

# Product Analysis of ownCloud Enterprise Edition 8

## Introduction

Enterprises and the Cloud – an ambivalent relationship. The catchphrase “new way to work” goes around. The IT departments of companies are confronted with the users need to access relevant company data from everywhere and every device and share it with employees, external partners and customers.

The users know how this works from their private life experiences - where they can stay in touch and share photos and other files location-independent with family, and friends through smartphones, tablets, WhatsApp and Facebook. Often they don't understand why similar services are not available in their companies when their privately used offerings are set up easily and without big effort. They often forget that storing files in the cloud comes with risks regarding privacy, data security and more.

For the security in enterprises, this is a threat not to be underestimated: employees or teams that are not provided with fitting tools from their IT departments can set up a Dropbox or OneDrive with only a few mouse clicks and share files internally and externally from there. In many companies this can and will be against internal guidelines, but the reality often looks different. If you don't pay attention to it, a shadow IT will develop – new data silos emerge, existing access right systems don't work anymore and the company loses the control over which data leaves the company and when and with whom it is shared.

Various research shows the willingness of enterprise IT to come to grips with the cloud is growing. Vendors like Microsoft, Google, Dropbox and others make an effort to sell the benefits of the cloud regarding features, scalability and costs to the business sector. At this point every single one of them offers cloud based services to share and sync documents, photos and more. These services are partially available cost-free and usually set up fast and easy.

By now many enterprises have noticed the benefits, but there still remains a level of distinct discomfort with cloud services. Many companies don't want to hand over their data sovereignty from their own IT to a cloud vendor – regardless of certifications and contracts.

They are looking for a solution that allows their employees easy and comfortable access to company data from everywhere. This solution needs to integrate in the existing IT environment of the enterprise, incorporate established access rights systems and guidelines, not open up new data silos and not give the control over company data to external contractors.

This is exactly where ownCloud comes in.

## Product information

ownCloud originated as an Open Source Software project to set up an own cloud infrastructure to store and share data. The project was founded by Frank Karlitschek in 2010, who wanted to develop a free alternative to commercial cloud offerings. The main idea behind ownCloud is to use the benefits of cloud solutions, protect the privacy of its users and not lose control over data and server to third parties like Dropbox & Co.

### The ownCloud Server

The Open Source Software is called ownCloud Server (formerly known as ownCloud Community Edition) and is intended for private users and small enterprises which can run their own cloud server with it. A big community grew quickly around the Open Source project and has developed many extensions and applications specifically for this user base. With these apps you can not only share data, but also photos, contacts, dates and bookmarks with other users.

There is no organized support for the ownCloud Server level itself, but, as usual for Open Source Applications, a big community of volunteers is available and helps with problems through online forums. The central place of the community is [www.owncloud.org](http://www.owncloud.org)

### ownCloud Standard Subscription

Since the introduction of Version 8 ownCloud offers paid professional 8x5 support via E-Mail for the ownCloud Server. The ownCloud Standard Subscription includes ownCloud Server as well as the supported ownCloud Standard Apps (Activities, Anti-Virus, Encryption, External Storage, LDAP/AD, PDF Viewers, Pictures, Sharing, Provisioning, Text Editor, Trash Bin, and Versioning). Other Apps like Calendar or Contacts can of course also be used, but are not covered by the support.

This support option is designed as an entry for professional users that need an easy file sync and share solution with contractually secured support, but without additional Enterprise features.

### The Enterprise Edition

The thought of a cloud solution under your own control is obviously also of big interest for companies today. But enterprises often have higher and more specific software requirements. Enterprise customers expect integration with their existing IT infrastructure, compatibility with the systems in place, secured support with SLAs, reliable contacts and competent consulting and proven and certified extensions.

Out of this necessity Frank Karlitschek, Markus Rex and Holger Dyroff founded the company ownCloud Inc., headquartered in Lexington, MA with a branch in Nürnberg, Germany, in 2011 with the goal to provide a commercial version of ownCloud that suits the special cloud solution needs of enterprises.

