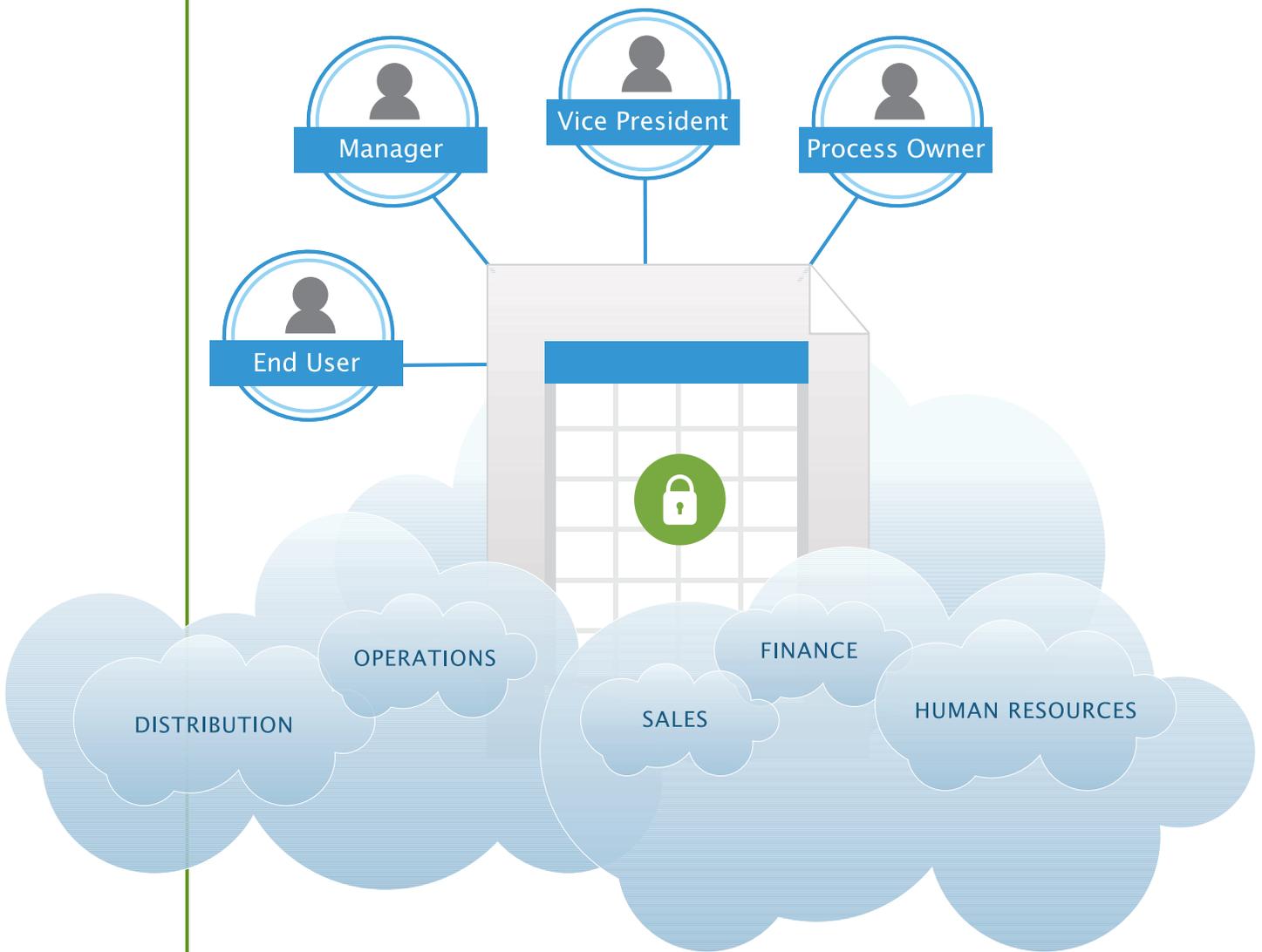


# The Enterprise Spreadsheet

Keep the flexibility of the spreadsheet by merging it with the power of Enterprise Applications



# Spreadsheets in the Enterprise

**Spreadsheets are probably the most pervasive technology implemented in enterprises today.**

Since their introduction in the '80s, spreadsheets have given departmental users the freedom and power to design and build their own custom solutions without the help of I.T. Not that I.T. is bad, but there is no way that they can implement a one-size-fits-all system that will have the flexibility and fit that can be attained through a custom spreadsheet built by the end user. In many instances, these custom spreadsheets are used by departments as data collection tools.

