



**Beck  
et al.**

**Beck et al. @RNUG**

**HCL Connections with Office Profile integration**

Munich, December 2020 - Anna Lipay, Martin Schmidt

# Beck et al.

## Current Positioning

A professional, experienced consultancy and Digital Transformation service provider with a continuous start-up mentality.

**Enable Digital Work**  
Human-centric transformation

Employees become corporate digital citizens



work.  
together.

**Form Data to Results**  
Data-driven transformation

Big Data becomes business value

**Shape a flexible IT**  
Flexible & agile infrastructure & operations

Save corporate IT departments from becoming obsolete

## Delivery models / Revenue streams

Projects based on T&M or fixed service fees  
Managed services based on monthly service fees  
Subscription based services  
Provisions from software license sales & cloud commissions.

Services are delivered from our virtual teams from Germany, Romania & Brazil

## Our Business Practices



### Enable Digital Work

Creating the conditions for digital work, providing platforms, promoting sustainable use. Change Leadership, accompanying, organizational development.



### Form Data to Results

Support data-driven decisions, AI-based analytics in the area of IT data and unstructured content AI driven solutions; social media analytics.



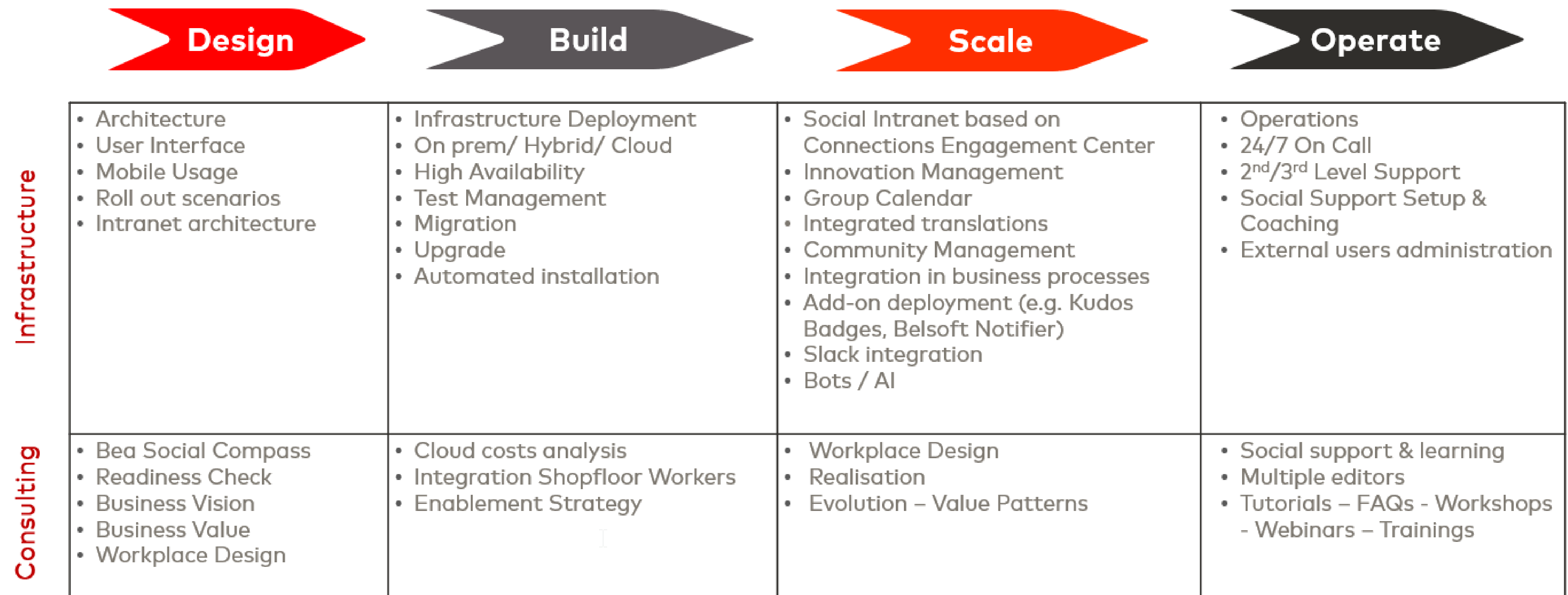
### Shape a Flexible IT

We help corporate IT organizations transform their own IT into flexible, adaptive and robust IT services based on modern hybrid cloud environments.



