

Sage Summit 2012 Conference

Concept to Solution

Learning and Mastering Sage 300 Construction and Real Estate – Office Connector

Session Code: P-0632

Product: Sage 300 Construction and Real Estate

CPE Credit: 1

Presenters:

- **James Coyle, Event 1 Software**
- **Michael Newland, Event 1 Software**

Description

This hands-on session will provide Certified Consultants with a strategy for using Excel and Office Connector to deliver on customers' report and information management requirements. Using a simulated customer request, you'll learn how to take a request through the engagement process from establishing a Scope of Work through design to testing and delivery. Many of our customers are looking for ways to leverage existing Excel-based skills and expertise. Sage 300 Construction Real Estate, Excel, and Office Connector form a powerful trio to deliver information-based solutions. Join us for this session to make Office Connector part of your consulting toolkit!

Learning Objectives

At the end of today's session, you will be able to:

- Conduct a Scope of Work evaluation.
- Design a solution that delivers the Scope of Work.
- Test solution for compliance with customer requests.

To Do After the Conference



Notes

Customer's Request

From: Ralph Brainly
Sent: August 12, 2012 8:00 am
To: Sage Consultant
Subject: Profit Report

Hello,

Attached is an example of a report that we need to produce on a monthly basis for each of our divisions. The report is initially provided to the division manager who will note anticipated changes by marking up their copy and sending it back to accounting. That number gets entered and then the report is reprinted and delivered to our executive team. This provides our team with a summary of the jobs in progress and their expected profitability. We've been producing this report for many years out of our old system but as we migrate to Sage 300 Construction & Real Estate, we're hoping to do more with this. For example, we find that when the report is circulated among our executive team, they will often write comments on the report and we'd like to retain those comments (somehow) because sometimes there are issues or questions that may linger for a while and we don't want to lose track of them. We're thinking that with the technology that is available we should be able to streamline the whole process. Please let us know what this would cost.

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Customer's Example Report

Contract Summary

May 2011

Job	Description	Base Contract					Variances		
		Original Contract	Changes To Contract Value			Total Contract	Margin	Billable	
			Anticipated	Pending	Approved			Variances	Margin on Variances
AU-006-0001	Downtown Supermarket	9,900,000	-	-	-	9,900,000	693,000	-	-
AU-070-0000	Tri Tech Lab	44,400,000	274,000	-	-	44,400,000	2,664,000	390,000	23,400
AU-312-0000	Kearney Middle School	5,500,000	-	-	-	5,500,000	440,000	-	-
AU-499-0003	MGE Line WO#543	27,700,000	-	-	-	27,700,000	1,939,000	390,000	31,200
AU-509-0001	Liberty Office Park	38,400,000	-	-	-	38,400,000	2,304,000	-	-
AU-754-0002	Clay Office Park #6	13,700,000	-	-	353,000	14,053,000	1,124,240	610,000	36,600
AU-809-0003	Metro Bus Stop 42	48,400,000	-	349,000	68,000	48,468,000	2,908,080	-	-
Total AU Jobs		188,000,000	274,000	349,000	421,000	188,421,000	12,072,320	1,390,000	91,200
NZ-392-0001	Fort Wayne Officer's Club	24,800,000	-	-	-	24,800,000	1,736,000	-	-
NZ-415-0001	Tri-Tech Fab Lab	25,400,000	-	-	-	25,400,000	1,524,000	280,000	22,400
Total NZ Jobs									
PL-021-0002	Metro Bus Stop 39	29,600,000	273,000	-	-	29,600,000	2,368,000	-	-
PL-026-0002	TMC Lighting Renovation	26,400,000	-	-	-	26,400,000	1,848,000	-	-
PL-120-0001	Union Station Rewiring	25,000,000	-	-	120,000	25,120,000	1,256,000	870,000	52,200
PL-323-0003	Midwest Distribution Wareho	49,300,000	-	-	269,000	49,569,000	2,478,450	-	-
PL-493-0001	Low Income Housing	22,300,000	-	-	-	22,300,000	1,115,000	-	-
Total PL Jobs									
Totals		578,800,000	821,000	698,000	1,231,000	580,031,000	36,470,090	3,930,000	257,000
									36,727,090

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper has a slight shadow on the right side, suggesting it's resting on a surface.