This solution, the Enterprise Edition, is based on a subscription model. The foundation is ownCloud Server, extended with additional Enterprise Features (the so called Enterprise Apps) developed specifically for the needs of enterprises. This includes:

- User administration through existing Active Directory, LDAP or openLDAP
- Integration of SharePoint 2007, 2010 or 2013 document libraries
- Integration of Windows Network Drives
- Integration of the users Home-Directories
- Comprehensive access administration and monitoring via File-Firewall
- Federated Cloud Sharing for company-wide communication
- Flexible API for easy extension

A direct comparison of the features is available at <https://owncloud.com/owncloud-server-or-enterprise-edition/>.

The Enterprise Edition also always includes a support offering to fulfill the higher and more specific requirements to the software and a secured support with SLAs, reliable contacts and proven and certified extensions.

The Enterprise support is available in options:

#### ownCloud Enterprise Subscription

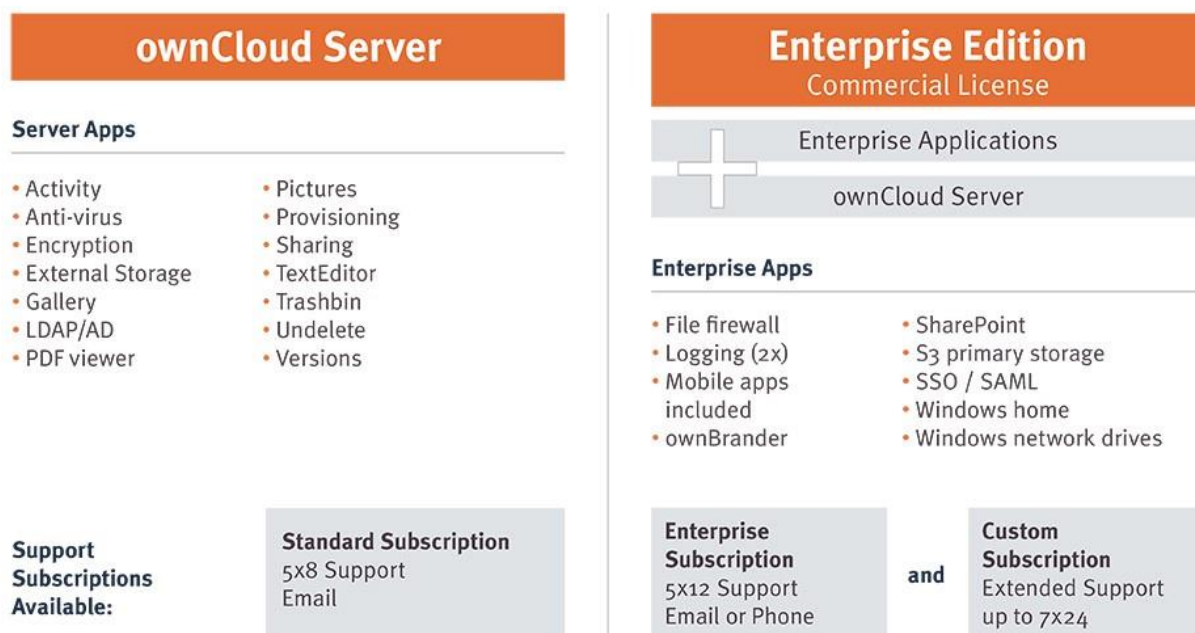
This offers includes all benefits of the ownCloud Standard Subscription, extended with 12x5 Support via E-Mail and phone.

The foundation here is also ownCloud Server with Enterprise Apps covering features like Files Drop, File Firewall, SharePoint, Windows Home and Windows Network Drives, S3 Primary Storage, Logging and SSO/SAML. Also included in the Subscription are mobile Apps for iOS and Android as well as the ownBrander feature which allows the administrator to customize the logo and design of their ownCloud and the ownCloud Apps individually to match the CI of the customer's enterprise.

