Yaler – a simple, open and scalable relay infrastructure

WoT 2010

Oberon microsystems

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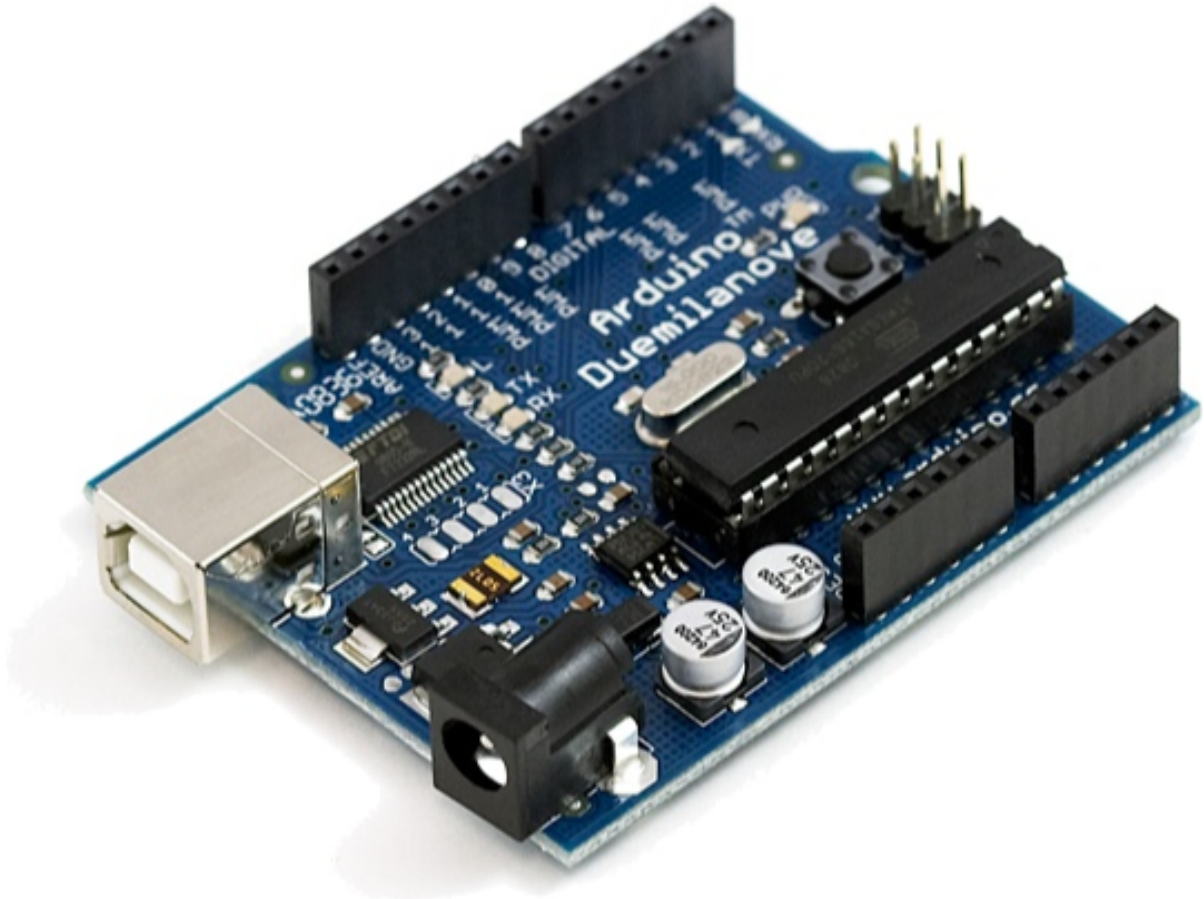
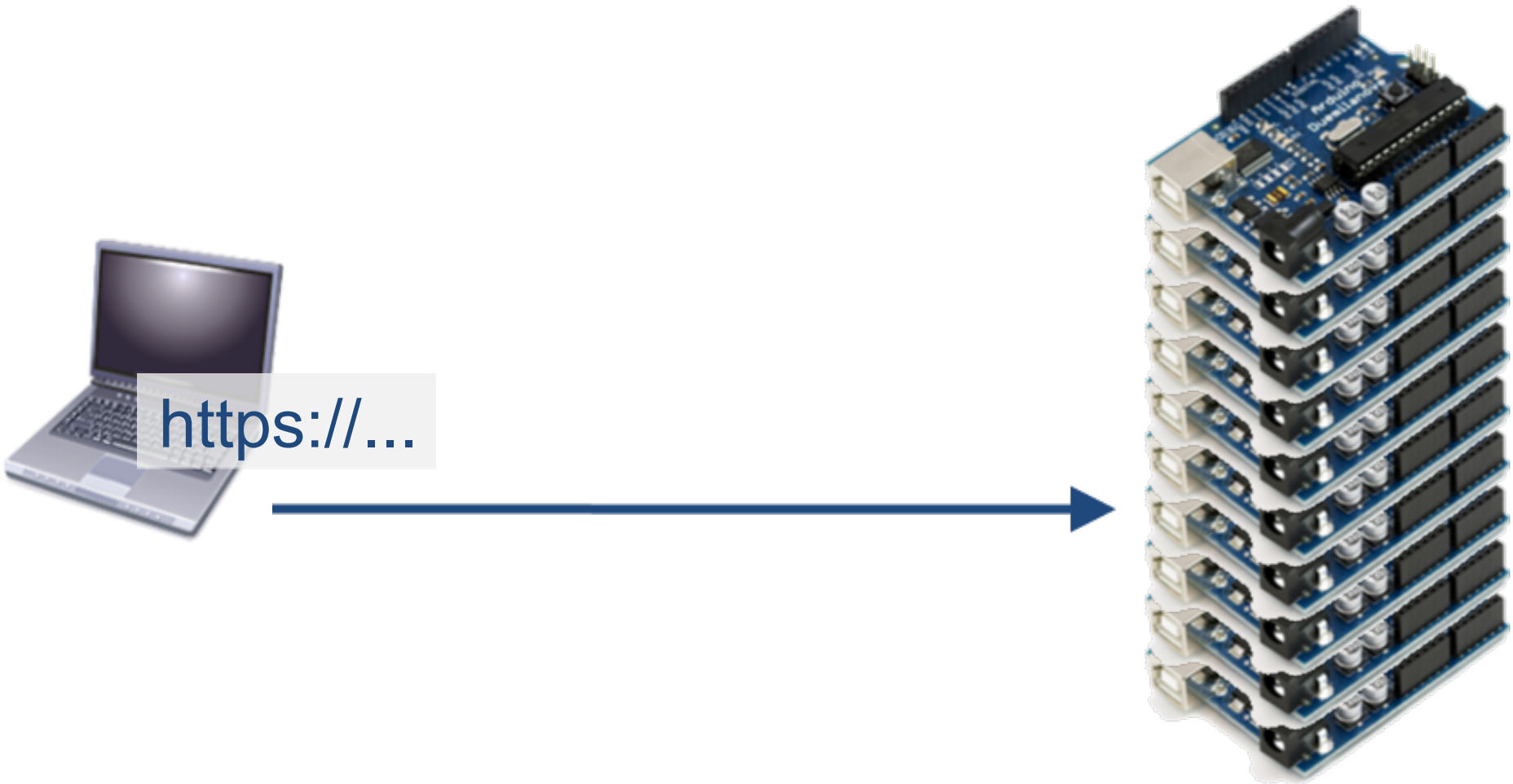
HTTP/1.1



