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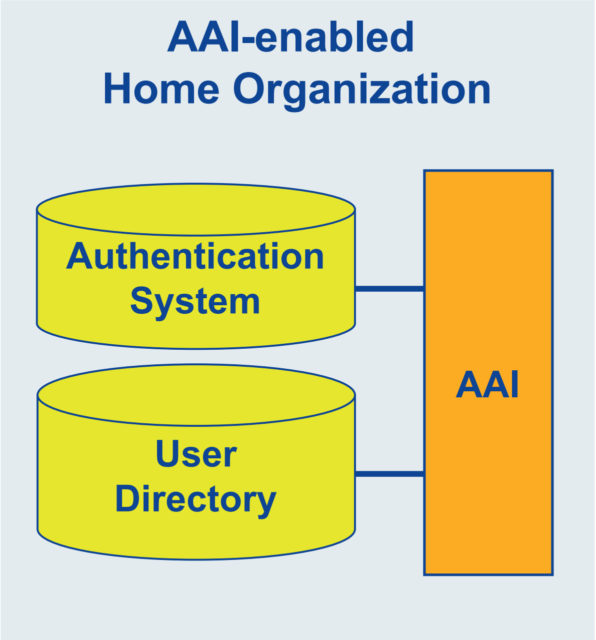
AAI Attributes

Valéry Tschopp, <tschopp@switch.ch>

Directories within a AAI Home Organization



- Authentication System
  - any Apache compatible authentication method: LDAP, PAM, RADIUS, TACACS, end-user certificates, Web SSO (e.g. Pubcookie), …
  - any Tomcat compatible authentication method: e.g. Web SSO (CAS)
- Integration with User Directory via Java APIs
  - LDAP via JNDI
  - Databases via JDBC

➔ Login name is the link between the two parts

SSO = Single Sign On

Authorization Attributes

- AAI transfers user attributes from a Home Organization to a Resource
  - Requires a common understanding of what a value means
  - ➡ Authorization Attribute Specification v1.1
    http://www.switch.ch/aai/docs/AAI_Attr_Specs.pdf

- A task force selected the attributes for SWITCHaai
  - minimal set to start with
  - attributes with pre-existing ‘common understanding’
  - in line with foreign activities

- Descriptions are LDIF like, but use of LDAP not required

Authorization Attributes (2)

Personal attributes

- Unique Identifier
- Surname
- Given name

- E-mail
- Address(es)
- Phone number(s)
- Preferred language
- Date of birth
- Gender

Group membership

- Name of Home Organization
- Type of Home Organization
- Affiliation (student, staff, faculty, …)

- Study branch
- Study level
- Staff category
- Group membership
- Organization Path
- Organizational Unit Path

- study branch, study level, staff category are based on SHIS/SIUS
- username and password are missing
  ⇒ only used locally!
- commonName is missing
  no common understanding on how to use it

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Granting Access

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Method 1: SWITCHaai Attributes

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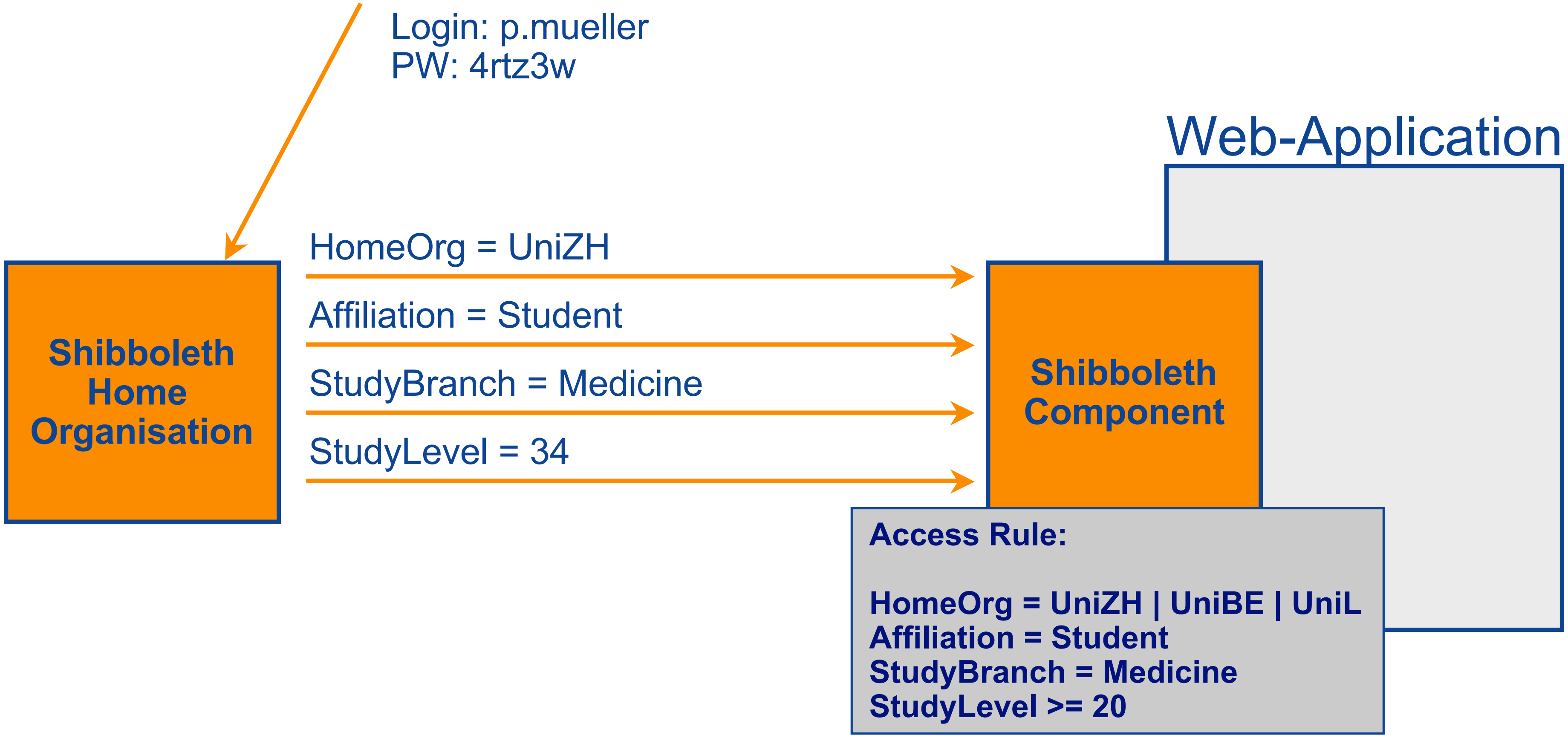


