IT SECURITY AWARENESS

Experiences and Discussion on Training Strategies

Feb. 26th 2018 | Ralph Niederberger, rrn@fzj.de

JÜLICH
Forschungszentrum

SOME FACTS ILLUSTRATING JÜLICH

What has been done in the past

- Founded in Dec. 11th 1956

- Shareholder: BRD (90%) & NRW (10%)

- 2,2 square kilometers

- budget >500 M€/y incl. third party founds

- 6.500 employees

- 80 instituts coming from nine research areas

- Many projects, publications, and patents

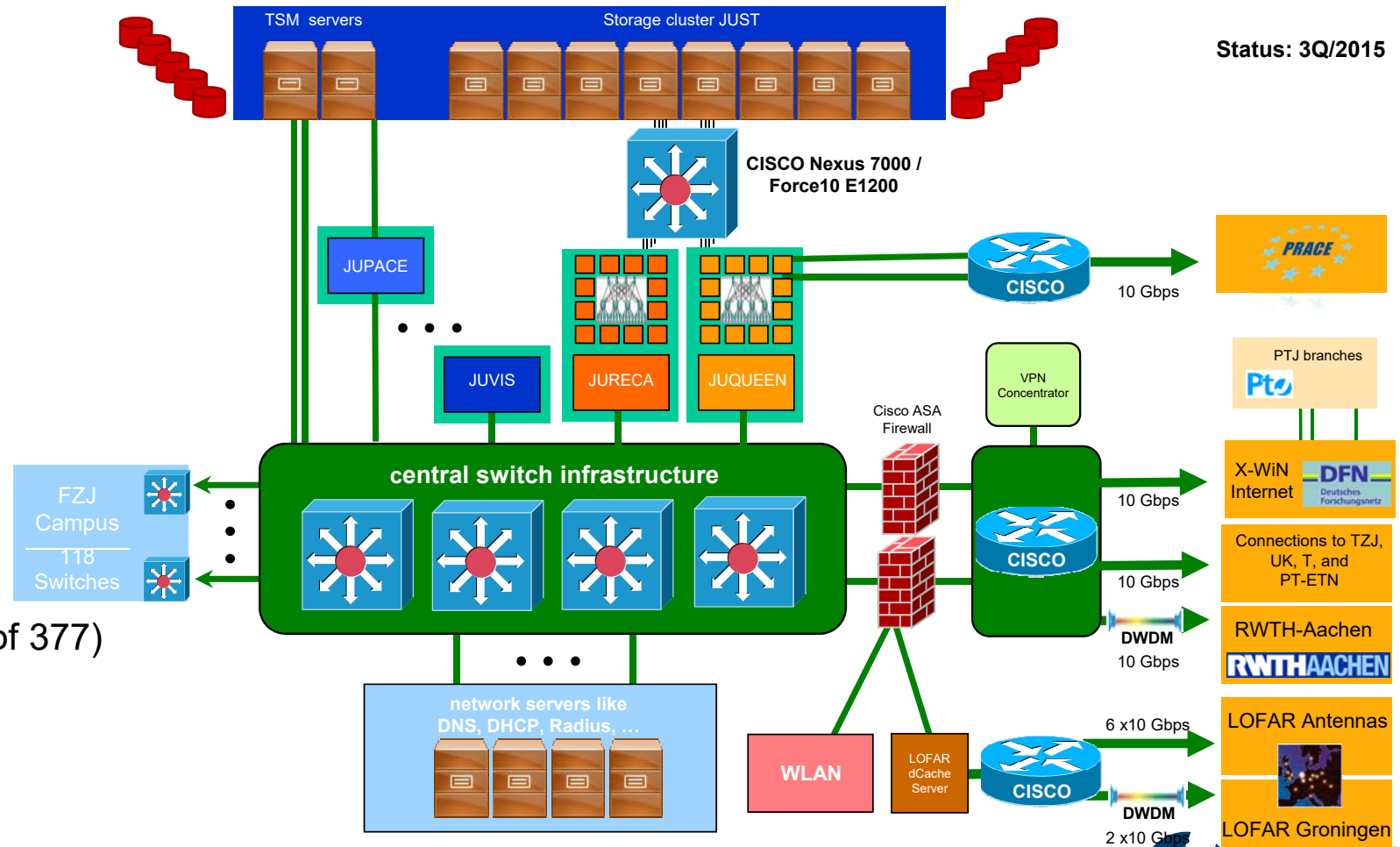- Several branch offices spread throughout Germany

