



# OpenID

Abendseminar «Innovative Alternativen zum Passwort»  
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**Robert Ott**  
OpenID Switzerland / Clavid AG

# SECTION 1



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## OpenID

- > What is it?
- > How are we organized?
- > How does it work?
- > How to integrate?

# OpenID - What is it?



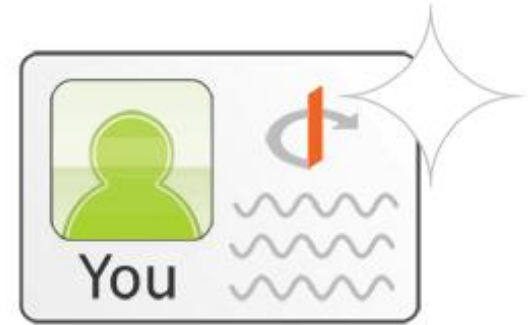
# OpenID - What is it?



OpenID is a free and easy way to use a **single digital identity** across the Internet.



With one OpenID you can login to all your **favorite websites** and forget about online paperwork!



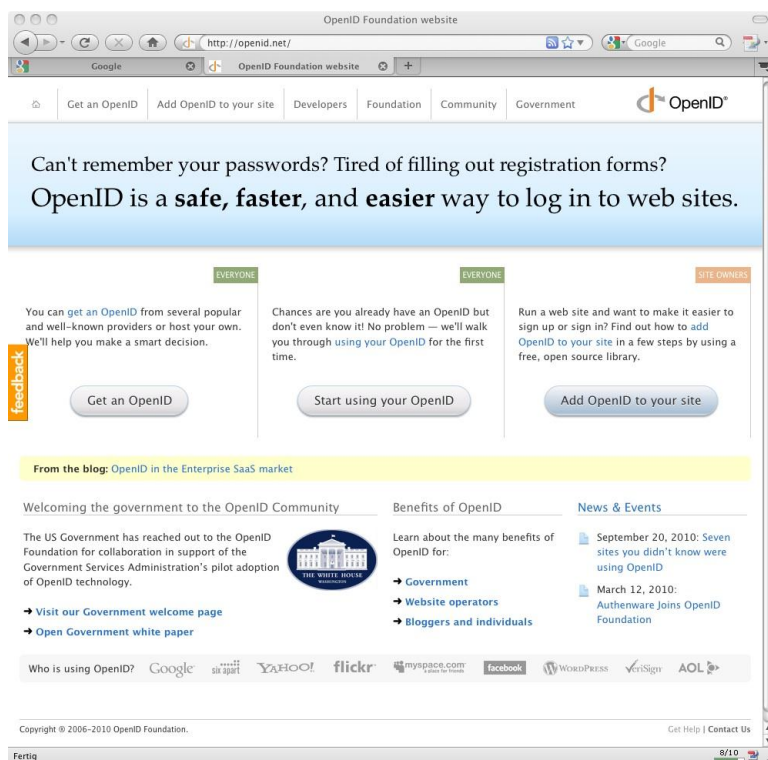
Now, you get to choose the login that's right for you. **Get an OpenID** today!

- > Internet SingleSignOn
- > Relatively Simple Protocol
- > User-Centric Identity Management
- > Internet Scalable

- > Free Choice of Identity Provider
- > No License Fee
- > Independent of Identification Methods
- > Non-Profit Organization