Login: p.mueller
PW: 4rtz3w

Shibboleth Home Organisation

HomeOrg = UniZH

Affiliation = Student

StudyBranch = Medicine

StudyLevel = 34

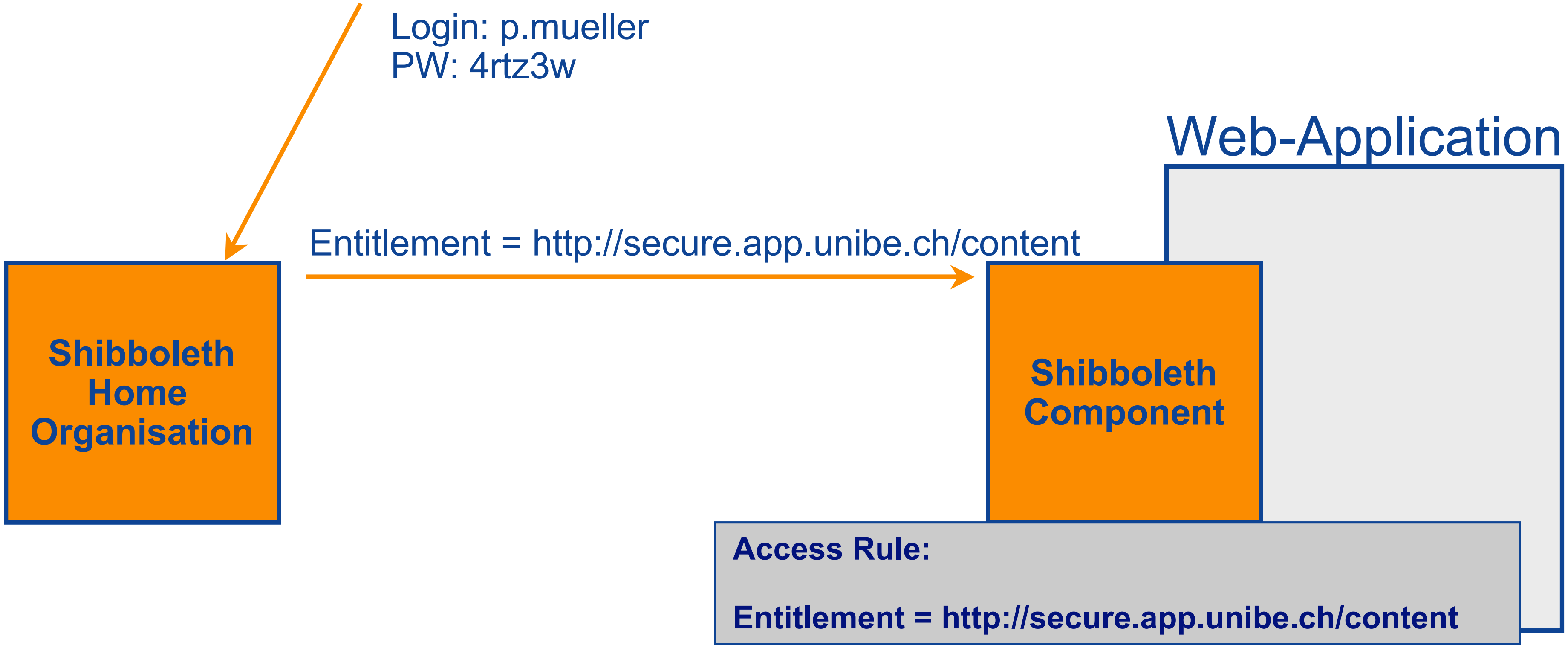
Web-Application

Shibboleth Component

Access Rule:

HomeOrg = UniZH | UniBE | UniL
Affiliation = Student
StudyBranch = Medicine
StudyLevel >= 20

