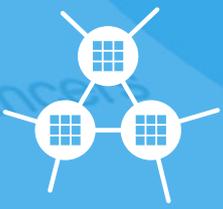


# SpreadSheetSpace Sync

WHITE PAPER - September 2016

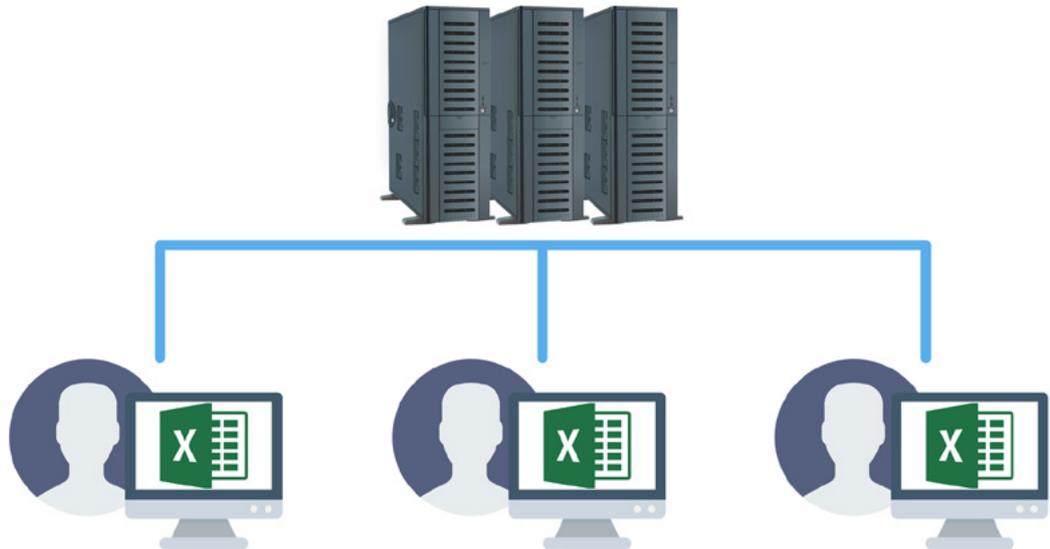




# SpreadSheetSpace Sync

## Summary

**SpreadSheetSpace Sync** is a secure service that allows companies and institutions to expose corporate data or open data to Excel users (employees, customers, public) and to maintain the Excel user spreadsheets constantly synchronized with the exposed data. **Sync** gives Excel users the possibility to develop personalized analyses and presentations based on evolving corporate data in the familiar Excel environment, taking full advantage of its power and versatility.

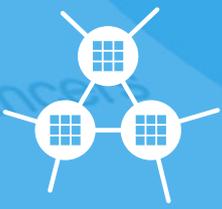


The **Sync** distinctive feature, which distinguishes it from existing data access techniques, is that in **Sync** the Excel clients do not directly access the data platform, as they do, for example, when they issue SQL queries. On the contrary, the data platform administrator creates views of internal data and exposes such views to Excel users through the SpreadSheetSpace. Excel users access their data only through their views. Such a feature leads to the following three unique advantages.

1. **Security:** Excel users do not have to be given data platform credentials.
2. **Scalability:** Excel users do not clog the data platform to extract the data. The only load on the data platform, which is independent on the number of users and on their access frequency, derives from the need to maintain the views aligned with the internal data.
3. **Control and Management:** **Sync** provides a powerful console to control and manage data exposition. Data platform administrators create/remove views of internal data, select/unselect the Excel users who are supposed to access such view, define the alignment frequency, stop/suspend/resume alignment, and monitor view access and user access. The possibility to expose specific data views to specific Excel users makes **Sync** a unique solution to support fine grain access control.

This white paper describes in detail:

- **Sync** purpose, how it helps Excel users in an invaluable manner, and various applications showing the competitive advantages **Sync** provides.
- **Sync** environment choices, its three components and the flexible distribution models based on each company needs.