Energy and Environment

Information and the brain

JÜLICH
Forschungszentrum

THE CAMPUS NETWORK

Status: 3Q/2015

TSM servers

Storage cluster JUST

CISCO Nexus 7000 / Force10 E1200

hosts: 21298

admins: 986

IP addresses: 24328

IP addresses: 21502

IP-Subnets: 499

official subnets: 163

(sub)domains: 377

ext. domains: 284 (out of 377)

JUPACE

JUVIS

JURECA

JUQUEEN

CISCO

10 Gbps

PRACE

PTJ branches

Pt

VPN Concentrator

Cisco ASA Firewall

central switch infrastructure

FZJ Campus

118 Switches

CISCO

10 Gbps

X-WiN Internet

DFN Deutsches Forschungsnetz

10 Gbps

Connections to TZJ, UK, T, and PT-ETN

DWDM 10 Gbps

RWTH-Aachen

RWTH AACHEN

network servers like DNS, DHCP, Radius, …

WLAN

LOFAR dCache Server

CISCO

6 x10 Gbps

LOFAR Antennas

DWDM 2 x10 Gbps

LOFAR Groningen

JÜLICH
Forschungszentrum

THE IT SECURITY AWARENESS CHALLENGE

Central question: How to make employees IT security aware?

Employees: gardener, cleaning personal,

administrative, trading and secretary personal,

technical personal, researchers, up to nobel price winners

Behaving and personal biases: Nothing to find on my computer.

Passwords have to be easy to remember.

Anyone can know my personal data.

Click on anything and „feel free"

JÜLICH
Forschungszentrum

IT SECURITY ACTIVITIES / EVENTS AT JÜLICH

What has been done in the past

- IT security information for administrators for several years

    Replaced by IT security declaration to be signed by admins

- Phishing attacks for awareness and advertising events

- IT security presentations (always 6 times 90 minutes) last 5 years

- IT security breakfast (90 mins) 2 times (2016 and 2017)

- IT security day / Cyber Security day (2017)

- JuNet Internet Security day (14-17 afternoon) / yearly

Mitglied der Helmholtz-Gemeinschaft

IT Security Awareness – Experiences and Discussions
WISE WS, Abingdon, Feb. 26th 2018,   rrn@fzj.de

Seite 5

JÜLICH
Forschungszentrum

BEING HACKED MAKES SENSITIVE

Sending two mail: a Phishing and resolution mail as invitation

"Phishing Mail" was an IT Security Test

1 October 2014.
Yesterday everyone received an e-mail from support@fz-juelich.de requesting volunteers to test Apple products. In return, the testers could keep the iPhones and iPads used in the test. In order to participate, one had to click on a link in the e-mail and then submit user name and password.
xx % of our colleagues fell for this so-called "phishing" attack and submitted their personal data. Even more – yy % - clicked on the link in the e-mail. Had the e-mail actually been from a cyber-criminal, she would now be able to misuse the sensitive data of many colleagues. However, the mail was in fact a test by our IT security management in order to raise awareness for the threat of such phishing attacks. The website linked in the e-mail was harmless and no user data was recorded or transmitted.
How phishing mails work and how they can be recognized is explained in a video in the newly designed intranet webpages on IT security:
Phishing Video

Hacking-Day on November 5th 2014
Cyber attacks on companies are increasing steadily and the Forschungszentrum is no exception. Successful attackers can access sensitive research and employee data. Thus, it's important to know the threats and how to defend oneself. At the Hacking Day on Nov. 5th in the large auditorium of the central library ZB, IT security experts will give live demonstrations of how cyber attackers forge e-mails or crack passwords.

As part of the IT-Security Awareness Campaign, the intranet webpages on IT security were redesigned.
They give users and administrators assistance and numerous tips on how to use the network securely.

