Visio 2007 Organizational Diagramming

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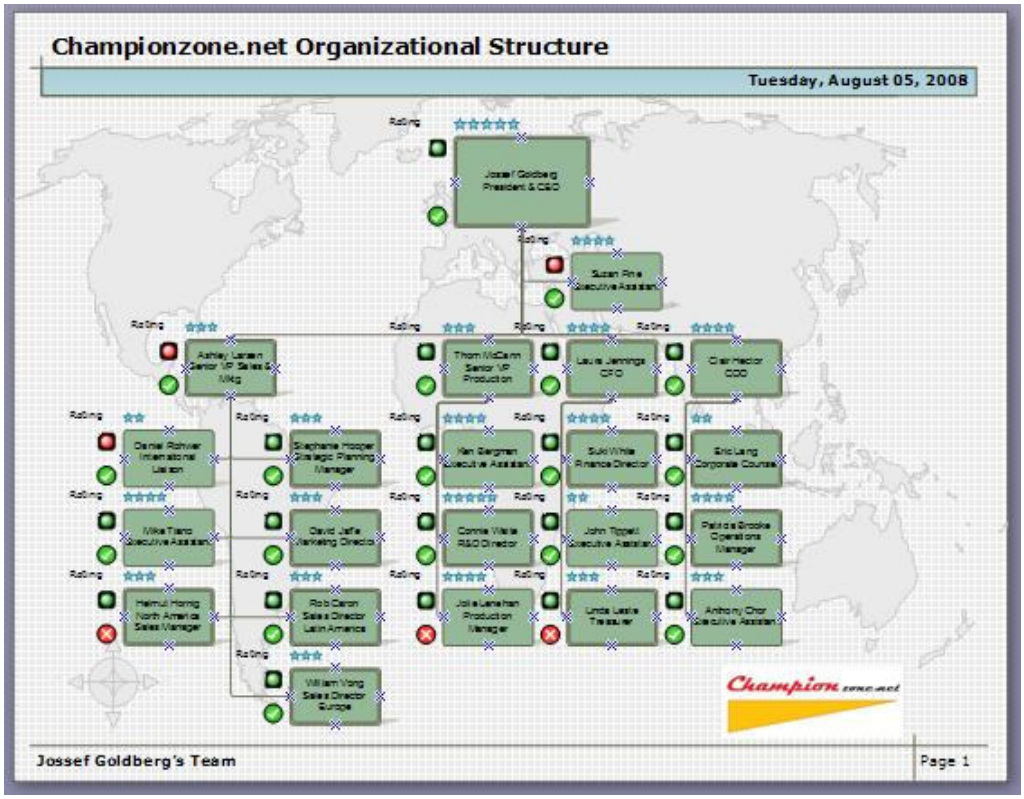
2008



A detailed primer on the art and science of creating Organization Chart Diagrams with Microsoft Office Visio 2007 Professional Edition. Both manual creation of Organizational Diagrams, and the creation of Organizational Diagrams utilizing the Visio Organization Chart Wizard are covered in detail. Additionally Best Practice techniques, enhancements, areas to watch out for, and publication techniques are discussed.

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01 - Manually Created Organizational Diagrams

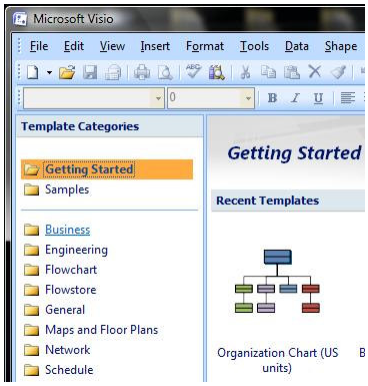
Prior to stepping through the power of the Microsoft Office Visio 2007 Organization Diagram Wizard, it is best to go back to the basics and understand how Visio Organizational Diagrams are created. This first section will provide the user with a step-by-step, click-by-click guide to the manual creation and editing of Visio Organizational Diagrams. The user is strongly encouraged to keep this document open and close at hand while working within Visio 2007. In this manner, the user will be able to reference back to the click-by-click steps and, with practice and repetition, will be able to create professional diagrams with absolute ease.