The typical data collection process is to create the spreadsheet, email it to co-workers, have those users enter data in the relevant rows/columns and then return the updated spreadsheet back to the originator. Then, the originator has to go through the **tedious task of merging all of those returned spreadsheets** back into their one, master spreadsheet.

Although a relatively simple process, this manual spreadsheet practice creates a large number of serious issues for the enterprise and is the basis of the mantra “Stop Using Spreadsheets”.

However, if these inherent flaws can be addressed in the spreadsheet itself by merging it with the typical safeguards of security and scalability found in enterprise applications, the users (and ultimately the enterprise) **can benefit by keeping their spreadsheets** and sharing them safely in the enterprise.

We call this new breed of spreadsheet “**The Enterprise Spreadsheet**”.



Freedom

Power

Customization

Security

Scalability

# What is an Enterprise Spreadsheet?

**An Enterprise Spreadsheet is a centralized, shared spreadsheet that can be accessed across the enterprise.**

These spreadsheets are NOT emailed around but rather are **securely** shared with multiple users and can be accessed anytime from anyone (if authorized) from anywhere. In order to address these requirements, these spreadsheets must include enterprise-level security and scalability.

## Security

In order to safely share a centralized spreadsheet with multiple users, the security model of the Enterprise Spreadsheet must be able to define the access a given user has to the rows, columns and cells inside of a sheet, not just a sheet itself. Most online spreadsheets deal with security only at the “sheet-level”, not down inside the sheet. Sheet-level security is typically too simplistic and generic to respond to the real-world shared security demand of a shared spreadsheet within the enterprise. Very rarely does a user (unless an administrator) have visibility and access to ALL rows and columns. By definition, a data collection process is the allocation of a set of rows and columns to a given user to respond to. Most shared spreadsheets cannot deliver this capability which in turn renders them useless in the enterprise world. The Enterprise Spreadsheet, however, contains a **dynamic security model** to ensure a given user only sees the sections of the sheet that they are authorized to see.

## Scalability

It is not uncommon for hundreds of users across the enterprise to access the shared spreadsheet. As a result scalability becomes the second major issue the Enterprise Spreadsheet must address. Traditional spreadsheet file systems typically start to degrade when only a few users try to access the same spreadsheet at the same time. Realistically, it's not uncommon in the enterprise for hundreds of users to need access to the spreadsheet. The Enterprise Spreadsheet must be able to manage multiple, simultaneous users while at the same time maintaining data integrity through the use of commitment control and other conflict resolution strategies down to the cell-level.

Additionally, the Enterprise Spreadsheet preserves its familiarity to the end-user because it maintains the simple spreadsheet interface that users are used to. In fact, it may be the exact same sheet layout that they have been using for years, just now in a centralized setting. This makes the user acceptance and ramp up much quicker than in the implementation of traditional application solutions.

## Transform Sheets into Custom Business Views

**Most business applications share responsibility for different areas based on role and step in the process but ordinary spreadsheets are designed to be single user systems.**

Converting a “single user” spreadsheet into a “multi-user spreadsheet” involves much more than just adding a “sharing” capability to identify which users can access the sheet. This “sharing” approach is too simplistic and doesn’t deal with the critical issue of users needing to fill different portions of the spreadsheet. And, at the same time, those users

**cannot** view or update other areas of the same sheet. So the typical

approach is for the originator to create a new spreadsheet by cutting and pasting rows and columns specific to the user

(typically based on job role and process step) and then

emailing that new spreadsheet to them. This “create a

new sheet then attach it to an email” process is repeated

over and over again for as many users and/or job roles

affected by the spreadsheet.

**So, how can a single spreadsheet be re-engineered to deal with the need to partition sections of the sheet and presenting those sections to each user on a**

**“need to know” basis without emailing new sheets?**

The answer is to design the Enterprise Spreadsheet to allow

“custom business views” for each combination of business roles,

process steps and rules. These custom business views organize the

sections (row, columns, cells) into a logical arrangement that is needed to

support the desired task. These views are then presented to the desired

user(s) at the appropriate time to allow for entry of their specific data.