Method 2: Entitlement



Login: p.mueller
PW: 4rtz3w

Entitlement = http://secure.app.unibe.ch/content

Web-Application

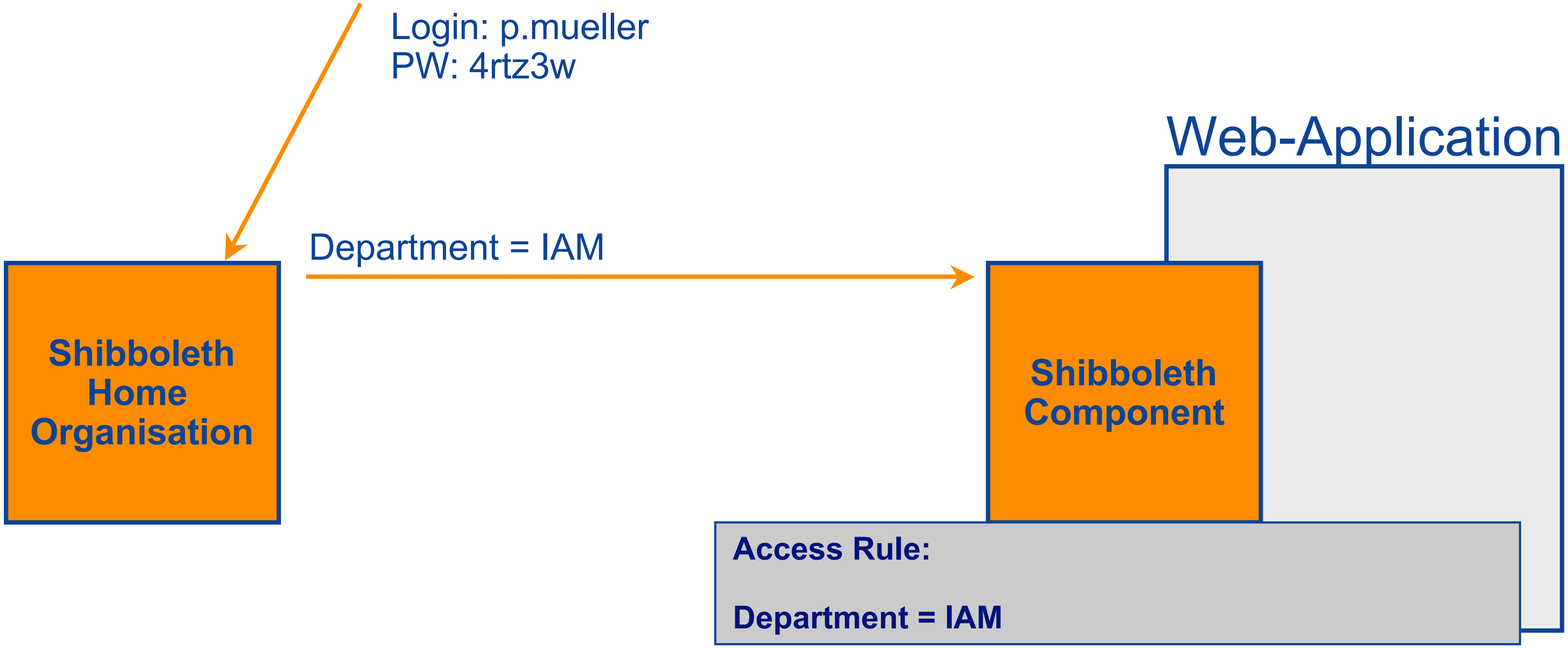
Shibboleth Home Organisation

Shibboleth Component

Access Rule:

Entitlement = http://secure.app.unibe.ch/content

Method 3: Definition of additional Attributes



Login: p.mueller
PW: 4rtz3w

Department = IAM

Web-Application

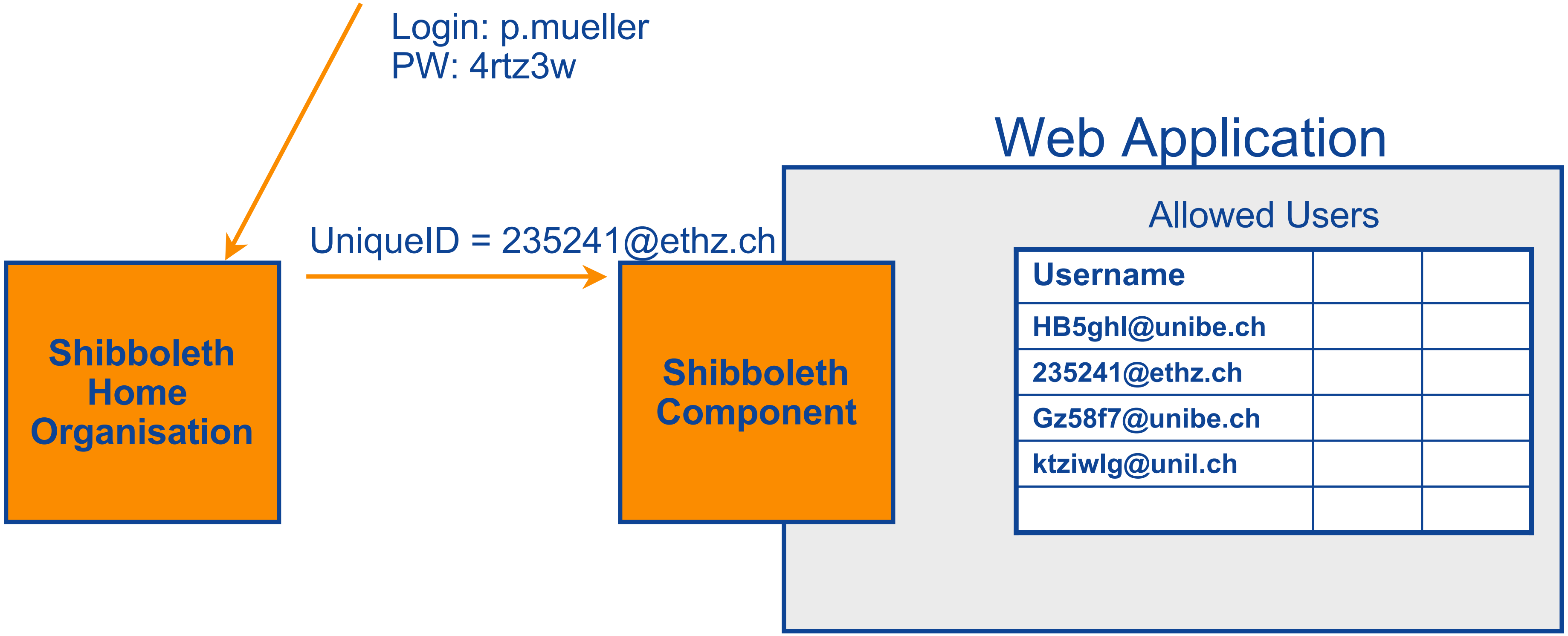
Shibboleth Home Organisation

Shibboleth Component

Access Rule:

Department = IAM

Method 4: Application has it’s own Access Control



Login: p.mueller
PW: 4rtz3w

UniqueID = 235241@ethz.ch

Shibboleth Home Organisation

Shibboleth Component

Web Application

Allowed Users

Username		
HB5ghl@unibe.ch		
235241@ethz.ch		
Gz58f7@unibe.ch		
ktziwlg@unil.ch		

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Deployment

Valéry Tschopp, <tschopp@switch.ch>

Browser Requirements

- ❑ Cookies
- ❑ Browser redirect
- ❑ SSL
- ❑ If no JavaScript: additional click necessary

Supported Servers for Target Installations

Server OS

- Windows NT, 2000, XP, 2003
- Linux (any blend)
- Solaris

Web Servers

- Apache 1.3.x
- Apache 2.x
- IIS 4.x, 5.x, 6.x

Supported Applications

- □ Static content on Apache or IIS
- □ Applications (PHP, Perl, ..) running on Apache
- □ JAVA-web-applications via mod_jk and Apache
- □ List of other „shibbolized“ applications at http://shibboleth.internet2.edu/seas.html

* Apple Quicktime Streaming Server
* ArtSTOR
* Blackboard
* CSA
* eAcademy
* EBSCO Publishing
* Elsevier ScienceDirect
* ExLibris - SFX
* EZProxy
* Fedora
* Gale
* Higher Markets
* JSTOR
* Napster
* NSDL
* OCLC
* Ovid Technologies Inc.
* Proquest Information and Learning
* SYMPA
* TWiki
* Web Assign
* WebCT
* Zope4Edu

Useful Information for a Target Deployment

- http://www.switch.ch/aai/deployment.html
- With links to:
  - Shibboleth Target Deployment Guide (Internet2)
  - Compilation and Installation Guide (SWITCH)
  - SWITCHaai Configuration Guide (SWITCH)
  - SWITCHaai Sample Files (SWITCH)

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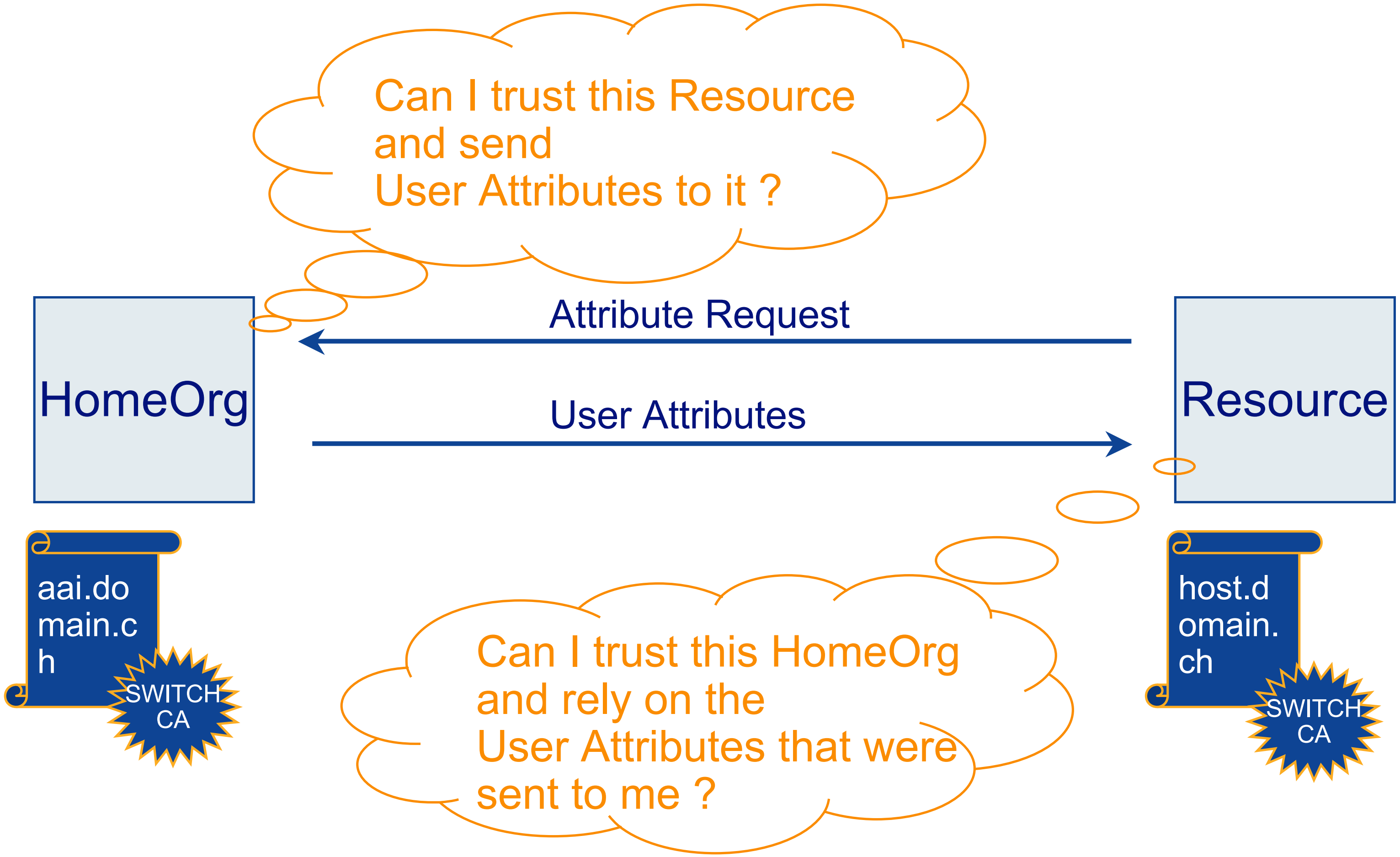
Server Certificates