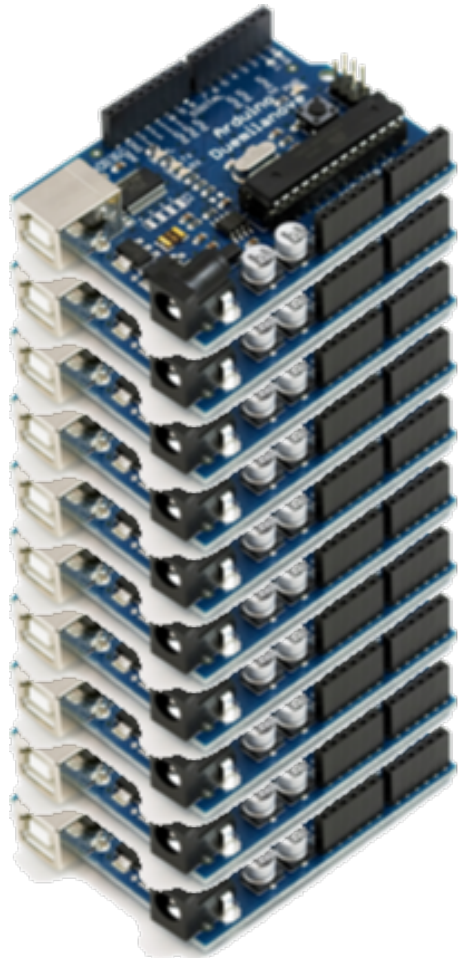
Enable monitoring and remote control from any Web browser

… of thousands of embedded devices.



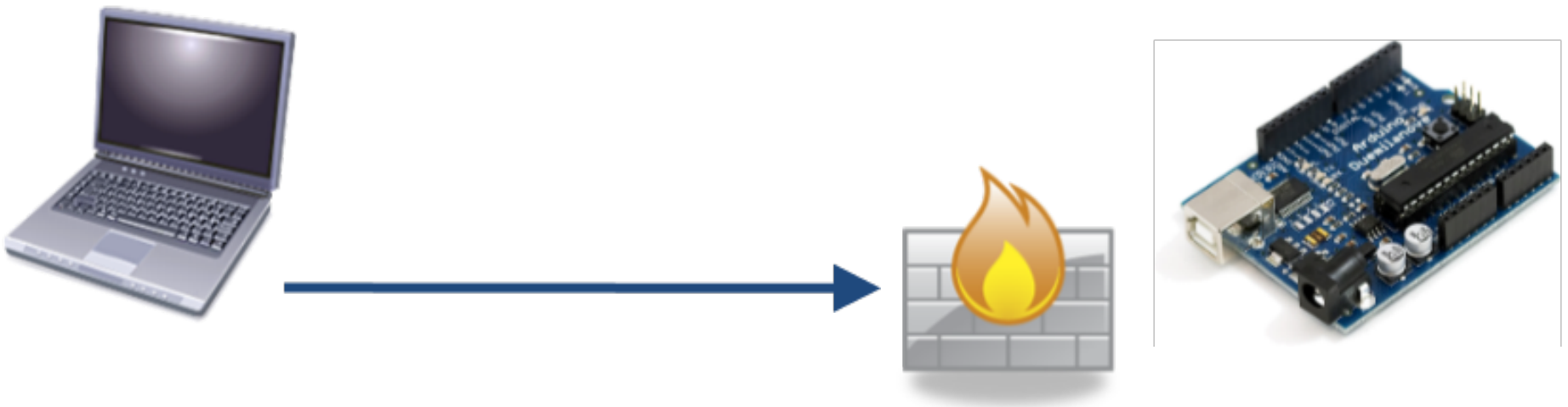
Ideally that just works.

https://...

