



SystemsX.ch

The Swiss Initiative in Systems Biology

Web SSO with Cloud Resources using AD Federation Services

Dean Flanders and Roger Schmidt

FMI / SystemsX

FIM4R

March 21st, 2013 at PSI

Overview

- ✘ Short introduction of SystemsX
- ✘ Goal
- ✘ Current situation
- ✘ Three ADFS test cases
- ✘ Tool for self-federation
- ✘ Azure Active Directory
- ✘ Summary



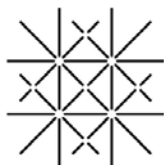
SystemsX.ch

The Swiss Initiative in Systems Biology

- ✕ Mission
«SystemsX.ch is determined to become a world-leading initiative in quantitative Systems Biology.»
- ✕ SystemsX.ch is open to any Swiss university or research institution.
- ✕ <http://www.systemsx.ch>

FMI

Friedrich Miescher Institute
for Biomedical Research



UNI
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SyBIT
SystemsX.ch Biology IT



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ETH

Eidgenössische Technische Hochschule Zürich
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UNIVERSITÉ DE FRIBOURG SUISSE
UNIVERSITÄT FREIBURG SCHWEIZ



UNIVERSITÉ
DE GENÈVE

u^b

175
jahre
an
175
years

^b
UNIVERSITÄT
BERN

Unil

UNIL | Université de Lausanne
HEC Lausanne



ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

FNSNF

FONDS NATIONAL SUISSE
SCHWEIZERISCHER NATIONALFONDS
FONDO NAZIONALE SVIZZERO
SWISS NATIONAL SCIENCE FOUNDATION



Swiss Institute of
Bioinformatics



ETH-RAT

UK·CH

Schweizerische Universitätskonferenz

Some Numbers and Facts

- ✕ 1000 scientists
- ✕ 200 research groups
- ✕ 11 universities and research institutes
- ✕ Work together inter-disciplinarily

Problem Description

- ✘ Goal: Increase sharing of resources, inter-institutional collaboration, inter-disciplinary collaboration, international collaboration, as well as academic and industry cooperation.
- ✘ Problem: Lack of FIM is seriously impairing research and is a critical problem.
- ✘ Solution: Robust inter-institutional self-federation approach where all users and institutions can easily participate.

Is this the solution?



Huygens Remote Manager v3.0.1

 What's new?
  Website
  SVI wiki
  Help

Welcome

The [Huygens Remote Manager](#) is an easy to use interface to the Huygens Software by [Scientific Volume Imaging B.V.](#) that allows for multi-user, large-scale deconvolution.

Collaborators



ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE
EPF Lausanne
[BioImaging and Optics platform](#)



Montpellier RIO Imaging



Scientific Volume Imaging



Friedrich Miescher Institute
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DOI: 10.1126/science.1232005

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ARTICLES

A Particle Consistent with the Higgs Boson Observed with the ATLAS Detector at the Large Hadron Collider

