P2PChat

Language Abstractions for Concurrent and Parallel Programming (1DL540)

Lucas Arnström

Department of Computer Systems
Uppsala University

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Introduction

- **What is P2PChat?**
  Chat program which utilizes peer-to-peer connections in order to construct a large network of clients whom all participate in a single global group chat.
- **How does it work?**
  - Clients connect to each other and create a network.
  - Clients can then broadcast messages over the network.
  - No tracker sadly; clients have to manually connect to each other.

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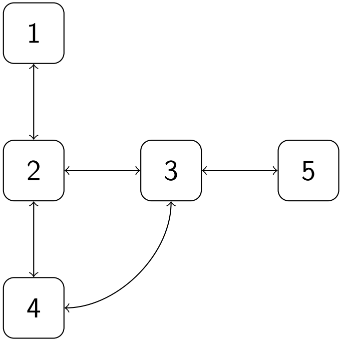
Example Network



Five clients connected to each other forming a simple network. If client 5 broadcasts a message, it will traverse the entire graph and eventually reach all nodes in the network.

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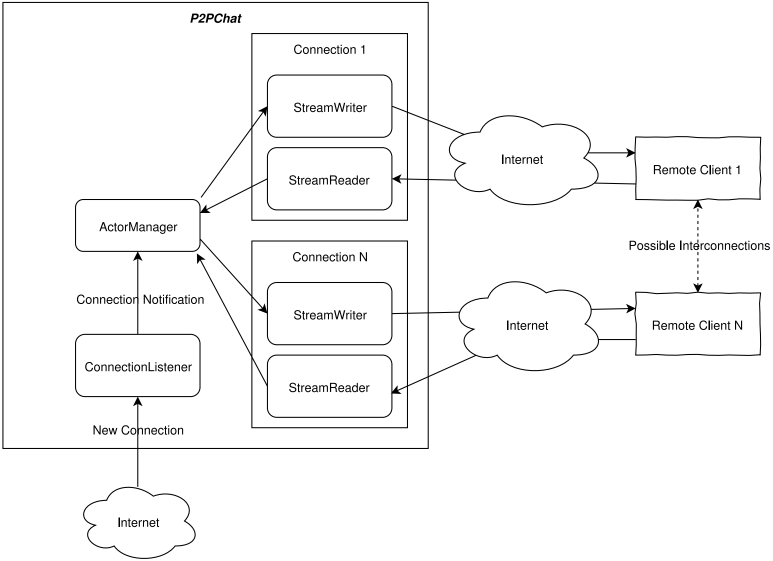
Application Structure



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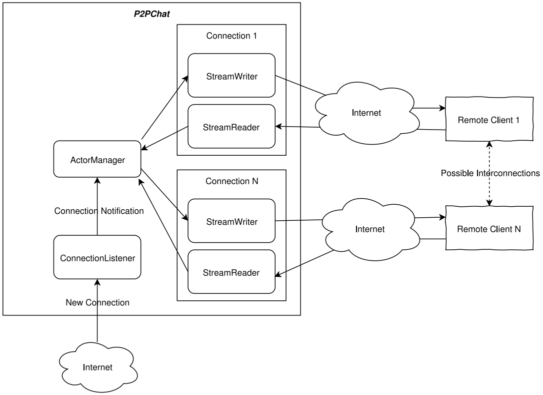

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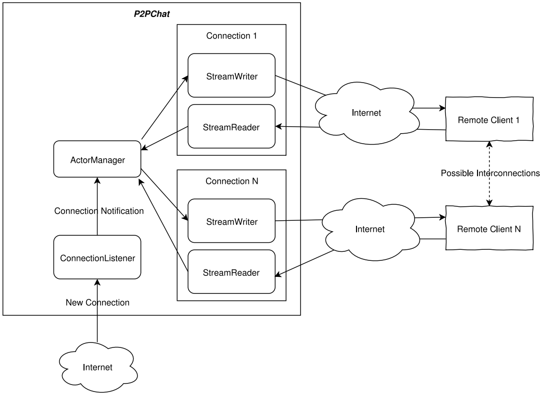

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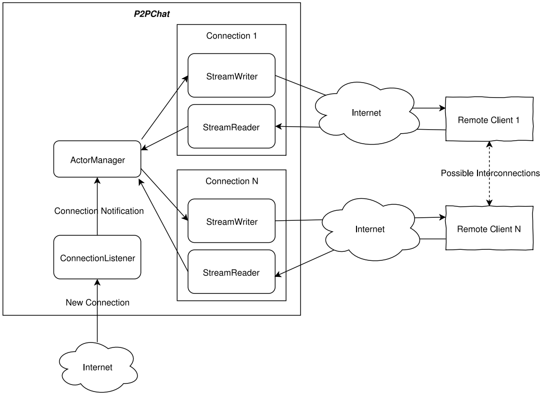

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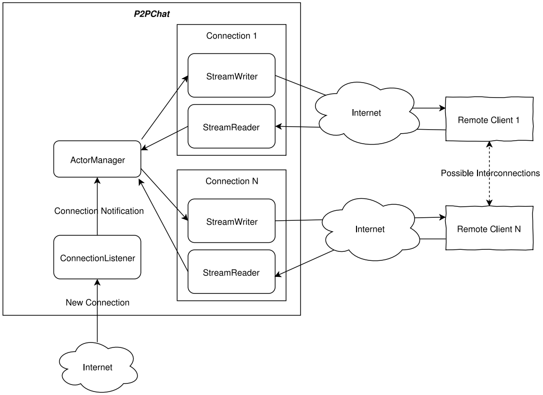

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- Arrows outside/across borders represents TCP sockets.

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    - Need to use channels in order to pass data between threads.

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