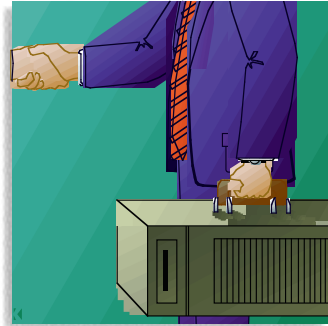


MIS and the Virtual Office



As telecommuting becomes widespread, IT users of all types must come to terms with the reality of the virtual office.

A few years ago, widespread telecommuting was just a dream. Wild-eyed enthusiasts predicted we'd all be doing it someday, while experts debated whether corporate philosophies and management inertia would ever let it emerge from special-case applications.

Significant advances in telecommuting practices have changed the debate completely. As increasing numbers of workers log in from home and neighborhood work centers and increasing numbers of want ads use it as a lure, most experts now debate not whether but when telework will become run-of-the-mill.

Many factors contribute to this long-awaited embrace of telecommuting. It helps organizations get by with less space and fewer desks. It's also easier to fend off "brain drain" by offering it as a perk to the more senior people. Compulsory compliance with the new family leave act and other shifts in social values are inclining employers to be more willing to experiment. And of course, the World Wide Web has raised everyone's awareness of the Internet and the telecommunications possibilities that go along with it.

But what's going on behind the scenes? How is MIS impacted by increasing numbers of users depending on communications to substitute for their physical presence? And is telecommuting a viable option for MIS staffers themselves? (For more on this topic, see pages 18 and 30.)

Supporting Telecommuters

Several years ago I did some research on telecommuting among federal workers; I

was surprised to find that many of them used primarily voice phone calls and faxes to do what was essentially remote paper-pushing. Computer use was limited to laptops and employees' personal systems, and dial-ins were to a mainframe running CTOS; no client/server was involved. Although this kind of telecommuting may now seem quite backward, it successfully demonstrated not only that accounting, payroll, customer relations, technical support and other traditional IS functions can be reliably delegated to telecommuters, but it may not require heavy capital investments to do so. However, it also conveniently skirted a number of critical issues that today's "digital telecommuters" must face, including training, implementation costs and data security.

Training is arguably the most straightforward of these three issues. The IS department may have to spend time getting users acquainted with remote-access software and troubleshooting installation problems, and some altered procedures may have to be relearned. However, the hazards of working at home include both procrastination and overwork, and management must sensibly address these issues through careful selection of telecommuting candidates, supportive training and some allowance for adjustment.

Infrastructurally, the hardware, software and phone line costs of setting up an employee with remote computing can be steep. But hardware prices continue to fall rapidly, and many employees already have a system at home, to which the employer may contribute some necessary upgrading. The IS department must

evaluate various connection options. For example, a shell account or bulletin-board-style dial-in and a couple of fast modems may be sufficient, and the setup may not even require a dedicated host system. If a user needs LAN services and is a local call from the office, a SLIP/PPP server can still be relatively simple. If distance is a problem, enlisting an Internet service provider can help keep costs down. And the cost of a second phone line, if necessary, may be shared by employer and employee.

However, employees doing frequent, large file transfers or other intensive work online may require a link faster than 28.8K; for these situations, an ISDN or frame relay line may be necessary, at a cost of several hundred dollars for setup and another several hundred per month. For organizations with a number of good candidates for telecommuting that require links of this caliber, opening a telework center or satellite office may be the best option. Fortunately, telecommunications providers are rising to accommodate all of these types of needs.

In addition to surmounting issues of cost and training, the IS department must confront what is arguably the biggest problem with telecommuting: data security. Only part of this task is truly technical; there is an abundance of reliable security software, much of it in the public domain. The true challenge of security is one of policy. Arbitrarily mandated security policies are typically much less effective than those that emphasize education and unity of purpose. The special challenge of including telecommuters in a security policy only emphasizes the fact that such a policy should avoid draconian edicts and be based on the actual sensitivity and value of a given piece of information.

Telecommuting IS Staff

With such a range of options available to IS departments evaluating the feasibility of telecommuting for users, there should be little to discourage the IS staff itself from seeking the same options. Many users' support needs can be addressed via phone calls and e-mail, much of application development can be done on home PCs, and systems can be administered remotely with secure shell logins and occasional pleas for help from an on-site sysadmin. As with users, management must be willing to reclassify duties into

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the categories of "on-site" and "remote," and schedule accordingly.

Marcus Epstein, a consultant with Hughes STX of Lanham, MD, supporting the NASA Goddard Space Flight Center in Greenbelt, MD, exemplifies the extent to which MIS staffers may support an organization while working from home. He's developing X Window System interfaces with Motif and C++ to support instrument control on a DEC Alpha system in Greenbelt, but he works from his home in nearby Washington, DC. When NASA selected Epstein for the job, they literally didn't have a place to put him; a desk and workstation were not available.

They offered him two options: work out of a temporary office in a nearby trailer or work from home. Epstein chose the latter and provides the computer, an AST 810 notebook running DOS 6.2 and MS Windows 3.1; NASA provides the software, FTP Software's On Net remote computing

package and Hummingbird Software's eXceed X server. Together, they enable him to log into the Alpha system at NASA and do X development on his DOS laptop.

Epstein also covers the line costs. Instead of getting a second phone line, he invested in a pager, so he can be reached while he's logged in. Epstein physically goes to NASA just once a week, to "see that the people I work for know what I'm doing." Productivity-wise, he feels he's doing better work from home because there are more distractions in an office.

Advances in telecommunications have greatly enhanced telecommuting possibilities, and the number of workers and organizations following this path has increased significantly. But training, initial investment and data security considerations continue to challenge management to develop policies that can use the many advantages that telecommuting can deliver, while anticipating and avoiding

the many pitfalls. As technologies like wireless communications and realtime video conferencing continue to evolve rapidly, competitive pressures will increase on those organizations that lag behind in their application of these important innovations.

By the way, guides for developing telecommuting policy and other resources can be found at the following Web addresses:

<http://www.svi.org/PROJECTS/TCOMMUTE/index.html>

<http://www.pacbell.com/Lib/TCGuide/index.html>

<http://www.iadfw.net/msmith/index.html>. 

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