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Provisioning On-line Games: A Traffic Analysis of a Busy Counter-Strike Server

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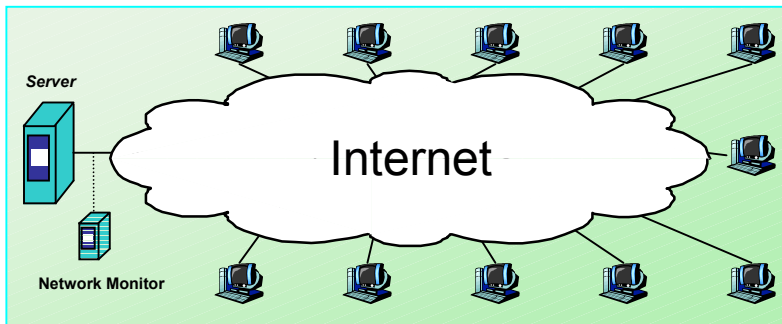
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The Story:

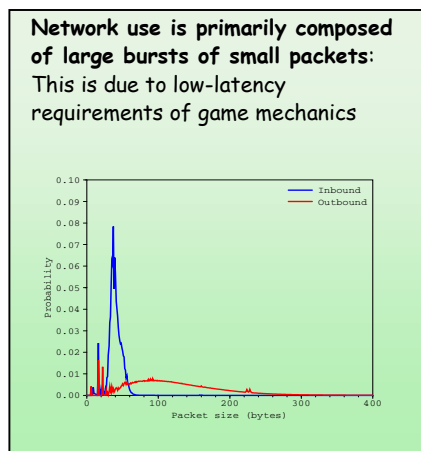
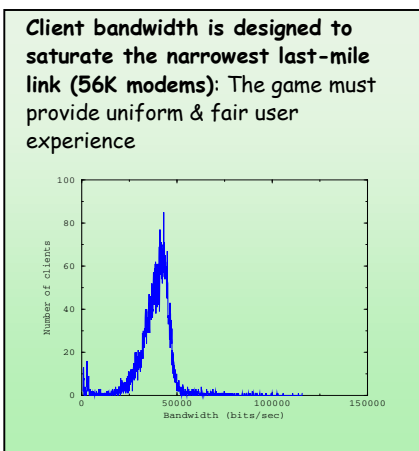
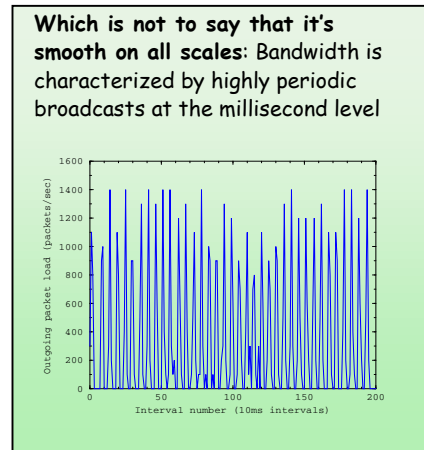
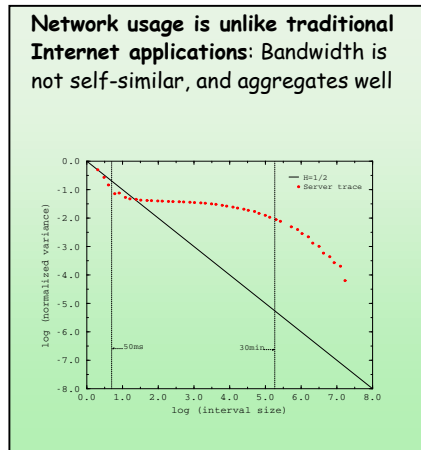
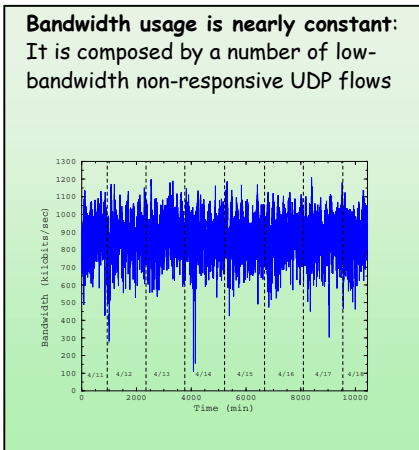
A Week in the life of a loaded Counter-Strike Server

• Internet Video Games follow a simple client-server model: Multiple transient clients connect to a pre-existing stationary game server



Counter-Strike Screenshot

← A simplified view of the network topology



Which can be disastrous if the server's network cannot switch at a high enough speed:

- Routers must be able to handle a large bursts of small packets
- Experiments with commercial NAT devices show a high packet loss rate, due to under-provisioned hardware
- But buffering is not the solution! Buffers introduce latency - which is detrimental to client performance

