

Paradone

Open-source distributed system for
media streaming with WebRTC

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Plan

- Problem
- State of the art
- Paradone's Goals
- Technologies (and their limitations) behind Paradone
- Future work

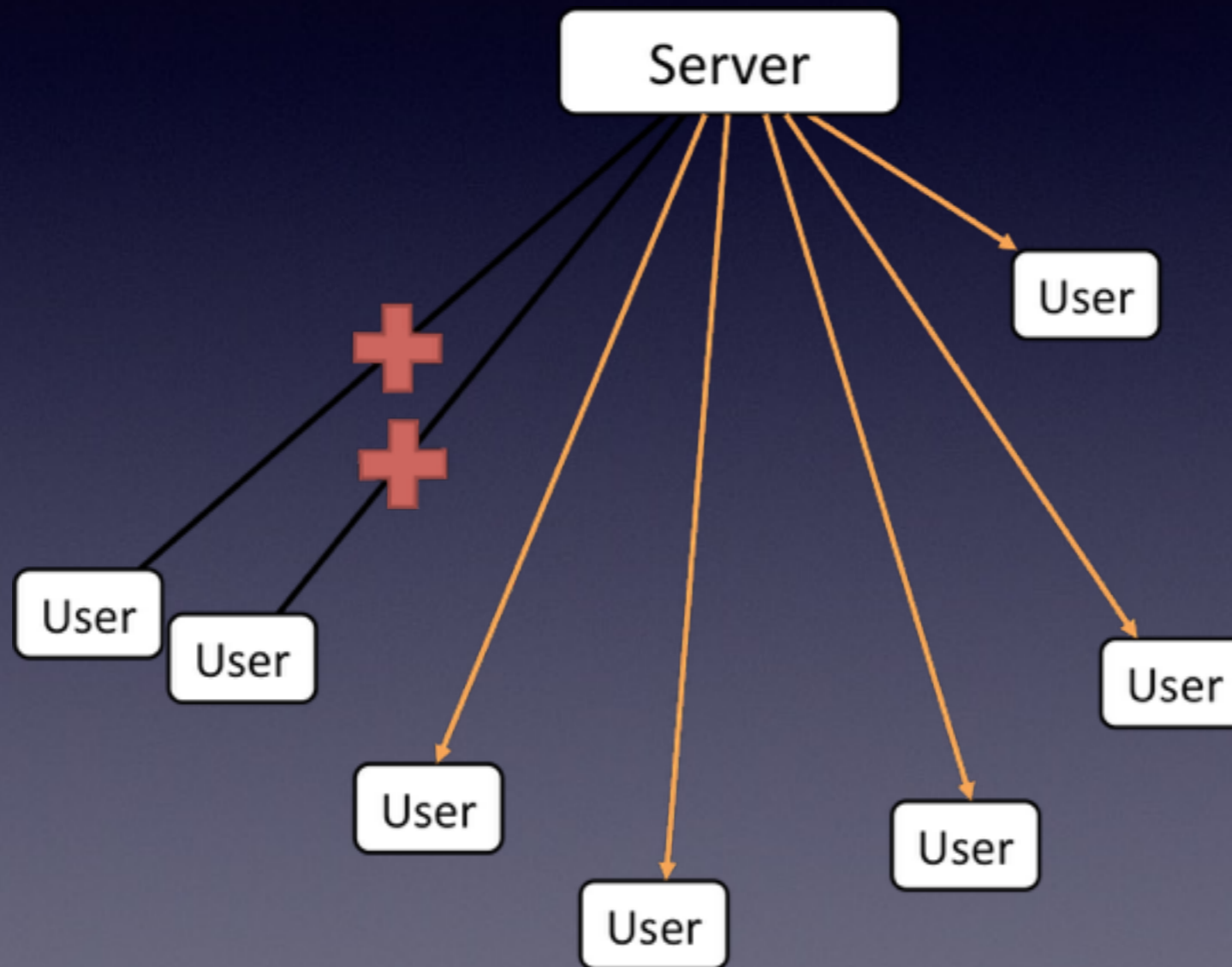
About me



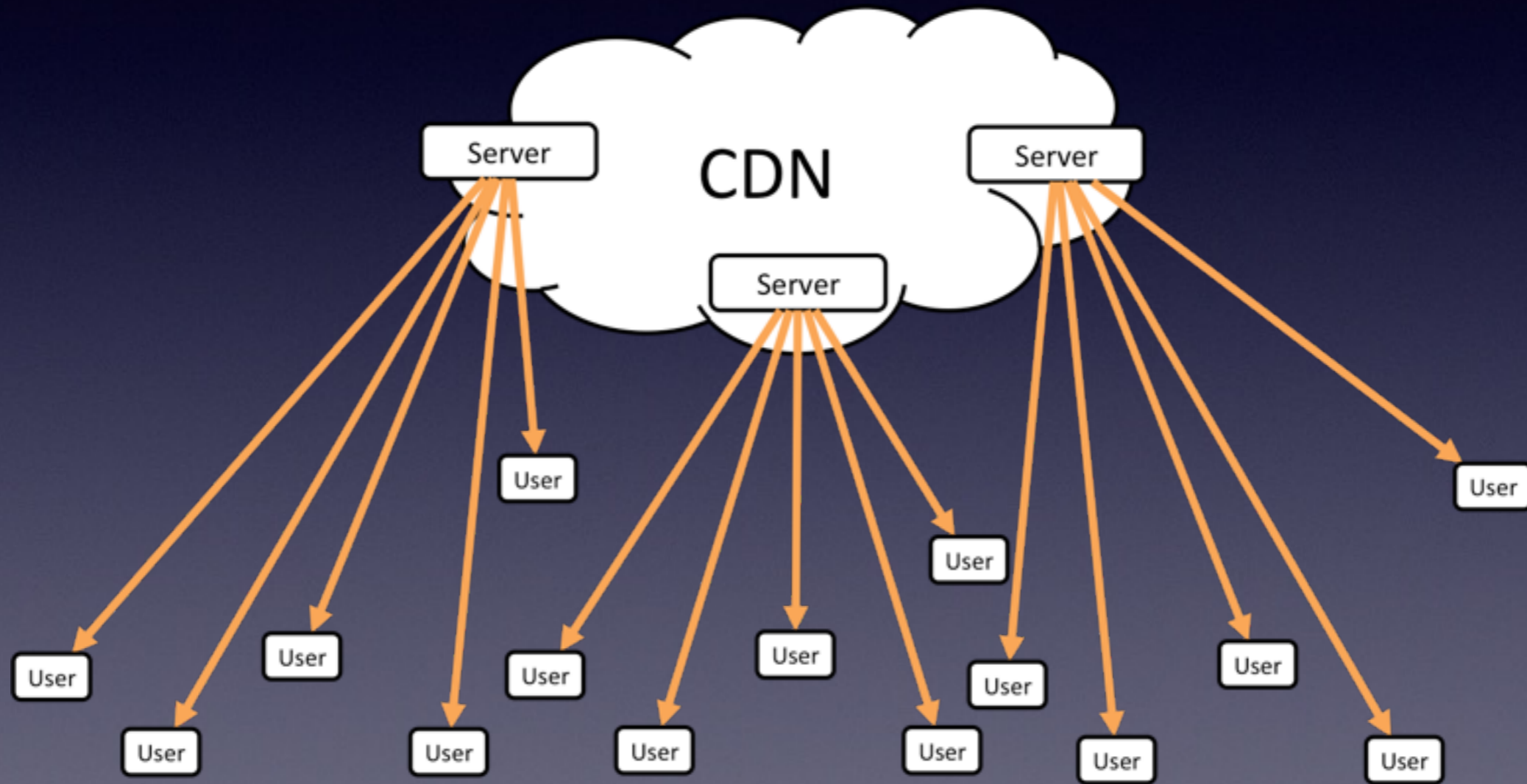


Problem: How can a video be broadcasted more efficiently, in higher quality, to more people ?

