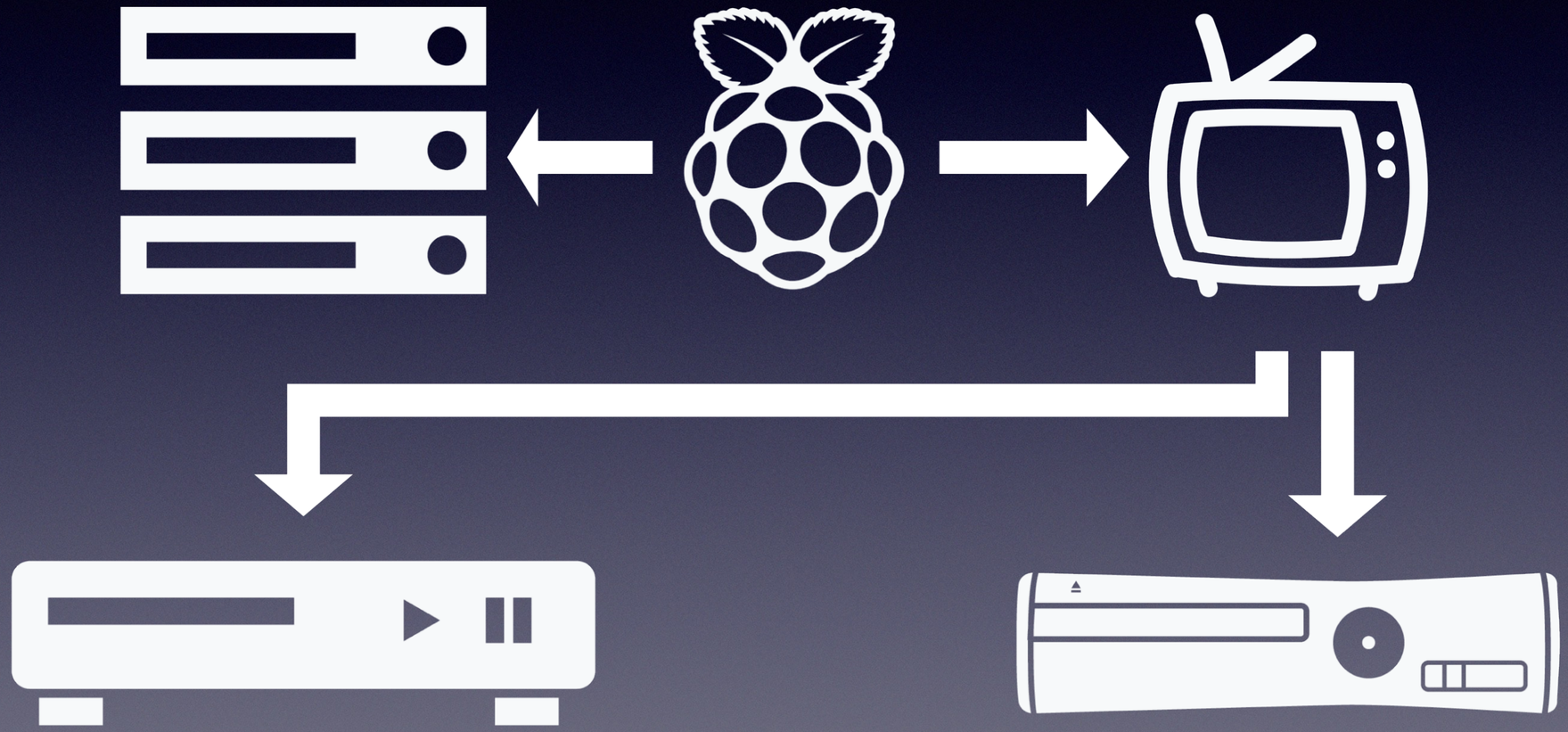
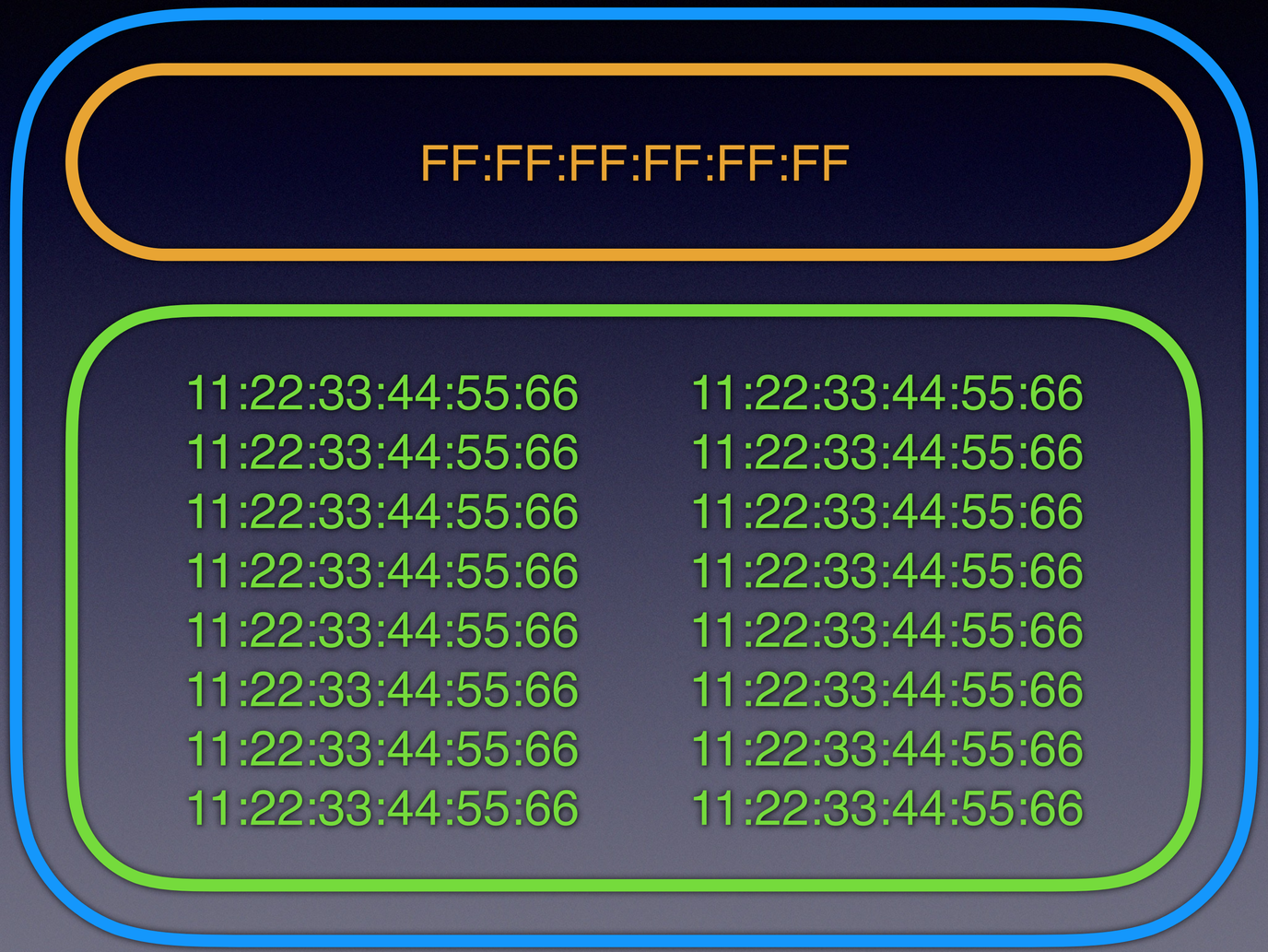
JS in the Real World

