

# TIBCO OpenSpirit<sup>®</sup> Scan Utility

## User's Guide

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# Scan Job Manager Overview

The Scan Job Manager is a tool used to create jobs to scan spatial data residing in OpenSpirit enabled data sources and write the scanned data to one or more spatial data repositories. The supported spatial data repositories are Esri SDE, Esri Shapefile, Esri File Geodatabase, and OpenSpirit Enterprise Search Index. Data types having one or more spatial attributes are most commonly scanned, however, data types with no spatial information can also be included in a scan job.

Jobs created by the Scan Job Manager are saved in the OpenSpirit master installation's database. The jobs can be run at the time of creation, or they can be scheduled to run once at a later time, or on a regular recurring interval. The Scheduled Jobs tool is used to manage scheduled scan jobs.

OpenSpirit Model Views are used to define the data types and attributes available for scanning. A default scan model view is included with the Scan Job Manager. The OpenSpirit Model View Manager can be used to create custom scan model views. The Model View determines the data types and attributes that will be scanned as well as the names given to the output spatial feature classes and fields. The geometry type of the Model View's spatial attribute determines the output feature type (e.g. Points, Lines, or Polygons).

The following data types are included in the default scan model view.

Well
Well Bore List
Well Surface Location
Well Bottom Location
Well Path
Log
Pick
Checkshot
Well Zone
Well Zone Parameter

Seismic
Seismic 3D Survey
Seismic 3D Volume
Live 3D Trace
Seismic 2D Survey
Seismic 2D Navigation
Seismic 2D Dataset
Live 2D Trace

Interpretation
Seismic 3D Horizon
Non-seismic Horizon
Horizon
Horizon 2D
Horizon 2D Property
Horizon Point Set

Interpretation
Fault
Fault Segments
Fault Point Set
Horizon Fault Boundaries

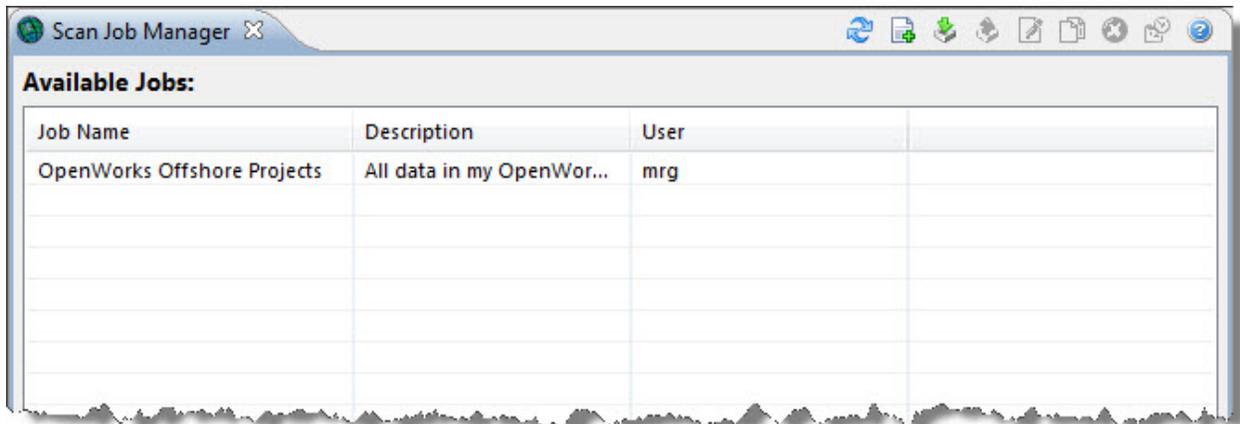
The features generated by a scan job run can be viewed using Esri GIS products or any application that can access the standard Esri formats supported by the Scan Job Manager.

Scan jobs can be created on any operating system platform supported by the OpenSpirit Desktop (e.g. Windows or Linux). Jobs can be run on the computer used to create the job, or it can be run on a different computer. The computer used to schedule the job is the computer that it will run on. Some scan output types have additional platform restrictions. See the individual scan output sections of this guide for details on output platform restrictions.

# Getting Started

## Starting the Scan Job Manager

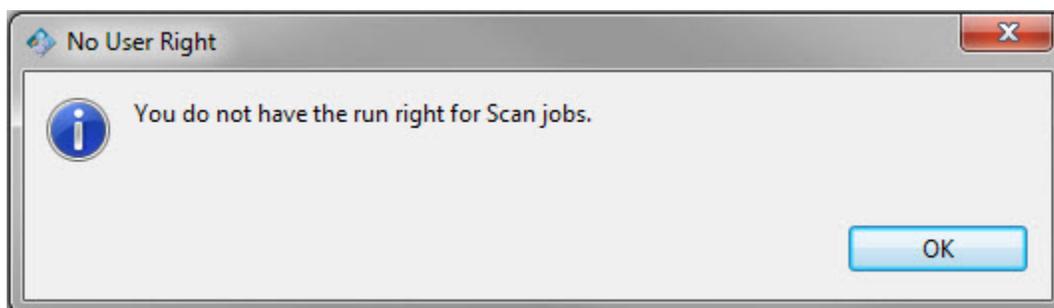
The Scan Job Manager is accessed from the OpenSpirit Desktop by clicking on the Scan Job Manager icon  or by choosing the **Tools > DataManager > Scan Job Manager** menu item. This will cause the Scan Job Manager window to open.



The Scan Job Manager window is used to create new scan jobs and manage existing scan jobs. The Scan Job Manager will display all the existing scan jobs along with its description and the name of the user that created the scan job. Users that have been granted the **Administer Scan Jobs** user right will also have full rights to manage and run scan jobs created by other users. See the help guide sections for the User Manager tool for more information about user rights.

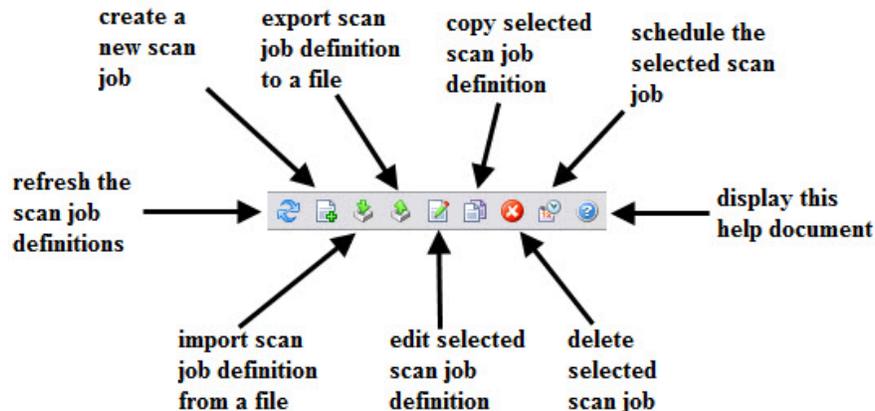


The default setting for the **Run Scan Jobs** user right is to allow any OpenSpirit user the right to create and run scan jobs. However, it is possible for the OpenSpirit administrator to remove the global right to run scan jobs. The following error message window will appear when users open the Scan Job Manager without having the **Run Scan Jobs** right. The Scan Job Manager window will open, but no jobs will be displayed and the tool bar icons will be disabled preventing new scan jobs from being created. The **Run Scan Jobs** right can be granted to individual users if the global right has been removed.



## Scan Job Manager Tool Bar

The Scan Job Manager tool bar contains buttons that perform actions that affect the overall Scan Job Manager. These actions are described in the following sections of this help guide. The tool bar resides in the upper right hand corner of the Scan Job Manager window.



### Refresh Button

The refresh tool bar button  will refresh the available jobs list by re-reading the information from the OpenSpirit master installation's database.

### Create New Job Button

The create tool bar button  opens a new scan job definition wizard. See the Creating a Scan Job section of this help guide for an explanation of using the new scan job definition wizard.

### Export Scan Job Button

The export tool bar button  opens a folder selection window used to select the folder that the selected scan jobs should be exported to. A file is created in the folder for each scan job that is selected in the available jobs list. The files are named using the pattern **<job name>\_Scan\_<user>.ospscanjob** where **<job name>** is the name of the scan job and **<user>** is the name of the OpenSpirit user that created the scan job. Scan job export is used to externalize a scan job definition in order to import it into a different OpenSpirit installation, to maintain a backup copy, or to send to TIBCO OpenSpirit support to aid in diagnosing a problem.

 Scan job definition export files contain information about the data sources that have been selected for scanning and they contain information about the scan outputs. The scan job will not import properly into an OpenSpirit installation that does not contain the same data source configurations. Also, the outputs may not be accessible when running the jobs in an environment that does not have visibility to the file system or databases specified in the scan job output configurations.

## Import Scan Job Button

The import tool bar button  opens a file selection window that can be used to select a scan job file that was created using the export option. Scan job files have an *.ospscanjob* file name extension.

## Edit Scan Job Button

The edit tool bar button  is enabled when a single scan job is selected in the available jobs list. Clicking the edit button opens the scan job definition wizard. Scan jobs that have never been run can be modified using the wizard. Scan jobs that have been run are opened in a read only mode. A copy must be made of jobs that have already run in order to make changes to the job. Edits of jobs that have been run are not allowed in order to maintain an audit trail.

## Copy Scan Job Button

The copy tool bar button  is enabled when a single scan job is selected in the available jobs list. Clicking the copy selected scan job definition button opens a prompt to provide a name for the new scan job. The new scan job will appear in the available jobs list. Editing the new scan job is permitted because it has never been run. Edit the new scan job by selecting it and clicking on the edit button.

## Delete Scan Job Button

The delete tool bar button  is enabled when scan jobs are selected. Clicking on the button will cause a pop-up to appear to confirm deletion of the selected scan job definitions. Clicking on yes to this confirmation pop-up will delete the selected scan jobs if none of them have been run. A second pop-up will appear if any of the selected jobs have been run in the past to provide a warning that the run histories of the selected scan jobs will also be deleted.

 Delete operations cannot be undone. Deleting a scan job destroys the scan job definition and any run histories that exist for the deleted job.

## Schedule Scan Job Button

The schedule tool bar button  is enabled when a single scan job is selected in the available jobs list. Clicking the schedule button opens the job scheduling window which enables the job to be scheduled to run at a later time, or enables the job to be run now. See

the Starting a Scan Job section of this help guide for more information about scheduling scan jobs.

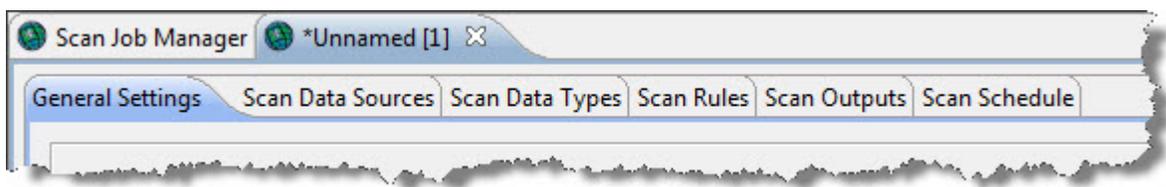
## Help Button

The help tool bar button  is always enabled. Clicking the help button opens this help guide.

# Creating Scan Jobs

## Creating a Scan Job

The process of setting up a new scan job definition is started by clicking the Create New Scan Job icon . This will open an empty scan job definition window. The scan job definition window presents a set of tabs used to enter all the information required to define a scan job. The tabs are visited in order from left to right. The  and  buttons are provided in the lower right corner of the scan job tabs to step you through the tabs in a wizard fashion.



The following sections of this user guide describe each of the scan job definition data entry tabs.

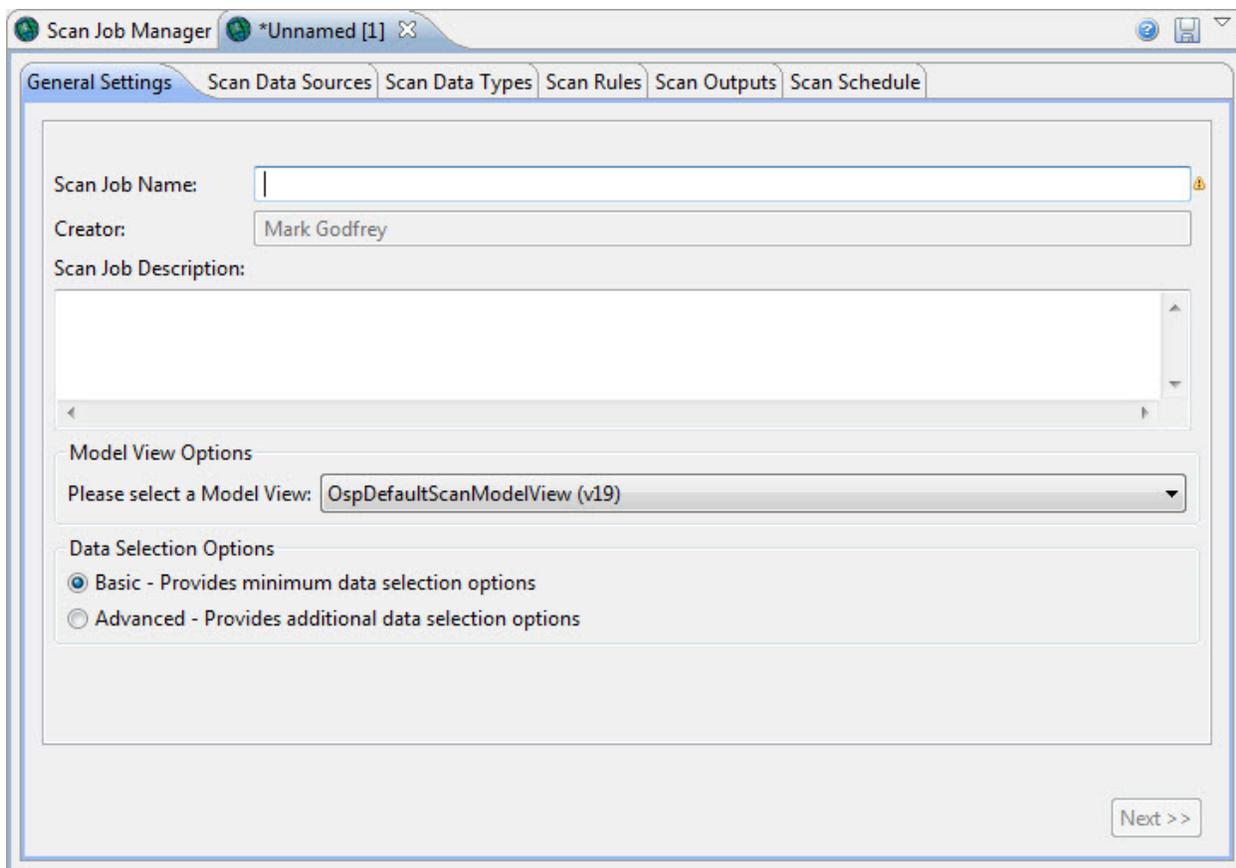
- General Settings tab
- Scan Data Sources tab
- Scan Data Types tab
- Advanced Data Selection tab
- Advanced Selection Summary tab
- Scan Rules tab
- Scan Outputs tab
- Scan Schedule tab



A Scan Job cannot be modified once it has run. First create a copy of the job by selecting the job in the Scan Job Manager's available jobs list, and click on the copy  icon in the tool bar. Now select the new copy and click on the edit icon . This will open the scan job definition editor enabling you to make the desired modifications to the job.

## General Settings tab

The General Settings tab is the first tab displayed when creating a new scan job definition.



The scan job must be given a name. Your scan job names must be unique, so you cannot use the name of an existing scan job that you own. An optional description can also be assigned to the job.



The text in the scan job definition's top level window tab will change from "Unnamed [1]" to the scan job name as you type the name. Displaying the scan job name in the top level scan job definition tab enables you to easily locate your scan job definition if you switch to other OpenSpirit Desktop tools during scan job creation or editing.



The scan job name cannot be changed once the job has been saved. You must create a copy of the saved job giving it a new name in order to achieve a rename.

The selected model view determines the data types and attributes that are available for scanning. The model view also determines the name of the feature classes and feature class fields that will be used to write the output features during scanning. A default model view is provided with the Scan Job Manager. The default scan model view cannot be modified. However, the Model View Manager tool can be used to create new custom model views if the default model view does not produce the feature class definitions that meet your company's needs. See the Creating a Custom Scan Model View section of this guide to learn more about creating custom scan model views.

The Scan Job Manager provides a basic mode and an advanced mode for selecting the data to be scanned. The basic mode will scan all rows in the data sources that are selected for

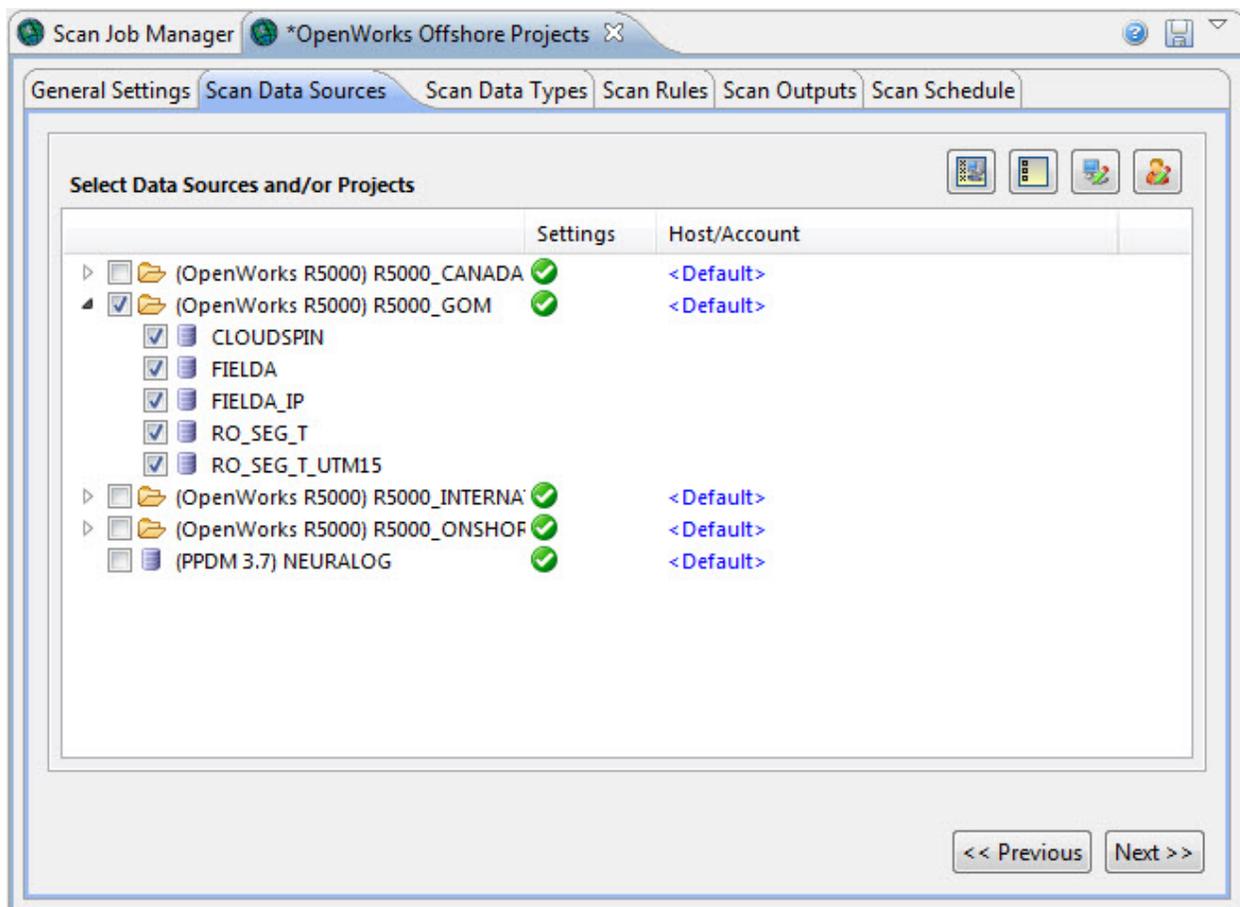
scanning. The advanced mode causes two advanced selection tabs to appear. The advanced mode tabs provide OpenSpirit Data Selector selection capability for selecting the data to be scanned. Advanced mode permits individual data rows to be selected and permits use of query filter selection criteria. See the Advanced Data Selection tab section of this guide for more information about the advanced mode.