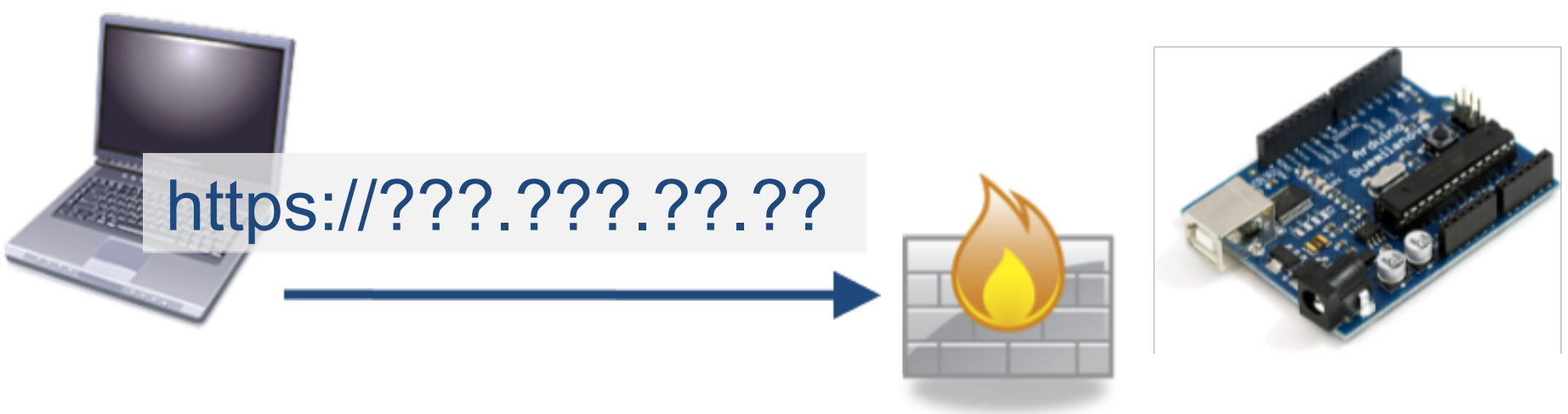


But in reality, the challenges are…

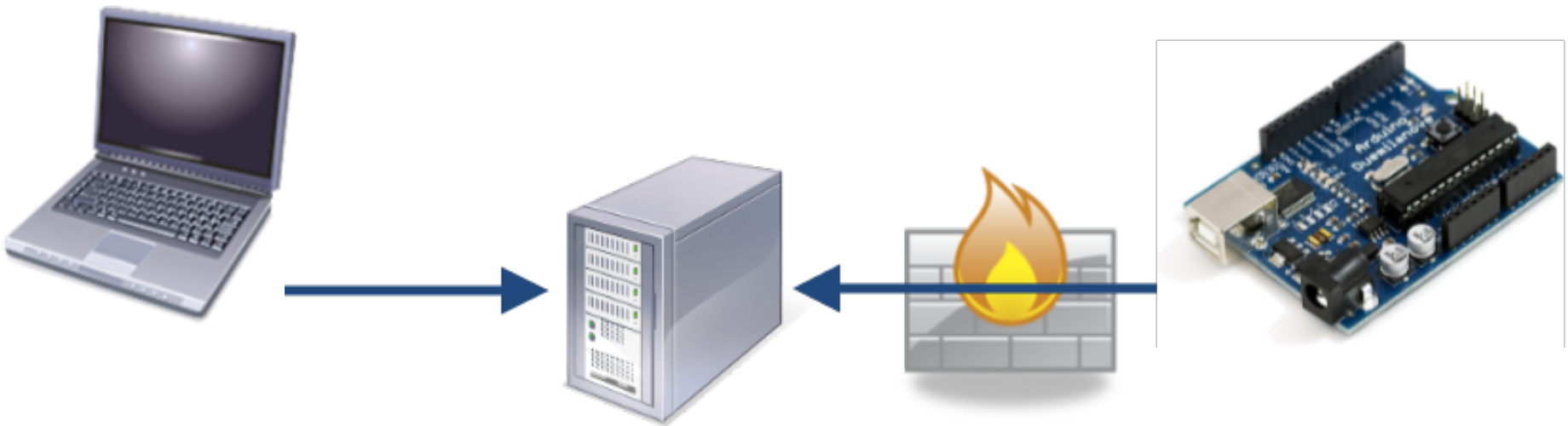
Accessibility



Addressability



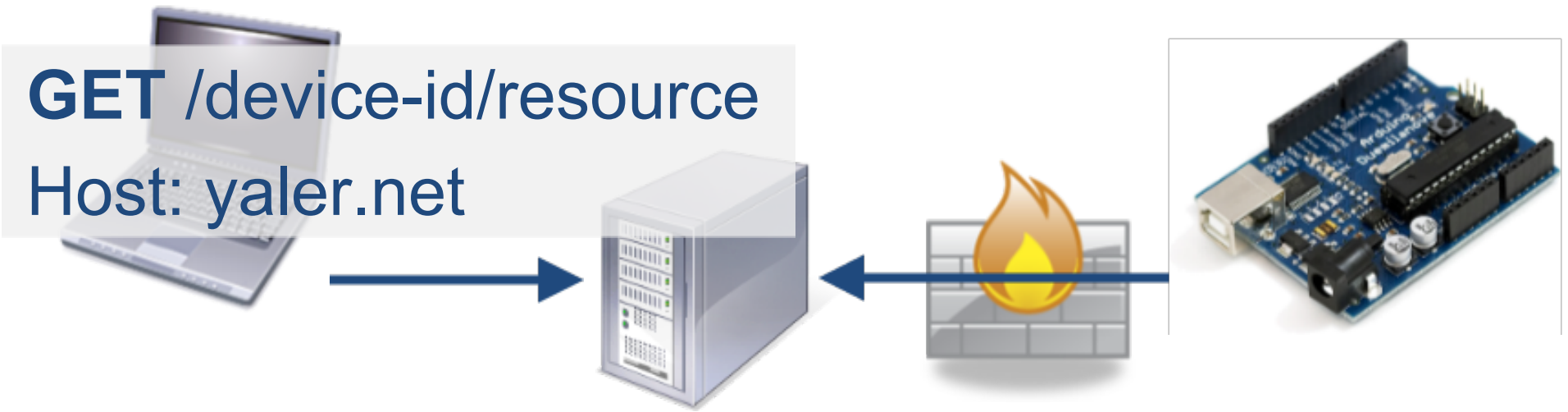
Yaler is a simple relay infrastructure based on Linden Lab's Reverse HTTP.