Creating a New Organizational Diagram

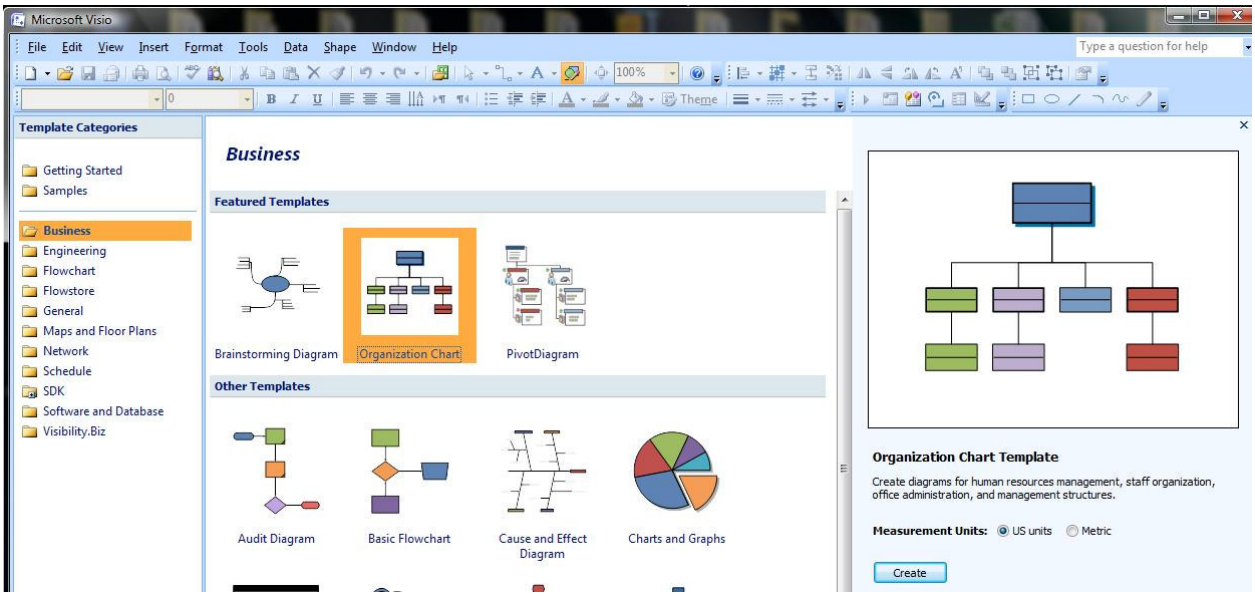
There are essentially two methods of starting a new Organizational Diagram within Visio 2007. The first involves beginning the diagram from the new Visio 2007 "Getting Started" screen. Each time the user double-clicks on a Visio shortcut on the user's desktop, or chooses Microsoft Office ▸ Microsoft Office Visio 2007 from the Microsoft Windows XP or Microsoft Windows Vista Start Menu, the application Visio launches and the user is presented, by default (unless the user has opted not to show the Getting Started screen from the Tools ▸ Options… dialog), with the Getting Started Screen.

Getting Started Methodology

While the Getting Started Screen is active in Visio 2007 (both Standard and Professional editions), look at the Template Categories at the Left Side of the Getting Started set of Task Panes. Left-Click to select the Category listed as Business.



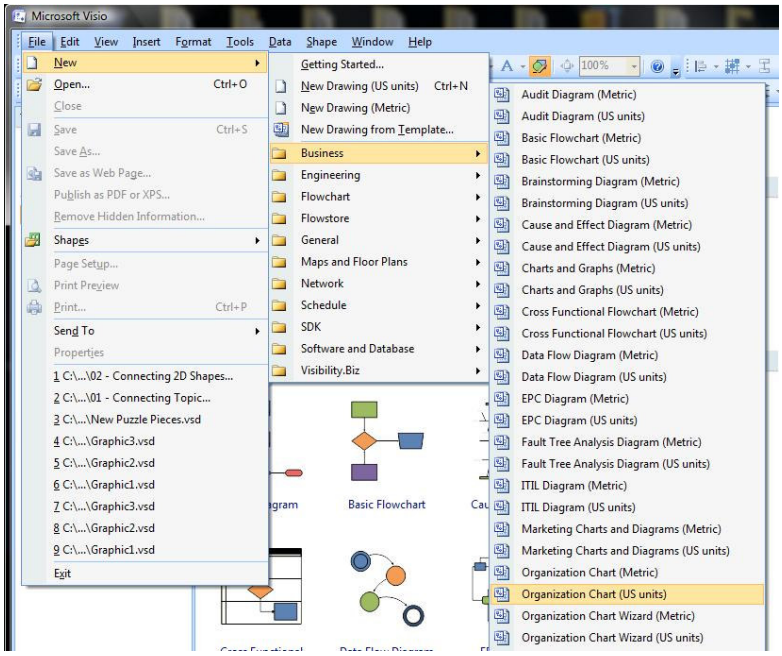
This action will display the Business Category and its store of available Visio Business Templates.



Left-Click on the Organization Chart Icon in either the Featured Templates area or the Other Templates area of the Business Category Page of the Getting Started Task Area. Next, Left-Click to choose either the US units or the Metric Radio Button, depending on the desired target output. Finally, Left-Click on the Create Command Button to confirm the choices and create the new blank Organizational Diagram.