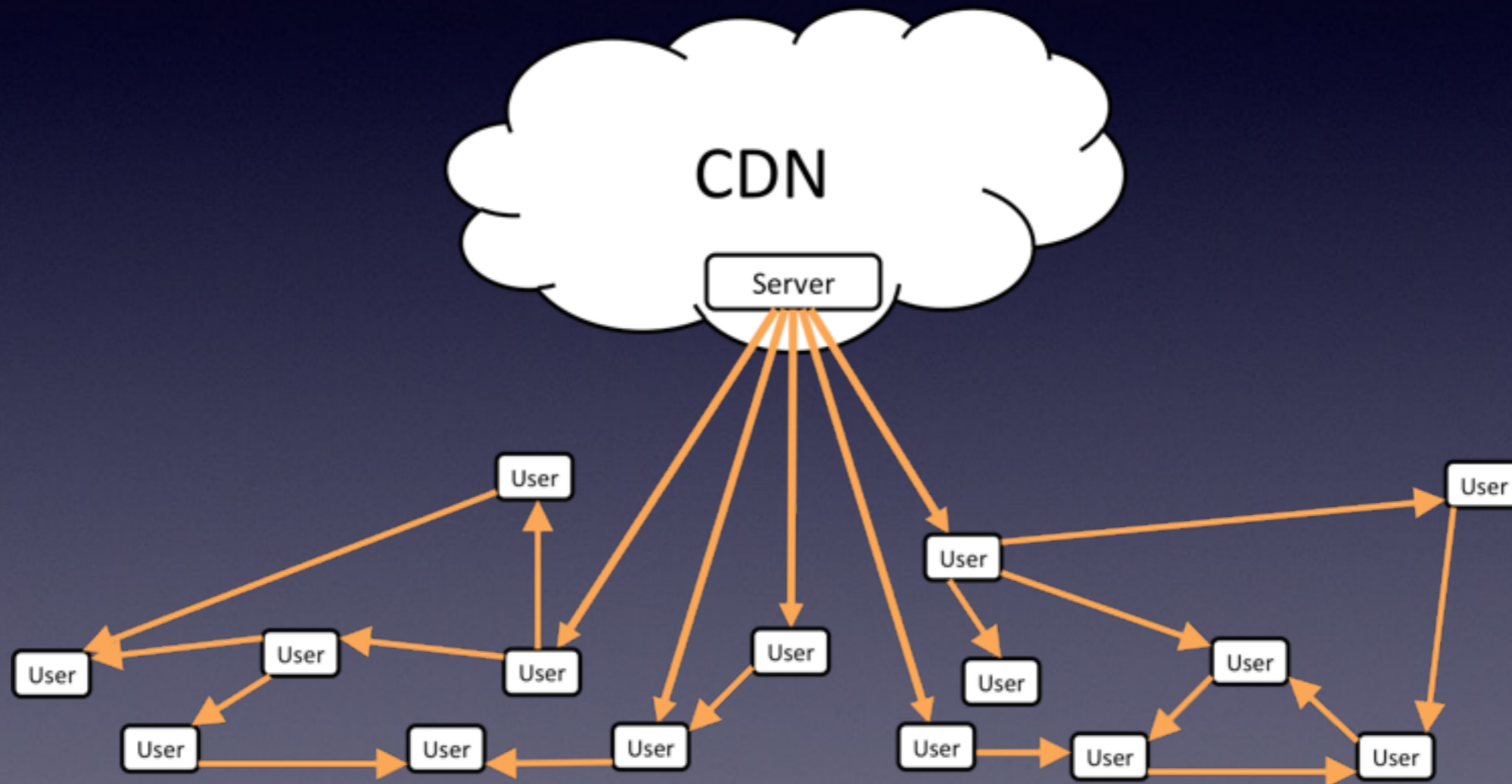
State of the Art Client/Server Communication



State of the Art CDN and the Cloud



State of the Art Peer-to-peer



Paradone's Goals

- Reduce bandwidth costs of broadcasters
- Peer-to-peer communication between users
- Independent of the broadcaster infrastructure
- Works in a web browser without plugins
- Deliver a better service to the user
- Implementation as a free software