Scan jobs can also be created by copying an existing scan job. Scan job copies are made by selecting an existing scan job definition and clicking on the Copy icon  in the Scan Job Manager tool bar. The copy must be given a new name that does not match the name of any other scan job that you own.

A  button is enabled in the bottom right corner of the General Settings tab once the required scan job name has been entered. Clicking on the next button will navigate to the next scan job definition data entry panel.

## Scan Data Sources tab

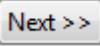
The Scan Data Sources tab is where you select the data sources that are to be scanned.





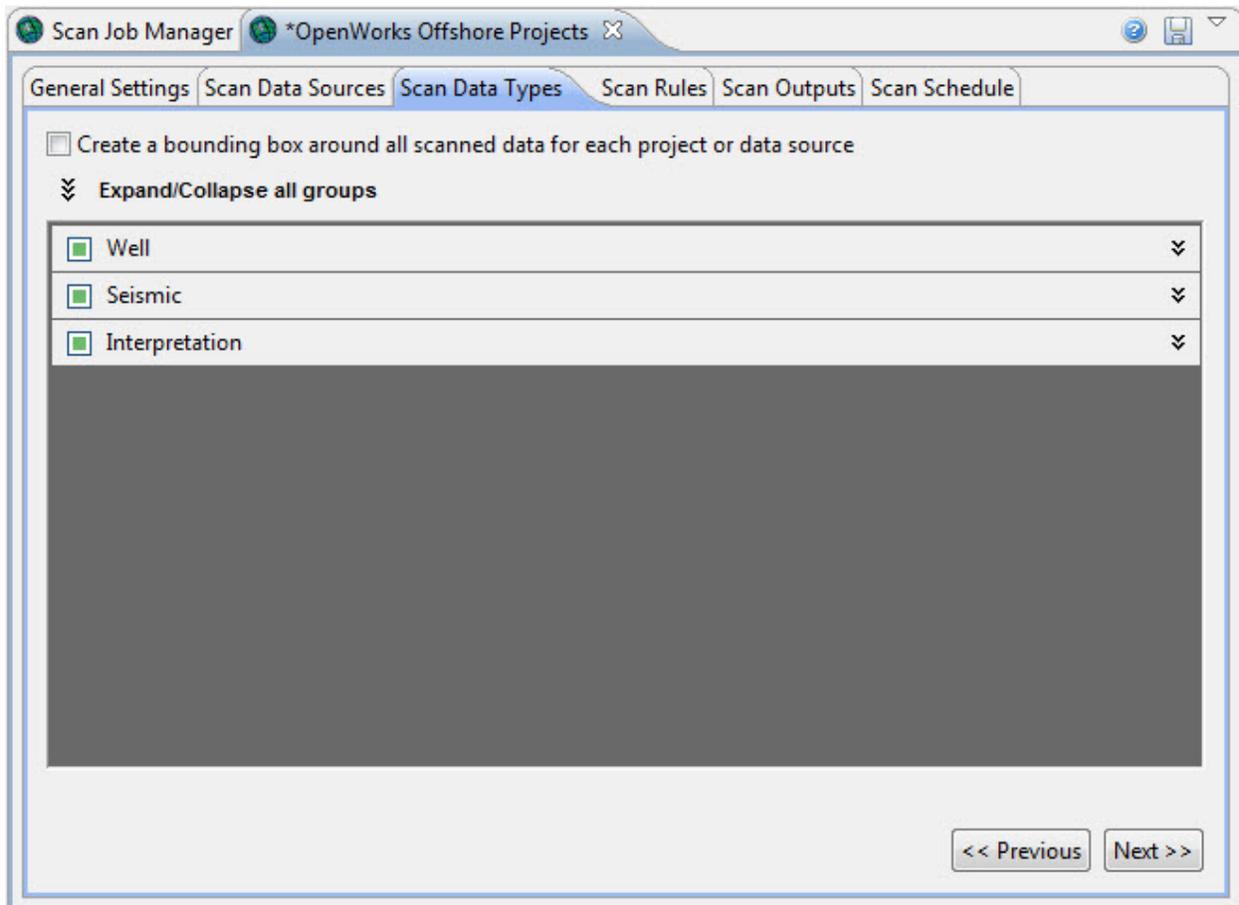
The Scan Data Sources tab is identical to the Data Source Selection window that is displayed when opening the OpenSpirit Data Selector tool. See the Selecting Data Sources section of the Data Selector help guide for details in using the data source selection window.

Select the data sources and/or projects that you would like this scan job to scan. Any required data source credentials or server activation settings should be entered for the selected data sources.

Click on the  button to navigate to the next tab when the data source selection has been made.

## Scan Data Types tab

The Scan Data Types tab is used to select the data types to be scanned by the job. The data types are organized into expandable groupings based on the data type groups defined in the scan model view. The most commonly scanned data types are selected by default. Clicking on a group will expand it to reveal the individual data types within the group and thus allowing individual data types to be selected or deselected. Expanding the groups also provides access to behavior options for some data types, such as line thinning parameters and point grouping options.





Groups that do not contain any data types supported by the selected data source(s) are not shown. For example, the Seismic and Interpretation groups will not appear when scanning a PPDM data source.

Each data type group contains a tri-state check box to the left of the group name. The check box will appear as a solid square  if some, but not all, of the data types within the group are selected. The check box will contain a check mark  if all of the data types within the group are selected. The check box will appear empty  if none of the data types in the group are selected. Clicking on the expand button  near the top of the panel will expand all of the data type groups. Clicking again on the collapse button  will collapse all of the data type groups.



Changing a tri-state group check box to the select all state  selects all of the data types within the group. However it does not change the selection state of any options for the data types within the group. For example, selecting all of the Interpretation data types does not automatically select the *Create Separate Points* option on the Horizon 2D or Fault Segments within the group.

## Bounding Box Options

Each data type group provides an option to create a polygon feature that encloses all of the scanned features within the group for each project or data source that is scanned. The features are written to a feature class called *<data type group>\_Extent* where *<data type group>* is the name of the data type group. For example, checking the *Create a bounding box around all scanned data for 'Well'* option at the top of the Well group will cause a rectangular polygon feature to be created for each project or data source that is scanned. The polygon will enclose all of the Well data type features that are scanned in the project or data source.

The *Create a bounding box around all scanned data for each project or data source* option at the top of the Scan Data Types window will cause a feature class to be created for each project or data source that is scanned. The feature class name will be *<project name or data source name>\_Extent* where *<project name or data source name>* is the name of a scanned project or the name of a scanned data source for data sources that do not support a project concept (e.g. PPDM). The feature class will contain a single rectangular polygon feature that represents the boundary around all of the data types scanned in that project or data source.

## Data Types and Options

The following tables describe the data types and options provided by the default OpenSpirit scan model view.

### Well Data Types

Data Type	Feature Shape Type	Options	Comments
Well Bore List	none	none	This data type does not have a spatial attribute, so it is output as a table with no feature shape.
Well Surface Location	Point	<b>Use 'Elevation' column as Z</b> Checking this option causes the value of the Well's Elevation column to be used as the Z value for the feature's point shape. Zero will be assigned to the point's Z value if this option is not selected.	
Well Bottom Location	Point	<b>If null, use last point from 'Path' column</b> Checking this option generates a bottom location from the well path if the bottom location is null in the data source, but the path is not null.	
Well Path	Line	<b>Thinning Parameter</b> This parameter is used to discard points from the line that are within the specified tolerance. The option value is considered to be the perpendicular distance of the point from the straight line defined by its adjacent points. <b>If null, use 'TotalDepth' column as M</b> This parameter is used to specify the attribute to use as the fallback value for the feature's measurement value if the attribute selected as the Measurement Attribute is null.	
Log	Point	<b>Use 'Elevation' column as Z</b> Checking this option causes the value of the Well's Elevation column to be used as the Z value for the feature's point shape. Zero will be assigned to the point's Z value if this option is not selected.	The surface location of the log's associated well is used as the spatial attribute.

Data Type	Feature Shape Type	Options	Comments
Pick	Point	<p><b>Use 'MD Value' column as Z</b>            Checking this option causes the value of the Pick's MD Value column to be used as the Z value for the feature's point shape. The well bore path will be used to compute the Z if this option is not selected.</p>	
Checkshot	Point	<p><b>Use 'Elevation' column as Z</b>            Checking this option causes the value of the Well's Elevation column to be used as the Z value for the feature's point shape. Zero will be assigned to the point's Z value if this option is not selected.</p>	The surface location of the checkshot's associated well is used as the spatial attribute.

## Seismic Data Types

Data Type	Feature Shape Type	Options	Comments
Seismic 3D Survey	Polygon	none	
Seismic 3D Volume	Polygon	none	
Live 3D Trace	Polygon	<p><b>Slice Volumes / Brick Volumes / Trace Volumes</b>            Select the seismic volume storage organizations that you want to scan.            Volumes organized as slices are the most efficient and brick volumes are a bit less efficient than slice volumes. Reading time slices from volumes organized as traces can be very time consuming.            Note that advanced mode can be used to select individual volumes to be scanned.</p> <p><b>Sample Z Location</b>            Controls the Z value used to extract the time slice used to perform the live trace calculation or to create thumbnail images. A value of 80% means the time slice located 80% down the vertical axis of the volume will be used.</p> <p><b>Inline Decimation Factor</b>            A skip factor in the inline axis of the volume used to reduce the number of inlines that must be read to perform the calculation.</p> <p><b>Crossline Decimation Factor</b>            A skip factor in the crossline axis of the volume used to reduce the number of crosslines that must be read to perform the calculation.</p> <p><b>Generate Live Trace Coverage</b>            Select this option to generate a live trace coverage outline.</p> <p><b>Perimeter Threshold</b>            A distance around the perimeter of each polygon is calculated and any polygon having a perimeter distance that is less than this threshold will be excluded from the scan result. The perimeter is expressed in inline/crossline trace units.</p>	<p>Thumbnail images and live trace polygons are computed by extracting a time slice from the volume. The Sample Z Location setting controls the vertical location in the volume that the time slice is read from. The computed live trace polygons enclose the portion of the time slice containing non zero sample values.</p> <p>The thumbnail images are written to Portable Network Graphics files. The file folder that the <b>.png</b> files are written to is determined by the scan output settings. The name given to the image file is determined by the value of the ImageName model view attribute property assigned to the <b>BULK_DATA</b> attribute.            An ESRI auxiliary file is also created. The auxiliary file will have <b>.aux.xml</b> appended to the image file name. This auxiliary file will contain the coordinate system and geolocation information needed by ESRI tools, such as ArcGIS Desktop, to geographically position the thumbnail image.</p>

Data Type	Feature Shape Type	Options	Comments
		<p><b>Generate Thumbnail Image</b> Select this option to generate a thumbnail image of the volume time slice.</p> <p><b>Color Map Settings: Reverse Color Scale</b> Select this option to reverse the color scale direction.</p> <p><b>Color Map Settings: Symmetric Mapping of Values about zero</b> Select this option to map seismic sample values of zero to the center of the color scale.</p> <p><b>Color Map Settings:Scale Factor</b> Used to compress or stretch the color scale.</p> <p><b>Color Map Settings:Predefined/User-defined/Custom</b> Used to select one of the predefined color scales, create a new color scale from a color map file, or create a custom color scale by selecting the min, mid, and max colors.</p>	
Seismic 2D Survey	none	none	
Seismic 2D Navigation	Line	<p><b>Thinning Parameter</b> This parameter is used to discard points from the line that are within the specified tolerance. The option value is considered to be the perpendicular distance of the point from the straight line defined by its adjacent points.</p>	
Seismic 2D Dataset	Line	<p><b>Thinning Parameter</b> This parameter is used to discard points from the line that are within the specified tolerance. The option value is considered to be the perpendicular distance of the point from the straight line defined by its adjacent points.</p>	
Live 2D Trace	Line	<p><b>Thinning Parameter</b> This parameter is used to discard points from the line that are within the specified tolerance. The option value is considered to be the perpendicular distance of the point from the straight line defined by its adjacent points.</p>	<p>The live trace line is created by reading the trace samples that fall between the sample range minimum and maximum settings. A trace having all zeros for the sample values within the specified range are considered to be null or missing. Any section of the</p>

Data Type	Feature Shape Type	Options	Comments
		<p><b>Trace Gap Threshold</b> The minimum number of contiguous missing traces required to generate a break in the line.</p> <p><b>Sample Range Minimum &amp; Sample Range Maximum</b> Controls the range of trace samples examined to decide if the trace is null. All zero values within the range infers a null or missing trace.</p> <p><b>Trace Decimation Factor</b> A skip factor used to reduce the number of traces that must be read to perform the calculation.</p>	<p>seismic line having contiguous null traces that exceed the trace gap threshold will cause a gap to be created in the line. The thinning parameter setting is then applied to reduce the number of points needed to represent the line while respecting any gaps that may have been computed.</p>

## Interpretation Types

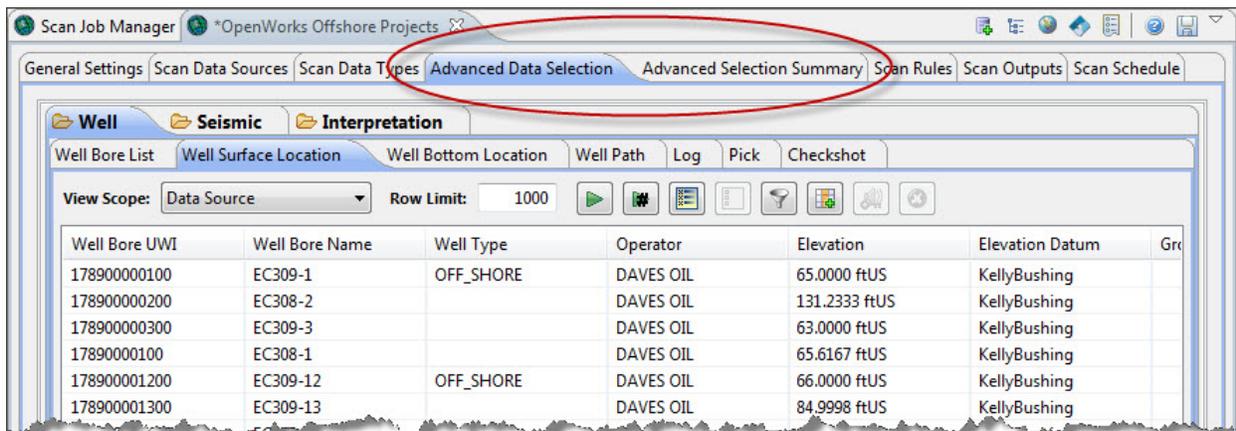
Data Type	Feature Shape Type	Options	Comments
Seismic 3D Horizon	Polygon	<p><b>Generate Thumbnail Image</b> Select this option to generate a thumbnail image of the horizon.</p> <p><b>Color Map Settings: Reverse Color Scale</b> Select this option to reverse the color scale direction.</p> <p><b>Color Map Settings:Predefined/User-defined/Custom</b> Used to select one of the predefined color scales, create a new color scale from a color map file, or create a custom color scale by selecting the min, mid, and max colors.</p>	<p>The thumbnail images are written to Portable Network Graphics files. The file folder that the <b>.png</b> files are written to is determined by the scan output settings. The name given to the image file is determined by the value of the ImageName model view attribute property assigned to the <b>BULK_DATA</b> attribute.</p> <p>An ESRI auxiliary file is also created. The auxiliary file will have <b>.aux.xml</b> appended to the image file name. This auxiliary file will contain the coordinate system and geolocation information needed by ESRI tools, such as ArcGIS Desktop, to geographically position the thumbnail image.</p>
Non-seismic Horizon	Polygon	<p><b>Generate Thumbnail Image</b> Select this option to generate a thumbnail image of the horizon.</p> <p><b>Color Map Settings: Reverse Color Scale</b> Select this option to reverse the color scale direction.</p> <p><b>Color Map Settings:Predefined/User-defined/Custom</b> Used to select one of the predefined color scales, create a new color scale from a color map file, or create a custom color scale by selecting the min, mid, and max colors.</p>	<p>The thumbnail images are written to Portable Network Graphics files. The file folder that the <b>.png</b> files are written to is determined by the scan output settings. The name given to the image file is determined by the value of the ImageName model view attribute property assigned to the <b>BULK_DATA</b> attribute.</p> <p>An ESRI auxiliary file is also created. The auxiliary file will have <b>.aux.xml</b> appended to the image file name. This auxiliary file will contain the coordinate system and geolocation information needed by ESRI tools, such as ArcGIS Desktop, to geographically position the thumbnail image.</p>
Horizon 2D	Line	<p><b>Use 'HorizonValues' column as Z</b> Checking this option causes the line feature to contain 3D points rather than 2D points. The Z values are obtained from the</p>	

		HorizonValues attribute. <b>Create Separate Points</b> Overrides the shape type to be a Point rather than a Line. A separate point feature is created for each point in the horizon	
Horizon 2D Property	Line	<b>Create Separate Points</b> Overrides the shape type to be a Point rather than a Line. A separate point feature is created for each point in the horizon property.	
Horizon Point Set	Multipoint		
Fault Segments	Line	<b>Create Separate Points</b> Overrides the shape type to be a Point rather than a Line. A separate point feature is created for each point in the fault segments.	
Fault Point Set	Multipoint		
Horizon Fault Boundaries	Line		

## Advanced Tabs

### Advanced Data Selection tab

The advanced selection tabs appear between the *Scan Data Types* tab and the *Scan Rules* tab when the *Advanced* option is selected on the *General Settings* tab.



The *Advanced Data Selection* tab contains an OpenSpirit data selector which can be used to limit the scan to a subset of the data items that exist in the data sources that were chosen on the *Scan Data Sources* tab. See the Data Selector Help for details of using the data selector tool.