The ATLAS Collaboration^{*†}

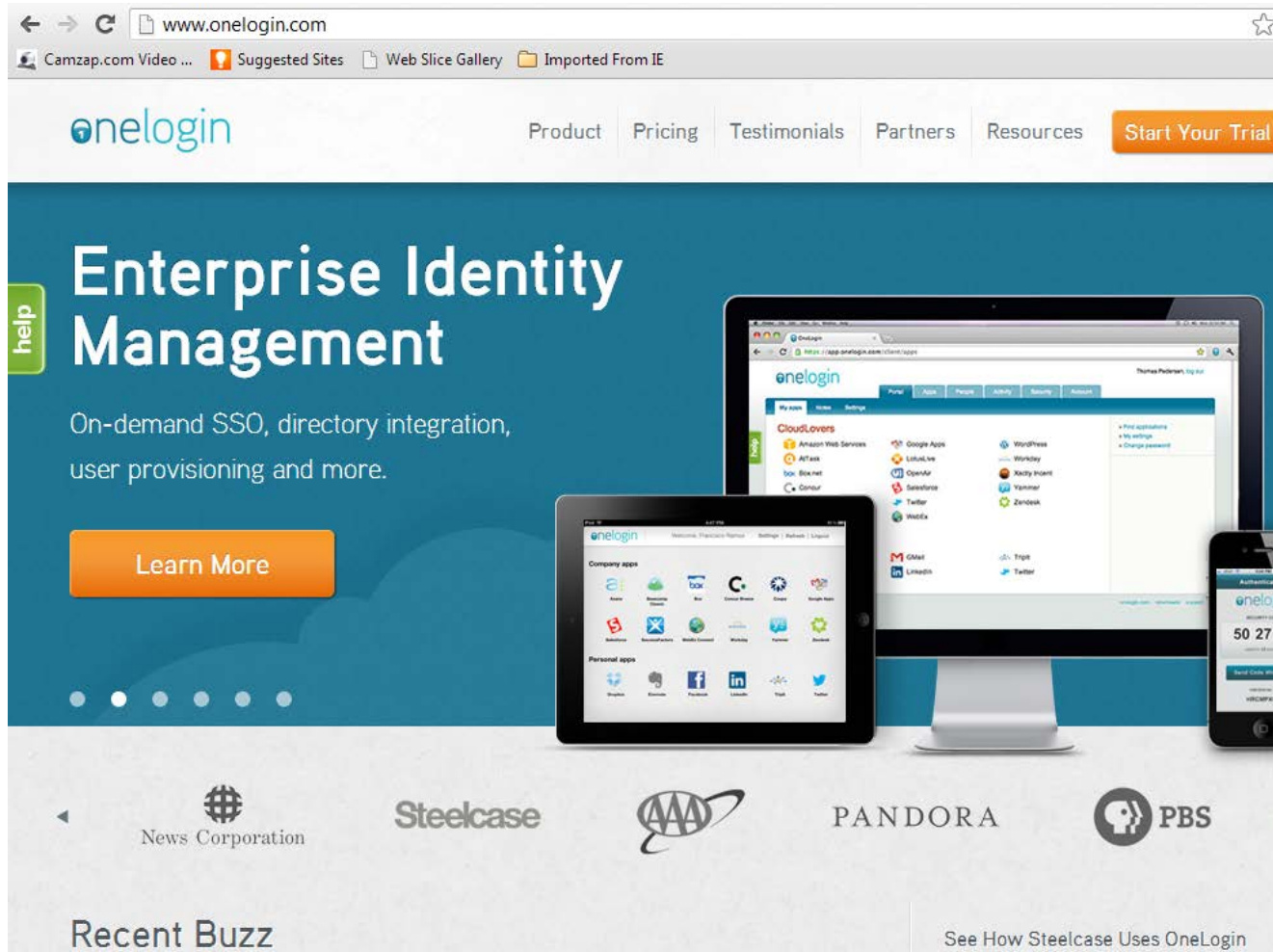
^{*}To whom correspondence should be addressed. E-mail: atlas_publications@cern.ch.

[†]The complete author list is included as [supplementary material](#) for this paper.

ABSTRACT

Nearly 50 years ago, theoretical physicists proposed that a field permeates the universe and gives energy to the vacuum. This field was required to explain why some, but not all, fundamental particles have mass.

Solved problem?




The screenshot displays the OneLogin website in a web browser. The browser's address bar shows www.onelogin.com. The website's navigation bar includes links for Product, Pricing, Testimonials, Partners, Resources, and a prominent orange button labeled "Start Your Trial".

The main content area features the heading "Enterprise Identity Management" with a subtext: "On-demand SSO, directory integration, user provisioning and more." Below this is an orange "Learn More" button. To the right, a desktop monitor, a tablet, and a smartphone are shown, each displaying the OneLogin user interface. The desktop screen shows a dashboard with sections for "Cloudlovers" (listing services like Amazon Web Services, Google Apps, etc.) and "My apps" (listing various applications). The tablet and smartphone screens show a simplified view of the application catalog.

