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Certify data: Add-on of worksoft certify

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Abstract
Just as a high-performance engine needs the right fuel, your testing team rely heavily on high-quality test data to ensure success. Unfortunately, test data management is an enormous and time-consuming task for many organizations. Enterprise landscapes are highly complex and interrelated. To get good data, referential and logical integrity must be preserved, and not all relationships are explicit. That complexity, combined with the fact that there are often multiple, massive data stores with multiple formats, makes extraction an intricate task at best. Further complicating the process is the passage of time. Your data never sleeps. Values change with operations and with the clock. Rules change with revised requirements and new configurations. Test data that was valid last week—or even earlier today—may be invalid now. Gathering test data has historically been a manual and labor-intensive task requiring the involvement of many outside resources including IT, security personnel, business analysts and subject matter experts. Test data management is a recurring task, the costs for which are often hidden. In fact, for many organizations, up to 60% of ongoing testing effort is spent finding and extracting representative test data. Certify Data is an innovative solution designed to automatically identify and extract representative SAP data so that it can be directly embedded into Worksoft Certify test processes as the test steps are constructed. Certify Data can then maintain test data in existing tests by performing managed data updates.

Keywords: SAP, ERP, data, HANA, cloud, on-premise, mobile applications, the internet

1. Introduction
Certify Data is a solution for extracting data directly from an SAP ECC application under test and inserting the data into Worksoft Certify process steps. Existing tests are maintained and refreshed by performing managed data updates from within the record set Editor in Worksoft Certify. Certify Data enables the Certify client to issue data retrieval requests for record sets that are composed either in whole or in part from variables that were created by Live Touch and Certify Data initially.

2. The Challenges
- Test data management is an enormous and time-consuming task
- Referential and logical integrity must be preserved, and not all relationships are explicit
- Test data has a limited period of validity, thus making acquisition costs recurring
- Test data management typically requires the involvement of many outside resources
- Up to 60% of the test automation effort may be spent on obtaining and validating test data

The Solutions
- Extracts representative SAP data in real time
- Obtain relevant data as you are building a test
- Easy to update on a recurring basis
- Maintains logical and referential integrity
- Easy-to-use point-and-click interface

Configuring SAP Systems for Certify Data Integration
Before you can use Certify Data, you will need to install Certify data components to your SAP systems that will interact with Certify Data.
The zipped transport files that your SAP BASIS administrator needs to install to your SAP system are located in the SAP Transports for Certify Data directory. The SAP transport, Certify Document Data Versionx.x.x-Unicode-xxx.zip, is only required if you want to use the Document Data feature in Certify Data. The Document Data feature displays business process transaction flows and associated data. You can access this feature by selecting the Business Process option in Certify Data.

Table 1: Select the directory that is best suited for your SAP system

Folder	Description
Document Data	Contains zipped Unicode and Non-Unicode transport files for SAP Enterprise Resource Planning Central Component (SAP ECC) systems
Standard	Contains zipped Unicode and Non-Unicode transport files for standard SAP systems

3. Accessing Certify Data
The user has to follow the below-mentioned steps to follow accessing Certify Data. This procedure assumes that you have a basic understanding of Worksoft Certify.

To access Certify Data using Certify Live Touch
1. Open the SAP application and navigate to the screen that you will use for your Certify process.

2. Open Worksoft Certify.
3. In the Certify Navigation pane, click Processes.
4. The Processes window appears.
5. In the Processes Summary pane, complete one of the following:
6. Right-click in the pane and select New.
7. Right-click on a process and select Edit.
8. The Process and Data Editor appears.
9. If you are creating a new process, add the needed information in the Details tab.
10. Click the Steps tab.
11. In the Step grid, right-click on the step that you want to go before the step you are creating and Select Insert Step Below Using Live Touch. Certify minimizes, and the Certify Live Touch tool appears. If this instance is a new process with no steps, then you would have to first add a step by clicking New before you select this option.
12. Click Pause so that you can select options from the View menu.
13. If you want to view the object's fields, select View > Fields.
14. Click Start to begin creating steps.
15. Place your mouse over the application window.
16. A red highlight appears around objects in the application.
17. Select multiple objects that you want to add to your process by clicking on the objects when they are highlighted in red.
18. If you selected to view the fields, the object information for each of the selected objects appears in the text fields of the Certify Live Touch tool.
19. Live Touch validates the selected object to ensure that Certify recognizes it for the current project. If it is not recognized, then Live Touch will display a message that you will not be able to select the object because it has not been learned or not associated with an application version in the current project. This object may be present in another application version. If you need to learn objects as you are creating steps, select the Learn Objects as a Needed option from the Live Touch Learn menu.
20. After you select your objects, you will want to add your data. Right-click on one of the highlighted objects and a menu appears.