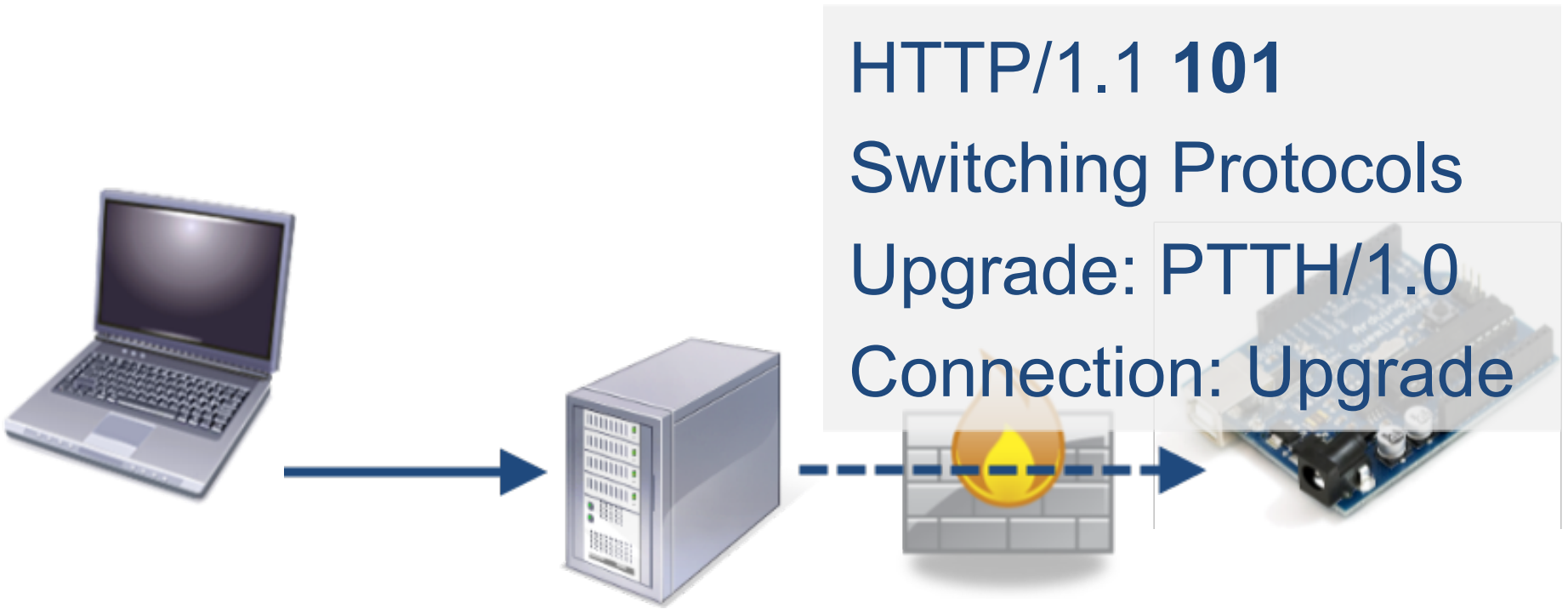
Devices are **published** with HTTP/1.1

POST /device-id
Upgrade: PTTH/1.0
Connection: Upgrade
Host: yaler.net

… and **accessed** with HTTP/1.1

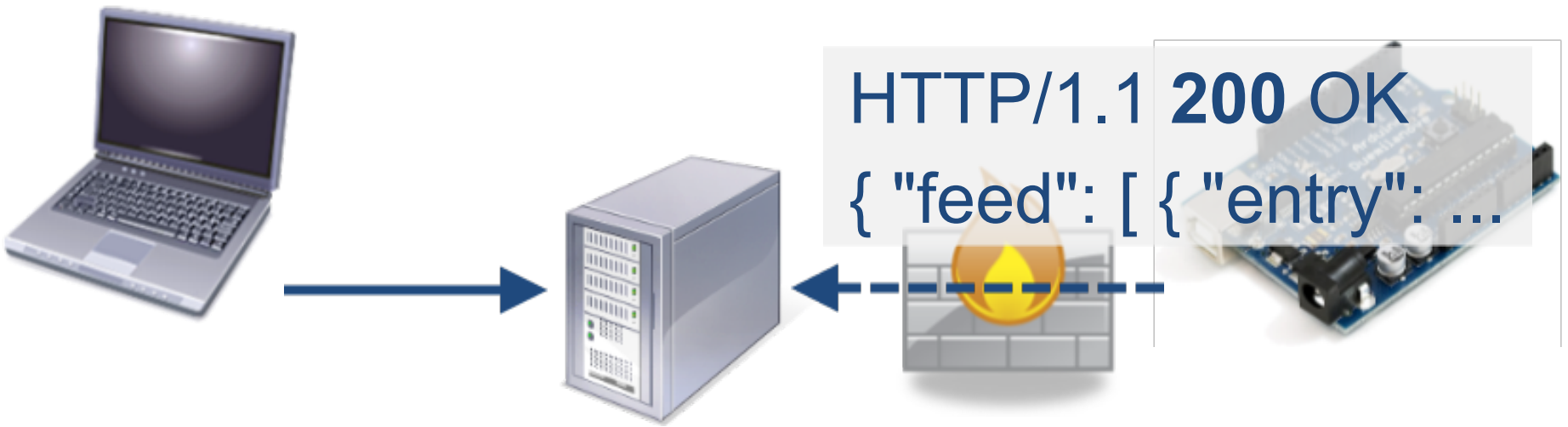


Yaler **reverses** the connection

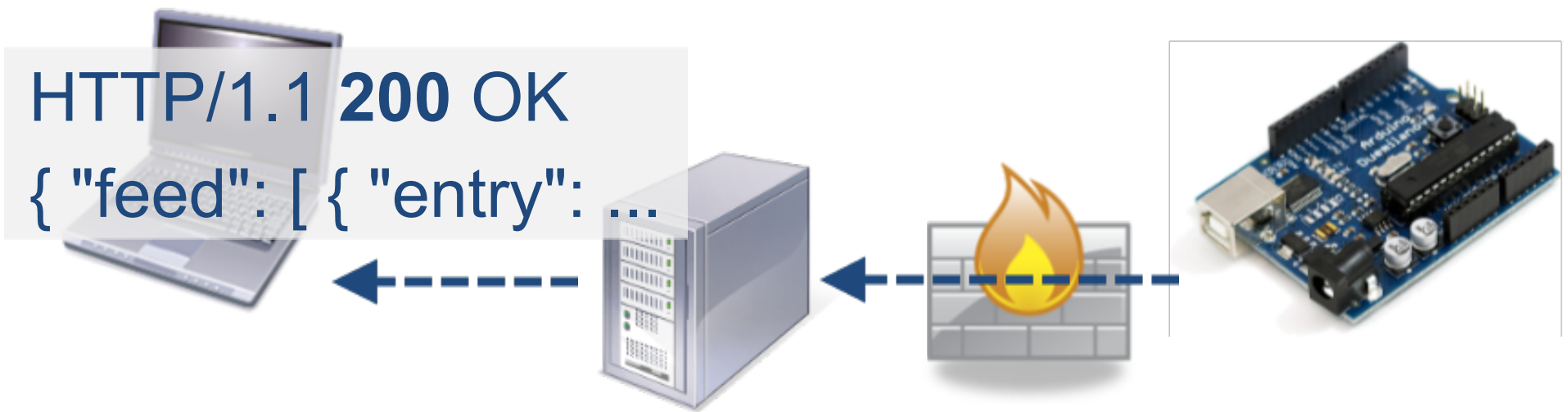


… and **forwards** the **request**.

