Implementation

Architecture Model

Dynamic discovery

Fault tolerance

The following failure detection and handling methods are implemented in our project:

1. Heartbeat
2. Totally Reliable ordered multicast with negative acknowledgement
3. Byzantian agreement

The heartbeat is responsible for detecting whether the processes are still reachable. To deal with the message omission problem, we implemented the negative acknowledgement to ensure that the messages will eventually deliver. Byzantian agreement will be executed if there are more than 4 Servers in the group to get consistent results. The second method will be discussed in detail in the following capital.

Voting

Ordered reliable multicast