

GraphQL Subscriptions vs WebSockets

Analyzing the performance hit of GraphQL

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What is GraphQL?

It is a revolutionary way to send data between client & server

- Designed at Facebook in 2012 & open-sourced in 2015
- Multiples APIs into 1 end-point
- Perfect match with Microservices Architecture
- Combine Multiple request into 1 request for the client

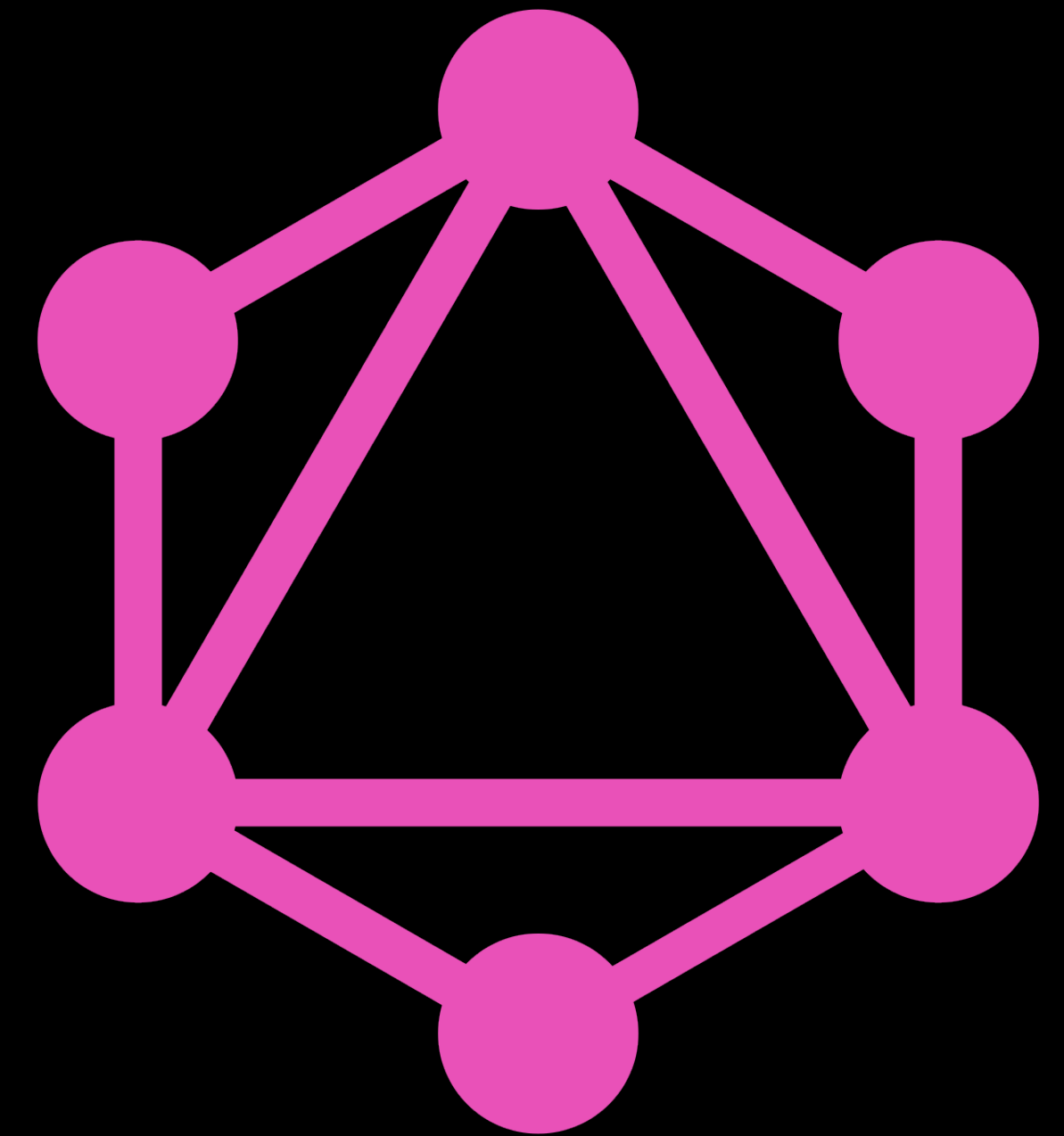


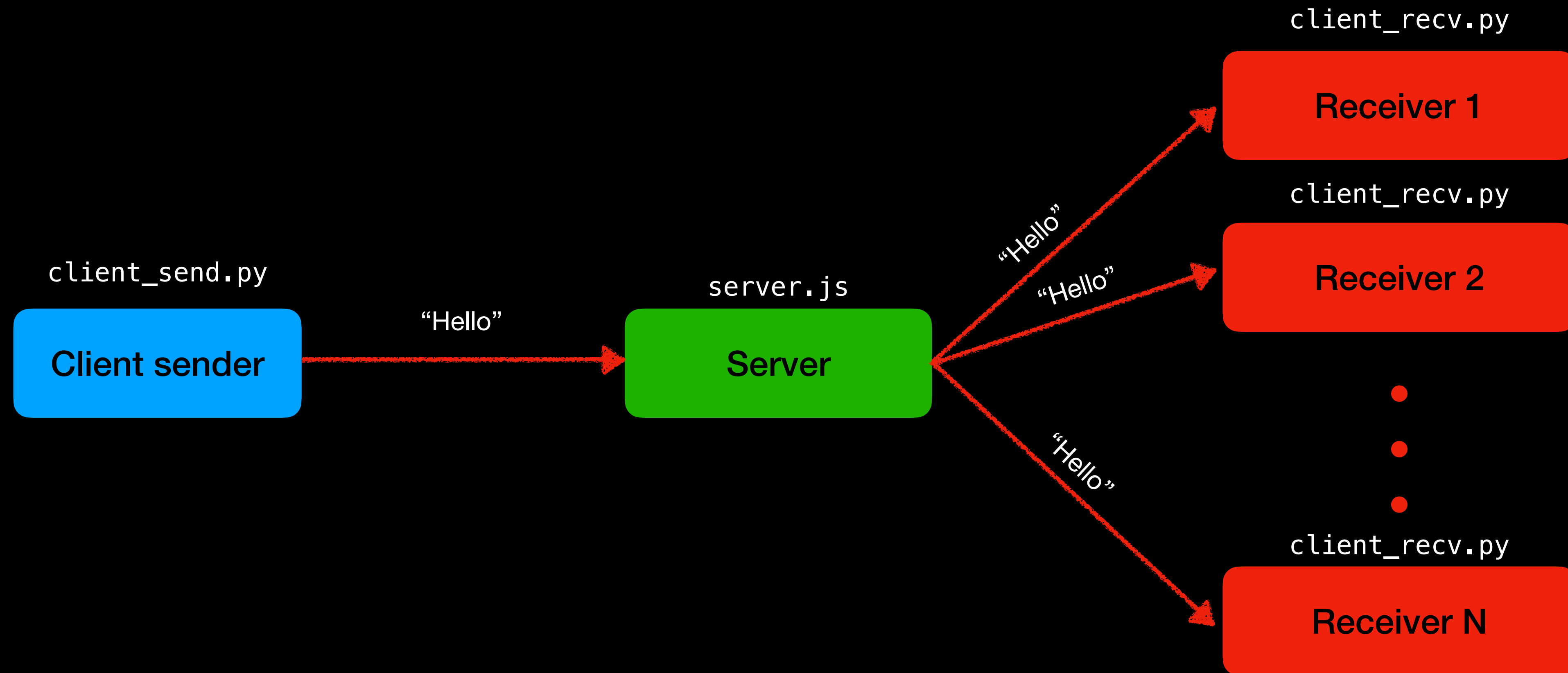
Image source: graphql.org

Why this research?