At the bottom of the page, there is a section titled "Recent Buzz" featuring logos of partner companies: News Corporation, Steelcase, AAA, PANDORA, and PBS. A link "See How Steelcase Uses OneLogin" is also present.

A model for Europe?

InCommon is operated by [Internet2](#) 

InCommon[®]

[Join InCommon](#) [About](#) [Participants](#)

Where do I start?


Federation

Certificates

Assurance


Multifactor

The [InCommon Multifactor Authentication Program](#) offers significant discounts and campus licenses for second-factor authentication solutions from select partners.




[Duo Security](#)
[SafeNet](#)
[InCommon Affiliates](#)

LIGO Wiki Approved for Research & Scholarship Category




The LIGO Wiki has been approved for the [InCommon Research and Scholarship Category](#) (R&S). This is the second LIGO resource to be approved for the R&S Category. R&S allows participating identity providers to release a minimal set of attributes to an entire group of approved services, rather than negotiating attribute release one-by-one.

U.S. Government Approves Streamlined Assurance Practices



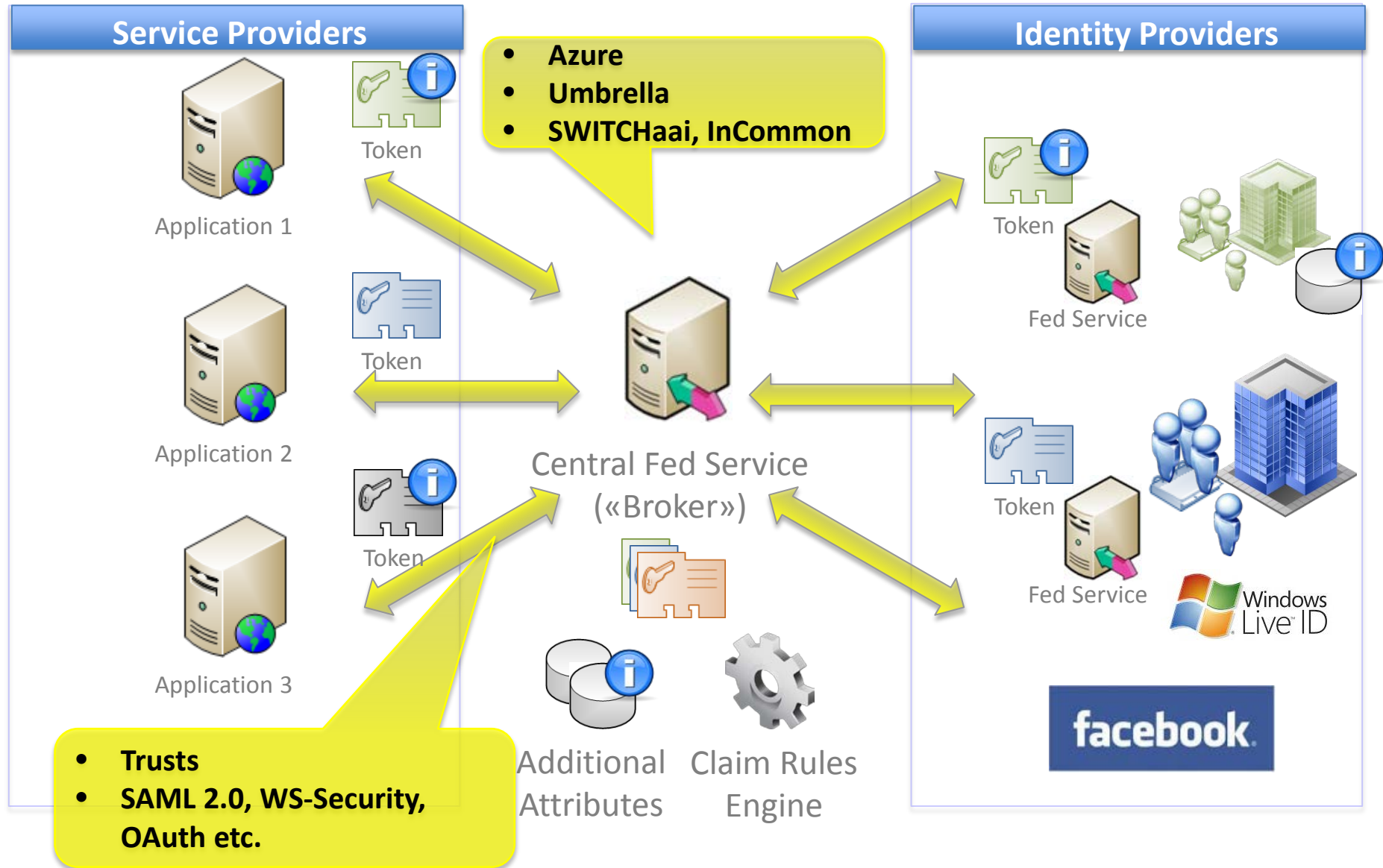
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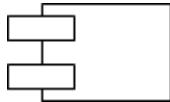
Fischer International's award-winning identity management solution includes its "Federation On-Ramp," a low-cost, managed solution that