Mitglied der Helmholtz-Gemeinschaft

IT Security Awareness – Experiences and Discussions
WISE WS, Abingdon, Feb. 26th 2018,   rrn@fzj.de

Seite 6

JÜLICH
Forschungszentrum

IT SECURITY AWARENESS IN THE WEB

The web info for

- users
- administrators

Info on

- contact persons
- hints for practice
- documentation
- videos and e-learnings

Links to

- IT security guidline
- and IT security rules
- basic protection for guests

JÜLICH
Forschungszentrum

IT SECURITY VIDEOS ON JÜLICH WEB PAGE

Live recordings from presentations:
- Social Media
- Passwords
- Desktop
- Mobile Devices
- Trojans and Viruses

Videos:
- Phishing
- Cloud
- Mobile Devices
- Ransomware

In preparation:
- Why Security
- Phishing advanced

Mitglied der Helmholtz-Gemeinschaft

IT Security Awareness – Experiences and Discussions
WISE WS, Abingdon, Feb. 26th 2018,   rrn@fzj.de

Seite 8

JÜLICH
Forschungszentrum
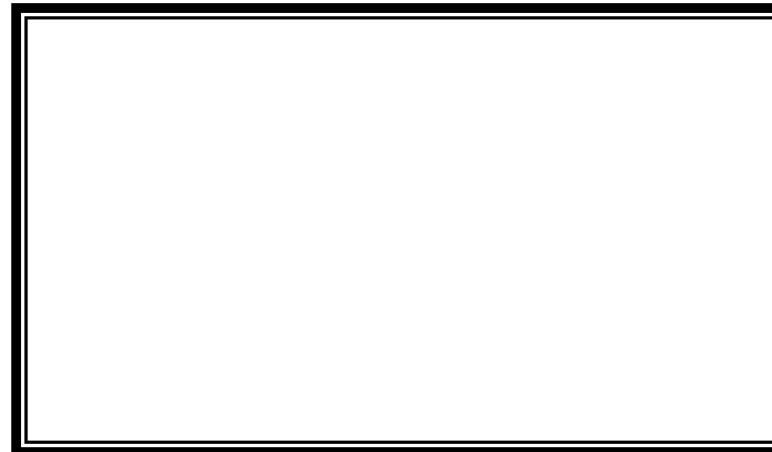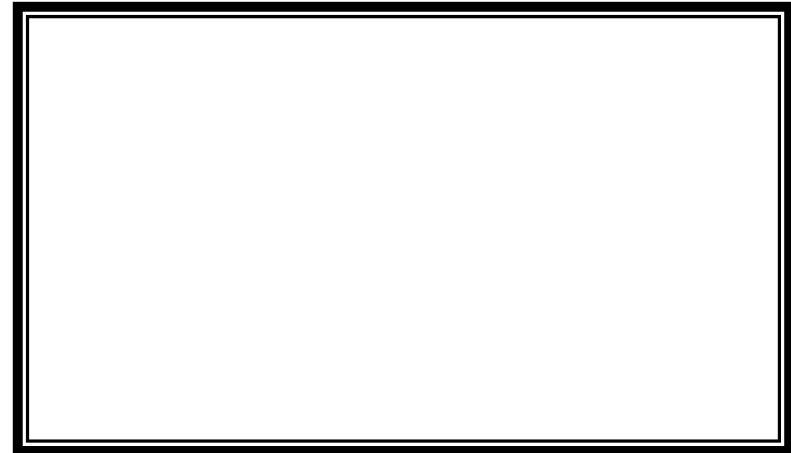
IT SECURITY AWARENESS – ADVERTISING EVENTS

THE CYBER SECURITY DAY

Advertisement

- Posters within campus
- Flyers in post box and at lunch locations
- Newsletter
- Intranet web pages

THE CYBER SECURITY DAY

Presentations and booths

Presentations:

- „Cyber security Breakfast": Detect and defend phishing (incl. President Scam)
- Federal Office of Cyber security: Travels abroad and related risks
- Cloud / „Personal Outsourcing"
- Protecting your smartphones
- Trojans and Viruses
- Cracking passwords and how to secure
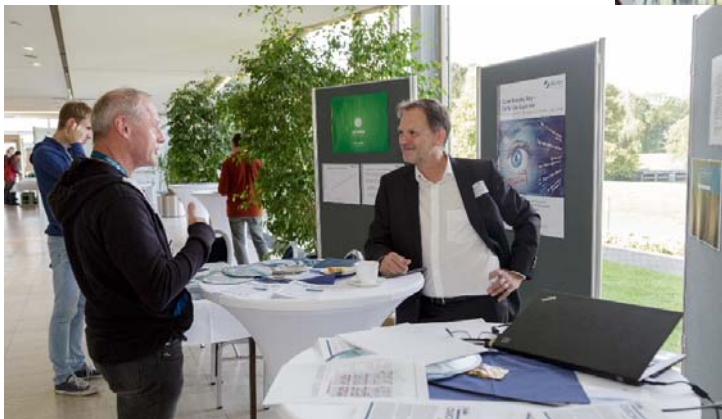- Security @ Home: Net and PC (Wireless, router, child protection, antivirus, updates, etc.

Booths „Meet the expert"

- FZJ-CERT
- Protecting mobile devices
- Cyber security in general
- Physical security

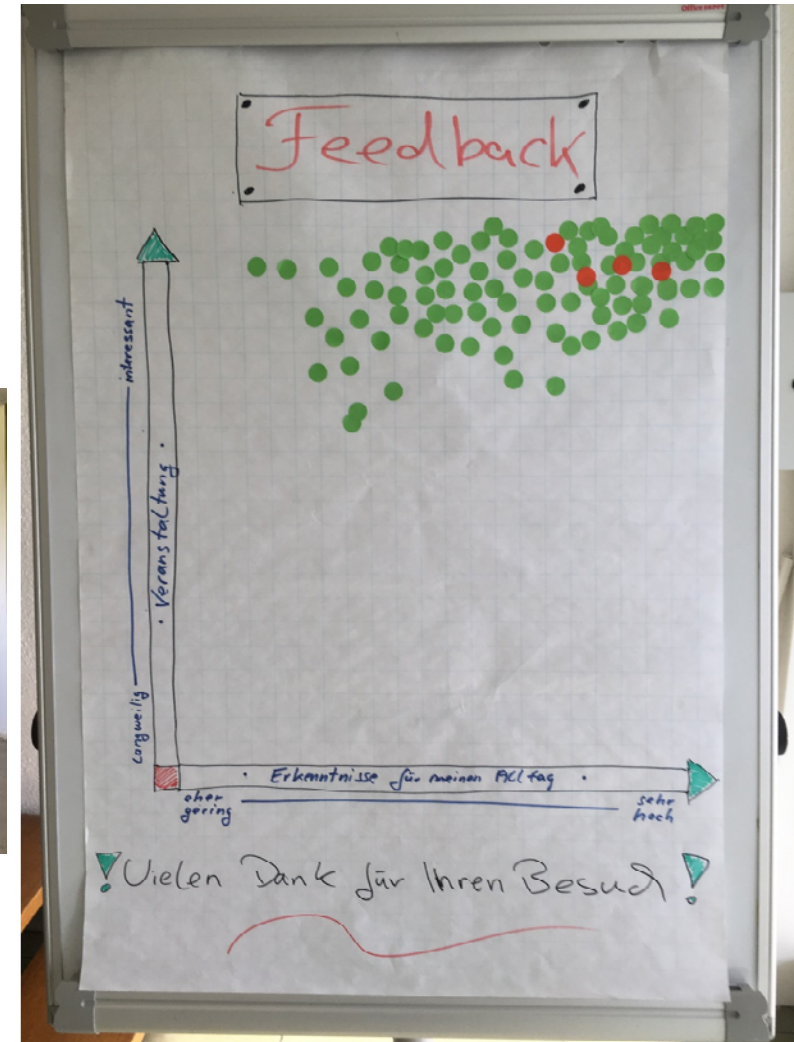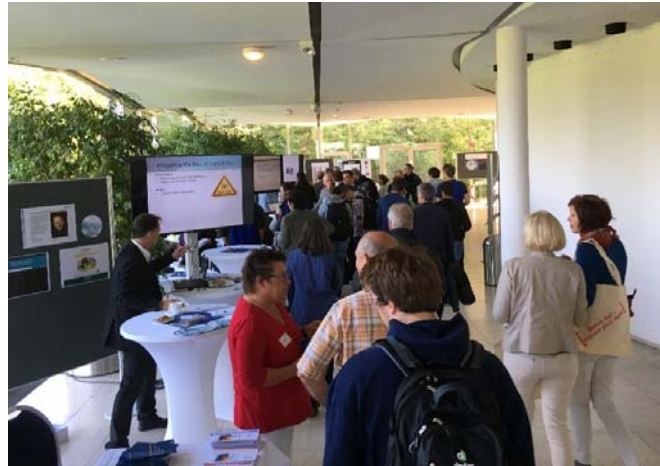Learning stations / mini e-learning / videos