# Beck et al.'s HCL Connections Offering

We cover the complete supply chain of HCL Connections



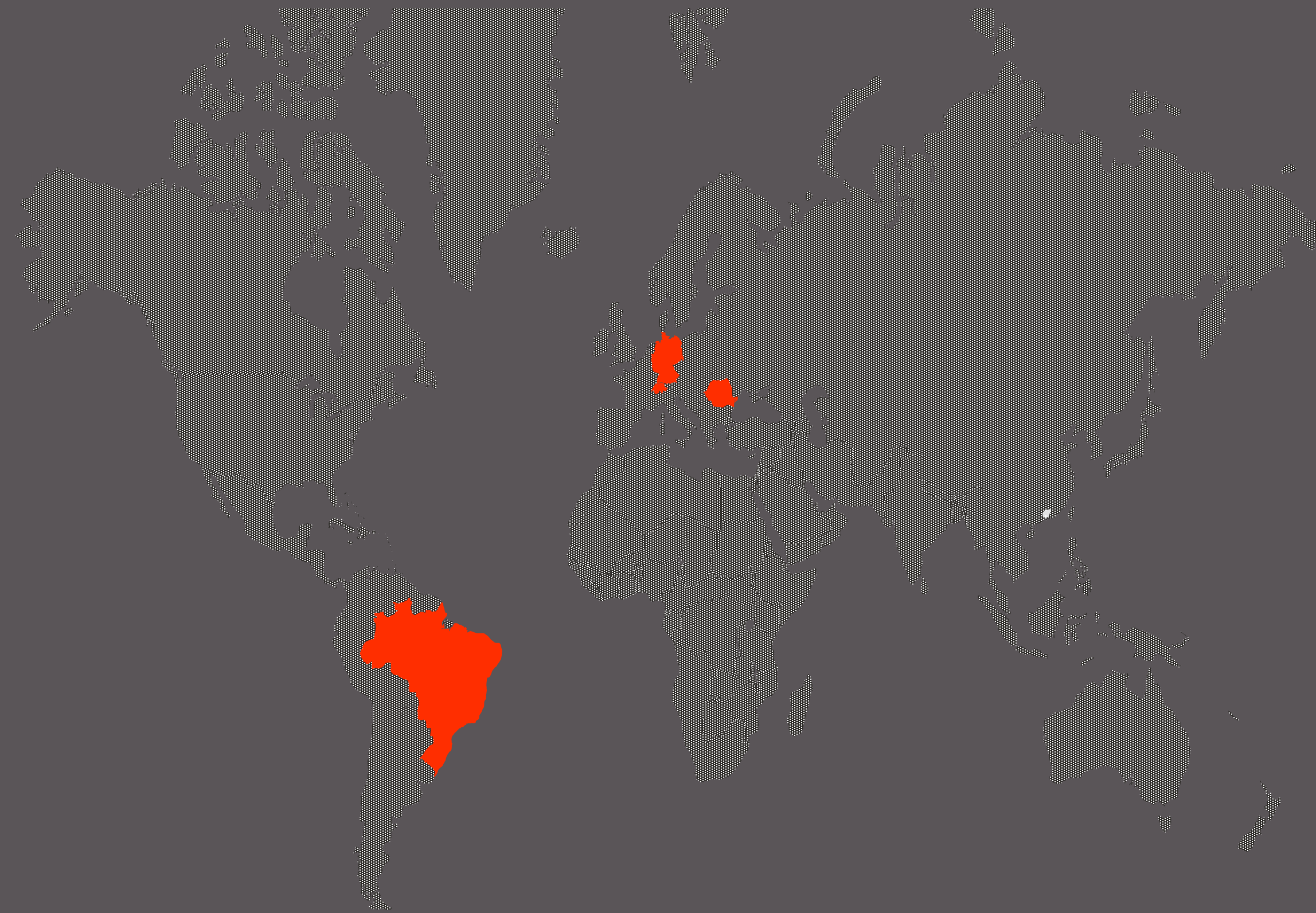


# Facts & Figures

<b>Locations</b>	Munich (DE), Cluj (RO), Florianópolis (BR)
<b>Employees</b>	Total 103; DE 51 - RO 35 - BR 17 (Headcounts)
<b>Certified Technicians</b>	75% of all employees
<b>Shareholder</b>	Since spring 2020 Beck et al. together with binary, direktgruppe and infoWAN have been forming a new Digital Champion for D/A/CH.
<b>Revenue DE</b>	2018: € 9 Mio 2019: € 12 Mio
<b>Revenue Share</b>	45% recurring revenue, 45% projects, 10% licenses/ provisions
<b>Equity (DE/Group)</b>	€ 1.2 Mio/ 1.5 Mio (as of 1.1.2018)
<b>Relevant customer segments</b>	Automotive (Dräxlmaier, TRATON, Continental, Magna, Infineon,) Travel & Transport (Lufthansa Group, Amadeus) „Hidden champions“ (KWS SAAT SE, pfm medical, Viridium, ...) Public clients (BMVG, German Forces, EU agencies)
<b>Technology partnerships</b>	Microsoft, AWS, HCL, OKTA, Nexthink, CloudHealth, Splunk, Beezy, MangoApps, Coyo, ...