#### ownCloud Custom Subscription

The most comprehensive support is offered with the ownCloud Custom Subscription. In addition to the benefits of the Enterprise Subscription you get up to 24x7 Support via E-Mail and phone, and options such as specific Support from ownCloud, ownBrander Support for the design adjustment, individual development as well as training or deployment support.

The central point for the commercial version is [www.owncloud.com](http://www.owncloud.com).



Graphic 1: Overview over the ownCloud versions

## The technical basics

With ownCloud you host your own server and therefore decide where the server is located (in your own IT or at a hoster), which software runs on it and who has access to it.

The ownCloud software itself is a PHP application on a data base foundation and is usually set up on a traditional LAMP-Stack (Linux, Apache, MySQL, and PHP). A lot of web hosters already offer the necessary requirements for an installation with their Hosting packages and often provide ownCloud as a 1-Click installation package.

For testing purposes I installed ownCloud Server 8 on a web space from Host Europe. The basic ownCloud configuration was up and running in about 15 minutes, even without special Linux knowledge.

For permanent use there are some more things that have to be considered, like for example encrypted communication via https or the constant update of the ownCloud software. And for reliable functionality in daily company usage things like high-availability and failure safety have to be considered and possible actions may have to be taken.

But altogether only basic knowledge from the LAMP world is necessary, which already exists in most corporate IT departments. The operation of ownCloud, whether it is with a Hoster or on a Server in the corporate network, shouldn't be a challenge. This also answers the question about additional administration work caused by the set up and running of ownCloud in the IT department.

An installation on Windows is theoretically possible, but not recommended because of some functional limitations and incompatibilities in the IIS.

## So what are the fundamental qualities of ownCloud?

So what are now the fundamental qualities of ownCloud?

Everybody who wants to use the cloud solutions by Dropbox, OneDrive, iCloud and other vendors to share files are basically storing the files in the online storage of the respective vendor and permits the access to the data from there. Even though the vendors promise the security of said data, the data and the actual access is not under your full control anymore and you have to rely on the vendors promises.

ownCloud takes another route.

If you move data to a cloud vendor, not only does the security context change, but organizational aspects play a fundamental role as well. Enterprises usually have an evolved IT landscape with Fileservers, SharePoint-Sites or other systems with fixed storing and permit structures which also extend to company specific compliance- and security-requirements. A significant investment was usually made for these IT systems. External cloud storages are either unable to integrate in these systems or only with great effort.

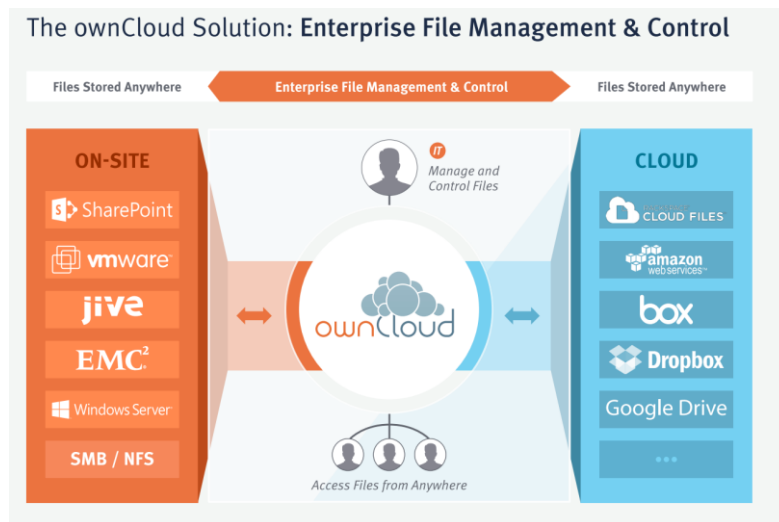
So why not only leverage the existing IT structures and create a single access layer which allows access to these existing data silos from a single access point and makes them available to sync and share securely with the outside.