# OpenID - How are we organized?

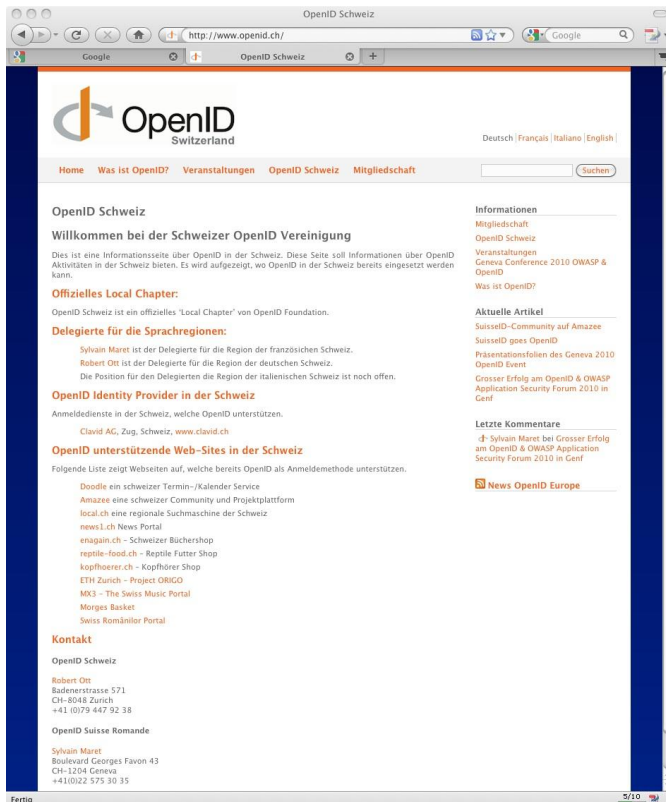
## OpenID Foundation (OIDF) - <http://openid.net/>



- Non-Profit Organization
- Parent Organization of 'Local Chapters'
- Trademark Protection
- eGov Promotion
- Organization of Events (Summits)
- Members
  - Facebook
  - Google
  - Microsoft
  - IBM
  - PayPal
  - VeriSign
  - Yahoo
  - LexisNexis

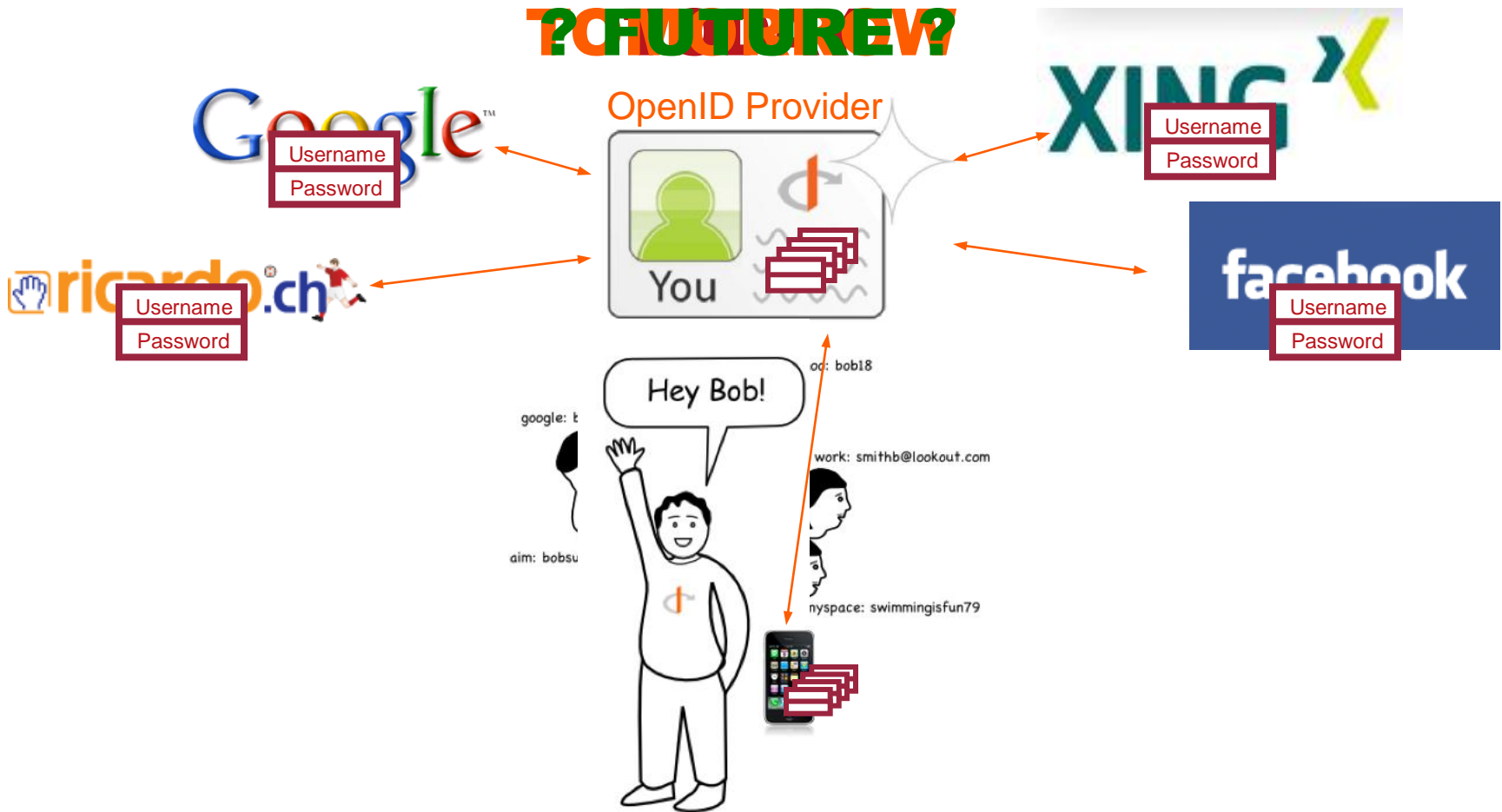
# OpenID - How are we organized?