The scan data selector tabs reflect the data type groups, data types, and attributes defined in the scan model view that were selected in the General Settings tab. Also, the data

selector will only show the data type groups and the data types that are selected in the *Scan Data Types* tab. This means that the data selector tabs will likely look different from the tabs seen when opening a Data Selector outside the scan job manager. The data selector that is embedded in the *Advanced Data Selection* tab does not provide access to the standard data selector tool bar. It is constrained to only display the model view selected on the *General Settings* tab and the data sources selected on the *Scan Data Sources* tab.

The selection subset can be made using a combination of individual row selections and query filter settings. Query filter settings are made by clicking on the filter icon  on one or more data selector tab tool bars. Individual row selections are made by selecting specific rows in one or more data selector tabs. Selecting one or more specific rows on a data selector tab will limit scan to only scan the selected rows. All rows matching the query filter will be scanned if no rows are selected on a data selector tab. The *Advanced Selection Summary* tab shows the type of selection that will be used for each data type to be scanned.

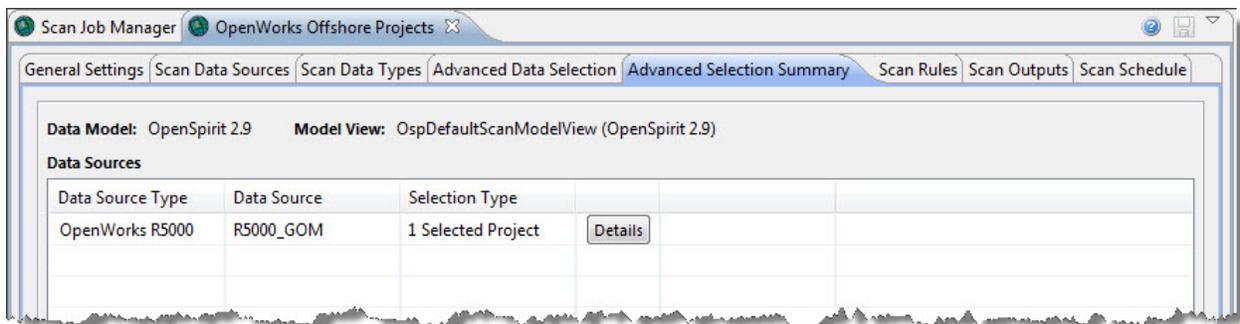


The query filter is applied each time a scan job is run, not just at the time the scan job is created. This means the rows displayed in the data selector may not be the same rows that are scanned if data is added or removed from the data source between the time the scan job is created and the time the scan job is run.

## Advanced Selection Summary tab

The Advanced Selection Summary tab appears when the *Advanced* option is selected on the *General Settings* tab.

The top section of the summary tab lists the data sources that are selected in the *Scan Data Sources* tab. The **Details** button can be used to display a list of the projects that have been selected for a data source.



The bottom section of the summary tab lists each data type that has been selected for scan on the *Scan Data Types* tab. The Selection Type column shows *Entire Query Results* if no rows were explicitly selected on the *Advanced Data Selection* tab and it shows *# Selected* if one or more rows were selected on the *Advanced Data Selection* tab. The selection type can be overridden using the drop down, or you can go back to the *Advanced Data Selection* tab to change the selection type.

Data Types			
Group	Data Type	Selection Type	
Well	Well Bore List	Entire Query Results ▼	Details
Well	Well Surface Location	Entire Query Results ▼	Details
Well	Well Bottom Location	Entire Query Results ▼	Details
Well	Well Path	Entire Query Results ▼	Details
Seismic	Seismic 3D Survey	1 Selected ▼	Details
Seismic	Seismic 3D Volume	5 Selected ▼	Details
Seismic	Seismic 2D Navigation	Entire Query Results ▼	Details
Seismic	Seismic 2D Dataset	Entire Query Results ▼	Details
Interpretation	Seismic 3D Horizon	10 Selected ▼	Details
Interpretation	Non-seismic Horizon	Entire Query Results ▼	Details

 Overriding explicit row selections by changing a *# Selected* to *Entire Query Results* is provided as a convenience. Selecting the *Entire Query Results* option for a data type produces the same result as going back to the data type's tab in the *Advanced Data Selection* tab and pressing the clear all row selections button . A subtle use using the *Advanced Selection Summary* tab to override explicit row selections is when explicit row selections were used for view scoping. For example, you might want to select a *Seismic 3D Survey* row in order to more easily find a specific *Live 3D Trace* to scan. You make your row selections and then use the *Advanced Selection Summary* tab override the *Seismic 3D Survey* selection to *Entire Query Results* in order to scan all of the *Seismic 3D Survey* rows, not just the row used to locate the specific *Live 3D Trace*.

 Using explicitly selected rows for a data type will cause the scan job to try to scan the selected rows each time the job is run without regard for any query filter that may have been set for that data type.

Pressing the  button next to a data type using explicit row selection displays information about the selected rows.

## Scan Rules tab

The *Scan Rules* tab contains settings that control some of the scan job behavior.

The screenshot shows the 'Scan Rules' configuration window. It has several tabs: 'General Settings', 'Scan Data Sources', 'Scan Data Types', 'Scan Rules' (active), 'Scan Outputs', and 'Scan Schedule'. Under 'Modified Items Rule', the first radio button is selected. Below it is a checkbox for ignoring items based on a date, with a calendar icon. Under 'Update Rule', the first radio button is selected. At the bottom right, there are 'Previous' and 'Next' navigation buttons.

The **Modified Items Rule** is used to cause the scan job to ignore data type rows that have not changed since the last run of the scan job. This option is useful when creating scan jobs that are scheduled to run on a routine interval to pick up newly created data or modified data. Choosing the **Scan selected items that have been created or modified since last scan job** option imposes a filter on the data that is read during execution of the scan job. This option causes data items to be ignored if their modified date is older than the last date that the scan job was run. Selecting the **Scan all selected items** option causes all of the data items to be read without regard for their modification date.

The **Ignore selected items created or modified prior to** option can optionally be enabled to cause all data created or modified prior to a specified date to be ignored by the scan. Click on the calendar icon  to select the ignore date.



The data item attribute that is used to determine the modified date is specified in the data item's model view settings. See the help section about Creating a Custom Scan Model View for more information about creating scan model views.

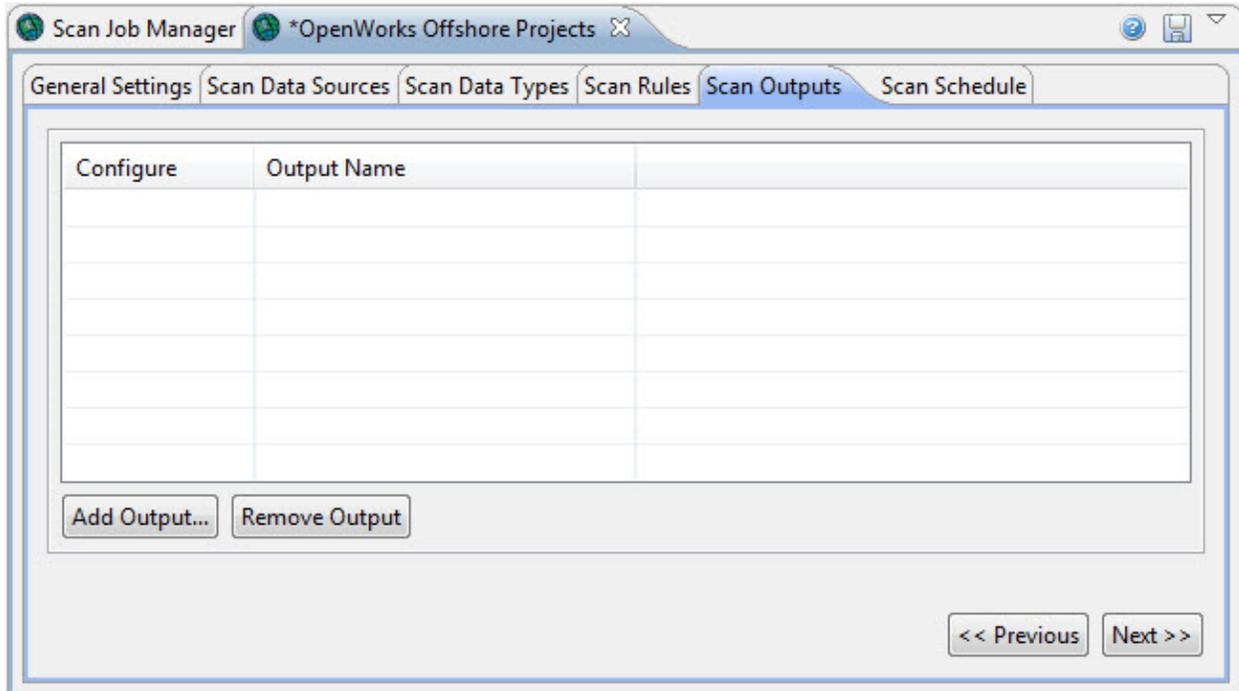
The **Update Rule** is used to control how the scan data is written. The **Add new items and update existing items** option causes the scan output repository to be examined for existing data items. Any existing data item that matches a data item being scanned will be updated, thus avoiding data duplication in the output repository. Data items that do not already exist in the output will be added. The **Add new items only** option will not update any data items found to exist in the output repository. Only new items are added. The **Delete all items for selected data types and selected data sources before scanning** option is only available when the **Scan all selected items** modified item rule is selected. This option will delete all features that

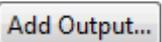
are associated with the project or projects being scanned from the output feature classes before writing the scan data. Features associated with projects that are not selected to be scanned are not deleted. This option can be used when it is desired to remove data from the output that no longer exists in the scanned data sources. Data types that are tagged with the DoNotDelete property will not be deleted.

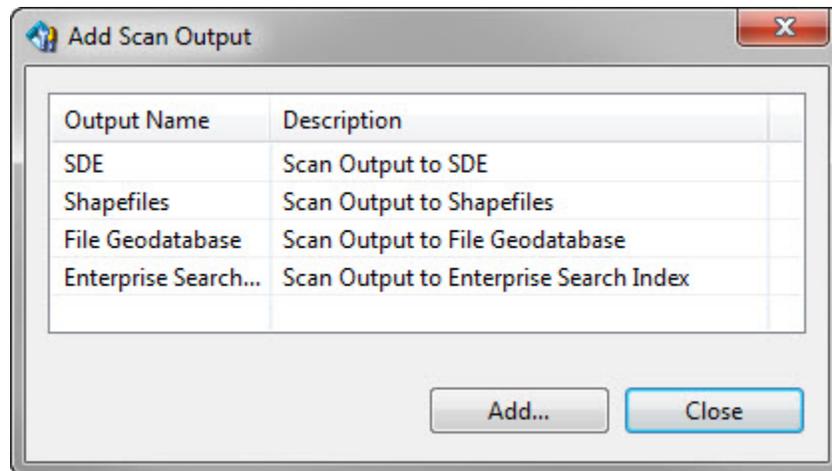
 The *Delete all items for selected data types and selected data sources before scanning* option is a destructive operation. Be absolutely certain that it is acceptable to delete features from your scan output repository. OpenSpirit does not provide any means of recovering data lost from your output repository.

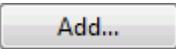
## Scan Outputs tab

The Scan Outputs tab is used to configure where the scan job output is to be written. A scan job must have at least one output.



Click on the  button to add an output to your scan job. This will open a window where one of the supported scan output types can be selected.



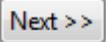
Select the scan output type you would like to add to your scan job and press the  button. This will open another window that is used to configure the output. The output will appear in the *Scan Outputs* table when the configuration is complete. The following sections of this help guide describe the scan output configuration windows for each of the supported scan output types.

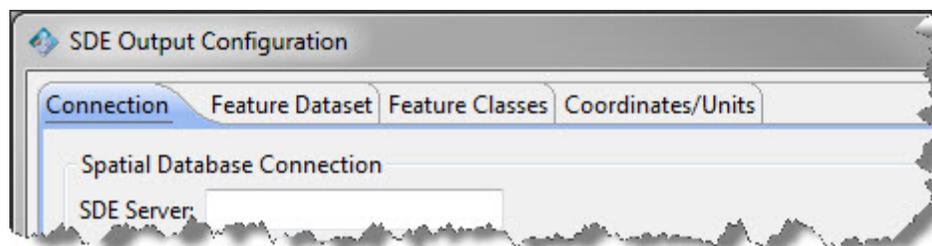


A scan job can have multiple scan outputs. They can be any combination of output types. The job can have more than one output of the same type as long as they are not configured to write to the same output feature dataset.

## Scan Output Types

### Configuring SDE Output

The SDE output configuration window presents a series of tabs that are navigated in wizard fashion. A  button is provided in the lower right corner of the window to step through the tabs in sequence. Complete the entries in each tab before navigating to the next tab in the sequence.



## SDE Output Configuration Wizard Panels

### SDE Connection Panel

The first panel displayed in the SDE output configuration wizard is the connection panel. This panel is modeled after the Spatial Database Connection dialog in the ESRI ArcCatalog application. This panel captures the information needed to connect to an SDE database.

### SDE Server Connection Settings

The following settings describe how to connect to an SDE server.

Setting	Description
SDE Server	The host name or IP address of the computer that is running the SDE server process.
Service	The port number of the SDE server process. The default port for SDE is 5181.
Database	Nothing should be entered into this field when using Oracle as the SDE database. Enter the database name when using SQL Server as the SDE database.
Database Authentication	Select this option to use a database account/password to access SDE.
Username	The SDE database account that has write access to create and update the feature dataset that the scan job will use.
Password	The password of the SDE database account.

Setting	Description
Operating System Authentication	Select this option to use external database authentication to access SDE. The process used to run the scan job will then be used for authentication. Check with your system administrator to verify that external authentication is enabled for your SDE installation.
Transactional version	This option can be used if SDE transactional versioning is enabled for your SDE installation. Press the change button for a list of available versions.

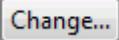
## SDE Direct Connect Settings

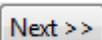
The following settings describe how to connect directly to an SDE Oracle or SQL Server database bypassing the SDE server.



SDE direct connect can only be used in the 32 bit version of the OpenSpirit Desktop on Windows. Direct connect is not supported on Linux or on Solaris. Also, the Oracle 10g or 11g client software must be installed on the computer used to create and run scan jobs using Oracle direct connect. The Oracle client software is not provided by TIBCO OpenSpirit.

Setting	Description
SDE Server	The host name or IP address of the computer that is running the Oracle or SQL Server database.
Service	Enter <b>sde:oracle10g</b> for an Oracle 10g database, enter <b>sde:oracle11g</b> for an Oracle 11g database, enter <b>sde:sqlserver:&lt;database name&gt;</b> for a SQL Server database where <b>&lt;database name&gt;</b> is the name of the SQL Server database instance that SDE is using.
Database	Nothing should be entered into this field when using Oracle as the SDE database. Enter the database name when using SQL Server as the SDE database.
Database Authentication	Select this option to use a database account/password to access SDE.
Username	The SDE database account that has write access to create and update the feature dataset that the scan job will use.
Password	The password of the SDE database account. The password must be followed by an @ character and then followed by the database service name when using an Oracle database (e.g. <b>mypassword@mydbname</b> ). Only the password should be entered when using SQL Server.
Operating System Authentication	Select this option to use external database authentication to access SDE. The process used to run the scan job will then be used for authentication. Check with your system administrator to verify that external authentication is enabled for your SDE installation.
Transactional version	This option can be used if SDE transactional versioning is enabled for your SDE installation. Press the change button for a list of available versions.

Press the  button once the connect information has been entered to verify the connection settings. The button will appear disabled once the settings have been verified. Changing any of the settings will re-enable the button. A test is automatically done if the  button is pressed to select a transactional version.

Press the  button to navigate to the next tab once the connection settings have been entered and verified.

## SDE Feature Dataset Panel

The feature dataset panel is used to select the feature dataset that will be used to write the scan output.

### Feature Dataset section

An existing feature dataset can be selected, or a new feature dataset can be created by pressing the **New...** button. A name prompt will appear when the new button is pressed. Feature dataset names must begin with an alphabetic character.

A **Delete...** button is also provided as a convenience for deleting existing feature datasets.

The screenshot shows the 'Feature Dataset' tab of a software interface. It contains several sections:

- Feature Dataset:** A dropdown menu with the text 'Select, Delete, or Create a Feature Dataset'. To its right are 'Delete...' and 'New...' buttons. Below this are three read-only text boxes labeled 'Created By:', 'Create Time:', and 'Last Updated:'.
- Details:** A sub-section with a 'General' header. It includes a 'Description:' text box and a 'Configuration Keyword:' dropdown menu currently set to 'DEFAULTS'.
- Image Directory:** A 'Top Level Directory:' text box containing the path 'C:\Users\myaccount\OpenSpirit\ScanImages' and a 'Browse...' button. Below this is a checkbox labeled 'Organize in Project SubDirectory' which is currently unchecked.

All of the remaining fields in the *Feature Dataset* section of the panel are filled in when selecting an existing feature dataset. None of the values can be changed on existing feature datasets. Fields can be modified when creating a new feature dataset.

### Creating a new Feature Dataset

Most fields are filled with a default value when creating a new feature dataset. The default values can be replaced by typing over the default if the default does not meet your needs.

The *Created By*, *Create Time*, and *Last Updated* fields are automatically filled in and cannot be edited.

## Details section

The *Description* field is optional and can contain any text.

Use the pull-down menu in the *Configuration Keyword* field to select an appropriate keyword if SDE keywords are used by your SDE administrator. Leave it set to *DEFAULTS* if you do not use SDE keywords, or if you do not know the SDE keyword to use.

## Image Directory section

The *Top Level Directory* field is required. The value specifies the file folder that seismic and horizon thumbnail image files will be written to if the scan job is defined to create thumbnail images.

Select the *Organize in Project SubDirectory* option if you would like thumbnail image files to be organized by project using sub-directories under the selected top level directory.



You should select a top level image directory that is visible to the users that will be accessing the SDE features created by the scan job.

Press the  button to navigate to the next tab once the feature dataset has been selected.

## SDE Feature Classes Panel

The feature classes panel determines the names and aliases of the SDE feature classes that the data will be scanned to. Default feature class names are created by concatenating the feature dataset name with the data type names using underscore characters to represent any spaces between words.

The example screen capture included below shows default names and aliases that were generated when using *Offshore* as the feature dataset name.

Data Type	Feature Class	Alias
Well Bore List	Offshore_Well_Bore_List	Well Bore List
Well Surface Location	Offshore_Well_Surface_Location	Well Surface Location
Well Bottom Location	Offshore_Well_Bottom_Location	Well Bottom Location
Well Path	Offshore_Well_Path	Well Path
Log	Offshore_Log	Log
Pick	Offshore_Pick	Pick
Checkshot	Offshore_Checkshot	Checkshot
Seismic 3D Survey	Offshore_Seismic_3D_Survey	Seismic 3D Survey
Seismic 3D Volume	Offshore_Seismic_3D_Volume	Seismic 3D Volume
Live 3D Trace	Offshore_Live_3D_Trace	Live 3D Trace
Seismic 2D Survey	Offshore_Seismic_2D_Survey	Seismic 2D Survey
Seismic 2D Navigation	Offshore_Seismic_2D_Navigation	Seismic 2D Navigation
Seismic 2D Dataset	Offshore_Seismic_2D_Dataset	Seismic 2D Dataset
Live 2D Trace	Offshore_Live_2D_Trace	Live 2D Trace
Seismic 3D Horizon	Offshore_Seismic_3D_Horizon	Seismic 3D Horizon

Nothing needs to be done on this panel if the default names and aliases are acceptable. The default names and aliases can be changed if the default names are not acceptable.

