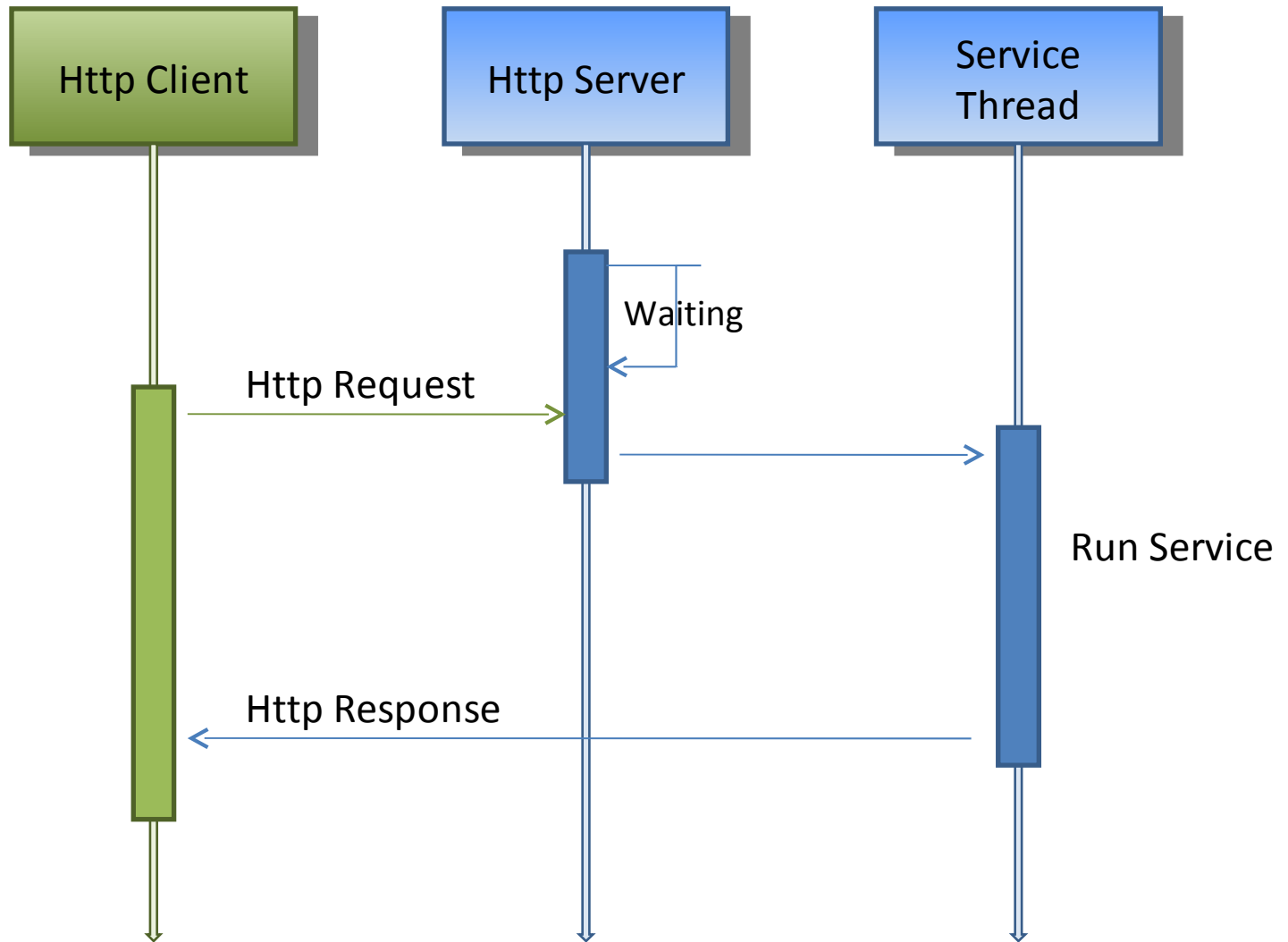


WebSocket Server Implementation

Chao-Wei Peng

HTTP Request Model

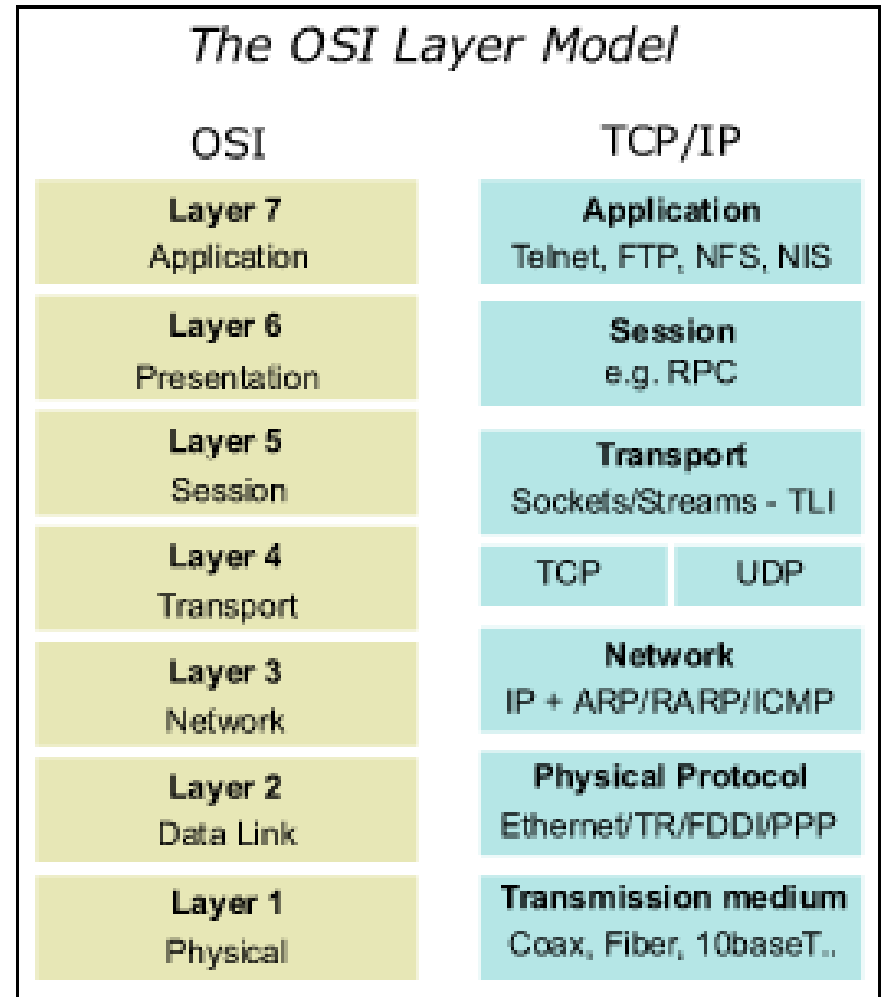


HTTP Weakness

Server sends response only if someone requests it.

WebSocket Protocol

- New protocol in Application layer.
- Enable web pages to build two-way channel with a remote host.



Refer to: http://www.mironov.com/articles/osi_layers/

WebSocket Client Supporting

IE 8	X	
IE 9	X	
Firefox 3.6	X	
Firefox 4	O	v. 76
Chrome 5	O	v. 56
Chrome 6	O	v. 76

WebSocket Client API

- WebSocket

- Constructor(uri);

- Attributes

- readyState

- Methods

- send(message);

- close();

- Events

- onstart

- onmessage

- onclose