# Beck et al. Subsidiaries



**Beck et al. Romania, Cluj-Napoca, Transylvania**  
„Silicon Valley of Eastern Europe“  
Set-up 2006; currently 35 employees (headcount).  
Second largest university city in Romania  
Very stable team with a strong management team

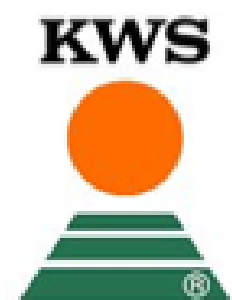
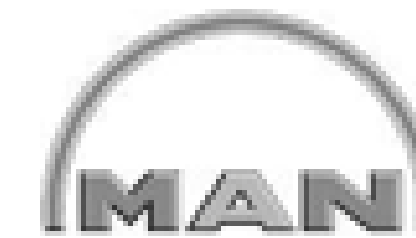
**Beck et al. Brazil: Florianópolis**  
”Silicon Island of Latin America”  
Set-up 2008; currently 17 employees (headcount).  
Young, stable team with strong technical  
background

**Beck et al. Switzerland: Urdorf, Zürich area**  
representation only, no operational office

# Some of our technology partners.



# Related customers.



# HCL Connections with Office profile integration

11.12.2020 on RNUG Online Forum 2020



Andreas Weinbrecht  
Martin Schmidt





# Anna Lipay

Consultant

- Born in Moscow
- Living in Munich
- Studied linguistics at Moscow Region State University  
computational linguistics at Ludwig Maximilian University of Munich
- Since 2018 works at Beck et al. GmbH



# Martin Schmidt

Senior IT Architect

IBM / HCL Connections since 2007

Experience in

- Deployment, Migration, Operation and Customization
- Kubernetes EKS and AWS, Container

Focusing on

- enhancing with own containers
- make the most out of customizer

More and more

- DevOps, Automation

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# HCL Connections with Office profile integration

We will look at

- Overview
- Synchronization Infrastructure
- LSC: LDAP Synchronization Connector
- SDI: IBM Security Directory Integrator
- HCL Connections Profile Customization

# Why do we need Office Profile Integration?



# Where does Connections fit in the market?

Workstream  
Collaboration

Portal

Knowledge  
Management

Collaboration Hub

Expertise  
Locator

Digital Office

File Sync  
and Share

Intranet

Employee  
Engagement

Enterprise  
Social Network





# Enterprise Community Platform

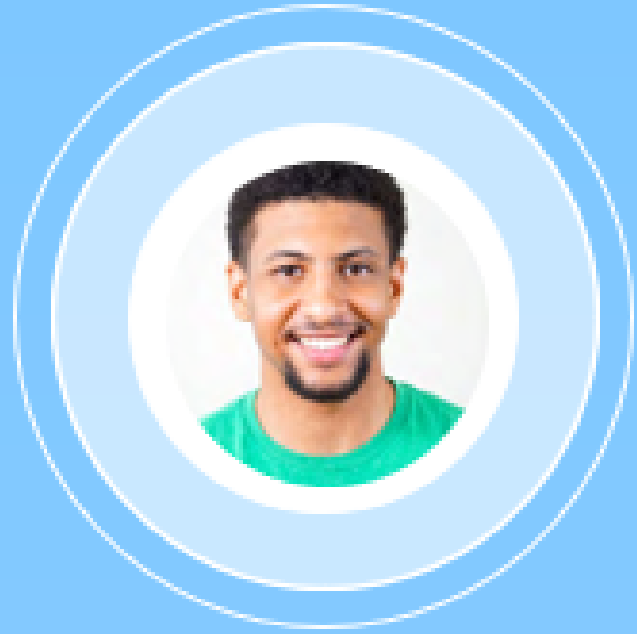
*Community - the place where you create/discover/share content, find experts. As soon as knowledge enters a Community, it immediately becomes discoverable.*

- Easily create and share content
- Exchange thoughts with experts
- Discover and network
- Develop viewpoints and add depth to knowledge/understanding
- Create and exchange ideas





# Use Cases - Enterprise Community Platform



## Departments

Trusted Information

---

HR, Engineering, Marketing, Product Management, each function depends on making only the latest information available within their department and to the rest of the organization.

---

Speak with authority and users will trust the information you put out.



## Training

Situational learning

---

Support your users by creating learning focused Communities. Let experts take the lead in teaching a new application or help you getting certified by documenting trusted information.

---

Easy to setup, quick to follow, effective in disseminating know-how.



## Large Scale Project

Repeatable Success

---

Your business model is based on applying best practices to repeatable projects - Communities give you the tools you need. Set up new Communities based on best practices and lessons learned from previous success stories.

---

Get organized quickly.