The  buttons in the upper right portion of the panel can be used to change all of the feature class names or aliases using the naming pattern indicated to the left of the apply button. Individual feature class names and aliases can also be changed by clicking in the table cell and typing over the currently displayed name.

 Pressing an apply button will immediately change all of the feature class names or all of the aliases possibly replacing values that have already been entered.

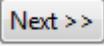
## Changing Feature Class names

Edit Technique	Description
Generate unique Feature Class names (Default)	<p>Pressing the apply button for this edit technique will restore all of the Feature Class names to the default values that were initially shown when first navigating to the panel.</p> <p>The default values are created by concatenating the feature dataset name with the data type name using underscore characters to represent any spaces between words in the data type name.</p> <p>Any previous name changes will be discarded when the apply button is pressed.</p>
Concatenate Prefix and Data Type names as new Feature Class names	<p>Pressing the apply button for this edit technique will change all of the Feature Class names to values that are a combination of the value entered into the data entry field to the left of the apply button, and the data type name using underscore characters to represent any spaces between words in the data type name.</p> <p>This technique is similar to the way the default names are created. The difference is the value entered in the data entry field is used as the data type name prefix rather than using the feature dataset name as the prefix.</p> <p>Any previous name changes will be discarded when the apply button is pressed.</p>
Concatenate Prefix to existing Feature Class names in the table	<p>Pressing the apply button for this edit technique will prepend the value entered into the data entry field to the left of the apply button to each of the current Feature Class names. The value is prepended each time the apply button is pressed.</p> <p>Any previous name changes are not lost. The entered value is prepended to the existing names.</p>
Use Data Type Names as Feature Class Names (Not recommended)	<p>Pressing the apply button for this edit technique will change all of the Feature Class names to the data type name using underscore characters to represent any spaces between words in the data type name. No prefix is added to the data type name.</p> <p>This technique is not recommended because the Feature Class names will not be distinguishable from names created by other scan jobs using this same technique.</p>
Edit the individual Feature Class name in the table cell	<p>This edit technique does not have an associated apply button. This technique is merely a reminder that the Feature Class names can be individually edited by clicking on the existing name and typing in a new name.</p>

## Changing Aliases

Edit Technique	Description
Use Data Type names as Alias (Default)	<p>Pressing the apply button for this edit technique will restore all of the Feature Class Aliases to the default values that were initially shown when first navigating to the panel.</p> <p>The default values are created by using the data type names.</p> <p>Any previous Alias changes will be discarded when the apply button is pressed.</p>
Use existing Feature Class names	<p>Pressing the apply button for this edit technique will simply copy the currently displayed Feature Class name into the Alias column.</p> <p>Any previous Alias changes will be discarded when the apply button is pressed.</p>

Edit Technique	Description
Edit the individual Alias name in the table cell	This edit technique does not have an associated apply button. This technique is merely a reminder that the Aliases can be individually edited by clicking on the existing Alias and typing in a new value.

Press the  button to navigate to the next tab once the Feature Class names and Aliases have been established.

## SDE Coordinates and Units Panel

The Coordinates/Units panel determines the coordinate reference system and units that the scanned data is converted to before writing it to SDE. The default coordinate reference system that is preselected on this panel is *WGS 84*. The default horizontal and depth units are *meter* and the default time unit is *millisecond*.

The screenshot shows the 'Coordinates/Units' tab in a software interface. It contains the following elements:

- Coordinate System:** A section titled 'Set the preferred coordinate system' with four buttons: 'Select from Data Source...', 'Select from OpenSpirit Session...', 'Select from EPSG list...', and 'Clear selected coordinate system'.
- Selected Coordinate System:** A text box containing 'WGS 84' and a 'Details...' button.
- Set the preferred unit system:** Three dropdown menus: 'Horizontal Units' (m), 'Depth Units' (m), and 'Time Units' (ms).
- Select Coordinate System from Feature Class:** A checkbox (unchecked) and a 'Change...' button.
- Grid Size:** Four radio buttons: 'Small (0.01)', 'Medium (1.0)' (selected), 'Large (4.0)', and 'Custom'.
- Extent:** A table of input fields and a 'Show Map...' button.
 

XY Scale:	5965232	Show Map...	
Longitude Min:	-180.0	Max:	180.0
Latitude Min:	-90.0	Max:	90.0
Depth/Time (Z) Min:	-50000.0	Max:	20000.0
Measurement (M) Min:	-50000.0	Max:	50000.0

This panel is almost identical to the Coordinate System Preferences panel in the OpenSpirit Desktop Preferences window. The only difference is the addition of an option to choose a coordinate system from a Feature Class that currently exists in SDE and a section to set the grid size and extent.

Choosing the *Select Coordinate System from Feature Class* option displays a window that lists all of the feature class names and the name of their coordinate system in a scrollable window. Select the feature class having the desired coordinate system.



Care should be taken to choose a coordinate system that is valid for all of the spatial data that will be scanned by the job.

## Grid Size section

Next, you must choose the *Grid Size*. Choosing a grid size is more of an art than a science. You may want to contact your SDE Administrator for advice, or contact Esri at [www.esri.com](http://www.esri.com) to get some ideas on what is best for your installation. The grid size cannot be changed once data is written into the feature dataset. Units for the grid size are in degrees. Specify a grid size where a high percentage of features fall wholly within one grid cell where possible.

Three suggested grid sizes are provided, or you can use the *Custom* field to enter your own in decimal degrees. The *Small (0.01)* grid size may be useful if your feature dataset covers a small area, such as a few counties. The *Medium (1.0)*, or perhaps *Custom 2.0* grid size, may be useful over a region such as many states, the Gulf of Mexico, or the Persian Gulf. The *Large (4.0)* grid size may be useful for a worldwide feature dataset. A grid size set too small will result in some GIS features not being able to make it into SDE, while one too large will make SDE run slower.



Information about grid sizes can be found in the article *HowTo: Tune the multi-Level grid spatial index* on the esri.com web site.

## Extent section

The *Extent* section of the panel defines the area that the feature dataset will cover and cannot be changed once the feature dataset has been created and saved. Care and forethought must be taken to ensure that the parameters match the data that has been selected to scan. Improper extent settings often result in the error: “... {*The coordinates or measures are out of bounds.*}...”.

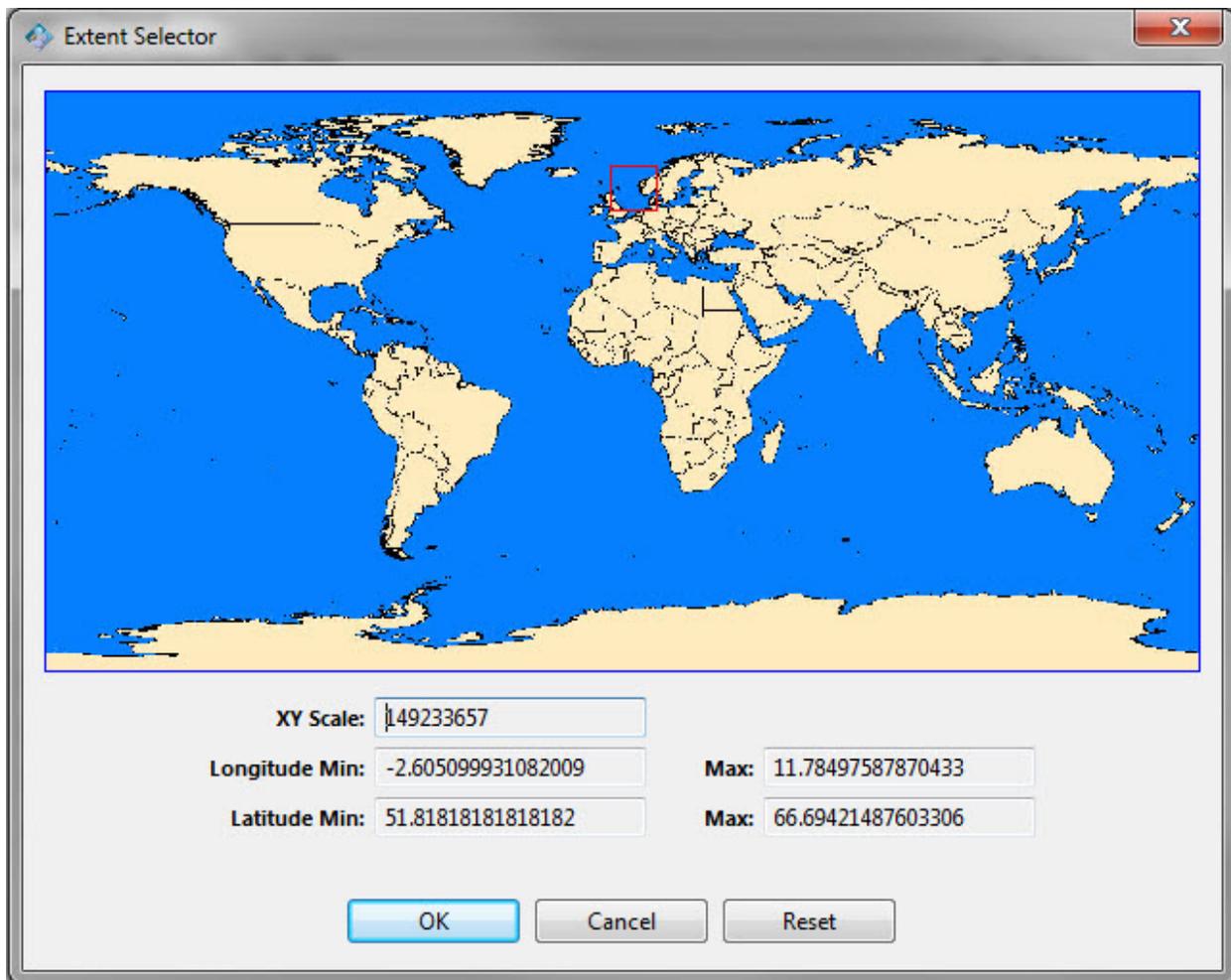
The default values that appear in the extent section of the panel are appropriate for a worldwide feature dataset. The easiest way to change the extent is to press the

Show Map...

button to display a world map and select a rectangle that covers the region enclosing the data selected for scan. This will change the min and max latitude and longitude values and will calculate an appropriate XY scale. Pressing the

Reset

button on the extent selection map will restore the default extend settings.



Perform a left mouse button drag select on the map to draw a red extent rectangle around the area that contains the data to be scanned. The lat/long and XY scale values will update to reflect the extent rectangle. Press the  button to dismiss the map and return to the feature dataset configuration panel.



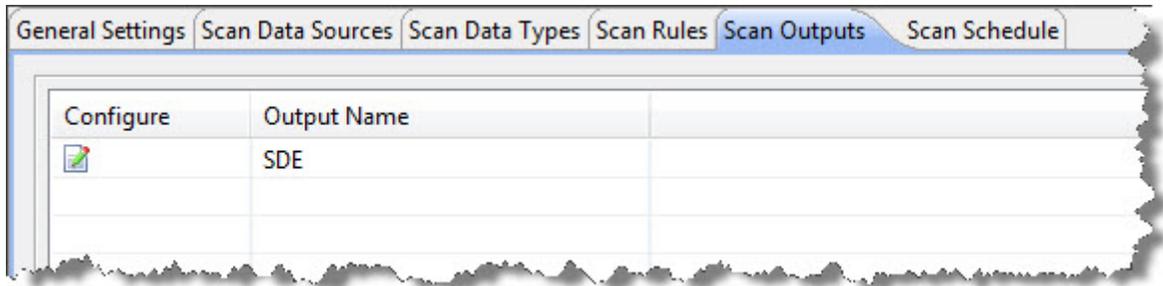
The ***XY Scale*** is a multiplier used by SDE to convert decimal values to integers for storage in SDE. Any decimal value remaining after the multiplication will be lost, so a larger xy scale means better precision. It is usually best to let the extent selection map calculate the XY scale rather than entering it directly.

The extent ***Longitude/Latitude Min/Max*** must contain the area for all of the data you will scan now and in the future. Once the feature dataset is saved it cannot be extended. The longitude/latitude must be in decimal degrees between +180 to -180 and +90 to -90. The longitude range cannot “wrap” across 180.

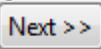
The ***Depth/Time (Z)*** min and max settings determine the range of Z values that can be saved on shapes written to the feature dataset.

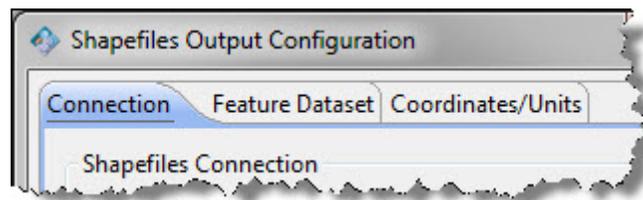
The ***Measurement (M)*** min and max settings determine the range of measurement values that can be saved on shapes written to the feature dataset.

This is the last panel in the SDE Output Configuration wizard. Press the  button to accept the output configuration settings and dismiss the SDE Output Configuration Wizard. The newly configured SDE output will appear in the scan job's Scan Outputs panel as shown below.



## Configuring Shapefiles Output

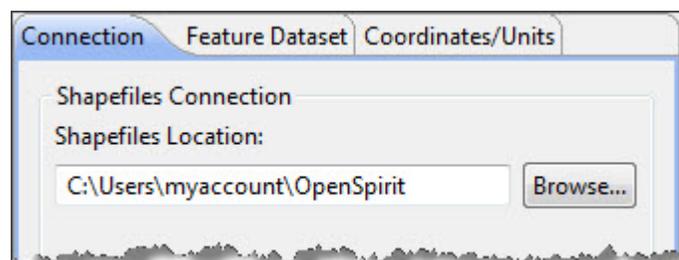
The Shapefiles Output Configuration window presents a series of tabs that are navigated in wizard fashion. A  button is provided in the lower right corner of the window to step through the tabs in sequence. Complete the entries in each tab before navigating to the next tab in the sequence.

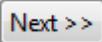


## Shapefiles Output Configuration Wizard

### Shapefiles Connection Panel

The first panel displayed in the shapefiles output configuration wizard is the connection panel. The connection panel is used to select a folder that will serve as the location to write the shapefiles. This folder will also be used to store any horizon or seismic thumbnail image files that are created by the scan job. The account used to run the scan job must have write access to this folder and the folder must be available on the computer used to run the scan job. A sub-folder will be created in the selected folder for the feature dataset that is specified in the next panel. The shapefiles will be written into the feature dataset subfolder.



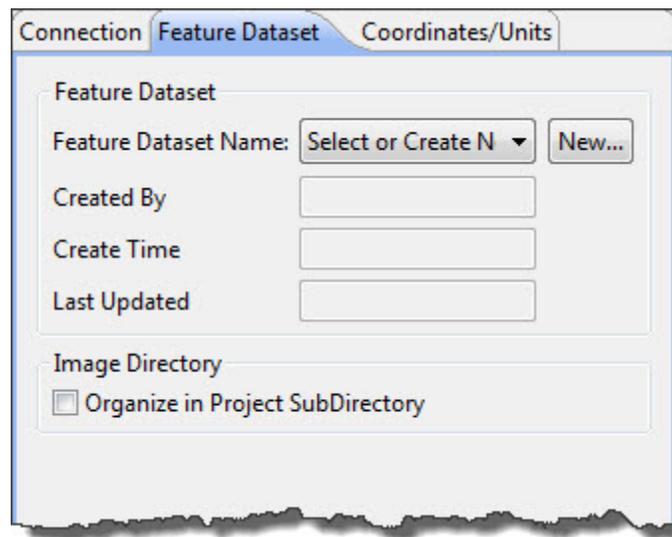
Press the  button to navigate to the next tab once the shapefiles location folder has been selected.

## Shapefiles Feature Dataset Panel

The feature dataset panel is used to select the feature dataset sub-folder that will be used to write the scan output.

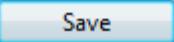
### Feature Dataset section

An existing feature dataset can be selected from the drop down list or a new feature dataset can be created by pressing the  button.



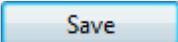
Pressing the new button will open a prompt asking for a name to give the feature dataset. The Created By, Create Time, and Last Updated fields are automatically filled in and cannot be edited.

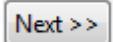


The feature dataset sub-folder will be created when the Shapefiles Output Configuration wizard's  button is pressed, not when the name is entered. The sub-folder will be named *<feature dataset name>.ospfds* where *<feature dataset name>* is the name entered at the feature dataset name prompt. An XML file that contains information about the feature dataset, such as the creator, creation date, coordinate system, and units will also be written into the sub-folder. The XML file is named *<feature dataset name>\_metadata.xml*.

### Image Directory section

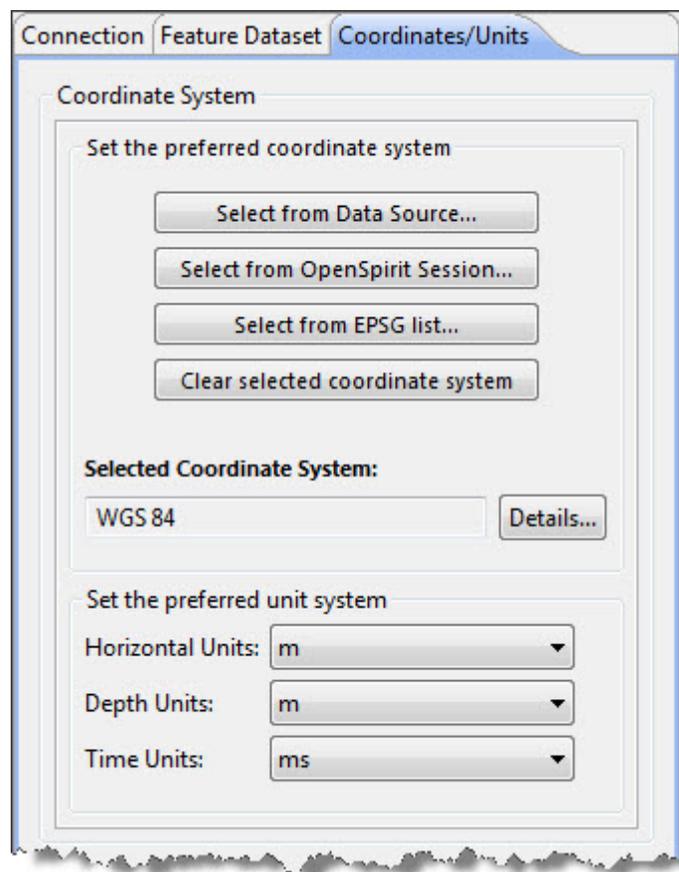
Select the *Organize in Project SubDirectory* option if you would like thumbnail image files to be organized by project using sub-directories under the shapefiles location directory selected on the *Connection* tab. Any thumbnail image files created during scan will be placed directly in the shapefiles location directory if this option is not selected.