## OpenID Switzerland (OIDCH) - <http://openid.ch/>



- Non-Profit Organization
- Official 'Local Chapter' of OI DF
- Registered Association (Handelsregistereintrag)
- Organization of Local Events
  - Geneva Conference 2010 with more than 200 attendees
- Members
  - AXSionics
  - Clavid
  - Maret Consulting
  - La Citadelle Electronique
  - Private Members

# OpenID - User Centric Identity Management



# OpenID - How does it work?

User Hans Muster  
(Domain: www.iid.ch)



OpenID™  
hans.muster.iid.ch



OpenID™  
Identity Provider

OpenID=hans.muster.iid.ch

Identity URL  
e.g. hans.muster.iid.ch



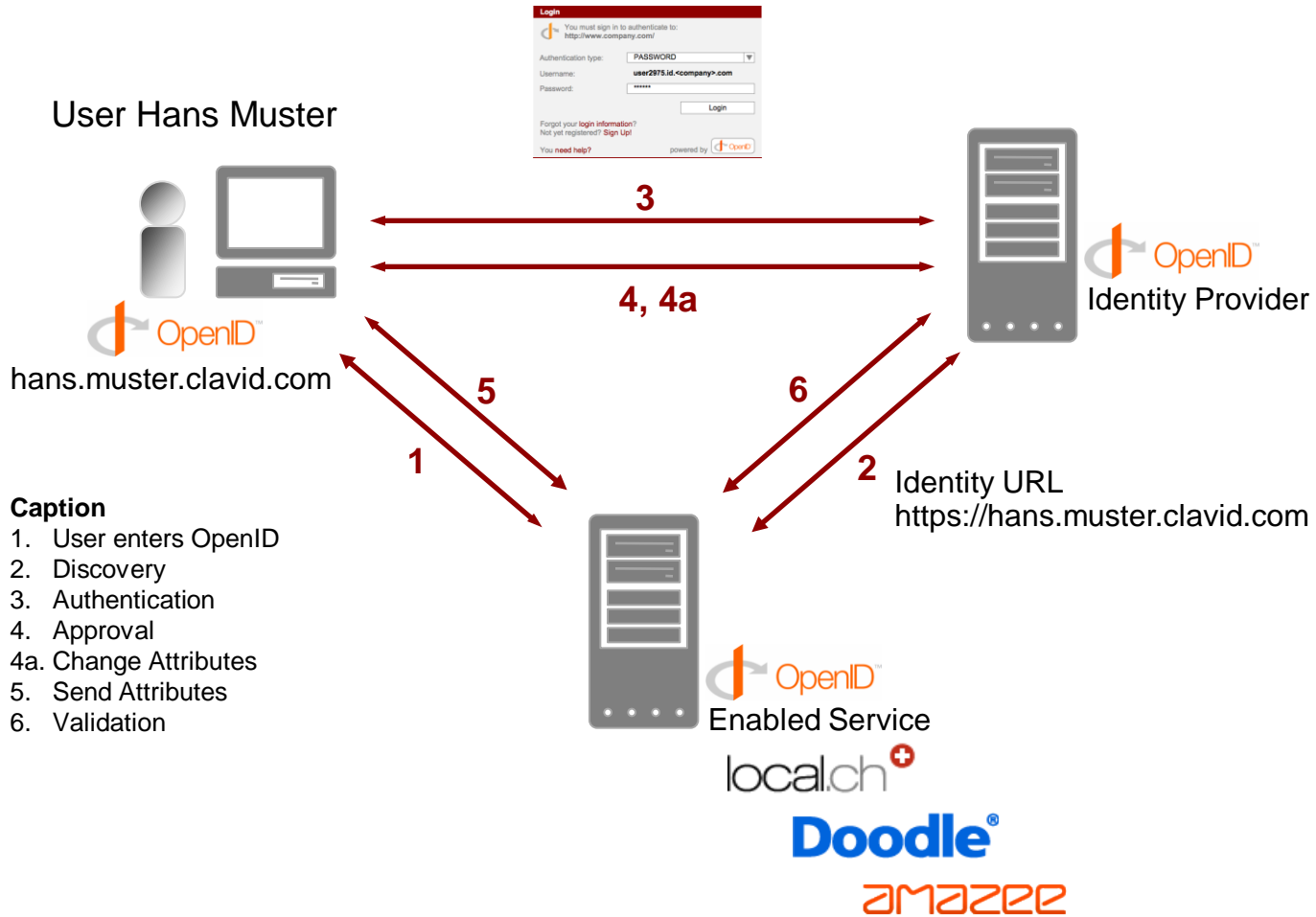
OpenID™  
Enabled Service

local.ch<sup>+</sup>

Doodle®

amazee

# OpenID - How does it work?



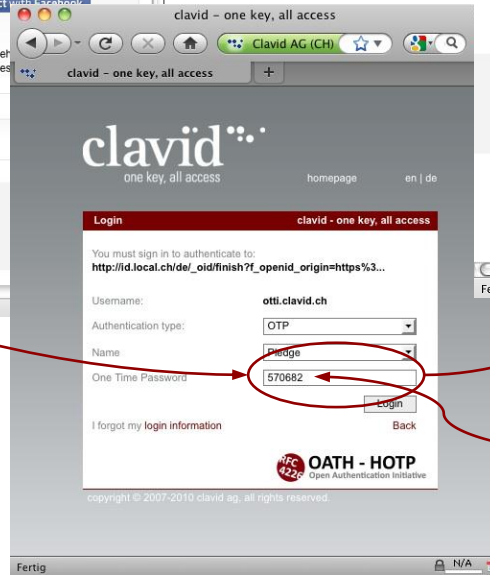
