



Layer2 Cloud Connector for SharePoint V5

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Layer2

Who is Layer2?



- As a Microsoft Gold Certified Partner and ISV based in Hamburg (Germany), Layer2 is one of the leading providers of Microsoft SharePoint, Office 365 and Azure apps in Europe with a major focus on Data Integration, Collaborative Knowledge Management, Social Networking and Cloud.
- Layer 2 has also been known as a reliable partner to customers in Central Europe, offering additional consulting and services in the fields of SharePoint, .NET programming and IT infrastructure for more than 20 years.

Microsoft Partner

- Gold Application Development
- Gold Collaboration and Content
- Gold Small Business
- Cloud Accelerate
- Silver Volume Licensing
- Silver Midmarket Solution Provider



SharePoint in the cloud – key customer pain points



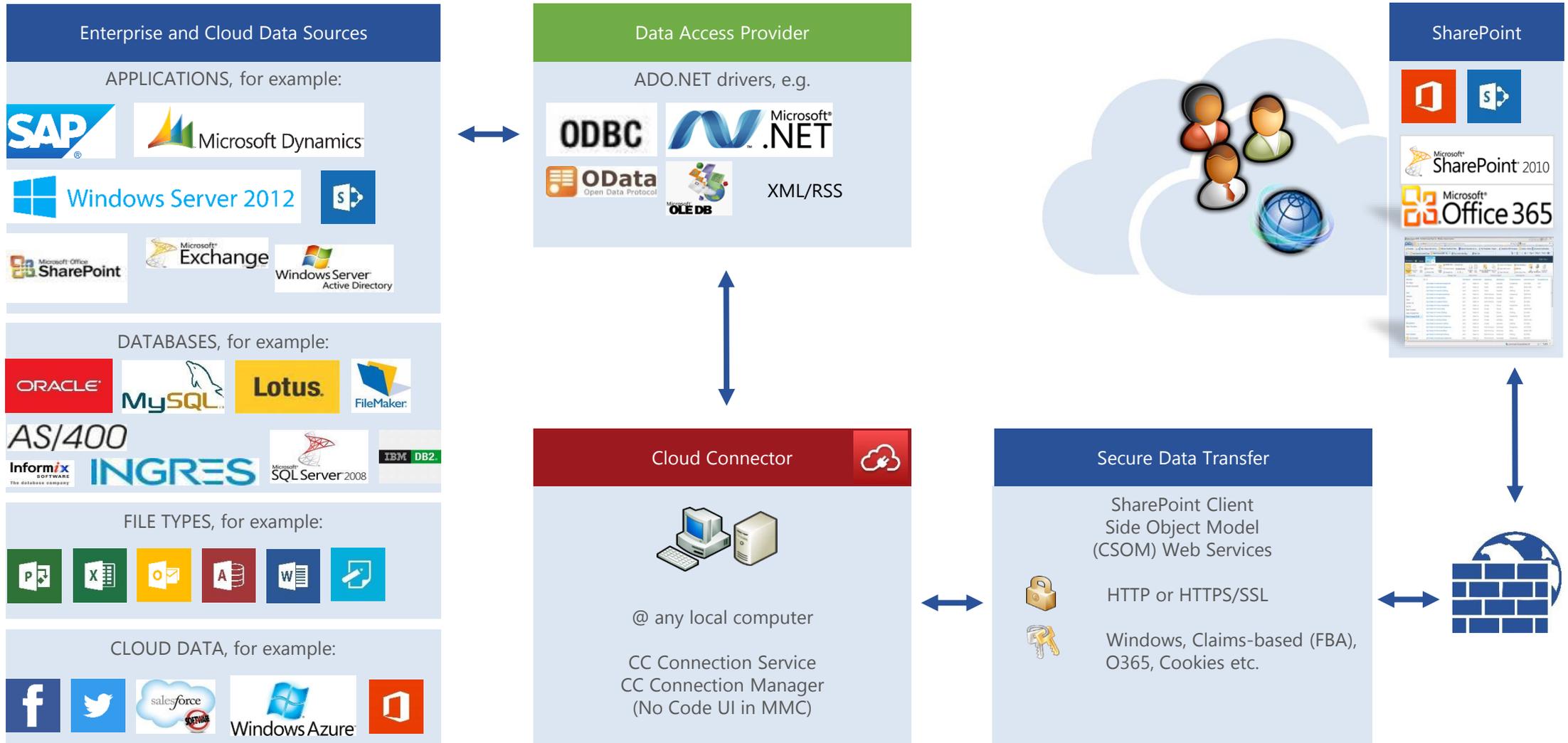
What is the SharePoint Cloud Connector?



- Layer2 Cloud Connector can connect *native* SharePoint lists and libraries (on-premise or in the cloud) directly to almost any external data source codeless, and bi-directional, if required.
- All SharePoint features are available as usual for your external data, e.g. views, search, metadata, alerts and even workflows, to take business actions in SharePoint, when external data records are changed.
- The Cloud Connector simplifies your SharePoint architecture, increases end user performance and availability, overcomes limitations and solves many issues that still exists with the SharePoint out-of-the-box data integration via BDC and BCS today, especially in the cloud.
- The Cloud Connector runs as standalone application (MMC) and Windows Service on any Windows server or client, safely within the corporate network. *No access to corporate data from outside is required. No data transfer to 3rd parties.*
- Supports SharePoint 2010, 2013, SharePoint Foundation, SharePoint Online



How does the Layer2 Cloud Connector work?



What can be connected to SharePoint



- **Databases** with existing ODBC / OLEDB / OData or other .NET based drivers (32-bit / 64-bit), e.g. SQL Server, SQL Azure, Oracle, IBM DB2, Informix, AS/400, MySQL and many more.
- **File Content** like Microsoft Office Excel, Access, XML, CSV or other text files etc.
- **File System** (to sync with SharePoint libraries)
- **Applications** like Exchange, Active Directory, SharePoint, etc.
- **ERP / CRM / DMS / ECMS systems** like Navision, SAP, MS Dynamics, etc.
- **Cloud-based systems** like Salesforce, SharePoint Online, CRM Online, Google, Twitter, Facebook, any RSS or other XML-based web requests, etc.
- **More data sources** via 3rd party provider and gateways.