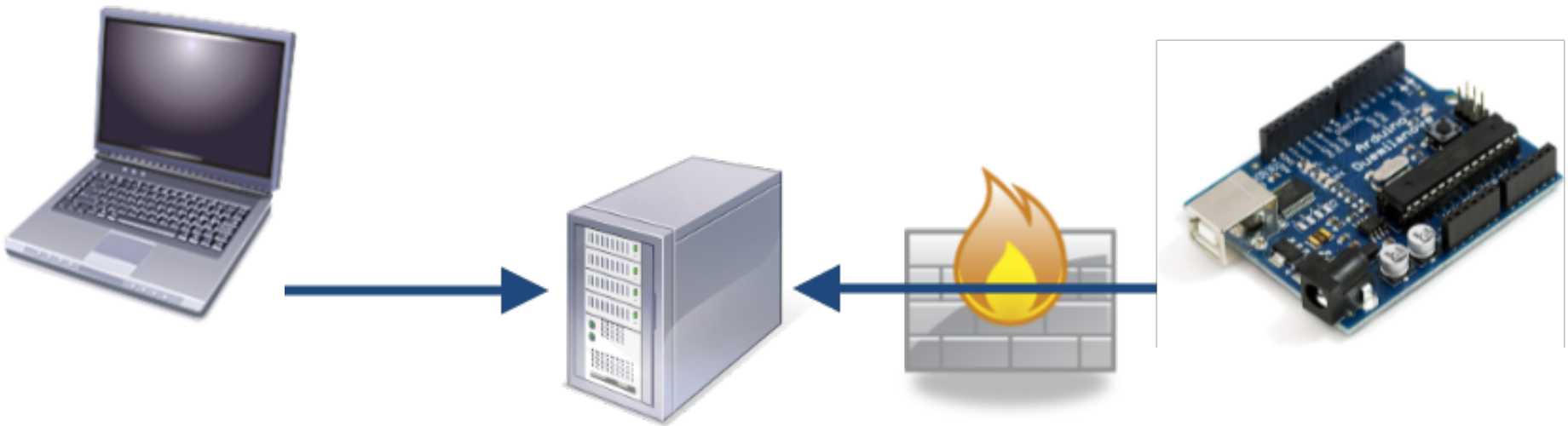
The device **responds** with HTTP/1.1



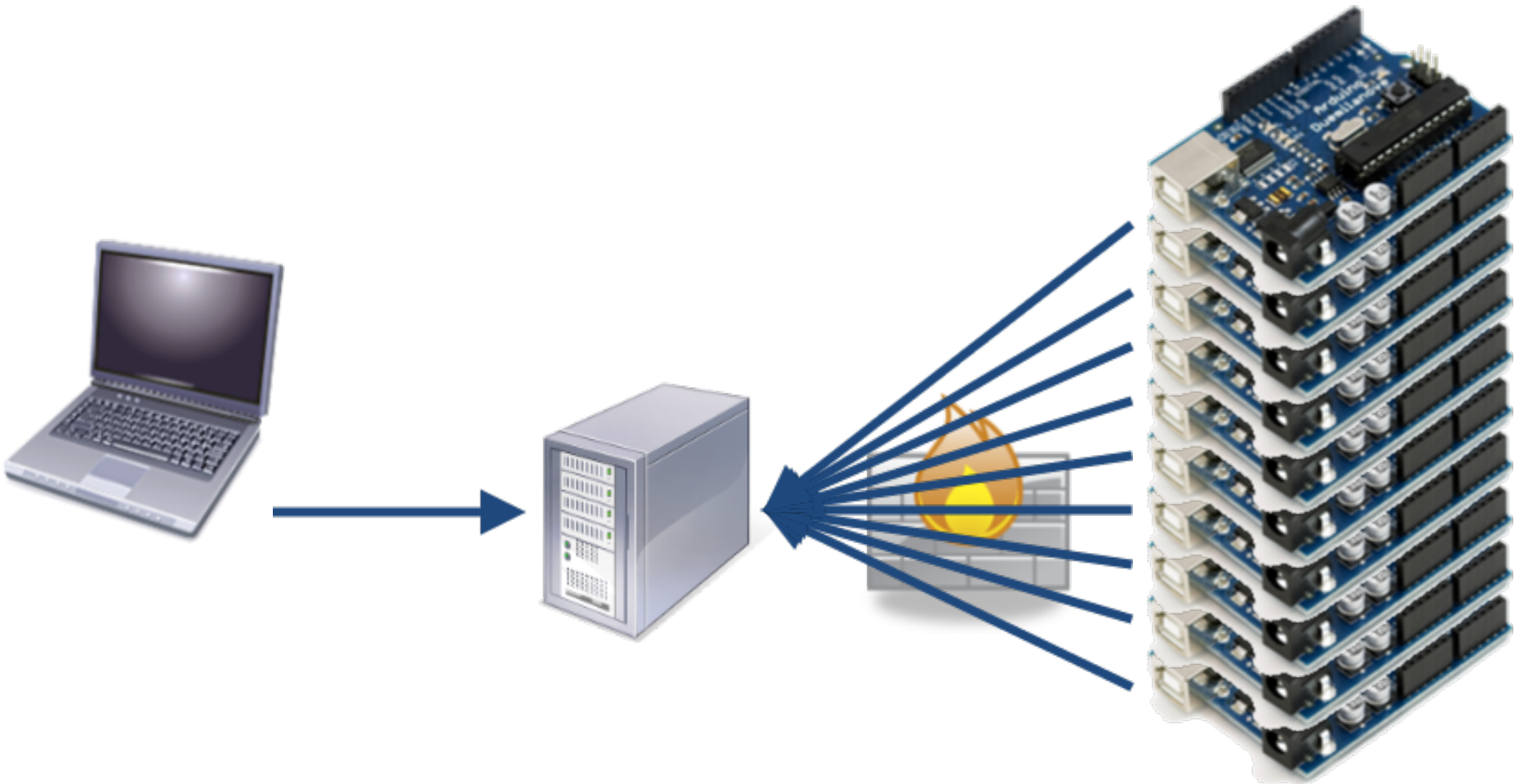
Yaler **returns** the **response**



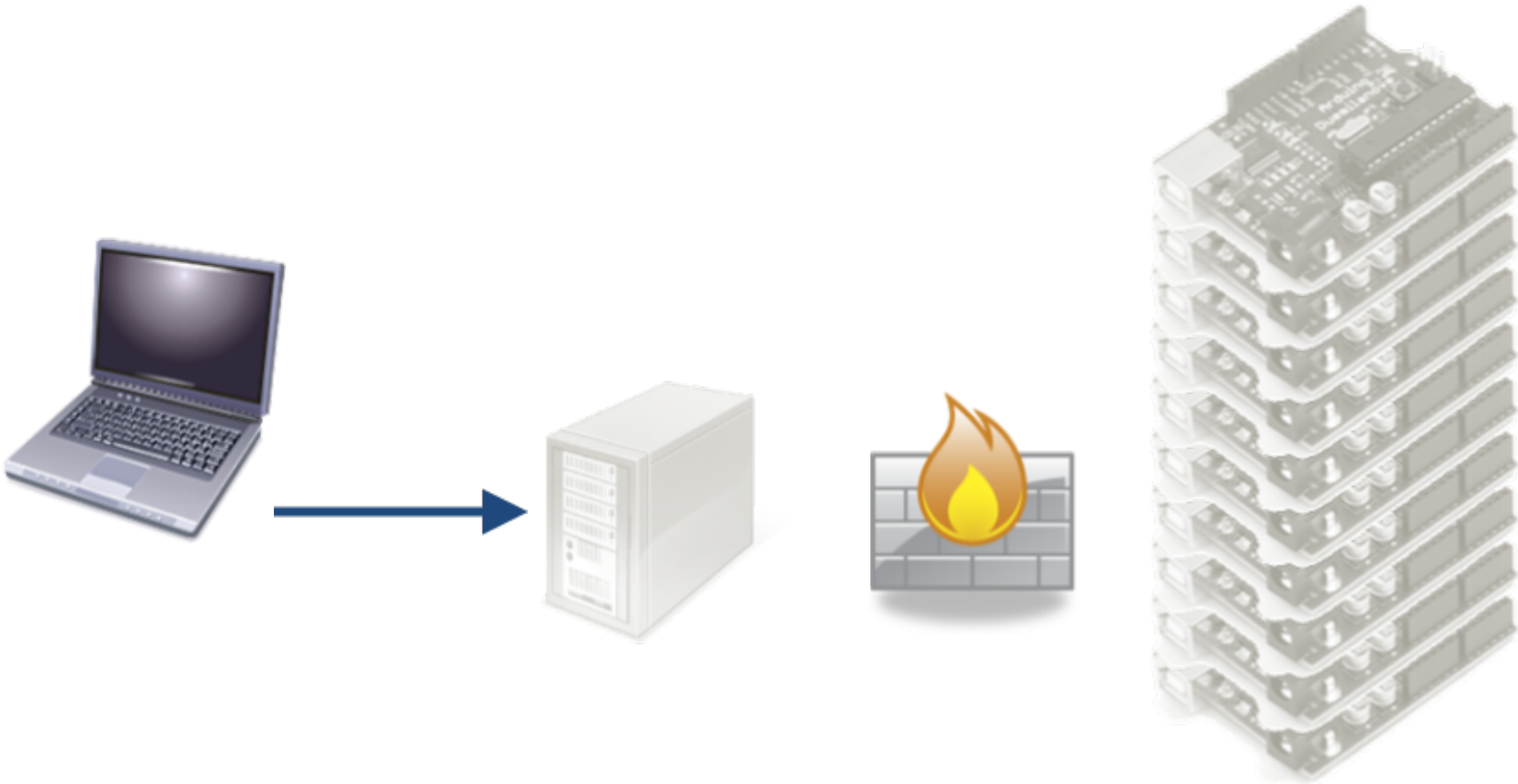
