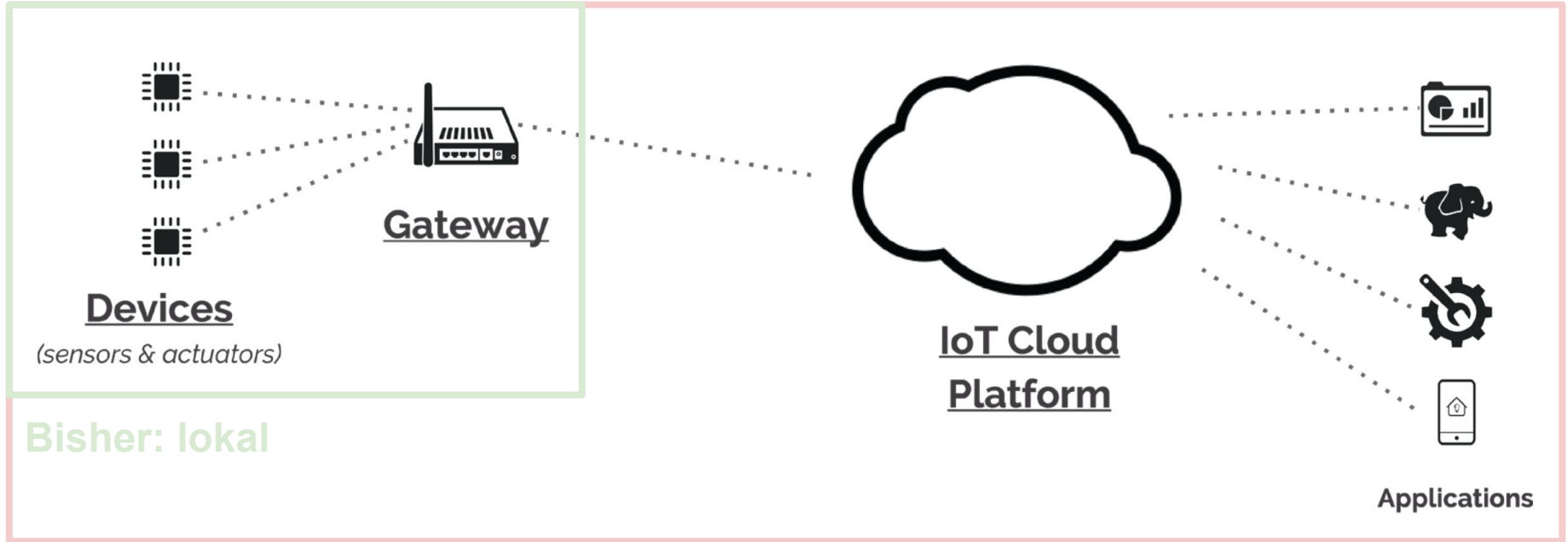


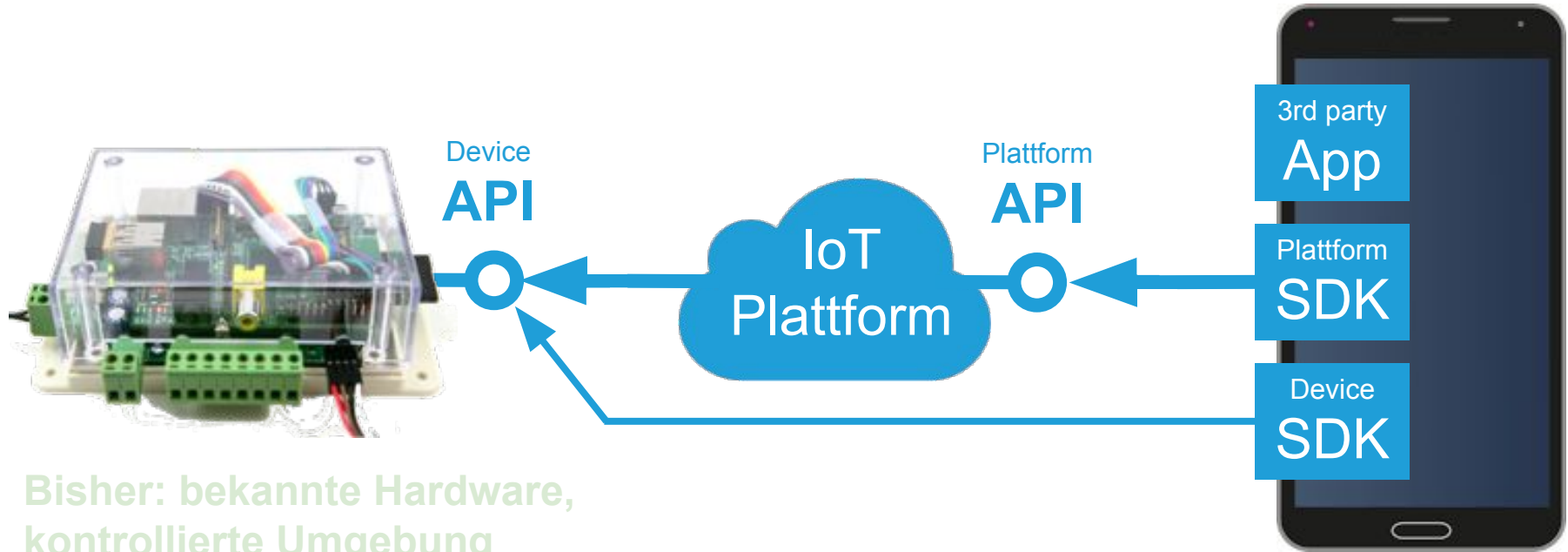
# IoT Security Challenges

Thomas Amberg, FHNW



Bisher: lokal

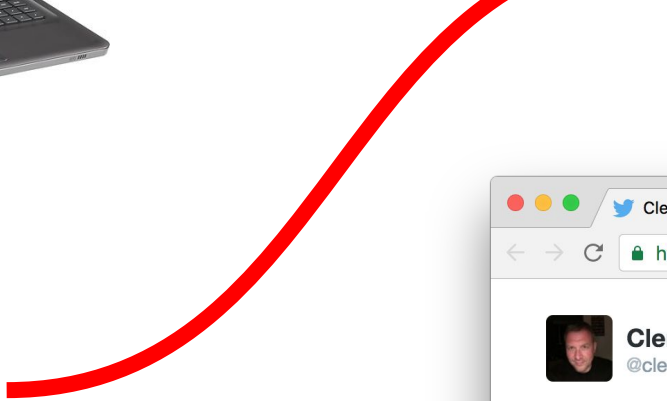
Neu: connected



Bisher: bekannte Hardware,  
kontrollierte Umgebung


Challenge: 3rd  
party Clients,  
unbekannt

# Challenge: Sicherer Fernzugriff



Clemens Vasters on Twitter: "U x" Thomas

<https://twitter.com/clemensv/status/790125665781592064>

 **Clemens Vasters** @clemensv Following

Unless you're an IT pro, DO NOT follow anyone's instruction (including any product manual) to set up "port forwarding" or "UPnP". Thank you!

RETWEETS 17 LIKES 14

11:40 AM - 23 Oct 2016

Challenge:  
Sicherer  
Fernzugriff



Thomas

Yaler.net - access devices from x

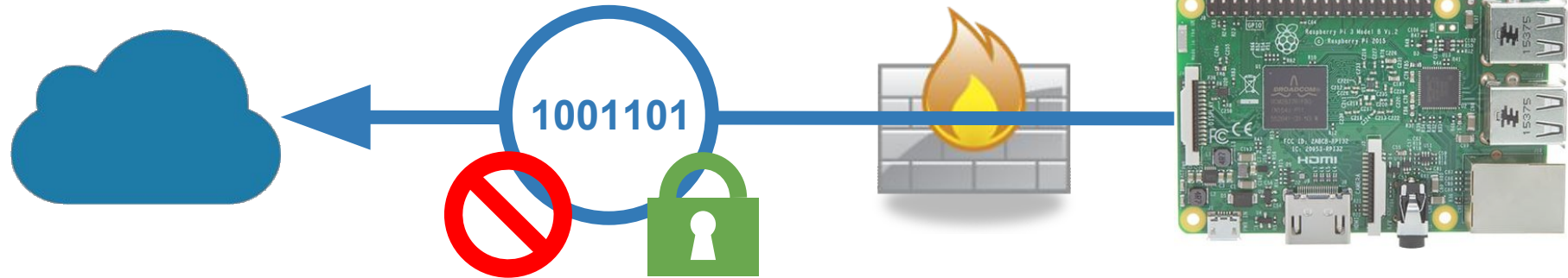
← → ↻ <https://yaler.net> 🔍 ☆ ⚡ ⋮

**Yaler.net** [Status](#) [Docs & Help](#) [Pricing & Sign up](#) [Log in](#)

# Access devices from the Web

Yaler is a relay infrastructure for secure access to embedded systems

Challenge: limitierte Ressourcen



The screenshot shows a web browser window with the following details:

- Tab: Tesseract - encrypt IoT
- Address bar: [Secure | https://tesseract.io](https://tesseract.io)
- Page title: Tesseract
- Section header: **E4 – Securing MQTT**
- Text: E4 is the first and only end-to-end encryption solution for MQTT, the most popular machine-to-machine protocol.

SECURITY

User Account and Authentication

Use this service for a full-featured OAuth 2.0 server.



Access Control Service

Use this service as a flexible framework for fine-grained, dynamic, and context-aware authorization of application resources.