ODBC



SYBASE

AS/400

INGRES



PERVASIVE

MySQL

GUPTA
A Unify Company

Informix
SOFTWARE
The database company



Cloud Connector for SharePoint – Why we made it.

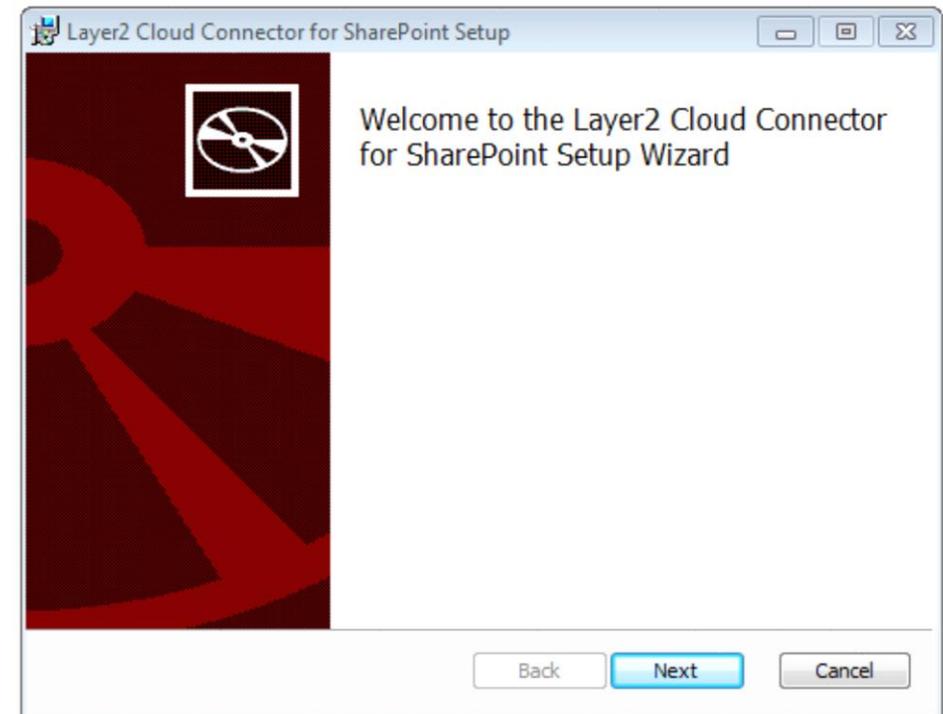


- **Overcome Limitations:** SharePoint out-of-the-box solutions for external data integration such as the Business Connectivity Services (BCS) or SkyDrive Pro / One Drive for Business are not available for all SharePoint editions and have serious limitations – compared to native lists and libraries, especially in the cloud. The Cloud Connector works with all SharePoint editions and connects to *native* lists or libraries. You have views, search, metadata, alerts, workflows as usual. No problems with forms or 3rd party extensions.
- **Easy to configure – no changes in SharePoint:** BCS is difficult to configure. Tools, XML, customizing or even programming a web service is required. The Cloud Connector is easily configured using wizards. Every admin can do it. No installation on SharePoint.
- **Secure access:** BCS requires data access from outside to corporate data via web services. The Cloud Connector operates safely inside the corporate network as a “man in the middle” to push and pull data. No access from outside required. No 3rd party involved.
- **Simple architecture and deep integration:** BCS only displays the external data inside the SharePoint UI. That not only causes limitations, but also ends up in a complex architecture with real-time user access to all external sources at any page view and possibly licensing issues as well. With the Cloud Connector users access native SharePoint lists and libraries only as a stable synced cache with high performance and availability.

Installation & Setup



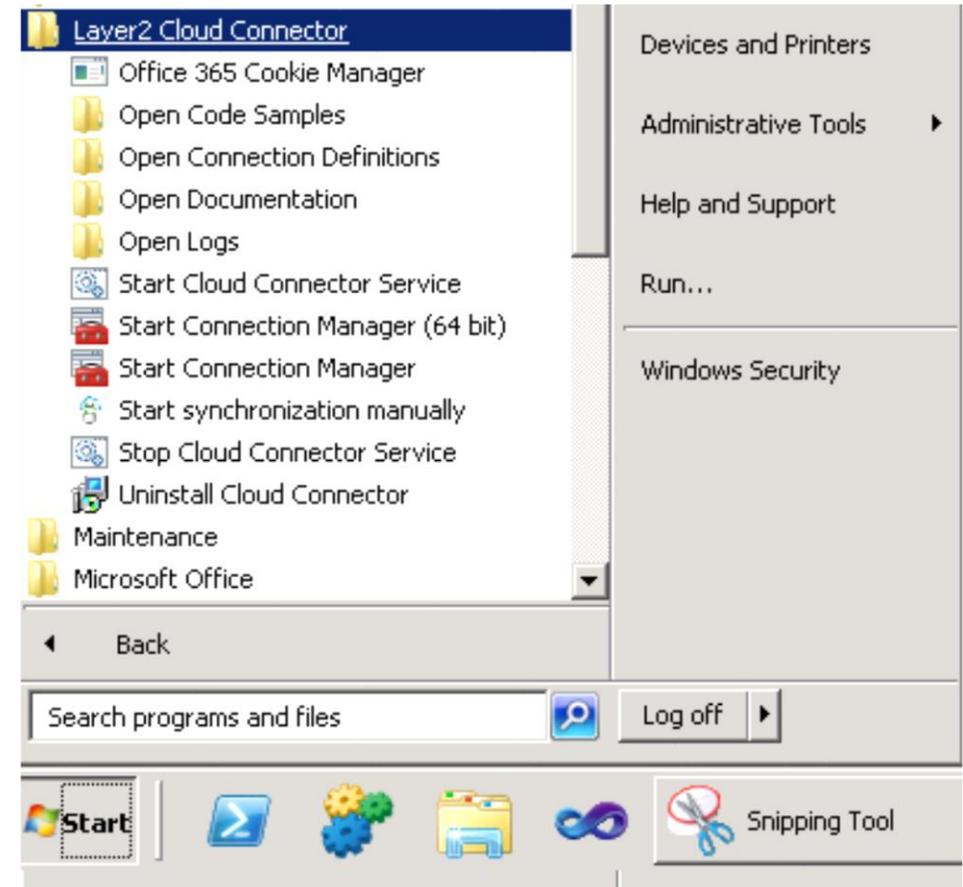
- register, download & unzip
- select between 32-bit or 64-bit installation depending on requirements (current hardware and OS, providers to support).
- use the installer: start setup.msi
- run as admin, if required
- accept license agreement
- select typical installation
- accept changes to computer
- install the Cloud Connector components and additional data providers
- press "Finish" to exit
- you can upgrade, repair or uninstall at any time using the installer again



What is installed?



