registration system	4 - 6	Develop system to handle application and approval for teleworking. It must also keep track of who is officially registered as a home-based worker.
Communication plan	6 - 7	Design plan to communicate teleworking policy to employees.
Prepare launch	8	Complete final assessment of pilot results. Adjust enrollment procedures, deployment procedures and communication plan as indicated. Obtain final approvals.
Limited deployment	9	Deploy teleworking program in a limited geographical area, perhaps one country.
Global deployment	10 - 12	Roll out to the global employee population.

Table 1. Timeframe for fully-supported global teleworking program

The phone is always on, even when the PC is off, and large file transfers don't affect voice quality. The [Nortel Business Secure Router 222](#) protects the solution with enterprise-grade IPsec security.

Timetable

Figure 1 shows that home-based workers grew from 5.4 percent to 8.9 percent of Nortel employees over five years.

Nortel's formal teleworking program began in 1994 and we've been refining it ever since. But it obviously wouldn't take a decade and a half to launch a teleworking program from scratch. If we were to start today, it would take about a year to develop a fully-supported global teleworking program. See Table 1.

Teleworking has matured into a component of Nortel's comprehensive Integrated Work Environment (IWE) program. IWE recognizes that a growing number of workers are mobile.

Execution

Policy

Nortel Real Estate developed our IWE policy in close collaboration with HR and IT. Building on more than a decade of teleworking experience, we assembled a team of experts from the three disciplines to write a policy and a comprehensive set of procedures. Covered topics include:

- Eligibility
- Responsibility and accountability
- Approvals
- Compensation and work hours
- Equipment and tools
- Reimbursement of expenses
- Software licenses
- Security
- Receipt and shipment of goods and documentation
- Handling of proprietary information
- Travel, to the nearest Nortel office and beyond
- Office supplies
- Physical file and document storage
- Electronic file and document storage
- Drop-in spaces

- Furniture and ergonomics
- Insurance
- Environment, health and safety
- Injury and illness
- Worker's compensation
- Personal tax
- Ethical business practices
- Terminations and resignations
- Country-specific requirements

People

A key premise at Nortel is that teleworking requires a voluntary agreement between employee and manager. Part-time teleworking may be as minimal as working from home in the evening rather than staying late at the office. Or it may involve working at home on one or more prearranged days every week. Home-based workers, on the other hand, work primarily from home and don't have dedicated office space at Nortel. All forms of teleworking require employee-manager agreement. Home-based working requires formal approval using a web-based registration system.

Recognizing that employees and their managers may require some guidance, we created a four-page self-assessment questionnaire for prospective home-based workers. We designed the questionnaire to give employees an opportunity to think about the many implications of becoming a home-based worker. It is meant to facilitate thoughtful discussions between prospective home-based workers and those most affected by teleworking (usually managers, colleagues and families). As home-based workers are not entitled to a dedicated workspace at a Nortel facility, employees need to understand and accept the implications before making a final decision on home-based work.



Workspace

Once approved, home-based workers must relinquish their dedicated workspace at Nortel. On the other hand, home-based workers become entitled to use drop-in spaces in Nortel facilities. Nortel Real Estate manages and adjusts the inventory of dedicated and drop-in office space. Periodic audits ensure that the formerly dedicated space is truly freed up for other purposes (i.e., returned to the available workspace inventory).

Technology

Home-based workers in most countries order their own high-speed Internet access. Nortel reimburses costs in accordance with the IWE policy. Nortel IT measures the performance of our most heavily used ISPs. We publish the results on our internal IWE website to help employees choose among the providers in their area.

