

# **Yaler** – a simple, open and scalable relay infrastructure

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# Internet

Computers, connected through Internet protocols.

Display or manipulate **documents**.

<http://blog.com/2011-09-15/page.html>

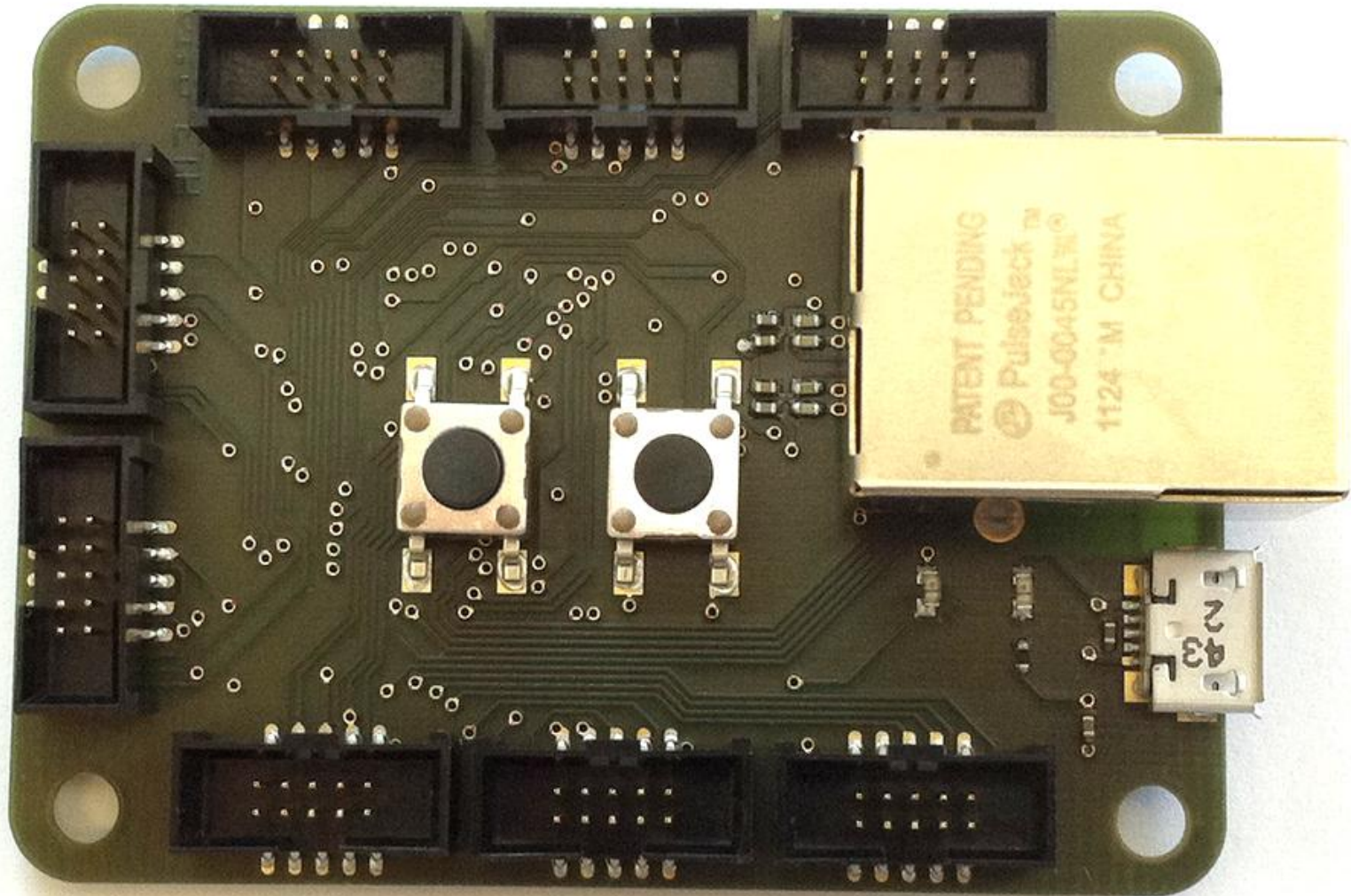
# Internet of Things

Computers, **sensors** and **actuators** connected through Internet protocols.