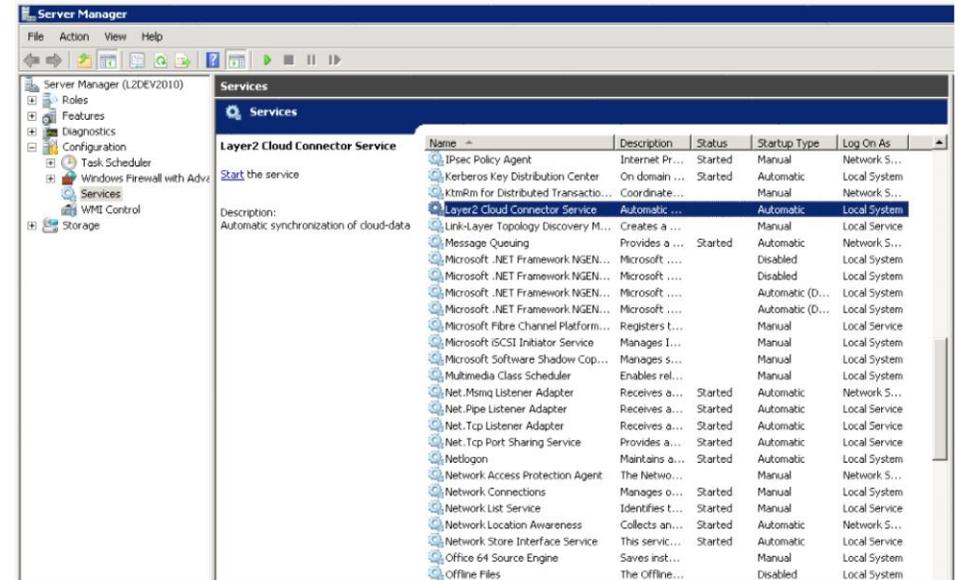
- **Connection Manager (64-Bit and 32-Bit)** to manage your connections.
- **Start and Stop Cloud Connector Service** to operate the Windows service for automatic background updates.
- **Start Synchronization Manually** for debug and specific requirements only.
- **Cookie Manager** required to support specific authentication features.
- **Folder access** to samples, documentation, connections, license, log files etc.
- **Uninstall** link.
- Layer2 Data Providers



The Connection Service



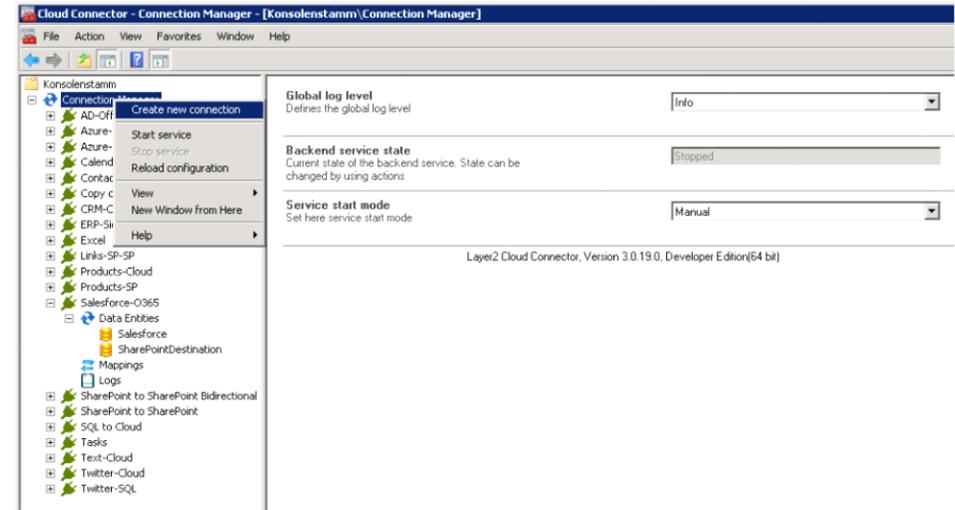
- Layer2 Cloud Connector Service is installed as a Windows service.
- This service automatically executes enabled connections defined with the Connection Manager in background.
- You can operate directly in Server Manager > Services or via Connection Manager.
- Make sure that it is running to synchronize any connection in background.



How to create a connection?



- Start the Connection Manager (Windows Start Menu)
- To create a new connection please copy an existing sample connection that best fits your requirements. Click right and select "Duplicate Connection".
- Rename and modify the new connection as required.
- In case of a Personal Edition please note that you can have only one connection leftover. Remove all others before executing.