# SpreadSheetSpace Sync

## Sync Purpose

**Sync** allows companies to create views of corporate data and allows Excel users to maintain their workbooks synchronized with the corporate data views in a secure and managed way from any location, thus enabling them to integrate the information stored in different IT platforms as well as to create customized analyses and presentations that automatically evolve with the corporate data.

More schematically:

- **Sync** was created for companies that want to provide views of corporate data to End Users using Excel.
- **Sync** gives Excel Users easy access to corporate data, via a set of worksheets. Through such worksheets Excel users can keep their workbooks synchronized with the corporate data as they evolve over time.
- **Sync** supports secure user access to corporate data from any location, in particular over any Internet connection and through proxies and firewalls.
- **Sync** enables Excel users to integrate data exposed by different IT Platforms (data mashup) and to maintain the integrated views synchronized with the exposed data, following any data update.
- **Sync** enables Excel users to create customized analyses and presentations of the corporate data using the advanced processing and visualization functionalities offered by Excel. The analyses and the presentations are automatically refreshed at any data update.

## How Sync improves Excel

Excel is by far the best known tool for personal data manipulation, with over 1 billion of installations of Microsoft Office® worldwide\*. All Office users have used Excel in at least one occasion, most use it regularly and many take advantage of its advanced functionalities.

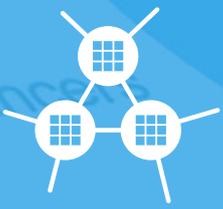
Excel is used for simple calculations, for storing data, for classifying data, for complex simulations and for sophisticated graphic presentations (e.g., live dashboards). Its Pivot Table and chart toolkits give users a huge arsenal of tools that enable personal data processing at the client side.

Corporate Excel users often use Excel to integrate and process data extracted from a variety of IT Platforms. As extraction takes place under user control and has as a result an instant picture of the corporate data, different users extracting the same data at different times may end up working on inconsistent data versions. Moreover, each data update on the user desktop requires a new extraction and a full download, independent of the fact that the update may affect only a small fraction of the data extracted, which may result in a potentially heavy impact on network and computing resources, depending on the size of the data extracted and on the update frequency.

Excel natively offers a set of functionalities to connect to external information sources and databases. **Sync** improves Excel by providing a powerful, secure, scalable and easy to use

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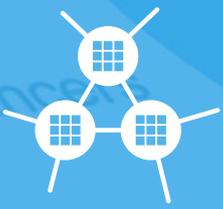
\* Tom Austin, *Choosing a Cloud-Based Office System: Google vs. Microsoft (webinar)*, July 16th 2013, Gartner Group.



# SpreadSheetSpace Sync

platform to connect Excel users to corporate data, thus supporting a widespread diffusion of such a practice. The distinctive characteristics that make **Sync** unique and distinguish it from what Excel currently supports are listed below:

- **Sync** tremendously simplifies heavy ETL (Extract/Transform/Load) operations by giving companies the possibility to maintain the Excel spreadsheets of a set of users permanently synchronized with the corporate data, thus transforming Excel into a live data monitoring tool.
- **Sync** gives companies the control over corporate data access. It is the company that creates a list of corporate data views to be exposed to the Excel users, while the Excel users synchronize their worksheets with such views. As a consequence, Excel synchronization is decoupled from internal database access.
- **Sync** gives each Excel user the possibility to configure the synchronization policy that best suits his/her needs (i.e., automatic, or on explicit user 'refresh' command).
- **Sync** ensures that all Excel users access the latest corporate data version and allows each user to manipulate them in identical or unrelated ways. Data Integrity is guaranteed.
- **Sync** supports both raw data views and data views enriched with formats, styles and formulas, thus giving the companies the possibility to prepare live presentations to be directly visualized in Excel.
- **Sync** overcomes any connection limitation due to its strong security enforcement. It works at the application layer and interoperates with enterprise-grade firewalls and proxies.
- **Sync** optimizes bandwidth consumption by performing synchronization only at the occurrence of corporate data updates and greatly reduces the load on the company servers by decoupling Excel synchronization from database access.
- **Sync** gives the company the possibility to monitor the activity of the Excel users, e.g., which users have/have not yet configured sheet synchronization, which user sheets are/are not in sync with the corporate data, etc.
- **Sync** turns out to be a powerful data mashup tool, in that it supports the integration of heterogeneous data extracted from multiple IT platforms in Excel, thus allowing the easy management of centralized data, gathered and easily represented in custom dashboards created by the users.
- **Sync** brings Self-service Business Intelligence to the desktop and allows performing powerful data analysis in Excel, thanks to Excel large set of tools and features, such as Pivot tables, Pivot Charts and more.
- **Sync** works with all Excel versions. It requires neither a special version of Excel (Enterprise, Office 365® Pro) nor a special environment (SharePoint Server®).



