

Softbots stride forward

SIOBHAN MCBRIDE

24/01/2005 08:11:20

Can't make next week's videoconference with head office? No problem, your computer-generated avatar will stand in for you; having been created in your image it's a shrewd strategist in complete command of the points you wish to make - including your fallback position.

While it sounds like it may be a long time coming, research into intelligent agents, software programs also known as 'softbots', is progressing so quickly scientists predict this scenario could be a reality within 10 years.

With the science of service-orientated computing growing, e-services are entering a new era with software programs available on the Web laying the path to new ways of doing business.

Two researchers headed down this path are Professor Ryszard Kowalczyk, of Swinburne University's faculty of Information and Communication Technology, and Professor Jun Han, also of Swinburne University, who heads a contribution to an Australian-European Union consortium developing service-orientated computing systems of the future.

Swinburne is the only non-EU member of the consortium whose 21 partners bring together leading researchers in telecommunications, enterprise systems and telematics services in a multimillion dollar initiative over two years.

The \$1.5 million Swinburne component is co-funded by the Department of Education, Science and Training and private industry.

The project plan is to develop agents to automate the interchange and composition of software and services via the Internet, including software components to coordinate business activities such as supply, distribution and sales.

Security, performance, service quality and compatibility guarantees between software are also in the mix. Currently largely manual and inflexible tasks, the scientists predict they will soon be conducted by softbots on behalf of business, a process researchers call the 'orchestration' of services to enable complex new business systems.

Kowalczyk's team is working on new decision-making and coordination mechanisms to make agents negotiate and compose complex services with their like over the Internet. The intelligent agents are designed to adaptively respond to changes in the environment, assess risks and learn from their experience.

"You could say that we develop agents that are like the producers of a vast orchestra. They bring together the musicians, composers, conductors and the music itself to enable the orchestra to produce whatever sort of music is in demand," Kowalczyk said.

However, the revolution in service-orientated computing brings its own inherent risks. New Internet-based developments such as the proliferation of software service trading and free-roaming independent agents increases the potential for security breaches.

Swinburne's Professor Han is leading a new effort to quantify the security properties of software services and service-based systems by building a security framework to meet such challenges.

"When you put software applications or services together to form a large system, you want to...predict the security properties of the end system," Han said.

← Replay



ibm.com/au/totalstorage

Find out how an on demand IBM TotalStorage® solution can make your data work for you.

Click for an independent white paper report.