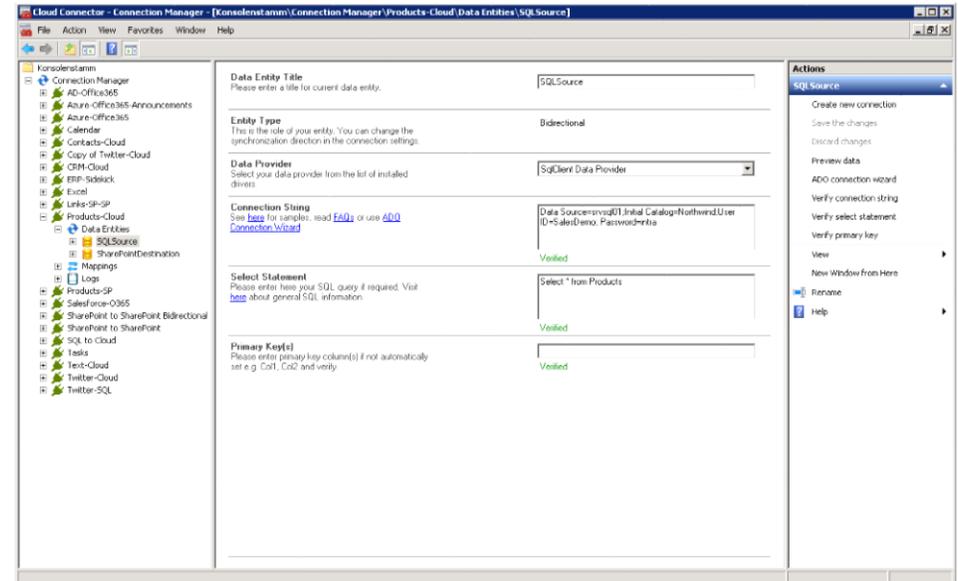


Data Entity Settings



Define your data entity properties as follows:

- Enter a data entity title, e.g. MyDataSource.
- Take care about the entity type shown here, e.g. source, destination or bi-directional. You can modify in the connection settings.
- Select a data provider to access your data entity. All installed drivers are listed. See next slides for more details about specific data providers.
- Enter a connection string to connect to your data entity. See next slides for more details about connection strings.
- Enter a query to select your data. See next slides for more details about select statements.
- When the select statement is verified, take a look at the data preview (see action menu, right hand side) to check for primary key.
- Enter the primary key(s) if required. See next slides about primary keys.

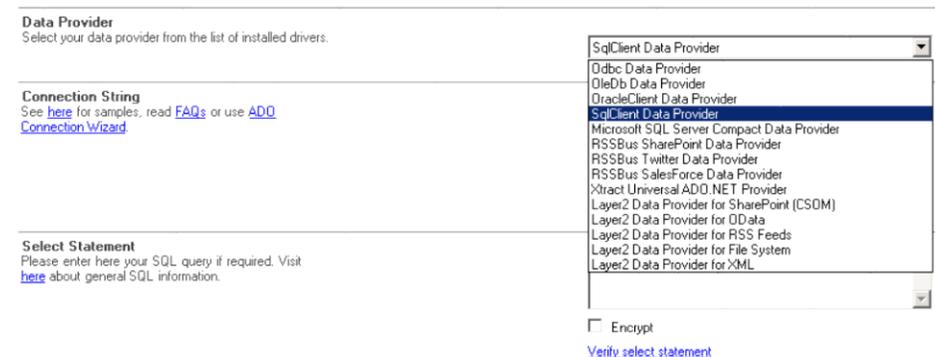


Data Entity: The Data Providers



Please select your Data Provider:

- You'll find a list of all installed providers and drivers at your computer in the provider drop-down.
- You have to install your 3rd party driver, if not present, e.g. Oracle driver to access Oracle database, RSSBus provider for Salesforce etc.
- To use 32-bit provider please install the 32-bit version of the Connection Manager, install the 64-bit version for 64-bit providers.
- You can use universal providers, e.g. ODBC, OLEDB, OData etc. to connect to almost any data source.
- The connector out-of-the-box comes with additional Layer2 providers for File System, RSS, XML, OData, SharePoint and Exchange. See below for specification of these providers.
- Just ask your data source vendor for available providers, take a look at our FAQs or contact sales@layer2.de directly.



Data Entity: The Connection Strings



Please enter your connection string:

- Connection strings are not specific for the Cloud Connector. They are available for virtually any data source.
- To find the right connection string for your data source **see our linked samples and FAQs**, ask your vendor, take a look at www.connectionstrings.com or contact sales@layer2.de.
- If you want to write to the data entity, take care about the required access rights.
- See below for Layer2 provider specifications and use of the Cloud Connector App connection string options.
- Verify your connection string.
- Please note that any error message on verification comes directly from the driver / provider selected - mostly not related to the Cloud Connector product.
- You can encrypt security relevant settings to not appear in the connection files.

Connection String
See [here](#) for samples, read [FAQs](#) or use [ADO Connection Wizard](#).

```
Data Source=svsqli01; Initial Catalog=Northwind; User Id=myUser; Password=myPwd
```

Encrypt
[Verify connection string](#)

Data Entity: The Select Statement / Data Query



- The select statement queries your external data set via the selected provider and connection string.
- Select statements or queries are not specific for Cloud Connector and available for virtually any data source.
- To find the select string or query for your data source see our FAQs or ask your vendor.
- Samples for Select Statements are SQL, Xpath, Odata etc.
- See below for Layer2 provider query specifications.
- Please validate your query. Please note that any error message on validation directly comes from the driver / provider selected - mostly not related to the Cloud Connector product.
- Use the data preview feature (-> Actions) to get an impression of your available field names, field types and data.
- Your select statement should contain a primary key (one or more unique columns)
- If you want to write to this data entity take care that your query is updatable.
- You can encrypt security relevant settings to not appear in the connection files.

Select Statement
Please enter here your SQL query if required. Visit [here](#) about general SQL information.

Select * From Products

Encrypt

Verified

Data Entity: The Primary Key(s)



- Columns with unique values are required to manage the synchronization.
- Actually it must not be a native primary key, but unique in one column or several columns together.
- Please enter: myPK or myCol1; MyCol2 etc.
- Most data sources can expose primary key(s) automatically, if available (e.g. SQL Server or SharePoint). **No need to enter anything in this case.**
- If no unique columns are available, you can possibly add, e.g. GUIDs in case of SQL.
- Optionally you can use any text field to fill with a GUID automatically (see Replication Key option)

Primary Key(s)

Please enter primary key column(s) if not automatically set e.g. Col1, Col2 and verify.

Encrypt

[Verify primary key](#)

Replication Key (optionally)

In some cases using a global unique identifier (GUID) can help to solve replication issues. The field values are created automatically by the Cloud Connector on insert. Please enter the name of the existing field / column to use. Any text or GUID field type can be used.