## Community of Interest

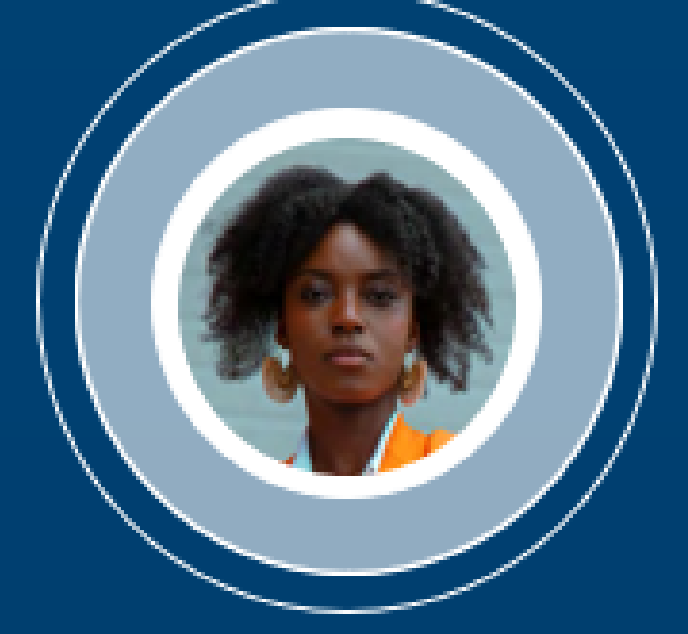
Global focus

---

The best ideas are often created when the right people sharing the same interest get together. Foster a culture where professional interests can be channelled through employee run Communities.

---

Your global workforce brought together by shared interests.



## Knowledge Base

Stop guessing

---

People in your organization know a thing or two about your products, services, and how to get things done. But does your organization know? Enable your entire workforce to help out, optimize efficiencies or simply do things better.

---

Share knowledge – it helps everyone.

# Microsoft Office Profile information from the Delve component

The screenshot shows a Microsoft Office profile page for Martin Schmidt. The page is in Russian and features a navigation sidebar on the left with options like 'Контактные данные', 'Сведения обо мне', 'Проекты', 'Навыки и опыт', 'Учебные заведения и образование', and 'Интересы и хобби'. The main content area is divided into sections: 'Контактные данные' (Contact information) with personal details and contact methods; 'Сведения обо мне' (About me) with a bio and a bolded text snippet; 'Проекты' (Projects) with a list of three items; and 'Навыки и опыт' (Skills and experience) with a list of professional skills and a list of technologies.

**Martin Schmidt** > Профиль

**Контактные данные**

Сведения обо мне

Проекты

Навыки и опыт

Учебные заведения и образование

Интересы и хобби

[Обновить профиль](#)

**Контактные данные**

Личные сведения

Martin Schmidt

+4989538863878

16 декабря

Связаться со мной

[martin.schmidt@becketal.com](mailto:martin.schmidt@becketal.com)

[martin.Schmidt@becketal.com](mailto:martin.Schmidt@becketal.com)

+491622626401

Веб-ссылки

[Мой OneDrive](#)

**Сведения обо мне**

Обо мне в нескольких словах  
I love to dig into technical details and to find cool solutions for problems of our customers.  
This text is in bold.

**Проекты**

Вот некоторые проекты, над которыми мне довелось поработать

- HCL Connections Support
- Test Delve / MS Graph API
- Message to ActivityStream

**Навыки и опыт**

Вот некоторые из моих профессиональных навыков

Dipl. Ing (FH) Elektrotechnik HCL Connections Administrator HCL Domino Administrator

Вы также можете спросить меня о

Domino WebSphere Connections AWS ECS EC2 ECR Kubernetes EKS


## HCL Connections with Office profile integration

- The Microsoft Office Profile and the HCL Connections profile share a common key: user principal name or Azure ID
- It is allowed to copy all the office profile data for all people who have a profile in Microsoft O365 and in HCL Connections into a separate database table on the HCL Connections database server.



# HCL Connections profile

Профайлы



Теги

Добавить теги в этот профайл +

agile centos club\_of\_10 club\_of\_20 connections connections\_admin connections\_certification connections\_team connectionsteam connext conti continental domino english german harambee hpsm ibm\_c2040-402-enu ibm\_certified ideagora java javascript linux lotus lotusscript rhel SCRUM sdi svn tdi websphere windows

Облако | Список

Общие ресурсы

▼ Сообщества (6)

Growth Circle Commun...