But this poses two new challenges…



Scalability



Availability



Yaler is **engineered** for

high performance,

maintainability,

robustness.

Yaler is **implemented** with

Java's non-blocking sockets,

hierarchical state machines,

and Design by Contract.

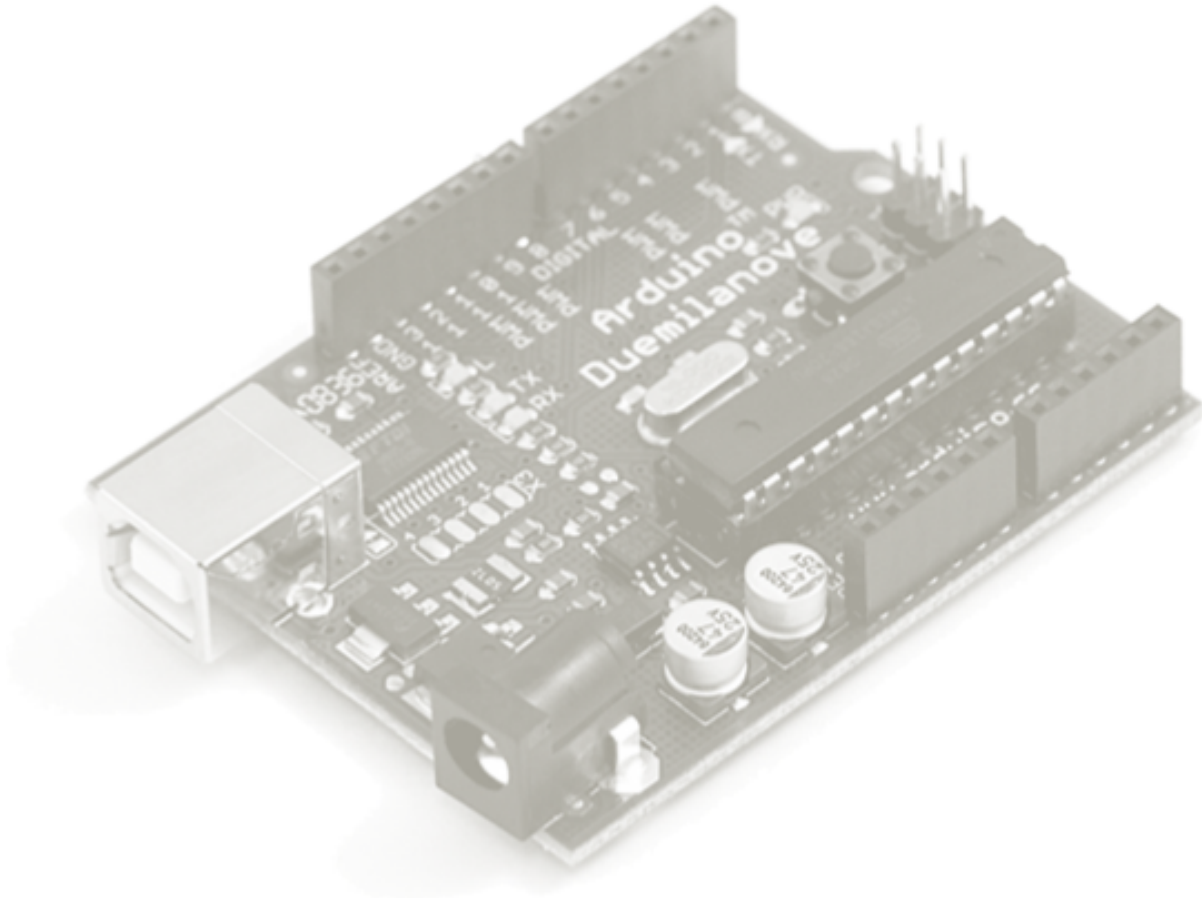
Scalability and **availability** can be achieved by coordinating relays with