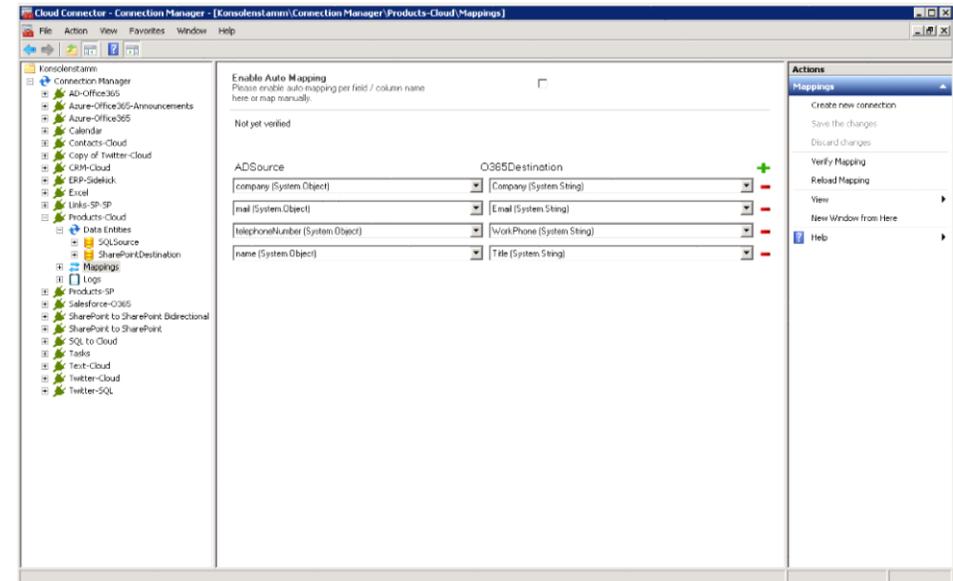
Encrypt

[Verify replication key](#)

Field Mapping between data entities



- You have to map the fields / columns of your data entities to each other as follows:
- There is no automatic creation of table or list structures. Please create manually before mapping. Refresh mapping when the data structure has been changed.
- If data source and destination have similar structure / field names, you can enable auto-mapping. Auto-mapping is done automatically by field name.
- Take care about the data types. There is some built-in type conversion, but please match as best as you can.
- Add new mapping entries using the "+" button. Remove unwanted mappings using the "-" button.
- Unmapped fields are kept untouched in case of updates.
- Verify mapping when you are ready.
- That was the last step. Please return to the connections settings and run the connection to test. See "Logs" for results.
- Be careful to map SharePoint system fields. Best to use custom columns to sync metadata.



First Synchronization and further options



- To sync your connection first time, please press “Run Now” in connection settings.
- Please note that the first update can take some time, depending on amount of data and configuration. Take care about warnings or error messages. The free shareware is limited to 25 records / items. Contact sales@layer2.de for a time-limited full-featured trial.
- After first update is finished successfully, press update again. No items should be changed now (if the given primary key works as expected and there are no mapping or type conversion issues). The 2nd update should be much faster.
- To process further updates automatically please enable scheduling. Set appropriate intervals, depending on requirements, amount of data and configuration.
- Please note that the Connection Service must be running for background updates (see root node of your connections tree)
- You can also update the connection on demand via command line or API.

1-SQL to Cloud

Connection Title
Please enter a title for the current connection.

Direction
Define the direction of the synchronization.

MyNorthwindData base MySharePoint

→ Left to Right
 ← Right to Left
 ↔ Bi-directional

Scheduling enabled
When the configuration is finished and well tested enable background scheduling here.

Interval
Please enter an interval for the current connection. Please consider the duration of synchronization.

First Run Date / Time
Please enter date and time for first run.

Run Synchronization Toolbox

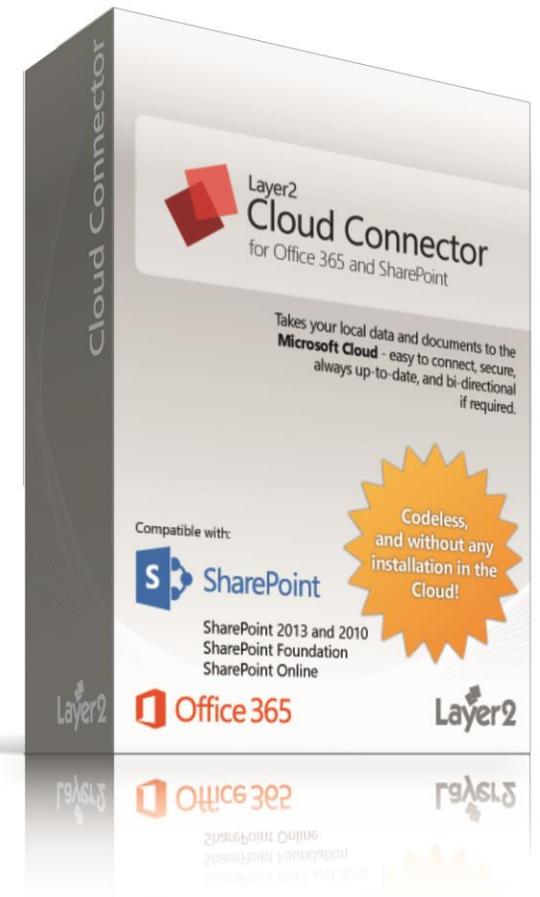
Synchronization in progress ... please wait.

->Connecting to the data entity 'MyNorthwindDatabase'... '79' items retrieved.
->Connecting to the data entity 'MySharePoint'...

Highest Security Level



- With the Cloud Connector your SharePoint users do not access your external data directly. That gives you the highest security level possible.
- The Cloud Connector operates safely in the local network with full control.
- No data access to local data from outside the network required, e.g. via incoming web services.
- No data is exposed to any 3rd party (e.g. Windows Azure).
- You can hide your connection settings by using encryption and file system access rights.
- SSL / HTTPS fully supported for secure communication.
- You can use integrated authentication if supported by the data providers.
- Please note that the Cloud Connector is proven to be aware against SQL injection by design.