Ueli Kienholz, <kienholz@switch.ch>

Why are Server Certificates important ?



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SWITCHpki Service

The SWITCHpki Team

pki@switch.ch

http://www.switch.ch/pki/

Introduction

Motivation for SWITCHpki

- Requirement of AAI Project: server certificates protecting backend communication
- PKI initiatives within our community could benefit from a common service

What happened so far?

- AAI-TF-CA: Taskforce within AAI project
- Produced a CP/CPS draft, recommending SWITCH to make a service out of it
- SWITCH took this up, engaged SwissSign as consultant and potential outsourcing partner and drafted a new CP/CPS
- Result rediscussed in AAI-TF-CA and made into the service being presented today

SWITCHpki - CA Structure

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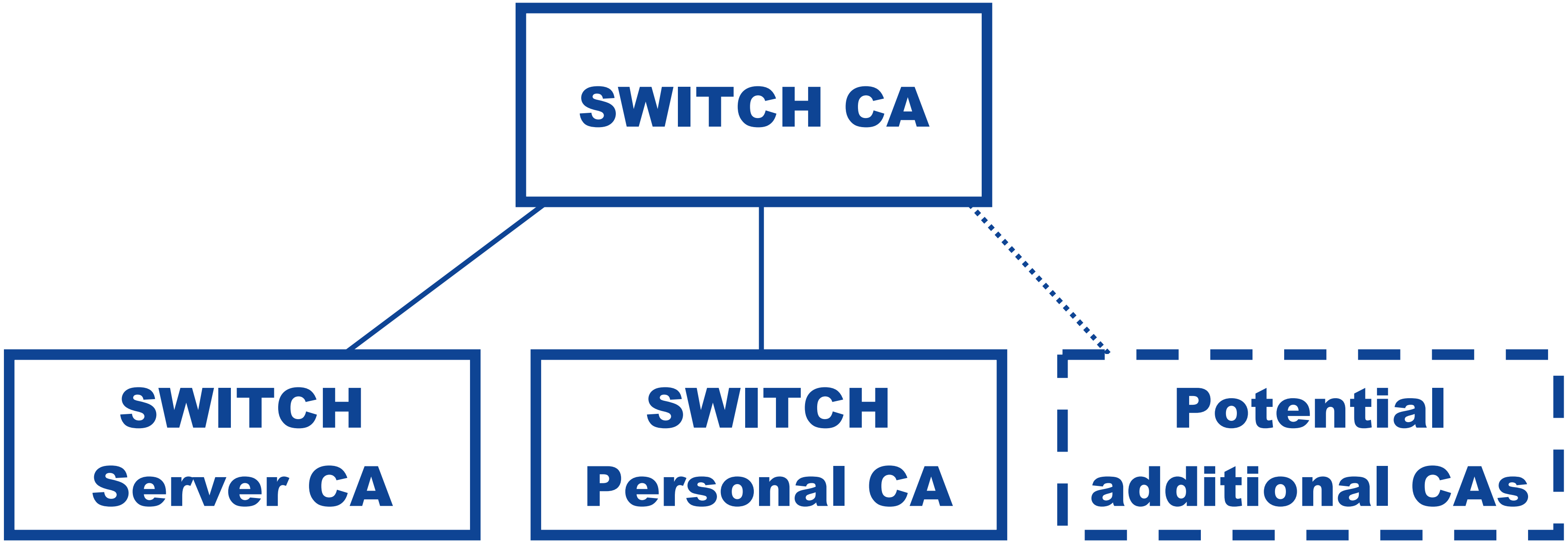