However, the update of values in those cells in these custom business

views actually update the physical cells in the spreadsheet. In other

words, custom business views are **not** copies of the cells in the sheet but,

rather, the views provide an access path to those cells. To the end user, it

looks and behaves like a stand-alone sheet, but in reality the changes

actually occur real-time on the actual cells in the physical sheet, thereby

making updates to those cells immediately available to all other users who

have access to those same cells, even from different views.

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Enterprise Spreadsheet  
allows custom business  
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of business roles,  
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and rules.

**Finally, since most data collection tasks tend to be “row” oriented, the spreadsheet in reality is operating like a database.**

The implication to the Enterprise Spreadsheet is that it needs to support typical “database” type functions. These database functions include features such as “form” entry and update (instead of entry in a row in a sheet), key/value lookup, add, update and delete logic. The framework of the Enterprise Spreadsheet provides a much more dynamic platform to support these requirements.

### **Key features of “custom business views” in the Enterprise Spreadsheet include:**

- **All views must work off the same data in the sheet**
- **Views need to apply to rows, columns and cells in addition to sheets**
- **Users only see and change what they are allowed to see and change, based on their needs**
- **User-defined filtering and sorting of data arranges the data in meaningful order**
- **User-defined reporting of data**
- **Database capabilities with add/update/delete/lookup logic**
- **All views are integrated into the data and application security model**

# Issues with Emailed Spreadsheets and how Enterprise Spreadsheets Respond

Following is a list of common issues and objections with emailing attached spreadsheets to other users as part of a data collection process and how the Enterprise Spreadsheet responds to these issues.



## Version Control/Change Management/Standardization

**Issue:** Once a spreadsheet is emailed to another person, there is no assurance that any subsequent updates to the structures, formulas, validations, etc. can be implemented effectively. In order to implement any changes that the originator makes, they must be communicated to all those users who then in turn must apply those changes to their versions.

**Response:** As there is only one version of the Enterprise Spreadsheet, all changes made to that version are immediately made available to all users that have been shared to that spreadsheet. Thus ensuring that all users are working with the latest, approved version of the sheet.



## Inaccurate Calculations

**Issue:** Each user has their own spreadsheet, so the risk exists that a user might change a formula or calculation. These changes can lead to inaccurate results.

**Response:** All formulas can be “locked down” on an Enterprise Spreadsheet. End users can be restricted from the ability to access and/or change them.



## Protection of Sensitive Data

**Issue:** Many spreadsheets contain sensitive data such as cost/pricing data, social security numbers, salaries, names, addresses, etc. As a result, spreadsheets that are emailed to multiple users may expose this sensitive data to various users that should not have access to it. This data can be overwritten or, worse yet, even stolen.

**Response:** Since users are only shown the appropriate rows, columns and cells needed to conduct their specific task, any inadvertent revealing of sensitive data and updates to cells not authorized for access to a given user are completely eliminated.



### Accuracy of Data

**Issue:** User errors and invalid data can be mistakenly entered.

**Response:** Data validations and conditional formatting rules can be applied to enforce data accuracy across multiple users on a single sheet. These validations can be “locked down” to eliminate any inadvertent removal or overlay of values that can result with an uncontrolled spreadsheet.



### Timeliness of Data

**Issue:** If everyone has their own version of the spreadsheet, it becomes very difficult for the originator to manage the status of each responder...especially if they are dealing with hundreds of potential users. This can cause delays in receiving critical data or may result in missed deadlines.

**Response:** Since all updates are done in real-time on the centralized Enterprise Spreadsheet, the current status of each responder is known instantly. Unfilled cells or rows can be filtered and custom exception inquiries or reports can be generated to show what’s left open to complete.



### No Audit Capabilities

**Issue:** With users entering data on their own copies of a spreadsheet, there is no way to get a unified view of all the value changes...especially if more than one user can change the value of a given cell. Additionally, if the user can also change the “structure” of the sheet by inserting, deleting or moving sheets, rows and columns, there is no ability to track those changes either. Ultimately, there is no good way to track down any issues that may arise when those sheets are merged back together into a master sheet and then structural or value issues are exposed.

**Response:** With the single, Enterprise Spreadsheet, all access is controlled in a centralized spreadsheet and, as a result, full audit trails are available. These audit trails can include login and sheet access history, structural changes to a sheet or workbook, row updates and cell-level audit history across multiple users.