Highest Performance – Reliable Architecture



- End users do access native SharePoint list data only for highest performance – not the external source directly.
- For best update performance use as few columns as possible, e.g. no select * from myTable. Use views in case of SharePoint.
- Restrict your result set if possible using where clauses or views.
- Changes are committed only – not the whole data sets.
- The Cloud Connector is proven to work with up to more than 100.000 records / items, depending on configuration and data source performance. No problem with the 5.000 items list view threshold in SharePoint. Use the unmodified AllItems view in this case.
- Please note that the SharePoint configuration and bandwidth must meet the Microsoft requirements.



All Native SharePoint List Features Available for your External Data



- You can use native SharePoint lists and libraries of any type, e.g. contacts
- ALL list features are fully available
- Views, sorting, filtering, grouping, calculated fields, managed metadata, tagging ...
- Search with all options as usual
- Alerts and notifications, RSS
- Workflows on external data change (!) with SharePoint OOTB, Visio, VS, Nintex etc.
- Additional non-mapped SharePoint-only columns and attachments
- Offline availability (e.g. in Outlook, Workspace, SkyDrive Pro)
- Datasheet view, detail forms, InfoPath, Nintex Forms etc.
- Item context menus
- Export to Excel
- Events, Web services, XML
- Compatible with all 3rd party add-ons
- No data source license required for end users to access the data in SharePoint.

The screenshot shows the SharePoint interface with a list of items in Datasheet view. The list has columns for ID, Title, SourceID, Units, Preis, and Lieferbar. The items are as follows:

ID	Title	SourceID	Units	Preis	Lieferbar
393	Frank's Super Chai Plus	1	100 boxes x 200 bags	8.00 €	No
394	Super Chang 2 Stars A1	2	24 - 12 oz bottles	19.00 €	No
395	Aniseed Syrup	3	12 - 550 ml bottles	10.00 €	No
396	Chef Anton's Cajun Seasoning	4	48 - 6 oz jars	22.00 €	No
397	Chef Anton's Gumbo Super Mix Max	5	36 boxes	21.35 €	Yes
398	Grandma's Boysenberry Spread	6	12 - 8 oz jars	25.00 €	No
399	Uncle Bob's Organic Dried Pears	7	12 - 1 lb pkgs.	30.00 €	No
400	Northwoods Cranberry Sauce	8	12 - 12 oz jars	40.00 €	No
401	Mishi Kobe Niku Cream Extra	9	18 - 500 g pkgs.	97.00 €	Yes
402	Ikura Version 5	10	12 - 200 ml jars	31.00 €	No
403	Queso Cabrales	11	1 kg pkg.	21.00 €	No
404	Queso Manchego La Pastora	12	10 - 500 g pkgs.	38.00 €	No
405	Konbu	13	2 kg box	6.00 €	No
406	Super Tofu	14	40 - 100 g pkgs.	23.25 €	No
407	Genen Shouyu	15	24 - 250 ml bottles	15.50 €	No

What else can you do?



- Provide consistent enterprise data in SharePoint always up-to-date for your users to create lookups, build forms etc. – before they copy manually.
- Save LOB user CAL licenses, e.g. for CRM/ERP, because users don't access the LOB system directly. They can work with the familiar SharePoint / Office interface now, on-premise or in the cloud.
- Build secure extranets with pre-selected replicated enterprise data for customers or other partners.
- Access your pre-selected enterprise data mobile via Office 365.
- Aggregate feeds right into SharePoint lists, e.g. RSS or Twitter for search and notifications.
- Sync your Office 365 or SharePoint Online cloud-based data with your local SharePoint.
- Include your external data in SharePoint search, Knowledge Management and Social Networking using terms and tags, enterprise metadata, activity feeds to keep your users up-to-date.
- Sync files and folders from any local file system with SharePoint libraries.

ID	Title	SourceID	Units	Preis	Lieferbar
393	Frank's Super Chai Plus	1	100 boxes x 200 bags	8.00 €	No
394	Super Chang 2 Stars A1	2	24 - 12 oz bottles	19.00 €	No
395	Aniseed Syrup	3	12 - 550 ml bottles	10.00 €	No
396	Chef Anton's Cajun Seasoning	4	48 - 6 oz jars	22.00 €	No
397	Chef Anton's Gumbo Super Mix Max	5	36 boxes	21.35 €	Yes
398	Grandma's Boysenberry Spread	6	12 - 8 oz jars	25.00 €	No
399	Uncle Bob's Organic Dried Pears	7	12 - 1 lb pkgs.	30.00 €	No
400	Northwoods Cranberry Sauce	8	12 - 12 oz jars	40.00 €	No
401	Mishi Kobe Niku Cream Extra	9	18 - 500 g pkgs.	97.00 €	Yes
402	Ikura Version 5	10	12 - 200 ml jars	31.00 €	No
403	Queso Cabrales	11	1 kg pkg.	21.00 €	No
404	Queso Manchego La Pastora	12	10 - 500 g pkgs.	38.00 €	No
405	Konbu	13	2 kg box	6.00 €	No
406	Super Tofu	14	40 - 100 g pkgs.	23.25 €	No
407	Genen Shouyu	15	24 - 250 ml bottles	15.50 €	No

- Create cloud-to-cloud connections, e.g. to Office 365, Salesforce, MS CRM, Google, Facebook, Twitter etc.
- Replicate any data source with any other, not only with SharePoint (Enterprise Edition).

Layer2 Data Provider for XML



- Use this provider to query XML based data from file or web request via Xpath and sync uni-directional. Please note that almost any web service can be exposed as XML-based HTTP web request.
- This provider is read-only.
- URL can be set to the url (HTTP/HTTPS, best taken from browser) or file path (e.g. C:\myfile.xml)
- Authentication: See CSOM
- Optionally user and password can be set.
- Any valid Xpath expression is supported as query. It must return a table-like structure.
- There are more options available for more specific requirements. Please see specification in FAQs.
- Contact sales@layer2.de if there are any issues.