SWITCH CA

SWITCH Server CA

SWITCH Personal CA

Potential additional CAs

CA Structure SwissSign & SWITCHpki

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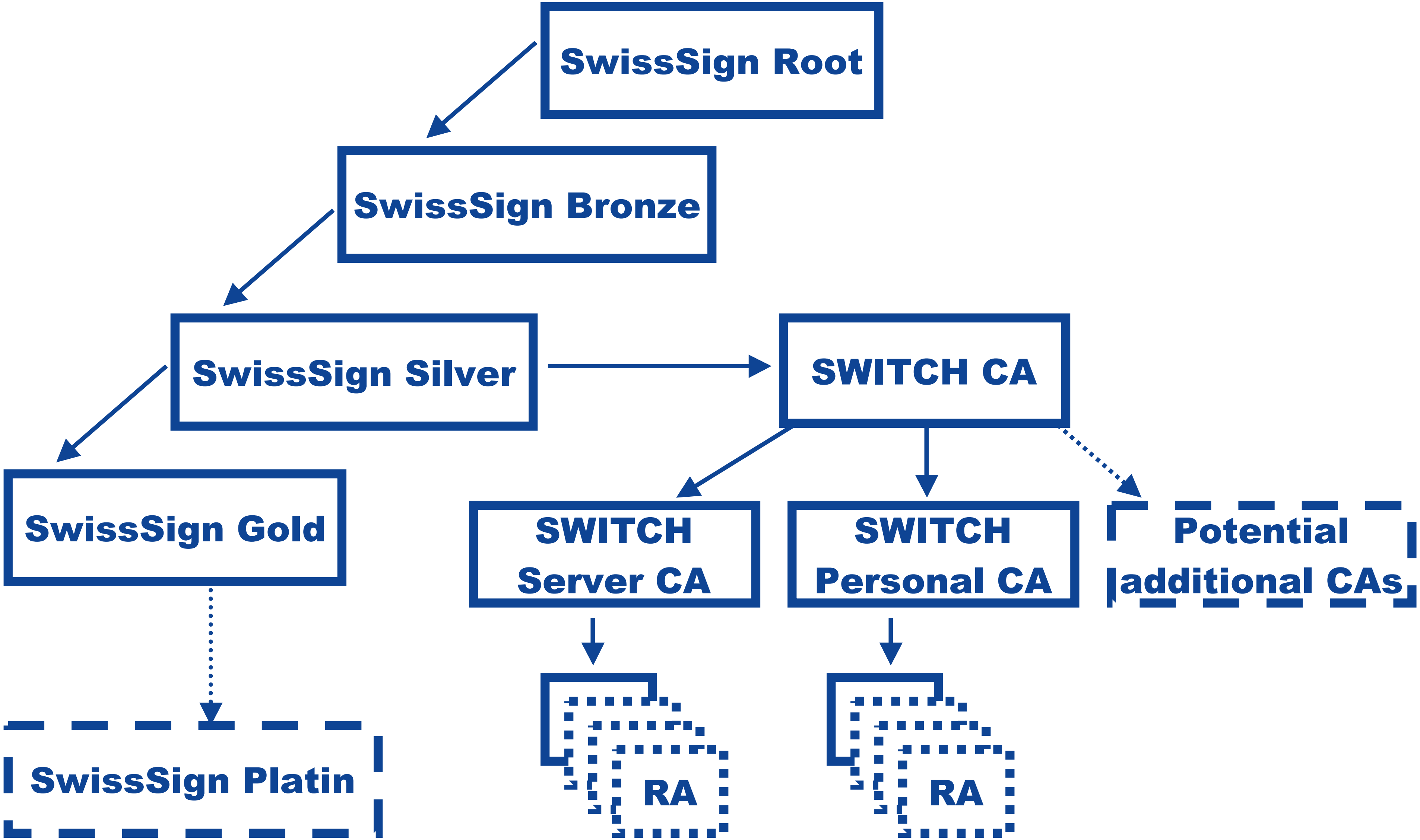


SwissSign Root

SwissSign Bronze

SwissSign Silver

SWITCH CA

SwissSign Gold

SWITCH Server CA

SWITCH Personal CA

Potential additional CAs

SwissSign Platin

RA

RA

SWITCHpki - CA Structure

SWITCH CA

- signed by ‘SwissSign Silver’
- off-line
- stored in a bank safe
- only used to sign sub-CAs (SWITCH Personal CA & SWITCH Server CA at the moment)
- once in a while used to issue CRL for SWITCH Server CA & SWITCH Personal CA

SWITCH Server CA

- implemented on the SwissSign infrastructure
- online

SWITCH Personal CA

- implemented on the SwissSign infrastructure
- online
- only used for RA personal at the moment

Roles, Entities: Underlying Principles

Correctness of information

- Included information must be correct
- E.g. no nicknames, pseudonyms need to be marked as such

Verifiability of information

- Included information must be verifiable and meaningful
- E.g. organisation names must be registered somewhere

Auditability

- All contents of signed information in certificates must be supported with some form of documentation attainable in reasonable time (e.g. during an audit)

Roles, Entities: The Players

The issuer

- Signs certificate requests issued by the subject
- Registration Authority (RA): entitiy doing all the checks and paperwork
- Certification Authority (CA): dumb signing engine, following the orders given by its RA

The subject

- Issues certificate signing requests
- Holds the issued certificate

The relying party

- The ones relying on (accepting) a given certificate
- Wants to understand the elements in the cert

Roles, Entities: Signed Information

Organisation names

- Correctness and verifiability: we require evidence of the correctness of organisation names from a trustworthy, official source
- Auditability: we want it on paper

Domain names

- Correctness and verifiability: we require evidence from the domain name holder, that the domain names are correct
- Auditability: we want it on paper