File Menu Methodology

Whether or not the Getting Started Screen is active in Visio 2007 (both Standard and Professional editions), Left-Click on the File Menu in the Visio 2007 Menu Sets at the top of the Visio environment. Choose File ▸ New ▸ Business ▸ Organization Chart (US units) from the Visio File Menu.



Either the Getting Started methodology, or the File ▸ New methodology will result in the creation of a new blank Organizational Diagram.

The environment will contain a collection of Visio Stencils at the left in the Shapes Pane. The Shapes Pane will contain three Stencils; Borders and Titles, Backgrounds, and Organization Chart Shapes. The Organization Chart Shapes Stencil will be the active Stencil.

The Organization Chart Shapes stencil contains 14 Master SmartShape symbols. These include:

- Executive
- Manager
- Position
- Consultant
- Vacancy
- Assistant
- Team Frame
- Staff
- Title / Date
- Multiple shapes
- Three positions
- Title
- Dynamic connector
- Dotted-line report

Any time that the user drags and drops any of these Master SmartShape symbols onto the Visio Diagram Page, they are creating an *instance* of that Master SmartShape symbol.

The center area of the Visio Environment is the Diagram or Drawing Page. This is the area where the actual Organizational Diagram will be created.

Floating over, and contained within, the Diagram Page (unless the user has otherwise docked the toolbar) is the Organization Chart Toolbar. More will be discussed about the Organization Chart Toolbar later in this document.

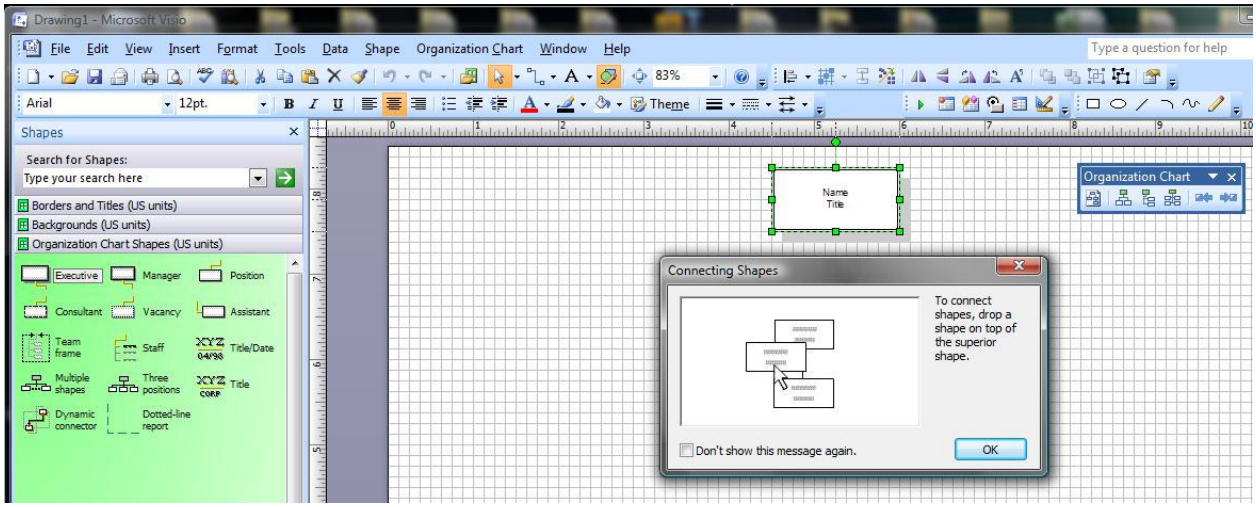
Among the Visio Menu lists the user will find, between the Shape Menu and the Window Menu, the Organization Chart Menu. This menu contains a collection of commands for working with individual and selections of Visio Organization Chart SmartShape symbols. These menu commands will be discussed later in this document. They include:

- Re-layout
- Best Fit to Page
- Arrange Subordinates…
- Hide Subordinates
- Move Subordinates ▸ Left/Up
- Move Subordinates ▸ Right/Down
- Change Position Type…
- Synchronize ▸ Create Synchronized Copy…
- Synchronize ▸ Expand Subordinates
- Import Organization Data…
- Export Organization Data…
- Compare Organization Data…
- Change Spacing…
- Options…

The Executive SmartShape Symbol

The first step in actually manually creating a Visio Organizational Diagram is to add the absolute Top Level person to be shown on the diagram. This is generally the CEO, the President, or other Top Executive. To add this person to the diagram, Left-Click, (Hold the Left Mouse Button Down) Drag, and Drop the Executive Master SmartShape symbol found on the Organization Chart Shapes Stencil. Drop the instance at a point near the top of the diagram Page and centered on the diagram Page.

When this action is complete, the Executive SmartShape symbol will be displayed on the page, and (by default unless the feature is turned off) a small assistance dialog will be displayed informing the user as to the proper methodology for creating the connected hierarchy in the Organizational Diagram.



