WinSPC 9
What's New

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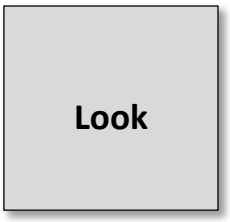
ABOUT THIS DOCUMENT

This document introduces the new features included in WinSPC 9.

For instructions on upgrading to this release, see the ***WinSPC 9 Upgrade Instructions*** included with your WinSPC 9 materials. If you have been sent a login ID and password, you can download the upgrade instructions at http://www.winspc.com/downloads.

If you have any questions about any information in this document, feel free to contact WinSPC Support at (248) 447-0140 or support@winspc.com.



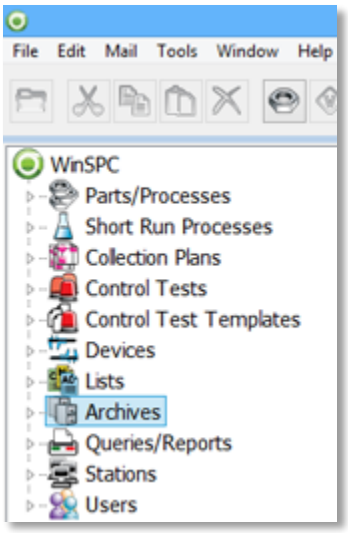
A CONTEMPORARY NEW LOOK

One of the first things experienced users of WinSPC will notice about Version 9 is its modernized appearance. Though everything is pretty much where it has always been, the entire look-and-feel, including every button on every tool bar, has been updated.

Archiving

NEW ARCHIVING CAPABILITY

WinSPC 9 reengineers your ability to archive content and work with archives after-the-fact.



As part of this, an ***Archives*** branch has been added to the ***Administrator*** window.

From this branch, you can kick off an archive immediately or schedule a future archive. Once an archive has completed, you can generate reports based on it or view the data it contains in the ***Variable Analyzer*** and the new ***Attribute Analyzer***. You can also right-click the archive, select ***Event Log*** and review archived events.

In order to use the new archiving capability, there must be an instance of the WinSPC application server that is active. For details on installing and configuring the WinSPC application server see ***Chapter 5: The WinSPC Application Server*** in the ***WinSPC 9 Installation and Configuration Guide***.

The archive-related topics covered in this section are:

- Configuring an Archive Database
- Archiving Content
- Working With an Archive After It Has Been Run
- Managing Archives
- Working With Legacy Archives

CONFIGURING AN ARCHIVE DATABASE

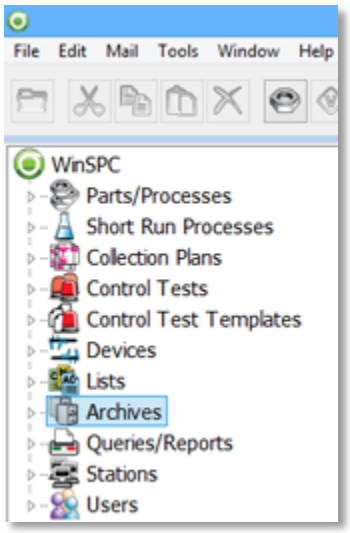
Just as a standard WinSPC database has to be configured prior to collecting WinSPC data, an archive WinSPC database has to be configured prior to archiving WinSPC data.

There is no difference between a standard WinSPC database and an archive WinSPC database, as far as configuration is concerned. Therefore, to configure an archive WinSPC database, follow the instructions in the ***WinSPC 9 Installation and Configuration Guide***, the same guide used to configure a standard WinSPC database. More specifically, if you want to archive data in a ***SQL Server*** format, complete ***Chapter 1: SQL Server*** of the ***WinSPC 9 Installation and Configuration Guide*** and if you want to archive data in an ***Oracle*** format, complete ***Chapter 2: Oracle***.

ARCHIVING CONTENT

Once an archive database is configured, three types of content can be copied into it: variable data, attribute data, and events. Although you select the variables and attributes you want copied, you do not select events. Relevant events are automatically archived whenever variables or attributes are archived. To archive content:

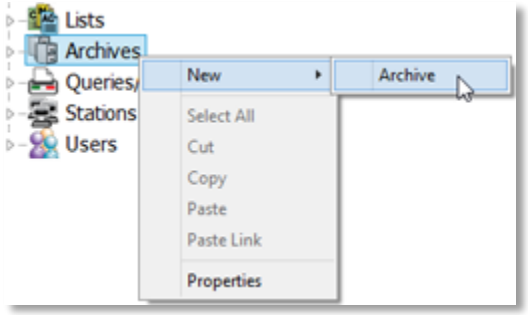
1. Log into WinSPC as a user with ***Manage Archives*** and ***Edit Archives*** permissions.
2. Confirm that the ***Archives*** branch in the ***Administrator*** window is visible.



This branch is situated between the ***Lists*** and ***Queries/Reports*** branches. (If it is not visible, an active instance of the WinSPC application server does not exist for the WinSPC database connected to the WinSPC client you are using. To remedy this, follow the instructions in ***Chapter 5: The WinSPC Application Server*** of the ***WinSPC 9 Installation and Configuration Guide***.)

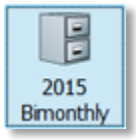
3. Click the ***New Archive*** tool bar button…

…or right-click the ***Archives*** branch and, from the shortcut menu, select ***New > Archive***.

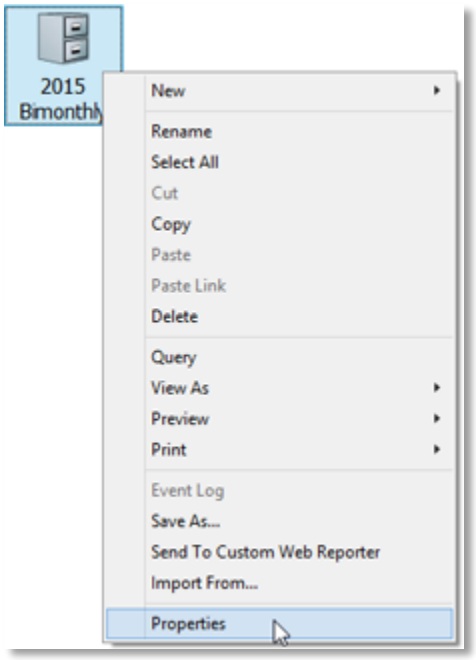


This creates a new archive in the right portion of the ***Administrator*** window.

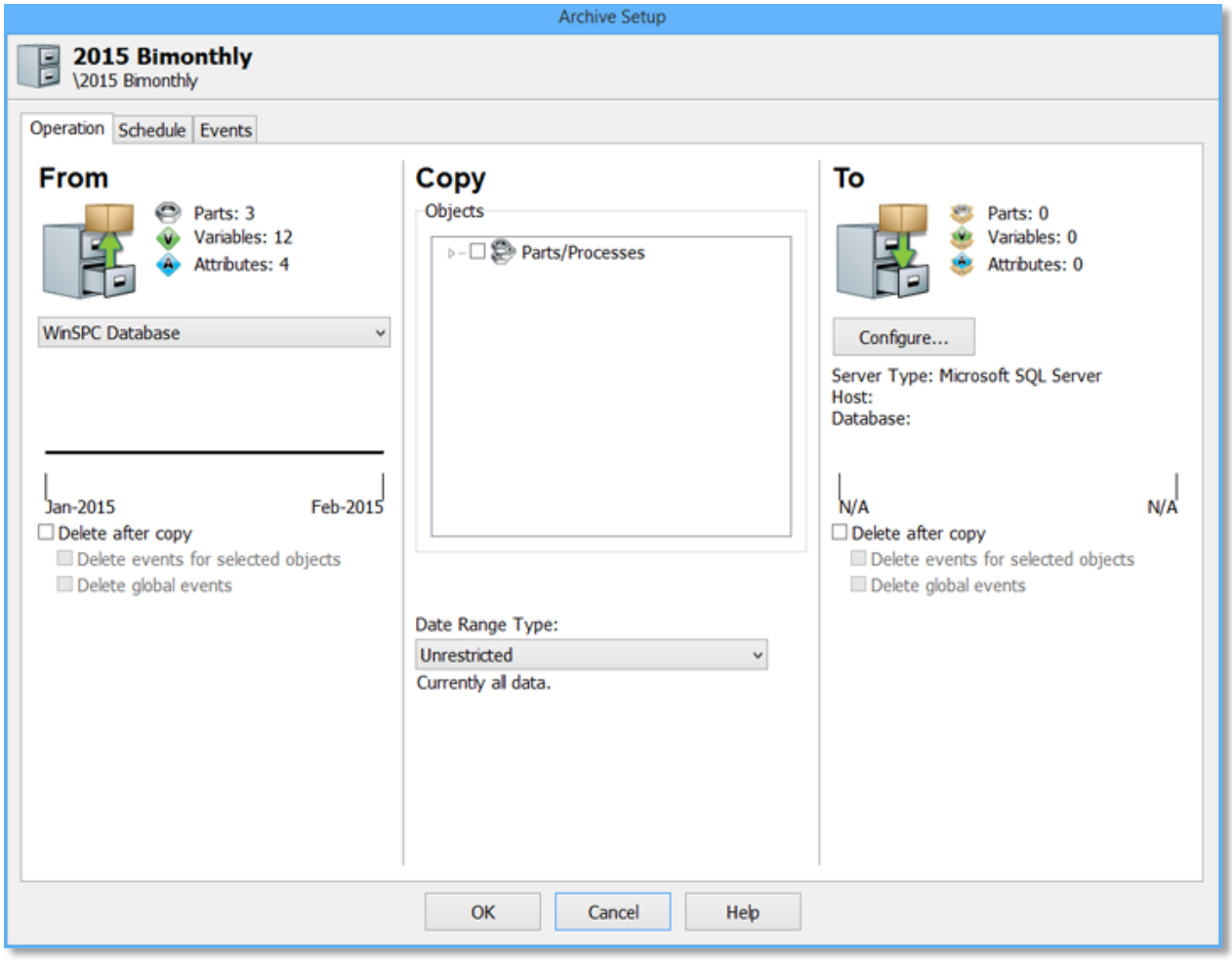
4. Name the archive.



5. Right-click the archive and click ***Properties***.



This displays the ***Archive Setup*** window with the ***Operation*** tab selected.



This tab has three sections: the ***From*** section on the left, the ***Copy*** section in the middle, and the ***To*** section on the right.

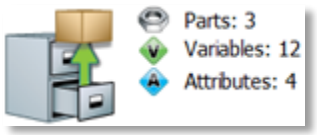
6. In the ***From*** section:

   a. From the dropdown list just below the image of the filing cabinet, select the source that contains the content you want to archive.

   The sources listed include: ***WinSPC Database*** which is the WinSPC database associated with the client you are logged into; and any existing archives from that database. Existing archives are listed because the ability to archive a portion of an existing archive and then work with that portion can be helpful.

   Notice that, displayed just above this list, are the number of parts, variables, and attributes in the selected source.

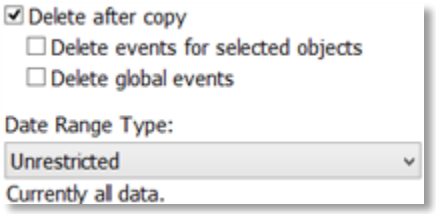
   

Also notice the ***Database Date Range*** indicator below this list—the black horizontal line. This line is a visual indication of the date range of the data in the source database.

Below the ***Database Date Range*** indicator are two month-and-year references. Here, the left month and year indicates the month and year in which the database's first data point was collected and the right indicates the month and year in which the last data point was collected.

b. If you want content deleted from the source during the archiving process, detail what you want deleted. There are three types of content that can be deleted. The first is the variable and attribute data that you will select to be copied into the archive database later. For example, if you select the data collected for a variable named ***Decomposition***, that data can be deleted from the source. The second is events specific to the data to be copied. Continuing the ***Decomposition*** example, events specific to the ***Decomposition*** variable, such as the initial creation of the variable, can be deleted. The third is global events, which are events not specific to any item in the ***Administrator*** tree (parts, collection plans, users, etc.). Shutting down WinSPC is an example of a global event. You can delete the first type of content without deleting the second or third type but you cannot delete the second or third type without deleting the first type. To detail content to be deleted from the source:

   i. Check the ***Delete after copy*** check box.



   This action informs WinSPC that whatever variables and attributes get selected to be archived (in step 7) are to have some or all of their data deleted. It also enables the two events-related check boxes and displays the ***Date Range Type*** list.

   ii. Check the ***Delete events for selected objects*** check box if, in addition to the variable and attribute data that gets deleted, you want to delete events specific to that variable and attribute data.

   iii. Check the ***Delete global events*** check box if, in addition to the variable and attribute data that gets deleted and any variable-specific and attribute-specific events that get deleted, you want to delete global events.

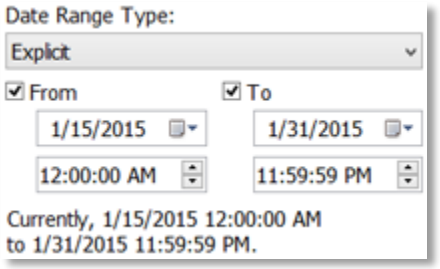
   iv. Specify a date range for the content to be deleted. This date range does not need to match the date range that you will specify for the data to be copied; you can delete one range of data and copy another. To specify a date range for the content to be deleted:

      A. From the ***Date Range Type*** list, select one of the following options:

      - ***Unrestricted***: This option deletes all data collected for the selected variables and attributes, all events specific to those variables and attributes (provided the ***Delete events for selected objects*** check box is checked), and all global events (provided the ***Delete global events*** check box is checked).
      - ***Today***: This option deletes data collected and events logged (if applicable) since 12:00:00 a.m. of the current day.
      - ***Yesterday***: This option deletes data collected and events logged (if applicable) between 12:00:00 a.m. and 11:59:59 PM of the previous day.

- ***This Week***: This option deletes data collected and events logged (if applicable) since 12:00:00 a.m. Sunday of the current week.
- ***Last Week***: This option deletes data collected and events logged (if applicable) between 12:00:00 a.m. Sunday and 11:59:59 PM Saturday of the previous week.
- ***This Month***: This option deletes data collected and events logged (if applicable) since 12:00:00 a.m. on the first day of the current month.
- ***Last Month***: This option deletes data collected and events logged (if applicable) between 12:00:00 a.m. on the first day of the previous month and 11:59:59 PM on the last day of the previous month.
- ***This Year***: This option deletes data collected and events logged (if applicable) since 12:00:00 a.m. January 1 of the current year.
- ***Last Year***: This option deletes data collected and events logged (if applicable) between 12:00:00 a.m. on January 1 of the previous year and 11:59:59 PM on December 31 of the previous year.
- ***N Days Ending***: This option deletes the data collected and events logged (if applicable) in a user-specified date range. The user specifies the number of days in the range and the range's end date.
- ***N Weeks Ending***: This option deletes the data collected and events logged (if applicable) in a user-specified date range. The user specifies the number of weeks in the range and the range's end date.
- ***N Months Ending***: This option deletes the data collected and events logged (if applicable) in a user-specified date range. The user specifies the number of months in the range and the range's end date.
- ***Older Than N Days***: This option deletes the data collected and events logged (if applicable) in a user-specified date range. The user specifies the number of days prior to the current day for which data and events are not to be deleted. All earlier data and events will be deleted.
- ***Older Than N Weeks***: This option deletes the data collected and events logged (if applicable) in a user-specified date range. The user specifies the number of weeks prior to the current day for which data and events are not to be deleted. All earlier data and events will be deleted.
- ***Older Than N Months***: This option deletes the data collected and events logged (if applicable) in a user-specified date range. The user specifies the number of months prior to the current day for which data and events are not to be deleted. All earlier data and events will be deleted.
- ***Explicit***: This option deletes the data collected and events logged (if applicable) in a user-specified date range. The user specifies the range's start and end dates and times.

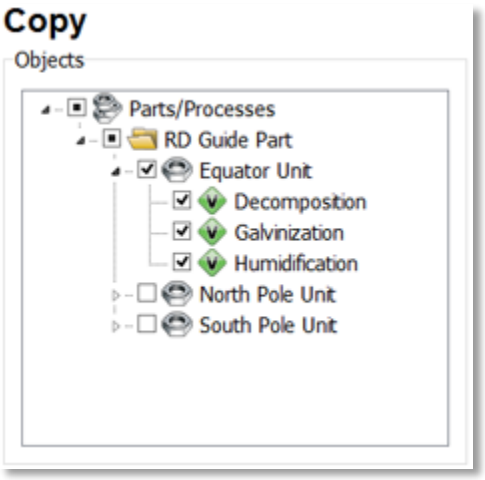
B. If you selected any of the last seven options in the preceding step, specify the date range by completing the additional fields that are presented.



NOTE: When data is deleted, the last data point for each variable and attribute is intentionally not deleted. This maintains a history of the deletion in the source. Though not deleted, the last subgroup is still copied into the archive database.

7. In the ***Copy*** section:

   a. Under ***Objects***, check the check box of each variable and attribute you want copied to the archive database. To copy everything, check the ***Parts/Processes*** check box. Otherwise, drill down until the desired items are exposed and check the check boxes for those items. To drill down, click the triangle to the left of a check box.



A check mark in a check box to the left of a part or part folder—like that beside ***Equator Unit***—means that all of the variables and attributes belonging to that part or part folder are selected.

A square in the check box for a part or part folder—like that for ***RD Guide Part***—means that some but not all of the variables and attributes belonging to the part or part folder are selected.

A check mark in a check box to the left of a variable or attribute—like that beside ***Decomposition***— means that variable or attribute is selected.

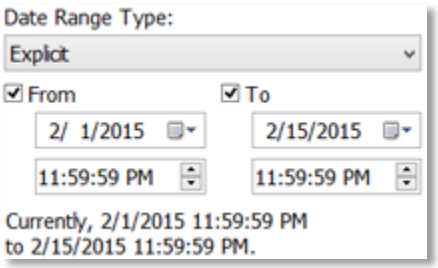
Once you check a check box, the ***Copy Date Range*** indicator is added to the ***From*** section on the left just above the ***Database Date Range*** indicator discussed in step 6a. It is also added to the ***To*** section on the right.

This indicator consists of two downward pointing green triangles joined by a thin green line. It is a visual representation of the date range to be copied for the selected variables and attributes. As you refine the date range, which you will have the option of doing shortly, this indicator updates. The absence of a ***Copy Date Range*** indicator means no data will be copied.

In addition to the ***Copy Date Range*** indicator, a ***Delete Date Range*** indicator is added to the ***From*** section if the ***Delete after copy*** check box was checked in step 6b.

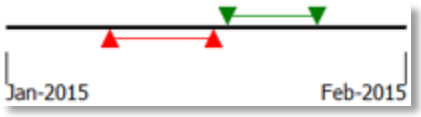
The ***Delete Date Range*** indicator appears below the ***Database Date Range*** indicator and consists of two upward pointing red triangles joined by a thin red line. Here, in the ***From*** section, it represents the date range that will be deleted from the source.

b. From the ***Data Range Type*** dropdown list, select a date range for the content to be copied and then, if other fields are displayed, supply the required detail for those fields. (For an explanation of each list option, see step 6b above.)



As mentioned earlier, the date range for the content to be copied from the source does not need to match the date range for the content to be deleted from the source.

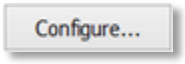
Notice that, after specifying the date range, the ***Copy Date Range*** indicator in the ***From*** section updates.



The ***Copy Date Range*** indicator in the ***To*** section similarly updates.

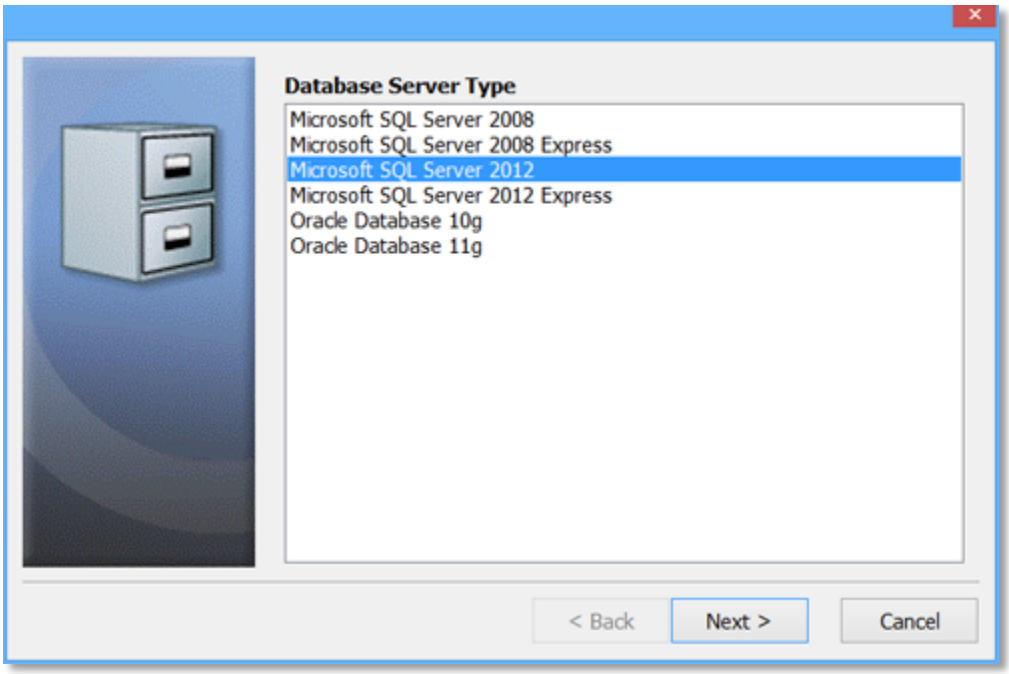
8. In the ***To*** section:

   a. Establish communication with the archive database. To do this, click the ***Configure*** button…

   …and in the wizard that appears:

   i. On the ***Database Server Type*** prompt, select the type of database server used to create the archive database and click ***Next***. It is not necessary that the type you select be the same as that for the source database; you can archive data from an ***Oracle*** source database into a ***Microsoft SQL Server*** archive database and vice versa.

ii. If you selected ***Microsoft SQL Server***, on the ***Microsoft SQL Server Settings*** prompt:

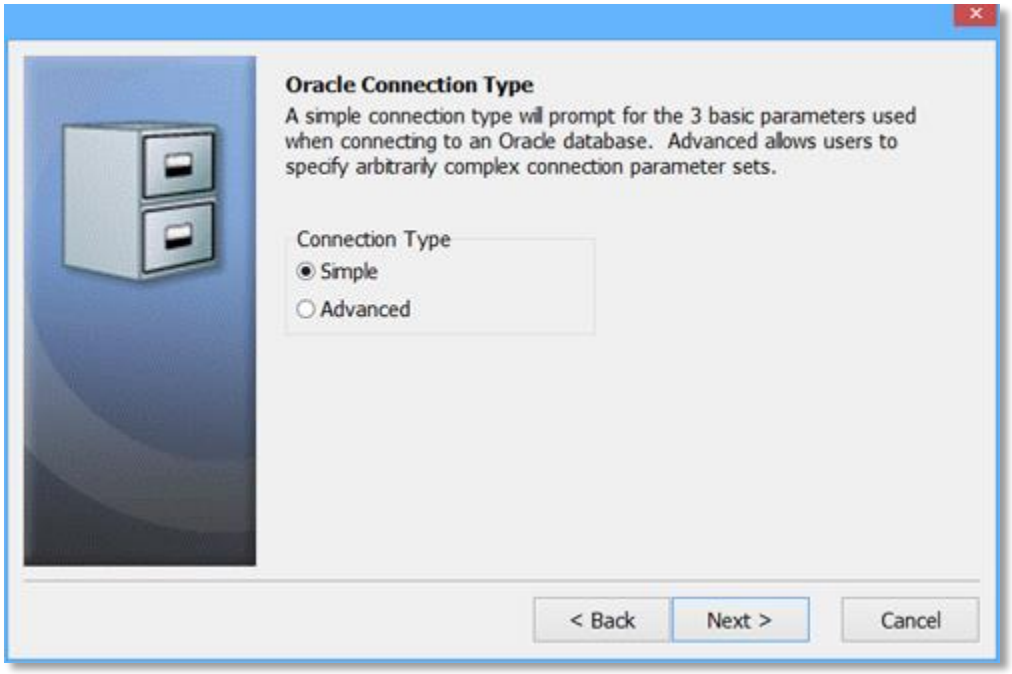
A. At ***Machine Name \ Instance Name***, if the name of the ***SQL Server*** instance within which the archive database was configured is ***MSSQLSERVER***, specify the name of the database server machine containing that instance (e.g., ***TESTSERVER***). If the instance name is anything else, specify the name of the database server machine followed by the name of the instance, separating the two by a backslash (e.g., ***TESTSERVER\SQLEXPRESS***).

B. At ***Database Name***, enter the name given to the archive database.

C. Click ***Next*** and then go to step 8 a iv.

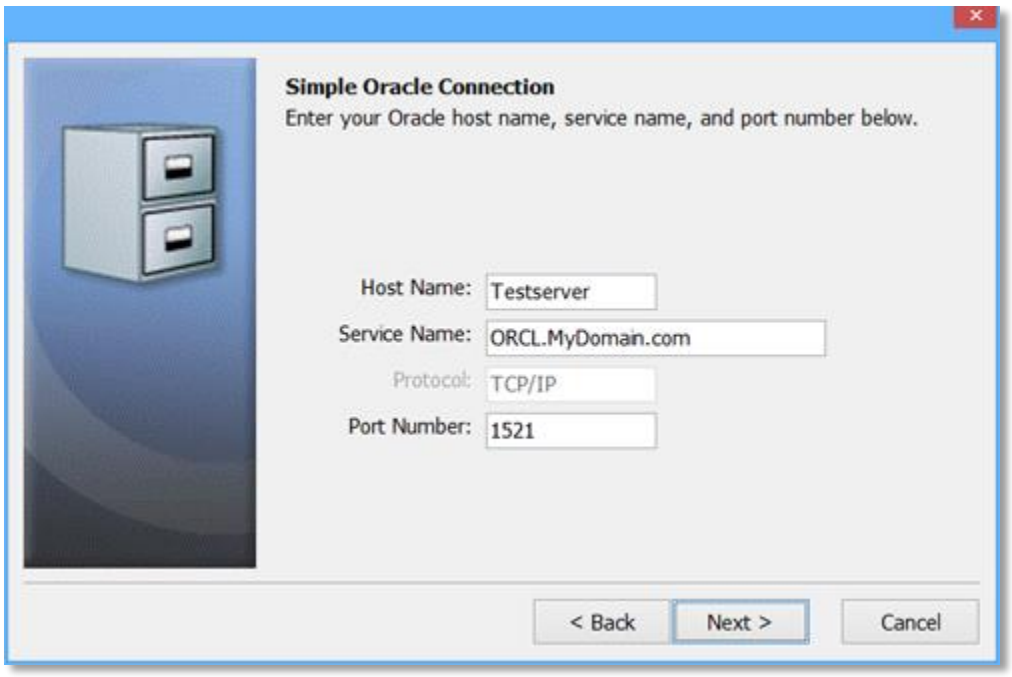
iii. If you selected an ***Oracle*** type.

A. On the ***Oracle Connection Type*** prompt, select either the ***Simple*** or ***Advanced*** type of connection.



Select the ***Simple*** type if the network protocol in use is ***TCP/IP*** and nothing other than the following three pieces of information are required to connect to the database instance that contains the tablespace configured for the archive: the machine name of the server on which the archive tablespace is created; the fully qualified service name for the database instance (e.g., ***ORCL.MyDomain.com***); and the port number used by the database instance. Otherwise, select ***Advanced***.

B. If you selected ***Simple*** in the preceding step, on the ***Simple Oracle Connection*** prompt:



a) At ***Host Name***, enter the machine name of the server on which the archive tablespace is created.

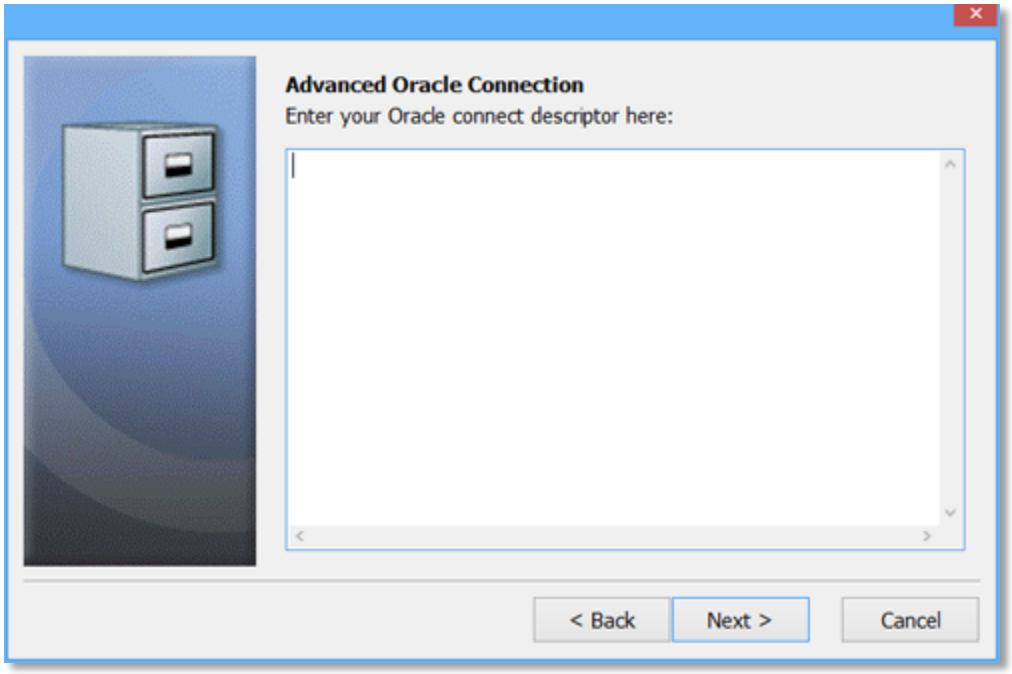
b) At ***Service Name***, enter the fully qualified service name for the database instance within which the archive tablespace is created (e.g., ***ORCL.MyDomain.com***).

c) At ***Port Number***, enter the port number used by the database instance.

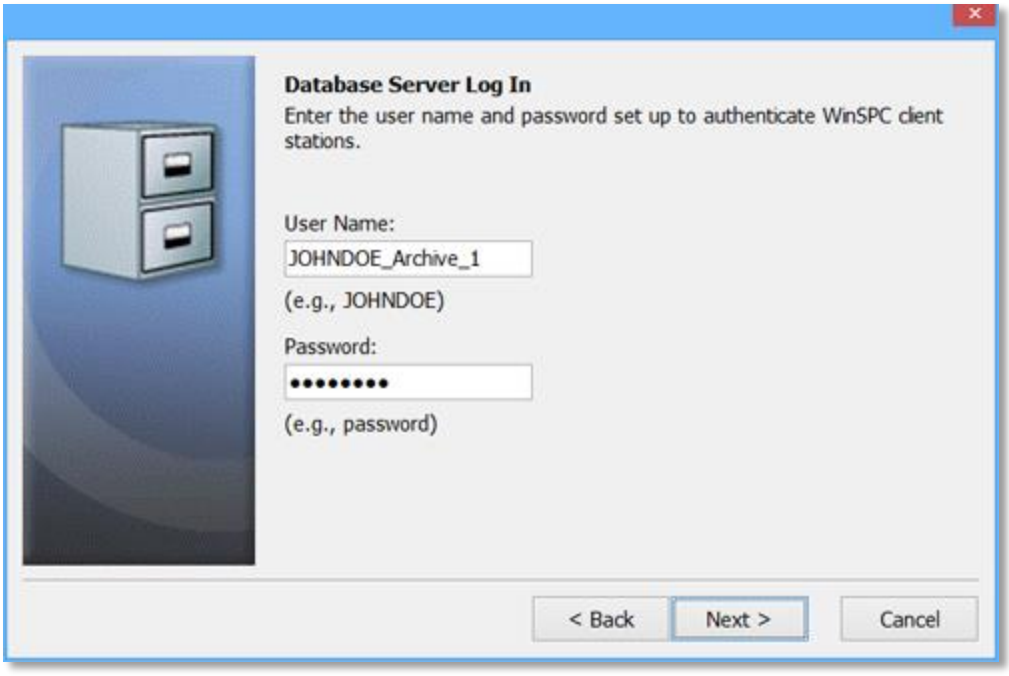
d) Click ***Next***.

e) Go to step 8 a iv.

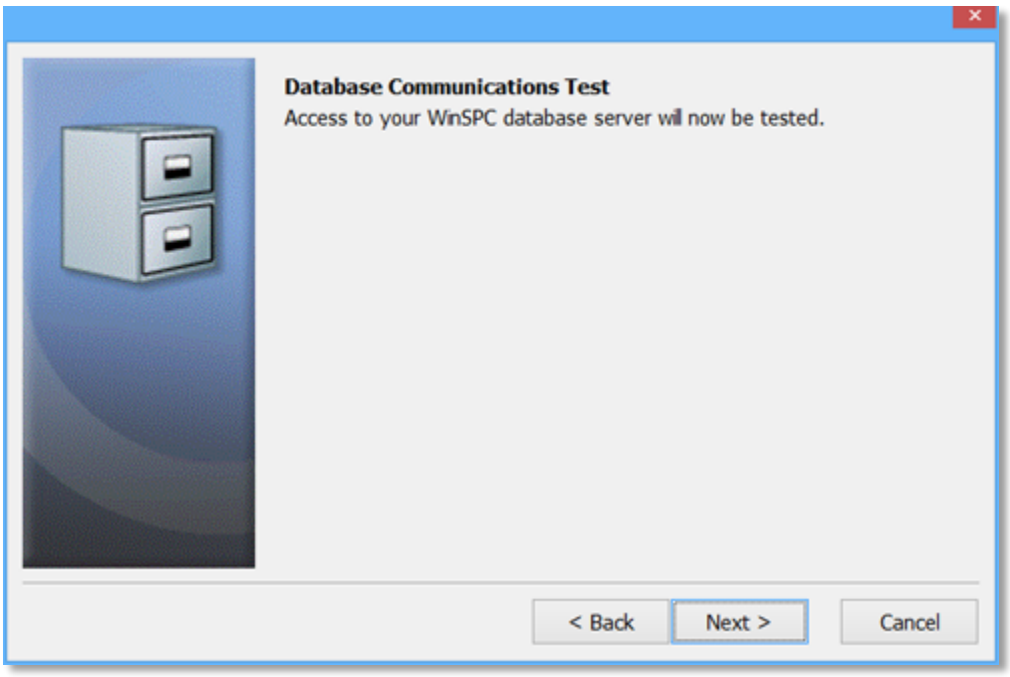
C. If you selected ***Advanced*** in step 8 a iii A, in the space provided, enter the information required for client stations to connect to the database instance. Then click ***Next*** and go to step 8 a iv.



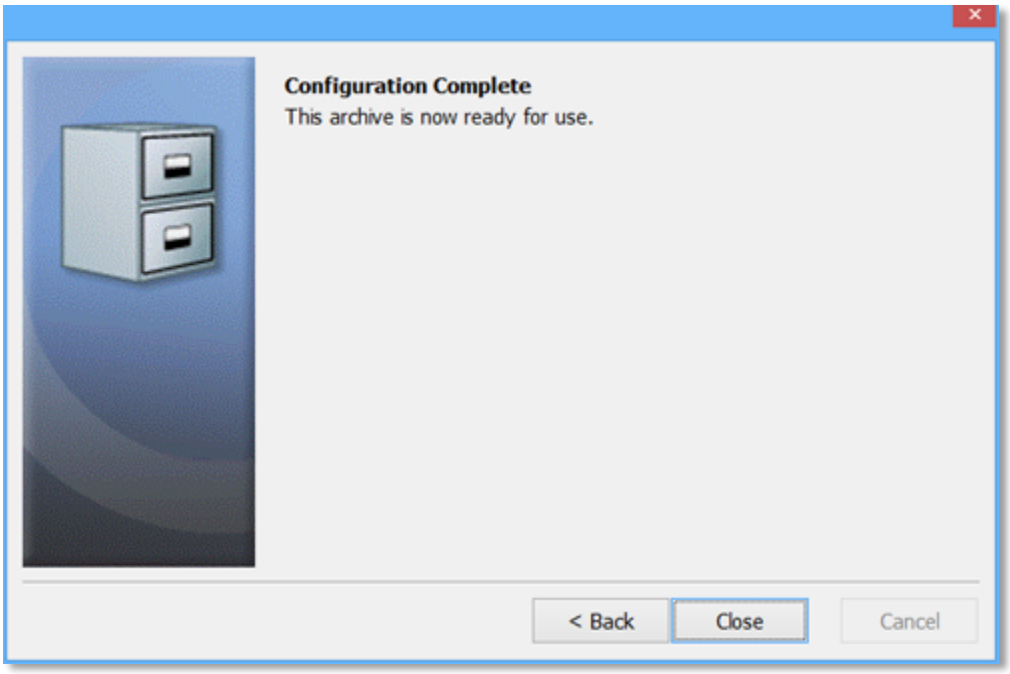
iv. On the ***Database Server Log In*** prompt, enter the ***User Name*** and ***Password*** created to authenticate to the archive database and then click ***Next***.