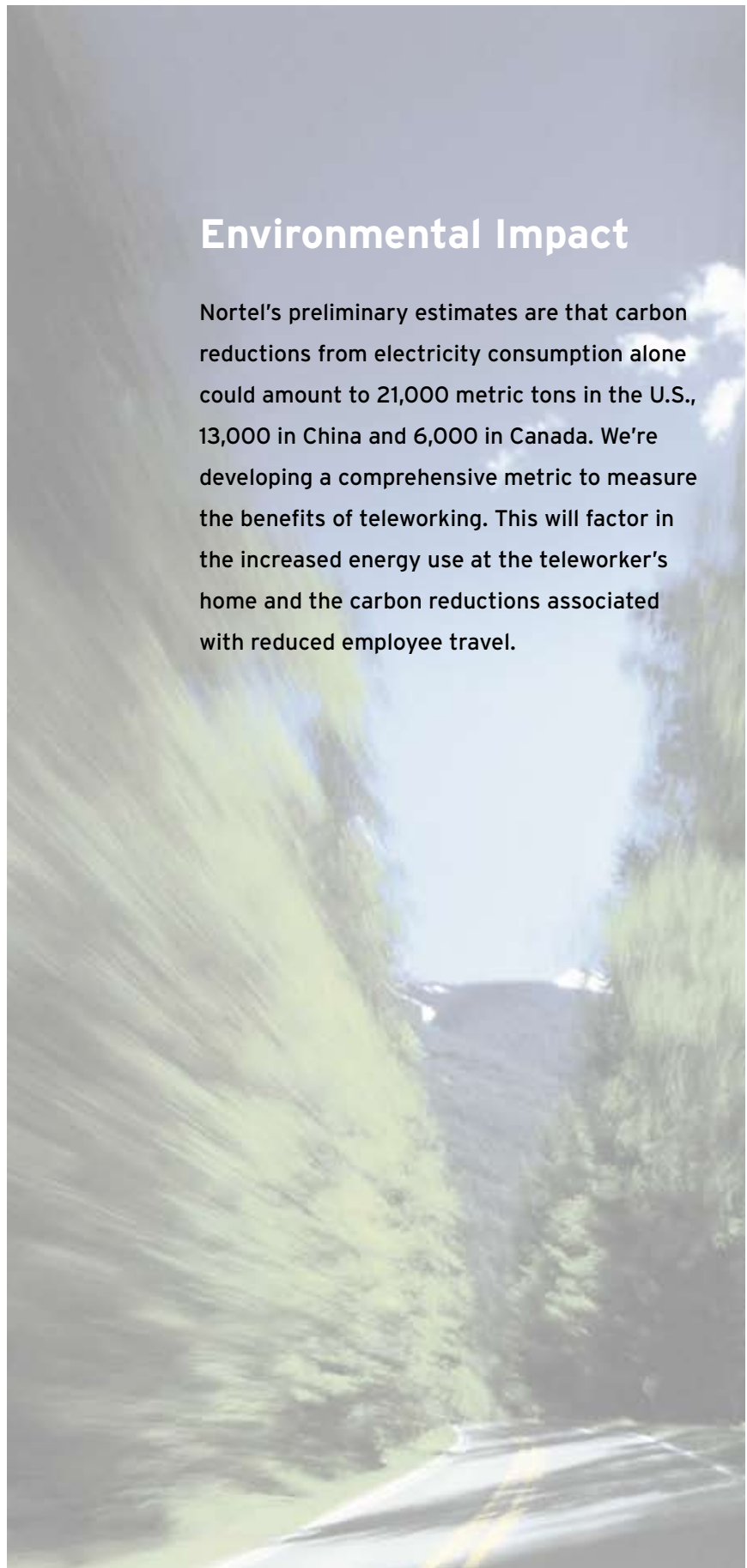
Before becoming home-based, employees follow our testing instructions to determine whether their chosen Internet service will support high-quality voice over IP (VoIP). A companion IT Implementation STEPS document on how we provide enterprise IP phones to home-based workers can be found at www.nortel.com/nortelonnortel.

Simple configuration diagrams and instructions help employees customize their home office networks. A typical home-based employee will have most or all of the following:

Equipment	Software
Laptop or desktop computer	Nortel unified communications client
Nortel Business Secure Router 222	Nortel VPN Client
Nortel IP Phone	CallPilot
WLAN (optional)	
Printer (optional)	

Environmental Impact

Nortel's preliminary estimates are that carbon reductions from electricity consumption alone could amount to 21,000 metric tons in the U.S., 13,000 in China and 6,000 in Canada. We're developing a comprehensive metric to measure the benefits of teleworking. This will factor in the increased energy use at the teleworker's home and the carbon reductions associated with reduced employee travel.