JÜLICH
Forschungszentrum

THE CYBER SECURITY DAY

Some impressions

Mitglied der Helmholtz-Gemeinschaft

IT Security Awareness – Experiences and Discussions
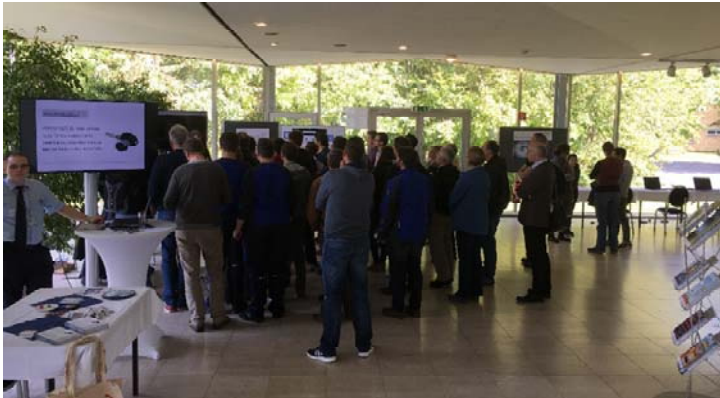WISE WS, Abingdon, Feb. 26th 2018,   rrn@fzj.de

Seite 12

JÜLICH
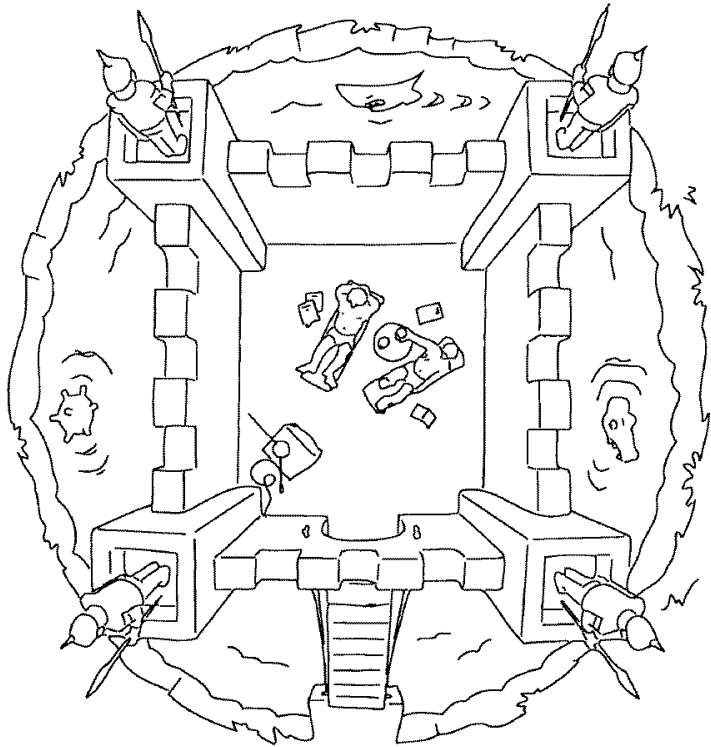Forschungszentrum

THE CYBER SECURITY DAY

More impressions

WHAT NEXT

- PC drivers licence for local users and administrators?

- IT security awareness for community users?

- More videos, moodles, info material?

- Webinars, presentations by external security expert?

- Working together with others with similar problems…

JÜLICH
Forschungszentrum

DISKUSSIONS

"Sure, I'm paranoid.

But am I paranoid enough? "

The Security manager

Internet - Everyday

Mitglied der Helmholtz-Gemeinschaft

IT Security Awareness – Experiences and Discussions
WISE WS, Abingdon, Feb. 26th 2018,   rrn@fzj.de

Seite 15

JÜLICH
Forschungszentrum