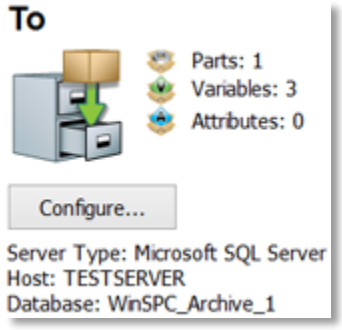
v. On the ***Database Communications Test*** prompt, click ***Next***.



vi. On the ***Configuration Complete*** prompt, click ***Close***.



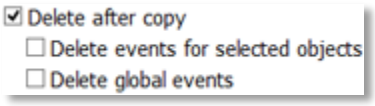
Upon the completion of this wizard, the number of parts, variables, and attributes currently in the archive database is shown along with the ***Server Type***, ***Host***, and ***Database*** names for the archive database.



In addition, the ***Database Date Range*** indicator (the black line) is displayed below the ***Copy Date Range*** indicator if content exists in the archive database and, in this case, the ***Database Date Range*** indicator represents the range of data in the archive database.

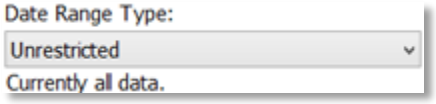
vii. If content already exists in the archive database and you would like to delete some or all of that data:

A. Check this section's ***Delete after copy*** check box.

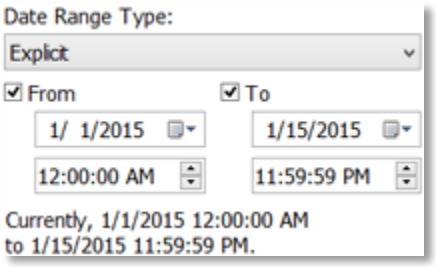


This adds the ***Delete Date Range*** indicator (explained in step 7a) to the display…

…along with the ***Date Range Type*** list.

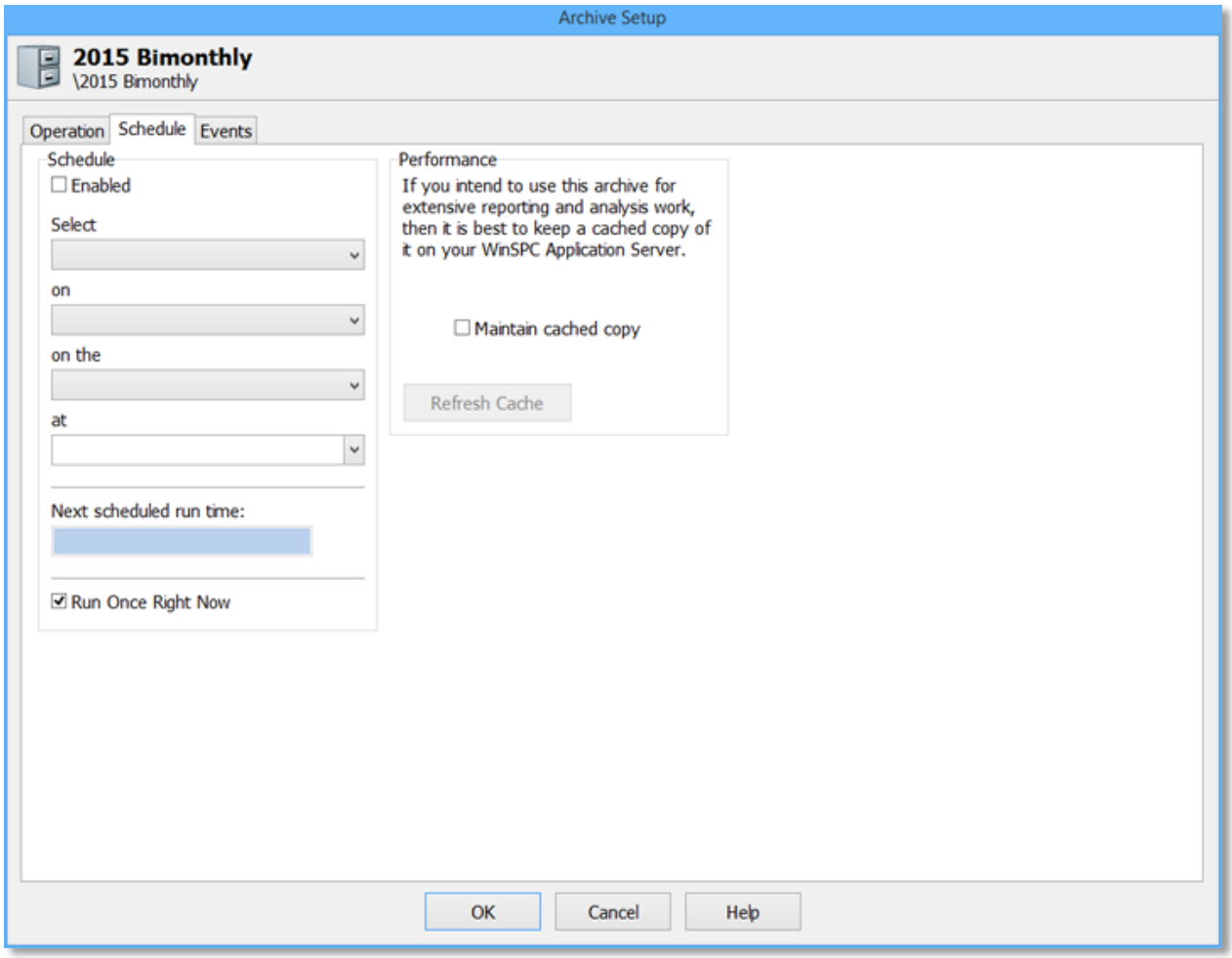


B. From the ***Data Range Type*** dropdown list, select a date range for deletion and then, if other fields are displayed, supply the required detail for those fields. (For an explanation of each list option, see step 6b.)



Notice that after specifying the date range, the ***Delete Date Range*** indicator above updates.

9. If you want to run the archive now, click the ***Schedule*** tab and on this tab:



   a. Check the ***Run Once Right Now*** check box.

   b. Check the ***Maintain cached copy*** check box if you intend to use this archive for extensive reporting and analysis work and you therefore want to keep a cached copy of the archive on your WinSPC application server. Depending on the amount of data in the archive, keeping a cached copy on the application server may significantly increase the speed at which WinSPC can work with that data.

   c. Click ***OK***.

10. If you want to schedule the archive to be run in the future, click the ***Schedule*** tab and on it:

   a. Check the ***Enabled*** check box.

   b. From the ***Select*** list, choose how frequently you want the archive to run from one of the following options: ***Daily***, ***Weekly***, ***Monthly***, ***Quarterly***, ***Semi-Annually***, ***Annually***.

c. From whichever of the other 3 lists (i.e., ***on***, ***on the***, and ***at***) become enabled, select the desired option.

   Notice that the next time the archive will be run is displayed in the ***Next scheduled run time*** text box.

d. Check the ***Maintain cached copy*** check box if you intend to use this archive for extensive reporting and analysis work and you therefore want to keep a cached copy of the archive on your WinSPC application server.

e. Click ***OK***.

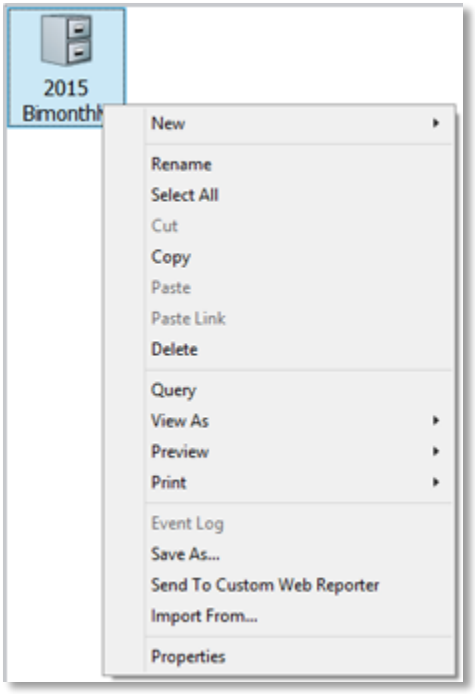
Once an archive is scheduled, it is not necessary for a WinSPC client to be running at the scheduled time for the archive to execute. All that is required is that the selected source and archive database be running along with the WinSPC application server.

If at any point you want to cancel a scheduled archive, uncheck the ***Enabled*** check box.

11. If you ever want to see the status of an archive, including whether or not it completed successfully, click the ***Events*** tab and review the entries contained in it.

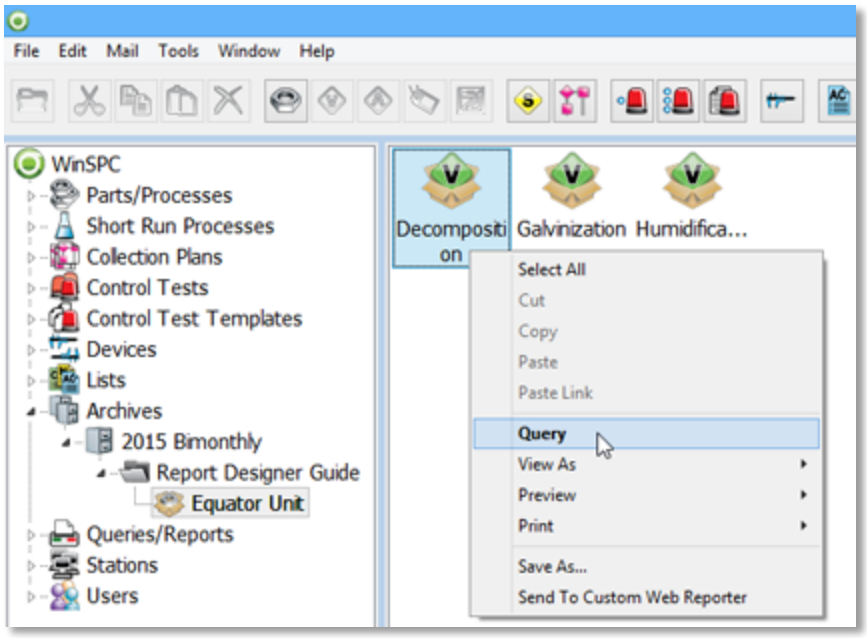
WORKING WITH AN ARCHIVE AFTER IT HAS BEEN RUN

Once an archive has been run, there are a variety of things you can do with it—all using the right-click menu, which looks like this:



- *To rename an archive*: right-click the archive; and select ***Rename***.
- *To copy an archive*: right-click the archive; select ***Copy***; right-click the archive again or right-click any open whitespace around the archive; and select ***Paste***.
- *To delete an archive*: right-click the archive; and select ***Delete***. (*Deleting an archive* doesn't mean deleting the archive database or the data that has been copied into it. It simply means deleting the archive object from WinSPC.)
- *To load an archive into the **Data Set Builder**:* right-click the archive; and click ***Query***.

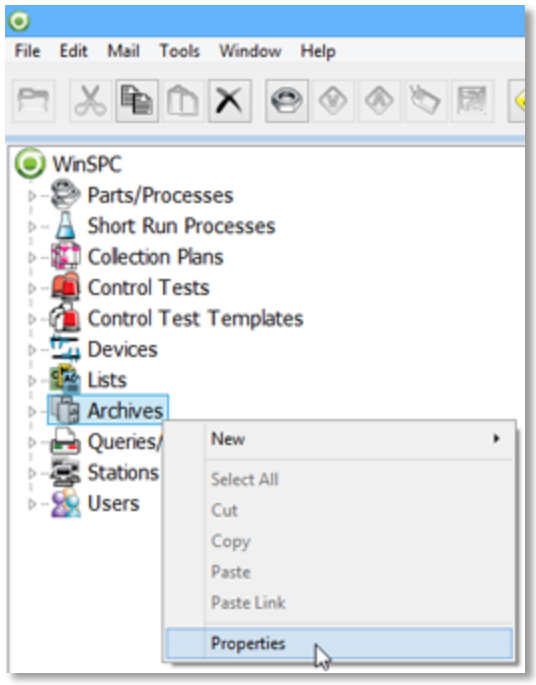
- *To view one of an archive's variables in the Variable Analyzer or one of its attributes in the Attribute Analyzer*: drill down in the archive by double-clicking it until the variable or attribute is exposed; right-click the variable or attribute; and select ***Query***.



- *To view an archive's content in a dashboard*: right-click the archive; mouseover ***View As***; and select a dashboard.
- *To preview or print an archive's content in a report*: right-click the archive; mouseover ***Preview*** or ***Print***; and select a report template.
- *To view the events in an archive*: right-click the archive; and select ***Event Log***.
- *To save the contents in an archive in a CSV, Excel, or web page format*: right-click the archive; select ***Save As***; and select a file type from the ***Save as type*** list.
- *To send the contents of an archive to Custom Web Reporter*: right-click the archive; and select ***Send to Custom Web Reporter***.

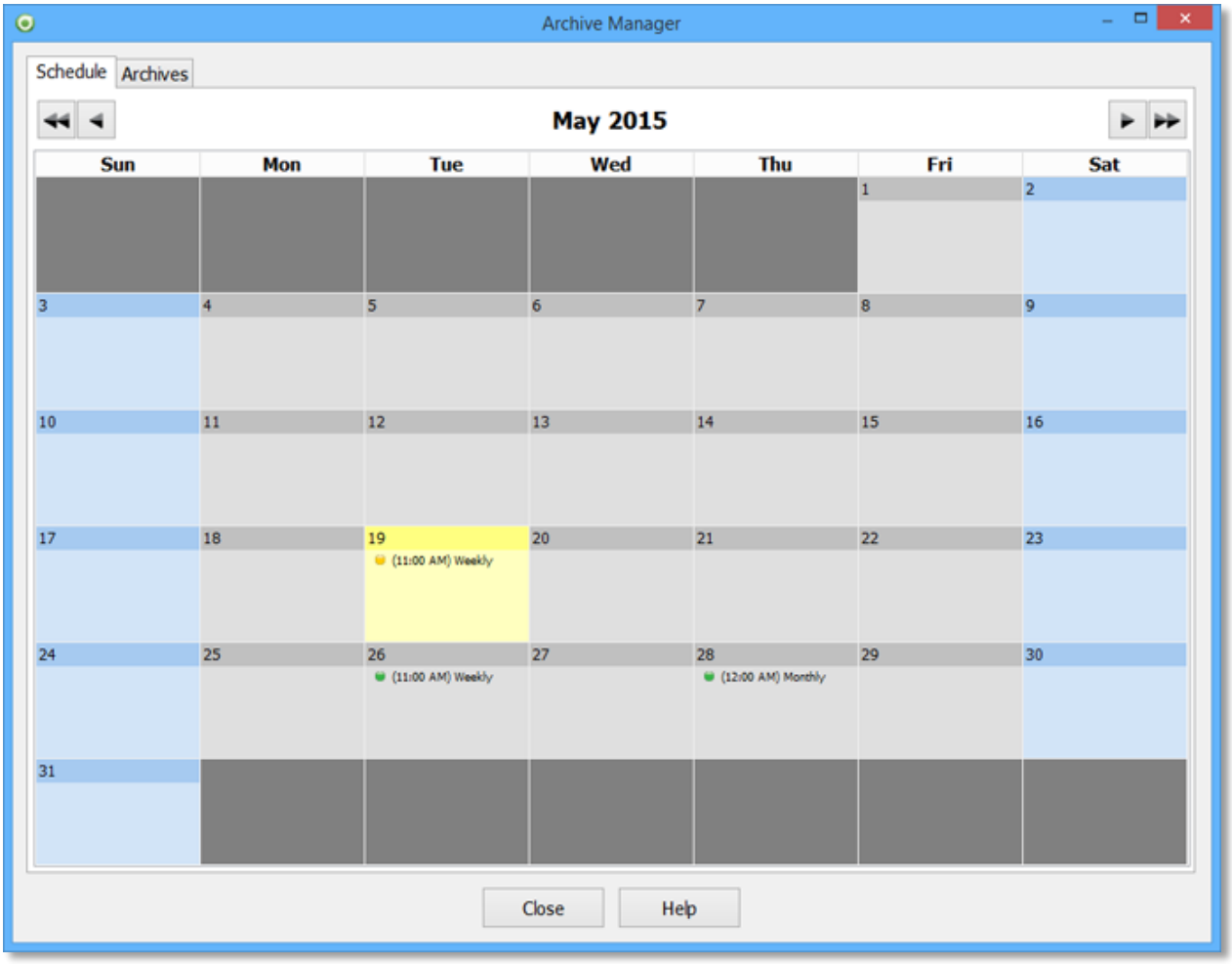
MANAGING ARCHIVES

To help you manage your archives, an ***Archive Manager*** is included in WinSPC 9. To access it, right-click ***Archives*** in the ***Administrator*** tree and click ***Properties***.



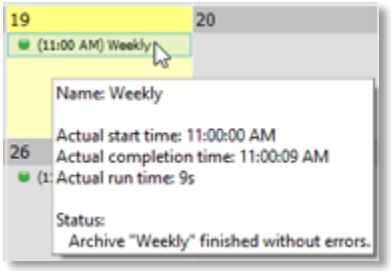
The ***Archive Manager*** consists of two tabs: the ***Schedule*** tab, which is the tab displayed when the ***Archive Manager*** opens, and the ***Archives*** tab.

The ***Schedule*** tab is a monthly calendar. The current day is highlighted in yellow, weekends are shaded in light blue, and weekdays are shaded in grey.

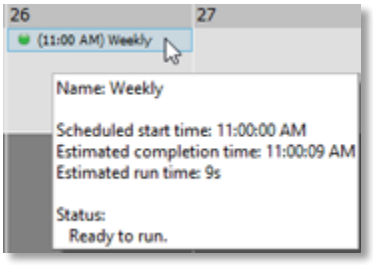


The calendar shows the archives that have run or are scheduled to be run. To the left of an archive name is a colored circle. A yellow circle, as shown for the 19th day of the month in the above image, indicates the archive is currently running. If a currently running archive completes successfully, its circle will turn green. If a currently running archive fails, its circle will turn TBD. A green circle beside an archive scheduled for a future time indicates the archive is ready to be run.

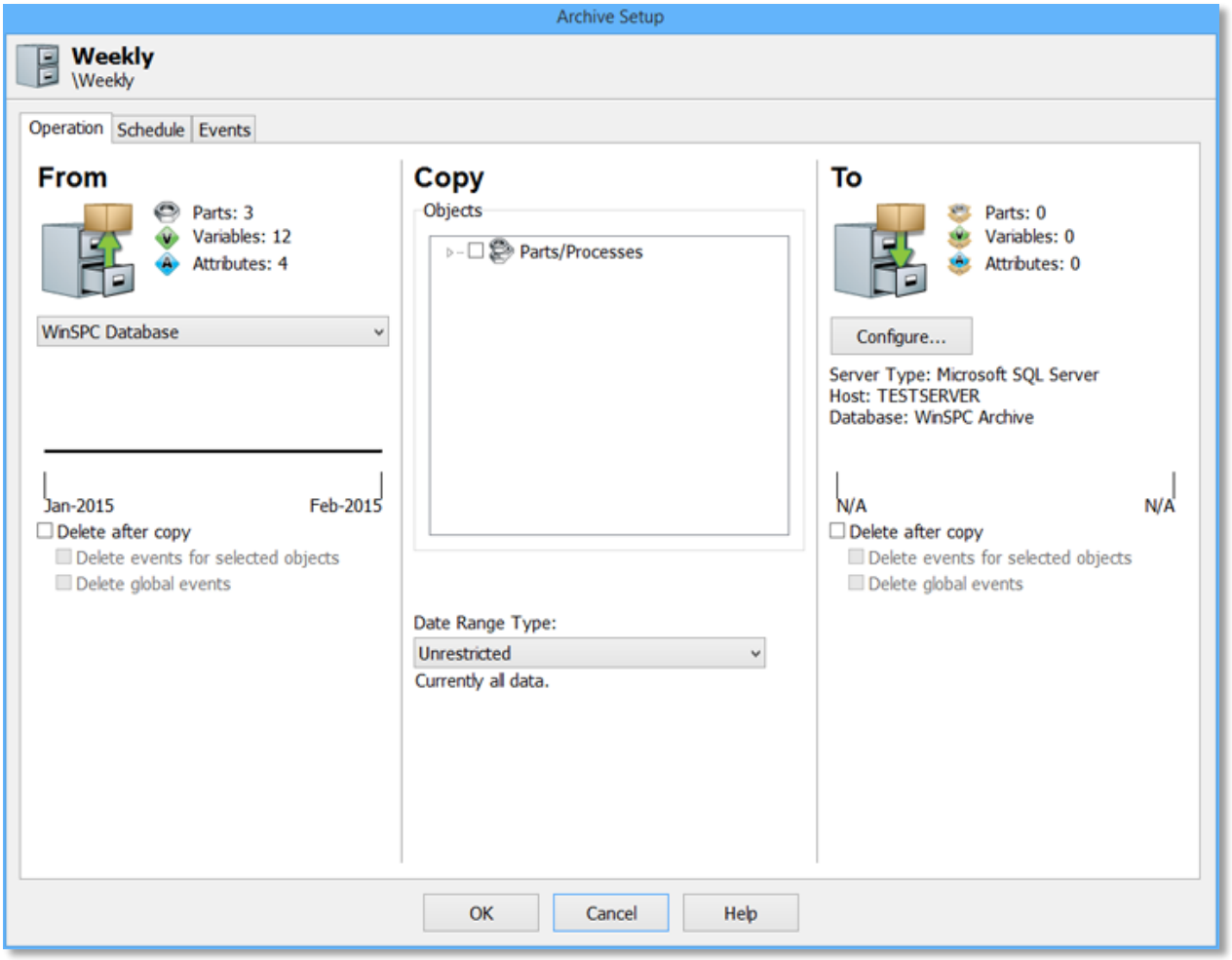
Mousing over an archive that has already run displays the archive's: ***Name, Actual start time, Actual completion time, Actual run time,*** and ***Status***.



Mousing over an archive that is yet to be run displays the archive's: ***Name, Scheduled start time, Estimated completion time, Estimated run time,*** and ***Status***.



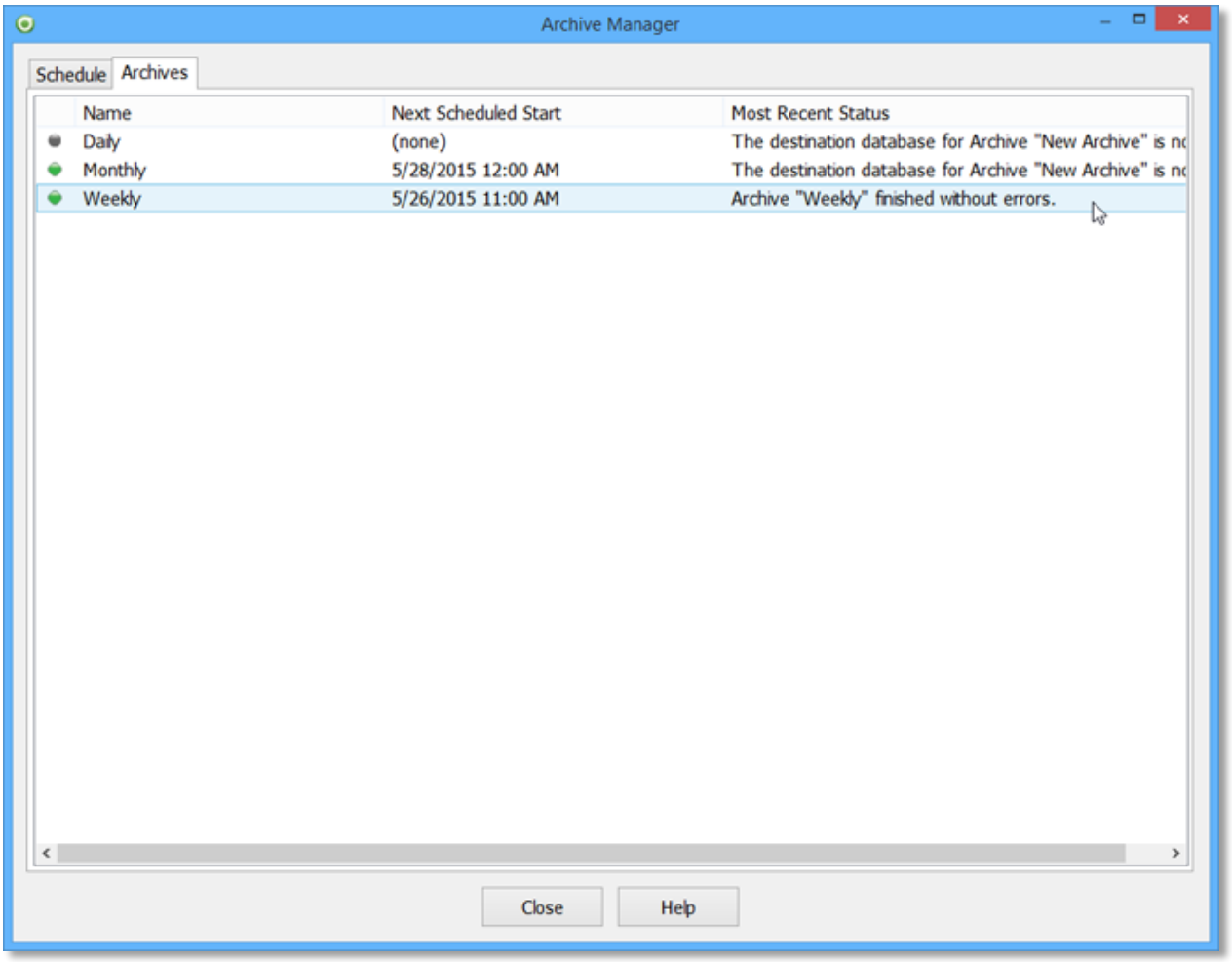
Double-clicking an archive launches the ***Archive Setup*** window. Any settings you modify in this window take effect immediately and will be applied to all future instances of the archive.



To see the archive activity that occurred or is scheduled to occur for a particular month, use the scroll buttons at the top of the ***Schedule*** tab. From left to right, the four scroll buttons are:

- ***Previous year:*** 
- ***Previous month:*** 
- ***Next month:*** 
- ***Next year:*** 

The ***Archives*** tab of the ***Archive Manager*** is used to see a summary of archive activity.

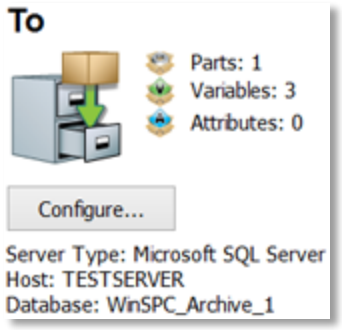


For each archive, it shows the ***Name***, the ***Next Scheduled Start***, and the ***Most Recent Status***. By clicking on an archive's summary line, you can view the ***Archive Setup*** window and modify the setup of the archive if desired.

WORKING WITH LEGACY ARCHIVES

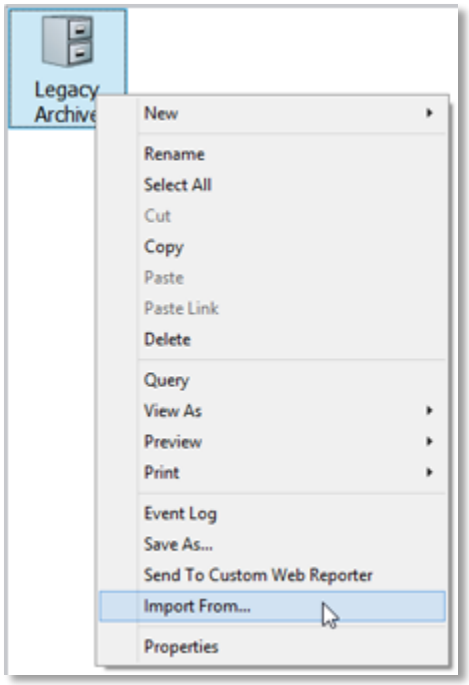
Archives created in earlier versions of WinSPC can be imported into WinSPC 9. To do this:

1. If the archive that you want to import was created in or prior to WinSPC Version 7.2.11, convert it into a format that can be imported. To do this, complete the procedure given in the ***WinSPC Help*** titled ***Archives Created in Versions of WinSPC Prior to 8.0, Working With***. This procedure is found under ***Setting Up WinSPC > Other Setup Tasks***. It is not necessary to convert an archive if it was created in or after WinSPC Version 8.0.0.
2. Create a new archive.
3. Right-click the archive and select ***Properties***.
4. In the ***Archive Setup*** window, configure a connection to the archive database you want to import the legacy archive into and click ***OK***. To do this, follow the instructions given in step 8 above.

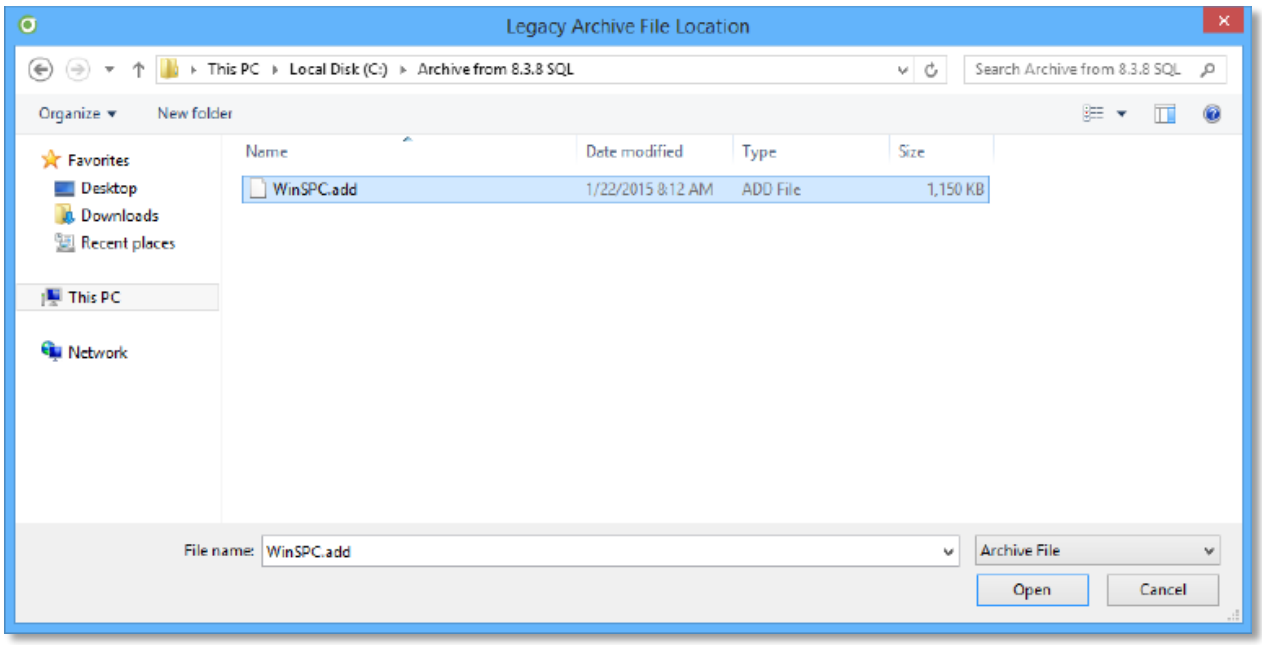


(It is not necessary to specify any settings in the ***From*** or ***Copy*** sections of the ***Archive Setup*** window when importing archives.)

5. Right-click the archive and select ***Import From***.

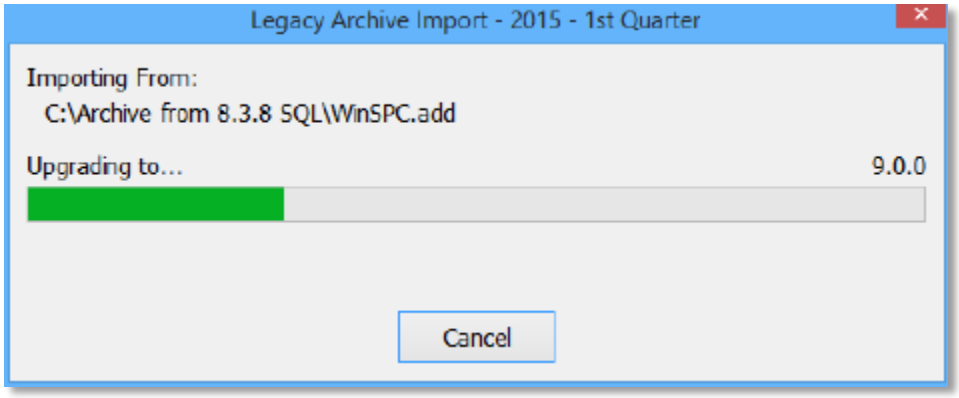


6. In the ***Legacy Archive File Location*** that appears, navigate to and select the legacy archive file.

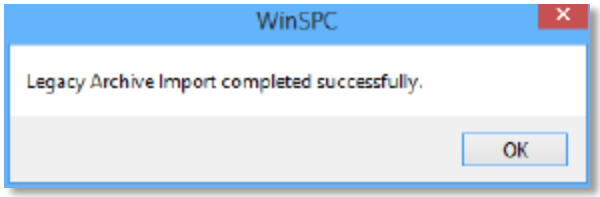


7. Click ***Open***.

8. Allow the import to complete.

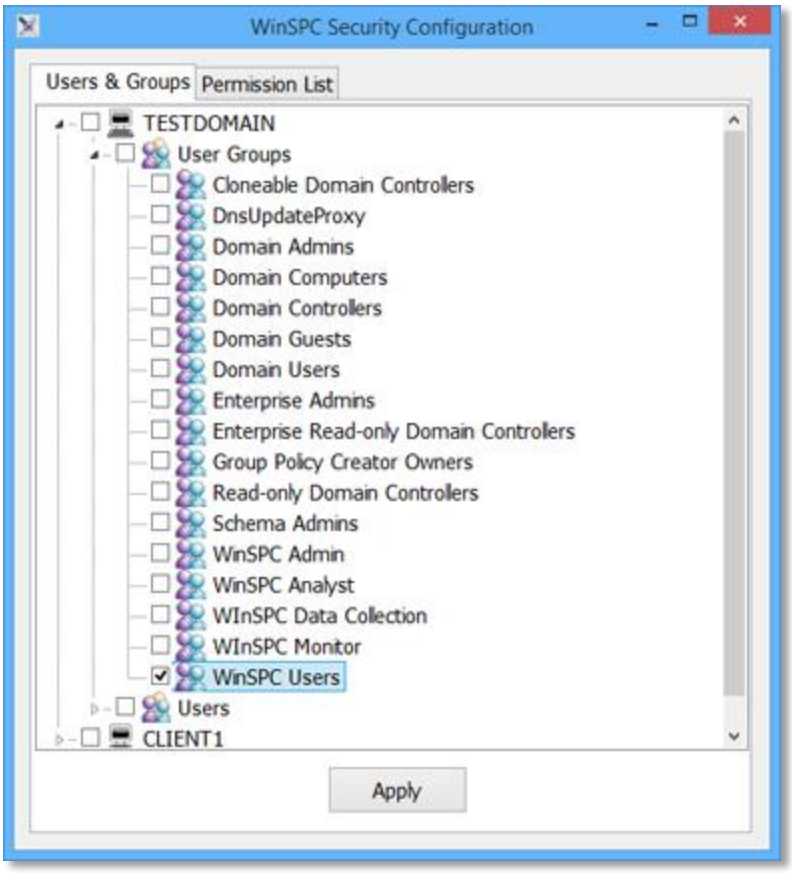


9. Click ***OK*** in the message that appears.



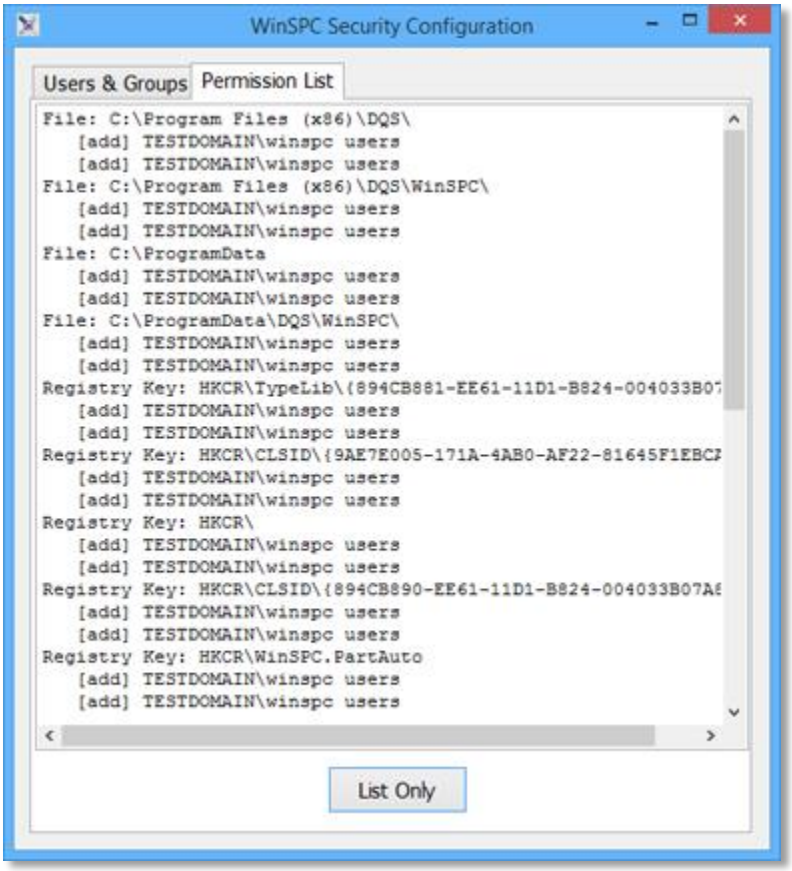
ENHANCED SECURITY CONFIGURATION UTILITY

The ***WinSPC Security Configuration*** utility, a utility that has been included with WinSPC for many years, has been redesigned. It now looks like this:



The tab shown here, the ***Users & Groups*** tab, is the tab used to accomplish the traditional purpose of the utility, that purpose being to programmatically grant the required Windows permissions to WinSPC users and groups. It offers a simpler and more user-friendly interface.