## ownCloud Universal File Access

ownCloud exemplifies this principle through their Universal File Access.

Files can be stored on the ownCloud Server, similar to other cloud vendors, and additionally external storage can be accessed through ownCloud.

The principle is shown in the following illustration:



Graphic 2: Overview over the in ownCloud supported storage systems

Storage locations include FTP-Server, Amazon S3, Google Drive, Dropbox, WebDAV Server or, in the Enterprise Version, also SharePoint Server or Windows Network Drives can be tied to the ownCloud Server (unfortunately the integration of Apples iCloud and the Microsoft cloud-world with Office 365, SharePoint Online, OneDrive for Business and OneDrive are missing at this point, but integration solutions will probably follow as the importance of these services rises).

A specific benefit of ownCloud is that the files stay in their original storage location, they are not moved to the ownCloud Server, and therefore maintain the applied access rights of their respective storage locations.

The Universal File Access offers users with ownCloud a single access point to share data on all tied-in data storages with others. It doesn't matter whether the files are stored on-premise or in the cloud. The IT department keeps the administration and access rights under their control.

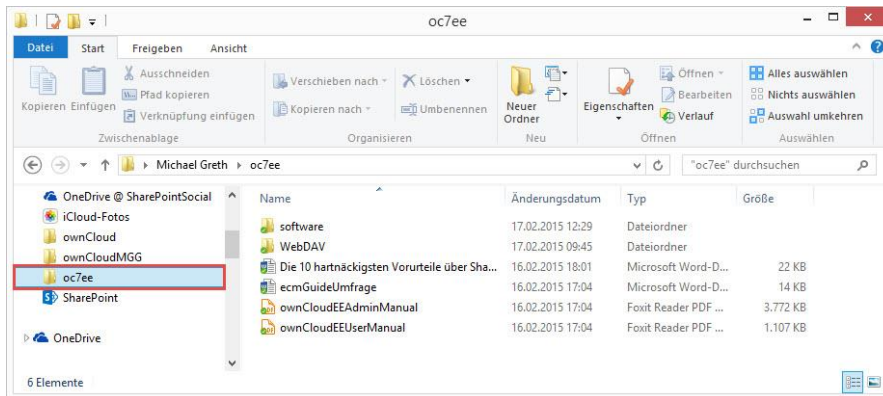
## Synchronization, Offline-Availability and mobile access

How do users work with the ownCloud?

As stated before, the core of the ownCloud Enterprise Edition is the sharing and syncing of documents. The user has multiple options to access ownCloud:

## Desktop Clients

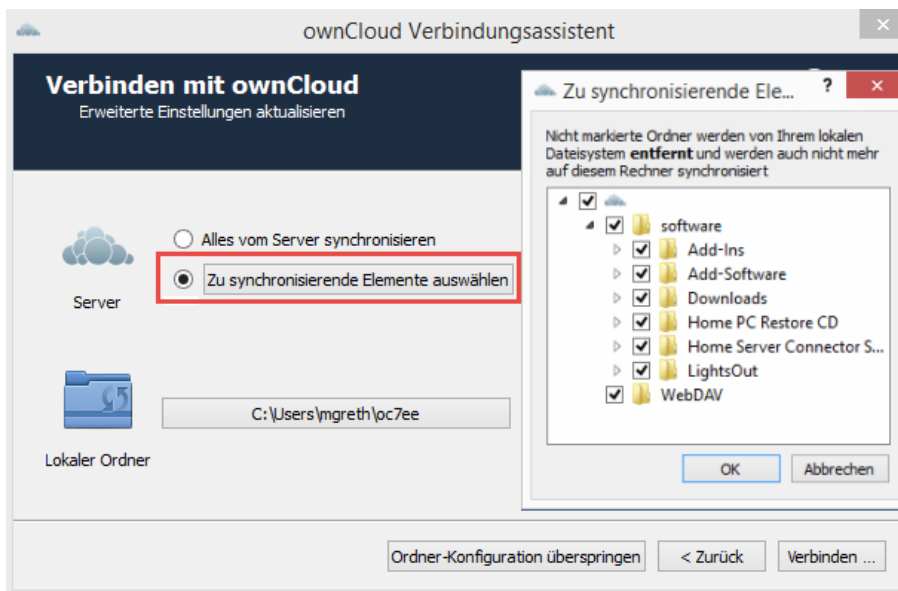
Desktop Clients are available for Windows, Mac OSX and Linux and allow user to share and sync files. Files and folders are chosen selectively for the synchronization. On the PC, ownCloud creates a folder in the local user directory in which synchronized folders and files can be stored and accessed through the Explorer (Graphic 3).