Web Application Security **BETA**

Find and fix vulnerabilities in your application before they become a problem, with easy-to-use results tailored to DevOps.



Key Management Service **BETA**

Securely create, control, manage, audit, and visualize cryptographic keys used to encrypt your data.



Credential Store and Encryption Vault **BETA**

Securely store and manage access to tokens, passwords, API keys, and other credentials.



Cyber Security Analytics and Monitoring **BETA**

Use this service to understand the security interaction of your product, including logging and platform-level infrastructure.



Predix Audit

Use this service as an easy way to audit, store, and query events.



Blockchain as a Service **BETA**

Build multi-party smart contracts on a distributed ledger to ensure unprecedented security, integrity, and traceability.



Blockchain Data Integrity

Use this service to ensure data integrity, audit ability, and evidence of compliance.

Tenant Management

Use this service to provision service instances for a tenant and provide runtime access.



# IIC Endpoint Security Best Practices

IIC:WHT:IN17:V1.0:PB:20180312



Security Blog

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Internet Of Things (117)

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**Runtastic**



Search Twitter



Twitter logo with a close button (X)



**Azeria**

@Fox0x01

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When in doubt, encrypt.  
When not in doubt, be in doubt.

1:06 PM - 27 Mar 2016

432 Retweets 567 Likes



6



432



567



Tweet your reply

Azeria

thomas.amberg@fhnw.ch

Danke.