МОЙ ПРОФАЙЛ МОЯ СЕТЬ КАТАЛОГ

## Martin Schmidt

Senior IT Architect

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[Martin.Schmidt@becketal.com](mailto:Martin.Schmidt@becketal.com)

Birthday: 16 December

Местное время: 15:35

Отправить письмо

Пригласить в мою сеть

Прекратить отслеживание

Общий доступ к файлу

Загрузить визитную карточку

Последние обновления Контактная информация **Office Profile** Биография

Open Office Profile

Display Name:

Martin Schmidt

Birthday:

16 December

Skills:

- Dipl. Ing (FH) Elektrotechnik
- HCL Connections Administrator
- HCL Domino Administrator

Schools:

- Realschule am Europakanal Erlangen
- Fachoberschule Erlangen
- Georg-Simon-Ohm Fachhochschule Nürnberg

Interests:

- Elektrotechnik

Past Projects:

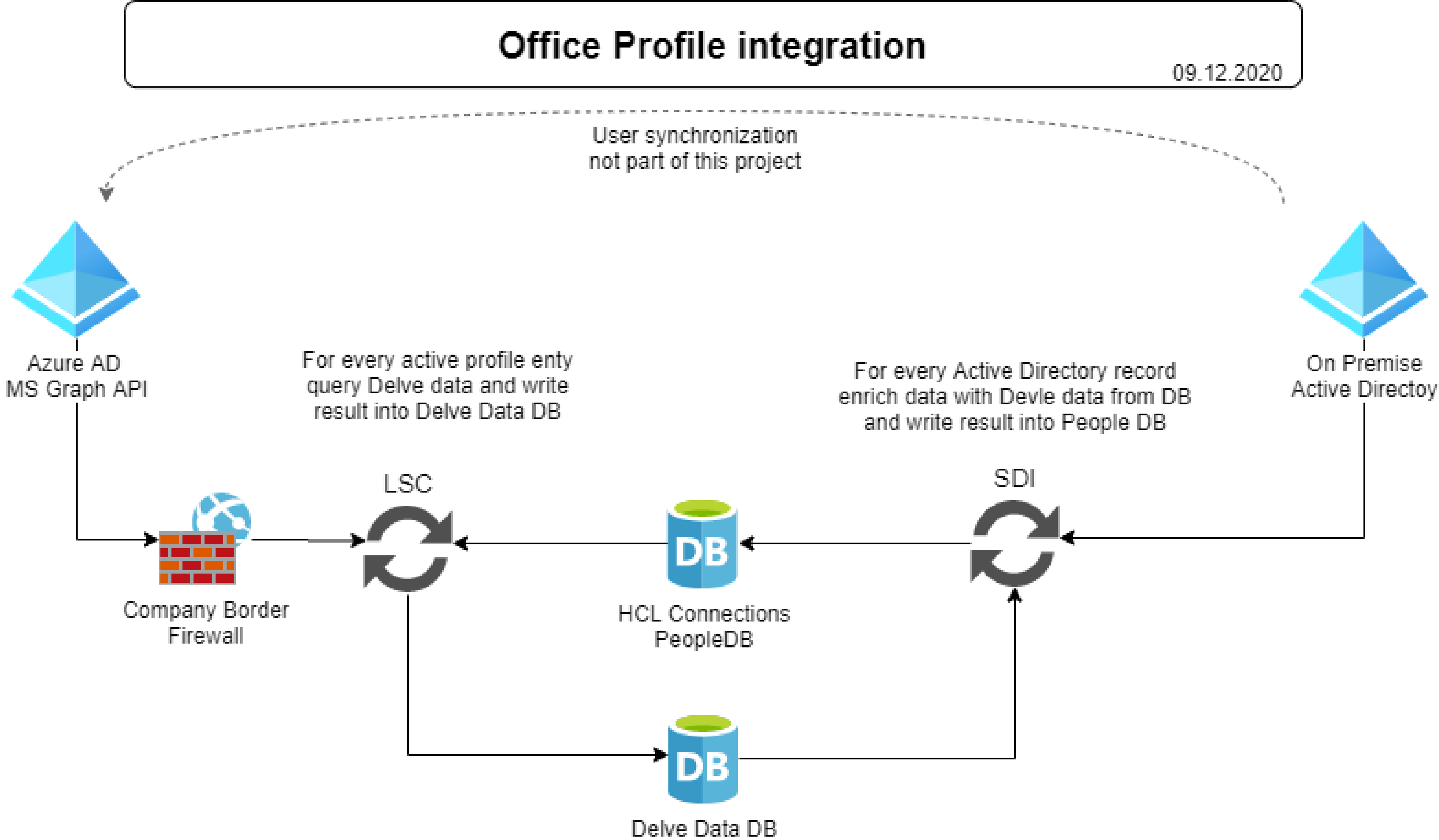
- HCL Connections Support
- Test Delve / MS Graph API
- Message to ActivityStream

## HCL Connections with Office profile integration

- The integration adds the Microsoft Office Profile information from the Delve component into the HCL Connections profile.
- The data is synchronized into the HCL Connections profile database so that the content is searchable.



# Synchronization Infrastructure



# Technical Details

## LSC: LDAP Synchronization Connector

LSC is an open source connector to synchronize identities between an LDAP directory and any data source, including any database with a JDBC connector, another LDAP server, flat files, REST API

It can be easily extended by Plug-ins.