 Do not press the  button until the feature dataset's coordinates and units have been selected. The feature dataset's coordinate system and units cannot be changed once the save button is pressed.

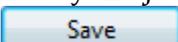
Press the  button to navigate to the next tab once the feature dataset has been selected.

## Shapefiles Coordinates and Units Panel

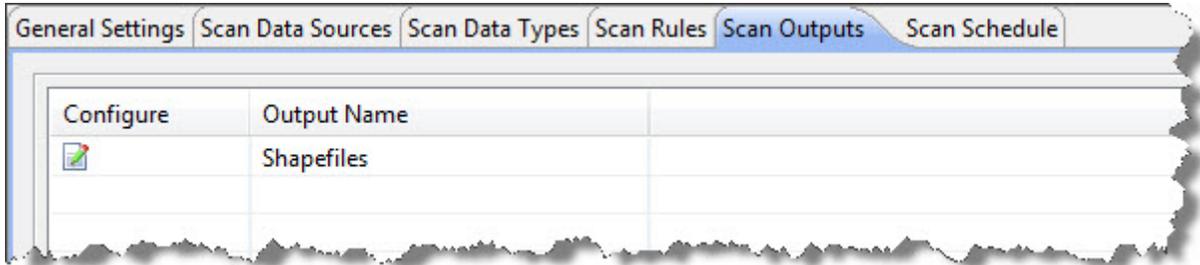
The Coordinates/Units panel determines the coordinate reference system and units that the scanned data is converted to before writing it to the shapefiles. The default coordinate reference system that is preselected on this panel is *WGS 84*. The default horizontal and depth units are *meter* and the default time unit is *millisecond*.



This panel is identical to the Coordinate System Preferences panel in the OpenSpirit Desktop Preferences window.

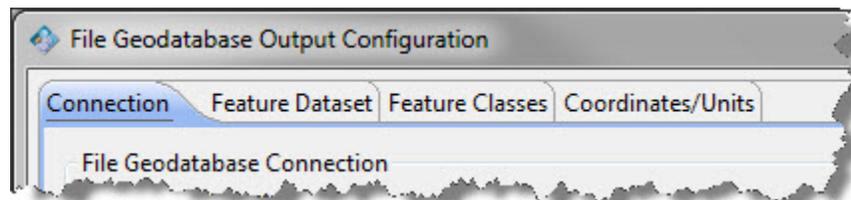
 Care should be taken to choose a coordinate system that is valid for all of the spatial data that will be scanned by the job. Also note that the coordinate system and units cannot be changed once the  button is pressed.

This is the last panel in the Shapefiles Output Configuration wizard. Press the  button to accept the shapefiles output configuration settings and dismiss the wizard. The newly configured shapefiles output will appear in the scan job's Scan Outputs panel as shown below.

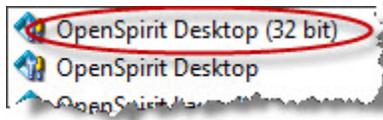


## Configuring File Geodatabase Output

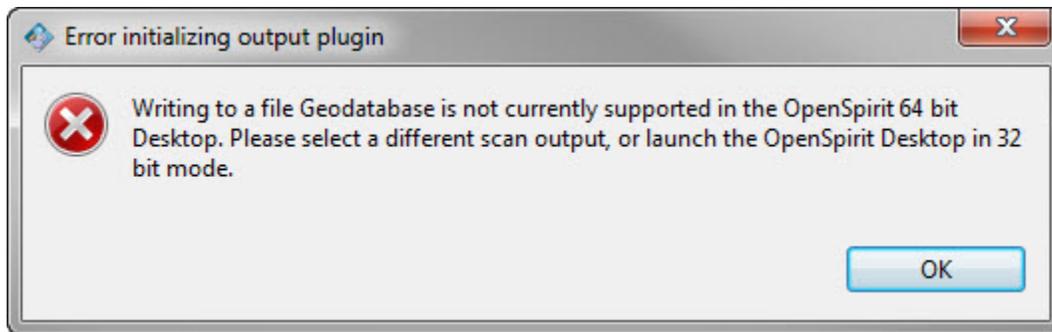
The File Geodatabase Output Configuration window presents a series of tabs that are navigated in wizard fashion. A  button is provided in the lower right corner of the window to step through the tabs in sequence. Complete the entries in each tab before navigating to the next tab in the sequence.



 File geodatabase output is only available on the Windows platforms and Esri ArcGIS Desktop must be installed on the computer used to create and run the scan job. Also, the 32 bit version of the OpenSpirit Desktop must be used to create scan jobs that have file geodatabase output. The 32 bit OpenSpirit Desktop can be started using the Start Menu option titled *OpenSpirit Desktop (32 bit)*.



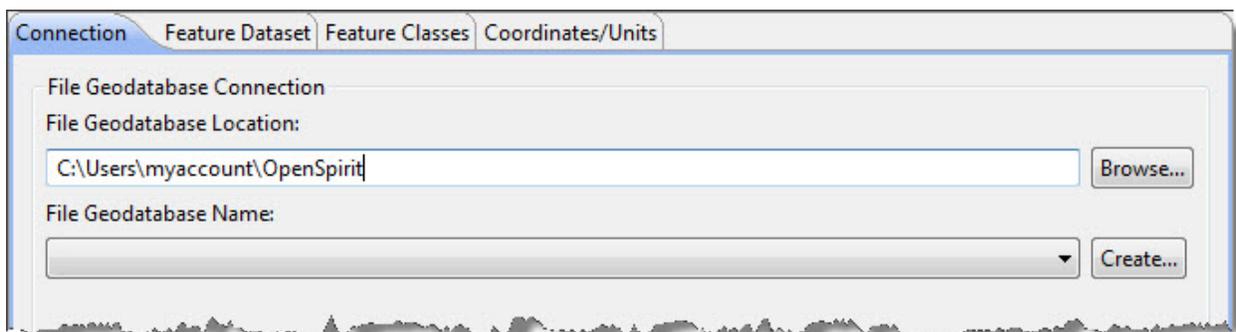
The following error message is displayed when an attempt is made to configure a file geodatabase output using the 64 bit version of the OpenSpirit Desktop.

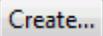


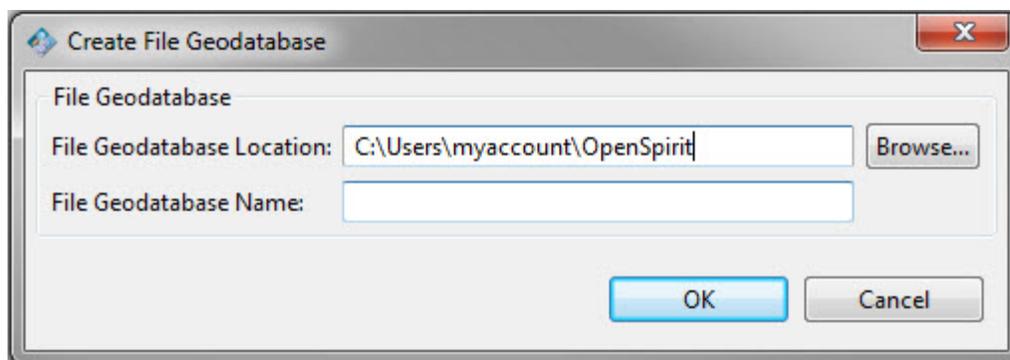
## File Geodatabase Output Configuration Wizard

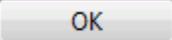
### File Geodatabase Connection Panel

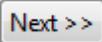
The first panel displayed in the file geodatabase output configuration wizard is the connection panel. The connection panel is used to create or select an existing file geodatabase. First select the file folder that the file geodatabase is to be created in or the folder that already contains the geodatabase that the scan job should write the output to. The account used to run the scan job must have write access to this folder and the folder must be available on the computer used to run the scan job.



Use the drop down selection list to select an existing file geodatabase, or press the  button to enter the name for a new file geodatabase to be created.



Enter the name to give the new file geodatabase and press the  button. The new file geodatabase is created when the ok button is pressed.

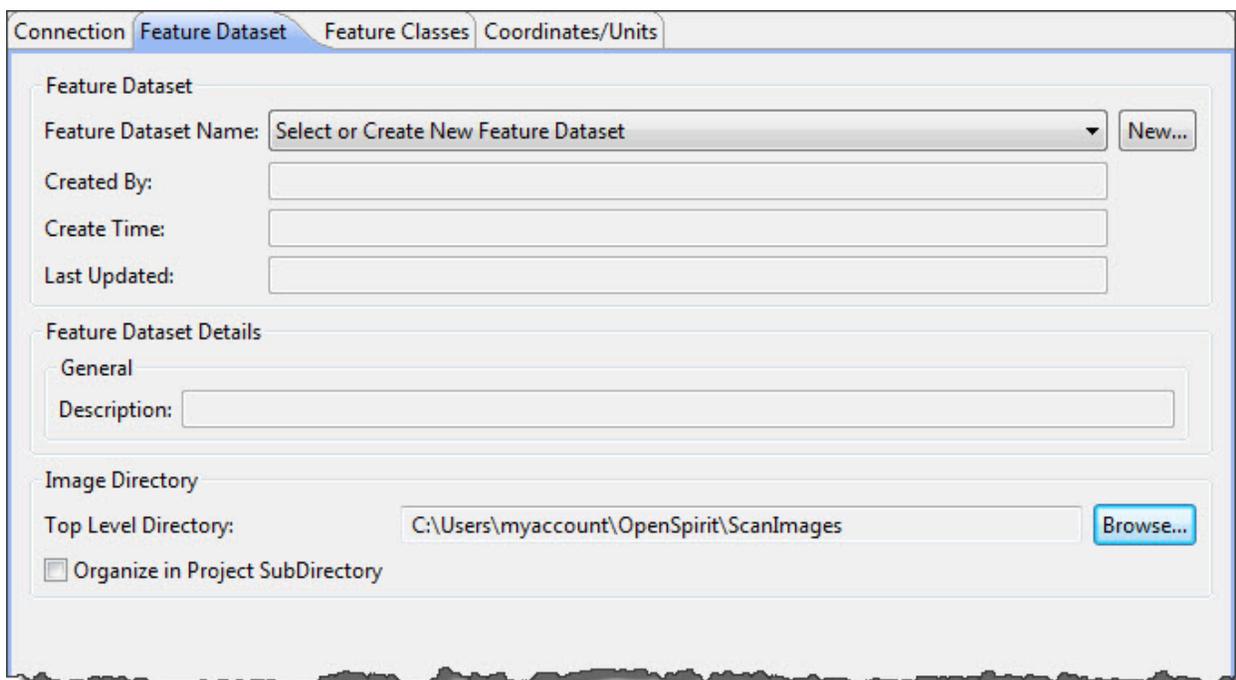
Press the  button to navigate to the next tab once the file geodatabase has been selected.

## File Geodatabase Feature Dataset Panel

The feature dataset panel is used to select the feature dataset that will be used to write the scan output.

### Feature Dataset section

An existing feature dataset can be selected, or a new feature dataset can be created by pressing the  button. A name prompt will appear when the new button is pressed. Feature dataset names must begin with an alphabetic character.



All of the remaining fields in the *Feature Dataset* section of the panel are filled in when selecting an existing feature dataset. None of the values can be changed on existing feature datasets. Fields can be modified when creating a new feature dataset.

### Creating a new Feature Dataset

Most fields are filled with a default value when creating a new feature dataset. The default values can be replaced by typing over the default if the default does not meet your needs.

The *Created By*, *Create Time*, and *Last Updated* fields are automatically filled in and cannot be edited.

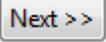
### Feature Dataset Details section

The *Description* field is optional and can contain any text.

### Image Directory section

The *Top Level Directory* field is required. The value specifies the file folder that seismic and horizon thumbnail image files will be written to if the scan job is defined to create thumbnail images.

Select the *Organize in Project SubDirectory* option if you would like thumbnail image files to be organized by project using sub-directories under the selected top level directory.

Press the  button to navigate to the next tab once the feature dataset has been selected.

## File Geodatabase Feature Classes Panel

The feature classes panel determines the names and aliases of the feature classes that the data will be scanned to. Default feature class names are created by concatenating the feature dataset name with the data type names using underscore characters to represent any spaces between words.

The example screen capture included below shows default names and aliases that were generated when using *Offshore* as the feature dataset name.

Connection Feature Dataset Feature Classes Coordinates/Units

Define Feature Class

- \* Generate unique Feature Class names (Default)
- \* Concatenate Prefix and Data Type names as new Feature Class names
- \* Concatenate Prefix to existing Feature Class names in the table
- \* Use Data Type Names as Feature Class Names (Not recommended)
- \* Edit the individual Feature Class name in the table cell

Define Alias

- \* Use Data Type names as Alias (Default)
- \* Use existing Feature Class names as Alias
- \* Edit the individual Alias name in the table cell

Data Type	Feature Class	Alias
Well Bore List	Offshore_Well_Bore_List	Well Bore List
Well Surface Location	Offshore_Well_Surface_Location	Well Surface Location
Well Bottom Location	Offshore_Well_Bottom_Location	Well Bottom Location
Well Path	Offshore_Well_Path	Well Path
Log	Offshore_Log	Log
Pick	Offshore_Pick	Pick
Checkshot	Offshore_Checkshot	Checkshot
Seismic 3D Survey	Offshore_Seismic_3D_Survey	Seismic 3D Survey
Seismic 3D Volume	Offshore_Seismic_3D_Volume	Seismic 3D Volume
Live 3D Trace	Offshore_Live_3D_Trace	Live 3D Trace
Seismic 2D Survey	Offshore_Seismic_2D_Survey	Seismic 2D Survey
Seismic 2D Navigation	Offshore_Seismic_2D_Navigation	Seismic 2D Navigation
Seismic 2D Dataset	Offshore_Seismic_2D_Dataset	Seismic 2D Dataset
Live 2D Trace	Offshore_Live_2D_Trace	Live 2D Trace
Seismic 3D Horizon	Offshore_Seismic_3D_Horizon	Seismic 3D Horizon

Nothing needs to be done on this panel if the default names and aliases are acceptable. The default names and aliases can be changed if the default names are not acceptable.

The  buttons in the upper right portion of the panel can be used to change all of the feature class names or aliases using the naming pattern indicated to the left of the apply button. Individual feature class names and aliases can also be changed by clicking in the table cell and typing over the currently displayed name.



Pressing an apply button will immediately change all of the feature class names or all of the aliases possibly replacing values that have already been entered.

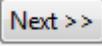
## Changing Feature Class names

Edit Technique	Description
Generate unique Feature Class names (Default)	<p>Pressing the apply button for this edit technique will restore all of the Feature Class names to the default values that were initially shown when first navigating to the panel.</p> <p>The default values are created by concatenating the feature dataset name with the data type name using underscore characters to represent any spaces between words in the data type name.</p> <p>Any previous name changes will be discarded when the apply button is pressed.</p>
Concatenate Prefix and Data Type names as new Feature Class names	<p>Pressing the apply button for this edit technique will change all of the Feature Class names to values that are a combination of the value entered into the data entry field to the left of the apply button, and the data type name using underscore characters to represent any spaces between words in the data type name.</p> <p>This technique is similar to the way the default names are created. The difference is the value entered in the data entry field is used as the data type name prefix rather than using the feature dataset name as the prefix.</p> <p>Any previous name changes will be discarded when the apply button is pressed.</p>
Concatenate Prefix to existing Feature Class names in the table	<p>Pressing the apply button for this edit technique will prepend the value entered into the data entry field to the left of the apply button to each of the current Feature Class names. The value is prepended each time the apply button is pressed.</p> <p>Any previous name changes are not lost. The entered value is prepended to the existing names.</p>
Use Data Type Names as Feature Class Names (Not recommended)	<p>Pressing the apply button for this edit technique will change all of the Feature Class names to the data type name using underscore characters to represent any spaces between words in the data type name. No prefix is added to the data type name.</p> <p>This technique is not recommended because the Feature Class names will not be distinguishable from names created by other scan jobs using this same technique.</p>
Edit the individual Feature Class name in the table cell	<p>This edit technique does not have an associated apply button. This technique is merely a reminder that the Feature Class names can be individually edited by clicking on the existing name and typing in a new name.</p>

## Changing Aliases

Edit Technique	Description
Use Data Type names as Alias (Default)	<p>Pressing the apply button for this edit technique will restore all of the Feature Class Aliases to the default values that were initially shown when first navigating to the panel.</p> <p>The default values are created by using the data type names.</p> <p>Any previous Alias changes will be discarded when the apply button is pressed.</p>
Use existing Feature Class names	<p>Pressing the apply button for this edit technique will simply copy the currently displayed Feature Class name into the Alias column.</p> <p>Any previous Alias changes will be discarded when the apply button is pressed.</p>

Edit Technique	Description
Edit the individual Alias name in the table cell	This edit technique does not have an associated apply button. This technique is merely a reminder that the Aliases can be individually edited by clicking on the existing Alias and typing in a new value.

Press the  button to navigate to the next tab once the Feature Class names and Aliases have been established.

## File Geodatabase Coordinates and Units Panel

The Coordinates/Units panel determines the coordinate reference system and units that the scanned data is converted to before writing it to the file geodatabase. The default coordinate reference system that is preselected on this panel is *WGS 84*. The default horizontal and depth units are *meter* and the default time unit is *millisecond*.

The screenshot shows the 'Coordinates/Units' tab of the OpenSpirit Desktop Preferences window. It is divided into three main sections: 'Coordinate System', 'Grid Size', and 'Extent'.  
 - **Coordinate System:** Contains four buttons: 'Select from Data Source...', 'Select from OpenSpirit Session...', 'Select from EPSG list...', and 'Clear selected coordinate system'. Below these is a 'Selected Coordinate System' dropdown menu set to 'WGS 84' with a 'Details...' button.  
 - **Set the preferred unit system:** Three dropdown menus: 'Horizontal Units' (m), 'Depth Units' (m), and 'Time Units' (ms).  
 - **Grid Size:** Four radio buttons: 'Small (0.01)', 'Medium (1.0)' (selected), 'Large (4.0)', and 'Custom' (with an empty text box).  
 - **Extent:** A table of input fields for spatial extent, with a 'Show Map...' button. The values are: XY Scale: 5965232; Longitude Min: -180.0, Max: 180.0; Latitude Min: -90.0, Max: 90.0; Depth/Time (Z) Min: -50000.0, Max: 20000.0; Measurement (M) Min: -50000.0, Max: 50000.0.

The top portion of this panel is identical to the Coordinate System Preferences panel in the OpenSpirit Desktop Preferences window.



Care should be taken to choose a coordinate system that is valid for all of the spatial data that will be scanned by the job.

### Grid Size section

Next, you must choose the *Grid Size*. Choosing a grid size is more of an art than a science. You may want to contact your GIS expert for advice, or contact Esri at [www.esri.com](http://www.esri.com) to get some ideas on what is best for your installation. The grid size cannot be changed once data is written into the feature dataset. Units for the grid size are in degrees. Specify a grid size where a high percentage of features fall wholly within one grid cell where possible.