Table 2: Select one of the following menu options

Option	Description
View Previously Entered Values (selected fields)	View the exact data entered by past users for the SAP fields that you selected when using Certify Live Touch.
View Previously Entered Values (all fields)	View the exact data entered by past users for all of the SAP fields on the current SAP GUI screen.
View Available Values (selected fields)	View all SAP legal values for the SAP fields that you selected using Certify Live Touch.
View Available Values (all fields)	View all SAP legal values for all of the SAP fields on the current SAP GUI screen.

3.1 Extracting Data by Filtering

Certify Data provides two methods to extract data from your SAP system: Using the Filtering feature using the Business Process Flow feature Extracting Data by Filtering This section illustrates how you are able to use the Certify Data Filtering feature to extract information from your SAP system.

To extract data with the Filtering feature:

In the Search Criteria pane, type in your SAP login password in the field that is highlighted in red.

Press <Enter> to log on to Certify Data.

The Search Results and Selected Data tabs appear in Certify Data.

Table 3: Reopen the Search Criteria tab and enter the following information to assist you with your results:

Field	Description
Maximum Result Count	If you want to increase the amount of data retrieved from SAP, increase the value.
Distinct Rows	From the drop-down list, select one of the following filter options for the results: None - Display no distinct rows. Distinct Rows - Display unique rows of data. Distinct Rows with Quantities - Display unique rows of data which includes a count of how many times a row of data occurs. This option may increase the processing time. If you select this option, then you should sort your results in the Quantity column of the Search Results tab. By clicking on the header of the Quantity column, the data will be sorted in descending order, and you will be able to quickly identify the most common values used in your SAP system. This feature is only enabled when you have selected one or more SAP fields to filter the data in the Filter Results tab.
Return	Select one of the following options from the drop-down list: All Valid Values - Display only values that are valid. Previously Entered Values - Display all previously entered values. Some of these values may not be valid.
Search From	Select one of the following options from the drop-down list: Start - Start your search at the beginning of the list. End - Start your search at the end of the list.

If you want additional filtering, click the Filter Results tab. If you do not want additional filtering, go to Step 6.

The Filter table displays the SAP fields and controls from the current and previous SAP GUI screens. The Filter check boxes display the fields and controls that are visible. You are able to select which SAP fields and controls that you want to utilize for filtering SAP data.

Worksoft does not recommend selecting all of the SAP fields and controls listed in the table. SAP data is stored in many different ways, so you may have to change your SAP controls selection before you get the data that you need when filtering.

By default, the Filter table displays the value for the SAP Control field. If needed, you are able to change the value manually by clicking the value in the Value column.

In the Filter column, select at least one or two SAP controls

for your results filter. To assist you with your selection, select one of the following options:

Table 4

Option	Description
Include Only Controls with Values	Hide rows without values.
Show Only Checked	Hide rows that have not been selected.
Select/Unselect Selected Items in List	Toggle the selection of the highlighted row.
Select All (Not Recommended)	This option constrains the search results because it only selects SAP fields that have values.
Unselect All	Cancel all row selections.
Remove Selected Items From List	Remove highlighted rows from the list. If you select this option, then you will not be able to recover these rows.
Remove All Unchecked Items From List	Removed checked rows from the list. If you select this option, then you will not be able to recover these rows.
Remove All Checked Items From List	Remove rows that have not been selected from the list. If you select this option, then you will not be able to recover these rows.

1. Click Search.
2. The specified data appears in the Search Results tab.
3. In the Search Results pane, double-click on a row that you want to user for your data.
4. The row appears in the Selected Data tab.
5. Another option is to select a row of data you want to use and drag it to the text field in the Selected Data section.
6. Click Submit. Certify Data utility closes.
7. In the Live Touch tool, click Save and Close. The Certify Process and Data Editor appear.
8. In the Step grid, multiple steps are inserted for the selected objects, and the steps are pre-populated.
9. Right-click on steps that you want to convert to layouts and record sets and select Add to Layout.
10. In the Add to Layout dialog box, type in a new name for the record set. Click OK.
11. If you elected to create variables, parameters are created for the values of the steps.
12. Click the Save button to save the process. When you click on the Details tab, you will notice a layout and a record set was added to the process.
13. Click the Record set tab to view the newly created record set that contains the literal values of the application.