Scope Of Work / Specifications

General Information

Distribution	How will the report be distributed to its consumers? (Dynamic or Static Excel file, printed document, etc)
Report Rows	What does each row on the report represent?
Criteria	What is the criteria that determines which data is to be included (whether a given row is included or not)?
Navigation	How will users locate the information they are after?
Date Driven?	Are amounts on the report relative to specific points in time? If so, what?

Column Definitions

Identify whether each column is a data field, formula, or data-entry value. For data fields, identify the table and column as well as any associated conditions. For formulas, state the formula logic in plain English (if possible).

	Column	Definition
A	Job	
B	Description	
C	Original Contract	
D	Anticipated Changes	
E	Pending Changes	
F	Approved Changes	
G	Total Contract	
H	Margin	
I	Billable Variances	
J	Margin on Variances	
K	Total Margin	

[illegible][illegible]

Test Plan / Customer Acceptance

[illegible]

Building The Report



Do not proceed to the next part until the previous part of the session has been completed!

Your Role

In this part of the session you will perform the role of the *solution engineer* by constructing the report that has been defined. Depending on your skill-level and experience with Office Connector, you might not choose to assume this role for all of the projects you engage. Instead, you may choose to utilize the services of someone having the necessary skill-set and your role would be to provide the up-front discovery, scope, specifications, as well as the final testing and delivery.

Additional Exercises

This lab exercise is only one of many documented exercises that are available for educational purposes. Other exercises that are available provide insight into how to use Office Connector Write and Import to send data into Sage 300 Construction and Real Estate. You are strongly encouraged to utilize these additional exercises in order to gain an understanding of these tools.

Additional exercises and resources can be found at the following location:

<http://www.event1software.com/summit/>

Steps

Part 1 – Start New Report

1. On the Windows Desktop, double-click **Office Connector Launch Pad**
2. Click the **Reports** tab
3. Double-click **(New Report).xlt**



NOTE: When building an Office Connector report, you are not required to start with this template. You can start with a blank Excel workbook if you want. Using this template simply gives you a jump-start on some of the report's structure and styles.

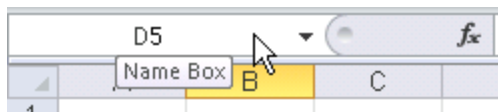
4. In the **Select Sage Timberline Office Company** window, select **Timberline Construction** and click **OK**
5. Click the **Report** worksheet
6. Select rows **5** through **13**, right-click on one of these row labels, and then click **Delete**
7. Click in cell **A1** and type: `Contract Summary`

Part 2 – Add Report Parameters

1. Click the **Admin** worksheet
2. Delete rows **4** through **6**.
3. Delete rows **5** through **12**.
4. Click in cell **B4** and type: `Division`
5. Click in cell **D4** and then in the **Name Box**, type: `DivisionID` Enter.




TIP: The **Name Box** is located in the upper left corner of the worksheet. The cell address of the selected cell is normally displayed here. To assign a name to a cell, you can click inside this box, type a name, and press Enter. Later, you can refer to the cell (in formulas for example) using its name rather than its cell address.



6. While still in cell **D4**, type: `21`

Part 3 – Open Job List

1. Click the **Report** worksheet.
2. Click in cell **A6**.
3. Click the **Add-Ins** tab of the ribbon
4. Click  **Query Wizard** on the Office Connector toolbar
5. In the table list, select **JC Job (1)** and click **Next**
6. In the **JC Job (1) fields** list, check the following boxes and click **Next**
 - **Job**
 - **Description**
 - **Msc Job amt 1**



NOTE: Office Connector applies the names that are defined in Custom Descriptions. When you build a query, fields with customizable descriptions will reflect this although, behind the scenes, the SQL query is still using the internal name.

7. Add a condition to exclude closed jobs
 - a. Click **Add Condition**
 - b. In the **Field** list, select **Status**
 - c. In the **Comparison** box, select **Not equal**
 - d. In the **Compare to** box, select **Literal Value** in the **Value Type** drop-down
 - e. In the **Value** box, type: `Closed`



TIP: The drop-down button in the Value box can save you time and reduce mistakes. When you click it, a list of possible values will be displayed to select from. This is based on the contents of the table and the selected field. In this case, since the sample data does not contain any closed jobs, the status text we want would not be in that list. You must therefore type the desired value.