Graphic 3: Windows Explorer view of ownCloud (oc8)

Local file changes are automatically transferred from the Desktop Client through ownCloud to all tied-in systems so that every user is always able to get the most recent document version.

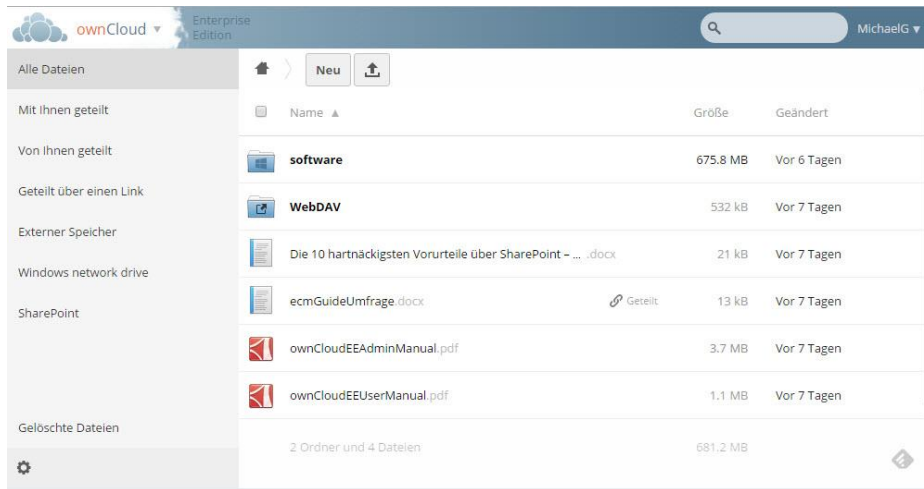
Which folders and files are synchronized to the Desktop can be selectively configured in the Desktop Client's connection assistant.



Graphic 4: Configuration of the selective synchronization

## Web browser

Of course ownCloud also offers a web interface which allows users to access ownCloud through a web browser. The interface presents itself clearly and intuitively with a menu navigation on the left side (graphic 5).



Graphic 5: The ownCloud web interface (here in Google Chrome)

Through the browser, single files can be downloaded or uploaded to ownCloud. This can be done with an upload dialog or simply by Drag & Drop. ownCloud also supports the locating of files: files in ownCloud can be browsed with the search option.

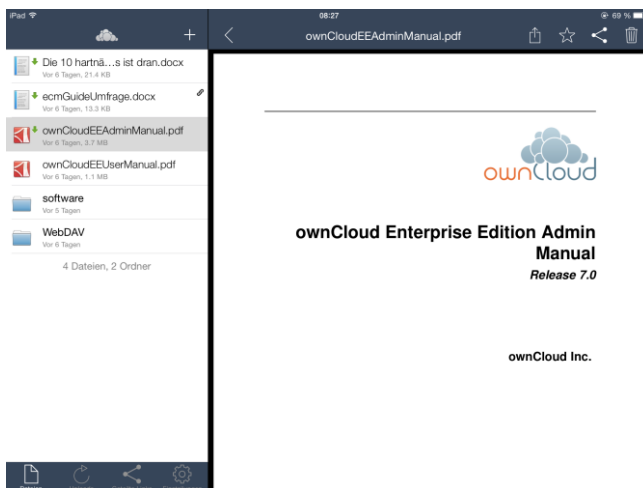
By the way: ownCloud offers versioning of documents. If you upload a file with the same file name to ownCloud multiple times, a new version of this file is created each time. You can access the old versions through the web interface.