3.2 Extracting Data by Using Business Process Flows

You are able to use the Certify Data's Business Process Flows feature to extract information from your SAP system. A business process flow is a sequence of sequential steps and entered values within a business process.

The Business Process Selection window is used to select a business process and a set of data related to a specific instance. SAP records all the data that has been entered by users in all of the SAP GUI screens, and this window allows you to retrieve this information and navigate through the SAP GUI screens using the required data.

Table 5: This window is divided into the following four sections

Pane	Description
Filter Flows By Steps or Transactions	This pane displays the business processes, transactions, and steps that you will use to narrow the set of matching business flows in the Select From Process pane.
Select From Processes	This pane displays the end-to-end business processes that match the criteria selected in the Filter Flows By Steps or Transactions pane. Use the scroll bar at the bottom of the pane to view all of the listed workflows in the horizontal list. Each workflow appears in a column and lists the transactions and SAP GUI screens that were used during the process. At the top of each column is the number of times users have entered data into the selected workflow. If you are interested in a workflow that is frequently used, then you will want to select a workflow with a large number. After you select a workflow, the Select a Process Flow Instance pane will display the data in the flow.
Select a Process Flow Step	After a process is selected in the Select From Processes pane, a drop-down list of the steps in the process flow appears. You are also able to select a step from a list of related SAP tables. After you select a step, the Select a Process Flow Instance pane displays the actual filtered data.
Select a Process Flow Instance	This pane displays the actual data related to the business process and step.

To extract data with the Filtering feature:

1. Open Certify Data.
2. In the Search Criteria pane, type in your SAP logon password in the field that is highlighted in red.
3. Press <Enter> to log on to Certify Data.
4. The Search Results and Selected Data tabs appear in Certify Data.
5. Reopen the Search Criteria tab and enter the following information in these fields:
   Maximum Result Count - Select the maximum number of results.
   Business Process - Select this option to have the ability to choose data related to a chain of documents. At this time, Certify Data is only able to analyze document chains from the Sales and Distribution domain.
6. Click the Business Process Browse button.
7. The Business Process Selection dialog box opens.
8. In the Filter Flows By Steps or Transactions pane on the left side, type in a transaction or business process name in the Search text field. If needed, you can just type in a partial name.
9. When you enter text in the Search field, a list of document types matching the Search entry immediately appears in a list underneath the field.
10. In the list of related transactions, select a document type or transaction to narrow your matching flow.

11. After making your selections, the number of process flows in the Select from Process Flows pane on the right side should be lower. This pane contains SAP process flows that correspond to the SAP steps, and SAP transactions selected from the Filter flows by Steps or Transactions pane on the left side.
12. In the Select from Process Flows pane on the right side, click on the business process flow that you want to use to retrieve data.
13. The column is highlighted, and the Select a Process Flow Instance pane displays the data in the flow.
14. The Select a Process Flow Step pane located in the middle of the window contains instances of SAP data corresponding to the process flow that you have selected in the Select a Process Flows pane on the right side. This pane allows you to view additional information for each instance of data. Each instance of data spans multiple SAP GUI screens and tables. These drop-down options provide you a way to toggle between the different SAP GUI screens and tables to view the data.
15. The same instances will display in the Select a Process Flow Instance pane located at the bottom of the window, but the columns of data will change according to your selection of the SAP GUI screens and tables that you specified in the drop-down options.
16. In the Select, a Process Flow Step pane located in the middle of the window, select SAP GUI screens and tables from the drop-down lists.
17. The Select, a Process Flow Instance pane, located at the bottom of the window displays the actual data stored in SAP tables that are related to the business process and step.
18. Notice the selected column in the Select from Process Flows pane on the right side displays 12 instances of the business process flow, and the Select a Process Flow Instance pane located on the bottom of the window only shows 5 instances. At the bottom of the Select a Process Flow Instance pane, you are able to view the other two pages of data by clicking a page.
19. The first column of the table contains the Instance number. The Instance number of the selected row will appear in the Business Process field of Certify Data.
20. In the Select, a Process Flow Instance pane located at the bottom of the window, click on a row.
21. Close the Business Process Selection window by clicking the Close button.
22. Certify Data reappears with the selected instance number in the Business Process field.
23. In the Process Step field, select a step from the drop-down list that will allow you to collect the data you need. This list contains the steps from the SAP Business Process that you specified in the
    Business Process Selection window.
24. Click Search.
25. The Search Results tab is populated with the table of the step associated with the selected business process.
26. In the Search Results pane, double-click on a row that you want to use for your data. The row appears in the Selected Data tab.
27. Another option is to select a row of data you want to use and drag it to the text field in the Selected Data section.
28. Click Submit.
29. The Certify Data utility closes.
30. In the Live Touch tool, click Save and Close.
31. The Certify Process and Data Editor appear.
32. In the Step grid, multiple steps are inserted for the selected objects, and the steps are pre-populated.
33. Right-click on steps you want to convert to layouts and record sets and select Add to Layout.
34. In the Add to Layout dialog box, type in a new name for the record set.
35. Click OK.
36. If you elected to create variables, parameters are created for the values of the steps.
37. Click the Save button to save the process.
38. When you click on the Details tab, you will notice a layout and a record set was added to the process.
39. Click the Record set tab to view the newly created record set that contains the literal values of the application.

