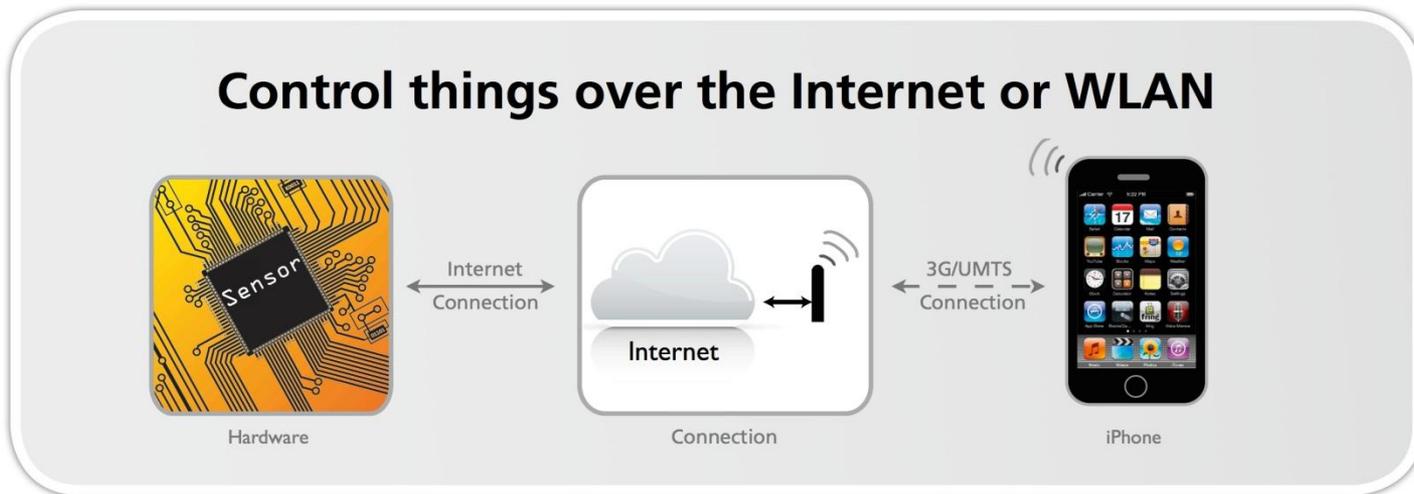


WebSockets for real-time Hardware-Browser interaction



Control and monitoring solutions for renewable technologies



Abstract

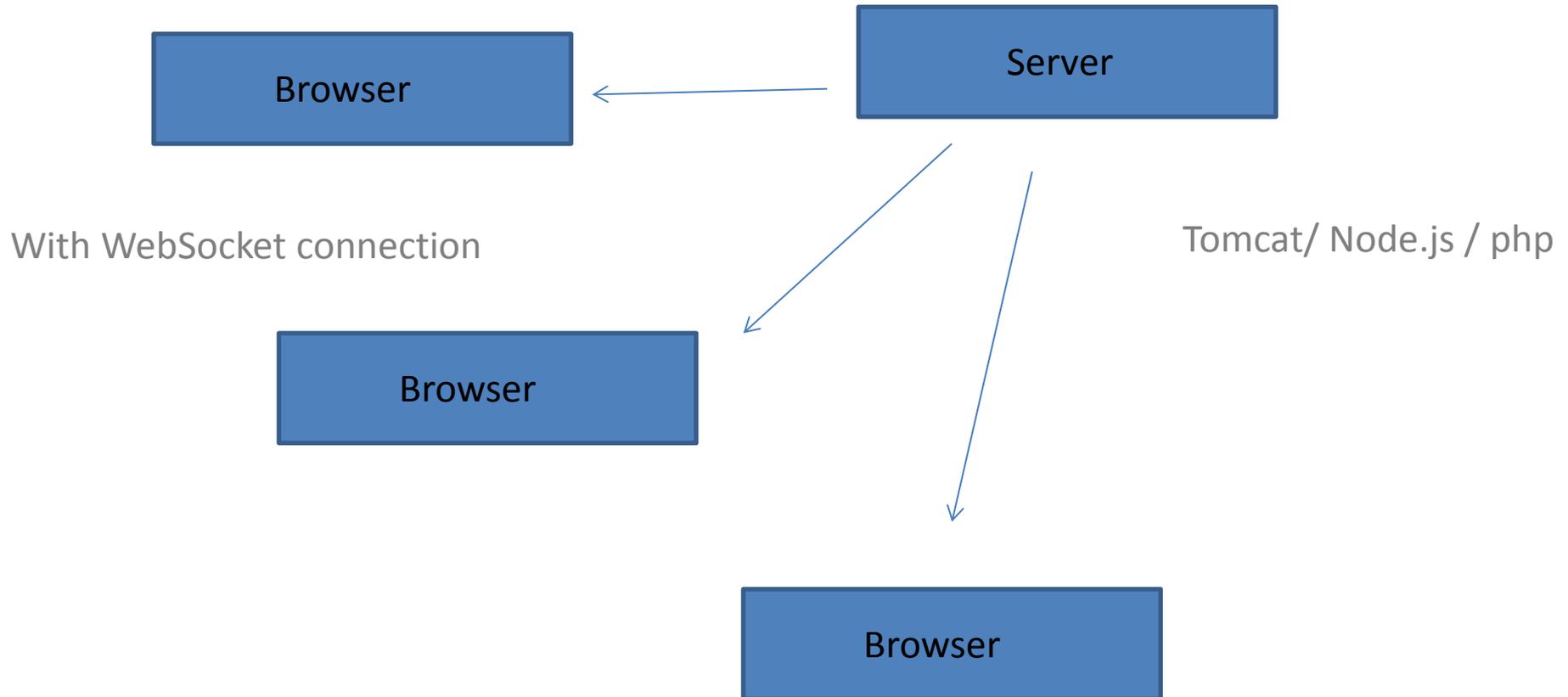
WebSocket base interaction has gained popularity in browser based social media applications. Chats for example rely on fast data exchange, so that messages are received in realtime. The legacy way to realize that was long polling or comet base applications. But because of the delays of http requests applications like chats have been implemented in dedicated Desktop applications using TCP/IP or UDP instead. The WebSocket protocol in modern browsers enables a permanent connection so that data can be send in both directions without the http header overhead and establishing a connection with every message.