Connection Provider

Layer2 Data Provider for XML

Connection String

```
URL=  
http://www.w3schools.com/xml/cd_catalog.xml
```

Validate

Select Statement

```
select * from /CATALOG/CD[COUNTRY='USA']
```

Validate

Layer2 Data Provider for RSS Feeds



- Makes it as easy as possible to aggregate RSS Feeds in native SharePoint lists
- URL parameter provides the link to the feed (copy from browser). Several feeds can be accessed at once, delimited by comma.
- Authentication: See CSOM
- FeedType = RSS, Atom, RDF
- FeedSource provides an additional field Source. Value can be set in connection string. Can be used to aggregate multiple feeds in one list.
- Usual RSS fields are exposed, but any other custom fields as well.
- The “No Delete” option can be used to implement feed archives (aggregation).
- This provider is read-only.
- Source code is included in distribution as a sample how to write your own provider.

A screenshot of a web-based configuration interface for the Layer2 Data Provider. It features a dropdown menu for "Connection Provider" with "Layer2 Data Provider for RSS Feeds" selected. Below it is a text area for "Connection String" containing the following text: `Url=http://www.pressebox.com/rss/flag/software.rss; Auth=Anonymous; FeedType=RSS; FeedSource=Pressebox`. A "Validate" button is located at the bottom right of the form.

Layer2 Data Provider for SharePoint (CSOM) 1/2



- Connects to SharePoint lists and libraries, on-premise and in the Microsoft cloud, bi-directional if required.
- URL parameter (required) provides the link to the source list or library. Please copy from browser. Best to use a certain view.
- Authentication provides an authentication method, e.g. IntegratedWindows (default), Windows, Office365, IECookie, Anonymous, ADFS, ADFSWindowsIntegrated.
- For Windows integrated authentication take care, that all users that use update on demand have access, and / or the Windows Timer Service account (if background update is used).
- For Windows and Office 365 authentication the parameter user and password are required additionally. Please use the same values as if you would login manually.
- For IECookie authentication Cookie Manager is required. See below for more.
- For ADFS authentication at Office365 / SharePoint Online the parameter OnlineUser, username and password must be provided.
- For ADFSWindowsIntegrated the parameter OnlineUser must be provided.
- OnlineUser must be set to the mapped user id used as online id for Office 365 authentication.

Connection Provider

Layer2 Data Provider for SharePoint (CSOM)

Connection String

```
URL=http://myserver/mysite/Lists/mylist/AllItems.aspx
```

Validate

Layer2 Data Provider for SharePoint (CSOM) 2/2



- License Option: License=SPAppStore can be used to indicate that the licensing should be managed by Microsoft SharePoint 2013 App Store.
- AppWebURL Option can be used to point to your app site, e.g. AppWebUrl=https://MyDomain-acfbd392f35f45.sharepoint.com/MySite;
- For best performance please use a defined view with the required columns only.
- Select statements are not supported. Please use a view on data source side to select your data.
- There are more options available for more specific requirements. Please see specification in FAQs.
- Contact sales@layer2.de if there are any issues.

Connection Provider

Layer2 Data Provider for SharePoint (CSOM)

Connection String

```
Url=https://mydomain.sharepoint.com/sites  
/mysite/Lists/myList/myItems.aspx  
Authentication=Office365;  
User=myuser@mydomain.onmicrosoft.com;  
Pass=mypwd
```

Validate

Layer2 Data Provider for OData



- Use this provider to query external data via OData interface and sync bi-directional.
- A common usage for this provider is syncing contact data in MS CRM Online with SharePoint contacts to make it available offline in Outlook.
- URL: This is the Service Root URL for the OData source.
- Collection: Identifies the resource to be interacted with, e.g. Products.
- Authentication: See CSOM
- Any OData select statement supported.
- There are more options available for more specific requirements. Please see specification in FAQs.
- Contact sales@layer2.de if there are any issues.

Layer2 Data Provider for OData

url=http://services.odata.org/Northwind/Northwind.svc/;Collection=Products;Authentication=Anonymous

Encrypt

[Verify connection string](#)

\$select=*

Encrypt

[Verify select statement](#)

Layer2 Data Provider for Exchange



- Use this provider to query external data from Microsoft Exchange on-premises or Online and sync uni-or bi-directional.
- A common usage for this provider is syncing contact data in Exchange with SharePoint lists to make it available offline in Outlook.
- URL: This is the Service Root URL for the Exchange source.
- Username / Password: Your Exchange login.
- NamingScheme: Field names are provided automatically to fit to the target system. Already implemented: SharePoint (to fit e.g. to contacts)
- There are more options available for more specific requirements. Please see full specification in FAQs.
- Contact sales@layer2.de if there are any issues.

Layer2 Data Provider for Exchange

Url=outlook.office365.com;
Username=myUser@myDomain.com;
NamingScheme=SharePoint; Password=myPassword

Encrypt

[Verify connection string](#)

SELECT * from Contacts

Encrypt

[Verify select statement](#)

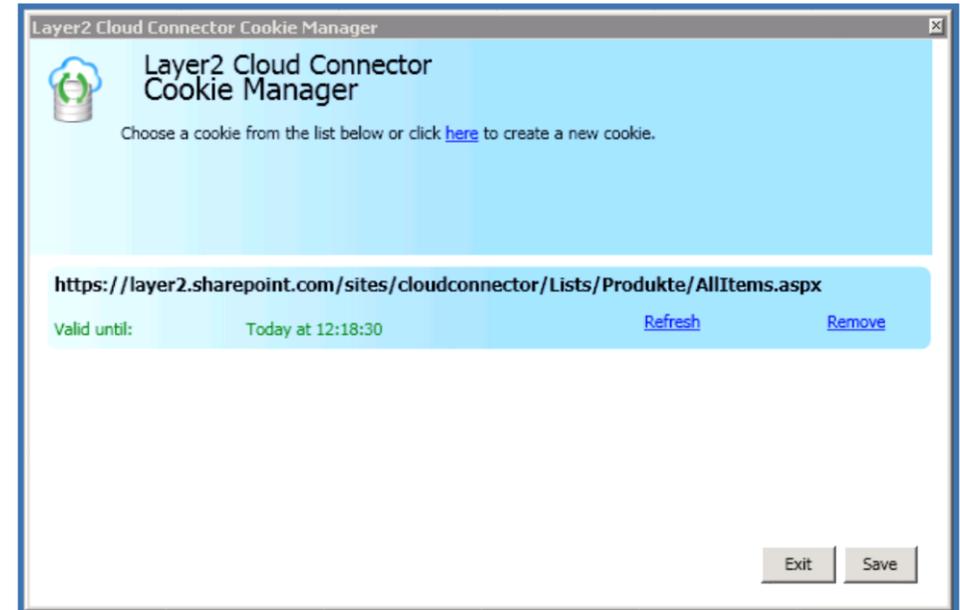
Encrypt

[Verify primary key](#)