NOTE: Conditions using list-box or combo-box fields (such as Status) are case sensitive so be sure to enter the value exactly as shown.

- f. Click **OK**
8. Add a condition for the division
 - a. Click **Add Condition**
 - b. In the **Field** list, select **Cost account Prefix**
 - c. In the **Comparison** box, select **Equal**
 - d. In the **Compare to** box, select **Parameter** in the **Value Type** drop-down
 - e. In the **Value** box, click the drop-down and select **DivisionID**
 - f. Click **OK**
9. Click **Next**
10. In the **Layout** box, uncheck **Include field names**



NOTE: Since the name of the Msc Job amount 1 field in the sample data is different than the name the customer has assigned to it, we're having the query not include field names and instead we'll enter the column captions manually.

11. Click **Finish**

12. Add the following column captions

A5	Job
B5	Description
C5	=PROPER(TSCustomCaption("%87"))



NOTE: Although you could have entered the literal text "Anticipated Changes" in cell C5, this was an opportunity to showcase the TSCustomCaption function. This function uses a field code and returns the description assigned in Custom Descriptions for the database that is currently being used with the report. Using Excel's PROPER function simply forces the text to use proper-case (capitalizing the first letter of each word). A complete list of the field codes assigned to each custom description can be found in the Quick Aim database reference books offered by Event 1 Software.



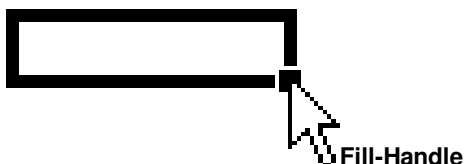
NOTE: If you change the name of the Msc Job Amount 1 field in Custom Descriptions, the TSCustomCaption function won't reflect the change until you close and re-open Excel. This is because the set of custom descriptions is only read once per database and retained in memory during your Excel session.

Part 4 – Add Job Type Column

1. Click the column letter for column **C**, then right-click on it and click **Insert**
2. Click in cell **C5** and type: Job Type
3. Click in cell **C6** and type: =LEFT(A6, 2)
4. Double-click the fill-handle in cell **C6** to copy the formula down to each row.




NOTE: The fill-handle is the solid box in the lower-right corner of the cell: When you double-click this box, the formula in the cell will be copied down.



Part 5 – Add First Amount Column

1. Click the column letter for column **D**, then right-click on it and click **Insert**
2. Click in cell **D5** and type: Original Contract
3. Click in cell **D6**

4. Click  **Sum Wizard** on the Office Connector toolbar
5. Select **JC Category** and click **Next**
6. Check the box for **Original Estimate** and click **Next**
7. Add a condition for the job
 - a. Click **Add Condition**
 - b. In the **Field** list, select **Job**
 - c. In the **Comparison** box, select **Equal**
 - d. In the **Compare to** box, select **Cell Reference** in the **Value Type** drop-down
 - e. In the **Value** box, type: \$A6
 - f. Click **OK**
8. Add a condition to exclude Extras
 - a. Click **Add Condition**
 - b. In the **Field** list, select **Extra**
 - c. In the **Comparison** box, select **Equal**
 - d. In the **Compare to** box, select **Literal Value** in the **Value Type** drop-down
 - e. Leave the **Value** box empty
 - f. Click **OK**
9. Add a condition to exclude the “NB”category
 - a. Click **Add Condition**
 - b. In the **Field** list, select **Category**
 - c. In the **Comparison** box, select **Not equal**
 - d. In the **Compare to** box, select **Literal Value** in the **Value Type** drop-down
 - e. In the **Value** box, type: NB
 - f. Click **OK**
10. Double-click the fill-handle in cell **D6** to copy it down to each row.
11. Click **Finish**

Part 6 – Insert a Column Name Row

Each of the other amount columns could be added using the Sum Wizard by following steps similar to those in Part 5. Instead, we'll use the formula created in Part 5 a template formula that we'll copy to the other formulas. Rather than hard-coding the field name as part of the formula, we'll place the field name on row 5 (which will be hidden). This will be used when adding the amount columns in Part 7.

