FairfaxDigital

NEWS | **MYCAREER** | **DOMAIN** | **DRIVE** | **FINANCE** | **CITYSEARCH**
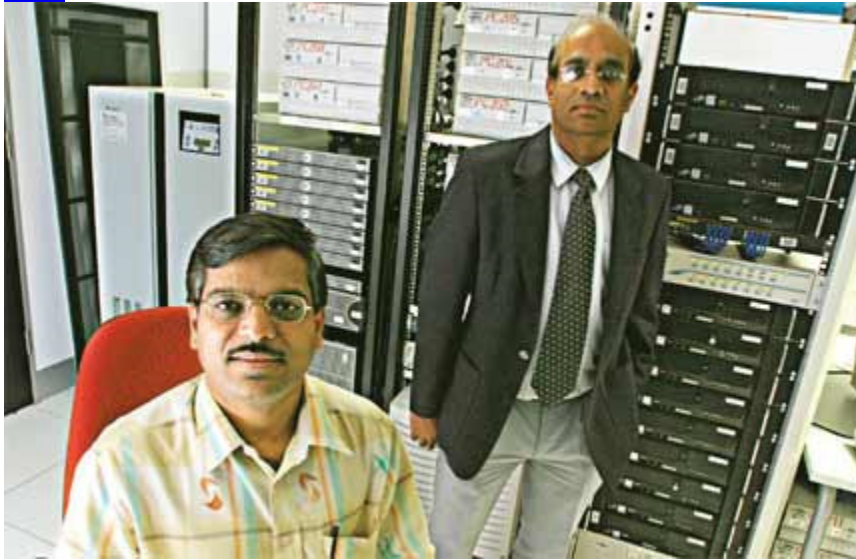member centre | **login** | register

THE AGE
theage.com.au

- OPINION
- REVIEWS
- RESOURCES
- IT JOBS

University course is ahead of the curve

By Eric Wilson
May 3, 2005
Next

Rajkumar Buyya and Rao Kotagiri lead the pack.

Melbourne University believes its new master of engineering in distributed computing is advanced enough to keep graduates in business for the next decade.

The MEDC readies students for a new wave of grid and distributed computing, expected after today's web services architecture reaches its limit.

Professor Rao Kotagiri, department head of computer science and software engineering, says students learn how to couple grids of live applications provided by different companies into virtual organisations using new open security and sharing protocols.

These will advertise and rapidly join or co-ordinate programs - running on different computers - allocating IT services to collaborative business projects. Such techniques are touted as faster and cheaper to compose than developing and deploying manually, using development tools such as J2EE or .NET alone.

"We can spend money and hire someone or we can call our friends to help do the job," Professor Kotagiri says. "Grid computing lets you run (IT) jobs in different places by co-ordinating them."

Professor Kotagiri says the sharing of IT resources will increase with inexpensive radio frequency identification (RFID) chips registering physical goods as they travel through supply chains - as the internet matures from mainly carrying data to joining these tracking applications.

"Once the technology becomes more pervasive, the way commerce is done will change and economies of scale will change," Professor Kotagiri says. "These radio frequency tags will cost five cents each, so let's say you are doing traffic modelling. Each computer could be processing a junction or a freeway. You could manage traffic to stop hot spots and blockages."

Course co-ordinator Dr Rajkumar Buyya says under these conditions, distributed and grid computing will create a more collaborative approach to make industry more efficient. He says an echo system, mixing the IT functions of many business partners, can be set up within a year.

"We would like to integrate systems owned by each partner in a seamless way," Dr Buyya says.

The new course includes five new subjects covering design issues, synchronisation and security issues in distributed applications. Consensus decision making among distributed processes, distributed data structures, deadlock detection and process leader election are also examined. Developing applications for SmartPhones, PDAs, and other mobile devices is included.

The MEDC also covers privacy and security issues of communications protocols such as SnycML, WAP and XML.

Additionally, the course looks at bandwidth and energy constraints of wired and wireless sensors, collaborative information processing, plus off-loading processing and data management tasks to computational grids. About 40 per cent of the award's assessment is based on project work encompassing all the topics.

"It's about sharing large-scale problems, dividing them into smaller ones, which can be run in different places," Dr Buyya says.

But the academics agree there are also gaps in the way most of today's software is licensed, often restricting its use to the organisation that pays for it.Dr Buyya only expects to have 20 in the master of engineering in distributed computing's first intake. Applications close July 31.

Get The Age delivered to your home for as little as $2.70 a week*

Our Advertisers

Related
- React to this article
- Submit a news tip

Home > Technology > Opinion > In Training > Article

Copyright © 2005. The Age Company Ltd