



Berner Fachhochschule  
Haute école spécialisée bernoise  
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## Network Access Simplified

IT-Services Board Meeting

Wednesday, 27th May 2015 10:00, HAL 9000, Dammweg 3, Bern

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Engineers, Infrastructure Team

# Overview

## **Part 1**

- ▶ How can we simplify maintaining network access infrastructure for us?

## **Part 2**

- ▶ How can we simplify network access for our users?

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## ▶ Exceptions

**BAD** TI Biel: devices requires previous MAC registration for VMPS,  
otherwise BFH „public“ network only (MPP)

- ▶ Yes, there is also VPN but that is another topic.

# Wireless Network Access

## General

- ▶ **GOOD** User authenticates to ESSID bfh and has automatically encrypted access to the BFH internal network
- ▶ **OK** „Educational“ User authenticates to ESSID eduroam and has automatically encrypted access to the BFH public network

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## General

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## Exceptions

- ▶ **BAD** External people, guests, BYOD and even BFH staff/students often use unencrypted ESSID bfh-public via MPP
- ▶ Most notably: there is currently no possibility to redirect people and the guest account handling is cumbersome
  
- ▶ Yes, there is also VPN but that is another topic.

# PacketFence (1/2)

## **What?**

- ▶ Packet Fence is a free and open-source, linux based Network Access Control (NAC) system
- ▶ <http://packetfence.org>

## **Features?**

- ▶ 802.1X
- ▶ Captive Portal / Guest Access
- ▶ „Threat Mangement“
- ▶ [...]

## **Why?**

- ▶ Allows us to retire VMPS with 802.1X
- ▶ Can replace MPP (see to Part 2)



## PacketFence (2/2)

### **Advantages?**

- ▶ Free and Open Source
- ▶ State of the Art
- ▶ integrates well with existing infrastructure
- ▶ integrates easily with new infrastructure (e.g. IDM)
- ▶ lean approach on top of existing software rather than bloated blackbox („do it all“ vs. KISS)

### **Disadvantages?**

- ▶ as always: some installation and migration effort needed
- ▶ potentially: (aiming for) one central entry and logging point for all network access

How can we simplify network access for our users?

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- ▶ technically: internet access only, bandwidth shaping and traffic metering, abuse handling
- ▶ financially: traffic is not free
- ▶ legally: liability, SWITCHmobile (MPP) contract
- ▶ politically: marketing

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- ▶ Can we workout a plan together on how to achieve this?

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- ▶ ...but remember: dips on the project name.. **connect**

Thank You for Your Attention.

♥ Source Code is freely available

```
git clone git://git.bfh.ch/git/staff/bad9/other/talks.git
```