



University of Sofia Teleworking tools for distance education¹

The challenge

The Department of Information Technologies (DIT) is one of fourteen departments in the faculty of mathematics and informatics of the University of Sofia in Bulgaria. The department's research and development activities include:

- advanced communications technologies,
- networked multimedia,
- WWW databases
- artificial intelligence
- intelligent agents
- computer supported collaborative work systems
- virtual environments

It is also involved in applying advanced information and communications technologies to education and training in electronic commerce, business and management, telework, the social sciences

The department employs 19 people and its principal clients are government and non-government organisations, small businesses and individuals interested in further education.

When looking at new ways of working, its priorities are:

- better teleworking tools for distance education and its day-to-day administrative processes
- joint delivery of training courses in collaboration with external partners
- working closely with the Bulgarian telework association and individual SMEs
- providing a helpdesk for internal and external enquiries

The technical solution

The solution involves hardware upgrades to the existing technical platform. These include a telecom switch and four local switching hubs, along with a powerful server and multimedia communications kits for individual workstations.

This is backed up with Microsoft software to support Intranets and Extranets, along with the ARADNE set of authoring tools, the ARCADE course delivery system developed at DIT, and the IVAN tool for distributed software development and support.

The results

The hardware tools and the Intranet/Extranet provided the facilities needed for remote working. They also provided tools for internal processes that were acceptable to DIT staff. Some minor problems remain with the interfacing of the individual tools.

The initial impact of the solution is that DIT employees are able to spend a lot more of their time away from the office and that teleworking has become an integral part of DIT's working practices and culture.

Another important benefit is for the continuing education of the University of Sofia's employees in computer literacy and information technology. Teleworking makes it possible for both trainers and trainees to work from wherever is most convenient, instead of conducting face-to-face classes at fixed times and places.

¹ A more detailed case study can be found on the website of the IST project 'PROTELEUSES' (www.cbt.es/proteleuses), which analysed the ambitions of a number of SMEs and implemented flexible working solutions addressing the principal bottlenecks preventing the achievement of those ambitions.



Using the teleworking tools for joint work on software projects, project management and distance education course design allowed DIT to establish successful links with SMEs from Bulgaria and other parts of Europe in the areas of telework and electronic commerce. The tools also helped DTI to deliver new training courses to the Bulgarian Telework Association and hence disseminate know-how to large numbers of Bulgarian SMEs.

The department's income doubled following the introduction of the solution and its costs for consumables and communications fell significantly.

Conclusions

The solution offered the Sofia University Department of Information Technologies a way of connecting all offices to common Intranet servers providing collaborative groupware tools a common e-learning platform and a project management tool. These facilities were also available to home-based teleworkers and nomadic workers.

The solution is potentially of interest to any small business offering consultancy, software or training services. Information is crucial to all such businesses and the ability to share information among all interested parties is an important success factor.