3.3 Specifying a Date Range

When extracting data using business process flows, an administrator has the ability to have users perform analysis of all the processes in the target SAP system or only processes that fall within a specific date range. This analysis process can take several minutes to several hours

To specify a date range

1. In the bottom of the Select from Processes pane of the Business Process Selection window, click the Configure button.
2. The Business Process Configuration window opens.
3. Select the Include Only Instances option.
4. In the from and to fields, select dates from the pop-up calendars.
5. Click Apply Changes.
6. After the analysis is completed, click Explore Process Flows to close the Business Process Configuration window.

Adding Additional Data to a Record set with Certify Data

This procedure describes how to add data to a record set with Certify Data through the Process and Data Editor, but you are also able to add data from the Record set Editor.

To add additional data to a record set with Certify Data

1. In the Process and Data Editor, click the Record set tab.
2. Click the Certify Data button.
3. The Certify Data utility opens.
4. In the Search Results pane, select the rows of data that you want to add to your record set and drag them to the text field in the Selected Data section.
5. Click Submit.

The Certify Data utility closes, and the new data appears in the Records field of the Record set tab. Each variable in the record set will need to be linked to each SAP object for the correct data to be extracted. To link your variable, use the Add to Layout option in the Process and Data Editor or the Variables Editor.

4. Conclusion

Certify Data is an add-on for solving the SAP GUI business process data issues. But for effective utilization of certify data, you have to maintain SAP transports properly in SAP Solution Manager. This is very helpful when user has to run the automated scripts in a new SAP environment, and user does not have much data idea for this system, only a few sets of data is available after production refresh, and user is not sure which data combination will work fine for the scenarios

5. References

1. Subash Thota. IBM (international business machines), United States", International Journal of Current Research. 2017; 9(10):59458-59462.
2. Sap Introduces Sap Hana Cloud, an In-Memory Cloud Platform. Database Trends and Applications. 2012-10-24. Retrieved, 2016.
3. Lahl Dan, Geall Marc. Demystifying Sap Hana Cloud Platform. sapinsider.wispubs.com. Retrieved 30 January 2017. Murugesan, San; Bojanova, Irena. Encyclopedia of Cloud Computing. John Wiley & Sons, 2017, ISBN 9781118821961.
4. Leljedal Kelsey. Review: Sap Hana Cloud Platform, 2017, yourdailytech.com.
5. Briodagh Ken. Insurers Benefit from Data Collection and Analytics from IoT, 2016, iotrevolutionworld.com. IoT Evolution.
6. Gagliordi Natalie. Sap allots $2 billion for IoT investments, buys software firm Plat. One, 2016, zdnet.com. Zdnet. Retrieved.
7. SAP Introduces Sap Hana Cloud, an In-Memory Cloud Platform. dbta.com. Database Trends and Applications. Retrieved, 2012.
8. Subash Thota. Sap Hana on Google Cloud Platform (Research Paper Based on Quantitative Approach), American Journal of Database Theory and Application. 2017; 4(1):1-8. DOI: 10.5923/j.database.20170401.01.
9. Noguera Rui. The road ahead with Sap Hana Cloud Platform and Cloud Foundry – SAP TechEd Strategy Talk of the week. cloudfoundry.com. Retrieved, 2016.
10. Sotto L, Treacy B, McLellan M. Privacy and data security risks in cloud. Computing Electronic Commerce & Law Report. 2010; 15:186.
11. Vouk M. Cloud computing: Issues, research and implementations. Computing and Information Technology, IEEE. 2008; 16:235-246.
12. Wang H. Privacy-preserving data sharing in cloud computing. Journal of Computer Science and Technology. 2010; 25(3):401-414.