WebSockets are not only a benefit for realtime web applications. Embedded hardware which in the past relied on dedicated drivers and desktop applications as user interfaces can now be connected over Ethernet or Wifi with a computer and exchange realtime data with a browser which is functioning as the GUI. This way products can become usable on multiple Operating systems without the requirement to develop drivers and Application for every OS.

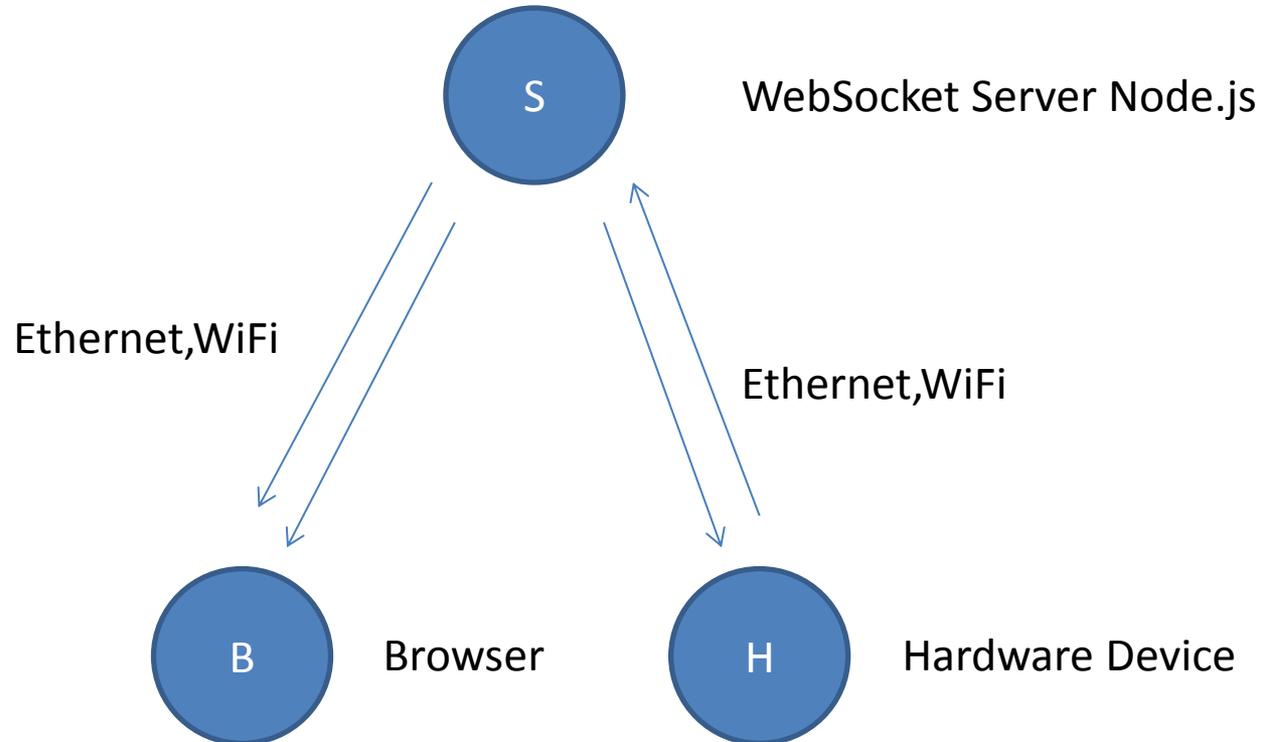
What are WebSockets:

- TCP
- Prot 80
- Full duplex communication over TCP
- Enable bi-directional data exchange with out the Http header overhead in COMET methodes
- Implemented in all major Desktop and mobile Browsers

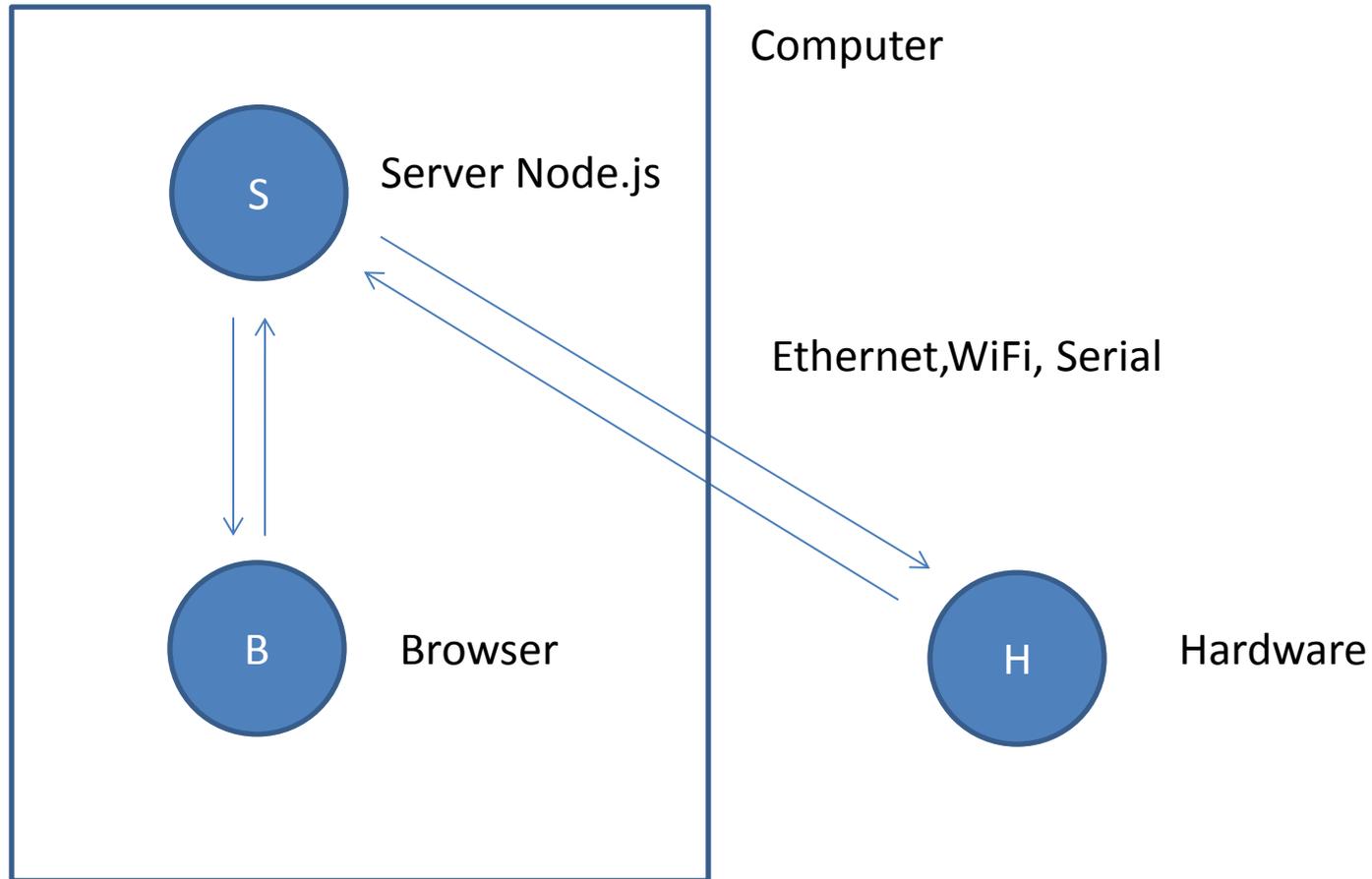
WebSocket Interaction



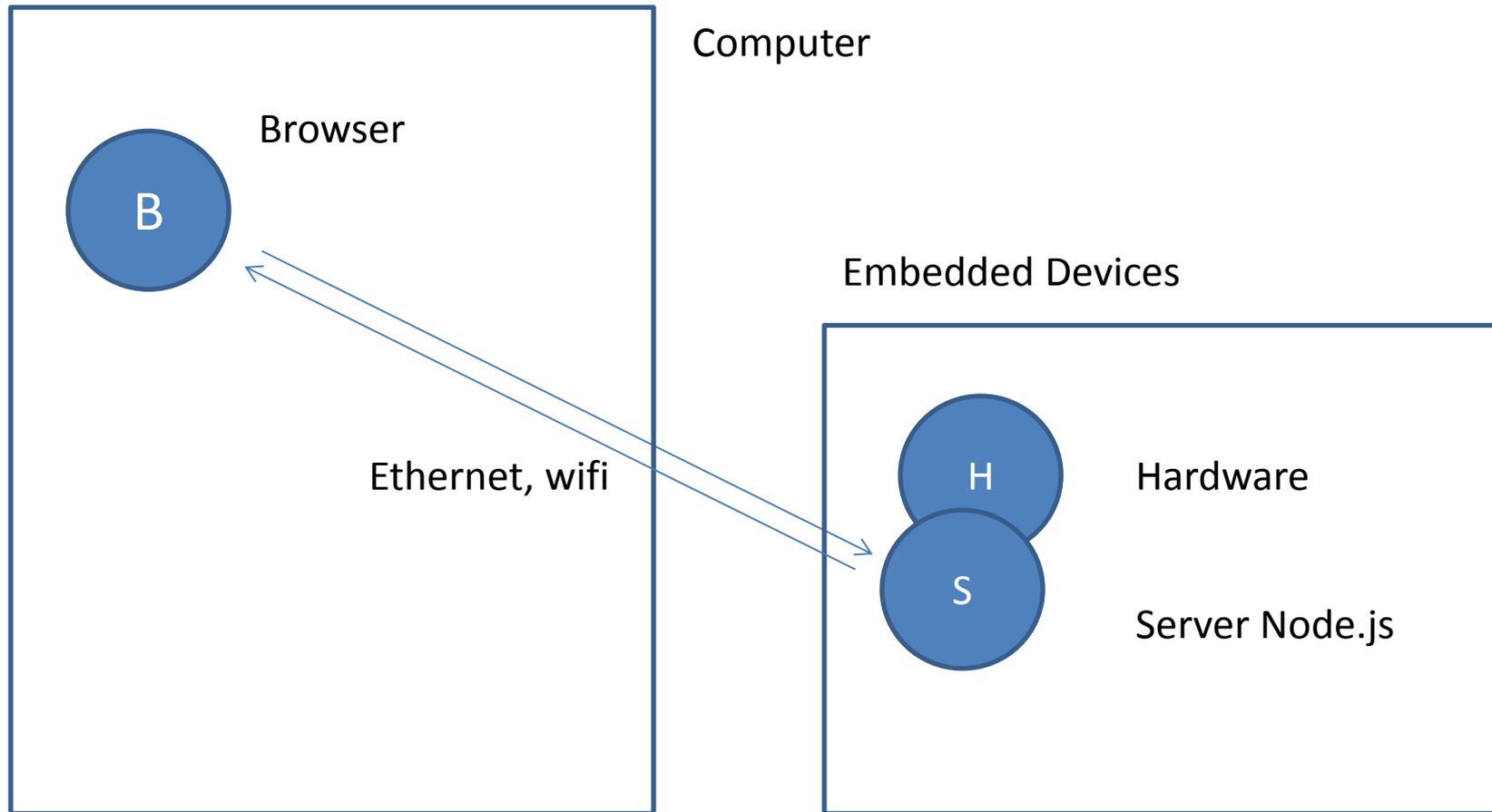
WebSocket Server on an external Server



WebSocket Server on the host Computer



WebSocket server inside the Hardware



Demo

Conclusions

- Real-time data from Browser to Browser
- No plug ins or external applications required
- Compatible with most browsers.
- Works platform independent

Demo

Thank
You