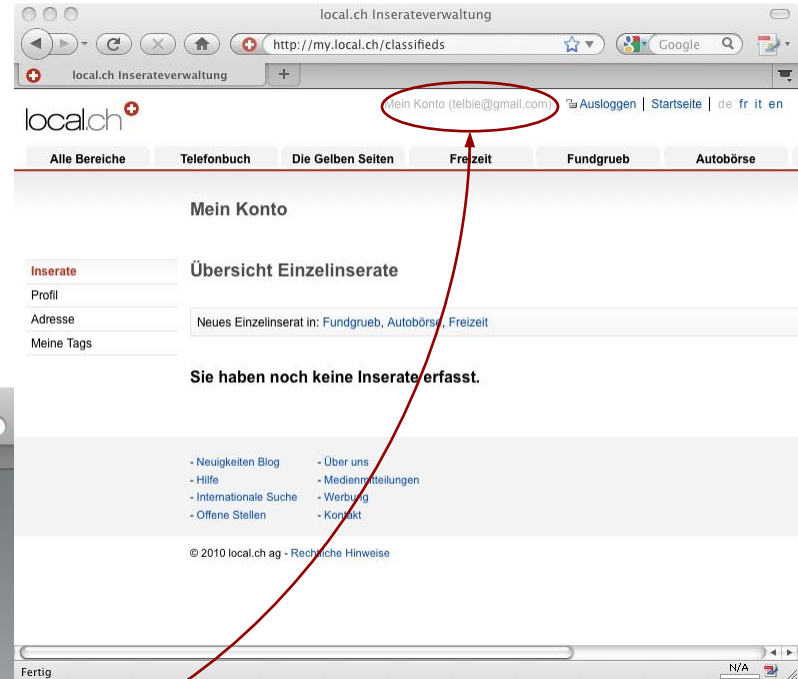
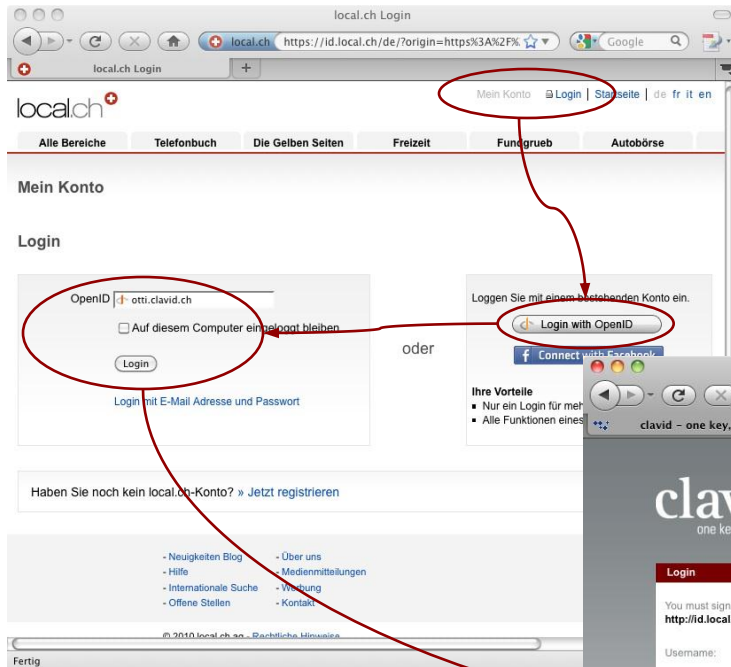
## Caption

1. User enters OpenID
2. Discovery
3. Authentication
4. Approval
- 4a. Change Attributes
5. Send Attributes
6. Validation

# OpenID - How does it work?

- Step 1: A user decides to use a personalized Internet Service supporting OpenID (e.g. local.ch). The user clicks on „Login using OpenID“ and enters its OpenID (e.g. hans.muster.iid.ch).
- Step 2: The requested Internet Service converts the OpenID into an URL (<http://hans.muster.iid.ch>) and requests this URL in order to receive the Identity Provider of the user.
- Step 2a: In this example, the user has delegated its OpenID to the Identity Provider clavid.ch.
- Step 3: The Identity Provider provides possible authentication methods for that specific user (in this case “Password”). Having successfully authenticated, the next step (approval) is initiated.
- Step 4: The user decides on the values of the requested attributes to be provided to the Internet Service. The Identity Provider usually provides user specific Personas (attribute templates) to assist the user in this approval process.
- Step 4a: At this point, the user may decide to change attribute values and store them on the Identity Provider for future approvals for that specific service. Thus, a user can automate future approvals for specific Internet Services.
- Step 5, 6: The attribute values are then signed and communicated from the Identity Provider to the Internet Service. The Internet Service validates the signature of the provided attributes and finally accepts the user to be authenticated.