Two plug-ins are used during this project:

1. Foreign Key Plug-in

Plug-in allows to use a different data source as key list to synchronize.

2. MS Graph API Plug-in

Plug-in which allows to get data from the MS Graph API.

The Plug-in was customized to allow not only the Azure Profile ID as key but to use the User Principal Name as key as only this information is available in the HCL Connections Profile Database.



# Technical Details

## LSC: LDAP Synchronization Connector

The LSC tool is configured in the lsc.xml configuration file.

To use the extensions in the configuration file, you need to register them in the xml header.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE xml>
<lsc xmlns="http://lsc-project.org/XSD/lsc-core-2.1.xsd"
xmlns:msgraphapi="http://lsc-project.org/XSD/lsc-microsoft-graph-api-plugin-1.0.xsd"
xmlns:foreignkey="http://lsc-project.org/XSD/lsc-foreign-key-plugin-1.0.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://lsc-project.org/XSD/lsc-core-2.1.xsd lsc-core-2.1.xsd
http://lsc-project.org/XSD/lsc-microsoft-graph-api-plugin-1.0.xsd lsc-microsoft-graph-api-plugin-1.0.xsd
http://lsc-project.org/XSD/lsc-foreign-key-plugin-1.0.xsd lsc-foreign-key-plugin-1.0.xsd"
revision="0">
```

To use the plug-ins during run time, you need to set the Java Variable LSC.PLUGINS\_PACKAGEPATH

```
export JAVA_OPTS="$JAVA_OPTS \
-DLSC.PLUGINS_PACKAGEPATH=org.lsc.plugins.connectors.msgraphapi.generated:com.becketal.lsc.plugins.connectors.foreignkeysrc.generated"
/opt/lsc-2.1.5/bin/lsc -f "${SCRIPT_DIR}/etc" -s users -c users
```

# Technical Details

## LSC: LDAP Synchronization Connector

### Source configuration

```
<pluginSourceService implementationClass="com.becketal.lsc.plugins.connectors.foreignkeysrc.ForeignKeySrcService">
  <name>TestTask1-src</name>
  <connection reference="jdbcSrc" />
  <foreignkey:ForeignKeySrcServiceConfig>
    <foreignkey:useKeyData>true</foreignkey:useKeyData>
    <foreignkey:keySource>
      <foreignkey:databaseSourceService>
        <name>profilesrc</name>
        <connection reference="jdbcSrc"></connection>
        <requestNameForList>getCNXBeaUserList</requestNameForList>
        <requestNameForObject>getCNXBeaUserID</requestNameForObject>
        <requestNameForClean>getCNXBeaUserClean</requestNameForClean>
      </foreignkey:databaseSourceService>
    </foreignkey:keySource>
    <foreignkey:dataSource>
      <foreignkey:pluginSourceService implementationClass="org.lsc.plugins.connectors.msgraphapi.MsGraphApiUsersSrcService">
        <name>msgraphapisrc</name>
        <connection reference="msgraphapi" />
        <msgraphapi:msGraphApiUsersService>
          <name>msgraphapi-users-service-src</name>
          <connection reference="msgraphapi" />
          <msgraphapi:pivot>userPrincipalName</msgraphapi:pivot>
          <msgraphapi:pivotInternal>userPrincipalName</msgraphapi:pivotInternal>
          <msgraphapi:select>id,userPrincipalName,displayName,skills,schools,aboutMe,birthday,interests,pastProjects,preferredName,responsibilities</msgraphapi:select>
        </msgraphapi:msGraphApiUsersService>
      </foreignkey:pluginSourceService>
    </foreignkey:dataSource>
  </foreignkey:ForeignKeySrcServiceConfig>
</pluginSourceService>
```



# Technical Details

## LSC: LDAP Synchronization Connector

Dataset value format conversion: From multi value into json string.

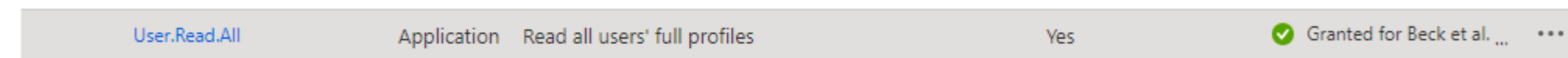
```
<dataset>
  <name>pastprojects</name>
  <forceValues>
    <string><![CDATA[js:importPackage(org.codehaus.jackson.map);
    var obj = new org.codehaus.jackson.map.ObjectMapper()
    var data = srcBean.getDatasetValuesById("pastProjects")
    if (data && data.length > 0 )
      obj.writeValueAsString(data)
    else
      ""
    ]]></string>
  </forceValues>
</dataset>
```

```
=> ["HCL Connections Support","Test Delve / MS Graph API","Message to ActivityStream"]
```

# Technical Details

## LSC: LDAP Synchronization Connector - MS Graph API Plug-in

To access the Microsoft Graph API, you need to register your application in the Azure Active Directory as Application. The App needs the application permission “User.Read.All”. The Admin consent is required.



Your Azure AD administrator needs to provide you the ClientID and the ClientSecret so that the LSC MS Graph API Plug-in can login.