By Hunter Parks

GOAL - Home Automation



Wake-on-LAN => WOL



WOL “Magic” Packet - 102 bytes

“Header” - 6 bytes

Payload - 96 bytes

Typically UDP (TCP *fine*)

NOT Full Stack (EtherType)

Creating Magic Packet

```
…
// macAddress stripped of filler characters
// MAC_ADDR_SIZE = 6
let macBuffer = Buffer.alloc(MAC_ADDR_SIZE);
for(let i = 0; i < MAC_ADDR_SIZE; i++) {
  macBuffer[i] =
    parseInt(macAddress.substr((i * 2), 2), 16);
}
…
```

Creating Magic Packet

```
…
// macAddress stripped of filler characters
// MAC_ADDR_SIZE = 6
// MAC_ADDR_REPEAT = 16
for(let i = 0; i < MAC_ADDR_REPEAT; i++) {
  macBuffer.copy(magicPacket, // Target
    (i + 1) * MAC_ADDR_SIZE, // Target Start
    0, macBuffer.length); // Source Start, End
}
…
```

Sending Magic Packet

```
…
let socket = dgram.createSocket('udp4');
socket.send(
  magicPacket, 0, magicPacket.length,
  9, '255.255.255.255', // Port, address
  (error) => {
    socket.close();
  });
…
```

More Reading

- Wikipedia -> https://en.wikipedia.org/wiki/Wake-on-LAN
- Wireless WOL -> https://revolutionwifi.blogspot.com/2010/11/wake-on-wireless-lan.html
- AMD White Paper -> https://support.amd.com/TechDocs/20213.pdf
- EtherType -> https://en.wikipedia.org/wiki/EtherType

Thank you!

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http://bit.ly/2MSbdDh