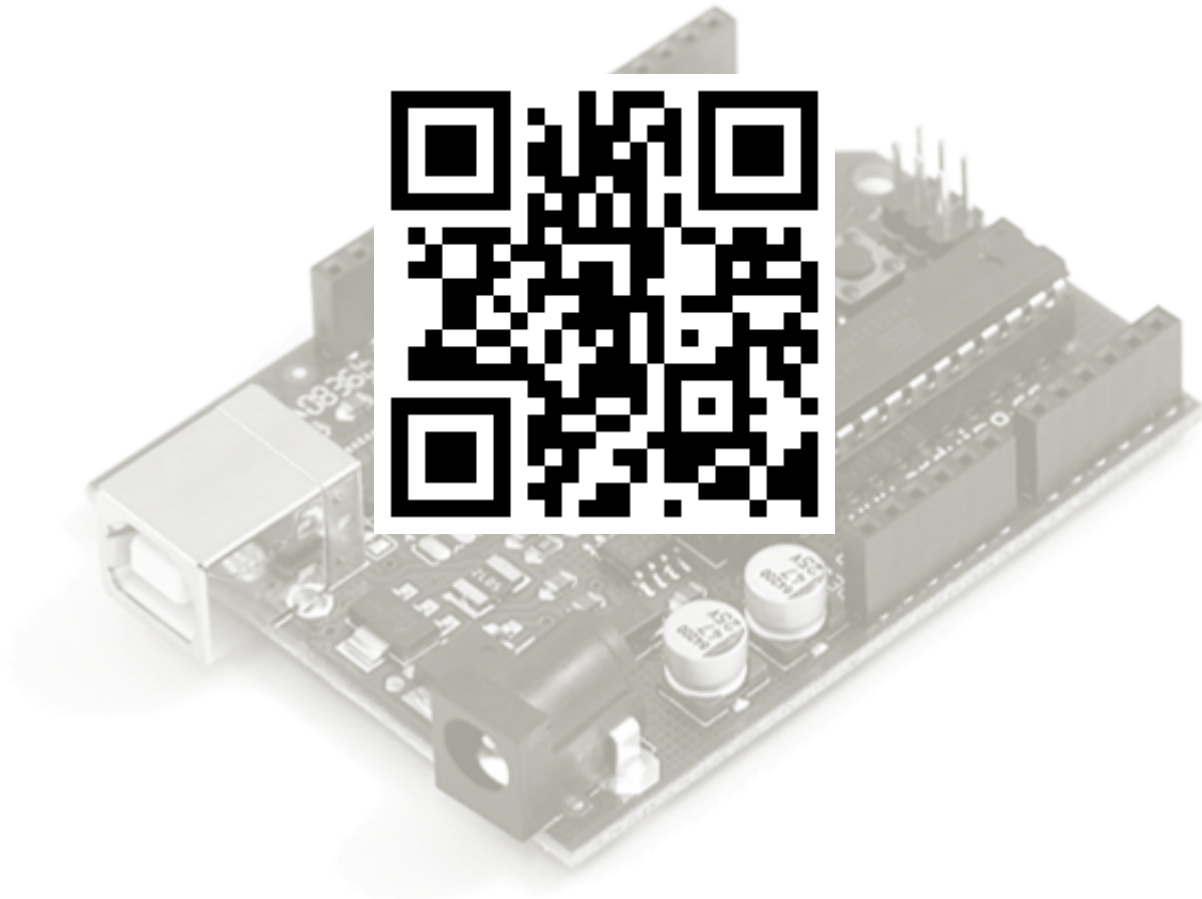
consistent hashing

and a group membership service

(work in progress)

Yaler is available as open source software at http://yaler.org/



This presentation is online at

http://goo.gl/4uaD