# SpreadSheetSpace Sync

## Sync Applications

This section proposes a list of **Sync** applications.

### Personal Decision Support Systems

While the company IT Platforms typically offer built-in Business Intelligence functionalities, managers and executives often prefer to develop customized analyses and graphical presentations in Excel, an environment they know well and that provides them with a powerful set of tools. For example they develop and share what-if analyses or rough statistical calculations on small subsets of the corporate data to support their strategy options. **Sync** requires no specific training and gives them the independence that such a confidential process might require. In addition, **Sync** supports an around the clock service without IT administrator involvement. IT people can now focus on building databases and distributing data. They are not concerned with report building anymore, so they can concentrate on major IT projects.

### Corporate Data Integration

The presence of multiple autonomous IT Platforms forces Managers and Executives to integrate the corporate data exposed by the different IT Platforms on their desktops. **Sync** enhances such an integration by guaranteeing Data Integrity at all times, i.e., constantly aligning with the evolving IT Platforms. In addition, this turns Excel into a powerful data mashup tool facilitating the integration of data from multiple origins.

### Customer Alignment

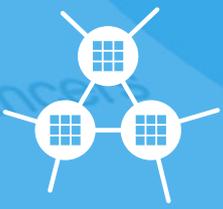
Companies may provide secure live data views to customers to allow them to develop personalized analyses and graphical presentations. For example, a bank/broker/stock exchange may give its customers real time views on stock quotes, bond quotes, currency exchange rates and other financial figures so as to allow them to build live portfolio analyses and graphical presentations.

### Interaction with Service Providers

Often companies export corporate data to their service providers to give them the elements they need for service implementation. For example a company may export the employee's daily activity reports to its HR management service provider and information on invoices and bank cash flow to its CPA. **Sync** turns such exports into secure "live" views in Excel and thus improves the capability of the service providers to react to the evolving company business promptly. What is currently a heavy ETL process gets significantly simplified and done in one click, once set.

### Time Series Analysis

Time series analysis aims at extracting statistics and other synthetic parameters from sequences of data observations occurring at uniform time intervals. **Sync** turns Excel into a time series analyzer, helping detect trends quickly, by supporting live views on corporate data in the form of Excel Tables, which in turn support Pivot Tables and Pivot Charts as well as all the other Excel operations.