Typical Architecture



Example 1: Federation with Qmarkets

SimpleSAMLphp



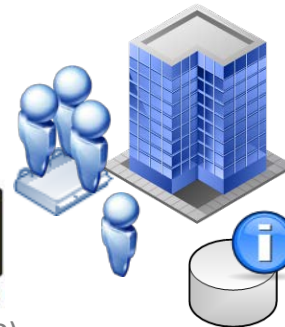
Qmarkets (SP)



ADFS (IdP)

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Additional
Attribute Store



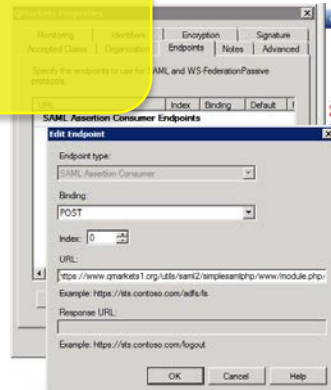
Claim Rules
Engine

Custom implementations:

- **Specific SAML 2.0 attributes**
- **Query SQL DB**

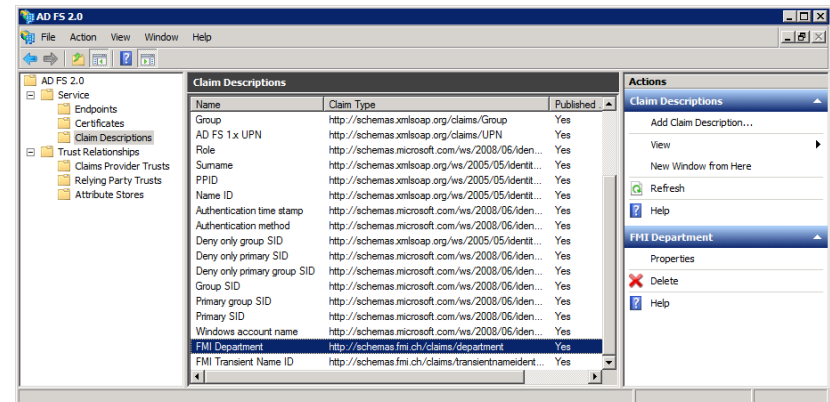
**Manual configurations for
SAML 2.0 endpoint!**

- URLs
- Bindings etc.