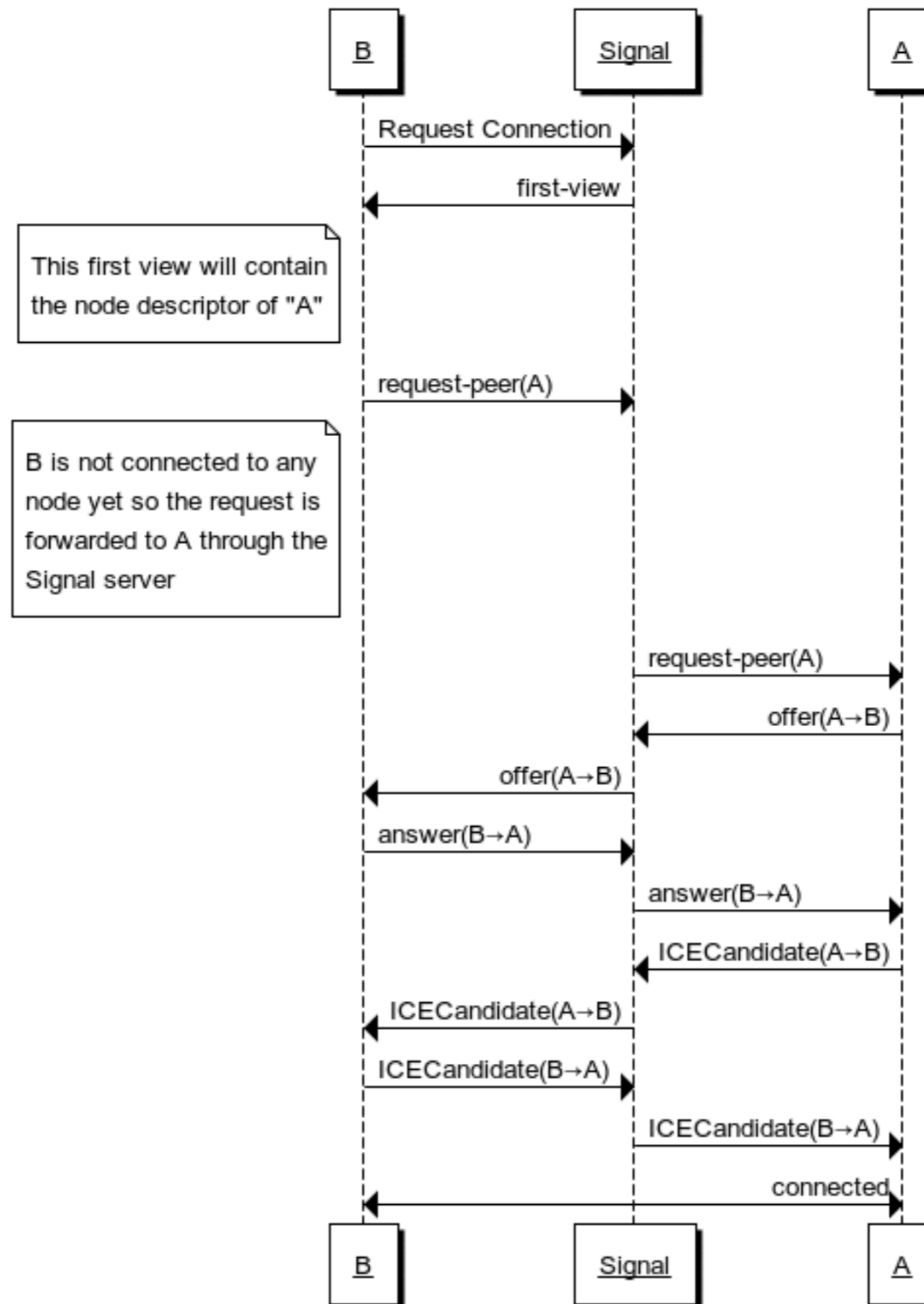
Technologies behind Paradone

- **WebRTC** for P2P communication
- **Media Source Extension** for video playback
- **P2P Gossiping Protocol** for broadcast management

Technologies behind Paradone WebRTC

- Access to camera and microphone of the computer
- Receive and transmit this streams
- Communicate directly with an other browser with the P2P DataChannels

New node on existing network



Technologies behind Paradone Media Source Extension

- Play videos in the browser without Flash
- Play videos with adaptative bitrate without Flash
- Play videos with DRM without Flash

Technologies behind Paradone

P2P Gossiping Protocol

- Unstructured overlay network
- More resilient to churn
- Heterogeneous capability aware protocol

Future Work

- Large scale tests
- Security for the broadcast and the communication
- Federated signalling system à la matrix.org

Merci

<https://paradone.github.io>