In addition to this traditional functionality, there is a new ***Permissions List*** tab.



This tab offers an alternative to the programmatic granting of permissions. It will be of interest primarily to IT department personnel who prefer to grant the required permissions using their own tools. It generates a list of the permission-related changes required for users and groups. IT personnel can then use that list to grant, in whatever way they want, the necessary access. The list can be copied and pasted into ***Notepad*** or some other application.

Since the granting of Windows permissions is a part of setting up new WinSPC clients, step-by-step use of the new ***WinSPC Security Configuration*** utility is documented in the ***WinSPC 9 Installation and Configuration Guide***. The specific parts of this guide to reference are: ***Chapter 3: The First WinSPC Client***; ***Chapter 4: Additional WinSPC Clients***; and ***Appendix E: Security Utility Alternative***. (The ***WinSPC 9 Installation and Configuration Guide*** is included with the materials that come with WinSPC 9.)

Active Directory

ACTIVE DIRECTORY INTEGRATION

WinSPC 9 integrates with ***Active Directory***, Microsoft's technology for managing users. There are three primary benefits that come with this: it permits WinSPC users to log into WinSPC using their network user ID and password, eliminating the need to remember WinSPC-specific credentials; it enables WinSPC administrators to import rather than manually create new users; and it allows IT departments to manage WinSPC passwords in alignment with corporate policies without introducing the need for IT personnel to learn WinSPC.

To integrate ***Active Directory*** into a WinSPC 9 implementation and use it once it has been integrated, an active instance of the WinSPC application server must be attached to the WinSPC database (i.e., the WinSPC database that will be used by those users whose WinSPC ID and password are to be managed by ***Active Directory***). For details on installing and configuring the WinSPC application server see ***Chapter 5: The WinSPC Application Server*** in the ***WinSPC 9 Installation and Configuration Guide***.

WinSPC users who are managed by ***Active Directory*** are referred to as *managed* users. Managed users are indicated by a gold user icon.

Users who are not managed by ***Active Directory*** are indicated by a blue user icon. All users from versions of WinSPC prior to WinSPC 9 are not managed and will remain so unless they are converted to a managed user by completing the below procedures.

Wherever a managed user is required to submit a user ID and password in WinSPC—whether that is at the login window, or in a ***Prompt for Password*** trigger, or somewhere else—that user is to submit his or her ***Active Directory*** user ID and password.

It is important to understand that ***Active Directory*** does not control what WinSPC functionality a managed user has access to. Such access is controlled within WinSPC, just as it is for users who are not managed—through the ***User Setup*** and ***User Group Setup*** windows. ***Active Directory*** is solely used for the authentication of IDs and passwords.

The procedure for integrating ***Active Directory*** into a WinSPC 9 implementation consists of eight phases:

- Phase I: Select an Active Directory Integration Strategy
- Phase II: Setup WinSPC Users in Active Directory
- Phase III: Setup Role-Specific WinSPC User Groups in Active Directory
- Phase IV: Link WinSPC to Active Directory
- Phase V: Import Users from Active Directory into WinSPC
- Phase VI: Link Existing WinSPC Users to Active Directory Users
- Phase VII: Configure WinSPC to Automatically Import New Users Who Are to be Managed
- Phase VIII: Perform Ongoing Administration Related to Active Directory

PHASE I: SELECT AN ACTIVE DIRECTORY INTEGRATION STRATEGY

1. Select a strategy for integrating ***Active Directory*** from the following:

   - *Strategy A*: Select this strategy if role-specific user groups in ***Active Directory*** will be used and your WinSPC 9 implementation already consists of multiple users.
   - *Strategy B*: Select this strategy if role-specific user groups in ***Active Directory*** will not be used and your WinSPC 9 implementation already consists of multiple users.
   - *Strategy C*: Select this strategy if role-specific user groups in ***Active Directory*** will be used and your WinSPC 9 implementation does not yet consist of users other than the Admin user.
   - *Strategy D*: Select this strategy if role-specific user groups in ***Active Directory*** will not be used and your WinSPC 9 implementation does not yet consist of users other than the Admin user.

   Role-specific user groups are user groups that have permission to a unique set of functionality. WinSPC users who collect data, for instance, are commonly co-located in a Data Collectors group that is able to use WinSPC's Data Collection window but unable to use the Administrator window. Though such groups are not required technically, best practices call for their use in WinSPC. Therefore, in this procedure, the choice you have concerning role-specific user groups is whether or not to also use them in ***Active Directory***.

   The advantage of using role-specific groups in ***Active Directory*** is experienced by a WinSPC administrator when a new managed user needs to be setup. At such a time, all an administrator has to do is supply the name of the new user and that user's role-specific group to the IT personnel who oversee ***Active Directory***. These IT personnel then, on top of the other ***Active Directory*** setup work they are required to do, perform the additional step of assigning the new user to the specified role-specific group within ***Active Directory***. Once that is done, WinSPC takes care of the remaining setup automatically.

   The advantage of not using role-specific groups in ***Active Directory*** is experienced by the IT personnel who oversee ***Active Directory***. During the initial integration of ***Active Directory*** into WinSPC, they are freed of the responsibility of creating and populating the role-specific groups and, once the initial integration is complete, whenever a new managed user needs to be setup, they do not have to perform the additional step of adding that user to a role-specific group. In integrations that do not use role-specific groups in ***Active Directory***, the job of assigning a new user to a role-specific user group is done by a WinSPC administrator within WinSPC. (No disadvantage to WinSPC administrators with regard to the setup of role-specific groups within WinSPC results from electing not to use role-specific groups in ***Active Directory***. This is because the setup of role-specific groups within WinSPC is work administrators need to do regardless of which of the four integration strategies is adopted.)

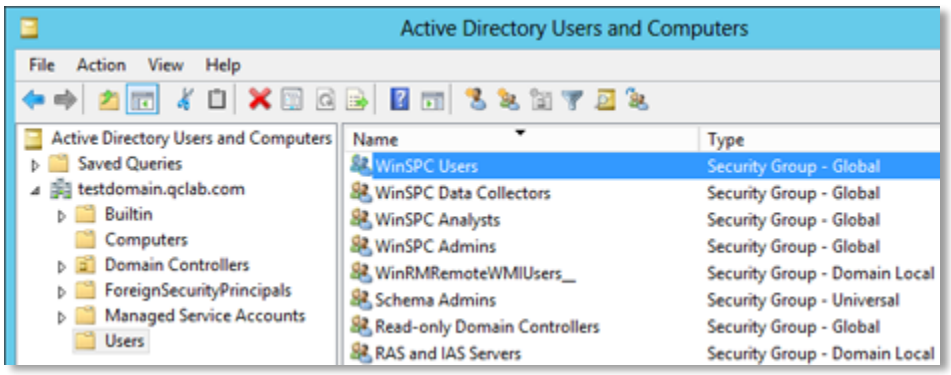
   Your WinSPC 9 implementation will already consist of multiple users if: (a) you upgraded to WinSPC 9 from a version of WinSPC that had multiple users; or (b) you installed WinSPC 9 newly and then created one or more users. Your WinSPC 9 implementation will not yet consist of users other than the Admin user if: (a) you upgraded to WinSPC 9 from a version of WinSPC that consisted only of the Admin user and have not created additional users; (b) you installed WinSPC 9 newly and have not created additional users. (The Admin user is the super-administrator automatically created during the configuration of the first WinSPC client.)

2. Once you have selected a strategy, go to Phase II: Setup WinSPC Users in Active Directory.

PHASE II: SETUP WINSPC USERS IN ACTIVE DIRECTORY

(This phase applies to all strategies. It needs to be completed by someone who can create and populate user groups on the domain controller for the domain within which WinSPC is deployed.)

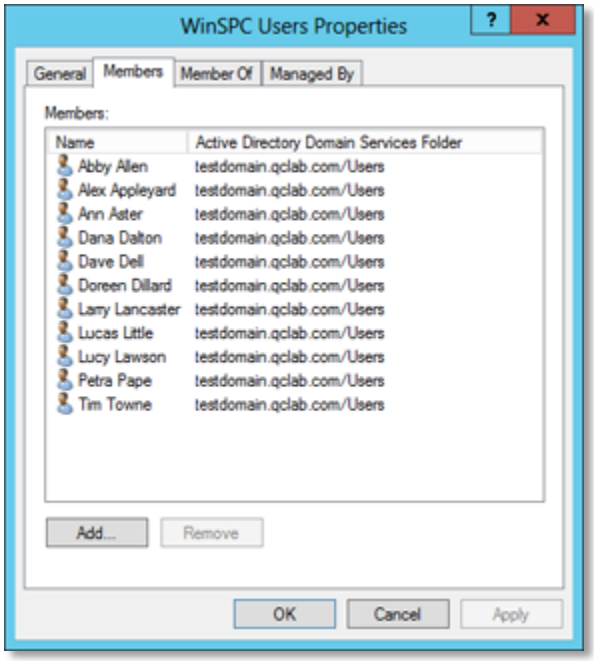
1. If a main user group for WinSPC users does not exist within ***Active Directory***, create one. The recommended name for this group is ***WinSPC Users***.



   In most cases, a main user group named ***WinSPC Users*** will have already been created within ***Active Directory***. This is due to the fact that a step in the ***WinSPC Installation and Configuration Guide*** calls for this to be done during the initial configuration of WinSPC, though that guide does not use the term *main*.

   This main user group is different from the role-specific groups discussed in Phase I: Select an Active Directory Integration Strategy and is required regardless of which integration strategy is being followed.

2. Make all users who are to be managed WinSPC users members of this main user group for WinSPC users.



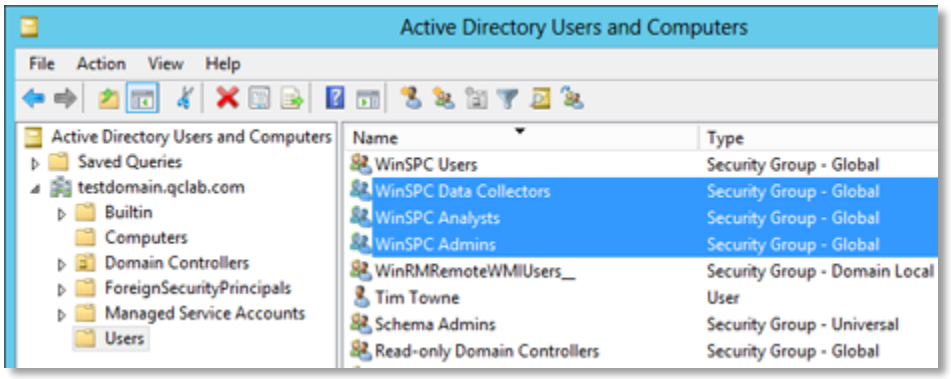
   It is this main user group that facilitates the management of WinSPC users by ***Active Directory***. If a user is not a member of this main user group, he or she cannot be a managed WinSPC user.

3. If you are following *Strategy A* or *Strategy C*, go to Phase III: Setup Role-Specific WinSPC User Groups in Active Directory. If you are following *Strategy B* or *Strategy D*, go to Phase IV: Link WinSPC to Active Directory.

PHASE III: SETUP ROLE-SPECIFIC WINSPC USER GROUPS IN ACTIVE DIRECTORY

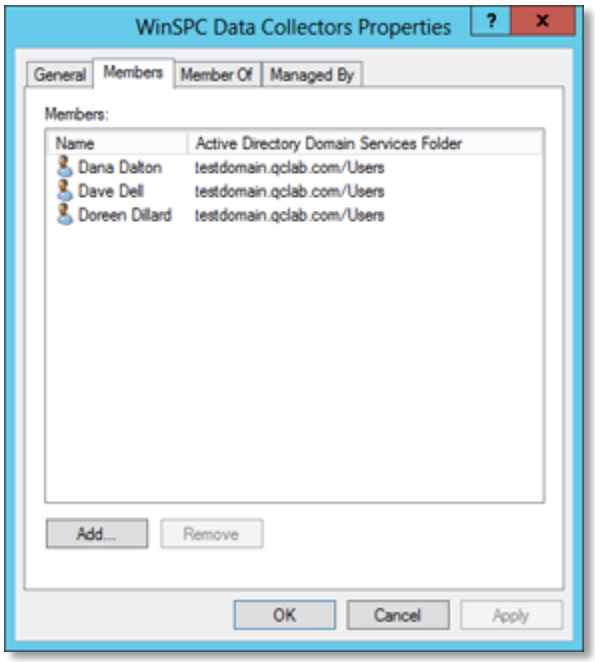
(This phase applies to *Strategy A* and *Strategy C*. Like the preceding phase, it needs to be completed by someone who can create and populate user groups on the domain controller for the domain within which WinSPC is deployed.)

1. Create a role-specific user group in ***Active Directory*** for each distinct type of WinSPC user. For *Strategy A*, simply replicate in ***Active Directory*** the role-specific groups you are already using in WinSPC. For *Strategy C*, the three following groups at a minimum are recommended but, if you feel you're WinSPC implementation will be better served with more, feel free to create addititonal groups: *WinSPC Admins*, *WinSPC Data Collectors*, and *WinSPC Analysts*.



   It is not necessary that the groups you create in this step be members of the main user group for WinSPC users discussed in Phase II: Setup WinSPC Users in Active Directory, though this is permitted.

2. Assign each user in the main user group for WinSPC users to also be a member of a role-specific group created in the previous step, whichever group best reflects what the user does or will do in WinSPC.



   To be clear, this step is calling for each WinSPC user to be a member of a role-specific group in addition to being a member of the main user group for WinSPC users.

Being a member of a role-specific group as well as the main user group is required for new WinSPC users to be automatically imported into a role-specific group within WinSPC.

Since *Strategy C* is solely concerned with new WinSPC users, this step is mandatory for *Strategy C*.

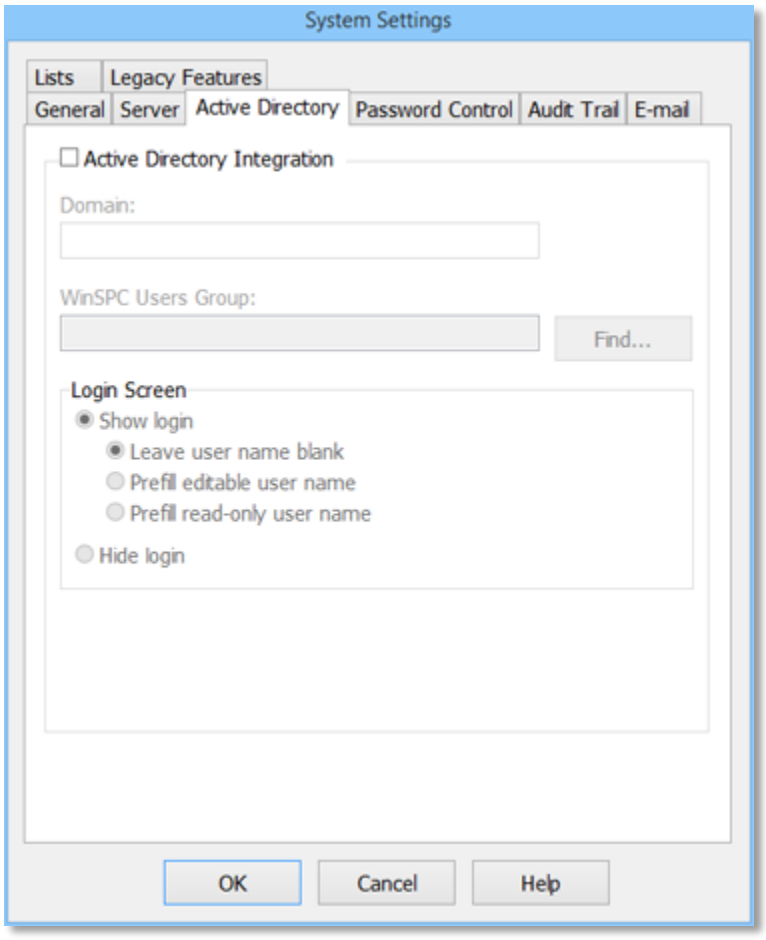
Since *Strategy A* is primarily concerned with existing WinSPC users, this step is not mandatory. However, at some point in most implementations, new managed users will need to be setup and, given that such users must be added to both the main user group for WinSPC users and a role-specific group, this step offers a way to maintain consistency in how users are organized and is therefore recommended.

3. Go to Phase IV: Link WinSPC to Active Directory.

PHASE IV: LINK WINSPC TO ACTIVE DIRECTORY

(This phase applies to all strategies.)

1. Log into WinSPC as the ***Admin*** user.
2. From the ***Tools*** menu, select ***System Settings***.
3. In the ***Systems Settings*** window, click the ***Active Directory*** tab.



If this tab is not visible, an active instance of the WinSPC application server is not attached to your WinSPC database. To remedy this, follow the instructions in ***Chapter 5: The WinSPC Application Server*** of the ***WinSPC 9 Installation and Configuration Guide***.

4. On this ***Active Directory*** tab:

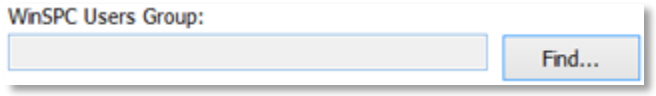
   a. Check the ***Active Directory Integration*** check box.

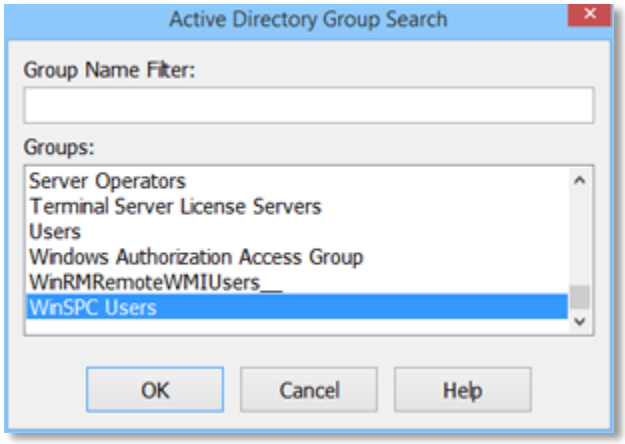
   b. If the name that gets populated in the ***Domain*** field is not the name of the domain that contains the main user group for WinSPC users (discussed in step 1 of Phase II: Setup WinSPC Users in Active Directory), enter the name of the domain that contains that user group.

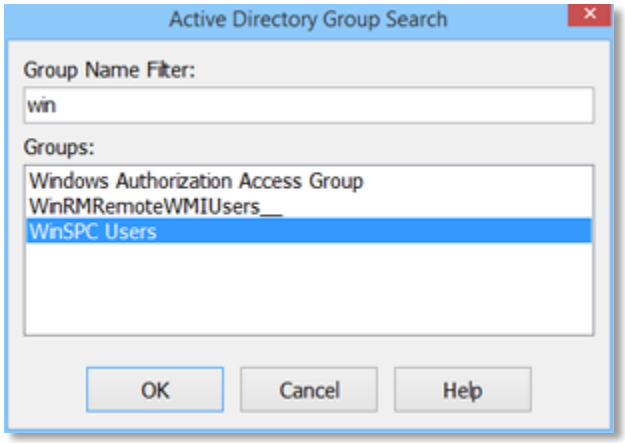
   c. At ***WinSPC Users Group***, click ***Find***.

   d. In the ***Active Directory Group Search*** window that appears, under ***Groups***, scroll down until you see the main user group and then select that group and click ***OK***…

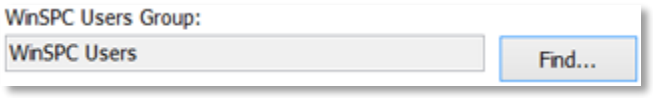
   

   …or, at ***Group Name Filter***, enter beginning characters of the main user group until that group is visible and then select that group and click ***OK***.

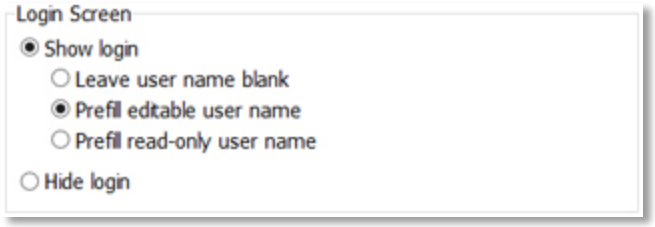
   

(If you don't see the group name but see the text ***Incomplete list***, click that text. This will result in the remaining groups being added to the list. For the sake of speed, only the first 200 user groups, alphabetically, are initially listed. If you don't see the group name and don't see the text ***Incomplete list***, check that the earlier steps concerning the setup of the group are in fact done as directed and that you have the correct group name.)

e. Confirm that, at ***WinSPC Users Group***, the group now shown is the correct group.



f. Under Login Screen:



i. If you want the WinSPC login window (i.e., the ***WinSPC Access Center***) displayed when WinSPC is launched, thereby requiring users to log themselves in, select ***Show login*** and then choose one of the following options:

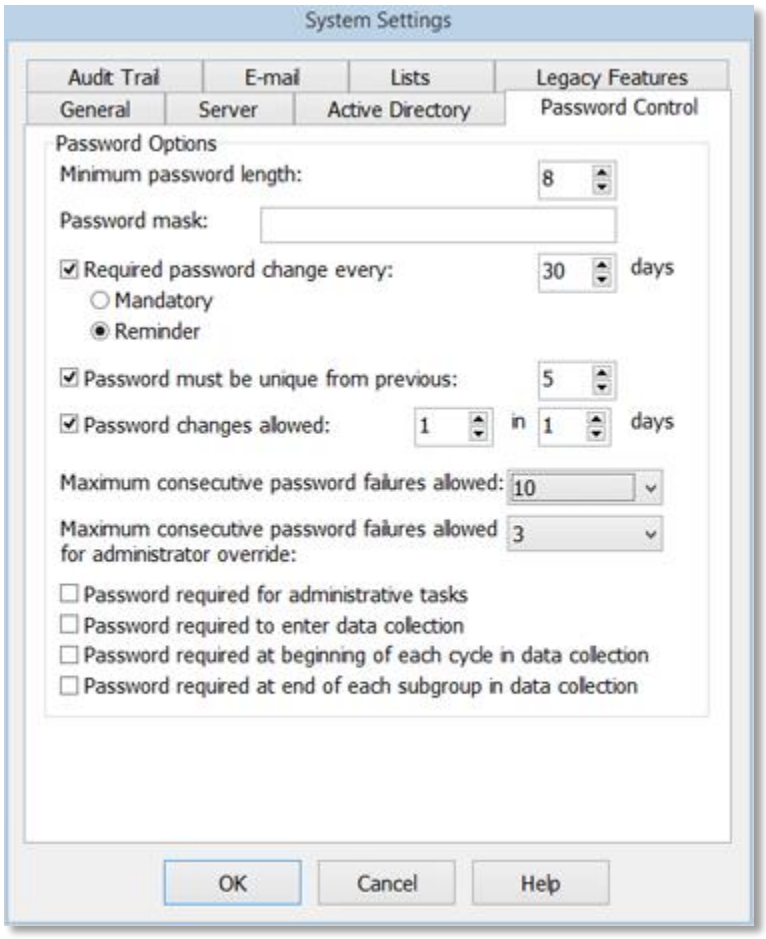
- ***Leave user name blank***: This option requires users to supply both a user name and a password, identical to what WinSPC users have, until WinSPC 9, been required to do.
- ***Prefill editable user name***: This option requires users to supply both a user name and password but prefills the ***User Name*** field with the ID of the current Windows user. The prefilled ID is editable which means that an alternative ID can be entered.
- ***Prefill read-only user name***: This option requires users to supply the password for the prefilled current Windows user and does not permit an alternative ID to be entered.

The *current Windows user* refers to the user logged into Windows on the computer being used to launch WinSPC at the time the launch is initiated.

ii. If you want the WinSPC login window bypassed when a user launches WinSPC, select ***Hide login***. This will cause WinSPC to automatically authenticate the current Windows user (defined in *di* above) against the main ***Active Directory*** user group for WinSPC users. If the authentication succeeds, that current Windows user will be logged into WinSPC without the ***WinSPC Access Center*** being shown.

To temporarily override this behavior and force the WinSPC login window to be displayed so different login credentials can be supplied, hold down ***F8*** while launching WinSPC.

5. (Optional) Click the ***System Settings*** window's ***Password Control*** tab and, on this tab, at ***Maximum consecutive password failures allowed***, select ***10***.



Though not required, this step is recommended to minimize the times when a managed user is logged into his or her domain but locked out of WinSPC due to too many consecutive password failures. It is based on the assumption that the lockout threshold for domain accounts is considerably less than 10 invalid passwords.

Despite this preventative measure, it is still technically possible for a managed user to become locked out of either the domain or WinSPC as a result of too many failed login attempts into WinSPC. For this reason, it is important to carefully read the lockout message that gets displayed. This message indicates whether it is the domain account that has become locked or the WinSPC account and, with this information, the appropriate account can be unlocked.

6. Click the ***System Settings*** window's ***OK*** button.

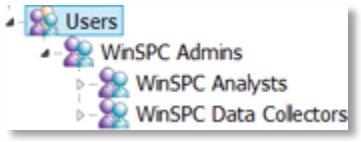
7. If you are following *Strategy C* or *Strategy D*, go to Phase V: Import Users from Active Directory into WinSPC. If you are following *Strategy A* or *Strategy B*, go to Phase VI: Link Existing WinSPC Users to Active Directory Users.

PHASE V: IMPORT USERS FROM ACTIVE DIRECTORY INTO WINSPC

(This phase applies to *Strategy C* and *Strategy D*.)

1. If you are following *Strategy D*, go to step 2. If you are following *Strategy C*, create role-specific user groups within WinSPC and link each group to its counterpart group in ***Active Directory***. To do this:

   a. Create the role-specific user groups.

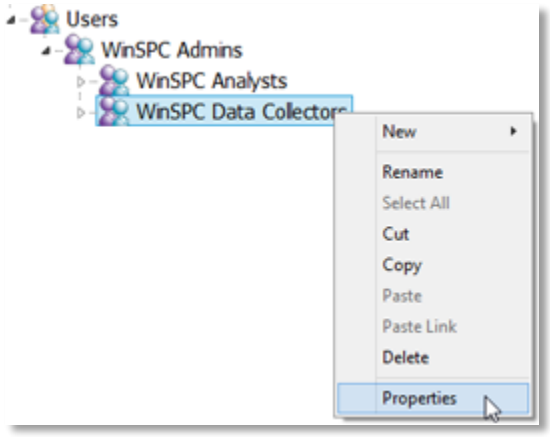


   The number of groups you create and the names of those groups should be the same as the groups created in step 1 of Phase III: Setup Role-Specific WinSPC User Groups in Active Directory. See ***Setting Up Users*** in the ***WinSPC Help*** for the steps to create user groups if you are not familiar with how to do this. The nesting of user groups in WinSPC is permitted.

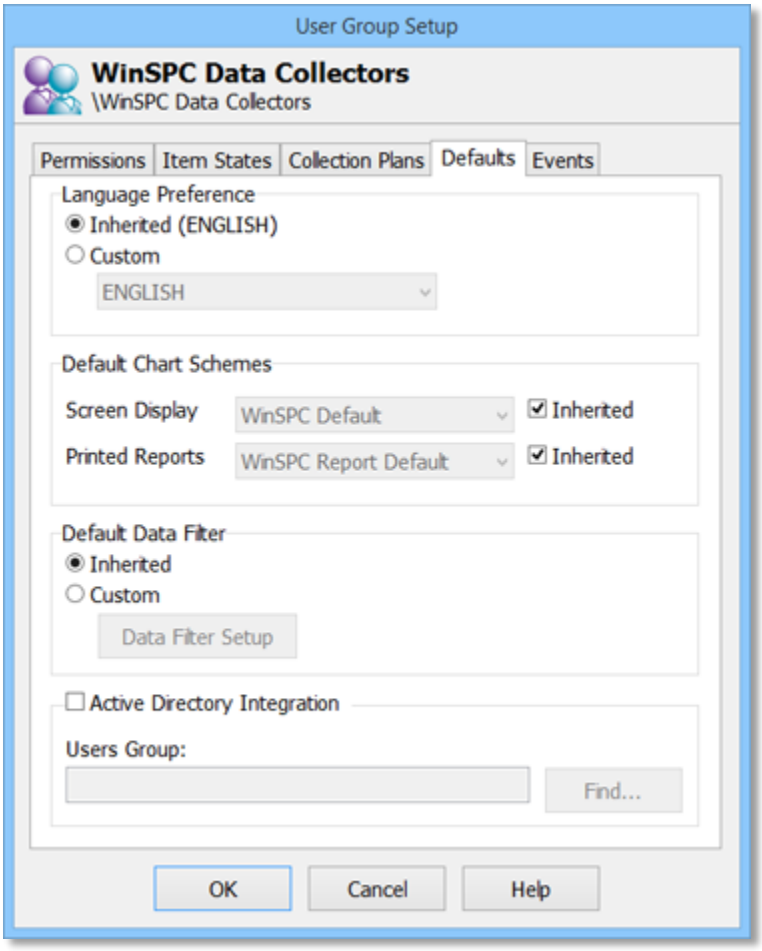
   At some point, the standard user group setup procedures will need to be completed for newly created user groups. These procedures detail how to restrict what users can view and access within WinSPC and how to set user defaults. They do not need to be completed before completing this ***Active Directory*** integration procedure. See ***Setting Up Users*** in the ***WinSPC Help*** for these setup procedures.

   b. For each group created in the preceding step:

      i. Right-click the group and select ***Properties***.



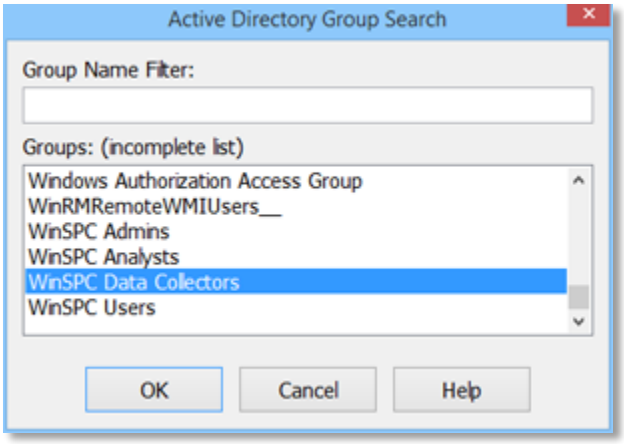
ii. Select the ***Defaults*** tab in the ***User Group Setup*** window that appears.



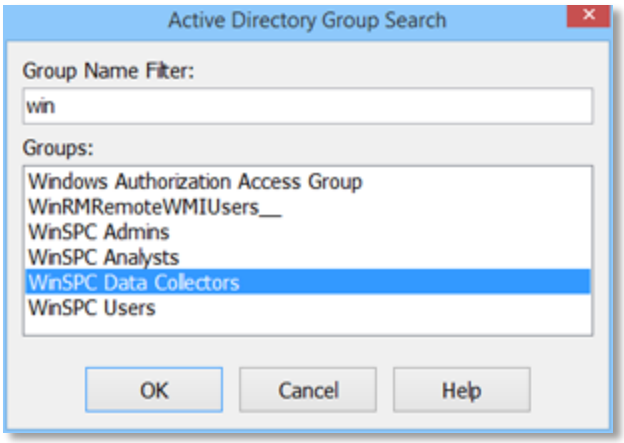
iii. Toward the bottom of this tab, check the ***Active Directory*** Integration check box.

iv. At ***Users Group***, click ***Find***.

v. In the ***Active Directory Group Search*** window that appears, select the group's counterpart ***Active Directory*** role-specific group. For example, if you right-clicked the ***WinSPC Data Collector***s group in WinSPC, select the ***WinSPC Data Collectors*** group in ***Active Directory*** or whatever the name of the ***Active Directory*** role-specific user group that WinSPC data collectors were assigned to is. Do not select the main ***Active Directory*** user group for WinSPC users in this step. One way to select the counterpart ***Active Directory*** group is to, under ***Groups***, scroll down until you see the counterpart group and then select that group and click ***OK***.

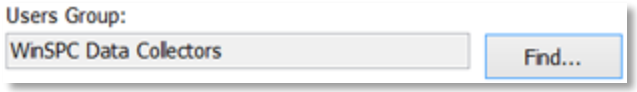


Another way is to, at ***Group Name Filter***, enter beginning characters of the counterpart group's name until it is visible under ***Groups*** and then select that group and click ***OK***.



(If you don't see the counterpart group but see the text ***Incomplete list***, click that text. This will result in the remaining groups being added to the list. For the sake of speed, only the first 200 user groups, alphabetically, are initially listed. If you don't see the group name and don't see the text ***Incomplete list***, check that the earlier steps concerning the setup of the group are in fact done as directed and that you have the correct group name.)

vi. Confirm that, at ***Users Group***, the group now shown is the correct group.



vii. Click ***OK***.

Although user group nesting is permitted in WinSPC, a child group does not inherit its parent's ***Active Directory*** linkage. This step (i.e., step 1b), therefore, needs to be separately completed for every role-specific user group.

c. Allow 15 minutes for users to be imported from ***Active Directory***.

By default, an automatic refresh of users occurs every 15 minutes. See the Change the Interval for Automatic Refreshes of Managed Users procedure from Phase VIII: Perform Ongoing Administration Related to Active Directory if you would like to increase or decrease this interval.

This ends *Strategy C*. Your ***Active Directory*** integration is now complete.

As the need arises, you can add new managed users and perform other administration related to managed users by using the procedures in Phase VIII: Perform Ongoing Administration Related to Active Directory.

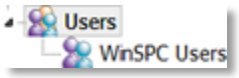
For your reference, following is a list of the specific ***Active Directory*** updates that will be automatically pushed down to WinSPC as a result of completing *Strategy C*:

- Adding a new user (i.e., a user that doesn't already exist in WinSPC) to the main user group for WinSPC users in ***Active Directory*** as well as to a role-specific group in ***Active Directory*** results in that user being added to the counterpart role-specific group in WinSPC as a managed user.
- Adding a new user to just the main user group for WinSPC users in ***Active Directory*** results in that user appearing in the ***Active Directory Users Not Yet Linked*** list under ***All Possible Users*** in the ***Active Directory Resolver*** window and consequently being available for a WinSPC administrator to link an unmanaged WinSPC user to.
- Renaming an existing managed user in ***Active Directory*** results in the renaming of that user in WinSPC.
- Removing a managed user from the main user group for WinSPC users in ***Active Directory*** (or taking an action that effectively accomplishes the same thing such as disabling a managed user's account in ***Active Directory*** or deleting a managed user from ***Active Directory***) results in that user being removed from WinSPC. (Note: In this case, the user's data remains in the WinSPC database and if, in the future, the user is reinstated in ***Active Directory***, he or she will be re-associated with his or her historical data.)

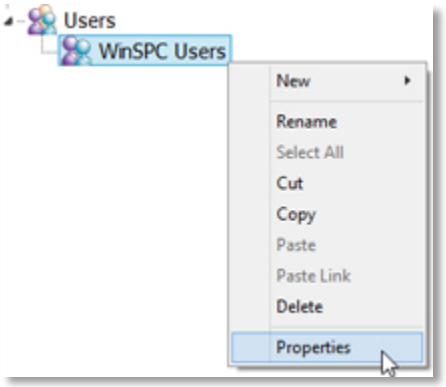
To avoid confusion, it should be pointed out that moving a managed user to a different role-specific user group in ***Active Directory***, while permitted, does not result in that user being moved to the different group in WinSPC. Similarly, renaming an ***Active Directory*** user group does not result in the counterpart WinSPC user group being renamed.