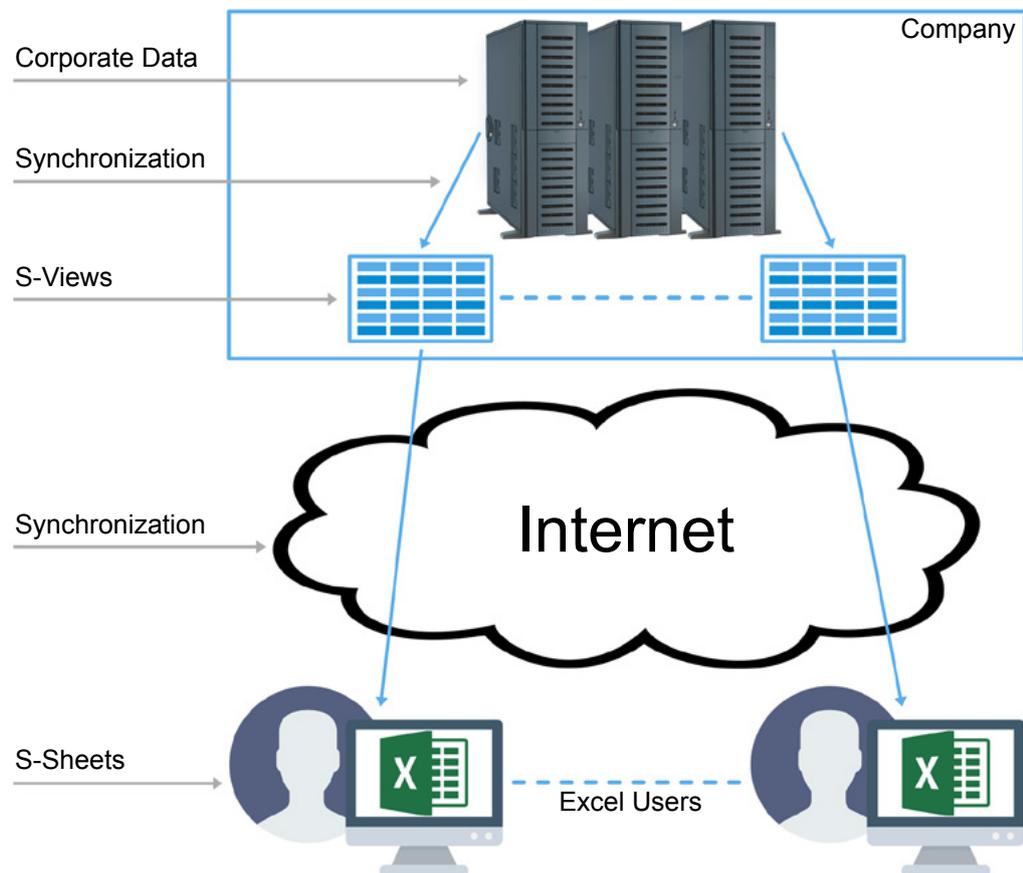
# SpreadSheetSpace Sync

## Sync Operation

**Sync** allows companies to create “live” views of corporate data and allows corporate Excel users to maintain local worksheets synchronized with such views.

Such local worksheets can be used as inputs in formulas/functions to create personalized analyses and can be assigned styles and formats to create personalized presentations.

Through **Sync** the corporate data updates immediately appear in the Excel user worksheets and trigger the automatic refresh of the personalized analyses and presentations that depend on them.





# SpreadSheetSpace Sync

## The Sync Environment

*Sync* consists of three components, namely the *Excel Add-In*, the Management Console, and the Adaptor.

### The Excel Add-in

The *Excel Add-In* allows the Excel users to maintain a set of worksheets (the S-Sheets) synchronized with the corporate data.

The *Excel Add-in* is compatible with Excel 2003, 2007, 2010, 2013.

The *Excel Add-In* receives corporate data update notifications and updates the S-Sheets according to the update policy configured by the user, i.e., immediately or upon user explicit acceptance.

The Add-In exhibits a user interface matching the Excel look and feel, adding the *Sync* tab in the Excel ribbon. Through such an interface the users may configure sheet synchronization, display the update notifications and edit the update policies.

### The Management Console

The Console provides the functionalities to manage and control the *Sync* service. In particular it supports user management, service monitoring and activity control.

- User management consists of adding/removing users and configuring the user properties.
- Service Monitoring consists of keeping track of the current platform status (e.g., the latest updates and the user synchronization status), and of the user activity (e.g., which users are aligned with the latest updates and which are not), as well as of generating cumulative reports (e.g., on the corporate data update frequency and size and on the user activity).
- Activity Control consist of creating/deleting the corporate data views, of starting/stopping/suspending platform operations and of changing the user access rights and privileges.