- onerror

WebSocket Server Implementation

1. Handshake and Build Channel with Client
2. Send & Receive Data
3. Close Channel

Refer to: <http://tools.ietf.org/html/draft-hixie-thewebsocketprotocol-75>

Handshake

Client

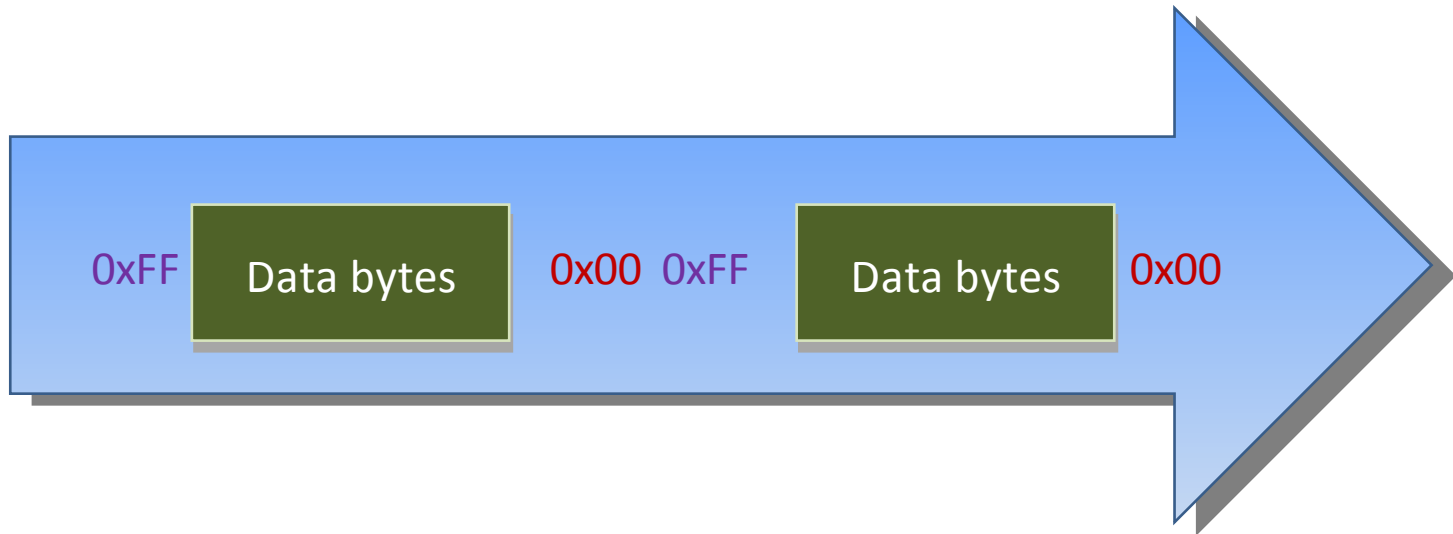
```
GET /demo HTTP/1.1
Upgrade: WebSocket
Connection: Upgrade
Origin: http://example.com
Host: example.com
```



Server

```
HTTP/1.1 101 WebSocket Protocol Handshake
Upgrade: WebSocket
Connection: Upgrade
Sec-WebSocket-Origin: http://example.com
Sec-WebSocket-Location: ws://example.com/demo
```

Data Framing



Data bytes should be encoded/decoded by **UTF-8**

Close Channel

Simply close the WebSocket connection.

Demo Time