## Mobile Access

ownCloud offers iOS and Android Apps to access ownCloud from your Smartphone or Tablet. The Apps are available in their respective App-Stores for around \$1 and are already included in the Enterprise and Custom Subscriptions



Graphic 6: ownCloud App for Android



Graphic 7: ownCloud App on the iPad

With these Apps, single files or folders can be downloaded and synchronized to mobile devices. The user interface adjusts itself to the browser and is clear and easy to use.

A big step forward was made with ownCloud 8 in respect to the iOS platform tie-in, in which the iOS 8 introduced support of other storage vendors. In practice this means, for example, that users of Microsoft Office Apps now can open, change and save their iPad Office documents directly in the respective application from their ownCloud Server.





Graphic 8: Direct access to a Word document on ownCloud from the Microsoft Word iPad App

This means that working with Office documents on an iPad through ownCloud is just as easy as having the files stored in OneDrive, SharePoint or Dropbox.

### Control over Files and Access

The sharing of files with internal and external people is one of ownCloud's core functionalities. Depending on the security requirements of the company, the administrator is able to set different rules (Graphic 9):

- Users can share files, even restricted to specific groups
- Users can share files publically
- Users can share files with a password or expiration date
- Shared files can be shared further
- Users can allow external people to upload files
-

### Teilen

- Anwendungen erlauben, die Share-API zu benutzen
- Erlaube Nutzern, mithilfe von Links zu teilen
  - Passwortschutz erzwingen
  - Öffentliches Hochladen erlauben
  - Setze Ablaufdatum
- Ablauf nach  Tagen  Ablaufdatum erzwingen
- Erlaube Weiterverteilen
- Nutzer nur auf das Teilen in ihren Gruppen beschränken
- Benutzern erlauben Mail-Benachrichtigungen für freigegebene Dateien zu senden
- Gruppen von Freigaben ausschließen

Graphic 9: Configuration of the sharing options for files (set by the administrator)

## File Firewall

The File Firewall was already in version 7 - a powerful feature to secure the ownCloud Server from unpermitted access. The configuration of the firewall however was complicated and only possible via text input of JSON-Code.

In version 8, ownCloud developed a comfortable graphic interface for the File Firewall, which makes the rule definition a lot easier for the administrator. With these rules it is now possible to detect and block access from unknown IP addresses, from unidentified devices, at specified times or from unusual areas. This can also be recorded with the Log-Function. Only requests that fulfill the defined security rules are accepted by ownCloud.

As shown in the graphic, the rule configuration is done with dropdown list fields in the web interface.

### File Firewall

AND  OR Uploads for admins o

User Group

Request Type

---

AND  OR Block Public Links for

Request Type

Request IP Range

Logging

Graphic 10: New UI to configure the rules of the File Firewall

Two Apps, which can be activated optionally during installation, are available to control the activities in ownCloud:

## Log Audit App

This App tracks who logs into ownCloud at which time and which files he viewed, up- or downloaded or deleted.

## File Shared Access Login App

This App monitors which files were shared at what time with internal users or through an external link.