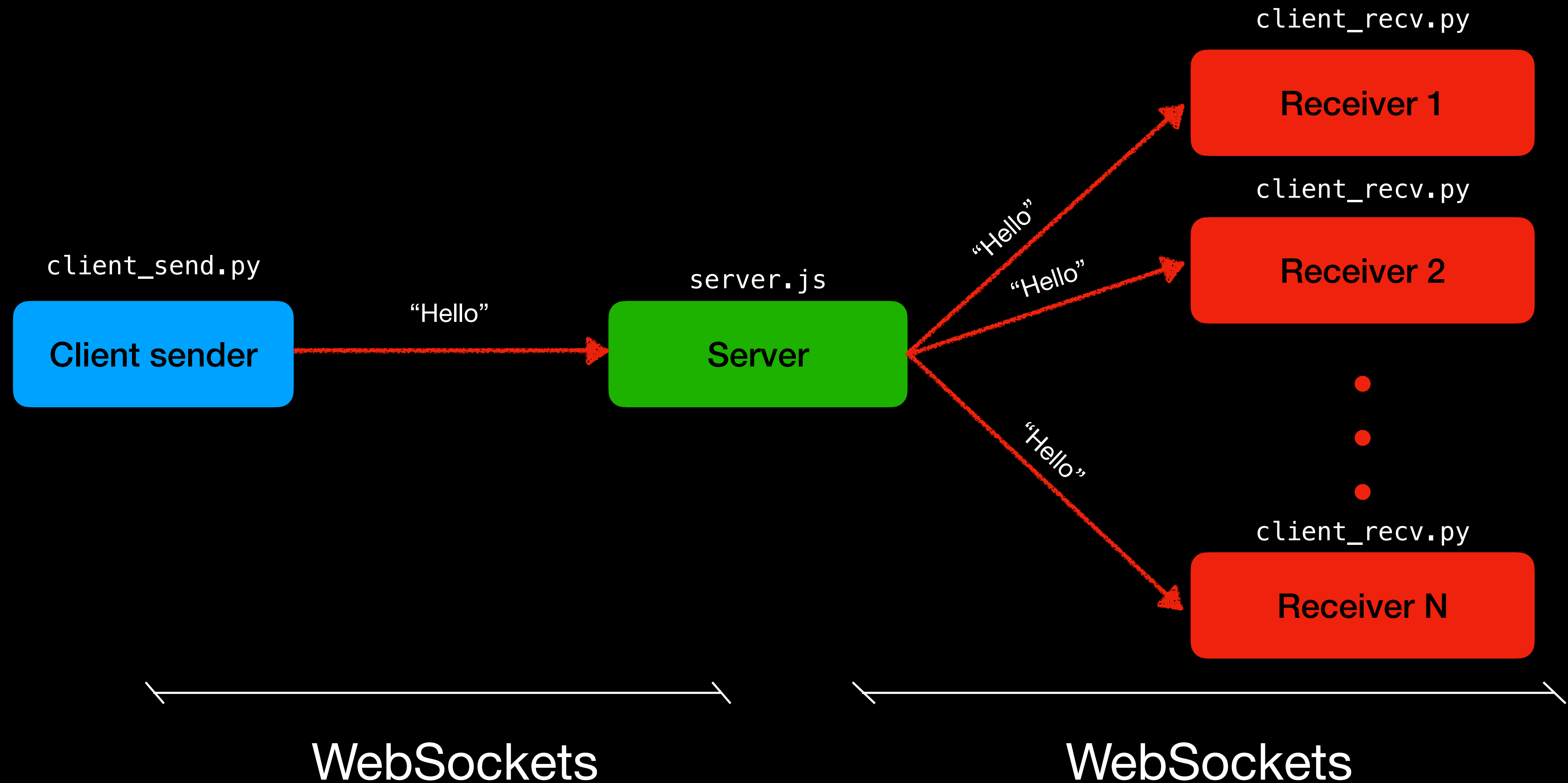
There is no current research related*

- GraphQL Subscriptions is a subset in GraphQL
- Enable real-time updates of certain data
- No current research available about performance of GraphQL Subscriptions