1. Click the row number for row **5** and then right-click on it and click **Insert**
2. Click in cell **D5** and type: COEST
3. Click in cell **D7** and press **F2** to enter edit mode
4. Replace "COEST" with D\$5. The revised formula should look like this:

```
=TSSum("MASTER_JCM_RECORD_4", D$5, "[CJOB]=' ' & A7 & ' '
AND [CEXTRA]=' ' AND [CAT]<>'NB'")
```



NOTE: The second argument of the TSSum function identifies the column name. We've replaced that with a cell reference that holds the column name. Since the row number \$5 is absolute, the row number will remain the same regardless of what row the formula is copied to. Since the column letter is not absolute (is not prefixed with a dollar sign), it will change when the formula is copied to a different column. It will then reference the column name assigned to the column it is in.

5. Double-click the fill-handle in cell **D7** to copy the revised formula to all rows.
6. Type the following cell values as shown:

	F	G	H	I	J	K	L
5	CPESTC	CAESTC		CTEST	CTEST	CTEST	
6	Pending Changes	Approved Changes	Total Contract	Margin	Billable Variances	Margin on Variances	Total Margin

Part 7 – Complete the Amount Columns

In this part, we will add the formulas for the remaining amount columns by using the formula in column D as our template. For some of the columns, we'll make minor changes to the criteria that dictate which category records will be included in the result.

1. Pending and Approved Changes Columns
 - a. Copy the formula from cell **D7** to cells **F7** and **G7**
 - b. Double-click the fill-handle for cells **F7** and **G7** to copy the formulas down to each row
2. Total Contract Column
 - a. Click in cell **H7** and type: =D7+G7

- b. Double-click the fill-handle for cell **H7** to copy it down to each row

3. Margin Column

- a. Copy the formula from cell **D7** to cell **I7**
- b. Click in cell **I7** and press **F2** to enter edit mode
- c. Change the last portion of the formula from `[CAT]<>'NB'` to `[CAT]='F'`. The formula should now look like this:

```
=TSSum("MASTER_JCM_RECORD_4",I$5,"[CJOB]=' ' & $A7
& " ' AND [CEXTRA]=' ' AND [CAT]='F'")
```

- d. Double-click the fill-handle for cell **I7** to copy it down to each row

4. Billable Variances Column

- a. Copy the formula from cell **D7** to cell **J7**
- b. Click in cell **J7** and press **F2** to enter edit mode
- c. Change the portion of the formula that reads `[CEXTRA]=' '` to `[CEXTRA]<>' '`. The formula should now look like this:

```
=TSSum("MASTER_JCM_RECORD_4",J$5,"[CJOB]=' ' & $A7
& " ' AND [CEXTRA]<>' ' AND [CAT]<>'NB'")
```

- d. Double-click the fill-handle for cell **J7** to copy it down to each row

5. Margin on Variances Column

- a. Copy the formula from cell **J7** to cell **K7**
- b. Click in cell **K7** and press **F2** to enter edit mode
- c. Change the last portion of the formula from `[CAT]<>'NB'` to `[CAT]='F'`. The formula should now look like this:

```
=TSSum("MASTER_JCM_RECORD_4",K$5,"[CJOB]=' ' & $A7
& " ' AND [CEXTRA]<>' ' AND [CAT]='F'")
```

- d. Double-click the fill-handle for cell **K7** to copy it down to each row

6. Total Margin Column

- a. Click in cell **L7** and type: `=I7+K7`
- b. Double-click the fill-handle for cell **L7** to copy it down to each row

7. Click the row number for row **5**, then right-click on it and click **Hide**

Part 8 – Add Totals

1. Click in cell **D7** and then press **End** and then **↓**.



NOTE: This keyboard shortcut provides a quick way to navigate to the end of a range that contains data.

2. Arrow down two rows and type: `=SUBTOTAL (9, D7:D13)`



NOTE: The SUBTOTAL function is similar to the SUM function except that SUBTOTAL will not include the amounts from rows that are hidden by a filter.

3. Copy the subtotal formula across to each column

Part 9 – Turn on Auto-Filter

1. Click in cell **A6**
2. Click the **Data** tab on the ribbon
3. Click **Filter**



NOTE: Now you can quickly filter the data by using the drop-down buttons above each column. In this way, the user can isolate a given Job Type if desired. Since we used the SUBTOTAL function in Part 8, the totals will only reflect the jobs that are displayed.