2. If you are following *Strategy D*, prepare a user group to be used exclusively for importing users from ***Active Directory***. To do this:

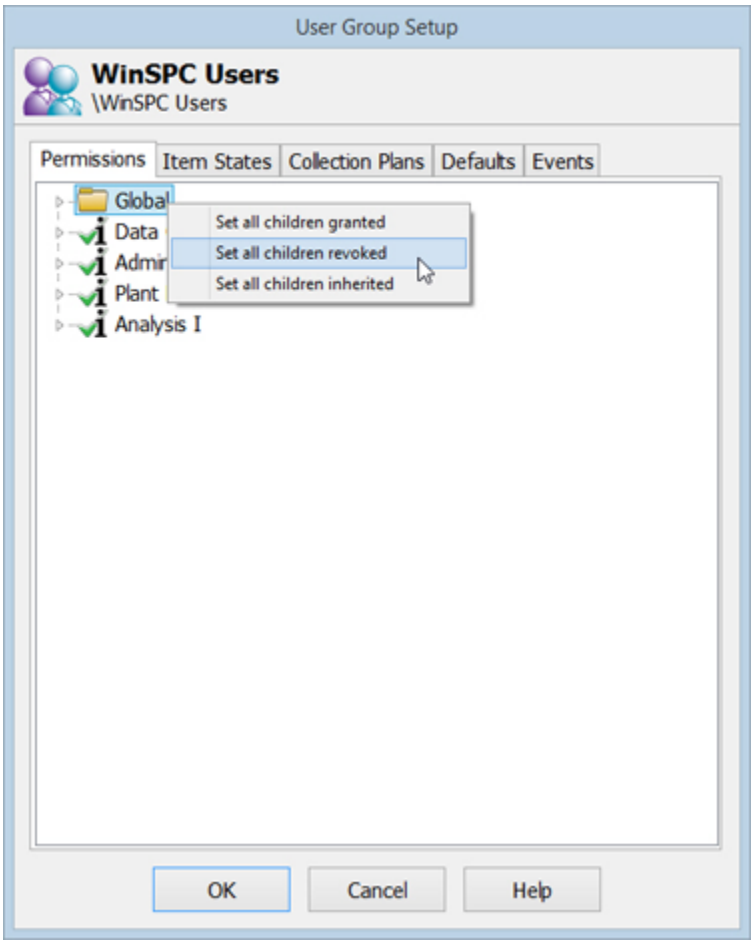
a. Create a new user group. This user group will serve as a counterpart to the main ***Active Directory*** user group for WinSPC users. Consequently, it will be referred to as the main WinSPC user group in subsequent steps. The recommended name for this group is ***WinSPC Users*** and the recommended location is in the root of the ***Users*** branch.



b. Right-click this new main WinSPC user group and select ***Properties***.



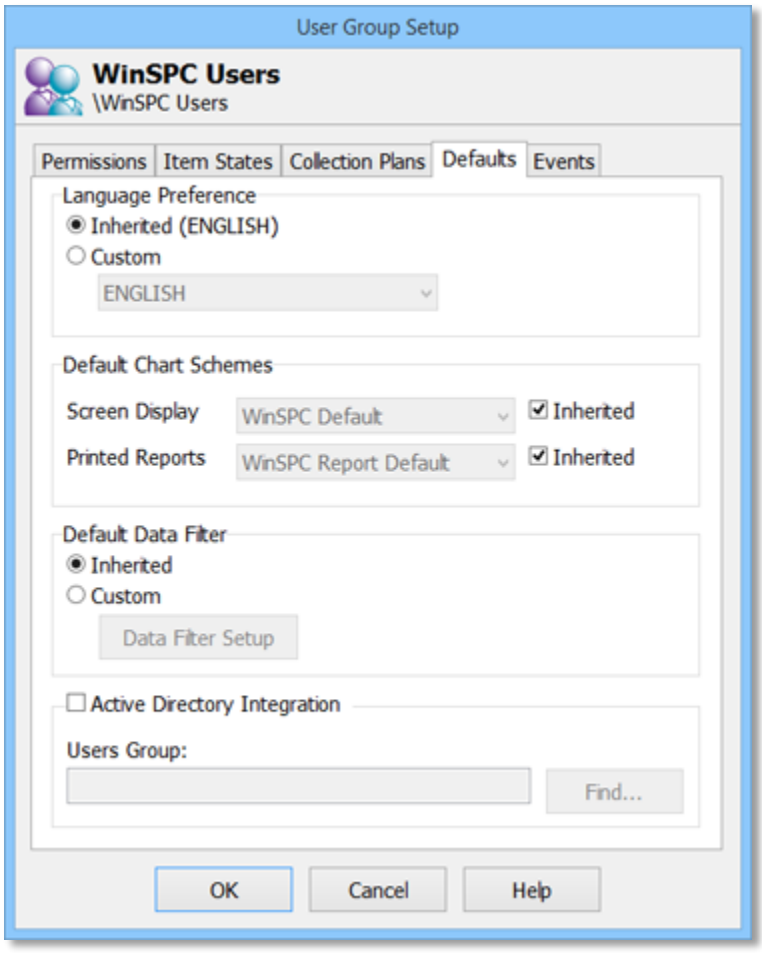
c. On the ***Permissions*** tab of the ***User Group Setup*** window that is displayed, right-click ***Global*** and select ***Set all children revoked***.



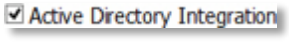
d. On the same tab, right-click each of the remaining 4 items listed (***Data Collection***, ***Administration***, ***Plant Monitor***, ***Analysis I***) and select ***Revoked***.

The reason for revoking permissions, as called for in this and the preceding step, is to ensure that users are not temporarily given inappropriate WinSPC permissions. The opportunity for a user to have inappropriate permissions exists because there could be a gap between the time that user is imported and the time an administrator completes step 2j below, a step that concerns moving users to their appropriate role-specific user groups.

e. Staying in the ***User Group Setup*** window, select the ***Defaults*** tab.

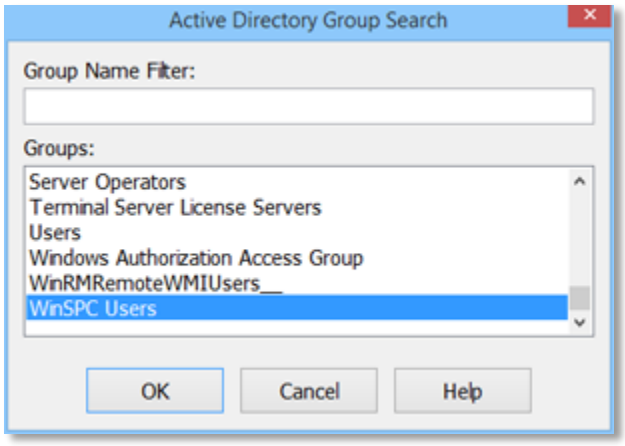


f. Toward the bottom of this tab, check the ***Active Directory Integration*** check box.

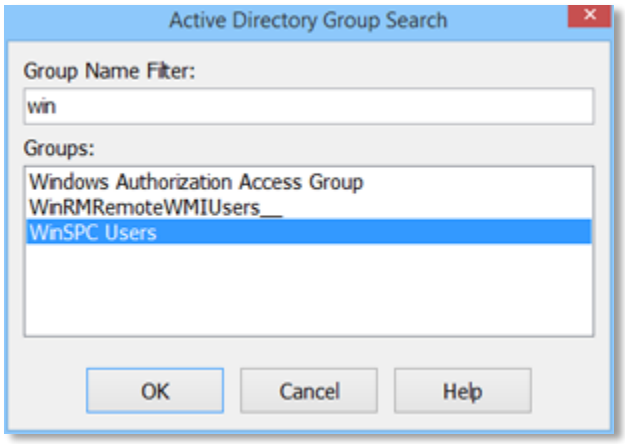


g. At ***Users Group***, click ***Find***.

h. In the ***Active Directory Group Search*** window that appears, select the main ***Active Directory*** user group for WinSPC users. One way to do this is to, under ***Groups***, scroll down until you see the counterpart group and then select that group and click ***OK***.



Another way is to, at ***Group Name Filter***, enter beginning characters of the counterpart group's name until it is visible under ***Groups*** and then select that group and click ***OK***.



(If you don't see the counterpart group but see the text ***Incomplete list***, click that text. This will result in the remaining groups being added to the list. For the sake of speed, only the first 200 user groups, alphabetically, are initially listed. If you don't see the group name and don't see the text ***Incomplete list***, check that the earlier steps concerning the setup of the group are in fact done as directed and that you have the correct group name.)

i. Confirm that, at ***Users Group***, the group now shown is the main ***Active Directory*** user group for WinSPC users.

j. Click ***OK***.

k. Allow 15 minutes for users to be imported from ***Active Directory***.

   By default, an automatic refresh of users occurs every 15 minutes. See the Change the Interval for Automatic Refreshes of Managed Users procedure from Phase VIII: Perform Ongoing Administration Related to Active Directory if you would like to increase or decrease this interval.

l. Move each user from the main WinSPC user group to his or her appropriate role-specific user group and then read the below note.

This ends *Strategy D*. Your ***Active Directory*** integration is now complete.

As the need arises, you can add new managed users and perform other administration related to managed users by using the procedures in Phase VIII: Perform Ongoing Administration Related to Active Directory.

For your reference, following is a list of the specific ***Active Directory*** updates that will be automatically pushed down to WinSPC as a result of completing *Strategy D*:

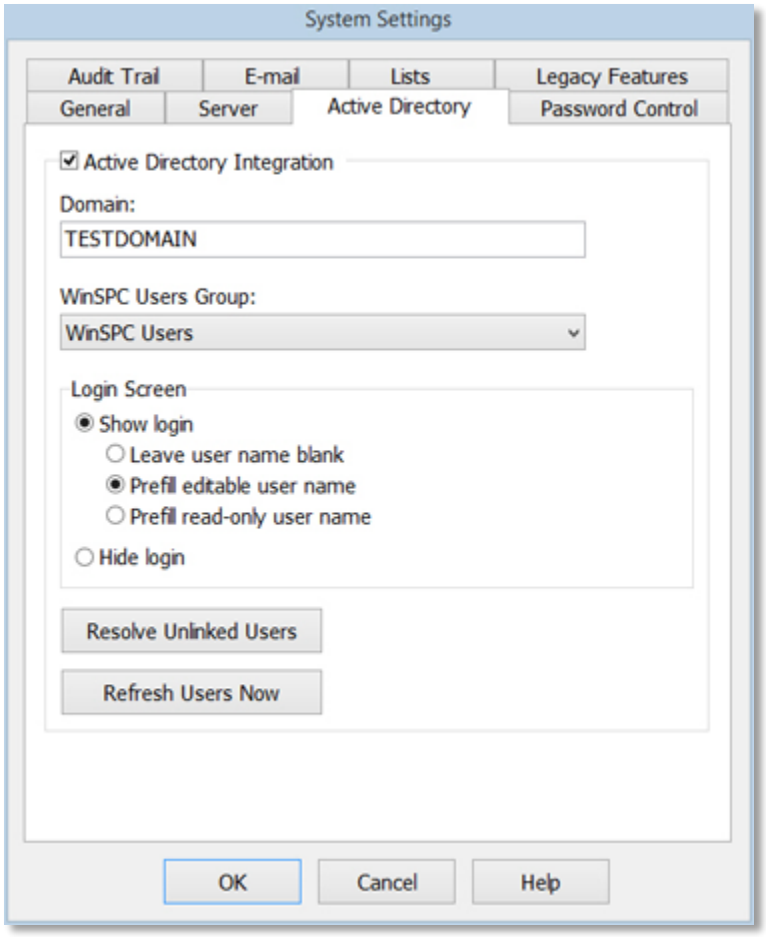
- Adding a new user (i.e., a user that doesn't already exist in WinSPC) to the main ***Active Directory*** user group for WinSPC users results in that new user being added as a managed user to the main WinSPC user group in WinSPC.
- Renaming an existing managed user in ***Active Directory*** results in the renaming of that user in WinSPC.
- Removing a managed user from the main ***Active Directory*** user group for WinSPC users (or taking an action that effectively accomplishes the same thing such as disabling a managed user's account in ***Active Directory*** or deleting a managed user from ***Active Directory***) results in that user being removed from WinSPC. (Note: In this case, the user's data remains in the WinSPC database and if, in the future, the user is reinstated in ***Active Directory***, he or she will be re-associated with his or her historical data.)

PHASE VI: LINK EXISTING WINSPC USERS TO ACTIVE DIRECTORY USERS

(This phase applies to *Strategy A* and *Strategy B*.)

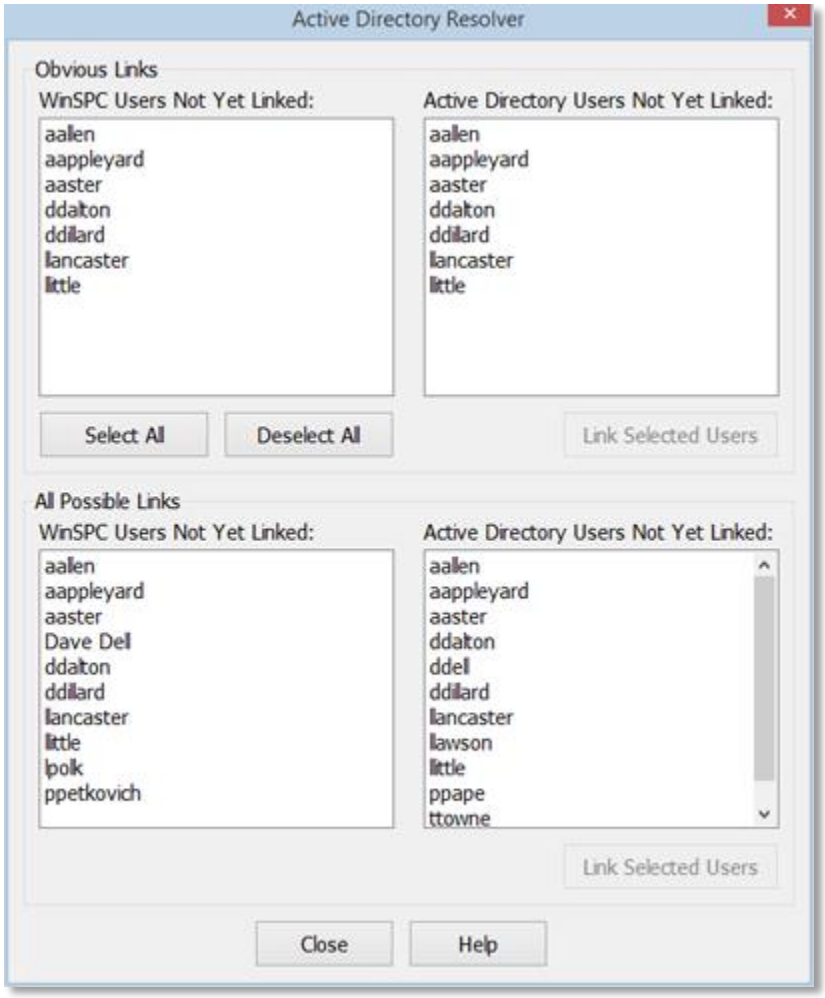
1. Log into WinSPC as the ***Admin*** user.
2. From the ***Tools*** menu, select ***System Settings***.

3. Click the ***System Settings*** window's ***Active Directory*** tab.



4. On this tab, click the ***Resolve Unlinked Users*** button.

This displays the ***Active Directory Resolver*** window.

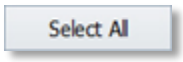


You use this window primarily to link unmanaged users who exist in WinSPC to users in the main ***Active Directory*** user group for WinSPC users and thereby convert those unmanaged users to managed users.

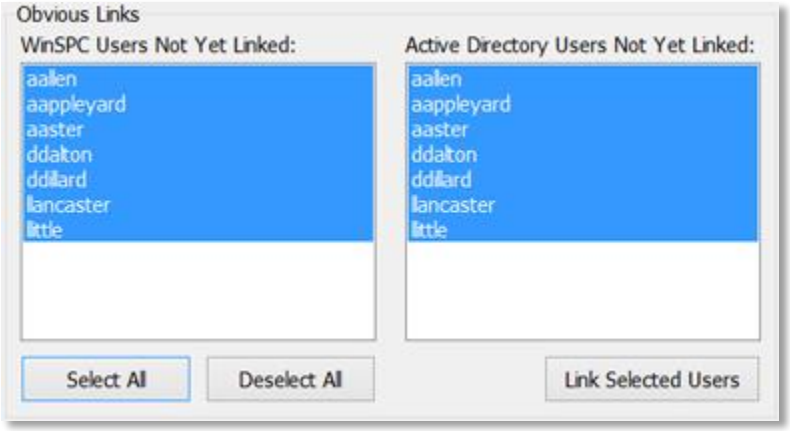
The window contains two primary divisions. The top portion, titled ***Obvious Links***, isolates unlinked user IDs that exist in both WinSPC and the main ***Active Directory*** user group for WinSPC users. The bottom portion, titled ***All Possible Links***, lists all unlinked IDs found in either location. The top portion is therefore a subset of the bottom portion.

5. Link the users under ***Obvious Links*** who you want to be managed users. To do this:

   a. Click the ***Select All*** button.

   Notice this highlights all users in the ***WinSPC Users Not Yet Linked*** column as well as all users in the ***Active Directory Users Not Yet Linked*** column.

   b. Deselect any individual pair of IDs that you do not want linked. To do this, press and hold the ***Ctrl*** key and then click the ID in either column.

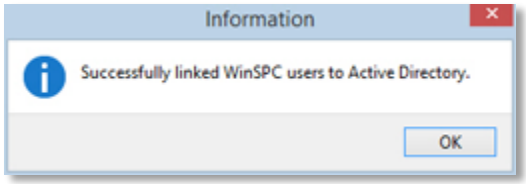
   In most implementations, it isn't necessary to deselect any IDs.

   (To re-select a pair of IDs, simply ***Ctrl+Click*** again. If necessary, you can deselect all selected pairs by clicking the ***Deselect All*** button. When no pairs are selected, you can select a pair either by clicking it or using the ***Ctrl+Click*** technique. When one or more pairs are selected, you can select additional pairs using the ***Ctrl+Click*** technique.)

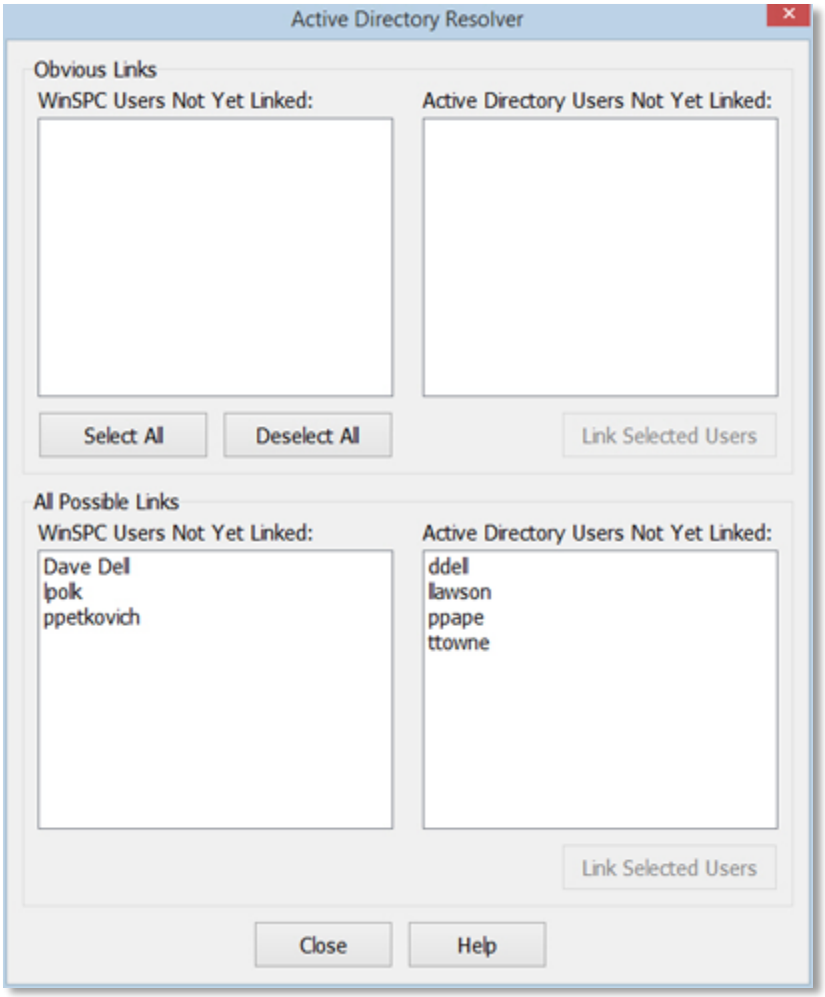
   c. Click the ***Link Selected Users*** button that is now available.

   d. In the Information message that appears, click ***OK***.

Notice the selected users have now been removed from the ***Obvious Links*** portion of the window as well as the ***All Possible Links*** portion, indicating they are no longer unlinked.



6. Under ***All Possible Links***, for each user in the ***WinSPC Users Not Yet Linked*** list who you want to be a managed user, link him or her to a user in the ***Active Directory Not Yet Linked*** list. Except for any users who also appear under ***Obvious Links***, the IDs under ***All Possible Links*** are unique, meaning no ID in the ***WinSPC Users Not Yet Linked*** column exactly matches an ID in the ***Active Directory Users Not Yet Linked*** column and vice versa. Some circumstances in which it probably makes sense to link unmatching IDs are:

   - When a user's ID was created differently in WinSPC than it was in ***Active Directory***.

     Example: the ***Active Directory*** ID created for an employee by an ***Active Directory*** administrator consists of that employee's first initial and last name (*ddell*) but the WinSPC ID created for that employee by a WinSPC administrator consists of the employee's full first and last names (*Dave Dell*).

   - When a user's ***Active Directory*** ID changed because of marriage or some other event but that change was never mirrored in WinSPC.

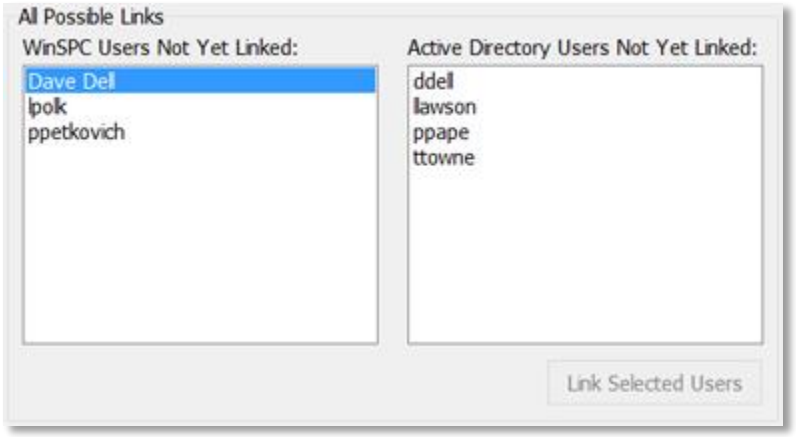
     Example: a woman who had been using *lpolk* for both her ***Active Directory*** ID and her WinSPC ID got married and had her ***Active Directory*** ID changed to *llawson* but not her WinSPC ID.

- When the work of one WinSPC user is being taken over by another employee who is not yet set up as a WinSPC user.

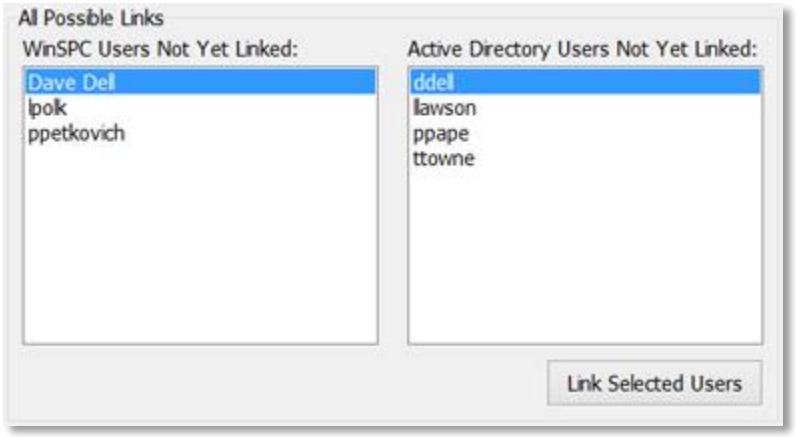
  Example: *ppetkovich* is retiring and her WinSPC duties are being assigned to *ppape*, a new employee for whom a WinSPC ID has not been created yet.

To link users under ***All Possible Links***:

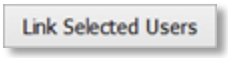
a. Select an ID in the ***WinSPC Users Not Yet Linked*** list.



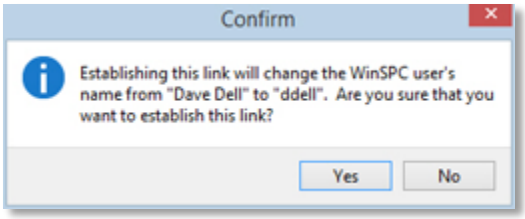
b. Select the ID in the ***Active Directory Users Not Yet Linked*** list that you want the ID you selected in the ***WinSPC Users Not Yet Linked*** list linked to.



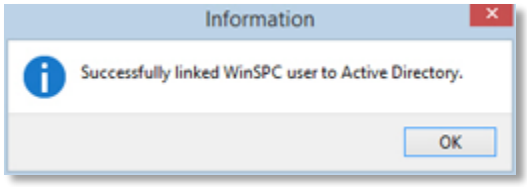
c. Click the ***Link Selected Users*** button that becomes available.



d. In the ***Confirm*** message that appears, if the name change is acceptable to you, click ***Yes***.

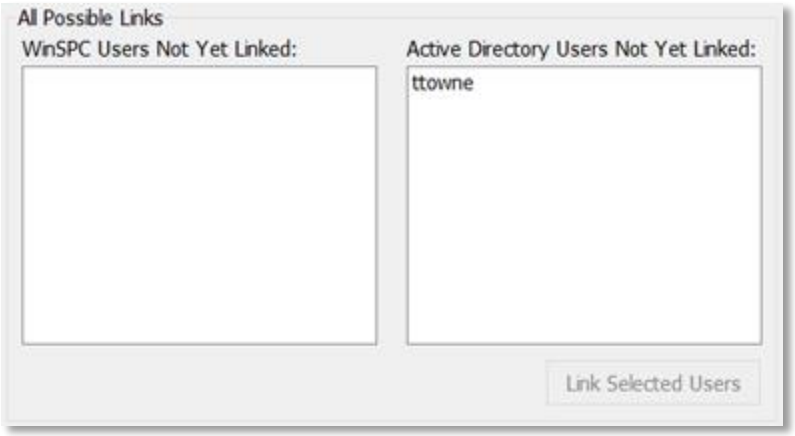


e. If you clicked ***Yes*** in the preceding step, click ***OK*** in the Information message that is displayed.



Notice the IDs you linked are removed.

f. Repeat this step until all users in the bottom portion's ***WinSPC Users Not Yet Linked*** column who you want to be managed users are linked.



7. For any user that remains in the ***Active Directory Users Not Yet Linked*** list but not the ***WinSPC Users Not Yet Linked*** list who you don't intend to be a managed user, have him or her removed from the main ***Active Directory*** user group for WinSPC users.

   The reason this step is necessary is that the next phase of this ***Active Directory*** integration will result in such users being automatically imported into WinSPC as managed users.

8. Click the ***Active Directory Resolver*** window's ***Close*** button.

9. Click ***OK*** in the ***System Settings*** window.

10. Go to Phase VII: Configure WinSPC to Automatically Import New Users Who Are to be Managed.

PHASE VII: CONFIGURE WINSPC TO AUTOMATICALLY IMPORT NEW USERS WHO ARE TO BE MANAGED

(This phase applies to *Strategy A* and *Strategy B*. If you are following *Strategy C* or *Strategy D*, you already configured WinSPC to automatically import new users who are to be managed.)

1. If you are following *Strategy B*, go to step 2. If you are following *Strategy A*, link each role-specific WinSPC user group to its counterpart role-specific ***Active Directory*** user group. (The creation and population of role-specific ***Active Directory*** groups is discussed in Phase III: Setup Role-Specific WinSPC User Groups in Active Directory.)

   Completing this step enables select updates made in ***Active Directory*** to be automatically pushed down to WinSPC. Specifically:

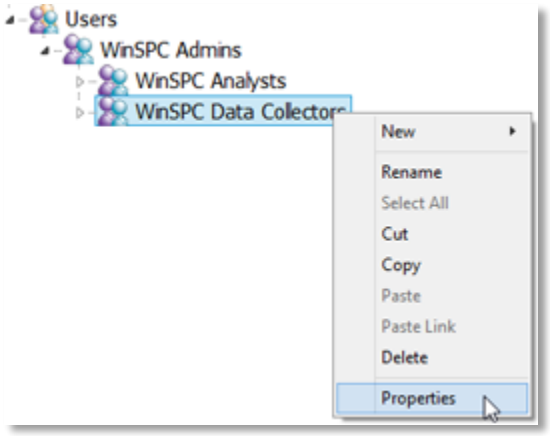
   - Adding a new user (i.e., a user that doesn't already exist in WinSPC) to the main ***Active Directory*** user group for WinSPC users as well as to a role-specific group in ***Active Directory*** results in that user being added to the counterpart role-specific group in WinSPC as a managed user.

- Adding a new user to just the main ***Active Directory*** user group for WinSPC users results in that user appearing in the ***Active Directory Users Not Yet Linked*** list under ***All Possible Users*** in the ***Active Directory Resolver*** window and consequently being available for a WinSPC administrator to link an unmanaged WinSPC user to.
- Renaming an existing managed user in ***Active Directory*** results in the renaming of that user in WinSPC.
- Removing a managed user from the main ***Active Directory*** user group for WinSPC users (or taking an action that effectively accomplishes the same thing such as disabling a managed user's account in ***Active Directory*** or deleting a managed user from ***Active Directory***) results in that user being removed from WinSPC. (Note: In this case, the user's data remains in the WinSPC database and if, in the future, the user is reinstated in ***Active Directory***, he or she will be re-associated with his or her historical data.)

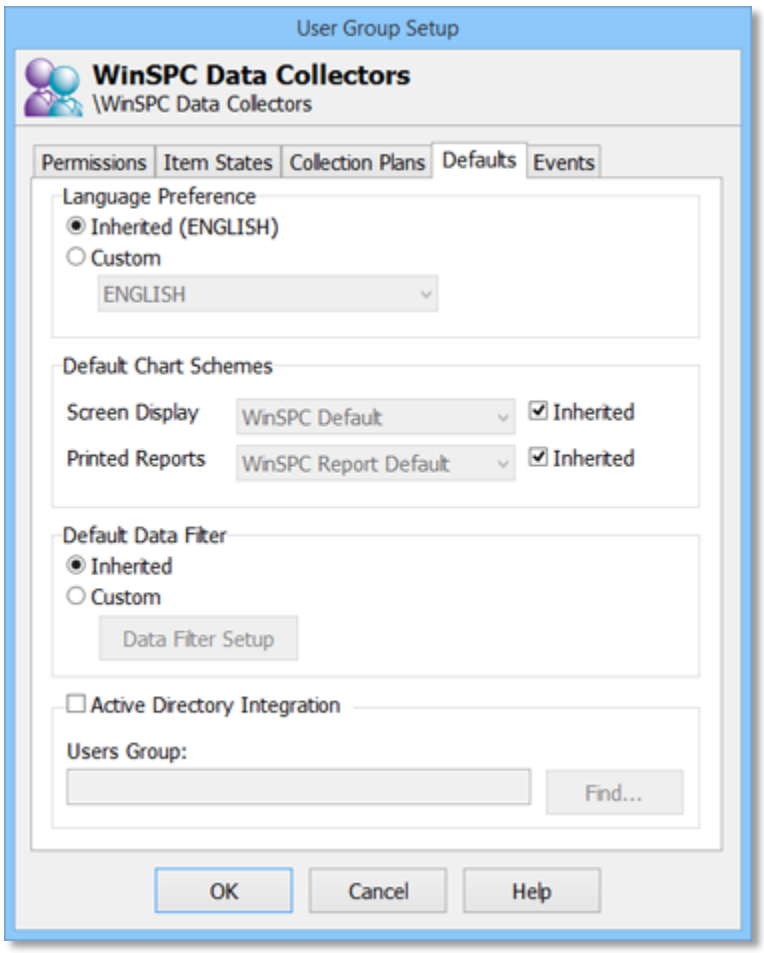
To avoid confusion, it should be pointed out that moving a managed user to a different role-specific user group in ***Active Directory***, while permitted, does not result in that user being moved to the different group in WinSPC. Similarly, renaming an ***Active Directory*** user group does not result in the counterpart WinSPC user group being renamed.

To link a role-specific WinSPC user group to its counterpart role-specific ***Active Directory*** user group:

a. Right-click the group and select ***Properties***.



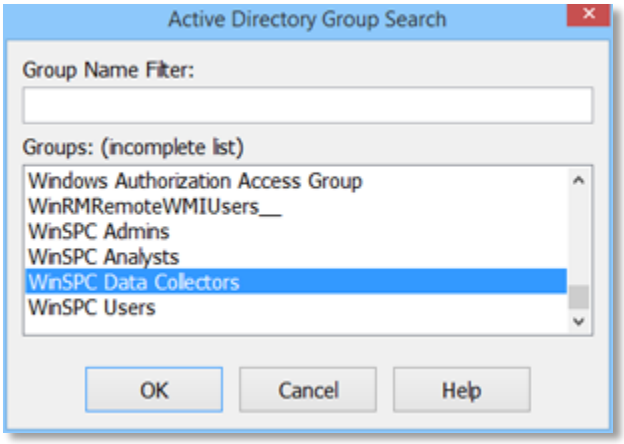
b. Select the ***Defaults*** tab in the ***User Group Setup*** window that appears.



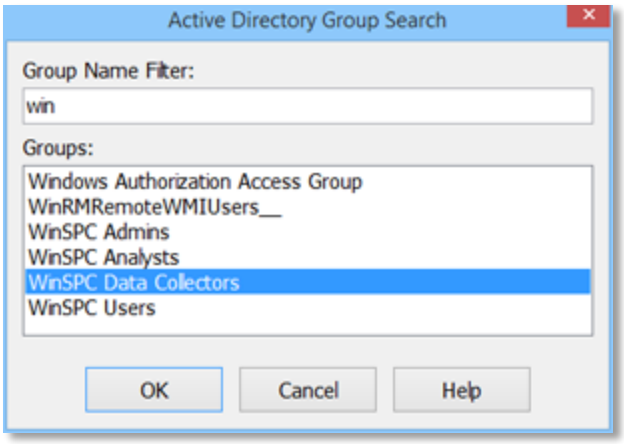
c. Toward the bottom of this tab, check the ***Active Directory Integration*** check box.

d. At ***Users Group***, click ***Find***.

e. In the ***Active Directory Group Search*** window that appears, select the group's counterpart ***Active Directory*** role-specific group. For example, if you right-clicked the ***WinSPC Data Collector***s group in WinSPC, select the ***WinSPC Data Collectors*** group in ***Active Directory*** or whatever the name of the ***Active Directory*** role-specific user group that WinSPC data collectors were assigned to is. Do not select the main ***Active Directory*** user group for WinSPC users in this step. One way to select the counterpart ***Active Directory*** group is to, under ***Groups***, scroll down until you see the counterpart group and then select that group and click ***OK***.



Another way is to, at ***Group Name Filter***, enter beginning characters of the counterpart group's name until it is visible under ***Groups*** and then select that group and click ***OK***.



(If you don't see the counterpart group but see the text ***Incomplete list***, click that text. This will result in the remaining groups being added to the list. For the sake of speed, only the first 200 user groups, alphabetically, are initially listed. If you don't see the group name and don't see the text ***Incomplete list***, check that the earlier steps concerning the setup of the group are in fact done as directed and that you have the correct group name.)

f. Confirm that, at ***Users Group***, the group now shown is the correct group.

g. Click ***OK***.

Although user group nesting is permitted in WinSPC, a child group does not inherit its parent's ***Active Directory*** linkage. This step (i.e., step 1), therefore, needs to be separately completed for every role-specific user group.

This ends *Strategy A*. Your ***Active Directory*** integration is now complete. As the need arises, you can add new managed users and perform other administration related to managed users by using the procedures in Phase VIII: Perform Ongoing Administration Related to Active Directory.

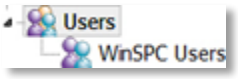
2. If you are following *Strategy B*, prepare a user group to be used exclusively for importing users from ***Active Directory***.

Completing this step enables certain updates made in ***Active Directory*** to be automatically reflected in WinSPC. Specifically:

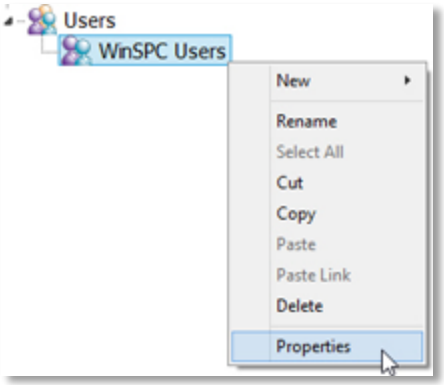
- Adding a new user (i.e., a user that doesn't already exist in WinSPC) to the main ***Active Directory*** user group for WinSPC users results in that new user being added as a managed user to the main WinSPC user group in WinSPC. (As an aside, each time this occurs, a WinSPC administrator will need to move the newly added user from the main WinSPC user group to the appropriate WinSPC role-specific group.)
- Renaming an existing managed user in ***Active Directory*** results in the renaming of that user in WinSPC.
- Removing a managed user from the main ***Active Directory*** user group for WinSPC users (or taking an action that effectively accomplishes the same thing such as disabling a managed user's account in ***Active Directory*** or deleting a managed user from ***Active Directory***) results in that user being removed from WinSPC. (Note: In this case, the user's data remains in the WinSPC database and if, in the future, the user is reinstated in ***Active Directory***, he or she will be re-associated with his or her historical data.)