### User Acceptance

**Issue:** Many users may not want to have a copy of someone else's spreadsheet on their desktop. This creates an environment of resistance for those users who do not want to respond to emails sent with attached spreadsheets.

**Response:** The Enterprise Spreadsheet preserves its familiarity to the end-user because it maintains the simple spreadsheet interface that users are used to. In fact, it may be the exact same sheet layout that they have been using for years, just now in a centralized setting. Because it is centralized without a copy on their desktops and since the end user is only seeing the rows and columns that they are authorized to see, a user is more likely to accept the sheet faster and respond quicker.



### Compliance

**Issue:** As spreadsheets are part of the overall resources of an organization, they must be accounted for when developing a compliance strategy. Key compliance risks exist once the spreadsheet is distributed to multiple users. These risks include unauthorized access and modification of data or formulas which degrades the model's integrity. Spreadsheets are notoriously difficult to manage as part of an overall compliance implementation.

**Response:** The Enterprise Spreadsheet is centrally managed and controlled with appropriate audit trails. Therefore it's much easier for a corporation to review and certify the spreadsheet as complying with its stated objectives.

# Enterprise Spreadsheet Performance & Merit Case Study

## Performance & Merit Process Description:

Every year, each major business unit of a large company conducts reviews for employees to determine increases in annual compensation. Managers are given budgets and guidelines to follow for evaluating pay for direct reports. Close to 1,000 managers across the enterprise are involved in collecting the required data on all their employees. This exercise is conducted once a year and is iterative in nature within defined timelines. This company uses data from their SAP Human Capital Management (HCM) application as the source of their initial list of employees and salaries. The HCM system is also the destination of the compensation data once collected from the managers.

### The Old Way

**The Old Way:** Unique, individual spreadsheets were manually generated for each manager and included the compensation data for each of their direct reports. These spreadsheets were distributed manually by emailing them to each manager. Due to the magnitude of the manual effort required, many associates including executive assistants were handling the spreadsheets which included sensitive data.

While the spreadsheets were out, **no effective mechanism** existed to monitor the status or progress of the data collection or assigning proxies for the absentee managers. Additionally, there were **no effective controls** that enforced the data integrity of the spreadsheets once they were returned.

After each sheet was returned, they had to be manually reviewed for accuracy and then manually sent back again for revisions if there were any discrepancies. Any changes in employee data had to be manually reflected in each spreadsheet. Finally, once completed, all the spreadsheets had to be **manually merged** back into a “master” spreadsheet where the responses were aggregated to calculate totals. Finally, the completed data was merged back into the SAP HCM application.

The time from start to finish for this process spanned several weeks with managers and executive assistants dreading this yearly ritual.

Additionally, this process was **not SOX compliant** for their auditors.

# The New Way with the Enterprise Spreadsheet

**The New Way:** Now this process is implemented in one single, shared Enterprise Spreadsheet. This spreadsheet is still created from the SAP data but exists in one managed location instead of distributed emails. All manager access is accomplished through a secured web site. The data that is displayed to the Manager is automatically limited to employees with direct and indirect reporting relationships. All budgets, business controls, and security are enforced and all updates and reviews are accomplished real-time in one centralized and controlled place.

Any changes to assumptions and corresponding underlying formulas can be updated immediately and made available to all users simultaneously. All updates and communications are real-time. The data collection process now takes minutes for managers versus hours/days the old way. Once all the data is validated and reviewed, it is easily uploaded back into SAP HCM from this single, controlled source. The end-to-end process now takes only days instead of weeks to complete and is SOX compliant.

The new mantra with Enterprise Spreadsheets is to **“Transform Your Spreadsheet!”** This goal can be achieved if the spreadsheet itself can be integrated with the security and scaling features traditionally found in enterprise applications. These features include the ability to launch a centralized spreadsheet, securely share sections (rows, columns, cells) to users on a “need to know” basis and handling the demands of hundreds of users accessing this shared enterprise spreadsheet at the same time.

In the world of application solutions, there is still room for certain data collections processes to be managed more efficiently and effectively with Enterprise Spreadsheets.

**Any questions? Email us at [info@securesheet.com](mailto:info@securesheet.com), or visit [www.securesheet.com](http://www.securesheet.com) for a free Enterprise Spreadsheet trial.**

## Conclusion