## Server-side Encryption

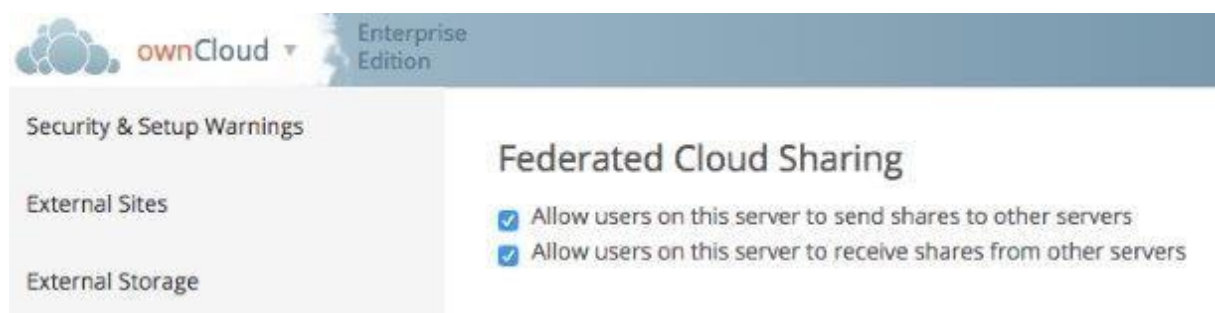
Additional security can be achieved with the optional Encryption App which allows the administrator to encrypt all files on the server side. But the use of this feature should be considered very carefully.

With activated encryption, all files, no matter if they are on the ownCloud Server or in an external data storage, will be encrypted and will also be saved encrypted in their storage location. By then access is only possible through ownCloud, since this is where the decryption happens.

The encryption key is stored on the ownCloud server itself, which is a significant risk in case the server is compromised.

## Federated Cloud Sharing

The Federated Cloud Sharing simplifies the sharing and syncing of files and folders between different ownCloud installations. This functionality extends and replaces the former Server-To-Server-Sharing.



Graphic 11: Activation of the Federated Cloud in the Administration

User of an ownCloud installation can synchronize and change files with users of another ownCloud installation through the Federated Cloud. The Master-Version however will always stay on the original ownCloud server. Therefore the respective administrators of the ownCloud servers keep control over their files and policies, but the users can work collaboratively on the files across server borders.

Federated Cloud is part of the international OpenCloudMesh initiative. This initiative wants to connect the private clouds of various research facilities around the world under the roof of the GÉANT Association to a global network built on the foundation of ownCloud's open APIs.

## SharePoint Integration

For me, who was involved in SharePoint from the beginning, the integration of SharePoint to ownCloud is of special interest.

Everybody that uses older SharePoint versions has almost no options to enable easy sharing of files in SharePoint libraries. SharePoint 2013 on-premise introduced better support to tie in external users, but the set-up and practical implementation is a lot of effort.

And if we're talking about offline availability and synchronization of documents, you'll inevitably be confronted with the long history of the various Microsoft solutions like Groove, SharePoint

Workspace, OneDrive and Work Folders. In practice there are consistent problems for users and administrators because of the different applications and technologies.

ownCloud's solution for the sharing and synchronizing of documents in SharePoint is amazingly simple: SharePoint libraries are tied into ownCloud as additional data storage (Feature of ownCloud Enterprise 7). ownCloud supports SharePoint 2007, 2010 and 2013, and authentication works via NTLM or basic authentication.

As usual for ownCloud, the documents remain in their original storage location and the access rights (ACL) set in SharePoint will be maintained by ownCloud.

For the user, the SharePoint library is shown in ownCloud like every other folder. Through the web interface it is possible to access SharePoint documents or sync with the Desktop Client, have them offline and share them. The configuration of which folder and files are synchronized is handled in the desktop client. The data transfer and the synchronization are done with SOAP and WebDAV.