Part 10 – Add Comments Column

In this part we will use the OCREtain function to keep static data (comments) connected with the correct row when data is refreshed and the list of jobs changes.

1. Click in cell **M6** and type: `Comments`
2. Click in cell **M7** and type: `= " "`
3. Double-click the fill-handle in cell **M7** to copy it down to each row
4. Click in cell **N7** and type the following (but don't press Enter): `=OCRetain()`
5. Click **fx** on the formula bar
6. In the **Function Arguments** window, click the cell-selector button of the **Target** box
7. Click on cell **M7** and press **Enter**
8. In the **FillDownFormula** box, type: `" "`
9. Click the cell-selector button of the **Keys** box
10. Click on cell **A7** and press **Enter**

11. Click **OK**
12. Hide column **N**.
13. Click the **Add-Ins** tab of the ribbon
14. Click **Refresh Data** on the Office Connector toolbar



NOTE: After adding the first OCRetain function to a workbook, you need to refresh the data so that Office Connector becomes aware that the workbook is utilizing this functionality.


Part 11 – Update the Anticipated Changes column

To streamline the process of updating the Anticipated Changes value, we have two options-

- **Option A – Directly Update:** This approach would use Office Connector Write to update the Misc Job Amount 1 field directly via ODBC.
- **Option B – Post Misc Worksheet Transactions:** This approach would use Office Connector Import to create Misc Worksheet transactions that, when posted, will update the Misc Job Amount 1 field.


You may wish to experiment with both approaches. What factors would you consider when deciding which approach to use?

Option A – Directly Update

1. Add a TSWrite function
 - a. Click in cell **O7**
 - b. Click the **Add-Ins** tab of ribbon
 - c. Click  **Write Wizard** on the Office Connector toolbar
 - d. Select **JC Job (1)** and click **Next**
 - e. Select **Modify Only** and click **Next**
 - f. In the **Value** column for **Job**, type: \$A7
 - g. Click **Next**
 - h. Scroll down, check the **Msc job amt 1** box, and click **Next**
 - i. In the **Value** column for **Msc job amt 1**, type: \$E7
 - j. Click **Finish**



NOTE: A TSWrite function has been placed in cell O7. This function doesn't return a value that would be useful to display on the report. Instead, it serves as an instruction to Office Connector Write so that it knows what cell value to write to which table and field.


- k. Double-click the fill-handle for cell **O7** to copy the formula down to each row
 - l. Hide column **O**.
2. Test Writing Data
 - a. Enter some values in column **E** (Anticipated Changes).
 - b. Click  **Send Data to Timberline** on the Office Connector toolbar
 - c. In the **Approve Changes** window, review the pending changes and then click **Write**



NOTE: After the data has been written, a recap report will be displayed that shows the results. In addition, you will receive a prompt asking if you want to refresh data. Since the query returns the value of the field you updated, this can be useful to confirm that the data was successfully written.

Option B – Post Misc Worksheet Transactions

Since this option involves the creation of transactions, we need to first add a cell that will contain the desired date to place on the transactions being created.

1. Add a TSIImport functoin
 - a. Click in cell **A4** and type: Updated:
 - b. Click in cell **B4** and type: 5/31/2011
 - c. Click in cell **O7**
 - d. Click the **Add-Ins** tab of the ribbon
 - e. Click  **Import Wizard** on the Office Connector toolbar
 - f. In the **Type of Import** list, select **JC Misc Worksheet Import File** and click **Next**
 - g. In the **Transaction Columns** list, check the following boxes and click **Next**
 - **Job**
 - **Transaction Type**
 - **Transaction Date**
 - **Description**
 - **Amount**
 - **Action**
 - h. Complete the values grid as follows:

Cell Reference	Column	Value
<input checked="" type="checkbox"/>	Job	\$A7
<input type="checkbox"/>	Transaction Type	MiscAmount1
<input checked="" type="checkbox"/>	Transaction Date	\$B\$4
<input type="checkbox"/>	Description	Anticipated Changes
<input checked="" type="checkbox"/>	Amount	\$E7
<input type="checkbox"/>	Action	Replace


- i. Click **Finish**



NOTE: A TSImport function has been placed in cell O7. This function doesn't return a value that would be useful to display on the report. Instead, it serves as an instruction to Office Connector Import so that it knows what cell values to place in the import file that will be created.