Subject information

- Correctness and verifiability: we require some evidence about the subject from a trustworthy, official source
- Auditability: we want it on paper

Roles, Entities: Who is doing what? (1)

Site/Organisation contact:

- Gets clearance from the represented organisation and relevant domain name holders to issue certificates linking each other and lets SWITCH-RA know about it
- Acts as primary contact to SWITCH regarding SWITCHpki services
- Checks the correctness of presented personal identification (e.g. student/staff card), takes copies and checks whether they link to the certificate requestor
- Checks whether the requestor is entitled to get a certificate for the service or server in question (assuming local procedures exist, probably linked to DNS maintenance)
- Decides whether the represented organisation wants to grant this certificate request (cost issues, other local policies)
- Discard the request or forward it to SWITCH-RA with supporting documentation

➪ primarily checks the correctness of the documentation

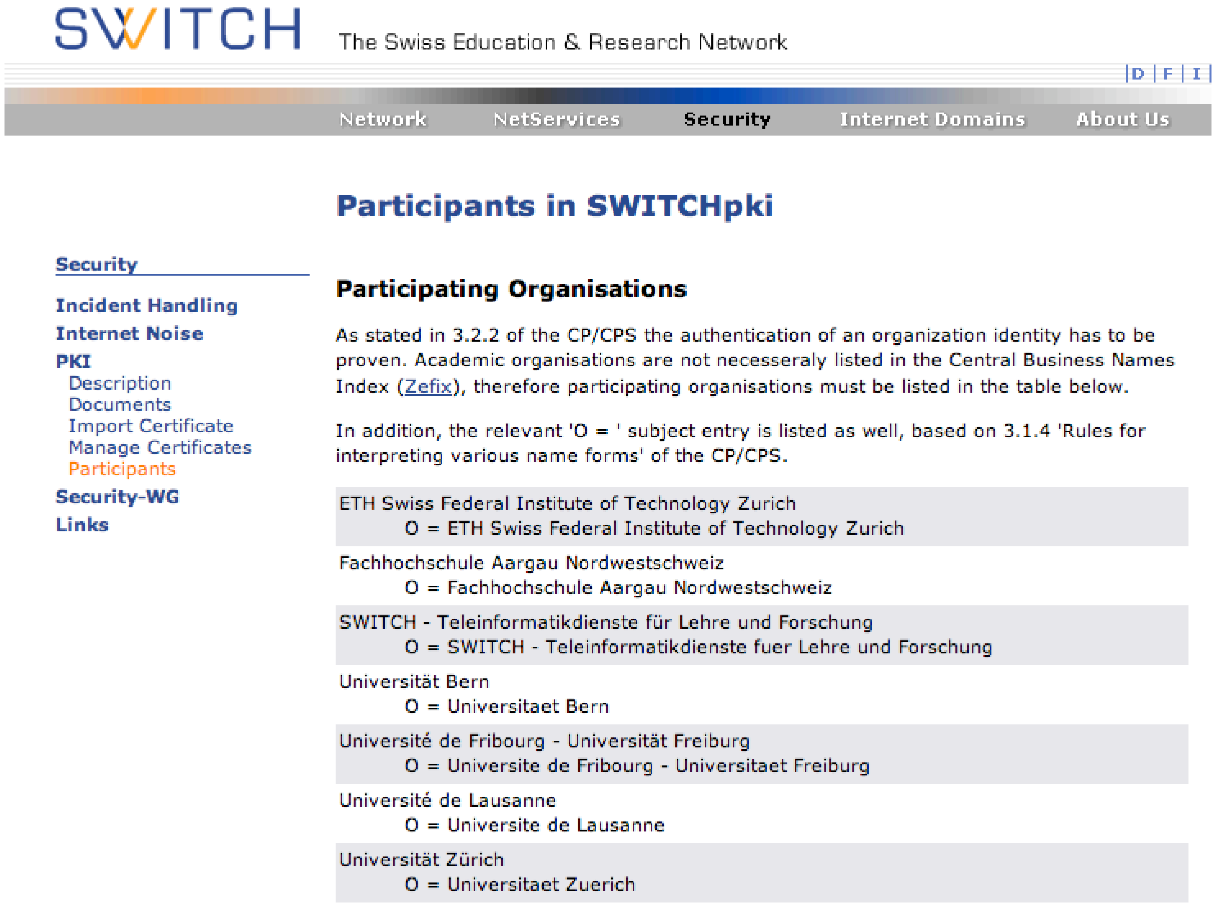
Roles, Entities: Who is doing what? (2)

SWITCH-RA

- Checks authenticity of incoming certificate request from site contacts
- Checks whether the elements fit together (site contact - organisation name - domain name)
- Checks completeness of provided information
- Approves or denies certificate requests

➪ primarily checks the completeness of the documentation

SWITCHpki Participants & Contacts



Participants in SWITCHpki

Participating Organisations

As stated in 3.2.2 of the CP/CPS the authentication of an organization identity has to be proven. Academic organisations are not necesseraly listed in the Central Business Names Index (Zefix), therefore participating organisations must be listed in the table below.

In addition, the relevant 'O = ' subject entry is listed as well, based on 3.1.4 'Rules for interpreting various name forms' of the CP/CPS.