Three suggested grid sizes are provided, or you can use the *Custom* field to enter your own in decimal degrees. The *Small (0.01)* grid size may be useful if your feature dataset covers a small area, such as a few counties. The *Medium (1.0)*, or perhaps *Custom 2.0* grid size, may be useful over a region such as many states, the Gulf of Mexico, or the Persian Gulf. The *Large (4.0)* grid size may be useful for a worldwide feature dataset. A grid size set too small will result in some GIS features not being able to make it into the dataset, while one too large will degrade performance using the dataset.



Information about grid sizes can be found in the article *HowTo: Tune the multi-Level grid spatial index* on the esri.com web site.

### Extent section

The *Extent* section of the panel defines the area that the feature dataset will cover and cannot be changed once the feature dataset has been created and saved. Care and forethought must be taken to ensure that the parameters match the data that has been selected to scan. Improper extent settings often result in the error: “... {*The coordinates or measures are out of bounds.*}...”.

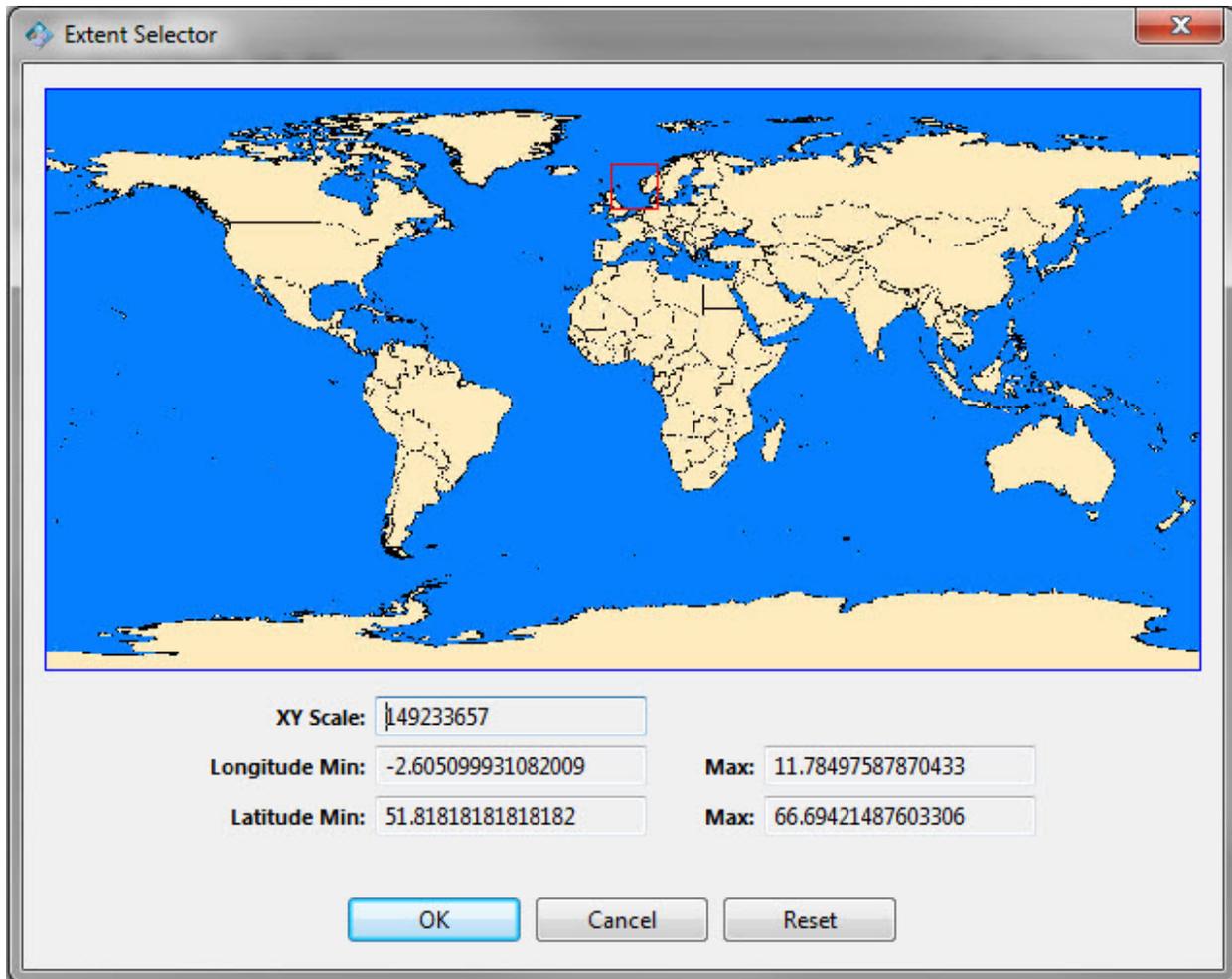
The default values that appear in the extent section of the panel are appropriate for a worldwide feature dataset. The easiest way to change the extent is to press the

Show Map...

button to display a world map and select a rectangle that covers the region enclosing the data selected for scan. This will change the min and max latitude and longitude values and will calculate an appropriate XY scale. Pressing the

Reset

button on the extent selection map will restore the default extend settings.



Perform a left mouse button drag select on the map to draw a red extent rectangle around the area that contains the data to be scanned. The lat/long and XY scale values will update to reflect the extent rectangle. Press the  button to dismiss the map and return to the feature dataset configuration panel.

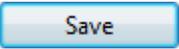


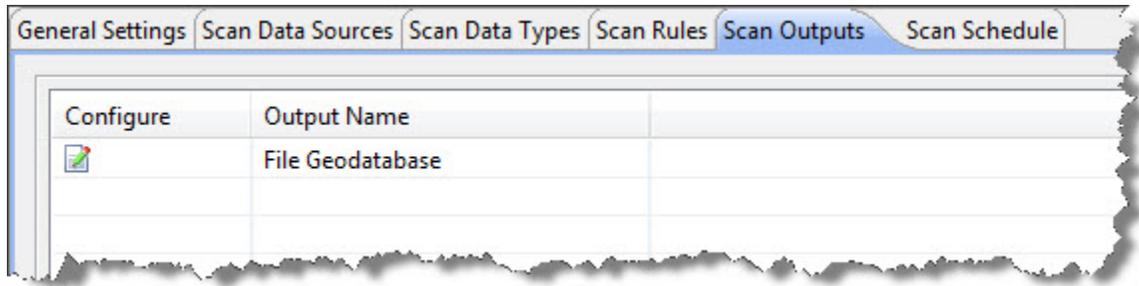
The ***XY Scale*** is a multiplier used to convert decimal values to integers for storage in the dataset. Any decimal value remaining after the multiplication will be lost, so a larger xy scale means better precision. It is usually best to let the extent selection map calculate the XY scale rather than entering it directly.

The extent ***Longitude/Latitude Min/Max*** must contain the area for all of the data you will scan now and in the future. Once the feature dataset is saved it cannot be extended. The longitude/latitude must be in decimal degrees between +180 to -180 and +90 to -90. The longitude range cannot “wrap” across 180.

The ***Depth/Time (Z)*** min and max settings determine the range of Z values that can be saved on shapes written to the feature dataset.

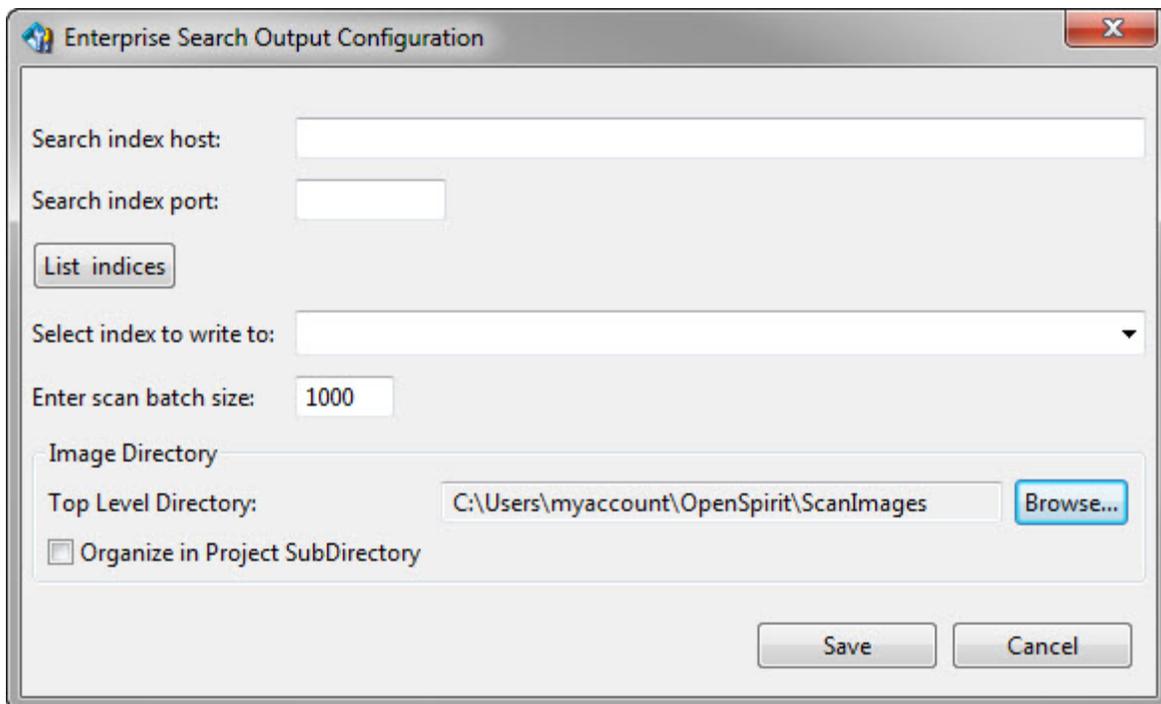
The ***Measurement (M)*** min and max settings determine the range of measurement values that can be saved on shapes written to the feature dataset.

This is the last panel in the File Geodatabase Output Configuration wizard. Press the  button to accept the output configuration settings and dismiss the wizard. The newly configured file geodatabase output will appear in the scan job's Scan Outputs panel as shown below.



## Configuring Enterprise Search Output

The enterprise search output configuration window is used to select the enterprise search index that the scan output is to be written to.

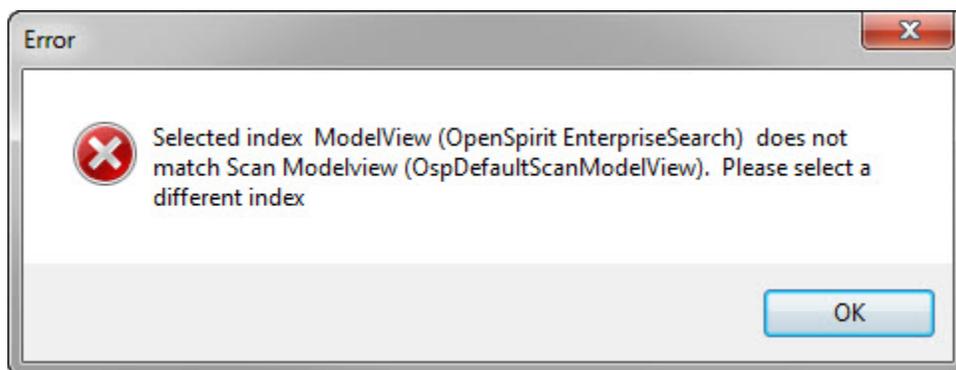


Enter the name of the computer that is hosting the enterprise search service and the port number used to connect to the search index.

Press the  button to query the list of available indexes from the enterprise search service.

Select the index that the scan output is to be written to.

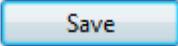
The OpenSpirit model view used to create the selected index must match the model view selected for the scan job. An error will appear when saving the enterprise search output configuration if the selected index was created using a different model view.



The scan batch size setting controls the number of records that are written to the search index per write request. This number of records must be held in memory during the scan job run. A larger number results in fewer write requests which reduces the time required to perform the scan, however a larger number will also cause the scan job process to consume more memory resources while the scan job is running.

The **Top Level Directory** field is required. The value specifies the file folder that seismic and horizon thumbnail image files will be written to if the scan job is defined to create thumbnail images.

Select the **Organize in Project SubDirectory** option if you would like thumbnail image files to be organized by project using sub-directories under the selected top level directory.

Press the  button to complete the enterprise search output configuration.

## Scan Schedule tab

The Scan Schedule tab is the last tab in the scan job creation wizard workflow. The schedule tab provides an option to run the scan job now, schedule the job to run at a specified time in the future, or copy the command used to run the job to the system clipboard in order to paste it into a terminal window for execution or to for use with your own job scheduling software. The job must be saved before any of the run options can be used. Click on the save button  in the Scan Job Manager tool bar in order to save the scan job.

Scan Job Name: OpenWorks Offshore Projects

Scan Job Description:  
All data in my OpenWorks R5000 offshore projects

**The scan job definition needs to be saved before it can be scheduled.**

Schedule Information

Run Now

Start Date: Now

Interval: Once

End Date:

Log Level: INFO

Copy run command to clipboard

Submit

<< Previous

Leave the **Run Now** option checked and press the **Submit** button to start the scan job immediately. This will start the scan job in a background process, the scan job definition wizard will close, and the Job Run History window will open to allow the running job to be monitored.

Uncheck the **Run Now** option to schedule the job to run at a specified time rather than running it immediately. Unchecking the **Run Now** option enables the **Start Date** selection button and the **Interval** selection drop down list. See the Rescheduling Jobs section of the help guide for details on job scheduling.

Pressing the **Copy run command to clipboard** button places the run command in the system clipboard which enables it to be pasted into another application. This feature is provided to

enable the scan to be manually started from a command window or to be registered with a different process scheduler. The scan job must be saved before this button can be used.

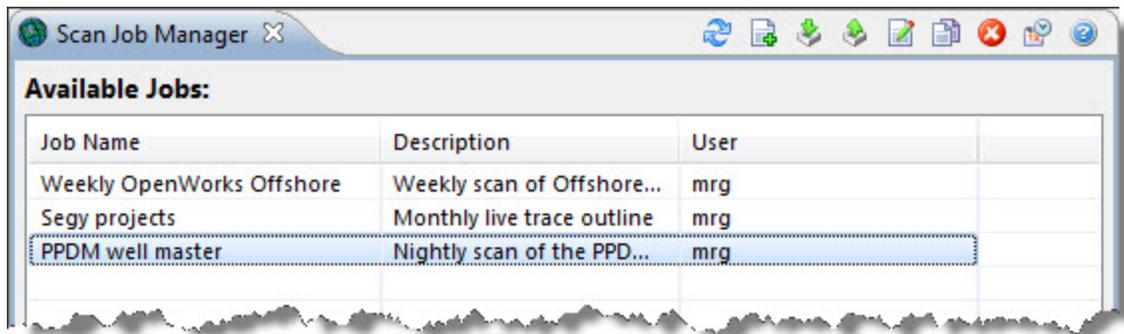


It is not required to use the Scan Schedule tab to run the job now or to schedule the job. The job can be run or scheduled later by selecting it in the Scan Job Manager list and pressing the schedule button  in the Scan Job Manager tool bar.

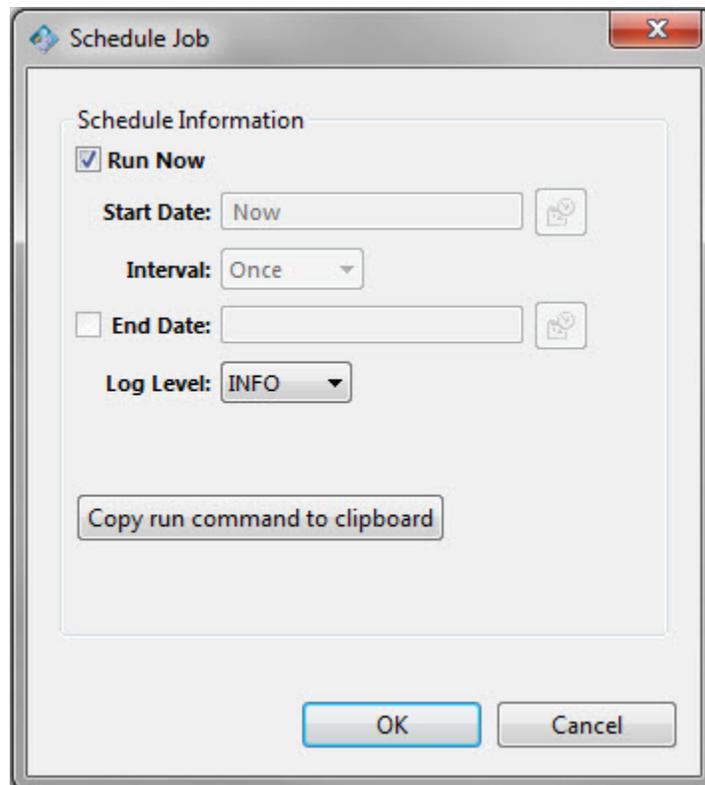
# Running Scan Jobs

## Starting a Scan Job

Scan jobs can be started in a variety of ways. Scan jobs can be started using the Scan Schedule tab that is displayed as the last tab in the scan job definition wizard. Scan jobs can also be started by selecting the job in the Scan Job Manager tool's job list and pressing the schedule button .



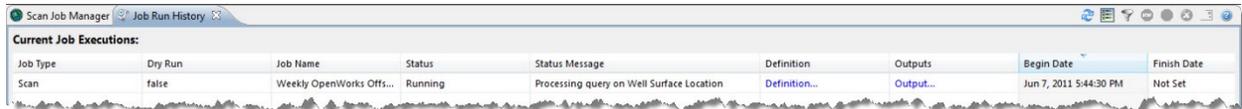
Pressing the schedule button in the Scan Job Manager tool bar will open the Schedule Job window enabling the scan job to be scheduled or run immediately. See the Rescheduling Jobs section of the help guide for details on using the Schedule Job window.



## Monitoring a Scan Job

Scan jobs can be monitored using the Job Run History tool. The Job Run History tool is used to view and manage copy jobs as well as scan jobs. The Job Run History tool is opened automatically when the **Run Now** option is used when scheduling a scan job. The tool can

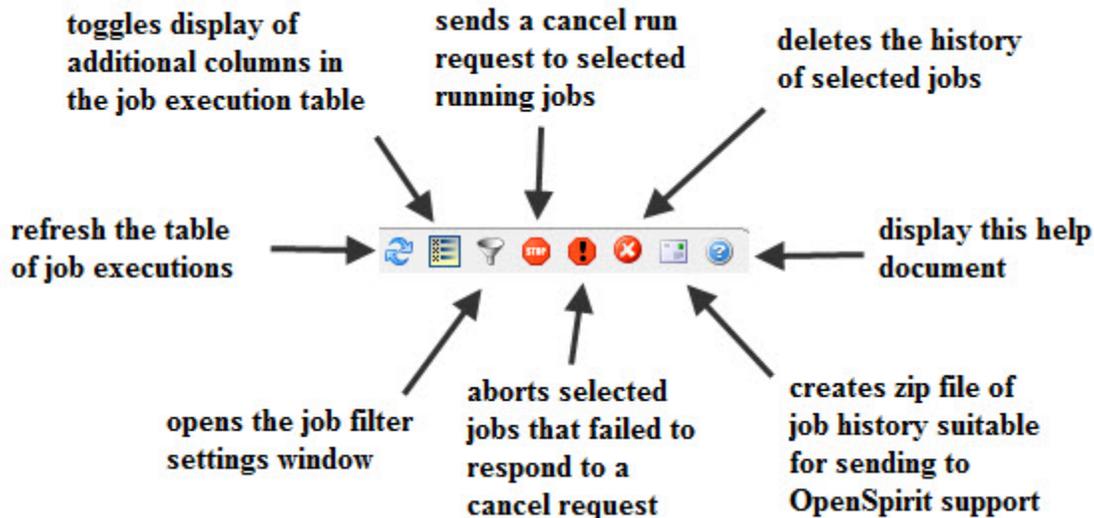
also be opened by clicking on the Job Run History icon  in the OpenSpirit Desktop tool bar or by choosing the **Tools > DataManager > Job Run History** menu item. This will cause the Job Run History window to open.