- j. Double-click the fill-handle for cell O7 to copy the formula down to each row
- k. Hide column O.

2. Test Importing Data

- a. Enter some numbers in column E (Anticipated Changes)
- b. Click the **Add-Ins** tab of the ribbon.
- c. Click  **Save Import File** of the Office Connector Import toolbar
- d. In the **Import file** box, the filename should be JCMWTran.txt and the path will be your Sage Timberline Office data folder.
- e. Select **Launch Office Connector – Import Misc Worksheets**
- f. Click **OK**. If a notification pops up indicating that the file already exists, click **Replace**.



NOTE: The following notification message may appear:

Note that the import task may default to the last used import file, which may not be the same as the import file you just created. Please be sure to select the following file:

This means that Office Connector Import has created the import file using the name you provided but to complete the importing of the data, another program is used. The program that imports the data remembers the last filename that it was used with. If this filename is different than the one you just created, you'll need to make sure to select your file.

- g. In the **Import File** box, type: JCMWTran.TXT
- h. Click **Import**



NOTE: After the file has been imported, a recap report is displayed in your browser showing the results of the import. This may include a list of records that were skipped because they contained transactions with a zero amount (which is not allowed). A list of the transactions that were successfully created will also be displayed.



NOTE: You might notice that the transaction amounts don't match what you entered in the worksheet. This is because we identified the "Replace" action. This causes transactions to be created that represent the difference between the current value and the replacement value. The transaction amounts you see are therefore the amounts that needed to be added or subtracted to the existing values in the master file in order for them to equal the amounts on your worksheet.

Part 12 - Finishing Touches (optional during class)

The prior steps have not addressed styles and formatting. Nevertheless, this is an important part of completing an Excel-based solution and relies on your knowledge of Excel. Here is a list of formatting/style changes that you would want to consider in order to complete this solution:

- Apply the Data Entry cell style to the cells in column E (Anticipated Changes) and column M (Comments) in order to designate these cells for data entry.
- Apply the Total cell style to the total row
- Format numbers with commas and no decimals
- Apply a uniform column width to the amount columns
- Add gridlines in order to improve readability
- Utilize merged cells in the column captions (see original customer example)
- Freeze panes at cell D7
- Adjust page layout so that the report fits width-wise on one page in landscape orientation
- Apply appropriate page header and footers
- Update the Information worksheet to provide information about the report and how to use it

Part 13 – Update Information Worksheet

Recording information about the report design is an important final step. Of particular importance is versioning. Losing track of whether a report design is the latest version or not can result in wasted time, frustration, and duplicated work. Since this report was based on the “(New Report)” template, this part of the exercise focuses on using the Information worksheet that is provided to capture information about the report.

1. Click the **Information** worksheet
2. Go to the bottom of the worksheet and enter a value for the **Revision Number**. Since this is the first version of this new template, enter: `Revision 01.0000`
3. In the cell directly below the version, type the current date and time.
4. Complete the renaming areas as follows:

Report Name	Should be the same as the file name
Purpose	Construct a one-paragraph description of what the report provides and how it would be used.
Before You Start	This section can be removed if your workbook does not utilize Excel macros. If this is the case, you can delete rows 11 through 14 so that no macro notice appears.
Required Software	List all software applications needed by the report.
Required Data Files	List all data files that are required by the report.
Using This Report	Provide an enumerated list of steps to run the report.
About the Design	Include details that a more advanced user or consultant may find helpful if needing to understand how the report is constructed.



TIP: When typing a value in a cell, you can insert a hard-return without advancing to the next cell by typing **Alt** + **Enter**.

Part 14 – Save As Template

Visit the online resource for detailed steps on saving an Excel workbook as a template:

<http://www.event1software.com/summit/>

Special Icons

Use the following special icons to call out information. Delete this page when you are finished.



NOTE: Enter the text of the note here.



WARNING: Enter the text of the warning here.



FOR MORE INFORMATION: Enter the text of the reference here.



TIP: Enter the text of the tip here.