Developing an Algorithm for Data Storage in the Cloud

By:

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This talk is inspired by Yang Wang's seminar last month. The question is how to store data optimally "in the cloud", from the point of view of the service provider, who wants to provide access to some data to many clients using multiple fixed servers using minimal cost. Cost includes the cost of storing the data, and also the cost of transferring the data from one server to another. An optimal relatively fast solution is given for the homogeneous case where every data transfer costs the same and the cost of storage on every server is the same, in the offline case. The general problem in the offline case is NP-hard, but maybe not in practical cases. Many open problems remain.

This is joint work with Joe Culberson and Yang Wang.

The emphasis is on the process of solving algorithmic problems, and is geared towards students.

Wednesday, November 21 @ 3:30pm
Information Technology Centre ITC317