



ISIS Distributed software development¹

The challenge

ISIS (International Software and Information Services) is a services company set up in 1999, with branches in Sofia, Bulgaria and Sankt Augustin, Germany. It employs 12 people and its main business is software development and support. It also is involved in introducing foreign IT companies to markets in south eastern Europe.

ISIS is establishing a distributed network of associates and partners covering Bulgaria, Macedonia, Yugoslavia and parts of the Ukraine and Russia. This network creates a pool of software experts, from which teams can be set up to address the specific requirements of customers. These customers are principally the IT departments of commercial companies.

When considering new methods of working, the company's principal priorities were:

- fast and reliable communications between departments
- reducing travel costs, whilst increasing the 'mobility' of workers
- improving project co-ordination
- providing common on-line training tools
- shortening the response time to requests from customers
- improving the employees' working environment

The technical solution

This involved the development of a customised application based on html, Java, MS Access, and MS ASP technology. This provides a number of 'virtual rooms' to support communications between the company's departments and with external associates involved in individual projects. Modules integrated into the application include databases of programmers, sub-contractors and brokers, and tools to support projects, reporting and system integration.

These are Internet based and can be accessed over whatever connections are available locally (PSTN, ISDN, cable modems and leased lines).

ISIS has installed a communications server to support these facilities and has also purchased four high power workstations and three portable PCs

The results

The performance of the system is obviously limited by the type of Internet connection used to access the facilities. However it has proved highly effective for integrating the contributions from partners in different towns and countries to individual projects. In particular it improved the co-ordination between the Bulgarian and German branches.

The databases of programmers and subcontractors, and the virtual rooms, made it possible for the company to reduce its average response time to a customer request from 5 to 3 working days. Anyone preparing a bid had immediate access to information about individual programmers' or subcontractors' skills and could assemble a suitable team without having to telephone or e-mail prospective team members.

The virtual rooms established for individual projects ensured that everybody involved in the project had access to all relevant information anywhere and at any time. This improved co-ordination of team members' individual contributions and also reduced the number of physical visits to customers. Areas identified for improvement included training tools and on-line help.

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.



Reactions to the system were mixed. The tele-programmers liked the new working environment because it allowed them to plan their own work and eliminated the time spent commuting. On the other hand, an administrator found that home working deprived her of social contacts with her colleagues and that home obligations prevented her from working effectively.

The company found that the costs of introducing the new technology were recovered in under a year. This was partly because it could rapidly increase the number of people involved in projects without having to rent extra office space.

General manager, Yuri Antanasov, believes that the system helped the company to overcome two important problems - dispersed team members and multiple iterations. Although an IT professional, he was pleasantly surprised by the way in which flexible working helped to automate the communications needed to support the company's processes and also helped to transform some of those processes by making it possible for all participants in the process to access or contribute relevant information. He observed 'this has allowed us to significantly reduce the number of iterations and improve the company's efficiency and productivity'

Conclusions

ISIS is an SME in the information and communications technology sector. The solution allows it to connect all its offices and, where appropriate, external associates to a common file server and a set of groupware tools designed to support collaborative software development.

However, aspects of the technical solution could be appropriate to any small business, whose product/service is consultancy and which frequently has to assemble short-lived teams of experts (perhaps including freelancers) to address an individual client's problem.