Current Job Executions:								
Job Type	Dry Run	Job Name	Status	Status Message	Definition	Outputs	Begin Date	Finish Date
Scan	false	Weekly OpenWorks Offs...	Running	Processing query on Well Surface Location	Definition...	Output...	Jun 7, 2011 5:44:30 PM	Not Set

## Job Run History Tool Bar

The Job Run History window provides a tool bar containing buttons that can be used to operate on jobs that are still running and on jobs that are no longer running.



### Refresh Button

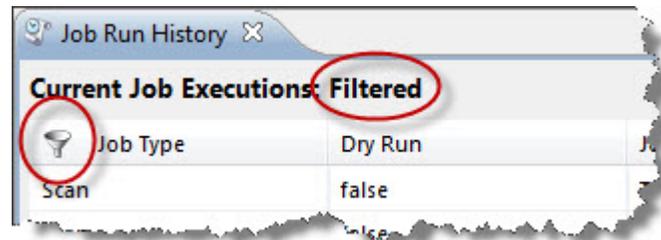
The refresh tool bar button  will refresh the entire job execution table by re-reading the information from the OpenSpirit master installation's database.

### Additional Columns Button

The show additional columns button  toggles on and off the display of additional columns in the table of job executions. The additional columns are displayed on the far right which may require the table to be scrolled to the right to see them. The additional columns are the User, Account, Host, and PID column which are described below.

## Filter Button

The filter button  opens the job monitor query filter window which provides several options to filter job execution rows from being displayed in the table. This can be useful when you have a very large number of job run histories. The word **Filtered** appears next to the Current Job Executions title above the table of job histories to indicate when a filter is in effect. A filter icon  also appears in the column heading of the columns that are being used to filter.



## Cancel Button

The cancel button  is enabled when at least one running job is selected. Pressing the cancel button sends a cancel request to the running job. The job should cleanly terminate at the next opportunity. The job's status column will indicate that a cancel has been requested. The job should terminate at the next opportunity.

## Abort Button

The abort button  is enabled when a job with a **Cancel Requested** status is selected. Pressing the abort button will initiate an attempt to forcibly kill the running job's process. An abort can only be performed when the job is running on the same machine as the OpenSpirit Desktop and is running under the same account.



The abort button should only be used as a last resort. It can cause the running job to exit in a way that could potentially cause corruption of the job's message log or possibly corrupt the database that it is writing its output to.

## Delete Button

The delete button  is enabled when one or more completed jobs are selected. Pressing the delete button will delete the history record and the job's message log. The history cannot be recovered after deletion, so make sure the history is no longer needed before performing a delete.

## Email to Support Button

The email to support button  is enabled when a single job is selected. Pressing the button causes a zip file to be created that contains files that will be helpful when submitting a support issue about problems running the job. A window will appear that shows where the

zip file was created. The zip file is not automatically sent to TIBCO OpenSpirit Support. The user is responsible for sending the zip file to TIBCO OpenSpirit Support.

## Help Button

Pressing the help button  opens this help document.

## Job Execution Display Columns

The *Job Type* column indicates the type of job, *Copy* or *Scan*.

The *Dry Run* column displays the word *true* if the job was a dry run. The word *false* is displayed if the job was an actual run. Dry run is only supported for copy jobs.

The *Job Name* column displays the name of the copy job or scan job.

The *Status* column shows the current status of the job.

The *Status Message* column changes periodically when the job is running to provide an indication of what the job is doing.

The *Definition* column contains a hyperlink that when clicked on will open a read only scan job definition wizard to enable the details of the job to be viewed.

The *Outputs* column contains a hyperlink that when clicked on will open a Scan Job Output window that is used to view a summary report of the job and the messages that are produced during the job run.

The *Begin Date* column shows the date and time that the job began running.

The *Finish Date* column shows the date and time that the job finished. The words *Not Set* will appear if the job is still running or if it terminated abnormally.

The *Last Updated* column shows the date and time that the job's status message was last updated.

The *User* column only appears if the additional columns toggle  is enabled. The column shows the name of the OpenSpirit user that ran the job.

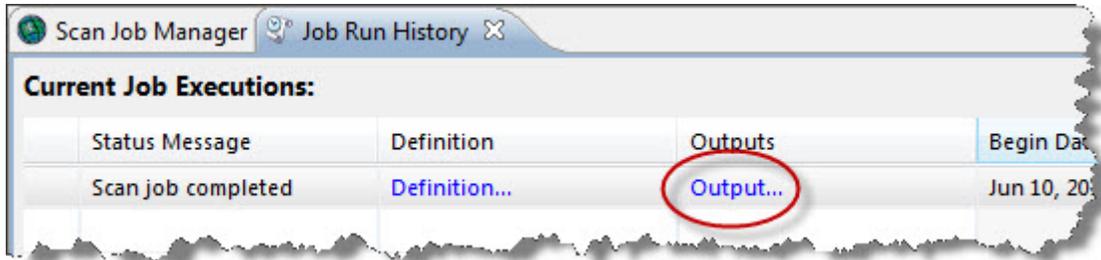
The *Account* column only appears if the additional columns toggle  is enabled. The column shows the login account that was used to run the job.

The *Host* column only appears if the additional columns toggle  is enabled. The column shows the name of the computer that the job was run on.

The *PID* column only appears if the additional columns toggle  is enabled. The column shows the operating system process id of the job. This can be helpful when using other system tools to identify and monitor the job's process when it is still running. The information is of little use once the job terminates.

## Viewing Scan Job Output

The report generated during a scan job run can be viewed by clicking on the *Output* hyperlink of the scan job's run history in the Job Run History tool.



## Execution Report Output

This will open a scan job output window. The output window shows an *execution report* when it is first opened. The execution report shows a summary of the job run, including counts of the number of rows of each data type scanned.

Select output type:     Auto Refresh

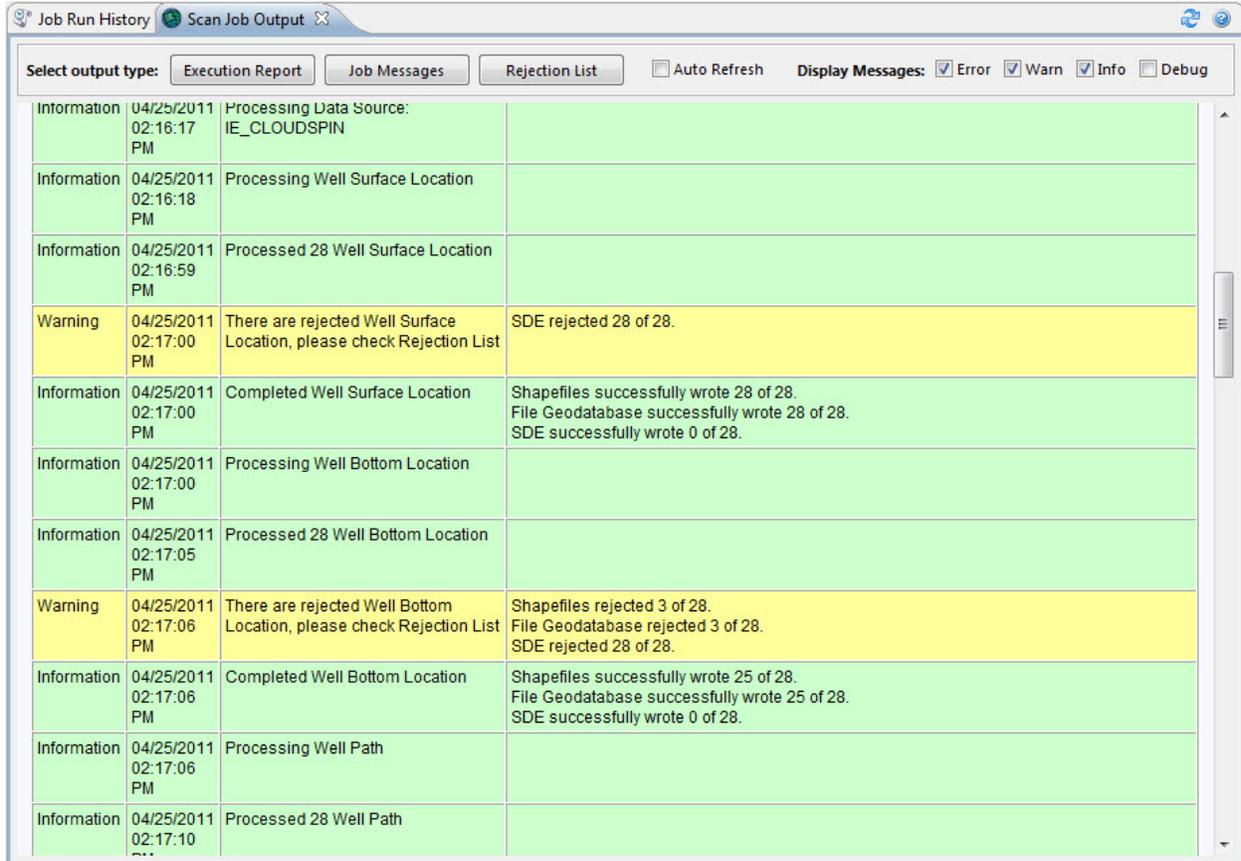
**Scan Job Execution Report**

Scan Job Summary	
Job Name	IE44CloudSpin
Job Status	Scan job completed with warnings
Start Time	04/25/2011 02:16:09 PM
End Time	04/25/2011 02:17:59 PM
Job Execution ID	485a4977-d66b-41ed-b9e6-1bc3a1c85dbd
Scan Source	GeoFrame:IE_44:IE_CLOUDSPIN

Scan Job Statistics				
Data Source: GeoFrame:IE_44:IE_CLOUDSPIN				
Output: Shapefiles directory = C:\Users\schen\OpenSpirit\ScanOutput\IE44CloudSpin\IE44CloudSpin.ospfd\; Feature Dataset = IE44CloudSpin; Coordinate Reference System = NAD27 Louisiana State Planes, Southern Zone, US Foot;				
Data Type	# Scanned	# Successful	# Skipped	# Failed
Well Surface Location	28	28	0	0
Well Bottom Location	28	25	0	3
Well Path	28	25	0	3
Seismic 3D Survey	1	1	0	0
Seismic 3D Volume	3	3	0	0
Live 3D Trace	0	0	0	0
Seismic 2D Survey	1	1	0	0
Seismic 2D Navigation	8	8	0	0
Seismic 2D Dataset	8	8	0	0
Live 2D Trace	8	8	0	0

## Job Messages Output

Clicking on the **Job Messages** button at the top of the scan job output window switches the output window to show the detailed messages that are generated at each step of the scan job. Four categories of job messages may appear in the output; error, warning, information, and debug. Check boxes in the upper right of the job messages output window can be used to display or hide all messages of each category.



Category	Timestamp	Message Content	Details
Information	04/25/2011 02:16:17 PM	Processing Data Source: IE_CLOUDSPIN	
Information	04/25/2011 02:16:18 PM	Processing Well Surface Location	
Information	04/25/2011 02:16:59 PM	Processed 28 Well Surface Location	
Warning	04/25/2011 02:17:00 PM	There are rejected Well Surface Location, please check Rejection List	SDE rejected 28 of 28.
Information	04/25/2011 02:17:00 PM	Completed Well Surface Location	Shapefiles successfully wrote 28 of 28. File Geodatabase successfully wrote 28 of 28. SDE successfully wrote 0 of 28.
Information	04/25/2011 02:17:00 PM	Processing Well Bottom Location	
Information	04/25/2011 02:17:05 PM	Processed 28 Well Bottom Location	
Warning	04/25/2011 02:17:06 PM	There are rejected Well Bottom Location, please check Rejection List	Shapefiles rejected 3 of 28. File Geodatabase rejected 3 of 28. SDE rejected 28 of 28.
Information	04/25/2011 02:17:06 PM	Completed Well Bottom Location	Shapefiles successfully wrote 25 of 28. File Geodatabase successfully wrote 25 of 28. SDE successfully wrote 0 of 28.
Information	04/25/2011 02:17:06 PM	Processing Well Path	
Information	04/25/2011 02:17:10 PM	Processed 28 Well Path	

The **Log Level** selected when scheduling the job determines the categories of messages that may appear in the output report. All messages of the selected log level will appear as well as all messages of a higher severity level. For example, selecting a **WARN** log level will enable error and warning messages to appear in the report. Selecting **INFO** level logging enables error, warning, and information messages to appear.

Each of the four message categories are displayed using a different background color. Error messages are displayed with a red background, warnings are displayed with yellow, information with green, and debug messages are displayed with blue.

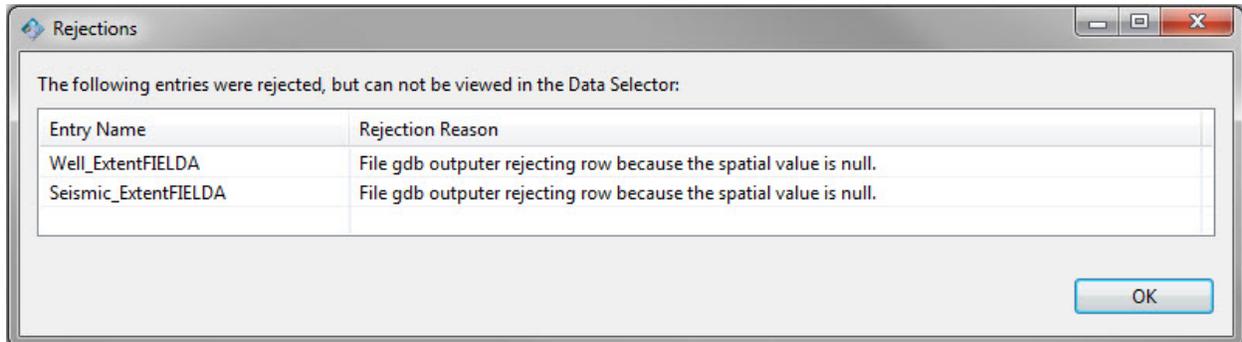
The **Auto Refresh** option at the top of the scan job output window can be checked when viewing the output of a scan job that is still running. The auto refresh option causes the output to refresh every few seconds in order to see the current state of the scan job. The auto refresh option cannot be selected when viewing output of a scan job that is no longer running.

## Rejection List Output

The **Rejection List** button can be used to examine data that failed to scan. Pressing the rejection list button when viewing output of a job that had one or more failures will open an OpenSpirit Data Selector tool containing tabs needed to display each of the data types that failed to scan. The data selector will only display the rows that could not be scanned.



Scan job runs with failures constructing bounding boxes will open a rejections window that lists the bounding box failures. These rejections are for computed data, so they cannot be shown in the data selector.



# Creating a Custom Scan Model View

The model view that is selected in the General Settings tab of the scan job definition wizard determines the data types and attributes that will be available to your scan job. A default scan model view named *OspDefaultScanModelView* is provided with the Scan Utility. The default model view can be copied and modified if the data types and attributes that it defines do not satisfy your needs.



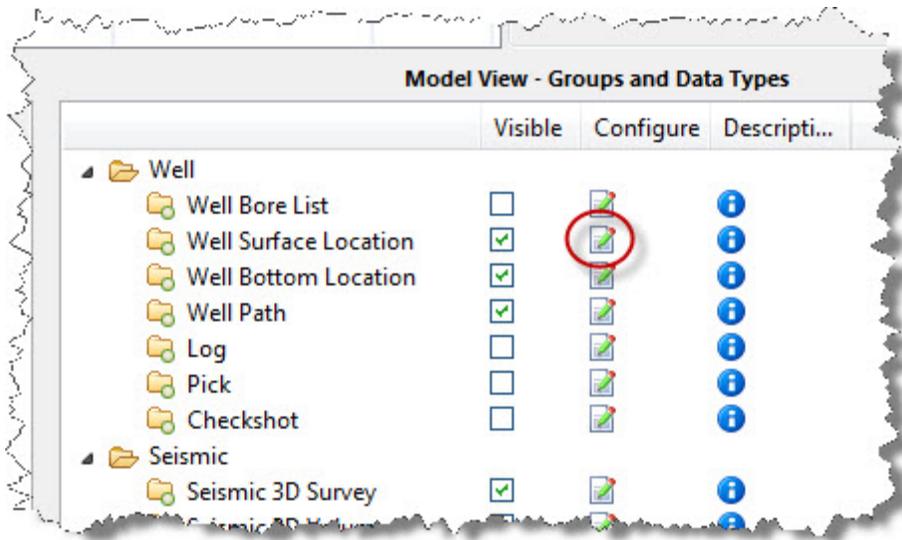
Creating a new scan model view from scratch is also possible, but it requires significant additional effort and expertise. Starting with a copy of the default model view is usually a better choice than starting from scratch.

Scan model view customization is performed using the Model View Manager tool. Click on the Model View Manager icon  in the OpenSpirit Desktop's Data Manager tool bar or select the **Tools > Data Manager > Model View Manager** menu item to open the Model View Manager tool. Select the *OspDefaultScanModelView* and click on the Save as button  in the tool bar to create a copy of the default scan model view. This opens a prompt for the name to give the new model view copy. The new copy will appear in the model view list after pressing the Ok button at the name prompt. Select the new model view and press the edit button  in the Model View Manager tool bar to begin making your model view changes.