Layer2 Cookie Manager



- Please note that this is not the preferred authentication method ... but:
- You can use the Cookie Manager for any form-based or cookie-based Authentication.
- You can create, refresh and remove cookies.
- Internet Explorer is required as default Browser.
- Cookies are required to use Office 365 connections with the IECookie authentication method. Please note, that the preferred authentication for Office 365 is "Office365", not "IECookie".
- Please note, that cookies can expire when using with Cloud Connector scheduled updates.
- Contact sales@layer2.de if there are any issues.



Free Shareware & Licensing



- The Cloud Connector can be used as free Shareware with limitations (25 items per list). Full featured time-limited license on request.
- The Cloud Connector can be licensed per local installation. No user CALs required. One-time fee.
- Optional annual Software Assurance for free updates and upgrades per installation available.
- The Personal Edition is limited to one connection to SharePoint.
- The Professional Edition supports an unlimited number of connections, but is limited to SharePoint on one end.
- The Enterprise Edition has no limitations.
- The Cloud Connector can be licensed in the SharePoint App Store. There are specific licensing options available there. Please note that the usage is limited to the scope of the app.
- Several support options, e.g. free or per hour.
- No new installation is required for licensing, just placing the license file in license directory.
- You can order online using any payment procedure you want.
- Contact sales@layer2.de if you have any questions or need a quote.

Cloud Connector for Microsoft SharePoint 2010 & Office 365		
License	List price	
FREE Shareware Version	\$0.00	
<u>Professional Version</u> 1 Single Server License	\$1,407.00	
<u>1 Annual Software Assurance for Professional Version</u>	\$281.00	
<u>Enterprise Version</u> 1 Single Server License	Please request quote.	
<u>1 Annual Software Assurance for Enterprise Version</u>	Please request quote.	

Cloud Connector App



- The Cloud Connector is also available in the Microsoft SharePoint 2013 App Store.
- The app can be used to select a SharePoint list or library within the scope of the app as a data entity to generate a valid connection string and copy / paste into local components.
- Please follow the step-by-step instructions online.
- Note that the local components are required to install.
- The free version is available only via App Store (25 items limit). See app store for any details.
- Contact sales@layer2.de if you have any questions.

A screenshot of the Cloud Connector App interface. The page title is "Layer 2 GmbH Team Site" and the breadcrumb is "Layer 2 GmbH Team Site > Outlook > Calendar > People > Newsfeed > SkyDrive > Sites > ...". The main heading is "Cloud Connector App by Layer2". Below this, there's a section titled "Create Your Connection String" with three numbered steps: 1. Choose a list or library for your connection (Documents), 2. Choose a view for your actual list (All Documents), and 3. Choose an authentication method (Office365 - Microsoft Online Services ID). A "Your Connection String" box contains the following text:

```
Url=https://layer2enterprisepreview.sharepoint.com;
List=Documents;
View=AllItems.aspx;
License=SPAppStore;
AppWebUrl=https://Layer2EnterprisePreview-acfbd392f35f45.sharepoint.com/Layer2 Cloud Connector App;
Authentication=Office365;
User=fdaske@layer2enterprisepreview.onmicrosoft.com;
Pass=myPassword;
```

 A "Copy to Clipboard" button is located at the bottom right of this box. Below the box, there's a note: "Please update your Username and Password after copying the connection string to the connection settings within the Connection Manager." On the right side, there's a vertical navigation menu with icons and labels: Getting Started, Create Your Connection String (highlighted), Download Local Components, Help / FAQ, Support, About, and Settings. A checkbox for "Show Welcome Screen on Start" is also present.

Layer2 SharePoint Apps – who runs business with it?



- Layer2 apps are used all over the world in thousands of small, mid-sized and large companies and organizations like The Coca-Cola Company, Bauer Inc, IBM, Deloitte, US Defense Department, NATO, United Nations World Food Programme (WFP), Unico Banking Group, Swiss Life AG and many others.
- See www.layer2.de/en/products/ for more products and customer references.



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Pos.	Product Name	Delivery	Unit Price	Qty.	Price
1.	Business Data List Connector for SharePoint 2007 and 2010 [P300332176]	electronic	EUR 749.00 USD 1,065.00 (plus tax/VAT) EUR 891.31 USD 1,267.35 (including tax/VAT)	5	EUR 3,745.00 USD 5,325.00 (plus tax/VAT) EUR 4,456.55 USD 6,336.75 (including tax/VAT)
			Discount (30%)		EUR -1,123.50 USD -1,597.50

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[Info] plus 19% sales tax/VAT: EUR 498.08 / USD 708.22
Total: EUR 3,119.58 / USD 4,435.72

Layer2 History



- 1991 Business formation as „Cords und Jacobi, EDV-Beratung und IT-Dienstleistungen“ in Hamburg, Germany
- 2001 Change of the companies name to „Layer2 GmbH
- 2003 Focus on Microsoft Technologies, especially .NET and SharePoint
- 2007 Market entry Austria and Switzerland
- 2008 Microsoft Certified Partner
- 2008 Start of international product marketing



Layer2 as Microsoft Partner



- 2010 Microsoft Gold Certified Partner ISV / Software Competence
- 2011 Microsoft Cloud Accelerate Partner
- 12-14 Microsoft Gold Certified Partner Portals and Collaboration, Gold Small Business etc.

Microsoft Partner

- Gold Application Development
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