```
<pluginConnection>
  <name>msgraphapi</name>
  <url></url>
  <username></username>
  <password></password>
  <msgraphapi:msGraphApiConnectionSettings>
    <msgraphapi:clientId>9721302e-abdf-44e5-93fa-0f4eeee1dee0</msgraphapi:clientId>
    <msgraphapi:clientSecret>ThisIsTheSecretKey</msgraphapi:clientSecret>
    <msgraphapi:tenant>YouTenant.com</msgraphapi:tenant>
  </msgraphapi:msGraphApiConnectionSettings>
</pluginConnection>
```



## Technical Details

### SDI: IBM Security Directory Integrator

IBM® Security Directory Integrator is an integrated development environment and runtime service for general-purpose, multi-format, multi-directional, real-time data movement, synchronization, and transformation. \*)

SDI is the standard tool for HCL Connections to synchronize user profiles from the source directory into the HCL Connections profiles database.

Each process to synchronize data is configured in an Assembly Line. These Assembly Lines can be easily extended to fetch further data.

SDI has no connector to the MS Graph API but can easily connect to any JDBC data source. This is one of the reasons to use the intermediate Delve Data DB.

\*) Quick Start Guide IBM Security Directory Integrator Version 7.2

# Technical Details

## SDI: IBM Security Directory Integrator

- You need to customize these Assembly Lines:
  - sync\_all\_dns\_iterate
  - sync\_dns\_from\_file
  - SyncDBfromSource
- Execute the Delve Data lookup just below the manager lookup function.
- Use an JDBC Lookup Connector us get the delve data from your database.
- Name the values like “delve\_displayname”, “delve\_skills”, ...
- **Customize the conf/LotusConnections-config/tdi-profiles-config.xml. Add profile extension attriubes:**

```
<simpleAttribute extensionId="delve_displayname" userLabel="DisplayName" sourceKey="delve_displayname" length="256"/>
<simpleAttribute extensionId="delve_skills" userLabel="Skills" sourceKey="delve_skills" length="1000"/>
```
- **Customize the conf/LotusConnections-config/profiles-types.xml. Add the fields to your profile.**

```
<property>
  <ref>delve_displayname</ref>
  <updatability>read</updatability>
  <hidden>>false</hidden>
</property>
```



# Technical Details

## HCL Connections profile customizations

To show the delve data inside HCL Connections profile, these changes are necessary:

- Extend the data model
- Extend the profile display by
  - Adding code the profileDetails.ftl, commonUtil.ftl
  - Adding a new widget to the widgets-config.xml
  - Add new strings

# Technical Details

## HCL Connections Profile Customization - profiles-config.xml, profile-types.xml

This change is identical to the TDI configuration change.  
Add the extension attributes to your configuration:

### profiles-config.xml

```
<profileExtensionAttributes>
  <simpleAttribute extensionId="delve_displayname" userLabel="DisplayName" sourceKey="delve_displayname" length="256"/>
  <simpleAttribute extensionId="delve_skills" userLabel="Skills" sourceKey="delve_skills" length="1000"/>
  ...
</profileExtensionAttributes>
```

### profiles-types.xml

```
<type>
  <property>
    <ref>delve_displayname</ref>
    <updateability>read</updateability>
    <hidden>>false</hidden>
    <fullTextIndexed>true</fullTextIndexed>
  </property>
  <property>
    <ref>delve_skills</ref>
    <updateability>read</updateability>
    <hidden>>false</hidden>
    <fullTextIndexed>true</fullTextIndexed>
  </property>
  ...
</type>
```

# Technical Details

## HCL Connections Profile Customization – Visual components

Add a new tab in the profile display by using the widgets-config.xml  
Below the widgetDev for the contatctInfo add:

```
<widgetDef bundleRefId="profilesDelve_res" defId="delveInfo"  
helpLink="{helpSvcRef}/SSYGQH_KCCI/user/profiles/c_pers_profiles.html" modes="view fullpage" themes="wpthemeWide"  
url="{deploymentConfigInterSvcRef}/static/common/widgets/descriptors/profile-details.xml?version={version}">  
  <itemSet>  
    <item name="section" value="delveInformation"/>  
  </itemSet>  
</widgetDef>
```

Add the tab name to your strings.

The bundle “profileDelve\_res” is registerd in the LC-config.xml

```
<resources>  
  <widgetBundle name="com.becketal.delve.strings.ui" prefix="profilesDelve_res"/>  
</resources>
```

The strings file is <customizationfolder>/strings/com.becketal.delve.strings.ui.properties

