Press Releases

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Novel Technique to Reduce Internet Response Time

Researchers at the Hong Kong University of Science and Technology (HKUST) have won the best paper award at a prestigious conference for a proposed technique that will significantly reduce the response time for answering queries involving massive and complex data transfer through the internet.

The paper, entitled "Active Caching of On-Line-Analytical-Processing Queries in WWW Proxies", was written by Thanasis Loukopoulos, Panos Kalnis, Professor Ishfaq Ahmad and Professor Dimitris Papadias of the Department of Computer Science at HKUST. They will be honored at the 2001 International Conference on Parallel Processing (ICPP) to be held in Valencia, Spain, in September this year. ICPP is the most prestigious and oldest academic conference in the field.

Business decision-making increasingly involves identifying trends from complicated data, leading many enterprises to build databases commonly called data warehouses. It is however very time-consuming for decision-makers to fetch information from data warehouses, perform aggregations over them and generate the web pages that answer the query. It is also not possible for owners of data warehouses to provide a set of predefined query templates because of the changing analytical needs of decision-makers.

"Our proposed technique will help decision-makers in global organizations to have their queries answered efficiently over the Internet by owners of central databases that house financial, environmental or scientific data," says Prof Ishfaq Ahmad, who has won best paper awards at three top conferences in the area.

The technique involves an active caching policy under which the web page construction is done close to the decision-maker posing the query and network latencies are avoided. A cache applet is sent to fetch the dynamic data from the data warehouses to create the HTML document containing the answer to the query.

The award is the latest achievement of the Multimedia Technology Research Center , headed by Prof Ahmad, at HKUST. The Center's mission is to engage in leading-edge research and development activities to achieve both academic excellence and to produce audio-visual technologies that can support existing as well as emerging multimedia information applications. The Center also provides training to students and engineers and transfers technology to local and worldwide industries.