Measure or manipulate **physical properties**.

<http://e-home.com/tamberg/kitchen/light>

# Web server, 2011



Gadgeteer NETMF ARM STM32 w/ Ethernet, Oberon microsystems & CSA Engineering

# Access and control



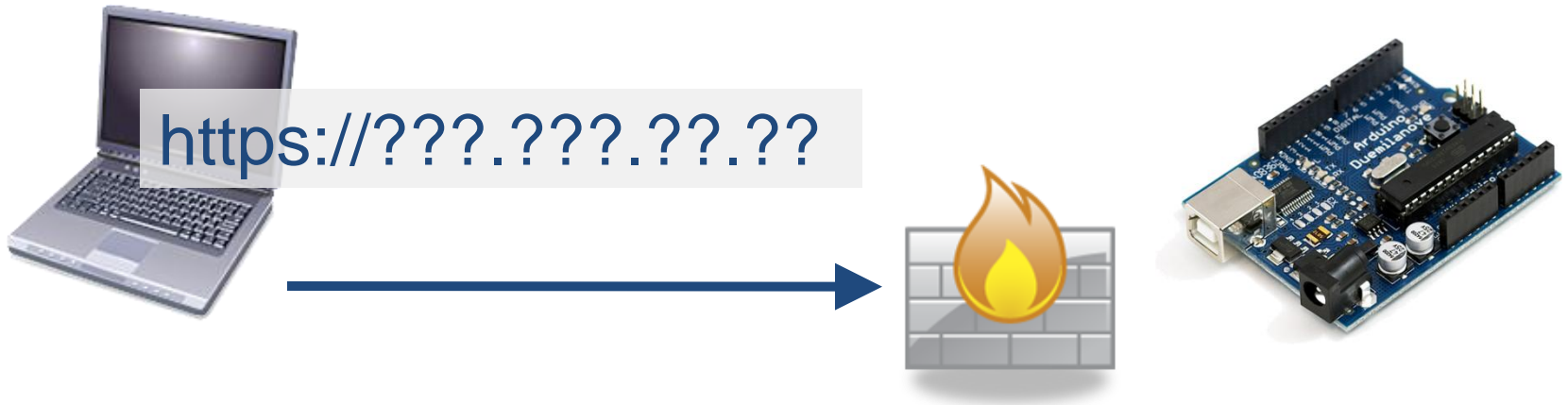
<https://my-device/resource>



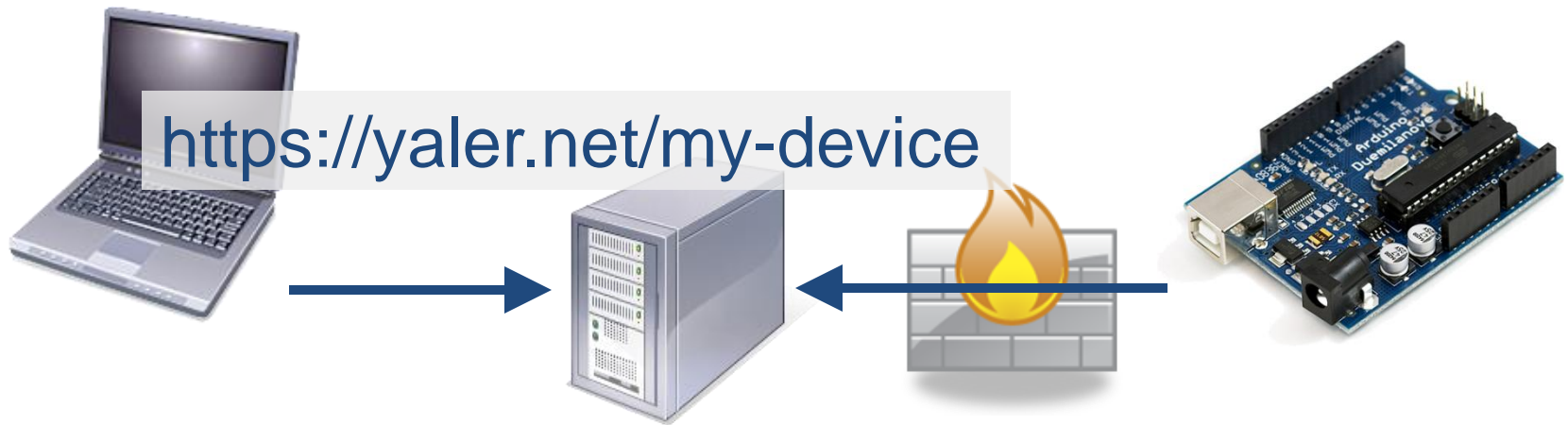
# Access(!) and control



# IPv4: devices are 2<sup>nd</sup> class citizens

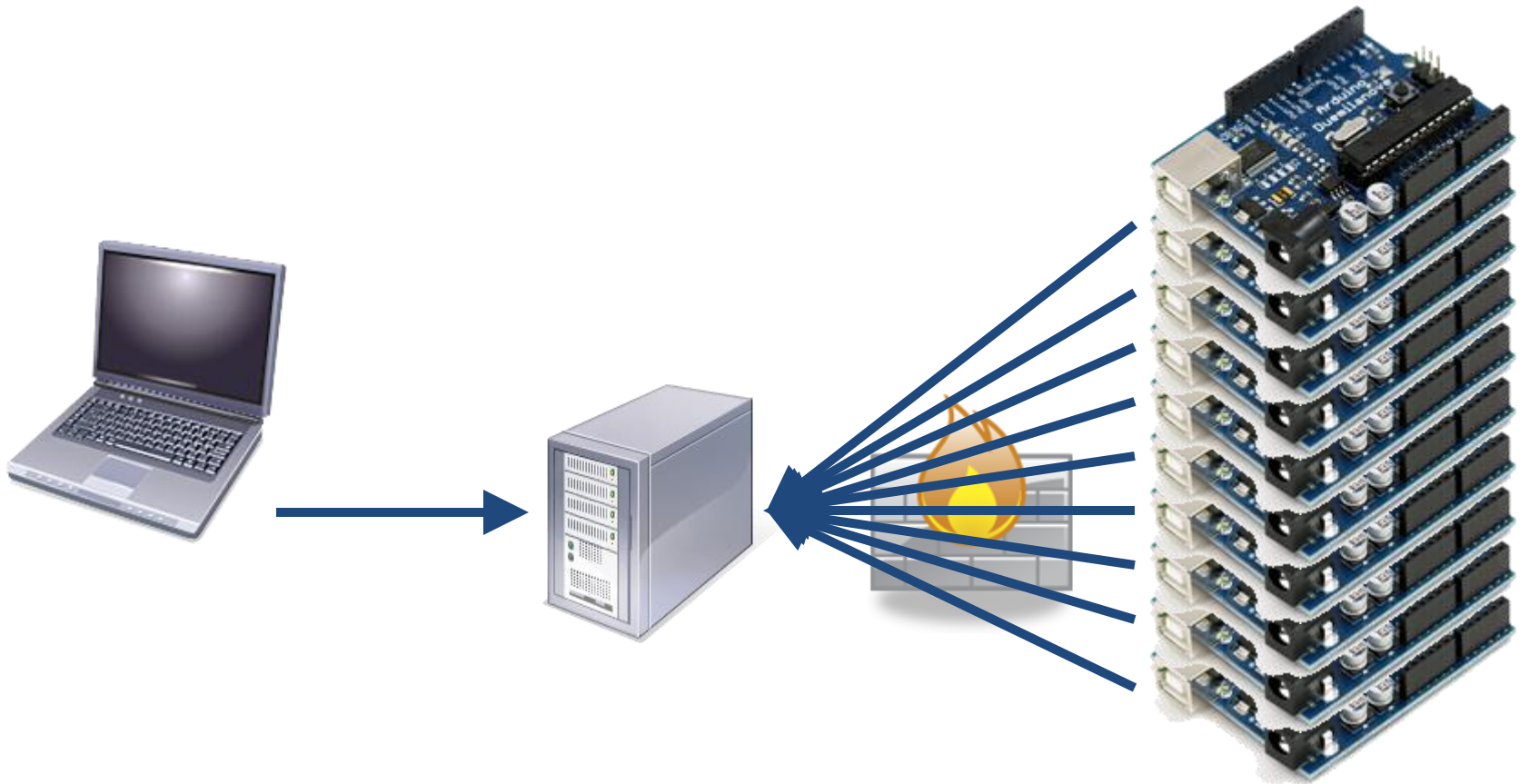


# Relay!

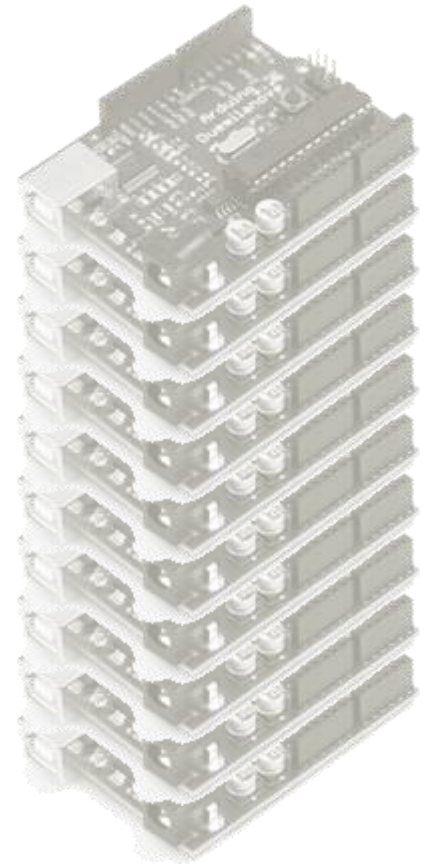




# Scalability



# Availability



# Yaler

A simple, open and scalable relay infrastructure.

Prototype in a **week-end** (2008),  
version 1.0 after **two years** (2010),  
high availability plus **one year** (2011).

# Customers use Yaler for

Remote configuration of medical devices.

Access to wireless sensor networks used for structural monitoring.

Generic protocol tunneling.

# What we learned

Web-enabling a product means the product now represents a **service**.



“Buy Once, Read Everywhere”

<http://amzn.com/kindle>



# What we learned

Adding an Internet connection to a product **can be disruptive** for the company producing it.

Providing **reliable access** is hard - service hosting is often not a core competence.

# What we learned

No connection = does not work.

Users judge the **end-to-end** experience.

“Ford’s quality ranked 23rd (2010: 5th) due to bad user interface of in-car-entertainment system.”

Quote based on NYTimes Wheels Blog article <http://goo.gl/2wzXq>

# Yaler GmbH

To help our customers provide a service that **just works**.

From the first field trial to the deployed product.

Easy-to-integrate, minimal requirements.



# Yaler GmbH

Providing Yaler as a **cloud-hosted**,  
pay-per-use **service** with premium  
**enterprise** support.

2<sup>nd</sup> spin-off of Oberon microsystems.

Bootstrapped company.

**More info at <http://yaler.net/>**



**Thanks for your time.**