Custom claim type:

<http://schemas.fmi.ch/claims/department>

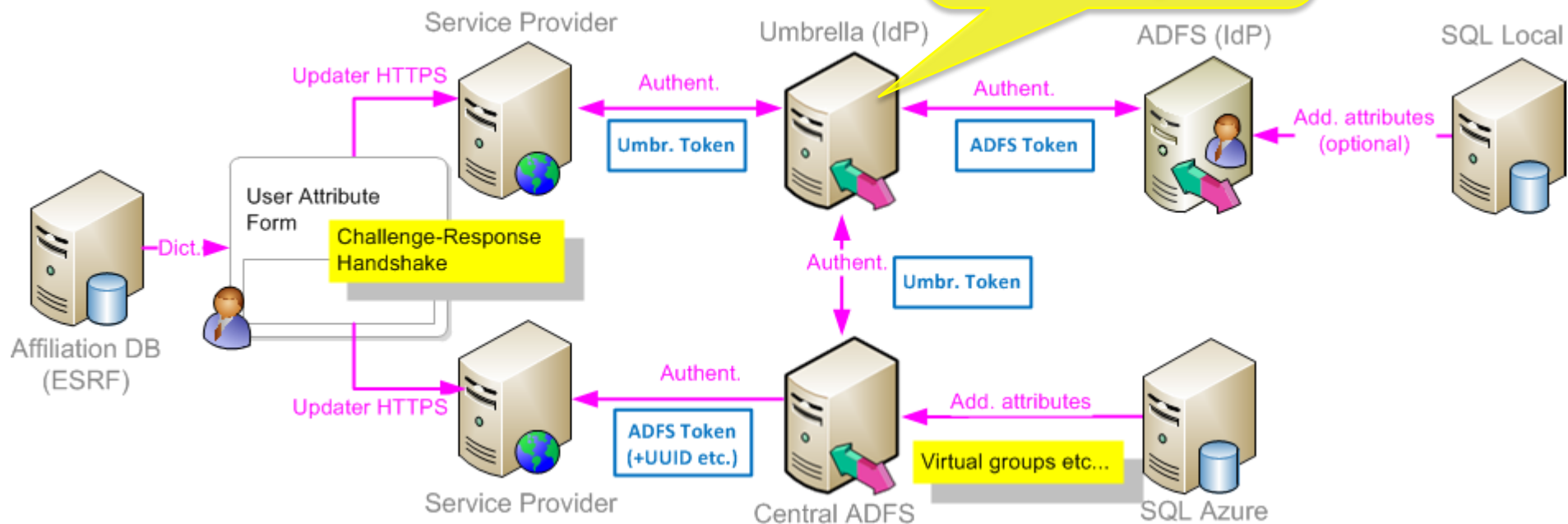


Example 2: Integration with Umbrella

Shibboleth

Custom implementations:

- SAML attribute queries
- Virtual groups, REST API
- Account linking



Example 3: Federation with ETH-Z over Azure ACS

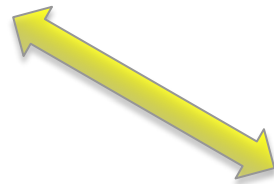
ETH

Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich



FMI

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for Biomedical Research





Windows Identity Foundation

Self-federation Portal (a hybrid approach)

LoginOrganizationsResources

Login Form

ned.matus@fmi.ch

.....

Sign In

[Register](#)

[I forgot my password](#)

Events
3 new events
within last 7 days

News

Messages

01

March Madness A to Z

Do you know the mascot for South Dakota State? Can you come up with the all-time record for No. 16 seeds? How about the starting backcourt for the Michigan Wolverines?

02



CNN Explains: March Madness

Dozens of teams to choose from, brackets, office pools. Why are we all so obsessed with March Madness? Let us explain.



03


Coulter wrong about immigration

Charles Garcia says GOP's endorsement of immigration reform is sound, while Ann Coulter's views are out of touch.






12345678910...