To prepare the user group:

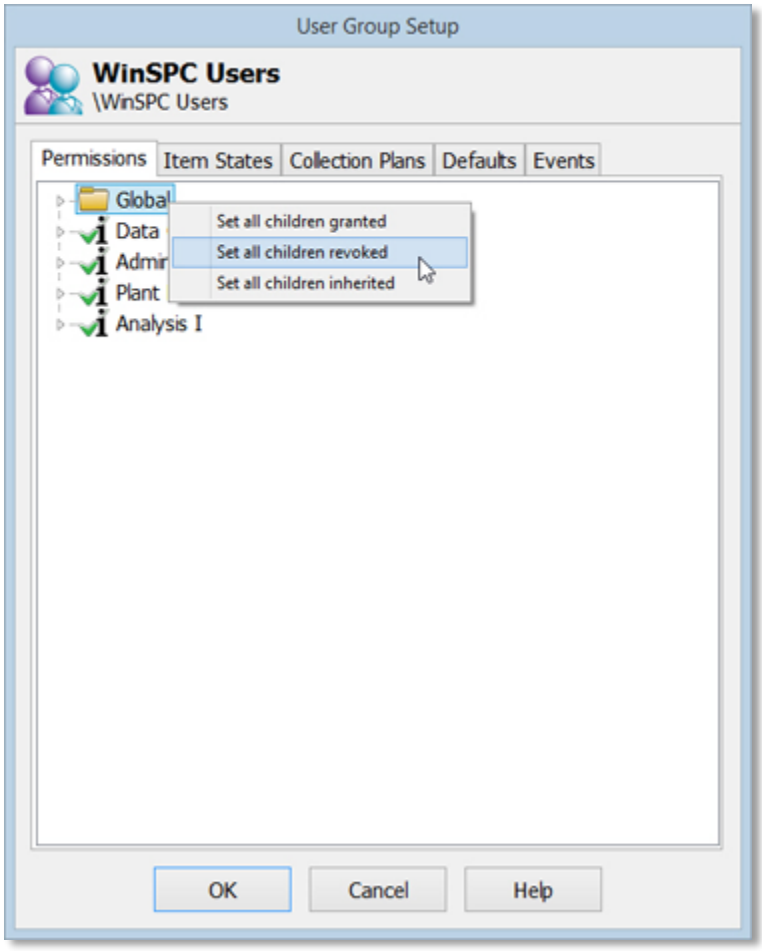
a. Create a new user group. This user group will serve as a counterpart to the main ***Active Directory*** user group for WinSPC users. Consequently, it will be referred to as the main WinSPC user group in subsequent steps. The recommended name for this group is ***WinSPC Users*** and the recommended location is in the root of the ***Users*** branch.



b. Right-click this new main WinSPC user group and select ***Properties***.



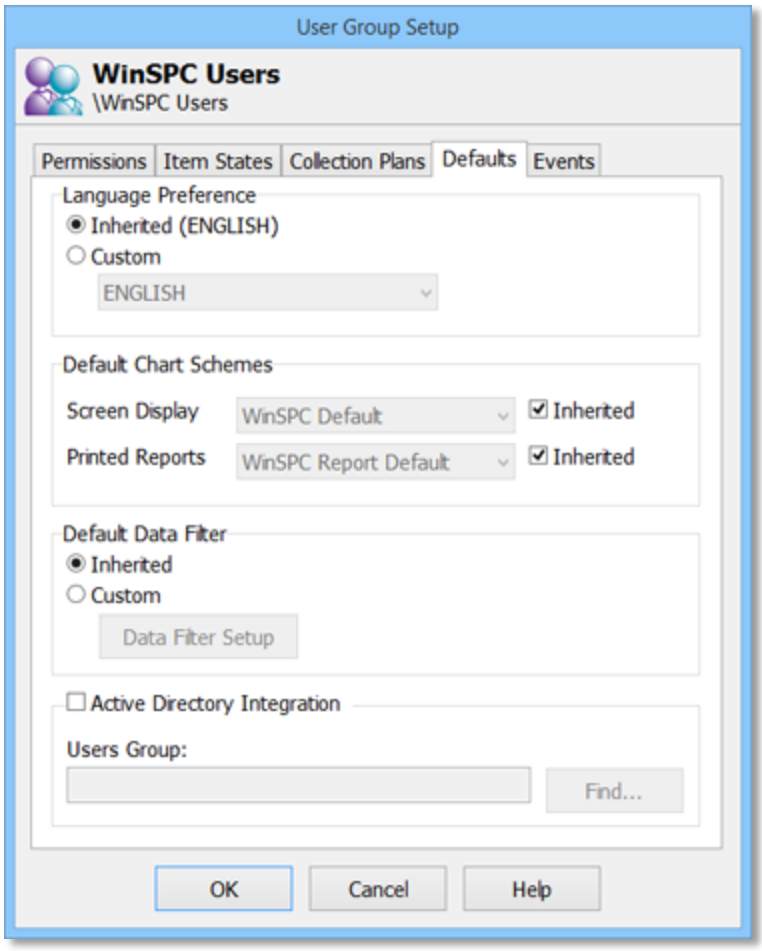
c. On the ***Permissions*** tab of the ***User Group Setup*** window that is displayed, right-click ***Global*** and select ***Set all children revoked***.



d. On the same tab, right-click each of the remaining 4 items listed (***Data Collection***, ***Administration***, ***Plant Monitor***, ***Analysis I***) and select ***Revoked***.

The reason for revoking permissions, as called for in this and the preceding step, is to ensure that users are not temporarily given inappropriate WinSPC permissions. The opportunity for a user to have inappropriate permissions exists because there could be a gap between the time that user is imported and the time an administrator moves that user to his or her appropriate role-specific user group.

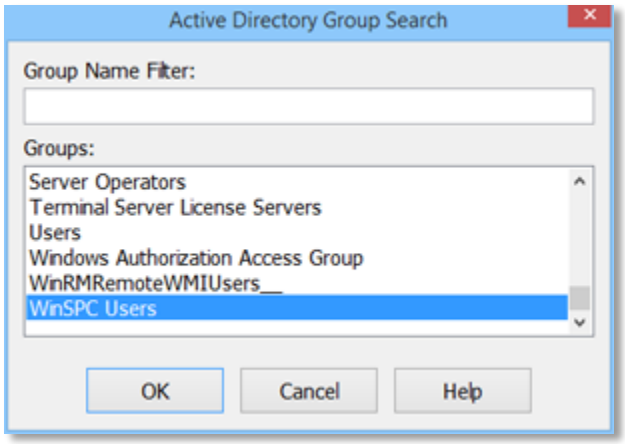
e. Staying in the ***User Group Setup*** window, select the ***Defaults*** tab.



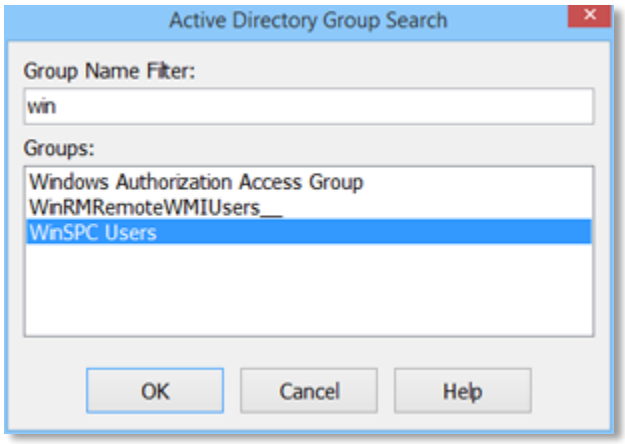
f. Toward the bottom of this tab, check the ***Active Directory Integration*** check box.

g. At ***Users Group***, click ***Find***.

h. In the ***Active Directory Group Search*** window that appears, select the main ***Active Directory*** user group for WinSPC users. One way to do this is to, under ***Groups***, scroll down until you see the counterpart group and then select that group and click ***OK***.



Another way is to, at ***Group Name Filter***, enter beginning characters of the counterpart group's name until it is visible under ***Groups*** and then select that group and click ***OK***.



(If you don't see the counterpart group but see the text ***Incomplete list***, click that text. This will result in the remaining groups being added to the list. For the sake of speed, only the first 200 user groups, alphabetically, are initially listed. If you don't see the group name and don't see the text ***Incomplete list***, check that the earlier steps concerning the setup of the group are in fact done as directed and that you have the correct group name.)

i. Confirm that, at ***Users Group***, the group now shown is the main ***Active Directory*** user group for WinSPC users.

j. Click ***OK***.

This ends *Strategy B*. Your ***Active Directory*** integration is now complete. As the need arises, you can add new managed users and perform other administration related to managed users by using the procedures in Phase VIII: Perform Ongoing Administration Related to Active Directory.

PHASE VIII: PERFORM ONGOING ADMINISTRATION RELATED TO ACTIVE DIRECTORY

(This phase applies to all strategies.)

As time passes after the initial integration of ***Active Directory*** into your WinSPC implementation, you'll likely need to make some changes to your setup. This section details how to:

- Create a New Managed User
- Revoke a Managed User's Access to WinSPC
- Convert a Managed User to an Unmanaged User
- Convert an Unmanaged User to a Managed User
- Delete a Managed User from WinSPC
- Move a Managed User to a Different User Group
- Rename a Managed User
- Setup a Role-Specific WinSPC User Group in Active Directory so a Role-Specific User Group in WinSPC can be Linked to it
- Link a Role-Specific User Group in WinSPC to a Role-Specific WinSPC User Group in Active Directory
- Unlink a Role-Specific User Group in WinSPC User Group from Active Directory
- Rename a WinSPC User Group in Active Directory or WinSPC
- Change the Interval for Automatic Refreshes of Managed Users
- Force a Refresh of Managed Users

Create a New Managed User

1. Create the user in ***Active Directory*** if he or she doesn't already exist.
2. Assign the user to the main ***Active Directory*** user group for WinSPC users.
3. If your implementation employs role-specific WinSPC user groups in ***Active Directory***, assign the user to the appropriate role-specific group.
4. Allow the user refresh interval to pass. (By default, this interval is 15 minutes. It can be changed using the Change the Interval for Automatic Refreshes of Managed Users procedure below.)
5. If your implementation does not employ role-specific WinSPC user groups in ***Active Directory***, move the user to the appropriate role-specific group within WinSPC. (If your implementation employs role-specific groups in ***Active Directory***, the user will automatically be imported into the appropriate group in WinSPC.)

An alternative way to create a new managed user is to copy an existing managed user and then complete the Convert an Unmanaged User to a Managed User procedure. Completing this procedure is necessary because a copy of a managed user is created as an unmanaged user.

Revoke a Managed User's Access to WinSPC

1. In ***Active Directory***, remove the user from the main user group for WinSPC users.
2. Allow the refresh users interval to pass. (By default, this interval is 15 minutes. It can be changed using the Change the Interval for Automatic Refreshes of Managed Users procedure below.)

Completing these two steps removes the user from WinSPC but does not delete any data associated with that user from the WinSPC database. If, in the future, the revoked user ID is reinstated, the data previously associated with it will be re-associated with it.

An alternative to the above two steps is to, in ***Active Directory***, right-click the user whose access you want to revoke and select ***Disable Account.*** Managed users whose account is disabled will be unable to log into WinSPC.

Convert a Managed User to an Unmanaged User

1. In WinSPC, double-click the managed user.
   a. On the ***General*** tab of the ***User Setup*** window that is displayed:
   b. Uncheck Linked to ***Active Directory***.
   c. At ***New Password***, enter a password.
   d. At ***Confirm New Password***, enter the same password.
   e. Click ***OK***.
2. (Optional) In ***Active Directory***, remove the user from the main user group for WinSPC users and any role-specific WinSPC group he or she was assigned to.

   This step is not required for a user to be unmanaged. You may wish to complete it to preclude the user's name from appearing in the ***Active Directory Resolver*** window in the future.

Convert an Unmanaged User to a Managed User

1. In ***Active Directory***:
   a. Create the user if he or she isn't yet created.
   b. Add the user to the main user group for WinSPC users.
   c. (Optional) If your ***Active Directory*** integration employs role-specific WinSPC user groups in ***Active Directory***, assign the user to a role-specific group.

      Though not technically required in order for an unmanaged user to be converted to a managed user, this step is recommended simply to keep the organization of role-specific users unified between ***Active Directory*** and WinSPC.
2. In WinSPC:
   a. Right-click the user and select ***Managed*** from the shortcut menu that appears.
   b. In the ***Active Directory Linker*** that appears, select the appropriate ***Active Directory*** user ID and click ***OK***. (If WinSPC finds an ID in the main ***Active Directory*** user group for WinSPC users that identically matches the user you are converting, it selects that ID automatically.)
   c. Click ***OK***.
   d. If a ***Confirm*** message indicating the ID of the WinSPC user you are converting will change appears and you are certain you selected the correct ID in step 2b, click ***Yes***.
   e. In the ***Information*** message that is displayed, click OK.

Delete a Managed User from WinSPC

1. Complete the Convert a Managed User to an Unmanaged User procedure.
2. Right-click the user and select ***Delete***.
3. In the ***Confirm*** message that appears, click ***Yes***.
4. In ***Active Directory***, remove the user from the main user group for WinSPC users and any role-specific group to which he or she was assigned.

   Neglecting to remove the user from the main ***Active Directory*** user group for WinSPC users could result in that user being re-imported into WinSPC once the next automatic refresh of users completes.

Move a Managed User to a Different User Group

1. In WinSPC, drag the user to the different group.
2. (Optional) If your ***Active Directory*** integration employs role-specific WinSPC user groups in ***Active Directory***, reassign the user to the role-specific WinSPC user group in ***Active Directory*** that is linked to the different group.

   This step is optional because the support for ***Active Directory*** in WinSPC does not extend to synchronizing WinSPC user groups with ***Active Directory*** user groups on an ongoing basis and a mismatch between the two has no effect on functionality. Some may want to manually synchronize user groups just to eliminate possible future confusion surrounding which users are to be in which groups.

Rename a Managed User

Since first and last names are not part of what ***Active Directory*** manages for WinSPC, when we speak of renaming a managed user we are really speaking of changing the login ID of a managed user.

1. In ***Active Directory***, change the login ID as desired.
2. Allow the refresh users interval to pass. (By default, this interval is 15 minutes. It can be changed using the Change the Interval for Automatic Refreshes of Managed Users procedure below.)

Setup a Role-Specific WinSPC User Group in *Active Directory* so a Role-Specific User Group in WinSPC can be Linked to it

1. Create the role-specific WinSPC user group in ***Active Directory***.
2. Assign users to this group.
3. Ensure those users are also assigned to the main ***Active Directory*** user group for WinSPC users.
4. Remove those users from any other role-specific WinSPC group in ***Active Directory*** that they are members of.

Link a Role-Specific User Group in WinSPC to a Role-Specific WinSPC User Group in Active Directory

1. Right-click the role-specific user group in WinSPC and select ***Properties***.
2. In the ***User Group Setup*** window that appears, select the ***Defaults*** tab.
3. Toward the bottom of this tab, check the ***Active Directory Integration*** check box if it isn't already enabled.
4. At ***Users Group***, click ***Find***.
5. In the ***Active Directory Group Search*** window that appears, select the group's counterpart ***Active Directory*** role-specific group and click ***OK***.
6. Confirm that, at ***Users Group***, the group now shown is the correct group.

7. Click ***OK***.
8. Allow the user refresh interval to pass. (By default, this interval is 15 minutes. It can be changed using the Change the Interval for Automatic Refreshes of Managed Users procedure below.)
9. If necessary, resolve any unlinked users. (See Phase VI: Link Existing WinSPC Users to Active Directory Users.)

Unlink a Role-Specific User Group in WinSPC User Group from Active Directory

1. Right-click the WinSPC user group and select ***Properties***.
2. In the ***User Group Setup*** window that appears, select the ***Defaults*** tab.
3. Toward the bottom of this tab, uncheck the ***Active Directory Integration*** check box.
4. Click OK.

Completing this procedure has no impact on managed users who are members of the group in WinSPC being unlinked. It merely prevents new users who in the future get added to the main ***Active Directory*** user group for WinSPC users and the role-specific WinSPC group in ***Active Directory*** that the role-specific user group in WinSPC was previously linked to from being automatically imported into the now unlinked role-specific user group in WinSPC and instead, lists such users in the ***Active Directory Resolver*** window's ***Active Directory Users Not Yet Linked*** list under ***All Possible Users***. (See Phase VI: Link Existing WinSPC Users to Active Directory Users for more information on this list.)

Rename a WinSPC User Group in WinSPC or Active Directory

1. Simply rename the group as you would any user group.

   Renaming a user group, whether in ***Active Directory*** or WinSPC, has no effect on the management of users in that group.

   If the renaming occurs in ***Active Directory***, the new name will be reflected in the ***User Group*** list found on the ***Defaults*** tab of the ***User Group Setup*** window the next time that window is displayed for the affected user group.

   Changing a group name in ***Active Directory*** does not result in that name change being automatically applied to the counterpart group in WinSPC. The reverse is also true. If you want a name change to be reflected in both in ***Active Directory*** and WinSPC, you'll need to manually change the name in both places.

Change the Interval for Automatic Refreshes of Managed Users

By default, managed users in WinSPC are refreshed every 15 minutes. This interval can be changed by editing the ***ActiveDirSynchIntervalMinutes*** setting in the configuration file for the WinSPC application server. The configuration file itself contains a description of this setting.

1. On the machine hosting the WinSPC application server, open the ***WinSPCsvr.ini*** file. (The default location for this file is ***C:\Program Data\DQS\WinSPC Server***.
2. Within this file, under ***Settings***, enter the following on a blank line:

   ```
   ActiveDirSynchIntervalMinutes=
   ```

3. To the right of the equals sign, without inserting an intervening space, enter a number (e.g., 5). This number represents the number of minutes for the refresh interval.
4. Ensure no semicolon (;) appears at the beginning of the line. Your entry should look like this:

   ```
   ActiveDirSynchIntervalMinutes=5
   ```

5. Save and close the file.

Force a Refresh of Managed Users

1. Log into WinSPC as the ***Admin*** user.
2. From the ***Tools*** menu, select ***System Settings***.
3. Click the ***System Settings*** window's ***Active Directory*** tab.
4. On this tab, click the ***Refresh Users Now*** button.
5. In the ***Information*** message that is displayed, click ***OK***.

Report Designer

REPORT DESIGNER ENHANCEMENTS

The WinSPC 9 version of the ***Report Designer*** has undergone both expansion and simplification.

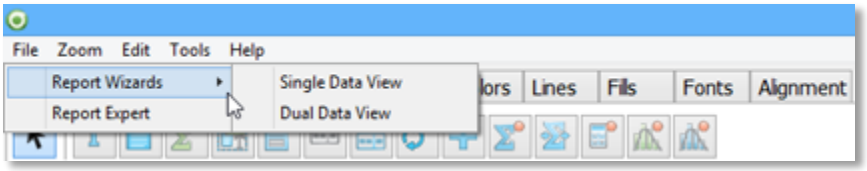
The expansion primarily concerns the ability to report on attribute and collection plan data.

As part of the ability to report on attribute data, there are six new data views related to attributes: ***Attribute_***, ***AttributeCalcByUser_***, ***AttributeCalcByStation_***, ***AttributeSubgroup_***, ***AttributeTag_***, and ***AttributeViolation_***. There is also a new ***AttributeChart*** component.

This component is found on the tool bar's ***Reports*** tab and, as its name implies, enables you to include charts of attribute data in your reports. This component supports the following attribute chart types: ***C, Histogram (Counts), N-bar P, N-bar Q, N-bar U, NP, NQ, P, Pareto (Cost / Count), Pareto (Cost), Pareto (Count / Cost), Pareto (Count), Pareto on Assignable Causes, Pareto on Corrective Actions, Pareto on Notes, Pie Chart (Causes), Pie Chart (Cost / Count), Pie Chart (Cost), Pie Chart (Count / Cost), Pie Chart (Count), Pie Chart (Notes), Q, Skew vs. Index of Dispersion,*** and ***U***.

As part of the ability to report on collection plan data, there are three new data views related to collection plans: ***CollectionPlan_***, ***CollectionPlanVarStep_***, and ***CollectionPlanAttrStep_***.

In addition to this new support for attribute and collection plan data, the report wizards have been upgraded. These wizards, accessible from the ***Tools*** menu, are now named ***Single Data View*** and ***Dual Data View***.



They provide the fastest way to create reports that access one or two data views.

The simplification that the ***Report Designer*** has undergone mostly involves the elimination of two seldom used tool bars and the replacement of the somewhat complex global pages concept with a more intuitive shared pages concept.

Finally, there is a new comprehensive self-study guide that you can use to become proficient in designing reports. The name of this guide is the *WinSPC 9 Report Designer Guide* and a PDF version of it accessed from the ***Documentation*** folder in the ***Help*** menu of WinSPC 9.

THE ATTRIBUTE ANALYZER

The ***Attribute Analyzer*** is a tool for analyzing an attribute. Once data is collected for an attribute, a great deal of information related to that attribute can be extracted: capability parameters, performance parameters, distribution information, and pareto information to name some. The ***Attribute Analyzer***, with only two mouseclicks, extracts this information and organizes it in one location, enabling analysts to thoroughly understand what is going on with an attribute. In addition, the ***Attribute Analyzer*** enables users to experiment with an attribute's calculation settings—such as the ***Control Limit Spread***—and possibly further illuminate the underlying process.

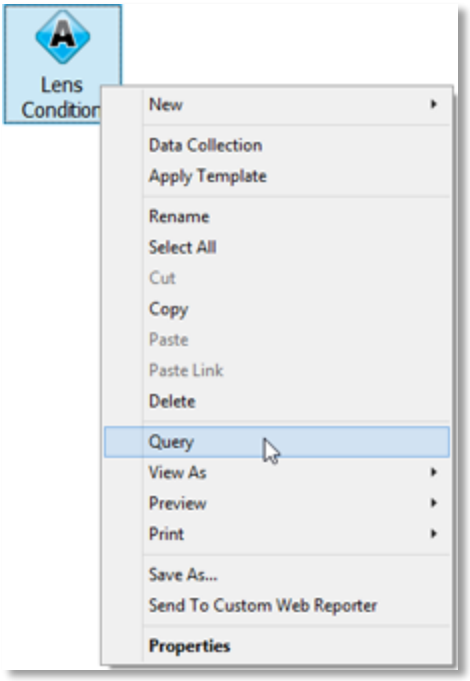
The primary procedures associated with the ***Attribute Analyzer*** are:

- Accessing the Attribute Analyzer
- Using the Attribute Analyzer's Tool Bar
- Using the Attribute Analyzer's Calculation Settings Panel
- Using the Attribute Analyzer's Summary Tab
- Using the Attribute Analyzer's Chart Tab
- Using the Attribute Analyzer's Pareto Analysis Tab
- Using the Attribute Analyzer's Data Grid Tab
- Using the Attribute Analyzer's Distribution Analysis Tab
- Using the Attribute Analyzer's Goodness of Fit Tab
- Using the Attribute Analyzer's Events Tab

ACCESSING THE ATTRIBUTE ANALYZER

There are two ways to access the ***Attribute Analyzer***. The first is to:

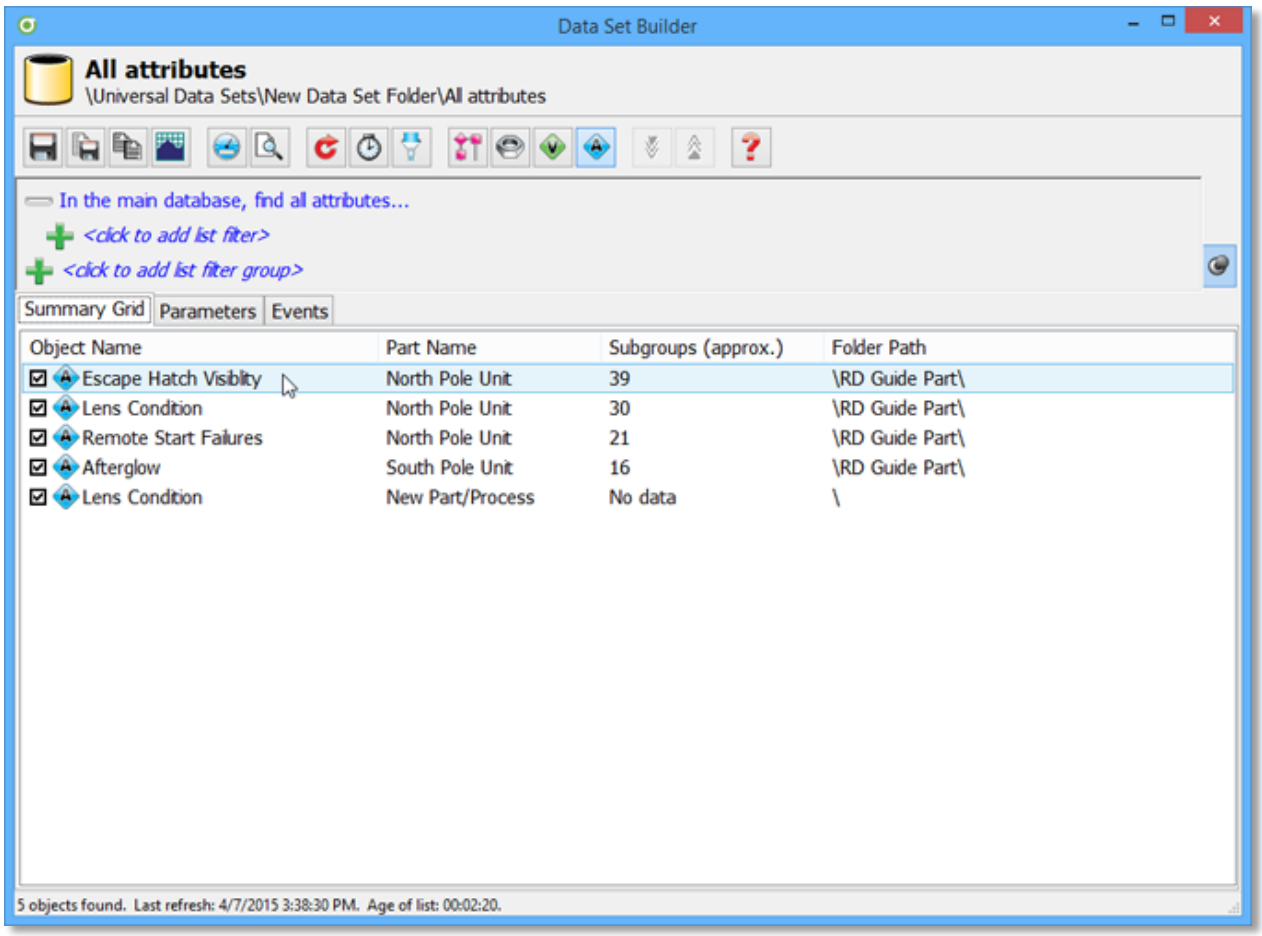
1. Right-click an attribute and select ***Query***.



The second is to:

1. Double-click a data set that contains an attribute.

2. In the ***Data Set Builder*** that appears, double-click an attribute listed on the ***Summary Grid*** tab.



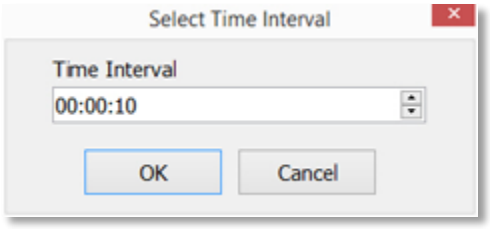
USING THE ATTRIBUTE ANALYZER'S TOOL BAR

There are ten buttons on the ***Attribute Analyzer's*** tool bar.

From left to right, these are:

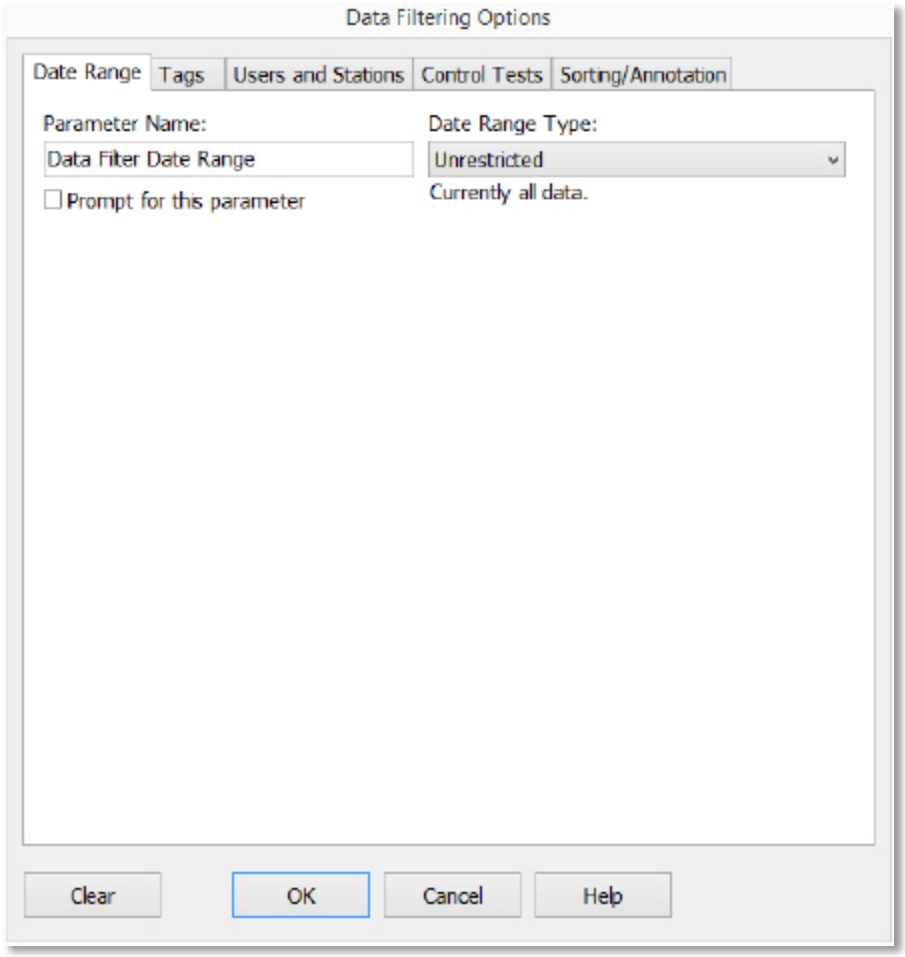
- ***Export to file***: See the section titled New Options for Exporting Data below for details on this button.
- ***Copy to clipboard***: Use this button to copy the attribute's data to your computer's clipboard so it then can be pasted into *Excel, Notepad*, or some other such application. When the data is pasted, column headings are included, making the data easy to understand.
- ***Export to Custom Web Reporter***: Use this button to export the attribute data to ***Custom Web Reporter***.
- ***View as***: Use this button to view the attribute data in a dashboard.
- ***Preview***: Use this button to preview the attribute data in a report. Clicking it displays a menu of all the report template folders in the ***Report Templates*** branch of the ***Administrator*** tree. Mouseover the folders in this branch until the report template you'd like to use is exposed and then click that template.
- ***Refresh now***: Use this button to refresh the ***Attribute Analyzer*** with changes to the attribute data since the attribute was loaded. (Changes can include new data points, edited data points, or deleted data points.)

- ***Periodic refresh***: Use this button to change the frequency that the attribute's data is automatically refreshed. The default frequency is 10 seconds. Clicking this button displays a small ***Select Time Interval*** window.



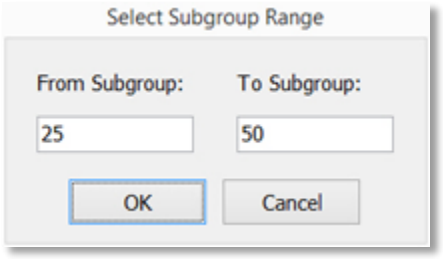
  Within this window, in the ***Time Interval*** field, the first pair of digits are hours, the second pair are minutes, and the last pair are seconds. To change the interval, select a pair of digits, click the up or down arrows until the desired interval is specified, and click ***OK***.

- ***Data filter is inactive / active***: Use this button to toggle data filters on and off. By default, data filters are off and ***Data filter is inactive*** is displayed when you mouseover this button. Clicking it in this state causes the ***Data Filtering Options*** window to be displayed.



  You can filter the data that is analyzed examined using any of the tabs in this window: ***Date Range***, ***Tags***, ***Users and Stations***, ***Control Tests***, ***Sorting / Annotation***. For more information, see the ***Filtering The Data In A Data Set*** topic in the ***WinSPC Help***.

- ***Subgroup Range***: Use this button to narrow the range of subgroups examined by the ***Attribute Analyzer***. Clicking it displays a ***Select Subgroup Range*** window.

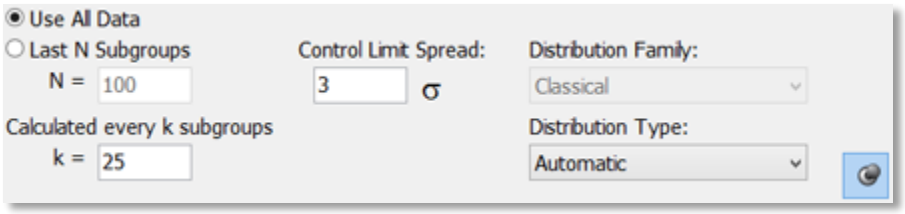


  Clicking it a second time returns the range to *all* the subgroups collected for the attribute.

- ***Drill Down***: Use this button to step back up through recent drill-downs. For more information on drill-downs, see Chart Drill-Down in the Variable Analyzer and Attribute Analyzer later in this document.
- ***Help***: Use this button to access the ***WinSPC Help*** system. Clicking it displays the ***Introduction to the Attribute Analyzer*** topic.

USING THE ATTRIBUTE ANALYZER'S CALCULATION SETTINGS PANEL

The ***Calculation Settings Panel*** is located at the top of the ***Attribute Analyzer***, just below the tool bar.



You can use this panel to experiment with calculation settings and see how different settings affect the analysis of the attribute. From that, you may get deeper insight into a process. You can specify the following options:

- ***Use All Data***: Use this option to employ all of the attribute's data when calculating control limits.
- ***Last N Subgroups***: Use this option to limit the data employed when calculating control limits and statistics to only the last user-specified number of subgroups.
- ***Calculated every k subgroups***: Use this option to specify the interval at which calculated control limits and statistics are to be recalculated.
- ***Control Limit Spread***: Use this option to set the number of Sigma used in calculations.
- ***Distribution Family***: Unlike the ***Variable Analyzer***, in which there are two distribution families that can be selected, the ***Attribute Analyzer*** only employs the ***Classical*** family. Consequently, this option is not customizable.
- ***Distribution Type***: Use this option to select a distribution type for the ***Classical*** distribution family. There are seven different types from which you can choose. The type you select changes the analysis on the ***Summary*** tab as well as the analysis on the ***Chart*** tab (both of which are discussed below).

In addition to these settings, the ***Calculation Settings Panel*** has a ***Pin*** icon in its lower right corner. This icon enables you to *pin* or *unpin* the panel. *Pin* here means *lock open*. By default, the ***Attribute Analyzer*** opens in the pinned state. When unpinned, the panel collapses when the mouse moves off of it and expands when the mouse moves back onto it.

USING THE ATTRIBUTE ANALYZER'S SUMMARY TAB

The ***Summary*** tab is displayed by default whenever the ***Attribute Analyzer*** is launched. This tab contains general information, distribution information (which is pulled from the ***Distribution Analysis*** tab), capability parameters, and performance parameters. A histogram is also displayed.

By right-clicking the histogram, you access a menu that enables you to perform three histogram-specific actions. The options on the right-click menu are:

- ***Show***: This option contains a submenu that includes two items—***Control Limits*** and ***Distribution***. Checking or unchecking ***Control Limits*** shows or hides the attribute's control limits on the histogram. Checking or unchecking ***Distribution*** shows or hides the attribute's distribution curve.
- ***Copy***: This option copies the histogram so it can be pasted into another application.
- ***Scheme***: This option contains the standard chart schemes that ship with WinSPC plus an option to temporarily customize schemes. The ***Attribute Analyzer*** always opens with whatever scheme is set as the ***Screen Display*** default for the user logged into WinSPC. (The ***Screen Display*** setting is found on the ***Defaults*** tab of the ***User Setup*** window.) To temporarily switch to a different chart scheme, simply select the desired scheme. Selections made in this manner are not saved when the ***Attribute Analyzer*** is closed. To temporarily customize the currently selected scheme, select ***Customize***. This displays the ***Chart Scheme Customization*** window. Customize the settings in this window as you wish and then click ***OK*** to apply them. Customizations made in this manner are not saved when the ***Attribute Analyzer*** is closed. (For instructions on permanently saving chart scheme customizations or to create a new scheme, see ***Chart Schemes***, ***Setting Up*** in the WinSPC ***Help***.)

The histogram on this tab is enabled with *drill-down* capability. This capability is discussed in Chart Drill- Down in the Variable Analyzer and Attribute Analyzer later in this document.