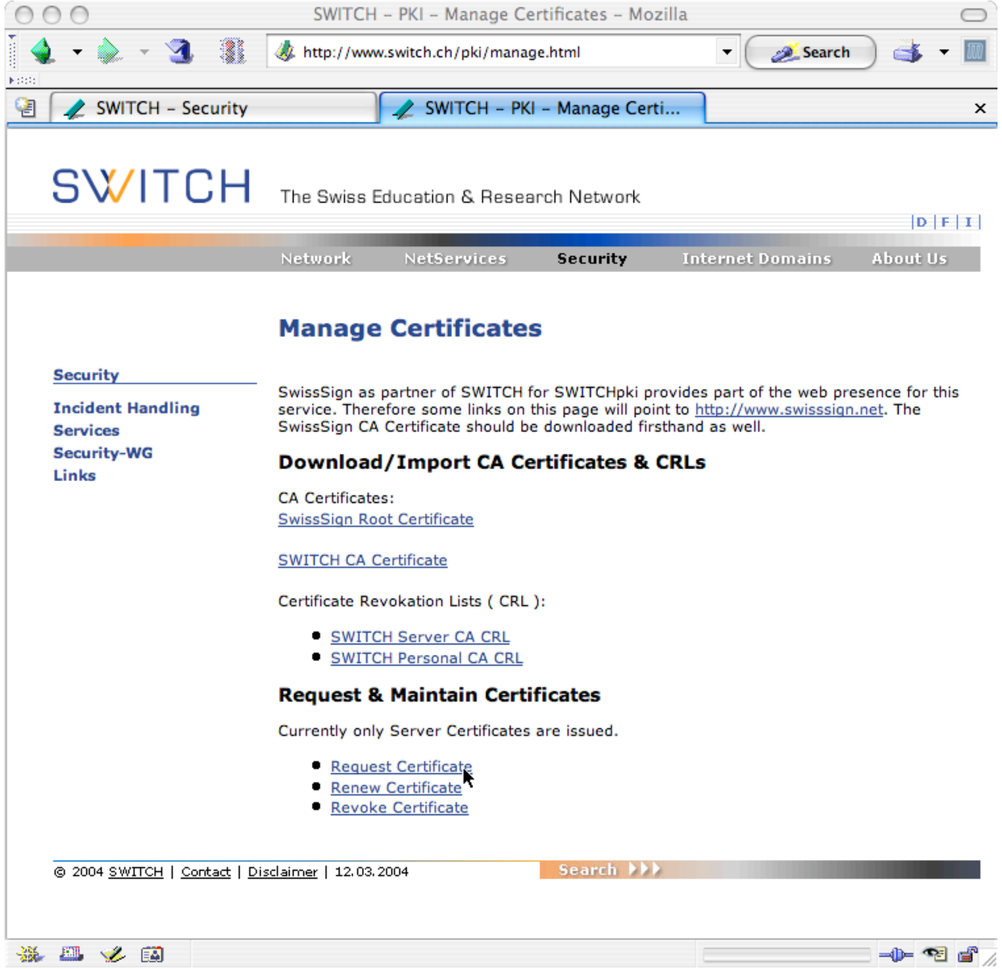
ETH Swiss Federal Institute of Technology Zurich O = ETH Swiss Federal Institute of Technology Zurich
Fachhochschule Aargau Nordwestschweiz O = Fachhochschule Aargau Nordwestschweiz
SWITCH - Teleinformatikdienste für Lehre und Forschung O = SWITCH - Teleinformatikdienste fuer Lehre und Forschung
Universität Bern O = Universitaet Bern
Université de Fribourg - Universität Freiburg O = Universite de Fribourg - Universitaet Freiburg
Université de Lausanne O = Universite de Lausanne
Universität Zürich O = Universitaet Zuerich

current list available at: http://www.switch.ch/pki/participants.html

SWITCHpki Participants & Contacts

Site	Contact Person(s)
ETH	Dolores Parravicini Brigitte Malacarne
Fachhochschule Aargau	Martin Sorg
Universität Bern	Christian Heim Roland Trummer Peter Geiser
Université de Fribourg	Bruno Vuillemin
Université de Lausanne	Alexandre Roy
Universität Zürich	David Meier Jann Forrer Luzian Scherrer Roberto Mazzoni

Request a Certificate



SWITCH – PKI – Manage Certificates – Mozilla
http://www.switch.ch/pki/manage.html
Search
SWITCH – Security
SWITCH – PKI – Manage Certi...
SWITCH The Swiss Education & Research Network
D | F | I
Network
NetServices
Security
Internet Domains
About Us
Security
Incident Handling
Services
Security-WG
Links

Manage Certificates

SwissSign as partner of SWITCH for SWITCHpki provides part of the web presence for this service. Therefore some links on this page will point to http://www.swisssign.net. The SwissSign CA Certificate should be downloaded firsthand as well.

Download/Import CA Certificates & CRLs

CA Certificates:
SwissSign Root Certificate

SWITCH CA Certificate

Certificate Revokation Lists (CRL):

- SWITCH Server CA CRL
- SWITCH Personal CA CRL

Request & Maintain Certificates

Currently only Server Certificates are issued.

- Request Certificate
- Renew Certificate
- Revoke Certificate

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http://www.switch.ch/aai/certificates.html
http://www.switch.ch/pki/manage.html

Documents & further information

CP/CPS, detailed slides

- Certificate Policy and Certification Practise Statement (CP/CPS) http://www.switch.ch/pki/SWITCH_CP-CPS200401.pdf
- http://www.switch.ch/pki/SWITCHpki_Launch.pdf