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Self-federation Tool



ned.matus@fmi.ch
Logout 

Role  User ▼

Network

User

Collaboration Admin

Group Admin

Resource Admin

Organization Admin

Super Admin

+ Add users to network

Groups
Resources





+ Invite To Umbrella

User Name

Organization Name

Search

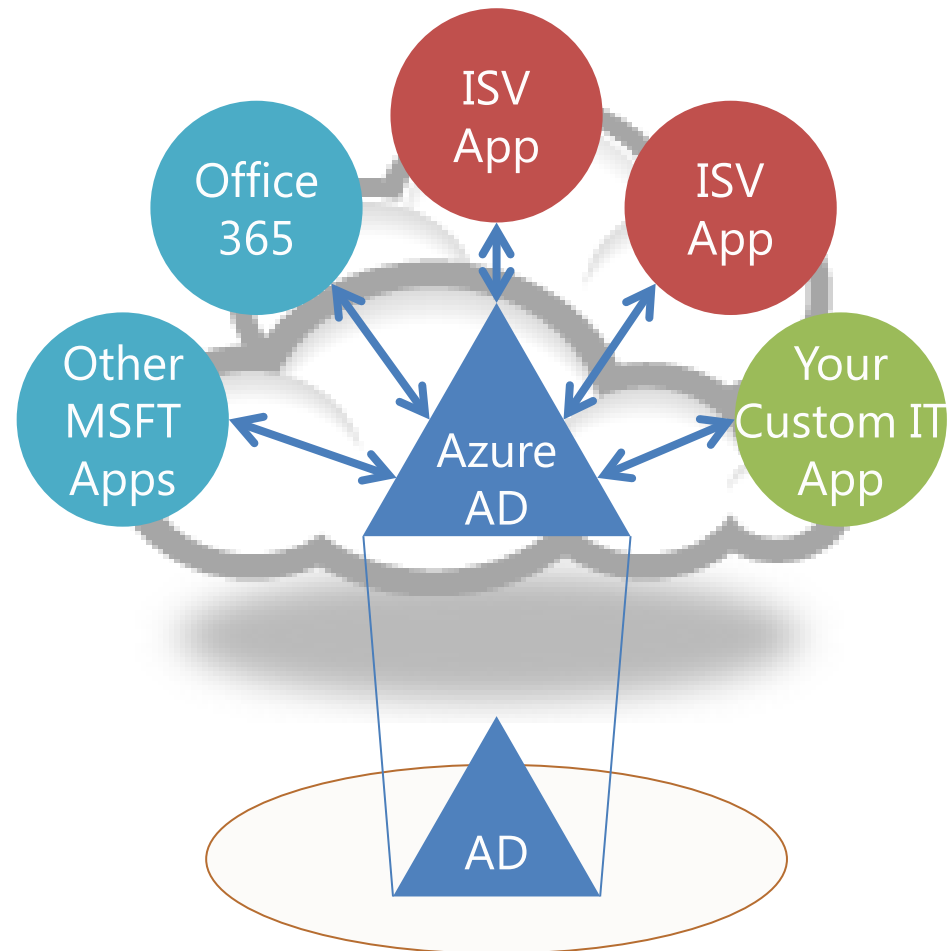
Date ▲	User Name ▲	Organization Name ▲	
21 Dec 2012	nicholas@nyc.com	NYC	<div style="border: 1px solid #ccc; padding: 2px 5px; display: inline-block;">Select Action ▼</div>
21 Jan 2013	pardeepyadav91@yahoo.com	yOrg	<div style="border: 1px solid #ccc; padding: 2px 5px; display: inline-block;">Select Action ▼</div>



1



Page Size 10 ▼ 2 Items in 1 Pages

Azure Active Directory

- ✕ Azure AD is relatively mature but only recently rolled out.
- ✕ Identity as a service
- ✕ Consolidate identity management across cloud apps
- ✕ Connect to directory from any platform, any device
- ✕ Connect with people from web identity providers and other organizations



Summary

- ✘ We feel that the self-federation concept is vital to an all inclusive federation necessary for research and potentially avoids many of these long discussions.
- ✘ Technically all components are available for making FIM a commodity item.
- ✘ A trusted platform such as Azure offers a valuable low cost federation backbone.
- ✘ Federation should be fully under the control of the institution and attribute management under the management of the user.
- ✘ Next step is to make a fully functional version with Azure AD with multiple organizations, and we are happy to collaborate with others on this.