USING THE ATTRIBUTE ANALYZER'S CHART TAB

The ***Chart*** tab of the ***Attribute Analyzer*** displays the data collected for an attribute in chart form. The chart type shown is whatever is set as the ***Default Chart Type*** on the ***Settings*** tab of the ***Attribute Setup*** window.

The chart is sensitive to the changes made in the ***Calculation Settings Panel*** and, like the histogram on the *Summary* tab, it is enabled with the *drill-down* capability discussed later in Chart Drill- Down in the Variable Analyzer and Attribute Analyzer.

Clicking a data point in the chart brings up the ***Data Point Viewer***. Mousing over a data point brings up summary information about the data point.

Right-clicking the chart displays a menu that enables you to interact with the chart. The options on this menu are:

- ***Chart Type***: This option lists the different types of charts appropriate for attribute data. To switch to a different type, simply select it.
- ***Sort Order***: This option displays a submenu that contains alternative ways to sort the chart data. You can sort by: ***Subgroup Number***; ***Date/Time***; ***Station Name***; ***User Name***; and ***Tag Value***. By default, ***Subgroup Number*** is selected. The ***Date/Time*** option has its own submenu which allows you to specify whether you want to sort by ***Month***, ***Week***, ***Day***, or ***Hour***. Similarly, ***Tag Value*** has its own submenu which allows you to select the tag to sort by. Sorting by anything other than ***Subgroup Number*** results in alternating light and dark vertical bands being used on the chart to visually distinguish one grouping of data points from the next. Once a chart has been sorted, clicking one of its vertical bands isolates that band—meaning the other bands are removed from view. To restore the other bands to view, deactivate the new ***Drill Down*** tool bar button by clicking it.
- ***Show***: This option contains a submenu that includes three items—***Histograms***, ***Control Limits***, and ***Historical Control Limits***. Selecting any of these items toggles that item on or off. *Historical control limits* are indicated with a dashed line and represent the control limits that were in place when the data point was collected. (If you enable historical control limits but do not see them on the chart, you can conclude that there is no difference between the historical limits and the current limits. Toggling ***Control Limits*** off, in this case, will result in the historical values being visible.)

- ***Copy***: This option copies the attribute chart so it can be pasted into another application.
- ***Scroll Bar***: This option toggles a horizontal scroll bar on and off. The scroll bar, when on, appears at the bottom of the chart.
- ***Scheme***: This option is identical to the ***Scheme*** option in the ***Summary*** tab's right-click menu discussed above.

Right-clicking and dragging on the chart selects a group of data points and displays a menu that enables you to: zoom in on those data points in a variety of ways; exclude and unexclude those data points collectively; and add assignable causes, corrective actions, or notes to those data points collectively. The options on this menu are:

- ***Zoom In***: Select this option to zoom in on just the selected data points.
- ***Zoom In (X-axis only)***: Select this option to zoom in on the selected data points in such a way that only the horizontal distance between data points increases; in other words, in such a way that the vertical distance between data points remains unaffected.
- ***Zoom Out***: Select this option to zoom back out to the full set of data points after zooming in using one of the two preceding options. (Alternatively, you can reverse the effect of the two preceding options simply by left-clicking and dragging over any number of data points.)
- ***Filter to Selection***: Select this option to narrow the number of data points displayed and analyzed to only those selected. To remove the filter, click the ***Subgroup Range*** button in the ***Calculation Settings Panel*** tool bar.
- ***Exclude***: Select this option to exclude the selected data points. An excluded data point is marked by a red diamond X. When excluded data points are shown or hidden on the chart, associated markers (i.e., ***Notes***, ***Edit***, and ***Historical*** markers) are also shown or hidden. In addition, when excluded data points are displayed, a dashed secondary data line appears. This line indicates where the primary data line would be if the point were not excluded.
- ***Unexclude***: Select this option to again include any data points in the selection that were previously excluded.
- ***Add Assignable Cause***: Select this option to supply the same assignable cause for each data point in the selection.
- ***Add Corrective Action***: Select this option to supply the same corrective action for each data point in the selection.
- ***Add Note***: Select this option to supply the note for each data point in the selection.

USING THE ATTRIBUTE ANALYZER'S PARETO ANALYSIS TAB

The ***Pareto Analysis*** tab gives you two ways to visualize attribute specifics: through ***Pareto*** charts and through ***pie*** charts. (***Pareto*** charts, for anyone unfamiliar with them, are an established SPC tool.) Both *Pareto* and pie charts are enabled with *drill-down* capability. For details on this, see Chart Drill-Down.

By right-clicking whichever chart is displayed on this tab, you can display a menu that allows you to interact with the chart. The right-click menu options are:

- ***Chart Type***: Mouseover this option to view the two forms of chart types: ***Pareto Charts*** and ***Pie Charts***. Mouseover one of these forms to view its chart types. Click on a chart type to select it.

  For each chart type, there are visual elements that users can enable at their discretion. These elements are discussed both in the below chart type's descriptions and in the discussion of the right-click menu's ***Show*** option which follows the discussion of this ***Chart Type*** option.

  The available ***Pareto Charts*** are:

  - ***Count***:

    - For attributes that count defects independent of location, each bar on the ***Count*** chart represents a unique defect type. The height of a bar indicates the bar's count—the number of times that bar's defect type occurred. Mousing over a bar displays two values: ***Count*** and ***Percent of Total***. ***Count*** is the bar's count as just defined. ***Percent of Total*** is the count as a percentage of all the defects counted for the attribute.

Enabling the ***Line*** element for this attribute type adds a solid circle above each bar and connects the circles with a line. Each circle represents the cumulative defect count up to and including its corresponding bar. Mousing over a circle displays additional ***Count*** and ***Percent of Total*** values. Here, ***Count*** is the cumulative count and ***Percent of Total*** is that cumulative count as a percentage of all the defects counted for the attribute.

Enabling the ***Bar Count*** element adds a bar's ***Count*** value directly above that bar.

Enabling the ***Bar Percent*** element adds a bar's ***Percent of Total*** value above that bar.

- For attributes that count defects by location, the appearance and behavior of the ***Count*** chart varies depending on whether or not ***Locations*** is enabled. (As discussed below, ***Locations*** is an option in the ***Show*** submenu.)

  If ***Locations*** is not enabled, the chart looks and functions exactly as described above for attributes that count defects independent of location. This includes how the optional elements (***Line***, ***Bar Count***, and ***Bar Percent***) look and function.

  If ***Locations*** is enabled, there are two types of bars on the chart: a summary type and a detail type. Summary bars are outlined with dashes and do not have a fill color that is distinct from the chart's background color. Detail bars are smaller and are filled with a distinct color.

  Each summary bar represents a unique defect type and contains one or more detail bars. The height of a summary bar indicates its count—the total number of times its defect type occurred. Mousing over a summary bar displays two values: ***Count*** and ***Percent of Total***. ***Count*** is the summary bar's count as just defined. ***Percent of Total*** is that count as a percentage of all the defects counted for the attribute.

  Each detail bar within a summary bar represents a unique location for the summary bar's defect type. The height of a detail bar indicates the number of times the summary bar's defect type occurred in the detail bar's location. Mousing over a detail bar displays the location name.

  Enabling the ***Line*** element for this attribute type adds a solid circle above each detail bar and connects the circles with a line. Each circle represents the cumulative defect count up to and including its corresponding detail bar. Mousing over a circle displays additional ***Count*** and ***Percent of Total*** values. Here, ***Count*** is the cumulative count and ***Percent of Total*** is that cumulative count as a percentage of all the defects counted for the attribute.

  Enabling the ***Bar Count*** element adds a summary bar's ***Count*** value directly above that summary bar.

  Enabling the ***Bar Percent*** element adds a summary bar's ***Percent of Total*** value above that summary bar.

- For attributes that count defective units, the ***Count*** chart consists of only one bar and that bar indicates the total number of defective units. Mousing over that bar displays two values: ***Count*** and ***Percent of Total***. ***Count*** is the total number of defective units. ***Percent of Total*** is always ***100%***.

  Enabling the ***Line*** element for this chart has no effect.

  Enabling the ***Bar Count*** element adds the bar's ***Count*** value directly above the bar.

  Enabling the ***Bar Percent*** element adds the bar's ***Percent of Total*** value above the bar.

- ***Cost***: This chart, like the other cost-related charts below, is only meaningful when weights have been specified for an attribute's defect types. Specifying weights is done on the ***Defect Types*** tab of the ***Attribute Setup*** window. In this context, *weight* is a factor, not a measurement of how heavy something is. The ***Defect Types*** tab is not available for attributes that count defective units, just attributes that count defects.

  - For attributes that count defects independent of location, each bar on this ***Cost*** chart represents a unique defect type. The height of a bar indicates the bar's cost—the cost of the defects of that bar's

defect type. Mousing over a bar displays two values: ***Cost*** and ***Percent of Total***. ***Cost*** is the bar's cost as just defined. ***Percent of Total*** is the cost as a percentage of all the defect costs for the attribute.

Enabling the ***Line*** element for this attribute type adds a solid circle above each bar and connects the circles with a line. Each circle represents the cumulative defect cost up to and including its corresponding bar. Mousing over a circle displays additional ***Cost*** and ***Percent of Total*** values. Here, ***Cost*** is the cumulative cost and ***Percent of Total*** is that cumulative cost as a percentage of the total cost of defects.

Enabling the ***Bar Count*** element adds a bar's ***Cost*** value directly above that bar.

Enabling the ***Bar Percent*** element adds a bar's ***Percent of Total*** value above that bar.

- For attributes that count defects by location, the appearance and behavior of the ***Cost*** chart varies depending on whether or not ***Locations*** is enabled. (As discussed below, ***Locations*** is an option in the ***Show*** submenu.)

  If ***Locations*** is not enabled, the chart looks and functions exactly as described above for attributes that count defects independent of location. This includes how the optional elements (***Line***, ***Bar Count***, and ***Bar Percent***) look and function.

  If ***Locations*** is enabled, there are two types of bars on the chart: a summary type and a detail type. Summary bars are outlined with dashes and do not have a fill color that is distinct from the chart's background color. Detail bars are smaller and are filled with a distinct color.

  Each summary bar represents a unique defect type and contains one or more detail bars. The height of a summary bar indicates its cost—the total costs for all defects of that bar's type, regardless of defect location. Mousing over a summary bar displays two values: ***Cost*** and ***Percent of Total***. ***Cost*** is the summary bar's cost as just defined. ***Percent of Total*** is that cost as a percentage of all defect costs for the attribute.

  Each detail bar within a summary bar represents a unique location for the summary bar's defect type. The height of a detail bar indicates the cost of the summary bar's defect type in the detail bar's location. Mousing over a detail bar displays the location name.

  Enabling the ***Line*** element for this attribute type adds a solid circle above each detail bar and connects the circles with a line. Each circle represents the cumulative cost of the summary bar's defect type up to and including the circle's corresponding detail bar. Mousing over a circle displays additional ***Cost*** and ***Percent of Total*** values. Here, ***Cost*** is the cumulative cost for the defect type and ***Percent of Total*** is that cumulative count as a percentage of all defect costs for the attribute.

  Enabling the ***Bar Count*** element adds a summary bar's ***Cost*** value directly above that summary bar.

  Enabling the ***Bar Percent*** element adds a summary bar's ***Percent of Total*** value above that summary bar.

- ***Count/Cost***: This type divides the chart area of the ***Pareto Analysis*** tab into two and displays the ***Count*** type in the top half and the ***Cost*** type in the bottom half. (See the ***Count*** chart writeup above for specifics on the top half and the ***Cost*** chart writeup for specifics on the bottom half.)
- ***Cost/Count***: This type divides the chart area of the ***Pareto Analysis*** tab into two and displays the ***Cost*** type in the top half and the ***Count*** type in the bottom half. (See the ***Count*** chart writeup above for specifics on the bottom half and the ***Cost*** chart writeup for specifics on the top half.)
- ***Assignable Causes***: To view this chart type, mouseover ***Annotations***. Each bar represents a unique assignable cause. The height of a bar indicates the number of times that bar's assignable cause occurred. Mousing over a bar displays two values: ***Count*** and ***Percent of Total***. ***Count*** is the number of times that bar's assignable cause occurred. ***Percent of Total*** is that number as a percentage of all the assignable causes counted for the attribute.

Enabling the ***Line*** element for this chart type adds a solid circle above each bar and connects the circles with a line. Each circle represents the cumulative count of assignable causes up to and including the circle's corresponding bar. Mousing over a circle displays additional ***Count*** and ***Percent of Total*** values. Here, ***Count*** is the cumulative count of assignable causes and ***Percent of Total*** is that cumulative count as a percentage of all assignable causes.

Enabling the ***Bar Count*** element adds a bar's ***Count*** value directly above that bar.

Enabling the ***Bar Percent*** element adds a bar's ***Percent of Total*** value above that bar.

- ***Corrective Actions***: To view this chart type, mouseover ***Annotations***. Each bar represents a unique corrective action. The height of a bar indicates the number of times that bar's corrective action occurred. Mousing over a bar displays two values: ***Count*** and ***Percent of Total***. ***Count*** is the number of times that bar's corrective action occurred. ***Percent of Total*** is that number as a percentage of all the corrective actions counted for the attribute.

  Enabling the ***Line*** element for this chart type adds a solid circle above each bar and connects the circles with a line. Each circle represents the cumulative count of corrective actions up to and including the circle's corresponding bar. Mousing over a circle displays additional ***Count*** and ***Percent of Total*** values. Here, ***Count*** is the cumulative count of corrective actions and ***Percent of Total*** is that cumulative count as a percentage of all corrective actions.

  Enabling the ***Bar Count*** element adds a bar's ***Count*** value directly above that bar.

  Enabling the ***Bar Percent*** element adds a bar's ***Percent of Total*** value above that bar.

- ***Notes***: To view this chart type, mouseover ***Annotations***. Each bar represents a unique note. The height of a bar indicates the number of times that bar's note occurred. Mousing over a bar displays two values: ***Count*** and ***Percent of Total***. ***Count*** is the number of times that bar's note occurred. ***Percent of Total*** is that number as a percentage of all the notes counted for the attribute.

  Enabling the ***Line*** element for this chart type adds a solid circle above each bar and connects the circles with a line. Each circle represents the cumulative count of notes up to and including the circle's corresponding bar. Mousing over a circle displays additional ***Count*** and ***Percent of Total*** values. Here, ***Count*** is the cumulative count of notes and ***Percent of Total*** is that cumulative count as a percentage of all notes.

  Enabling the ***Bar Count*** element adds a bar's ***Count*** value directly above that bar.

  Enabling the ***Bar Percent*** element adds a bar's ***Percent of Total*** value above that bar.

- ***Months***: To view this chart type, mouseover ***Date/Time***. Each bar represents a unique month. The height of a bar indicates the number of defects or defective units counted in that month. Mousing over a bar displays two values: ***Count*** and ***Percent of Total***. ***Count*** is the number of defects or defective units counted in that month. ***Percent of Total*** is that number as a percentage of all defects or defective units.

  Enabling the ***Line*** element for this chart type adds a solid circle above each bar and connects the circles with a line. Each circle represents the cumulative count of defects or defective units up to and including the circle's corresponding bar. Mousing over a circle displays additional ***Count*** and ***Percent of Total*** values. Here, ***Count*** is the cumulative count of defects or defective units and ***Percent of Total*** is that cumulative count as a percentage of all not defects or defective units.

  Enabling the ***Bar Count*** element adds a bar's ***Count*** value directly above that bar.

  Enabling the ***Bar Percent*** element adds a bar's ***Percent of Total*** value above that bar.

- ***Weeks***: To view this chart type, mouseover ***Date/Time***. Each bar represents a unique week. The height of a bar indicates the number of defects or defective units counted in that week. Mousing over a bar displays two values: ***Count*** and ***Percent of Total***. ***Count*** is the number of defects or defective units counted in that week. ***Percent of Total*** is that number as a percentage of all defects or defective units.

Enabling the ***Line*** element for this chart type adds a solid circle above each bar and connects the circles with a line. Each circle represents the cumulative count of defects or defective units up to and including the circle's corresponding bar. Mousing over a circle displays additional ***Count*** and ***Percent of Total*** values. Here, ***Count*** is the cumulative count of defects or defective units and ***Percent of Total*** is that cumulative count as a percentage of all not defects or defective units.

Enabling the ***Bar Count*** element adds a bar's ***Count*** value directly above that bar.

Enabling the ***Bar Percent*** element adds a bar's ***Percent of Total*** value above that bar.

- ***Days***: To view this chart type, mouseover ***Date/Time***. Each bar represents a unique day. The height of a bar indicates the number of defects or defective units counted in that day. Mousing over a bar displays two values: ***Count*** and ***Percent of Total***. ***Count*** is the number of defects or defective units counted in that day. ***Percent of Total*** is that number as a percentage of all defects or defective units.

  Enabling the ***Line*** element for this chart type adds a solid circle above each bar and connects the circles with a line. Each circle represents the cumulative count of defects or defective units up to and including the circle's corresponding bar. Mousing over a circle displays additional ***Count*** and ***Percent of Total*** values. Here, ***Count*** is the cumulative count of defects or defective units and ***Percent of Total*** is that cumulative count as a percentage of all not defects or defective units.

  Enabling the ***Bar Count*** element adds a bar's ***Count*** value directly above that bar.

  Enabling the ***Bar Percent*** element adds a bar's ***Percent of Total*** value above that bar.

- ***Hours***: To view this chart type, mouseover ***Date/Time***. Each bar represents a unique hour. The height of a bar indicates the number of defects or defective units counted in that hour. Mousing over a bar displays two values: ***Count*** and ***Percent of Total***. ***Count*** is the number of defects or defective units counted in that hour. ***Percent of Total*** is that number as a percentage of all defects or defective units.

  Enabling the ***Line*** element for this chart type adds a solid circle above each bar and connects the circles with a line. Each circle represents the cumulative count of defects or defective units up to and including the circle's corresponding bar. Mousing over a circle displays additional ***Count*** and ***Percent of Total*** values. Here, ***Count*** is the cumulative count of defects or defective units and ***Percent of Total*** is that cumulative count as a percentage of all not defects or defective units.

  Enabling the ***Bar Count*** element adds a bar's ***Count*** value directly above that bar.

  Enabling the ***Bar Percent*** element adds a bar's ***Percent of Total*** value above that bar.

- ***Users***: Each bar represents a unique user. The height of a bar indicates the number of defects or defective units counted by that user. Mousing over a bar displays two values: ***Count*** and ***Percent of Total***. ***Count*** is the number of defects or defective units collected by the user. ***Percent of Total*** is that number as a percentage of defects or defective units collected by all users.

  Enabling the ***Line*** element for this chart type adds a solid circle above each bar and connects the circles with a line. Each circle represents the cumulative count of defects or defective units up to and including the circle's corresponding bar. Mousing over a circle displays additional ***Count*** and ***Percent of Total*** values. Here, ***Count*** is the cumulative count of defects or defective units and ***Percent of Total*** is that cumulative count as a percentage of all not defects or defective units.

  Enabling the ***Bar Count*** element adds a bar's ***Count*** value directly above that bar.

  Enabling the ***Bar Percent*** element adds a bar's ***Percent of Total*** value above that bar.

- ***Stations***: Each bar represents a unique station. The height of a bar indicates the number of defects or defective units counted at that station. Mousing over a bar displays two values: ***Count*** and ***Percent of Total***. ***Count*** is the number of defects or defective units collected at the station. ***Percent of Total*** is that number as a percentage of defects or defective units collected at all stations.

Enabling the ***Line*** element for this chart type adds a solid circle above each bar and connects the circles with a line. Each circle represents the cumulative count of defects or defective units up to and including the circle's corresponding bar. Mousing over a circle displays additional ***Count*** and ***Percent of Total*** values. Here, ***Count*** is the cumulative count of defects or defective units and ***Percent of Total*** is that cumulative count as a percentage of all not defects or defective units.

Enabling the ***Bar Count*** element adds a bar's ***Count*** value directly above that bar.

Enabling the ***Bar Percent*** element adds a bar's ***Percent of Total*** value above that bar.

- ***Tag Values***: Mouseover this chart type to see a list of tags. Then select a tag to see a ***Pareto*** chart of that tag's values. Each bar represents a unique tag value. The height of a bar indicates the number of data points collected with that bar's tag value. Mousing over a bar displays two values: ***Count*** and ***Percent of Total***. ***Count*** is the number of times the tag value was collected. ***Percent of Total*** is that number as a percentage of all tag values.

  Enabling the ***Line*** element for this chart type adds a solid circle above each bar and connects the circles with a line. Each circle represents the cumulative count of tag values up to and including the circle's corresponding bar. Mousing over a circle displays additional ***Count*** and ***Percent of Total*** values. Here, ***Count*** is the cumulative count of tag values and ***Percent of Total*** is that cumulative count as a percentage of all tag values.

  Enabling the ***Bar Count*** element adds a bar's ***Count*** value directly above that bar.

  Enabling the ***Bar Percent*** element adds a bar's ***Percent of Total*** value above that bar.

- ***Violations***: Each bar represents a unique violation. The height of a bar indicates the number of times that bar's violation occurred. Mousing over a bar displays two values: ***Count*** and ***Percent of Total***. ***Count*** is the number of times the violation was collected. ***Percent of Total*** is that number as a percentage of all violations.

  Enabling the ***Line*** element for this chart type adds a solid circle above each bar and connects the circles with a line. Each circle represents the cumulative count of violations up to and including the circle's corresponding bar. Mousing over a circle displays additional ***Count*** and ***Percent of Total*** values. Here, ***Count*** is the cumulative count of violations and ***Percent of Total*** is that cumulative count as a percentage of all violations.

  Enabling the ***Bar Count*** element adds a bar's ***Count*** value directly above that bar.

  Enabling the ***Bar Percent*** element adds a bar's ***Percent of Total*** value above that bar.

The available ***Pie Charts*** are:

- ***Count***:
  - For attributes that count defects, regardless of whether or not they take locations into account, each slice represents a unique defect type. The size of a slice indicates the number of times that slice's defect type occurred. Enabling the ***Value*** element for such an attribute adds the number of times the slice's defect type occurred adjacent to the slice. Enabling the ***Percent*** element adds the number as a percentage of all the defects counted for the attribute adjacent to the slice. Enabling the ***Legend*** element adds a legend on the right of the ***Pareto Analysis*** tab that gives the name of the defect type represented by a slice.
  - For attributes that count defective units, there is only one slice and that slice indicates the total number of defective units. Enabling the ***Value*** element for such an attribute adds the number of defective units below the pie chart. Enabling the ***Percent*** element adds ***100%*** below the pie chart. Enabling the ***Legend*** element adds a legend on the right of the ***Pareto Analysis*** tab that consists solely of ***Defective Units***.
- ***Cost***: This chart, like the other cost-related pie charts below, is only meaningful when weights have been specified for an attribute's defect types. Specifying weights is done on the ***Defect Types*** tab of the

Attribute Setup window. In this context, *weight* is a factor, not a measurement of how heavy something is. The ***Defect Types*** tab is not available for attributes that count defective units, just attributes that count defects. For attributes that count defects, each slice on this chart represents a unique defect type. The size of a slice indicates the cost of the defects of that slice's defect type. Enabling the ***Value*** element for this chart, adds a slice's cost adjacent to the slice. Enabling the ***Percent*** element adds the cost as a percentage of the pie's cost adjacent to the slice. Enabling the ***Legend*** element adds a legend on the right of the ***Pareto Analysis*** tab that gives the name of the defect type represented by a slice.

- ***Count/Cost***: This type divides the chart area of the ***Pareto Analysis*** tab into two and displays a ***Count*** pie chart on the left and a ***Cost*** pie chart on the right. (See the ***Count*** chart writeup above for specifics on the left half and the ***Cost*** chart writeup for specifics on the right half.)
- ***Cost/Count***: This type divides the chart area of the ***Pareto Analysis*** tab into two and displays a ***Cost*** pie chart on the left and a ***Count*** pie chart on the right. (See the ***Cost*** chart writeup above for specifics on the left half and the ***Count*** chart writeup for specifics on the right half.)
- ***Assignable Causes***: To view this chart type, mouseover ***Annotations***. Each slice represents a unique assignable cause. The size of a slice indicates the number of times that slice's assignable cause occurred. Enabling the ***Value*** element adds the number of times a slice's assignable cause occurred adjacent to the slice. Enabling the ***Percent*** element adds that number as a percentage of all of the pie's assignable causes adjacent to the slice. Enabling the ***Legend*** element adds a legend on the right of the ***Pareto Analysis*** tab that gives the assignable cause represented by a slice.
- ***Corrective Actions***: To view this chart type, mouseover ***Annotations***. Each slice represents a unique corrective action. The size of a slice indicates the number of times that slice's corrective action occurred. Enabling the ***Value*** element adds the number of times a slice's corrective action occurred adjacent to the slice. Enabling the ***Percent*** element adds that number as a percentage of all of the pie's corrective actions adjacent to the slice. Enabling the ***Legend*** element adds a legend on the right of the ***Pareto Analysis*** tab that gives the corrective action represented by a slice.
- ***Notes***: To view this chart type, mouseover ***Annotations***. Each slice represents a unique note. The size of a slice indicates the number of times that slice's note occurred. Enabling the ***Value*** element adds the number of times a slice's note occurred adjacent to the slice. Enabling the ***Percent*** element adds that number as a percentage of all of the pie's notes adjacent to the slice. Enabling the ***Legend*** element adds a legend on the right of the ***Pareto Analysis*** tab that gives the note represented by a slice.
- ***Months***: To view this chart type, mouseover ***Date/Time***. Each slice represents a unique month. The size of a slice indicates the number of defects or defective units counted in that month. Enabling the ***Value*** element adds the number of defects or defective units adjacent to the slice. Enabling the ***Percent*** element adds that number as a percentage of all of the pie's defects or defective units adjacent to the slice. Enabling the ***Legend*** element adds a legend on the right of the ***Pareto Analysis*** tab that gives the month represented by a slice.
- ***Weeks***: To view this chart type, mouseover ***Date/Time***. Each slice represents a unique week. The size of a slice indicates the number of defects or defective units counted in that week. Enabling the ***Value*** element adds the number of defects or defective units adjacent to the slice. Enabling the ***Percent*** element adds that number as a percentage of all of the pie's defects or defective units adjacent to the slice. Enabling the ***Legend*** element adds a legend on the right of the ***Pareto Analysis*** tab that gives the week represented by a slice.
- ***Days***: To view this chart type, mouseover ***Date/Time***. Each slice represents a unique day. The size of a slice indicates the number of defects or defective units counted in that day. Enabling the ***Value*** element adds the number of defects or defective units adjacent to the slice. Enabling the ***Percent*** element adds that number as a percentage of all of the pie's defects or defective units adjacent to the slice. Enabling the ***Legend*** element adds a legend on the right of the ***Pareto Analysis*** tab that gives the day represented by a slice.

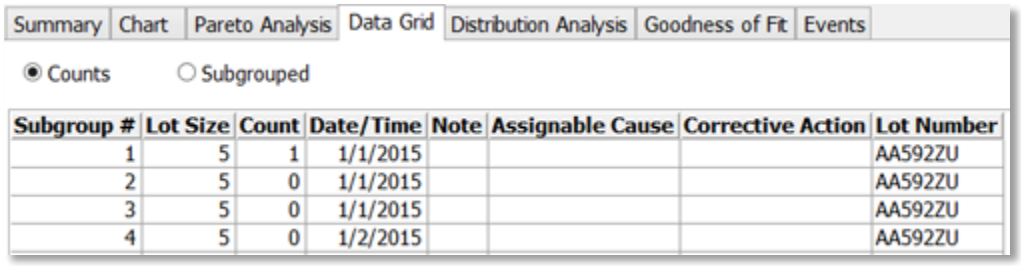
- ***Hours***: To view this chart type, mouseover ***Date/Time***. Each slice represents a unique hour. The size of a slice indicates the number of defects or defective units counted in that hour. Enabling the ***Value*** element adds the number of defects or defective units adjacent to the slice. Enabling the ***Percent*** element adds that number as a percentage of all of the pie's defects or defective units adjacent to the slice. Enabling the ***Legend*** element adds a legend on the right of the ***Pareto Analysis*** tab that gives the hour represented by a slice.
- ***Users***: Each slice represents a unique user. The size of a slice indicates the number of defects or defective units counted by that user. Enabling the ***Value*** element adds the number of defects or defective units adjacent to the slice. Enabling the ***Percent*** element adds that number as a percentage of all of the pie's defects or defective units adjacent to the slice. Enabling the ***Legend*** element adds a legend on the right of the ***Pareto Analysis*** tab that gives the name of the user represented by a slice.
- ***Stations***: Each slice represents a unique station. The size of a slice indicates the number of defects or defective units counted at that station. Enabling the ***Value*** element adds the number of defects or defective units adjacent to the slice. Enabling the ***Percent*** element adds that number as a percentage of all of the pie's defects or defective units adjacent to the slice. Enabling the ***Legend*** element adds a legend on the right of the ***Pareto Analysis*** tab that gives the name of the station represented by a slice.
- ***Tag Values***: Mouseover this chart type to see a list of tags. Then select a tag to see a ***Pareto*** chart of that tag's values. Each slice represents a unique tag value. Enabling the ***Value*** element adds the number of times a tag value was collected adjacent to the slice. Enabling the ***Percent*** element adds that number as a percentage of all of the tag values adjacent to the slice. Enabling the ***Legend*** element adds a legend on the right of the ***Pareto Analysis*** tab that gives the name of the tag value represented by a slice.
- ***Violations***: Each slice represents a unique violation. The size of a slice indicates the number of times that slice's violation occurred. Enabling the ***Value*** element adds the number of times a violation occurred adjacent to the slice. Enabling the ***Percent*** element adds that number as a percentage of all of the violations adjacent to the slice. Enabling the ***Legend*** element adds a legend on the right of the ***Pareto Analysis*** tab that gives the name of the violation represented by a slice.

- ***Show***: This option contains a submenu that includes different items depending on the chart that is visible. If the chart is a ***Pareto*** chart, the submenu contains three items—***Line***, ***Bar Count***, and ***Bar Percent***. If the ***Pareto*** chart is the ***Count*** chart, the ***Cost*** chart, the ***Count/Cost*** chart, or the ***Cost/Count*** chart and the attribute being charted is one that counts defects by locations, the submenu contains a fourth item: ***Locations***. If the chart is a ***pie*** chart, the submenu contains the following three items (regardless of whether the attribute being charted counts defects by locations or not): ***Value***, ***Percent***, and ***Legend***. Selecting an item toggles that item on or off. Definitions for the different items are:
  - ***Line*** refers to the curved line that rises from the first bar on the chart and indicates either a cumulative count or cumulative cost. Mousing over any data point on this line displays the count or cost for that data point's corresponding bar and the percentage of the total represented by that count or cost.
  - ***Bar Count*** refers to the number above each bar that states the quantity counted or cost calculated for that bar.
  - ***Bar Percent*** refers to the percentage above each bar, which indicates the percentage of the total count or cost accounted for by that bar. (Regardless of whether ***Bar Count*** and ***Bar Percent*** are toggled on or off, these two values for a bar can be viewed by mousing over that bar.)
  - ***Locations*** refers to the bars that represent the locations in which a defect was observed.
  - ***Value*** refers to the number adjacent to a pie slice.
  - ***Percent*** refers to the parenthetical percentage adjacent to a pie slice.
  - ***Legend*** refers to the legend that details what the different pie slices represent. When on, it is positioned on the right of the ***Pareto Analysis*** tab.
- ***Copy***: This option copies the ***Pareto*** or ***pie*** chart so it can be pasted into another application.
- ***Scroll Bar***: This option is only available for ***Pareto*** charts. It toggles a horizontal scroll bar on and off. The scroll bar, when on, appears at the bottom of the chart.
- ***Scheme***: This option is identical to the ***Scheme*** option in the ***Summary*** tab's right-click menu discussed above.

USING THE ATTRIBUTE ANALYZER'S DATA GRID TAB

The ***Data Grid*** tab displays attribute data in a grid. At the top of the tab are two options for presenting the data: ***Counts*** and ***Subgrouped***. The grid takes on different forms depending on which of these options is selected and whether the attribute counts defective units, counts defects with locations, or counts defects without locations.

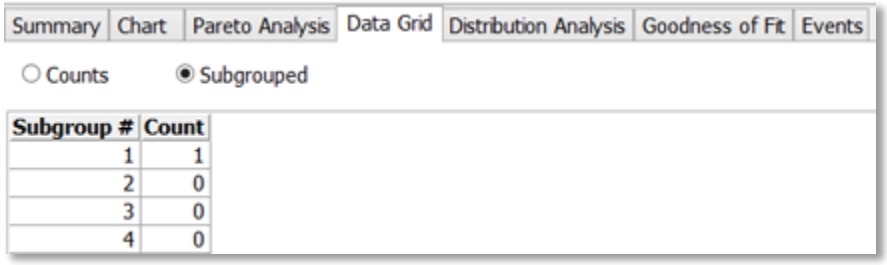
- For attributes that count defective units, selecting ***Counts*** displays the data as follows:



Subgroup #	Lot Size	Count	Date/Time	Note	Assignable Cause	Corrective Action	Lot Number
1	5	1	1/1/2015				AA592ZU
2	5	0	1/1/2015				AA592ZU
3	5	0	1/1/2015				AA592ZU
4	5	0	1/2/2015				AA592ZU

  Here, the value in the ***Count*** column indicates the number of defective units per subgroup or lot. Accompanying this number is other subgroup information.

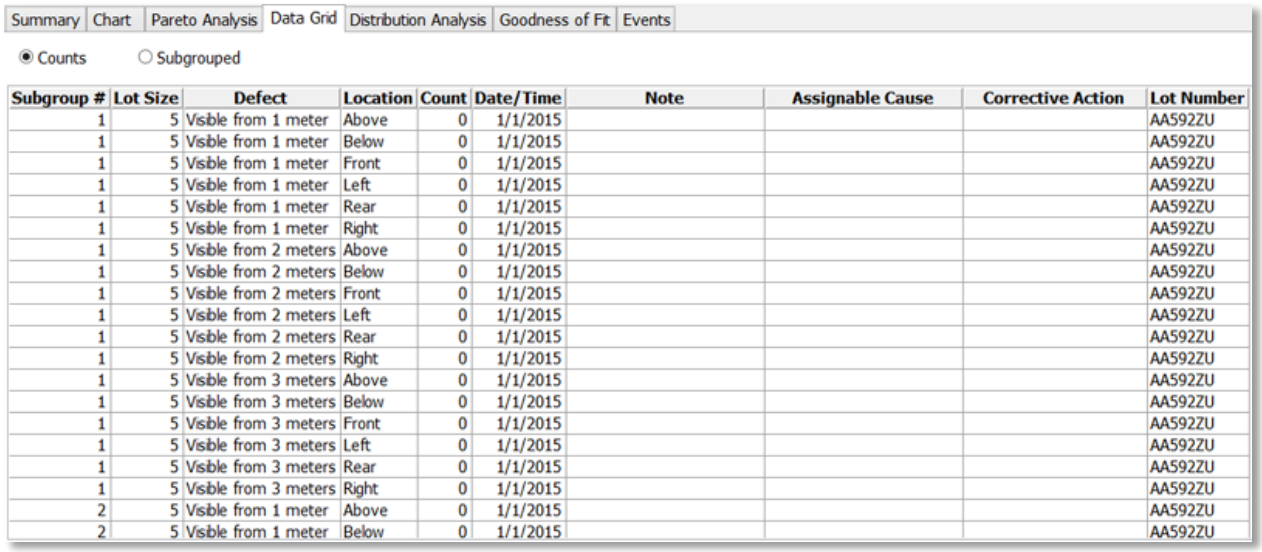
- For attributes that count defective units, selecting ***Subgrouped*** displays the data as follows:



Subgroup #	Count
1	1
2	0
3	0
4	0

  The value in the ***Count*** column indicates the number of defective units per subgroup or lot, as it does for attributes that count defective units when ***Counts*** is selected. The difference is that there is no accompanying subgroup information.

- For attributes that count defects with locations, selecting ***Counts*** displays the data as follows:



Subgroup #	Lot Size	Defect	Location	Count	Date/Time	Note	Assignable Cause	Corrective Action	Lot Number
1	5	Visble from 1 meter	Above	0	1/1/2015				AA592ZU
1	5	Visble from 1 meter	Below	0	1/1/2015				AA592ZU
1	5	Visble from 1 meter	Front	0	1/1/2015				AA592ZU
1	5	Visble from 1 meter	Left	0	1/1/2015				AA592ZU
1	5	Visble from 1 meter	Rear	0	1/1/2015				AA592ZU
1	5	Visble from 1 meter	Right	0	1/1/2015				AA592ZU
1	5	Visble from 2 meters	Above	0	1/1/2015				AA592ZU
1	5	Visble from 2 meters	Below	0	1/1/2015				AA592ZU
1	5	Visble from 2 meters	Front	0	1/1/2015				AA592ZU
1	5	Visble from 2 meters	Left	0	1/1/2015				AA592ZU
1	5	Visble from 2 meters	Rear	0	1/1/2015				AA592ZU
1	5	Visble from 2 meters	Right	0	1/1/2015				AA592ZU
1	5	Visble from 3 meters	Above	0	1/1/2015				AA592ZU
1	5	Visble from 3 meters	Below	0	1/1/2015				AA592ZU
1	5	Visble from 3 meters	Front	0	1/1/2015				AA592ZU
1	5	Visble from 3 meters	Left	0	1/1/2015				AA592ZU
1	5	Visble from 3 meters	Rear	0	1/1/2015				AA592ZU
1	5	Visble from 3 meters	Right	0	1/1/2015				AA592ZU
2	5	Visble from 1 meter	Above	0	1/1/2015				AA592ZU
2	5	Visble from 1 meter	Below	0	1/1/2015				AA592ZU

In this display, each defect is listed multiple times, once for each location and the value in the ***Count*** column indicates the defect count for a location.