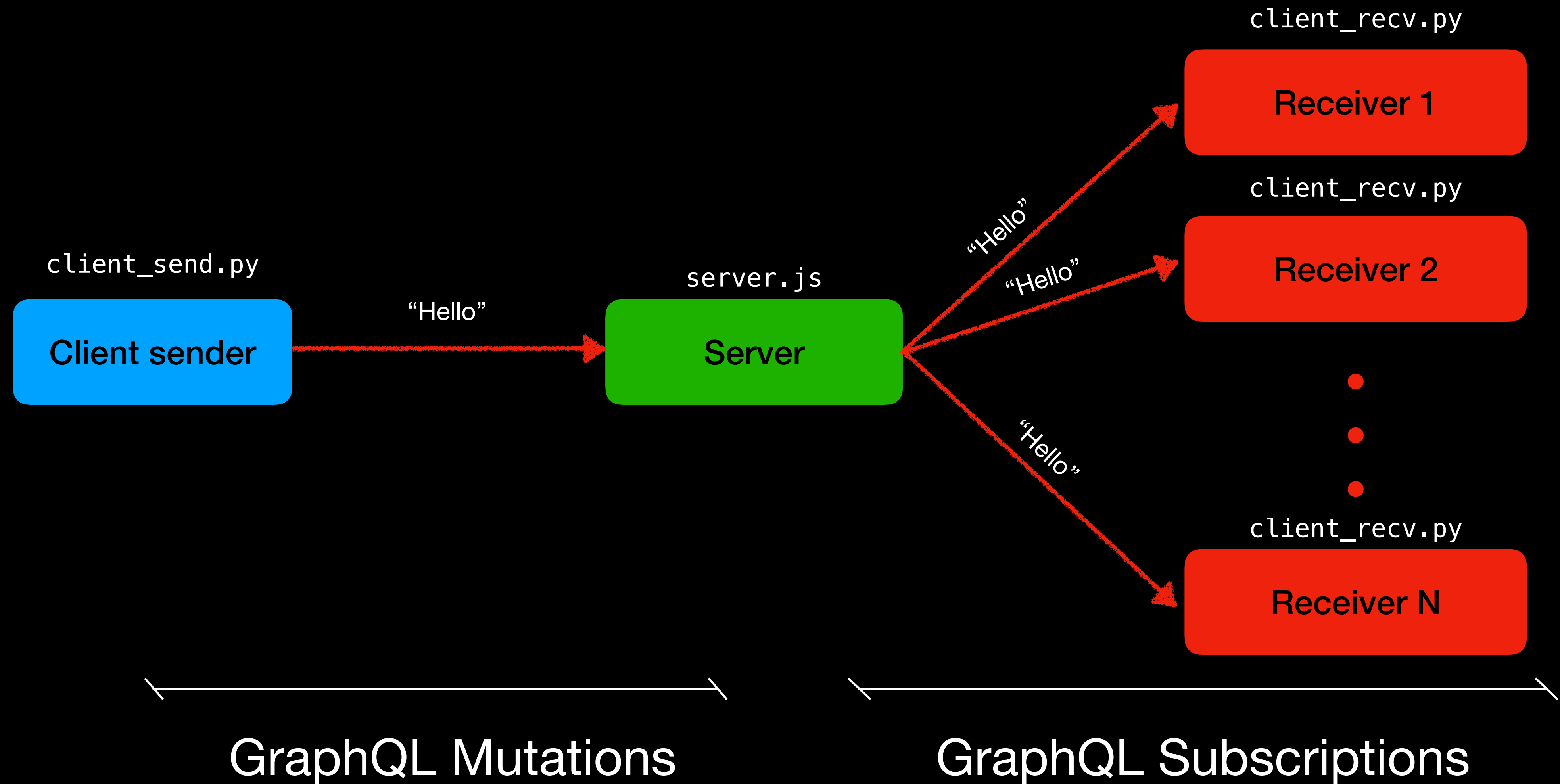
General Architecture



General Architecture - WebSockets

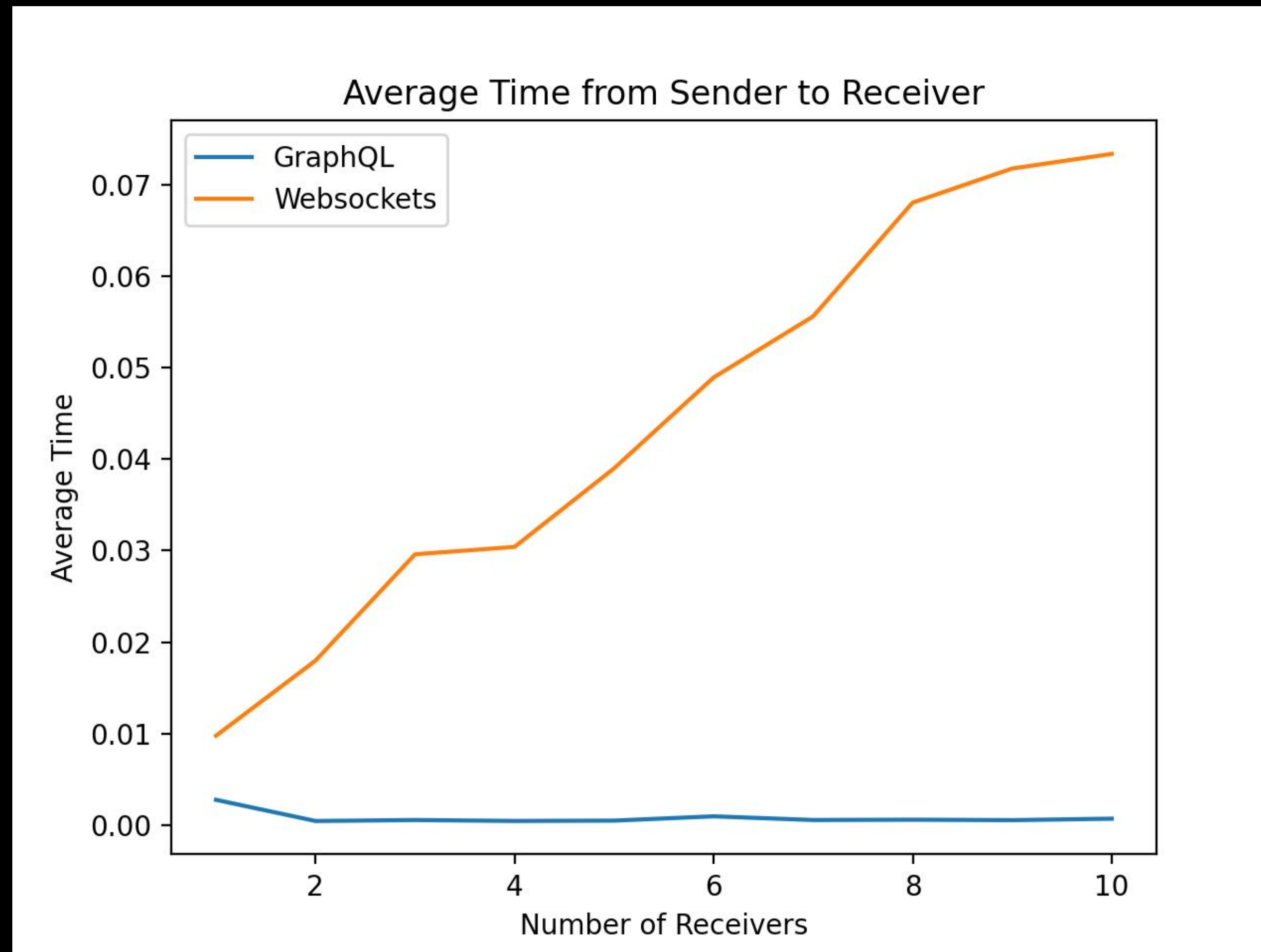


General Architecture - GraphQL



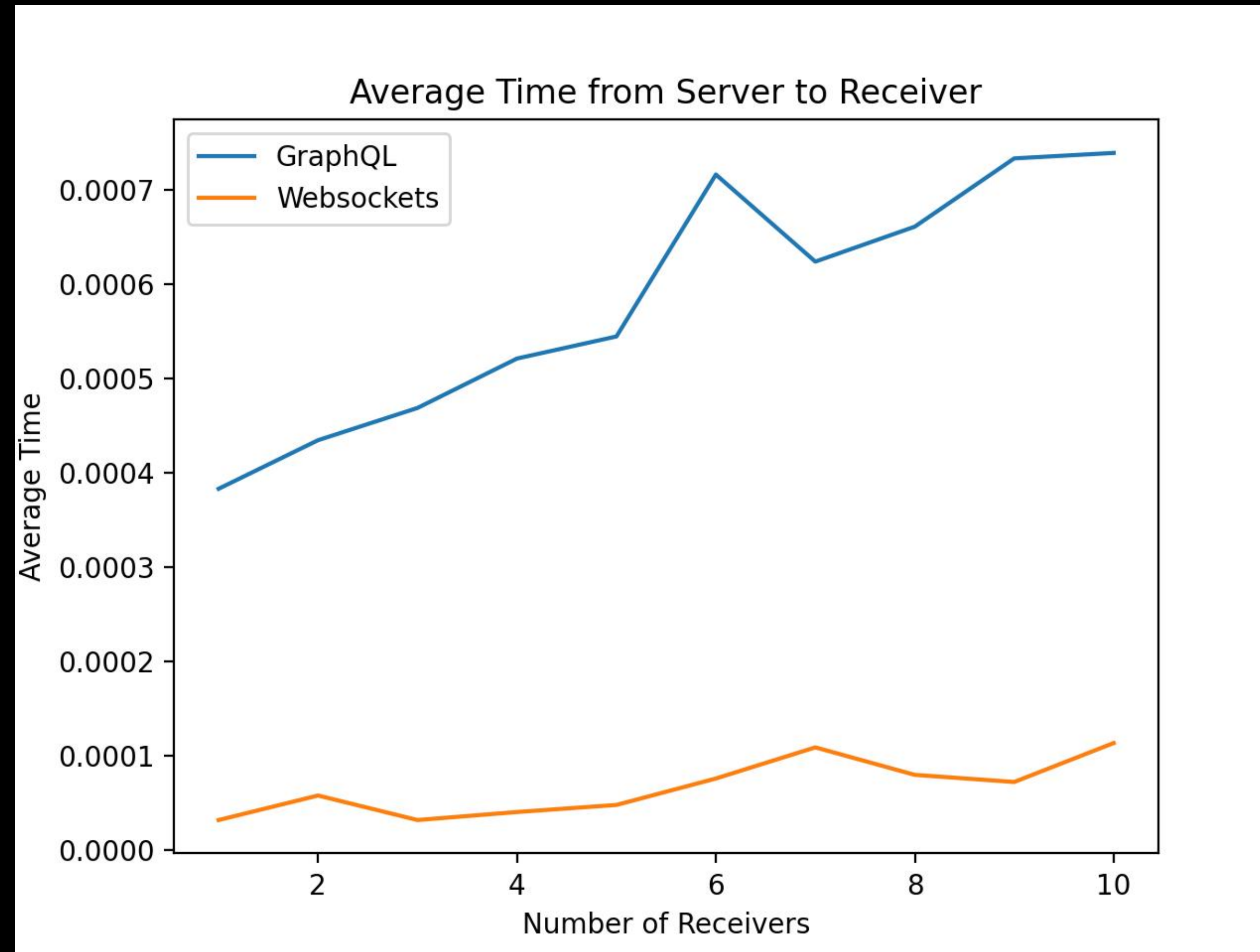
Results - Sender to Receiver

Surprisingly GraphQL outperforms WebSockets



Results - Server to Client

It is not thaaaaat simple



Conclusions

No clear answer, further research needed

- [Server to Client] WebSockets outperforms GraphQL Subscriptions
- [Sender to Client] GraphQL outperforms WebSockets
- WebSockets seems to scale better from server to client
- The results are surprising
- Further experimentation required

Thank you for listening!