

## How Cisco IT Provides Remote Access for Small Offices and Telecommuters

Enterprise Class Teleworker Solution improves reliability, availability, and security for small- and home-office users.

### BUSINESS BENEFITS

- Enhanced reliability, availability, and security
- 20% TCO reduction with zero-touch deployment
- 81% of users say their online availability has increased
- Ability to support 35,000 more routers with zero-touch deployment and integrated management

“Cisco IT has already subscribed more than 4000 employees to the Enterprise-Class Teleworker service, and anticipates that more than 20,000 employees will eventually decide to use the service.”

– **Plamen Nedeltchev, Solution Architect, Cisco IT**

**Many Cisco Systems® employees have a need to work from home on a full-time, part-time, or occasional basis.** In 2001, the company introduced a “software” virtual private network (VPN) solution to provide remote connectivity.

**The software solution presented limitations and management challenges.** Cisco® needed a way to increase the capabilities of home-based services while making deployment and ongoing management simpler, more secure, and less labor intensive.

**Cisco IT implemented a new, hardware-based solution—the Enterprise-Class Teleworker solution.** The solution’s four main constructs are end-to-end connectivity, end-to-end deployment, end-to-end management, and end-to-end security. The solution combines a router with a high-speed broadband connection at the employee’s home.

**Several components work together to manage the solution.**

Cisco’s internally developed enterprise management tool (EMAN) performs resource monitoring, automatic page alerting, change management tracking, and availability measurements across the worldwide Cisco network. The Cisco IP Solution Center generates and maintains router configurations and policies. And the Cisco CNS 2100 Intelligence Engine downloads configuration and policy information to the remote router.

**Pushing innovation.** The Cisco IT project team had an ambitious goal of creating a sustainable global deployment and support model that could meet the needs of teleworkers around the world. The biggest challenge of this project was reducing operational costs, support costs, and management costs without compromising on security.

**Reduce the need for technical support.** One of Cisco IT’s goals was to reduce the need for technical support during configuration and deployment. Cisco IT implemented “zero-touch” provisioning, which automates the configuration process, eliminating virtually all the time and effort previously spent by technicians—and simplifying the installation process for the user.

**As of December 2005, the Cisco Enterprise-Class Teleworker solution supports more than 4200 users.** The solution’s global management capabilities help ensure reliability, availability, and security. The solution combines a dozen different Cisco technologies, integrating them into a single device while maintaining low TCO. The Enterprise-Class Teleworker solution achieved a number of “firsts” within Cisco, including the proof of concept of Dynamic Multipoint VPN (DMVPN), which transforms the Internet into a virtual “office network; the first use of a public key infrastructure (PKI) within the IT environment; the first implementation of zero-touch deployment; the first fully automated end-to-end deployment, provisioning, and management; and for the first time, the ability to push changes and apply security policies in real time without disrupting the end user’s connection.

**Case Study:** [http://www.cisco.com/web/about/ciscoit/work/case\\_studies.html](http://www.cisco.com/web/about/ciscoit/work/case_studies.html)

## FOR MORE INFORMATION

To read the entire case study or for additional Cisco IT case studies on a variety of business solutions, visit Cisco on Cisco: Inside Cisco IT [www.cisco.com/go/ciscoit](http://www.cisco.com/go/ciscoit)

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