- For attributes that count defects with locations, selecting ***Subgrouped*** displays the data as follows:

Summary | Chart | Pareto Analysis | Data Grid | Distribution Analysis | Goodness of Fit | Events

○ Counts ◉ Subgrouped

Subgroup #							
1		Front	Rear	Left	Right	Above	Below
	Visible from 1 meter						
	Visible from 2 meters						
	Visible from 3 meters						
2		Front	Rear	Left	Right	Above	Below
	Visible from 1 meter						
	Visible from 2 meters						
	Visible from 3 meters						
3		Front	Rear	Left	Right	Above	Below
	Visible from 1 meter						
	Visible from 2 meters						
	Visible from 3 meters						

In this display, each defect is listed once per subgroup. Otherwise, the information is the same as for attributes that count defects with locations when ***Counts*** is selected.

- For attributes that count defects without locations, selecting ***Counts*** displays the data as follows:

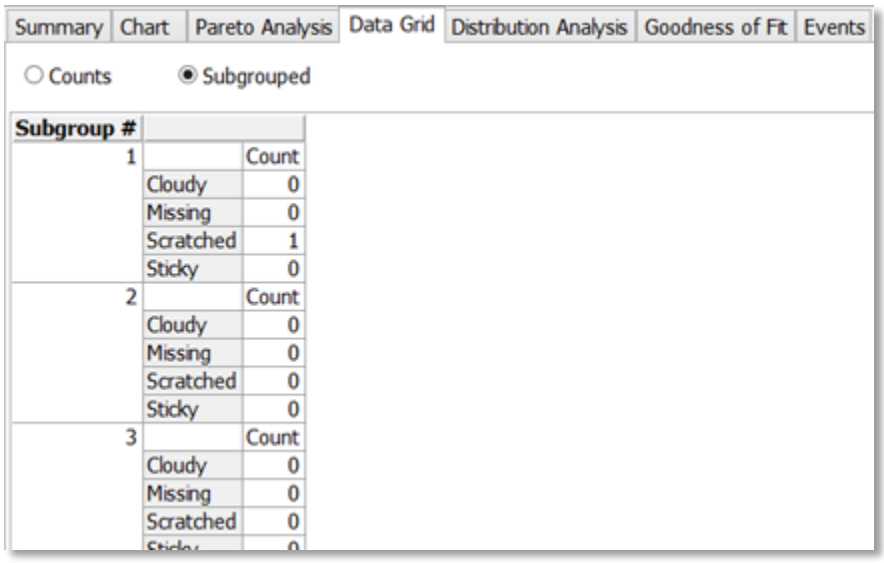
Summary | Chart | Pareto Analysis | Data Grid | Distribution Analysis | Goodness of Fit | Events

◉ Counts ○ Subgrouped

Subgroup #	Lot Size	Defect	Count	Date/Time	Note	Assignable Cause	Corrective Action	Lot Number
1	5	Cloudy	0	1/4/2015		Paint dries lighter on hatch.	Apply additional top coat.	DD344LB
1	5	Missing	0	1/4/2015		Paint dries lighter on hatch.	Apply additional top coat.	DD344LB
1	5	Scratched	1	1/4/2015		Paint dries lighter on hatch.	Apply additional top coat.	DD344LB
1	5	Sticky	0	1/4/2015		Paint dries lighter on hatch.	Apply additional top coat.	DD344LB
2	5	Cloudy	0	1/4/2015				DD344LB
2	5	Missing	0	1/4/2015				DD344LB
2	5	Scratched	0	1/4/2015				DD344LB
2	5	Sticky	0	1/4/2015				DD344LB

Here, each defect is listed once per subgroup and the value in the ***Count*** column indicates the defect count for a subgroup.

- For attributes that count defects without locations, selecting ***Subgrouped*** displays the data as follows:



Subgroup #		
1		Count
	Cloudy	0
	Missing	0
	Scratched	1
	Sticky	0
2		Count
	Cloudy	0
	Missing	0
	Scratched	0
	Sticky	0
3		Count
	Cloudy	0
	Missing	0
	Scratched	0

  Here, the information is the same as for attributes that count defects without locations when ***Counts*** is selected, except there are fewer columns.

As a reminder, by using the ***Export to File*** or ***Copy to Clipboard*** buttons on the ***Attribute Analyzer's Tool Bar***, you can export or copy comprehensive information about an attribute, including but not limited to everything you see on this ***Data Grid*** tab.

USING THE ATTRIBUTE ANALYZER'S DISTRIBUTION ANALYSIS TAB

The ***Attribute Analyzer*** tab compares an attribute's data distribution to industry-standard, theoretical distributions and presents the results in a graph. The information in this tab is sensitive to values entered in the ***Calculation Settings*** panel.

The graph's vertical axis is *Skew* and its horizontal axis is *Index of Dispersion*.

An attribute's distribution is indicated by a crosshairs symbol.

The industry-standard distributions can be points, lines, or areas. Points are represented by colored ovals. Areas are colored regions. Lines are also colored.

A legend on the right of the tab indicates the distribution that a point, line, or region represents. If the crosshairs falls on a point, the attribute's distribution is the distribution indicated for that color of point in the legend. If the crosshairs falls on a line, the attribute's distribution is the distribution indicated for that color of line in the legend. If the crosshairs falls in an area, the attribute's distribution is the distribution for that color of area in the legend. The name in the legend for the crosshairs symbol is *Query Result*.

USING THE ATTRIBUTE ANALYZER'S GOODNESS OF FIT TAB

The ***Goodness of Fit*** tab compares an attribute's data distribution with industry-standard, theoretical distributions and presents the results in a numerical table. The information in this tab is sensitive to values entered in the ***Calculation Settings*** panel.

The ***Goodness of Fit*** tab consists of four columns of statistical information:

- ***Distribution Type*** - lists industry-standard distribution types, ordered by how well they fit the attribute's distribution. The top entry in this column is duplicated beside ***Distribution Name*** on the ***Summary*** tab.
- ***Fit Tightness*** - classifies how tightly a distribution in the ***Distribution Type*** column fits the attribute's distribution. The four categories of fit tightness are: ***excellent***, ***good***, ***fair***, and ***poor***.
- ***Parameters*** - lists the number of parameters (***2***, ***3***, or ***4***) used in WinSPC's comparison of the attribute's distribution to each industry-standard distribution type. All other factors being equal, if more than one distribution type in the ***Distribution Type*** column has the same value in the ***Fit Tightness*** column, the lower the number in this ***# Parameters*** column, the higher the distribution type will be ranked. The number ***2*** indicates the ***m*** and ***s*** parameters were used. The number ***3*** indicates ***m***, ***s***, and either ***skew*** or ***kurtosis*** parameters were used. The number ***4*** indicates the ***m***, ***s***, ***skew***, and ***kurtosis*** parameters were used. The number of parameters for a distribution type is represented on the ***Distribution Analysis*** tab as follows: two parameters are represented as a point, three as a line, and four as a region.
- ***Fit Distance*** - further clarifies the fit of a standard distribution type to the attribute's actual data. The lower the value, the tighter the fit. A zero in this column indicates an exact fit.

USING THE ATTRIBUTE ANALYZER'S EVENTS TAB

The Events tab of the ***Attribute Analyzer*** lists events from WinSPC's event log that are specific to the attribute. For detailed information on the event log, see ***Event Log, Using*** in WinSPC's ***Help***.

If you want to sort the events by a particular column, ***User*** for example, click the column heading. The sort order is indicated by the direction of the triangle that appears on the column heading, a down-pointing triangle indicating the events are listed in descending order and an up-pointing triangle indicating the events are listed in ascending order. The first time you click a column heading, events are sorted in ascending order. The next time you click, events are sorted in descending order.

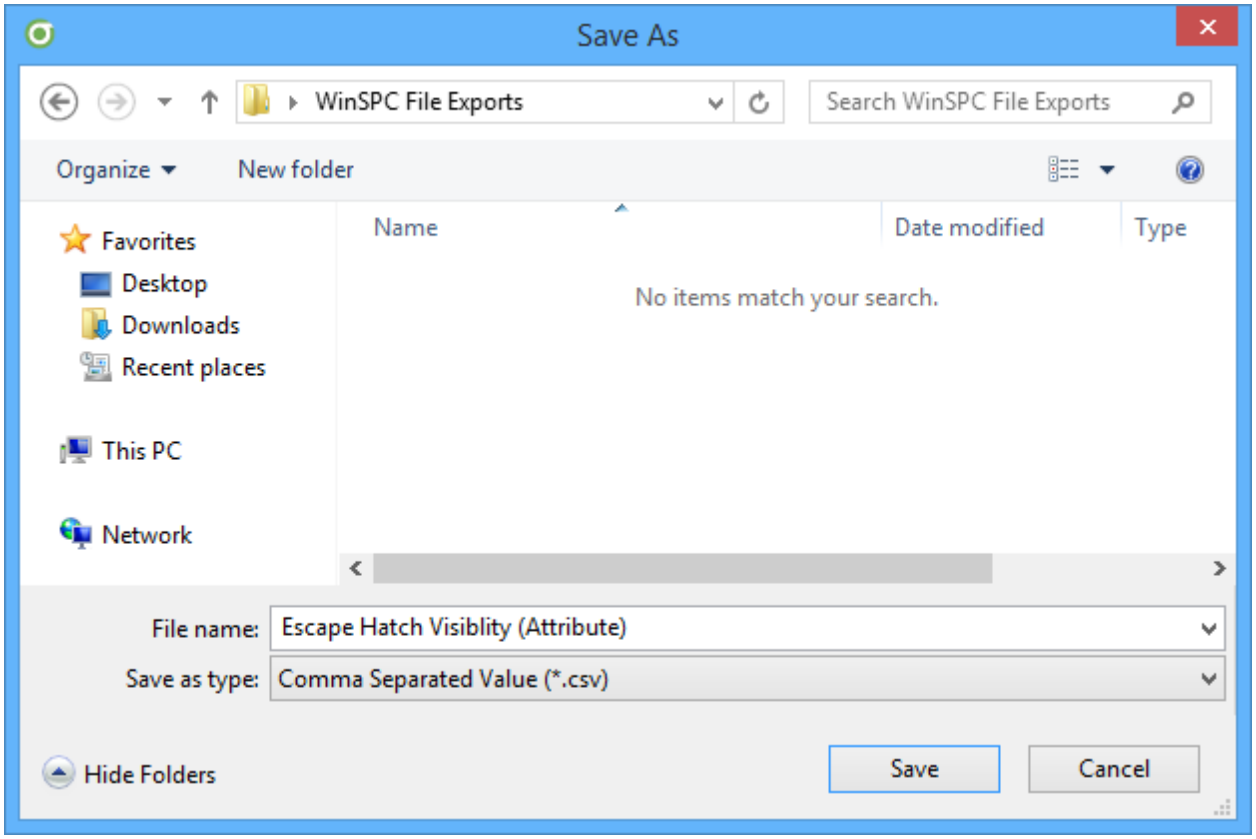
NEW OPTIONS FOR EXPORTING DATA

WinSPC 9 gives you new options for exporting data. Attribute data can now be exported using both the ***Data Set Builder*** and the new ***Attribute Analyzer***. The formats in which data—both variable and attribute—can be exported have been expanded to include XLSX. And finally, when exporting in a CSV format, you can choose whether you want variable and attribute data included in the export, just variable data, or just attribute data.

To export data from within the ***Variable Analyzer***, the ***Attribute Analyzer***, or the ***Data Set Builder***:

1. Apply filters to the data as desired.
2. Click the ***Export to file*** tool bar button.

3. In the ***Save as*** window that is displayed:



   a. At the top, select the folder to which you want the export saved.

   b. At ***File name***, enter a name for the export file.

c. At ***Save as type***, select a file type for the export file from the following options:

- ***Comma Separated Value (*.csv)***: This option formats the export file with both variable and attribute columns. If you select it from within the ***Data Set Builder*** and both variable and attribute data remain in the data set after all the desired filters are applied, all remaining variable and attribute data will be exported into the file. The variable data appears first in the file. If only variable data remains after the filters are applied, the attribute columns will be blank and vice-versa. Similarly, if you choose this option from within the ***Variable Analyzer***, the attribute columns will be blank and, if you choose it from within the ***Attribute Analyzer***, the variable columns will be blank. In order the column names in the export file are: ***Characteristic Type***, ***Part Id***, ***Characteristic Id***, ***Path***, ***Part Name***, ***Characteristic Name***, ***Subgroup #***, ***Sample #***, ***Defect Type***, ***Location***, ***Date/Time***, ***User Name***, ***Station Name***, ***Value***, ***Count***, ***URL***, ***USL***, ***Target***, ***LSL***, ***LRL***, ***Specification Type***, ***Precision***, ***Units***, ***Subgroup Size***, ***Subrange Size***, ***Lot Size***, ***Base Chart Type***, ***Assignable Cause***, ***Corrective Action***, ***Note***, ***# Tags***, ***Lot Number***.
- ***Comma Separated Value – Variables Only (*.csv)***: This option is only available in the ***Variable Analyzer*** and the ***Data Set Builder***. It is not available in the ***Attribute Analyzer***. This option formats the export file with variable columns only. If you select it from within the ***Data Set Builder*** and both variable and attribute data remain in the data set after all the desired filters are applied, only the remaining variable data will be exported. In order the column names in the export file are: ***Part Id***, ***Variable Id***, ***Path***, ***Part Name***, ***Variable Name***, ***Subgroup #***, ***Sample #***, ***Date/Time***, ***User Name***, ***Station Name***, ***Value***, ***URL***, ***USL***, ***Target***, ***LSL***, ***LRL***, ***Specification Type***, ***Precision***, ***Units***, ***Subgroup Size***, ***Subrange Size***, ***Base Chart Type***, ***Assignable Cause***, ***Corrective Action***, ***Note***, ***# Tags***, ***Lot Number***.
- ***Comma Separated Value – Attributes Only (*.csv)***: This option is only available in the ***Attribute Analyzer*** and the ***Data Set Builder***. It is not available in the ***Variable Analyzer***. This option formats the export file with attribute columns only. If you select it from within the ***Data Set Builder*** and both variable and attribute data remain in the data set after all the desired filters are applied, only the remaining attribute data will be exported. The same file format is used for the different types of attributes: those that count defective units, those that count defects and employ locations, and those that count defects but do not employ locations. In order the column names in the export file are: ***Part Id***, ***Attribute Id***, ***Path***, ***Part Name***, ***Attribute Name***, ***Subgroup #***, ***Defect Type***, ***Location***, ***Date/Time***, ***User Name***, ***Station Name***, ***Count***, ***Lot Size***, ***Base Chart Type***, ***Assignable Cause***, ***Corrective Action***, ***Note***, ***# Tags***, ***Lot Number***.
- ***Microsoft Office Excel 97-2003 Workbook (.*xls)***: This option creates the export file so it is compatible with versions of ***Excel*** from ***Excel 97*** to ***Excel 2003***. At least two worksheets are created in the export file: a ***Summary*** worksheet which presents a composite view of the variables and attributes for which data is exported; and a separate detailed worksheet for each variable or attribute. If the data being exported does not include variable data, then only attribute fields are columns are included in the file and vice-versa. The variable column names that can appear on the ***Summary*** worksheet are: ***Variable***, ***Path***, ***Part Name***, ***Characteristic Name***, ***Subgroup #***, ***Sample #***, ***Defect Type***, ***Location***, ***Detail Sheet***, ***# Readings***, ***# Subgroups***, ***# Above USL***, ***# Below LSL***, ***Mu***, ***Sigma***, ***Cp***, ***Cpk***, ***Average***, ***S***, ***Ppk***. The attribute column names that can appear are: ***Attribute***, ***Detail Sheet***, ***# Subgroups***, ***Mu***, ***Sigma***. The variable column names that appear on a detailed worksheet for a variable are: ***Path***, ***Part Name***, ***Variable Name***, ***Specification Type***, ***Base Chart Type***, ***Units***, ***Part Id***, ***Variable Id***, ***# Readings***, ***# Subgroups***, ***# Above USL***, ***# Below LSL***, ***# Above URL***, ***# Below LRL***, ***Subgroup Size***, ***Subrange Size***, ***Precision***, ***Mu***, ***Sigma***, ***Cp***, ***Cpu***, ***Cpl***, ***Cpk***, ***Cm***, ***Cpm***, ***Cpkm***, ***CR***, ***Average***, ***S***, ***Pp***, ***Ppu***, ***Ppl***, ***Ppk***, ***Pm***, ***Ppm***, ***Ppkm***, ***PR***, ***Skew***, ***Kurtosis***, ***Best fit (Classical)***, ***Chi-Sq Value (Classical)***, ***p Value (Classical)***, ***Best fit (Pearson)***, ***Chi-Sq Value (Pearson)***, ***p Value (Pearson)***, ***Subgroup #***, ***Sample #***, ***Date/Time***, ***User Name***, ***Station Name***, ***Value***, ***URL***, ***USL***, ***Target***, ***LSL***, ***LRL***, ***Assignable Cause Corrective Action***, ***Note***, ***Lot Number***, ***Violations***. . The attribute column names that appear on a detailed worksheet for an attribute that counts defects and employs locations are: ***Path***, ***Part Name***, ***Attribute Name***, ***Base Chart Type***, ***Part Id***, ***Attribute Id***, ***# Subgroups***, ***Mu***, ***Sigma***, ***Subgroup #***, ***Defect Type***, ***Location***, ***Date/Time***, ***User Name***, ***Station Name***, ***Count***, ***Lot Size***, ***Assignable Cause***, ***Corrective Action***, ***Note***, ***Lot Number***, ***Violations***. The attribute column names that appear on a

detailed worksheet for an attribute that counts defects but doesn't employ locations are the same as when locations are employed minus the ***Location*** column. The attribute column names that appear on a detailed worksheet for an attribute that counts defective units are the same as when locations are employed minus the ***Defect Type*** and ***Location*** columns.

- ***Microsoft Office Excel Workbook (*.xlsx)***: This option creates the export file so it is compatible with versions of ***Excel*** newer than ***Excel 2003***. Otherwise, it is identical to the preceding option.
- ***Web Page (*.htm; *.html)***: This option formats the exported data for a web page. Each variable and attribute is displayed in its own table. The columns for variables are: ***Subgroup Number***, ***Sample Number***, ***Date/Time***, ***User Name***, ***Station Name***, ***Value***, ***URL***, ***USL***, ***Target***, ***LSL***, ***LRL***, ***Assignable Cause Corrective Action***, ***Note***, ***Lot Number***, ***Violations***. The columns for attributes that count defects and employ locations are: ***Subgroup Number***, ***Defect Type***, ***Location***, ***Date/Time***, ***User Name***, ***Station Name***, ***Count***, ***Lot Size***, ***Assignable Cause***, ***Corrective Action***, ***Note***, ***Lot Number***, ***Violations***. The columns that appear for an attribute that counts defects but doesn't employ locations are the same minus the ***Location*** column. The attribute column names for an attribute that counts defective units are the same as minus the ***Defect Type*** and ***Location*** columns.

d. Click ***Save***.

Forcing Logouts

IMPROVED PROCEDURES FOR FORCING LOGOUTS

As WinSPC administrators know, circumstances sometimes require that users logged into WinSPC be forced out. These circumstances are primarily limited to WinSPC upgrades, database migrations, and the managing of user licenses.

In earlier WinSPC versions, there was a ***Force User Logout*** option in the ***Tools*** menu of the ***Administrator*** window. When migrating databases or managing user licenses, administrators were required to leave the window they were working in, select this option, use the ***Force User Logout*** window to logout users, and then return to the window they were initially using.

In this new release, the ***Force User Logout*** option has been removed from the ***Tools*** menu and the forced logout capability has been integrated into both the migration wizard and the ***License Manager***—just as it had earlier been integrated in the upgrade wizard.

Now, when migrating databases, administrators will be automatically prompted if users need to be logged out, presented with a window to force those logouts, and taken to the next step in the migration process once those logouts are completed. Because this is one of several enhancements to the migration process, more details on it are presented in the section below titled *Reengineered Database Migration Procedure*.

For all situations other than upgrades and migrations, administrators can directly access the forced logout capability by clicking the new ***Logout*** button in the lower left corner of the ***License Manager***. As with migrations, this is one of many license management improvements in WinSPC 9. For more information, see the below Streamlined License Management section.

STREAMLINED LICENSE MANAGEMENT

Managing licenses encompasses three tasks: activating newly purchased licenses; forcing the logout of a currently logged-in user; and releasing a license that has become locked, usually due to an improper shutdown of WinSPC. The procedures for each of these tasks has been streamlined in WinSPC 9.

ACTIVATING NEWLY PURCHASED LICENSES

Newly purchased licenses includes the block of licenses purchased for the initial deployment of WinSPC and any additional licenses purchased at any time afterward. To activate them:

1. Login to WinSPC as an administrator who has been granted the ***License Activation*** permission.
2. From the *Tools* menu, click *License Manager*.
3. In the lower right corner of the *License Manager* that appears, click the *Activate* button.
4. In the *License Activation* window, copy the *Validation Key*.
5. Without closing the *License Activation* window, launch a browser and go to www.winspc.com/support/license-winspc.
6. On this *WinSPC Licensing* web page:
   a. At *Name*, enter your name.
   b. At *Company ID*, enter your company ID. (This ID is included in the confirmation email you received from DataNet after your license purchase was processed.)
   c. At *Validation Key*, paste the validation key from step 4.
   d. Click the *Submit Form* button. This causes a *Product Unlock* key to be generated.
   e. Copy the *Product Unlock* key.
7. Return to the still-open *License Activation* window and:
   a. At *Upgrade Key*, paste the *Product Unlock* key (from 6e).
   b. At *Serial Number*, enter the last 4 digits of your *Company ID*.
   c. Click *Upgrade*.
   d. In the *Information* message indicating success of the license update, click *OK*.
   e. Click the *License Activation* window's *Close* button.
8. Click the *Close* button in the *License Manager*.
9. Close the browser you opened in step 5.

FORCING THE LOGOUT OF A CURRENTLY LOGGED-IN USER

There are three circumstances that necessitate the forced logout of a user from WinSPC. Upgrades and database migrations are two of these and the procedures specific to those operations incorporate steps to force logouts. The third circumstance and the one for which the below procedure is provided is a catch-all. It includes all situations other than upgrades and migrations when a user needs to be forced out. It could be, for example, that a night-shift user forgets to logout of WinSPC before going home and that the day shift requires the full set of licenses. With the following procedure, the night-shift user can be logged out.

(As you will see in this procedure, the forced logout functionality has been integrated into the ***License Manager***. Doing this made the ***Force User Logout*** option on the ***Tools*** menu of the ***Administrator*** window obsolete and this option has, consequently, been removed.)

1. Login to WinSPC as an administrator who has been granted the ***Force User Logout*** permission.

   In the event you get a message indicating that all WinSPC licenses are in use:

   a. Click the messages *OK* button.

   b. Click the *OK* button in the *Warning* that appears.

   c. Click the *License Manager* button that appears in the lower left of the *WinSPC Access Center*.

   d. Go to step 3.

2. From the *Tools* menu, click ***License Manager***.

3. In the ***License Manager*** that appears, under ***Item***, select the user who needs to be logged out, provided his or her status indicator is green.

   The status indicator is the circle just to the left of the user ID in the *Item* column. This circle can be one of four colors—green, yellow, red, grey—each representing a different status. Forced logouts are only permitted on users with a green status. Green indicates that the user's connection to the WinSPC database is healthy. The meanings of the other statuses are given later in this procedure and in the below *Releasing a Locked License* procedure.

   If you want to simultaneously logout two or more users, multi-select the users by employing the standard *Ctrl+click* or *Shift+click* technique.

4. Click the *Logout* button in the lower left corner.

   Doing this immediately turns the user's status indicator yellow. Yellow indicates that a forced logout is in progress. If the logout is successful, the user will be removed from the *License Manager*. If the logout is unsuccessful, the status indicator will turn red and, in this case, you'll need to complete the *Releasing a Locked License* procedure below.

   As a courtesy, clicking the *Logout* button also displays a *WinSPC Logout* message on the station the user is logged into. This message informs the user that he or she will be logged out in 10 seconds.

RELEASING A LOCKED LICENSE

A WinSPC license becomes locked when a station's connection to the WinSPC database is improperly terminated. Improper terminations can result from power outages, network failures, shutting down a client station without logging out of WinSPC, shutting down the database server machine without first logging out users, and other such actions. To release a locked license:

1. Login to WinSPC as an administrator who has been granted the ***Force User Logout*** permission.

   In the event you get a message indicating that all WinSPC licenses are in use:

   a. Click the messages *OK* button.

   b. Click the *OK* button in the *Warning* that appears.

   c. Click the *License Manager* button that appears in the lower left of the *WinSPC Access Center*.

   d. Go to step 3.

2. From the *Tools* menu, click *License Manager*.

3. In the *License Manager* that appears, under *Item*, select the user whose license is locked.

   A locked license is indicated by a grey or red status indicator. When the *License Manager* detects an improper termination of a user's database connection before a forced logout of that user is attempted, it changes the status indicator to grey. When the *License Manager* detects an improper termination after a forced logout is attempted, it changes the status indicator to red. A red status is rare because it means that in the brief interval between systematic health checks of database connections, both the database connection was improperly terminated and a forced logout was attempted.

   If you want to simultaneously free two or more locked licenses, multi-select the associated users by employing the standard *Ctrl+click* or *Shift+click* technique.

4. Click the *Release* button in the lower left corner.

   Doing this removes the user from the *License Manager*, at which point that user can login again or another user can login.

REENGINEERED DATABASE MIGRATION PROCEDURE

The procedure to migrate your database from Oracle to Microsoft SQL Server or vice-versa or from one server machine to another has been reengineered. The primary change is a new ***Migration Wizard*** and, as mentioned in the Improved Procedure for Forcing Logouts section above, the integration of a *Force Logout* button directly into this wizard. The new migration procedure is detailed in this section.

(As before, you do not need to complete this procedure if you are simply upgrading from one version of a database to a newer version of the same database—for example, from SQL Server 2005 to SQL Server 2008—or if you are upgrading from one version of WinSPC to a newer version of WinSPC.)

1. Because no WinSPC user can be accessing the WinSPC database during a migration, coordinate with your user base on the least obtrusive time to conduct the migration.
2. Create a backup of the WinSPC database you want to migrate.
3. Create a shell Microsoft SQL Server or Oracle database to migrate your database to. A shell database, as used here, is a new database within which WinSPC-specific tables have not been created. To create a shell SQL Server database, complete ***Chapter 1: Microsoft SQL Server*** of the ***WinSPC 9 Installation and Configuration Guide***. To create a shell Oracle database, complete ***Chapter 2: Oracle***.
4. Login to WinSPC on any client station as an administrator who has been granted the ***Migrate*** permission.
5. Ensure no archive is currently running. Migrations cannot be done while archiving is occurring.
6. From the ***Administrator*** window's ***Tools*** menu, click ***Migrate***. This launches the ***WinSPC Migration Wizard***.
7. In the wizard's ***Authorization*** panel, enter the password for the ***Admin*** user.
8. If a ***Waiting for exclusive database access*** prompt appears, sever all client connections to the WinSPC database using the substeps below. Otherwise, go to step 9.
    a. Scan the ***Type*** column of the ***Waiting for exclusive database access*** prompt for ***OLE/DDE*** or ***GUI & OLE/DDE***. These are two of the three types of connections that can be made to a WinSPC database, the third being ***GUI***.
    b. For each ***OLE/DDE*** or ***GUI & OLE/DDE*** connection found:
        i. Locate the name of the client machine listed to its left in the ***Item*** column.
        ii. Go to that client machine.
        iii. Shut down the ***OLE/DDE*** app that is accessing the WinSPC database.
        iv. If WinSPC is running on that machine—which will be the case for ***GUI & OLE/DDE*** connections—shut WinSPC down.
    c. If any ***OLE/DDE*** or ***GUI & OLE/DDE*** connections were found, once step b is complete, return to the WinSPC client being used for the migration and confirm that all ***OLE/DDE*** and ***GUI & OLE/DDE*** connections that were listed in the ***Waiting for exclusive database access*** prompt have been removed from the list.
    d. From the ***Waiting for exclusive database access*** prompt, sever any listed ***GUI*** connections. To do this:

i. Click the ***Logout All Stations*** button.

ii. In the ***Confirm*** prompt that appears, click ***Yes***. As each connection is severed, it is removed from the ***Waiting for exclusive database access*** prompt.

iii. When the last of the connections is removed, click the ***Next*** button.

9. If a ***WinSPC Application Server*** panel appears, wait for the tasks listed on it to be automatically cleared and then click the ***Next*** button when it becomes available.

10. In the ***Database Server Type*** panel, select the type used to create the shell database in step 3.

11. If, in the previous step, you selected a version of SQL Server, go to step 12. If you selected Oracle, go to step 13.

12. For any edition ***Microsoft SQL Server***:

    a. On the ***Microsoft SQL Server Settings*** prompt:

        i. At ***Machine Name \ Instance Name***, if the name of the ***SQL Server*** instance within which the shell database from step 3 was created is ***MSSQLSERVER***, specify the name of the database server machine on which the instance is running (e.g., ***TESTSERVER***). If the instance name is anything else, specify the name of the database server machine followed by the name of the instance, separating the two by a backslash (e.g., ***TESTSERVER\SQLEXPRESS***).

        ii. At ***Database Name***, enter the shell database name from step 3.

        iii. Click ***Next***.

        iv. Go to step 14.

13. For ***Oracle Database 11g***:

    a. On the ***Oracle Connection Type*** prompt, select either the ***Simple*** or ***Advanced*** type of connection and click ***Next***. Select the ***Simple*** type if the network protocol in use is ***TCP/IP*** and nothing other than the following three pieces of information are required to connect to the Oracle instance containing the shell database from step 3: the machine name of the server on which the Oracle instance is created; the fully qualified service name for the instance (e.g., ***ORCL.MyDomain.com***); and the port number used by the instance. Otherwise, select ***Advanced***.

    b. If you selected ***Advanced*** in the preceding step, go to step c. If you selected ***Simple***, on the ***Simple Oracle Connection*** prompt:

        i. At ***Host Name***, enter the machine name of the server on which the shell database from step 3 is created.

        ii. At ***Service Name***, enter the fully qualified service name for the Oracle instance containing the shell (e.g., ***ORCL.MyDomain.com***).

        iii. At ***Port Number***, enter the port number used by the Oracle instance.

        iv. Click ***Next***.

        v. Go to step 14.

    c. If you selected ***Advanced*** in step 10a, in the text area provided, enter the information required for client stations to connect to the shell database from step 3. Then click ***Next*** and go to step 14. Since the variety of configurations that ***Oracle*** supports precludes specifying in this document what this connection information might be, consult your ***Oracle*** DBA if you do not know it.

14. On the ***Database Server Log In*** prompt, enter the ***User Name*** and ***Password*** created for the shell database from step 3 and click ***Next***.

15. On the ***Database Communications Test*** prompt, click ***Next***.

16. On the ***Database Migration*** prompt, click ***Next***.
17. Allow the progress bar that is displayed to complete. As part of its work, the ***Migration Wizard***:
    - Enters a value in the old database so that future use of that database is prevented.
    - Tests the connection to the new database.
    - Creates the WinSPC tables and fields in the new database.
    - Copies all appropriate data from the old database to the new database.
    - Updates the ***WinSPC.ini*** file in the shared WinSPC folder (sometimes called the ***Remote*** folder) with the new database information.
18. On the ***Migration Complete*** prompt, click ***Close***.

Upon the completion of this procedure, when a user logs into WinSPC, the database connection established will be to the new database.

NEW USER PERMISSIONS FOR THE ADMINISTRATOR WINDOW

A new structure has been created for user permissions related to the *Administrator* window in WinSPC 9.

Permissions are controlled in the same place they have been for some time: the *Permissions* tab of the *User Setup* or *User Group Setup* window. (To display the *User Setup* window, double-click the user you want to setup or right-click the user and select *Properties*. To display the *User Group Setup* window, right-click the user group and select *Properties*.)

An easy way to get an understanding of the new permissions structure is to look over the new folders that have been introduced into the *Administration* branch of the *Permissions* tree. There are seven such folders:

- *System Tasks*: This folder contains permissions related to some of the items in the *Administrator* window's *Tools* menu that impact WinSPC at a basic system level; permissions to add languages, for instance.
- *Object Management*: This folder contains permissions for managing the main objects used in WinSPC. These objects include those things found in the *Administrator* tree: parts, part folders, devices, lists, data sets, etc. The term *manage* here encompasses only creating, moving, and copying. To illustrate, if a user has the *Manage Collection Plans and Folders* permission, he or she can create a collection plan, move a collection plan, and copy a collection plan but cannot automatically delete or edit the settings of a collection plan.
- *Object Deletion*: This folder contains permissions for deleting the main objects used in WinSPC.
- *Object Editing*: This folder contains permissions for editing the main objects used in WinSPC. Having a permission within this folder enables a user to both access the corresponding object's *Properties* or *Setup* window and modify settings within that window. For example, the *Edit Collection Plans and Folders* permission enables a user to right-click a collection plan, select *Properties*, and modify settings in the *Collection Plan Setup* window that appears.
- *Link Creation*: This folder contains permissions for creating both control test template links and list links.
- *Link Deletion*: This folder contains permissions for deleting control test template links and list links.
- *Link Editing*: This folder contains permissions for editing control test template links and list links.

In addition to the permissions in these seven folders, there are a handful of stand-alone permissions, meaning permissions not grouped into folders. These are permissions that were available in earlier versions of WinSPC but did not fit neatly into one of the above folders.

Chart Schemes

EXPANDED CHART SCHEMES

Color schemes have been significantly enhanced in version 9, so much so that they're no longer called *color* schemes. They're now known as *chart* schemes. Within a single chart scheme you can now customize traits for: line charts, *Pareto* charts, histograms, distribution analyses, probability plots, and *Cost Inspector* analyses. This means that, for example, within the same scheme, you can specify one set of title characteristics for line charts and another set for histograms or color the horizontal grid lines on Pareto charts one color and the same lines on probability plots a different color. This expanded functionality gives users considerably more choices when customizing the display of charts.

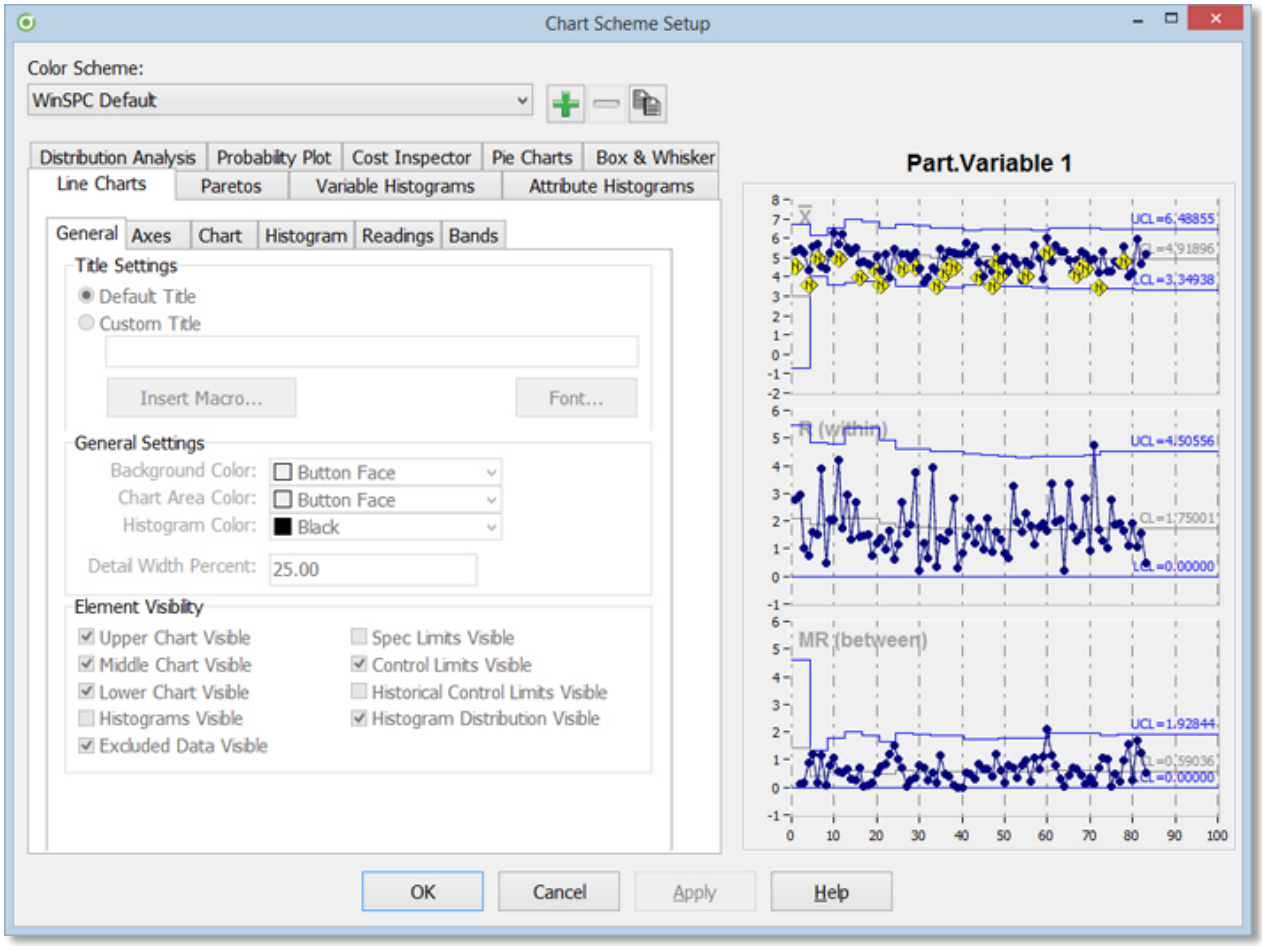
Once set up, a chart scheme can be applied to charts in the ***Variable Analyzer***, the ***Attribute Analyzer***, the ***Data Set Builder***, the ***Report Designer***, and ***Dashboards***.