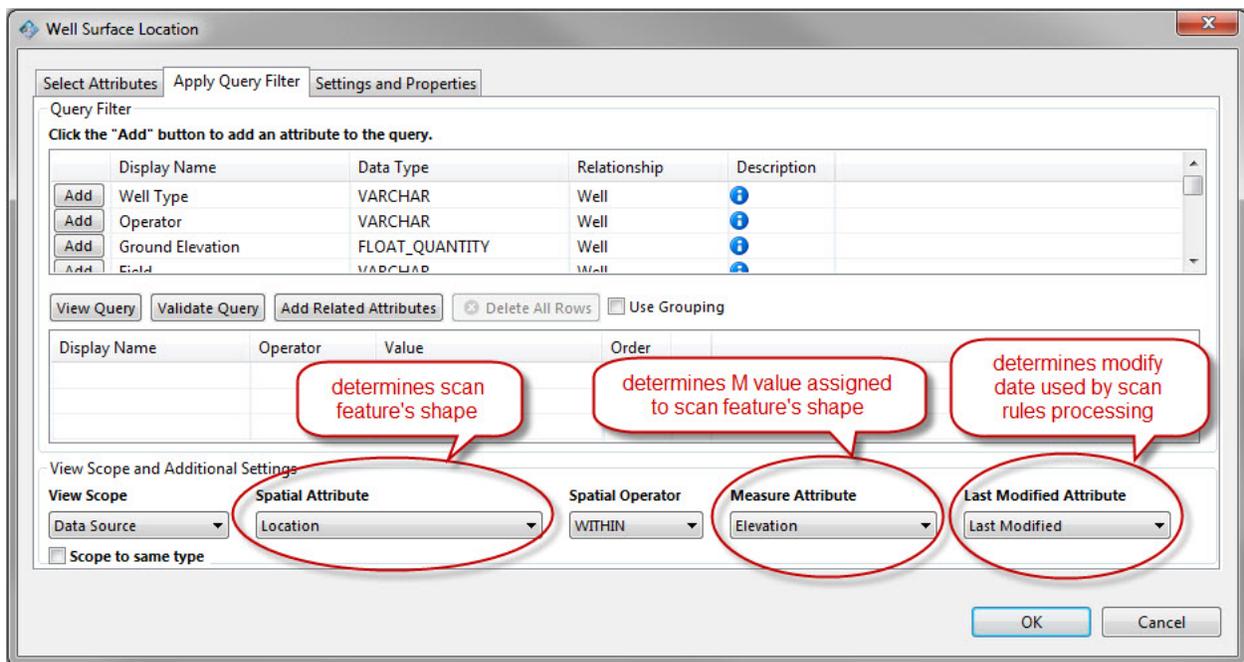
The Model View Manager Help section of this guide provides details of using the Model View Manager to edit a model view. There are however some special considerations when creating or editing a scan model view. The following sections discuss model view issues that are specific to scan.

## Model View Data Type Settings

The settings for a model view data type determines how GIS features are generated for a data type. The data type settings can be found in the *Apply Query Filter* tab and the *Settings and Properties* tab of the data type's configuration window. The configuration window appears when you click on the Configure icon  next to a data type in the Model View Manager tool.



The model view data type configuration window contains three tabs used to configure various parts of the data type.



## Data Type's Spatial Attribute

The attribute selected as the spatial attribute for a model view data type is the most important setting for a model view data type. The spatial attribute setting determines the geometric shape that is assigned to the features created for the data type during a scan job run. Attributes with a Point geometry attribute type will scan to Point features. Attributes with a LineString geometry attribute type will scan to Line features. For example, selecting the *Location* attribute of a Well data type will cause the generated features to contain a Point shape. Selecting the *Path* attribute of a Well data type will cause the generated features to contain a Line shape. Model view data types that do not have a spatial attribute selected will

be scanned to a data table rather than to a feature class. A spatial attribute is required to create a scan output feature.

## Data Type's Measure Attribute

The attribute selected as the measure attribute for a model view data type determines the measurement value assigned to the output feature shapes (i.e. the M value). The measure attributes that are available for selection are determined by the geometry type of the attribute selected as the spatial attribute. Spatial attributes that have a Point geometry require a measurement attribute with a scalar numeric data type (e.g. float, double, integer, float quantity, double quantity, etc.). Spatial attributes that have a LineString geometry require a measurement attribute with a numeric array data type (e.g. float array, double array, integer array, float quantity series, double quantity series, etc.). Measurement attribute selection is optional. Features are not assigned an M value if a measurement attribute is not selected.

## Data Type's Last Modified Attribute

The attribute selected as the last modified attribute for a model view data type determines the modification date and time used by the scan rules processing logic when deciding if the row being scanned has been modified since the last run of the scan job. Attributes that are type timestamp or date are available for selection as the last modified date.

## User Defined Properties

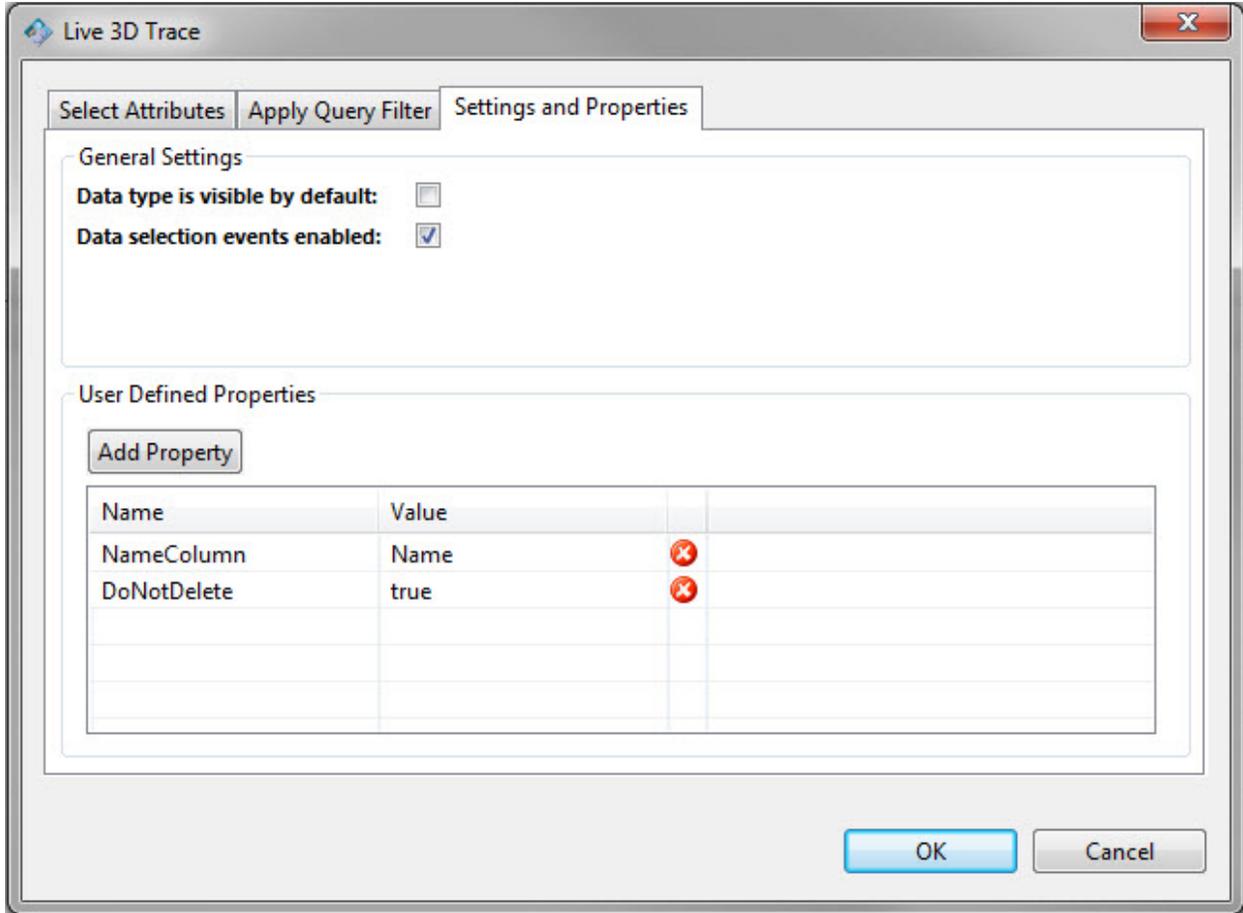
User defined properties can be used to effect scan behavior. The Scan Utility honors a set of user defined properties assigned to a model view data type and a different set of user defined properties assigned to attributes of a model view data type.



User defined properties are an advanced concept. You are encouraged to seek advise from OpenSpirit support when attempting to use or modify user defined properties.

## Model View Data Type Properties

User defined properties are assigned to a model view data type using the *Settings and Properties* tab of the data type's configuration window.



New user defined properties are added to a model view data type by clicking on the **Add Property** button. The add property button adds a new row in the user defined properties table allowing the property name and value to be entered. Existing properties can be renamed and the value changed by clicking in the Name or Value table cell and typing over the existing name or value. Existing properties can be removed by clicking on the delete icon  next to the property to be removed.

The following table describes the properties that may be used on model view data types.

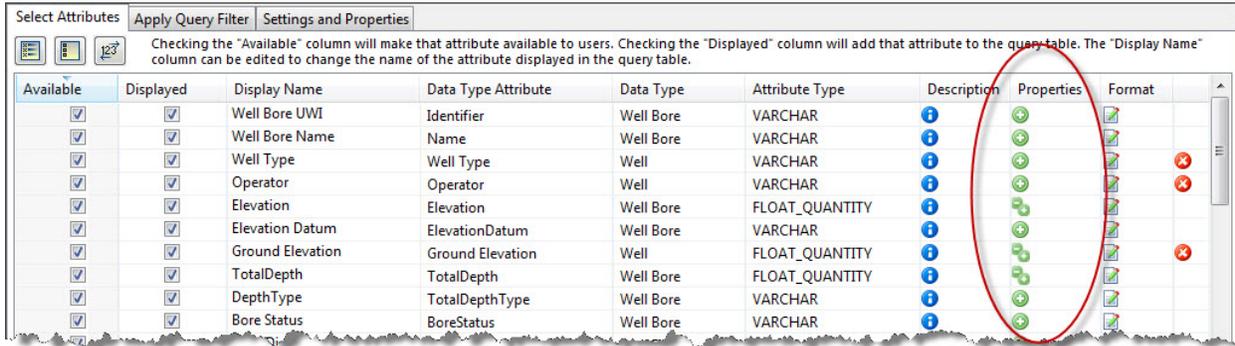
Property Name	Property Value	Description
DoNotDelete	<i>true</i>	This property inhibits deletion of features for this data type when the <b>Delete all items for selected data types and selected data sources before scanning</b> option is selected as the scan job's update rule. This property is most commonly used on live trace outline data types due to the high cost of generating live trace coverage outlines.
GroupBy	The name the <b>DATA_KEY</b> attribute that should be used to perform the grouping.	The name of the attribute of the data type that represents a foreign key to a related data type that should be used to aggregate rows into a single feature. This must be used for a many-to-one relationship which means the data type of the attribute must be type <b>DATA_KEY</b> .

Property Name	Property Value	Description
HideDataType	<i>true</i>	This property is used to prevent the data type from being shown in the Scan Data Types tab of the scan job definition wizard. This allows a data type to be hidden from the Scan Utility user interface without removing it from the model view. This property is sometimes used in conjunction with the <b>ShowForSelectionOf</b> property described below.
NameColumn	The name of the data type's attribute that best identifies a data row.	<p>The value of the data type's attribute will appear in scan job log messages to identify the row of data that caused the message.</p> <p>The property value can optionally contain the display names of multiple attributes of the data type surrounded by curly brackets {} along with any other characters. This can enable a more meaningful name to appear in scan job log messages.</p> <p>The data type attribute display names surrounded by curly brackets will be replaced by the value of that attribute. For example, given a horizon with:</p> <ul style="list-style-type: none"> <li>• EarthModel = <b>SWDT</b></li> <li>• Survey = <b>teapot_survey</b></li> <li>• Name = <b>Lakota</b></li> <li>• Domain = <b>TIME</b></li> <li>• Interpreter = <b>JANE</b></li> </ul> <p>using <b>NameColumn</b> property value</p> <p><b>{EarthModel}:{Survey}:{Name}:{Domain}:{Interpreter}</b></p> <p>will result in a data type name:</p> <p><b>SWDT:teapot_survey:Lakota:TIME:JANE</b></p>
PrimaryKeyColumn	The name the <b>DATA_KEY</b> attribute that should be used as the primary key for a data row.	This property can be used to force an attribute other than the PrimaryKey\$ attribute to be used to identify the scanned rows of data. The attribute must be of type <b>DATA_KEY</b> .
ShowForSelectionOf	The name of another data type in the model view.	<p>This property is used to allow a data type to appear in the Scan Utility's data type list to be used to select a related data type that has been hidden using the <b>HideDataType</b> property described above. The data type named by the property's value will be scanned rather than the data type that this property is defined on.</p> <p>A typical use of this property is to use a data type that is a collection (e.g. well bore list) to be used to select the items that it collects for scanning (e.g. the well bores in the list).</p>

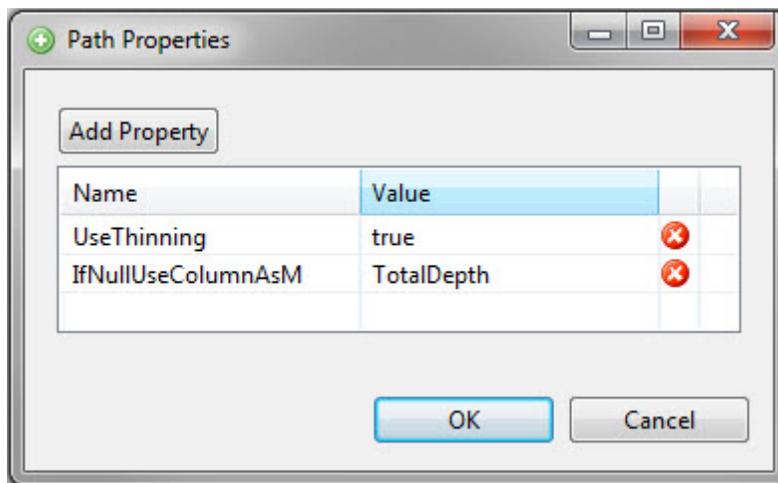
## Data Type Attribute Properties

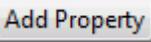
User defined properties are assigned to a model view data type's attribute using the **Select Attributes** tab of the data type's configuration window. User defined properties can be

assigned to a model view data type attribute by clicking on the icon in the Properties column of the attribute.



The icon will appear as a plus sign  if the attribute does not have at least one user defined property assigned to it. The icon will appear as a minus/plus sign  if the attribute has one or more user defined properties assigned to it. Clicking on the Properties icon opens a window that is used to add or remove attribute properties.



New user defined properties are added to an attribute by clicking on the  button. The add property button adds a new row in the user defined properties table allowing the property name and value to be entered. Existing properties can be renamed and the value changed by clicking in the Name or Value table cell and typing over the existing name or value. Existing properties can be removed by clicking on the delete icon  next to the property to be removed.

The following table describes the properties that may be used on model view data type attributes.

Property Name	Property Value	Description
CreateSeparatePoints	<i>true</i>	This property is used to enable a <b>Create Separate Points</b> option to appear in the Scan Data Types panel next to data types that have this property. This parameter should only be used on attributes having a <b>LineString</b> shape.

Property Name	Property Value	Description
		Selecting this option in the Scan Data Types panel will cause a separate Point feature to be created for each point in the line rather than creating a single Line feature.
IfNullUseColumnAsM	The name of the data type's attribute to use for the M value.	This property is used if the value of the data type's Measure Attribute that was selected on the Apply Query Filter tab is null. The attribute specified by the property value will then be used to obtain the M value for the shape. The attribute named by this property must be a quantity type of a numeric type.
IfNullUseColumnLastPoint	The name of the data type's attribute to use to obtain the <b>Point</b> value if the attribute is null.	This property must be used on <b>Point</b> attributes. The property value must name a <b>LineString</b> attribute. If the point attribute value is null, the last point in the <b>LineString</b> attribute named by the property value will be used as the <b>Point</b> attribute's value.
ImageName	Defines the naming convention used to name the thumbnail image files	<p>This property can be set on model view attributes of type <b>BULK_DATA</b> for 3D seismic volumes and horizon grids. The property value defines the naming convention that will be used when creating a thumbnail image <b>.png</b> file.</p> <p>The property value can contain the display names of other attributes of the data type surrounded by curly brackets {} and any other characters allowed in file names. The data type attribute display names surrounded by curly brackets will be replaced by the value of that attribute.</p> <p>For example, given a horizon with:</p> <ul style="list-style-type: none"> <li>• EarthModel=<b>SWDT</b></li> <li>• Survey=<b>teapot_survey</b></li> <li>• Name=<b>Lakota</b></li> <li>• Domain=<b>TIME</b></li> <li>• Interpreter=<b>JANE</b></li> </ul> <p>using <b>ImageName</b> property value:</p> <p><b>Horizon- {EarthModel}_{Survey}_{Name}_{Domain}_{Interpreter}</b></p> <p>will result in an image file name</p> <p><b>Horizon- SWDT_teapot_survey_Lakota_TIME_JANE.png</b></p> <p>Characters not allowed in file names are any ASCII control characters or any of the following characters:</p> <p style="text-align: center;"><b>&lt;&gt;:"/ ?*</b></p> <p>Un-allowed characters are replaced by the underscore character '_'.</p>
SeparateFloatQuantity	<b>true</b>	Separates the value and unit into two separate columns. The original may still be shown if it is included as <b>Displayed</b> in the model view. The

Property Name	Property Value	Description
		new columns take the name of the original attribute with the word <b>Value</b> or <b>Unit</b> appended.
ShowArrayFirstLast	<b>true</b>	Causes two feature attributes to be added following the array attribute. The attributes will contain the first element and the last element of the array. They will have the same name as the array with addition of the word <b>First</b> or <b>Last</b> . This property should only be used on attributes of type <b>STRING_ARRAY</b> , <b>FLOAT_QUANTITY_SERIES</b> , <b>DOUBLE_QUANTITY_SERIES</b> , <b>INTEGER_ARRAY</b> , <b>FLOAT_ARRAY</b> , or <b>DOUBLE_ARRAY</b> .
UseArrayIndexForM	<b>true</b>	This property can only be used on <b>LineString</b> attributes. If the scan entity does not already have a measure attribute selected, this property will cause a measure to be added to the LineString which is a zero based index of each point in the original LineString prior to any thinning that may be done to the LineString. This enables identification of each point in a thinned line.
UseColumnAsZ	The name of the data type's attribute to use as a <b>Z</b> value.	This property can only be used on <b>Point</b> or <b>LineString</b> attributes. The property value should be the name of a <b>FLOAT_QUANTITY</b> or <b>DOUBLE_QUANTITY</b> attribute if the property is assigned to a <b>Point</b> attribute. The property value should be the name of a <b>FLOAT_QUANTITY_SERIES</b> or <b>DOUBLE_QUANTITY_SERIES</b> if the property is assigned to a <b>LineString</b> attribute.
UseColumnForLineBreaks	The name of the data type's attribute to use as a signal to break a <b>LineString</b> attribute.	The presence of this property will cause a MultiLineString feature shape to be generated. This property should only be used on attributes having a <b>LineString</b> shape. The attribute named in the property value must be a <b>FLOAT_QUANTITY_SERIES</b> data type where the length of the series matches the number of points in the <b>LineString</b> . The <b>LineString</b> will be broken at the point index that corresponds with the <b>FLOAT_QUANTITY_SERIES</b> index positions that contain null values.
UseThinning	<b>true</b>	This property is used to enable thinning to be performed on the feature's Line shape. This causes a <b>Thinning Parameter</b> option to appear in the Scan Data Types panel next to data types that have this property. This parameter should only be used on data types having a <b>LineString</b> shape.