The screenshot shows the 'SharePoint Configuration' page in ownCloud Enterprise Edition. At the top, there is a search bar and a user profile 'admin'. Below the header, there is a checkbox for 'Allow users on this server to receive shares from other servers'. The main content area is titled 'SharePoint Configuration' and includes a warning: 'Listing credentials. These fields are only used to list available Sharepoint document list. They are not stored.' There are two sets of 'Username' and 'Password' input fields for listing and global credentials. Below this is a table for 'Mount points' with columns for 'Local Folder Name', 'Available for', 'SharePoint Site Url', 'Document Library', and 'Authentication credentials'. The first row shows a 'software' folder available to 'All users' at '192.168.0.155' with a 'Documents' library and 'Credentials provided by the user'. The second row is a new entry with 'All users. Type to select user or group.' and 'No document Library'. At the bottom, there are two checked checkboxes: 'Allow users to mount their own SharePoint document libraries' and 'Allow users to share content in SharePoint mount points'.

Graphic 12: Configuration of a Mount Point "Software" to a SharePoint document library

The connection to SharePoint is set up by an administrator (Graphic 8), whereby multiple Mount Points, which are connections to libraries, can be created. The administrator has one of three different options for the SharePoint login:

- Login data is provided by the user, he uses his own credentials, all rights for this user stay active
- Global login data – the administrator specifies the credentials in the configuration
- User defined login data – for other credentials

Furthermore, the users can be allowed to tie their own SharePoint libraries into ownCloud.

The sharing of documents in SharePoint libraries is deactivated by default, to meet the specific security requirements of document storage in enterprises. The user can access and synchronize his SharePoint documents through the ownCloud Server, but is unable to share them. The sharing of documents in SharePoint libraries has to be allowed explicitly in the set-up process of the SharePoint connection.

All in all, the SharePoint integration of ownCloud gives your SharePoint users quick and easy possibilities to share and sync documents, which are just as user friendly as cloud offerings, and still meets the security requirements of the company.

## Licensing and Prices

Prices and detailed offerings can be request directly at [ownCloud.com](https://owncloud.com).

## Trial version

ownCloud offers on request a virtual image of ownCloud 8 Enterprise Edition with a complete, ready-to-use ownCloud environment. The trial version has a duration of 30 days. Request the trial version through the website <https://owncloud.com/de/download/>.

## Who is already using ownCloud?

Here is a current project from Germany, representative of the many projects which have been realized with ownCloud.

Sciebo is a joint project of 22 universities and universities of applied sciences in the state of North Rhine-Westphalia, which will provide a non-commercial cloud-storage service for research, studies and education for several hundred thousand students and university stakeholders. Students will get 30 GB of personal cloud storage. The service was launched in February 2015 and is based on the ownCloud Enterprise Edition. The ownCloud Servers are exclusively located in NRW and therefore comply with the strict German regulations regarding privacy and data security.

More customer testimonials from the areas of health, government agencies, ministries and financial services are listed on <https://owncloud.com/customer-stories/>.

## Summary

ownCloud is an alternative for everybody who wants to have the benefits of the cloud, but still wants to be in control of their data and the access to it.

I would like to highlight the following point as especially positive:

- ownCloud gives the control over the enterprise cloud back to the IT department. They know where the ownCloud server is located, who has access to it and which files are shared and viewed.
- ownCloud uses the existing IT investments and there is no need to change the entire IT infrastructure to provide cloud services for the company. The incorporation of the connected data storage access rights doesn't require your own access rights system.
- With Universal File Access it is possible to provide employees with appropriate solutions to sync and share files with others on short-notice.
- The SharePoint integration allows IT to upgrade the on-premise version of SharePoint 2007, 2010 and 2013 with functionalities for sync and share as well as mobile access without much effort.
- A benefit not to be underestimated is the fact that ownCloud originated in Germany, that the vendor has a branch here in Germany and therefore probably has a better understanding of the local sensitivities than a foreign vendor.
- My recommendation: just give ownCloud a try. More customer references from industries like Healthcare, Agencies, Ministries and Financial Institutions are available at [owncloud.com](https://owncloud.com) under Solutions.

## Additional Information

### Podcast

In the SharePoint Podcast 317, I had an extensive interview about ownCloud with Andrea Mörike, Senior Sales Director EMEA.

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