The main procedures related to chart schemes are:

- Setting Up a Chart Scheme
- Deleting a Chart Scheme
- Applying a Chart Scheme
- Specifying the Default Chart Scheme for a User or User Group

SETTING UP A CHART SCHEME

1. From the ***Administrator*** window's ***Tools*** menu, select ***Chart Schemes***. This displays the ***Chart Scheme Setup*** window. (This ***Chart Schemes*** menu item replaces what, in previous WinSPC releases, was the ***Chart Color Schemes*** item. Similarly, this ***Chart Scheme Setup*** window replaces what was the ***Color Scheme Setup*** window.)



The left side of this ***Chart Scheme Setup*** window is where scheme settings are specified. It contains a different tab for each type of chart that WinSPC supports. Each of these tabs contains a set of subtabs and, in turn, these subtabs contain settings. In the image above, the tab selected is the ***Line Charts*** tab and this tab contains six subtabs: ***General***, ***Axes***, ***Chart***, ***Histogram***, ***Readings***, and ***Bands***.

The right side of the ***Chart Scheme Setup*** window is a representation of the left side's settings. With each setting change, this representation updates.

When you open this window by selecting ***Chart Schemes*** from the ***Tools*** menu, it opens with the ***WinSPC Default*** scheme selected.

2. Create a chart scheme. Chart schemes can be created from scratch or by copying an existing scheme. Copying an existing scheme may be preferable if many of the settings you want the new scheme to have are already configured in an existing scheme. To create a chart scheme from scratch, click the ***Create scheme*** button (i.e., the green plus sign) near the top of the window and name the new scheme. To create a chart scheme by copying an existing scheme, select a scheme from the ***Chart Scheme*** list, click the ***Copy scheme*** button, and name the scheme.

Incidentally, the standard chart schemes that come with WinSPC cannot be modified. You can, though, copy them and modify the copy.

3. Select a chart type tab for which you want to specify settings.
4. Using that tab's subtabs, specify settings.
5. When you are satisfied with the settings, click the ***Chart Scheme Setup*** window's ***OK*** button.

DELETING A CHART SCHEME

1. In the ***Chart Scheme Setup*** window, from the ***Chart scheme*** list at the top, select the scheme you want to delete.
2. Click the ***Delete scheme*** button (i.e., the red minus sign).
3. In the ***Warning*** message that appears, click ***Yes***.

APPLYING A CHART SCHEME

1. Right-click any chart in WinSPC that chart schemes can be applied to and, from the menu that appears, mouseover ***Scheme*** and then select the desired scheme.

SPECIFYING THE DEFAULT CHART SCHEME FOR A USER OR USER GROUP

1. Right-click the user or user group and select ***Properties***.
2. In the ***User Setup*** or ***User Group Setup*** window that is displayed, select the ***Defaults*** tab.
3. Under ***Default Chart Schemes***:
    a. If you want the user or user group to inherit the ***Screen Display*** default scheme from its parent user group, at ***Screen Display***, check the ***Inherited*** check box. Otherwise, select a scheme from the ***Screen Display*** list.
    b. If you want the user or user group to inherit the ***Printed Reports*** default scheme from its parent user group, at ***Printed Reports***, check the ***Inherited*** check box. Otherwise, select a scheme from the ***Printed Reports*** list.
4. Click ***OK***.

NEW EASIER-TO-USE ADMINISTRATOR WINDOW

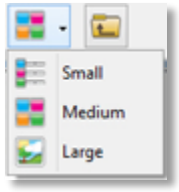
Working in WinSPC 9's ***Administrator*** window is easier due to two new features: the ability to resize icons; and enhanced cut/copy/paste functionality.

RESIZING ICONS

You can specify whether you want icons in the right pane of the ***Administrator*** window to be small, medium, or large. (There are two panes in the ***Administrator*** window. The left pane contains the ***Administrator*** tree. The right pane contains the items that belong to whatever is selected in the left pane.)

By default, the right pane's icons are medium. To specify a different size, you use the new ***Change Icon Size*** tool bar button.

This button is the second-to-last button on the tool bar. Clicking it drops down a short menu.



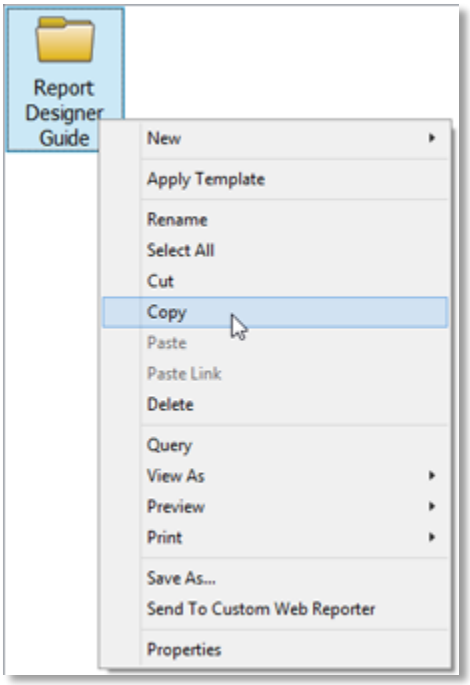
Click a size in this menu to set the right pane's icons to that size.

CUTTING, COPYING, AND PASTING

With WinSPC 9, you are now able to cut-and-paste or copy-and-paste almost any ***Administrator*** window item. The advantage of this is it enables you to leverage earlier work. Once a variable is setup, for instance, you can copy it and, when you paste it, all of the settings you configured for it are retained.

There are multiple ways that you can cut, copy, and paste an item. One is to use the new tool bar buttons provided for these purposes.

Another is to use the item's right-click menu.



And still another is to use the ***Ctrl+***X, ***Ctrl+C***, and ***Ctrl+V*** key combinations. Multiple items can be simultaneously cut, copied, or pasted by multi-selecting them using the established Window's ***Ctrl+Click*** and ***Shift+Click*** technique. When a folder is selected in the left pane, all of that folder's items in the right pane can be selected by clicking in the right pane and using ***Ctrl+A*** or by right-clicking in the right pane and clicking ***Select All*** from the shortcut menu that appears.

Some key rules to cutting, copying, and pasting are:

- You can cut or copy from both the left and right panes in the ***Administrator*** window.
- You can only paste an item into a folder when that folder is selected in the left pane.
- Variables, attributes, tags, blueprints, short-run processes, archives, and user defined control tests cannot be cut; they can only be copied and pasted.
- A copied archive can only be pasted into the root of the ***Archives*** branch.
- A copied user-defined sample level control test can only be pasted into the ***Control Tests > Sample Level Tests > User Defined*** folder.
- A copied user-defined subgroup level control test can only be pasted into the ***Control Tests > Subgroup Level Tests > User Defined*** folder.
- A greyed-out ***Cut*** or ***Copy*** tool bar button or right-click menu option indicates that the selected item cannot be cut or copied.

COMPATIBILITY WITH WINDOWS 8.1 AND WINDOWS SERVER 2012 R2

WinSPC 9 has been tested and certified in DataNet Quality Systems' lab for use with ***Windows 8.1*** and ***Windows Server 2012 R2***. How to install and configure WinSPC on these platforms is detailed in the ***WinSPC 9 Installation and Configuration Guide***.

MORE POWERFUL DATA SETS

WinSPC 9 extends the capability of data sets.

In addition to parts and variables, data sets can now consist of attributes and collection plans. You can mix-and-match these items too. You don't have to include just one of item in a data set. You can, if you want, include parts, variables, attributes, and collection plans in the same data set—giving you the ability to analyze in a whole new way.

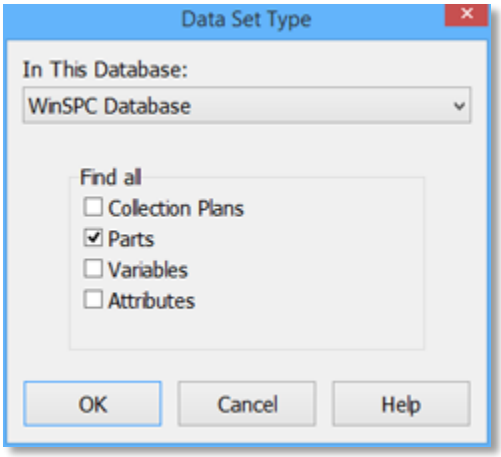
To add collection plans or attributes to a data set, you use the new ***Collection Plan*** and ***Attribute*** buttons in the ***Data Set Builder***.

Just as double-clicking a variable in the ***Data Set Builder*** will load that variable into the ***Variable Analyzer***, double-clicking an attribute in the ***Data Set Builder*** loads that attribute into the ***Attribute Analyzer***. (For an introduction to the ***Attribute Analyzer***—new in WinSPC 9—see The Attribute Analyzer section of this document above.)

Also, as discussed in the New Options for Exporting Data section earlier in this document, WinSPC 9 gives you new options for exporting data from the ***Data Set Builder***.

Once you've got your data set built, you can view it as a dashboard using the ***Dashboard*** tool bar button in the ***Data Set Builder***.

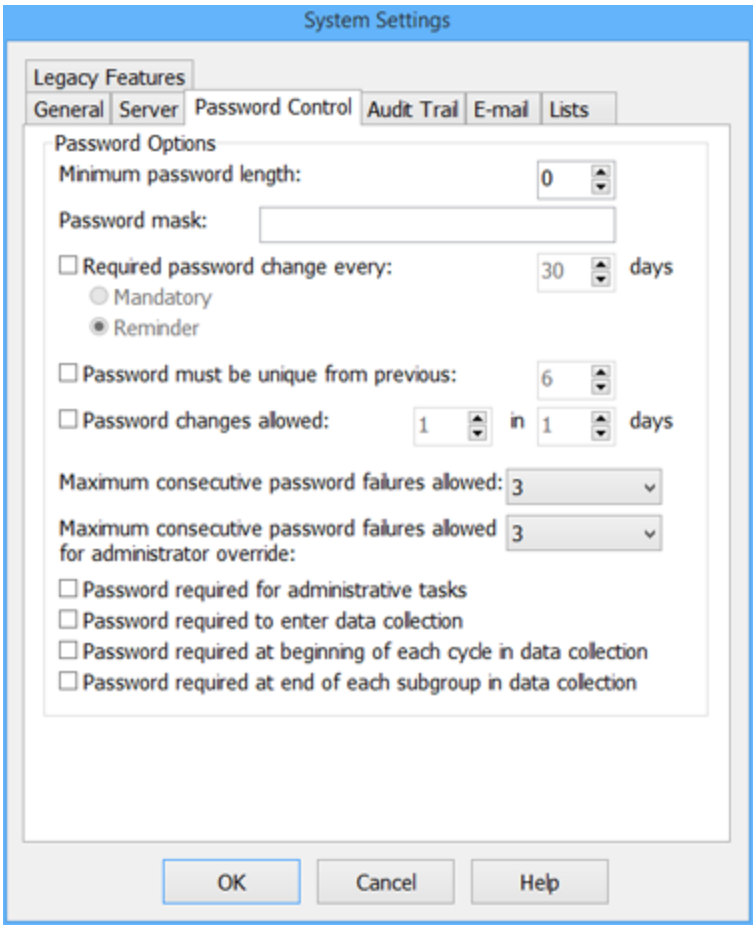
And, last but not least, you are not limited to creating a data set using your main WinSPC database. You can use data that has been archived. To do this, you simply click the first link in the ***Data Set Builder***, the one that begins ***In the main database, find all…*** and then, in the ***Data Set Type*** window that appears…



…click the ***In This Database*** list at the top and choose the archive you want to use.

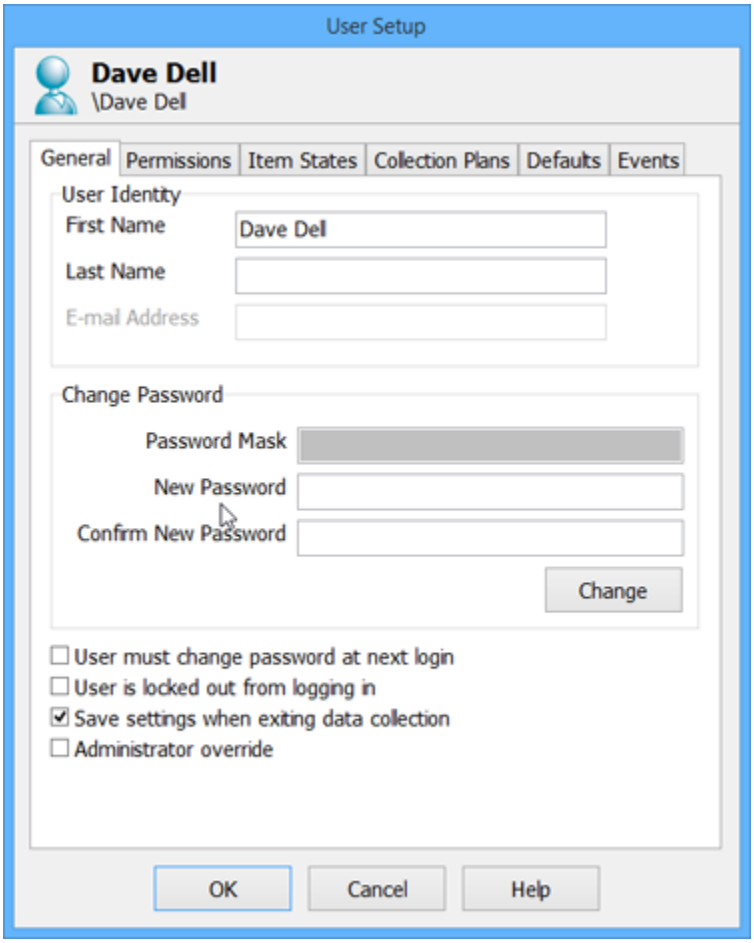
NEW PASSWORD MANAGEMENT

In WinSPC 9, system-wide password policies are managed on the new ***Password Control*** tab of the ***System Settings*** window within the ***Administrator*** window.



The options on this tab are the same as the password-related options on the ***Audit/Security*** tab in the ***System Settings*** window of earlier WinSPC releases.

The management of individual password options remains with the ***General*** tab of the ***User Setup*** window.



Some of the key rules concerning passwords are:

- All passwords, no matter where they are required, are subject to the policies defined on the ***System Settings*** window's ***Password Control*** tab.
- The ***Admin*** user can change anyone's password, including his own.
- Administrators can be given permission to change the passwords of other users that descend from him or her.
- Depending on the policies defined on the ***System Settings*** tab, it may be necessary to check the ***User must change password at next login*** check box when changing the password of another user. Doing this flags the new password as temporary and, since temporary passwords do not count toward a user's history or change limits, the user will not be prevented from logging in the first time following the password change. (Note: If the password being changed is for an OLE app, the ***User must change password at next login*** should be left unchecked.)

EXPANDED SUPPORT FOR EXCEL DEVICES

In WinSPC 9, Excel devices support two new file formats: ***XLXS*** and ***CSV***. You don't need to do anything different when configuring an Excel device in order to capture data from an Excel file of these formats; you simply point the device to the file as you always did.

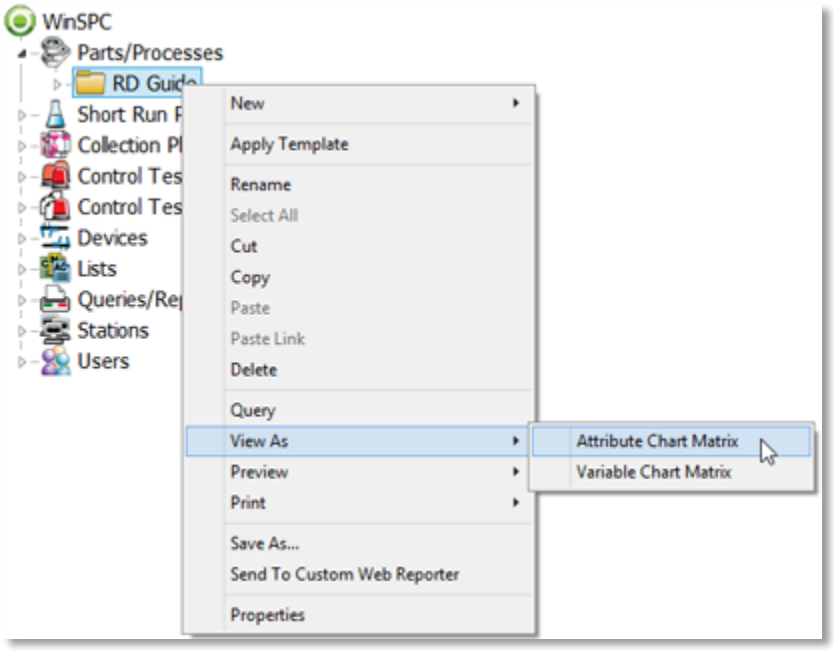
DASHBOARDS

Dashboards give you a dynamically ordered view of all the data you want to monitor. They can supplement other WinSPC views or act as hands-free status stations—which can mean *big board* displays—that reorder based on data collection events, violations, or time-based triggers. Stakeholders or systems that need outputs and alerts based on activity beyond the scope of simple SPC charts will find dashboards to be their ideal tool.

There are both *standard* and *user-defined* dashboards. A standard dashboard is one that comes with WinSPC. A user-defined dashboard is one that a user creates. Once a user-defined dashboard is created, the process for using it is the same as the process for using a standard dashboard. (The process for creating a user-defined dashboard is included in the ***WinSPC Help***.)

You can use a dashboard to view any item in the ***Administrator*** window that contains data. These items are: the ***Parts/Processes*** branch, part folders, parts, attributes, variables, the ***Collection Plans*** branch, collection plan folders, collection plans, and data sets. The procedure to view the data contained by one of these items is:

1. Right-click the item.
2. From the right-click menu that appears, mouseover ***View As***.



3. As needed, expose the dashboard you want to use by mousing over dashboard folders.
4. Click the dashboard.

You can also use a dashboard to view data currently displayed in any of the following windows: the ***Variable Analyzer***, ***Attribute Analyzer***, or ***Data Set Builder***. To do this:

1. Click the window's ***View As*** tool bar button.

2. From the dropdown menu that appears, expose the dashboard you want to use by mousing over dashboard folders and then click the dashboard.

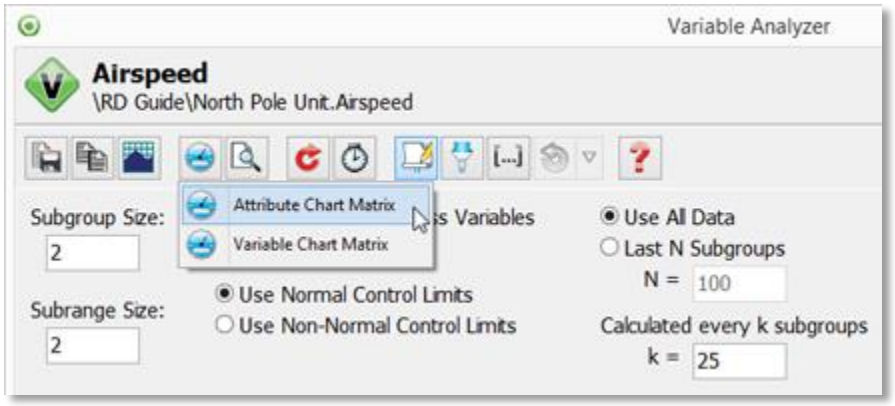


Chart Drill-Down

CHART DRILL-DOWN IN THE VARIABLE ANALYZER AND ATTRIBUTE ANALYZER

Chart *drill-down* refers to the ability to left-click on a chart area and get an isolated view of that area's data. For example, left-clicking a wedge of a pie chart zooms in exclusively on that wedge's data.

The drill-down capability is available for charts in the *Variable Analyzer* and the *Attribute Analyzer*; specifically the *Summary* tab, *Chart* tab, and *Pareto Analysis* tab in these analyzers.

The different chart areas that can be clicked on are: pie chart wedges; Pareto chart bars; Histogram bins; and any band resulting from sorting a chart's data.

After drilling down on a chart area, the isolated data can itself be sorted using the right-click menu's *Sort Order* option and then any one of the bands resulting from the sort can be drilled-down on to get an even more focused view.

As you drill-down, each level is tracked. You can use this tool bar button…

…to step back up to a higher level.

THE WINSPC TRANSLATE TOOL

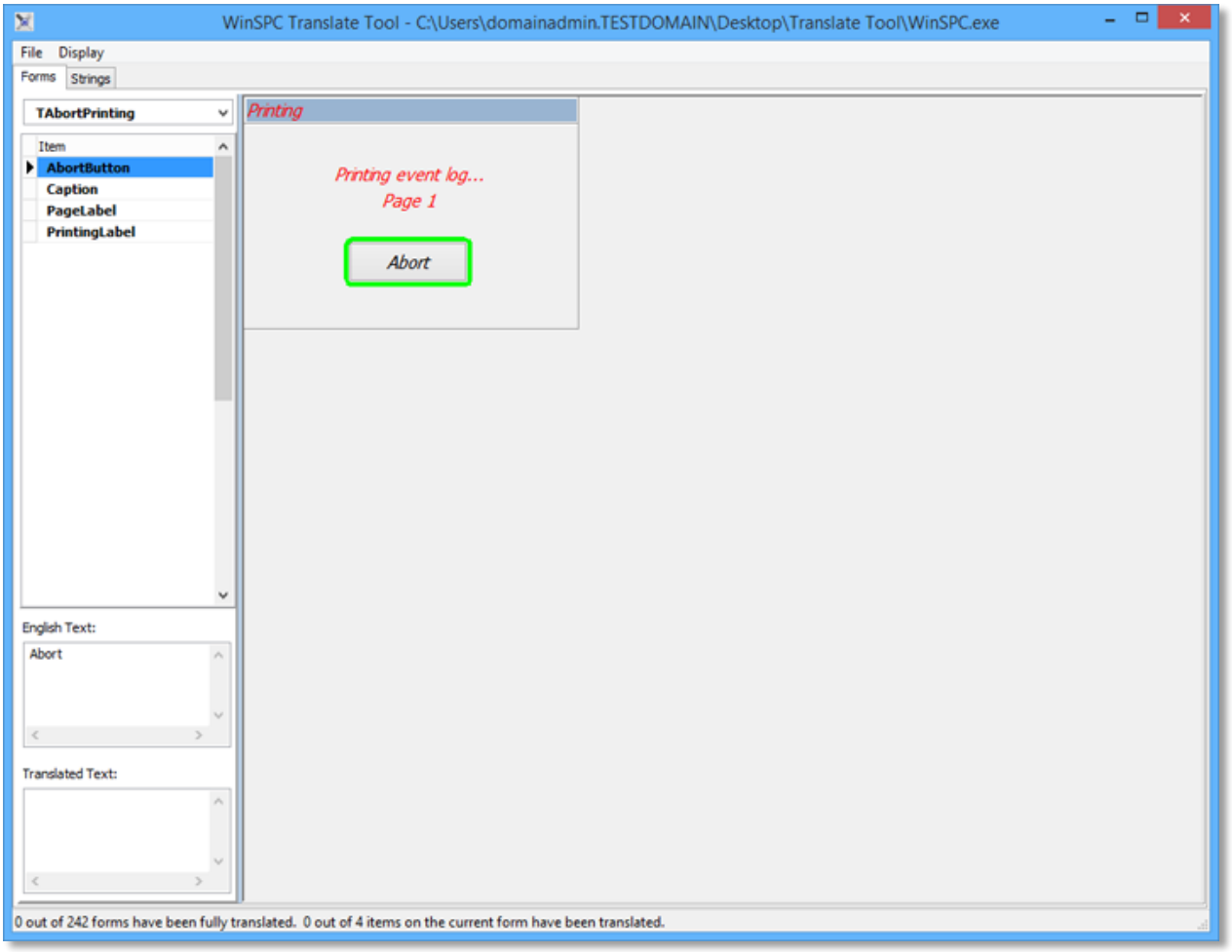
One of the new tools created to support WinSPC V9 is the ***WinSPC Translate Tool***. The primary purpose of this tool is to facilitate the translation of WinSPC from English into another language and, thereby, make WinSPC even easier to learn and use in various parts of the world. A secondary purpose is to give English-speaking customers the ability to replace WinSPC terminology with terminology that is more familiar in their organization—to create a custom language, in a sense.

This section consists of three subsections:

- Understand the WinSPC Translate Tool: Use this subsection to learn the parts of the ***WinSPC Translate Tool*** and how those parts work.
- Get the Files Required to Create or Update a WinSPC Translation: Use this subsection to get all the files you'll need for a translation.
- Create or Update a WinSPC Translation: Use this subsection as a guide for creating a new translation of WinSPC or updating a previously created translation. This subsection assumes an understanding of terms and concepts detailed in the ***Understand the WinSPC Translate Tool*** subsection.

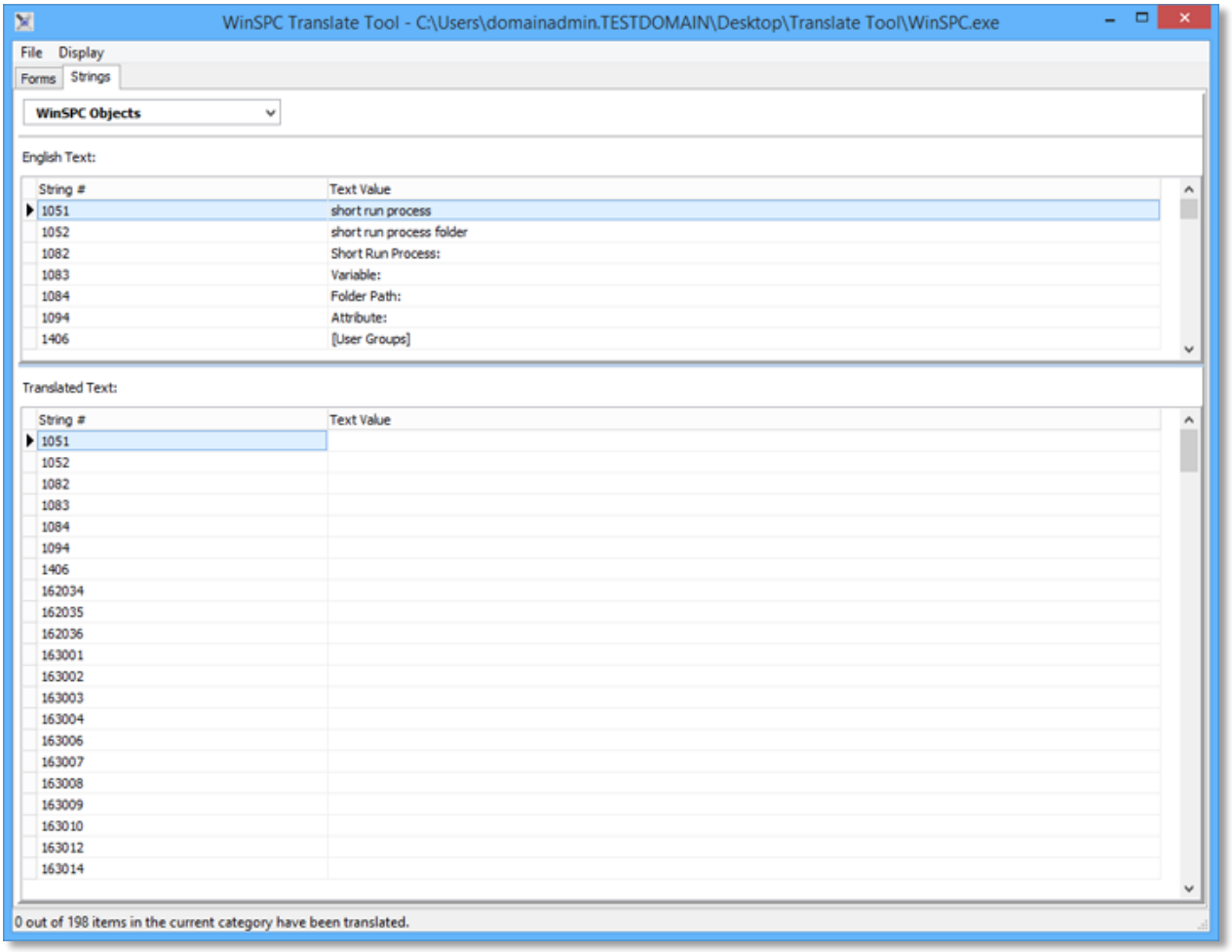
UNDERSTAND THE WINSPC TRANSLATE TOOL

When the ***WinSPC Translate Tool*** is first launched, it appears as follows:



It contains two tabs: the ***Forms*** tab (shown above)…

…and the ***Strings*** tab (shown below).



There are two tabs because there are two types of text that can be translated: form text and string text. *Form* text refers to text that appears directly on a form. *Form*, in this case, is synonymous with *window*. Being a *windows* application, WinSPC has a number of forms or windows with which users interact. The ***Data Collection*** window, for instance, is used to collect data. In this window, the text ***New Value*** might appear, as might a ***Clear*** button. Both of these are examples of form text because, when they appear, they do so directly on the form. The ***Forms*** tab is used to translate form text. *String* text, in contrast, encompasses all text that does not appear directly on a form such as a list that is accessed by multiple forms. The ***Strings*** tab is used to translate string text.

In the ***WinSPC Translate Tool's*** top left corner are two menus: ***File*** and ***Display***.

- ***File***: This menu has two options. Its ***Save*** option is used to save your translation work and its ***Exit*** option is used to close the tool. Clicking the ***Exit*** button when changes have been made but not saved displays a prompt inviting you to save the changes. (Clicking the red X in the upper right of the tool functions identically to clicking the ***Exit*** option.)
- ***Display***: This menu also has two options. These options change depending on whether the ***Forms*** tab or the ***Strings*** tab is selected.
    - If the ***Forms*** tab is selected, the two options are ***Show Translations*** and ***Show All English***. When ***Show Translations*** is selected, text that has been translated is shown in its translated form and text that has not been translated, but is translatable, is italicized. (The word *translatable*, in this case, means *is permitted to be translated within the tool*. There are some words and phrases that, for technical reasons, are

prevented from being translated.) When ***Show All English*** is selected, all text is previewed in English and formatted in the way it appears when WinSPC is run in English.

- If the ***Strings*** tab is selected, the two options are ***All Strings*** and ***Only Strings Needing Translation***. When ***All Strings*** is selected, all the strings in the selected ***String Category*** are displayed. When ***Only Strings Needing Translation*** is selected, only those strings for which no translated text has been provided are displayed.

The ***Forms*** tab has six components:

- ***Forms*** List: In the top left, a list of all forms in WinSPC that have translatable text. Selecting a form from this list causes that form to be displayed in the ***Preview*** pane. The names of the forms in this list are not the names seen in WinSPC by users. Rather, they are the programming names.
- ***Item*** List: On the left, a list of all the translatable items on whatever form is selected in the ***Forms*** list. Selecting an item in this list causes that item to be surrounded by a lime green border in the ***Preview*** pane. The height and width of that border demark the limits of the space available for translated text. Selected a translatable item in the ***Preview*** pane causes the lime green border to surround that item and selects that item in this list.
- ***English Text*** Area: On the left, the area where the English text for the selected item in the ***Item*** list appears.
- ***Translated Text*** Area: On the left, the area where the translated text for the selected item in the ***Item*** list appears. It is blank if no translation for the item has been supplied. As translated text is entered in this area, the ***Preview*** pane is updated.
- ***Preview*** Pane: To the right of the preceding four components, the area where a form is previewed. See the description of the ***Display*** menu below for details on how that menu's options affect this pane.
- ***Count Summary*** Area: A narrow band at the bottom of the tab that summarizes the total number of translatable forms, the number of those forms that are currently translated, the total number of translatable items in whatever form from the ***Forms*** list is selected, and the number of those items that have been translated.

The ***Strings*** tab has four components:

- ***String Category*** List: In the top left, a list of categories within which strings that have something in common are organized. Selecting a category from this list causes the strings in that category to be listed in both the ***English Text*** and ***Translated Text*** areas.
- ***English Text*** Area: Just under the ***String Category*** list, a listing of all the strings within the category selected in the ***String Category*** list. This area has two columns: ***String #*** and ***Text Value***. The numbers in the ***String #*** are ID numbers assigned the strings. Each unique string has a unique number. The content in the ***Text Value*** column is the English text of the strings. Selecting a string number in this list causes the same string number to be selected in the ***Translated Text*** area.
- ***Translated Text*** Area: Just under the ***English Text*** area, a duplicate list of the string numbers in the ***English Text***. The content of the ***Text Value*** column is the translated text of the strings. Selecting a string number in this list causes the same string number to be selected in the ***English Text*** area.
- ***Count Summary*** Area: A narrow band at the bottom of the tab that summarizes the total number of translatable strings for the selected ***String Category*** and the number of those strings that have been translated.

GET THE FILES REQUIRED TO CREATE OR UPDATE A WINSPC TRANSLATION

1. Create a folder on your computer for the translation files. From this point on, this folder is referred to as the translation folder. If you are updating a translation, as opposed to creating a new one, and you already have a translation folder for that translation, you may delete its contents and reuse it.
2. Click this link to download the core ***WinSPC Translate Tool*** files: WinSPC Translate.zip.
3. Right-click the downloaded ***WinSPC Translate.zip*** file and extract its files to your translation folder.
4. If desired, delete the ***WinSPC Translate.zip*** you downloaded.
5. Contact WinSPC Support at support@winspc.com or (248) 447-0140 and request the supplemental files you'll need for the translation be emailed to you.
6. When the email is received, save the supplemental files attached to it to your translation folder.

CREATE OR UPDATE A WINSPC TRANSLATION

1. If the translation you are creating or updating is for a Far East language (Japanese, Chinese Simplified, etc.), ensure the computer you're going to use has had the Windows support for Far East languages installed. Otherwise, the ***WinSPC Translate Tool*** will be unable to properly display the Far East language's characters.
2. Launch the ***WinSPC Translate Tool***. To do this, from within your translation folder, double-click the application file named ***TranslateTool*** or ***TranslateTool.exe***.
3. Translate the form text. Doing this involves correcting any previously translated form text that is incorrectly translated and translating any untranslated form text. A suggested sequence of steps is:
    a. Ensure the ***Forms*** tab is selected.
    b. Ensure the ***Display*** menu's ***Show Translations*** option is selected.
    c. From the ***Forms*** list, ensure the first form is selected.
    d. From the ***Item*** list, ensure the first item is selected.
    e. Look over the text in the ***English Text*** area.
    f. Look over the item in the ***Preview*** pane.
    g. In the ***Translated Text*** area, if a translation already exists for the item, correct it as needed. If a translation does not already exist, enter one.
    h. If there are other items in the ***Item*** list, for each item, select it and repeat steps e and f.
    i. Once all form text on the first form is translated, for each remaining form in the ***Forms*** list, select it and repeat steps d-g.
4. Translate the string text. Doing this involves correcting any previously translated string text that is incorrectly translated and translating any untranslated string text. A suggested sequence of steps is:
    a. Select the ***Strings*** tab.
    b. Ensure the ***Display*** menu's ***All Strings*** option is selected.
    c. From the ***String Category*** list, ensure the first category is selected.
    d. In the ***English Text*** area, ensure the first string is selected.
    e. For the corresponding string in the ***Translated Text*** area, if a translation already exists, correct it as needed. If a translation does not already exist, enter one.
    f. For each remaining string in the string category, select it in the ***English Text*** area and repeat step e.

g. For each remaining string category, select it from the ***String Category*** list and repeat steps d-f.

5. Translate the ***Setting Up a Language in WinSPC*** document. This document is included in the zipped files you downloaded in step 1 of the Get the Files Required to Create or Update a WinSPC Translation section above. In some cases, an earlier version of this document will have already been translated. If so, that translated document will have been emailed along with the other supplemental files and the name of that document will be something like ***Setting Up A Language In WinSPC_LanguageName*** (e.g., ***Setting Up A Language In WinSPC_French***.)
6. Once all the form text and string text are translated as well as the ***Setting Up a Language in WinSPC*** document, attach the ***lang.cds*** file and the translated ***Setting Up a Language in WinSPC*** document from your translation folder to an email and send that email to support@winspc.com with a brief note indicating the translation is complete.