

Title: Hydra: A Massively-Multiplayer Peer-to-Peer Architecture for the Game Developer

Presenter: Ben Leong

Time: 2-3pm

Venue: CIRL

Abstract:

In this talk, we present the design and implementation of Hydra, a peer-to-peer architecture for massively-multiplayer online games, that we are developing at the National University of Singapore. By supporting a novel augmented server-client programming model with a protocol that guarantees consistency in the messages committed when nodes fail, existing game developers can realize the benefits of a peer-to-peer architecture without the burden of handling the complexities associated with network churn.

Our key contribution is the development of a programming interface that is intuitive and easy to use, and that can be supported transparently at the network layer. We have implemented a prototype of Hydra and we demonstrate that our proposed architecture is practical by developing two games under the Hydra framework: a simple ``capture the flag'' tank game and a squad-based real-time strategy (RTS) game.

Hydra is currently work in progress. Our experience in developing these games suggests that our proposed programming model is suitable for game development. Our preliminary experiments also show that Hydra imposes only a small message overhead and is thus scalable. A short report of the Hydra project was published at NetGames 2007.