# OpenID - Login Procedure



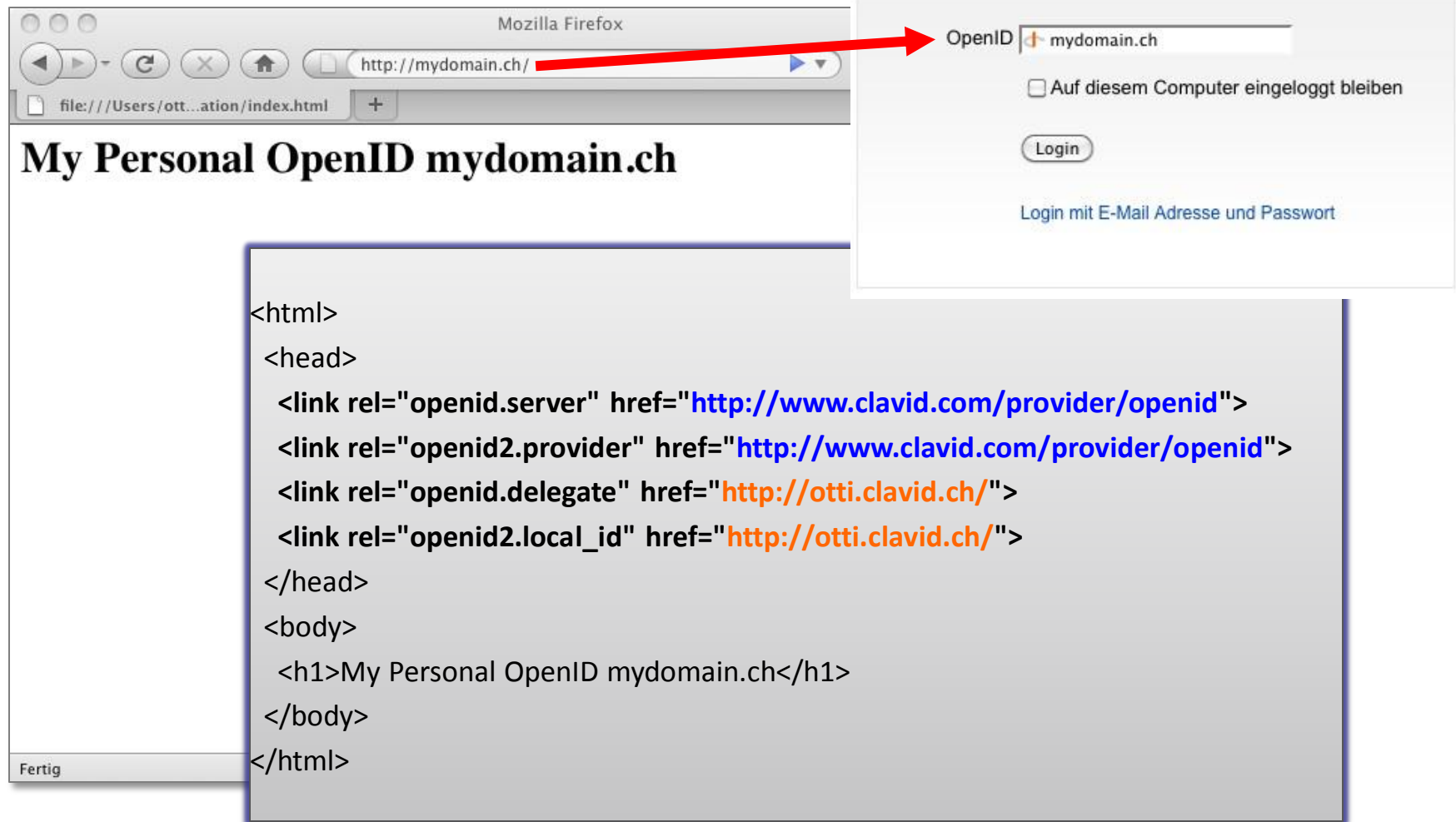
# OpenID – Login Procedure with SREG

The screenshots show the following steps:

- Mx3 - connect**: The user is on the login page. A red circle highlights the "Login with username and password" link.
- clavid - one key, all access**: The user is redirected to the clavid login page. A red circle highlights the "SuisseID" authentication type.
- OpenID Verification**: The user is prompted to verify the login. A red circle highlights the "Approve forever" button.
- Mx3 - MY ACCOUNT - Telbie**: The user is logged in. A red circle highlights the "MY LOGIN" section.



# OpenID - Delegation



```
<html>
<head>
  <link rel="openid.server" href="http://www.clavid.com/provider/openid">
  <link rel="openid2.provider" href="http://www.clavid.com/provider/openid">
  <link rel="openid.delegate" href="http://otti.clavid.ch/">
  <link rel="openid2.local_id" href="http://otti.clavid.ch/">
</head>
<body>
  <h1>My Personal OpenID mydomain.ch</h1>
</body>
</html>
```

# OpenID - How to Integrate?

## Assumptions concerning your current Site

- Users sign in with their username and password
- There is a form, where new users have to register
- Each user is identified by a unique ID in your database
- A settings page let users manage their account info

## Recipe

- Extend the database to map the OpenIDs to the user IDs
- Extend the registration page with an OpenID input field
- Extend the sign in page with an OpenID input field
- Extend the settings page to attach and detach openIDs

# OpenID - How to Integrate?

## Ingredients

- A OpenID Consumer Library
- The Standard OpenID Logos
- An OpenID Provider to test your site with

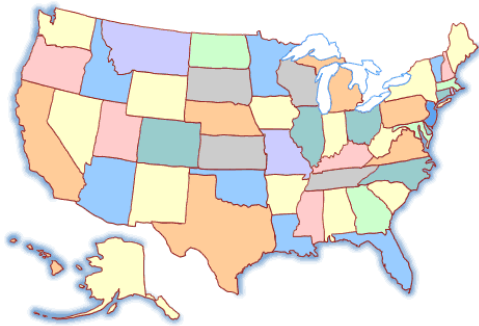


# OpenID - How to Integrate?

## OpenID Libraries

Language	Library
C#	DotNetOpenId, ExtremeSwank
C++	Libopkele
Java	NetMesh InfoGrid LID, <a href="#">OpenID4Java</a> , joid
Perl	Net::OpenID, OpenID4Perl
Python	JanRain
Ruby	JanRain, Heraldry
PHP	Jan Rain, Zend Framework OpenID Component, Saeven.net's JanRain Service Utility Class, Taral, Simple Class, sfOpenIDPlugin, CakePHP, EasyOpenID, OpenID For PHP, AuthOpenID Snippet
Coldfusion	CFKit OpenID, CFOpenID, OpenID CFC
Apache 2	mod_auth_openid

# OpenID - International Identity Providers



one key, all access

Username/Password

Certificates



Biometric



OTP



# Further Links: on OpenID

OpenID Identity Providers can be found at:

WIKIPEDIA

> <http://en.wikipedia.org/wiki/OpenID>



> [http://en.wikipedia.org/wiki/List\\_of\\_OpenID\\_providers](http://en.wikipedia.org/wiki/List_of_OpenID_providers)



> <http://www.openiddirectory.com/openid-providers-c-1.html>



> <http://www.clavid.com/> (Strong Authentication in Europe)

# Danke für Ihre Aufmerksamkeit!



## **Robert Ott**

CFO / Identity Management Technologies

Master of Science (Honors)

+41 (0)79 447 92 38 Mobile

robert.ott@clavid.com

## **Clavid AG**

Baarerstrasse 2

CH-6300 Zug

Switzerland

+41 (0)41 710 54 30 Phone

+41 (0)41 710 54 27 Fax

[www.clavid.com](http://www.clavid.com)