```
delveInfo=Office Profile
```



# Technical Details

## HCL Connections Profile Customization – profileDetails.ftl

```
<@util.renderSection sectionLabel="delveInformation">
  <div class="lotusSectionBody">
    <div>
<!-- START Add buttons -->
      <@util.renderProperty ref="delve_id" nlsKey="label.delve_open" hideIfEmpty=false ; ref, dataId, dataKey, nlsKey, nlsBundle>
        <#assign did><@util.renderValue ref=ref /></#assign>
        <#if did?has_content>
          <button id="_profilesDelve_OpenDelve" class="lotusBtn" onclick="window.open('https://eur.delve.office.com/?u=${did?trim}&v=profiledetails','_blank')"><@util.renderNls nlsKey=nlsKey/></button>
        <#else>
          <@util.renderNls nlsKey="label.delve_noprofile"/>
        </#if>
      </@util.renderProperty>
      <#if util.isAuthenticated()==true && util.isMe()==true>
        <@util.renderProperty ref="delve_id" nlsKey="label.delve_edit" hideIfEmpty=true ; ref, dataId, dataKey, nlsKey, nlsBundle>
          <#assign did><@util.renderValue ref=ref /></#assign>
          <button id="_profilesDelve_EditDelve" class="lotusBtn" onclick="window.open('https://eur.delve.office.com/?u=${did?trim}&v=editprofile','_blank')"><@util.renderNls nlsKey=nlsKey/></button>
        </@util.renderProperty>
      </#if>
<!-- END Add buttons -->
    </div>
    <table class="lotusVertTable">
      <tbody>
<!-- START Delve data -->
        <@util.renderProperty ref="delve_displayname" nlsKey="label.delve_displayname" hideIfEmpty=true ; ref, dataId, dataKey, nlsKey, nlsBundle>
          <tr>
            <th scope="row">
              <@util.renderNls nlsKey=nlsKey/>
            </th>
            <td>
              <p class="bidiAware">
                <@util.renderValue ref=ref />
              </p>
            </td>
          </tr>
        </@util.renderProperty>
        <@util.renderProperty ref="delve_skills" nlsKey="label.delve_skills" hideIfEmpty=true ; ref, dataId, dataKey, nlsKey, nlsBundle>
          <tr>
            <th scope="row" style="vertical-align:middle;">
              <@util.renderNls nlsKey=nlsKey/>
            </th>
            <td>
              <p class="bidiAware">
                <@util.renderValue ref=ref renderAs="list" />
              </p>
            </td>
          </tr>
        </@util.renderProperty>
      </tbody>
<!-- END Delve data -->
    </table>
  </div>
</@util.renderSection>
```

# Technical Details

## HCL Connections Profile Customization – commonUtil.ftl

The display function `<@util.renderValue ref=ref renderAs="list" />` does not exist per default. You need to customize the commonUtil.ftl

In the macro renderValue add this renderAs code below the renderAs “email”

```
<#elseif renderAs = "list">
  <#local list_str = value?replace('&quot;', '"') />
  <#local list_json = list_str?eval />
  <ul>
    <#list list_json as list_item>
      <li>${list_item}</li>
    </#list>
  </ul>
```

# Technical Details

## HCL Connections Profile Customization – Visual components

The profile strings for the .ftl files are located in

`LC-config/profiles/templates/resources/nls/template.properties`

**add the strings at the bottom of the files:**

```
# Delve
label.delve_skills=Skills:
label.delve_displayname=Display Name:
label.delve_schools=Schools:
label.delve_aboutme>About Me:
label.delve_birthday=Birthday:
label.delve_interests=Interests:
label.delve_pastprojects=Past Projects:
label.delve_responsibilities=Responsibilities:
label.delve_open=Open Office Profile
label.delve_edit=Edit Office Profile
label.delve_noprofile=No office profile available for this user.
```



# Sources and Resources

- LSC Project  
<https://lsc-project.org/>
- LSC MS Graph Plug-in  
<https://github.com/MSSputnik/lsc-microsoft-graph-api-plugin>
- LSC Foreign Key Plug-in  
<https://github.com/MSSputnik/lsc-foreign-key-plugin>
- Creating a simple profile data model and template customization  
[https://help.hcltechsw.com/connections/v65/admin/customize/t\\_admin\\_profiles\\_custom\\_example.html](https://help.hcltechsw.com/connections/v65/admin/customize/t_admin_profiles_custom_example.html)
- Populating custom extension attributes  
[https://help.hcltechsw.com/connections/v65/admin/customize/t\\_admin\\_profiles\\_populate\\_ext\\_attributes.html](https://help.hcltechsw.com/connections/v65/admin/customize/t_admin_profiles_populate_ext_attributes.html)





What are your questions?

**Beck  
et al.**



The way you get to the future is the future you get.

**Beck  
et al.**



@beck\_et\_al



andreas.weinbrecht@becketal.com