### The Adaptor

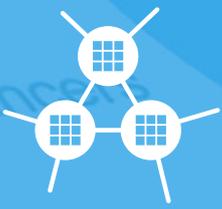
The *SpreadSheetSpace Sync Adaptors* are the software components that extract the corporate data views from the company IT Platforms and keep such views constantly aligned with the corporate data. Each Adaptor is associated to a specific IT Platform.

## Sync Provisioning Options

*Sync* can be provisioned either in the form of a service or in the form of a product.

The difference between the two cases is that in the service form *Sync* relies on a server running “in the cloud”, whereas in the product form it relies on a server running under the customer company administrative domain.

While the service form is expected to be the regular provisioning form, the product form suits companies that exhibit special security constrains (e.g., banks, hospitals, government, etc.) and as a consequence need to maintain all the data within their own administrative



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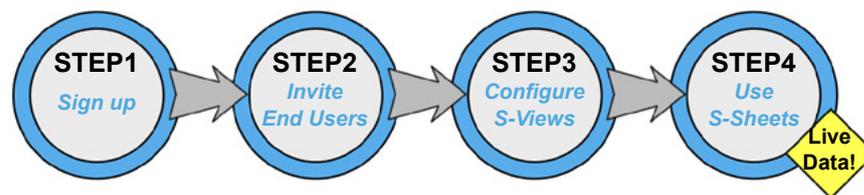
domain.

In both cases the Excel Add-In runs in the user desktops while the Adaptors typically run in company operated servers. Alternatively, when the company IT Platform allows external access (for example through Web Services), the Adaptor may run in an external server.

When **Sync** is provided as a service, the customer company simply subscribes a Service Agreement. On the contrary when **Sync** is provided as a product the customer company is licensed a copy of the **Sync Server**.

In both cases the customer company takes care of corporate data extraction by using existing Adaptors and/or by developing new ones.

## Sync in the Service Provisioning Form

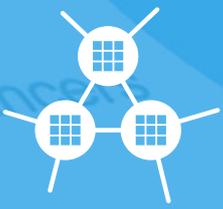


**Step 1:** Administrators sign-up for a free trial.

**Step 2:** Administrators invite end users to install the **Excel Add-In**.

**Step 3:** Administrators create the corporate data views and associate each view with a set of target end users.

**Step 4:** End users create sheets synchronized with the appropriate views and use the live data in personal analyses and presentations.



# SpreadSheetSpace Sync

## Sync Quick Factsheet

- **Sync** enables companies to give customers/employees the possibility to have corporate data views in their Excel spreadsheets so as to maintain live synchronized personalized analyses and presentations.
- Pros:
  - Easy to install.
  - Key addition to Excel to produce live reports and presentations.
  - Private and Public Exposure of corporate data.
  - Real-time Synchronization for data mashup, i.e. an instant integration from multiple corporate databases to produce live dashboards.
  - No Specific Training Required.
  - No Dedicated IT Administrators needed to generate regular reports.
  - Data Integrity Guaranteed.
  - Autonomy of the end user.
  - Shorter analyzes cycles and manipulation of data.
  - Major Productivity Enhancement.
- In order to use the **Sync** service:
  - The company exposes corporate data from its IT Platforms and grants the access to such views to the appropriate Excel users.
  - The Excel users download and install the **Sync Excel Add-In** and synchronize their spreadsheets with the views to which they are granted access.
- The **Sync Excel Add-In**:
  - Works with Windows versions of Excel 2003, 2007, 2010 and 2013.
  - Can be downloaded and installed with no local Administrator privileges.
  - Works both in desktops connected to the Internet and in desktops connected to enterprise private networks protected by firewalls and proxies.
- **Sync** can be provided either as a service or as a product.
  - When **Sync** is provided as a service:
    - The customer company manages the user base and the exposition of the corporate data views and takes care of corporate data extraction.
    - The data exchanges that keep the user spreadsheets synchronized with the corporate data travel over the Internet secured by HTTPS.
  - When **Sync** is provided as a product:
    - The customer company is licensed a **Sync Server Platform**.
    - The data exchanges that keep the user spreadsheets synchronized with the corporate data travel over the customer company private network infrastructure.

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