Home-based workers are responsible for purchasing their own home office furniture and equipment selection, unless superseded by country-specific requirements. The IWE website provides an office furniture buying guide that includes ergonomic advice.

Prove

Surveys of Nortel teleworkers indicate that teleworking produces significant benefits in terms of increased employee well-being, reduced stress, improved productivity and less environmental impact. Eighty percent of Nortel employees telework at least once a month and nearly ten percent are home-based. The benefits have been financial, motivational and environmental:

- Annual real estate savings of about U.S. \$9,000 per home-based worker
- Estimated average 15 percent increase in productivity among teleworkers
- An 11 percent increase in satisfaction among teleworkers compared to the overall employee population
- Employees who work from home one day a week save an estimated U.S. \$500 a year on fuel costs
- 18 percent of employees chose “flexibility” as the #1 reason they like Nortel

Nortel is a three-time winner (2005-2007) of the *Alfred P. Sloan Award for Business Excellence in Workplace Flexibility*, distinguishing the company as one of the top practitioners of workplace flexibility. In 2004, Nortel earned the Best Workplaces for Commuters designation from the U.S. Environmental Protection Agency and the U.S. Department of Transportation for both the Research Triangle Park, North Carolina and Billerica, Massachusetts locations. The *Best Workplaces for Commuters* designation provides public recognition to employers whose commuter benefits reach a National Standard of Excellence. In 1998 and 2000, Nortel received the Fortune 1000 “Excellence in Telework” award from the *International Telework Association and Council (ITAC)*. The ITAC recognized the Nortel mobility program for its pioneering spirit, thoroughness and as an employee motivator/satisfier.

Support

We provide teleworkers with comprehensive documentation, formal training and a frequently updated website as proactive measures to reduce problems. However, technical incidents still arise. Teleworking is by nature a 24x7

endeavor so we continuously monitor our network infrastructure and provide 24x7 service desk support to teleworkers.

Website

A dedicated IWE website provides a “one-stop shop” for current and prospective teleworkers at Nortel. The website contains policies, procedures and guidelines as well as tools, training resources and links to software downloads. A self-assessment questionnaire helps employees decide whether home-based working is right for them. Blog postings encourage meaningful exchanges among employees who know the most about teleworking: those who practice it.

Training

Recognizing that successful teleworking doesn’t happen by accident, Nortel provides training for teleworkers, managers and office-based employees who work with remote teams. The IWE website lists training options that range from brief “tips and tricks” to eLearning courses and even instructor-led classroom sessions. Training topics include both technical and interpersonal skills. See Table 2.



Table 2. Training topics

Technical	Interpersonal
How to connect to Nortel's network	How to be an effective mobile worker
Mobility best practices for cost and effectiveness	How to be an effective manager of mobile employees
Enterprise Phone at Home	Workplace etiquette
Unified communications client	Managing virtual teams

Network management and monitoring

Nortel IT continuously monitors our unified communications and VPN infrastructure. Incidents are categorized by severity, with major incidents receiving immediate attention.

Service desk

The Nortel IT service desk is available to teleworkers 24x7, either by phone or online.

Conclusion

Teleworking improves productivity, increases employee satisfaction, reduces costs and lessens environmental impact. Nortel's 15 years of teleworking experience and expertise have landed us prestigious awards and yielded significant benefits:

- \$9,000 real estate savings per home-based worker
- 15 percent increase in productivity
- 11 percent increase in employee satisfaction
- Reduced environmental impact

Realizing these benefits has required a comprehensive and collective approach by Nortel IT, HR and Real Estate. The resulting Integrated Work Environment program encompasses:

- A global corporate policy
- Analysis of which people and which jobs are best suited to teleworking
- Careful management and optimization of workspace
- State-of-the-art unified communications and VPN tools from Nortel



Written by George Stuart of Nortel IT. Go to www.nortel.com/nortelonnortel for more Nortel IT case studies, best practices, videos, implementation steps and freeware tools.

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