The message states “To connect shapes, drop a shape on top of the superior shape.” In other words, to add a Manager reporting to the Executive, simply Left-Click, (Hold the Left Mouse Button Down) Drag, and Drop the Manager Master SmartShape symbol found on the Organization Chart Shapes Stencil directly on top of the Executive SmartShape symbol. Visio will automatically take care of providing a Dynamic Connector SmartShape symbol and gluing the Beginning of the Dynamic Connector SmartShape symbol, utilizing Dynamic Glue, to the Executive SmartShape symbol, and gluing the Ending of the Dynamic Connector SmartShape symbol, utilizing Dynamic Glue, to the Manager SmartShape symbol

To close this dialog, Left-Click the OK Command Button. To ensure that it does not pop up again, Left-Click to Check the Don’t show this message again. Check Box prior to Left-Clicking on the OK Command Button.

Adding Subordinates

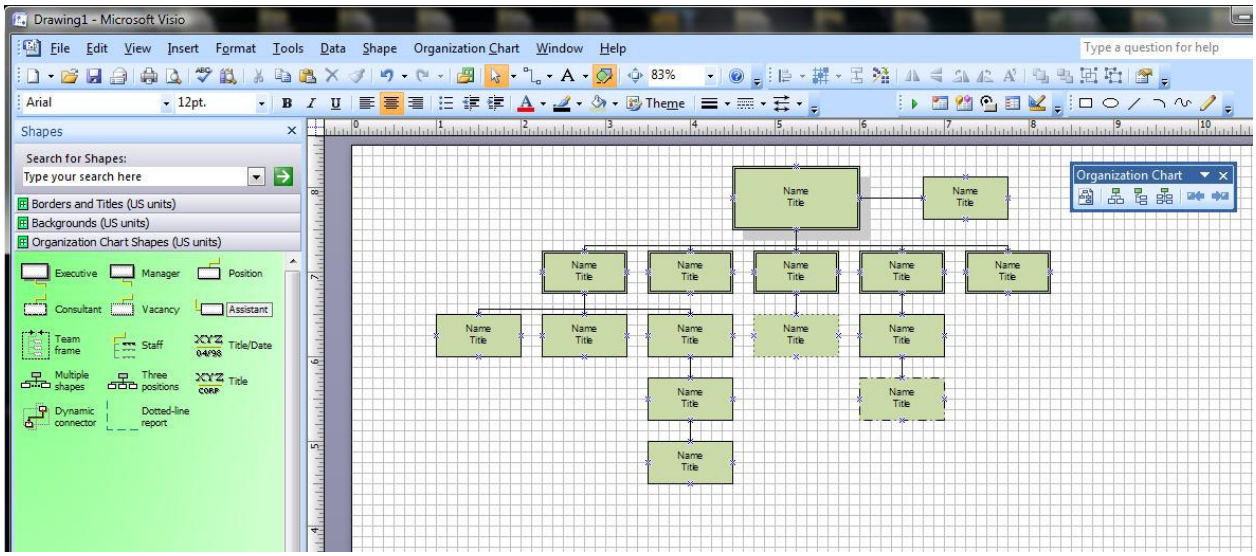
Once an Executive has been added to the Diagram, additional subordinates may be added by dragging them from the stencil and dropping them on the Organizational Diagram SmartShape symbol representing their superior. As stated before, simply Left-Click, (Hold the Left Mouse Button Down) Drag, and Drop the Manager Master SmartShape symbol found on the Organization Chart Shapes Stencil directly on top of the Executive SmartShape symbol. Visio will automatically take care of providing a Dynamic Connector SmartShape symbol and gluing the Beginning of the Dynamic Connector SmartShape

symbol, utilizing Dynamic Glue, to the Executive SmartShape symbol, and gluing the Ending of the Dynamic Connector SmartShape symbol, utilizing Dynamic Glue, to the Manager SmartShape symbol. This process may be repeated for each additional Manager reporting directly to the Executive.

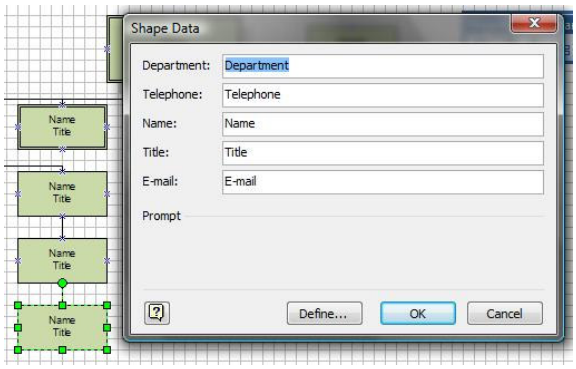
Adding One Subordinate at a Time

To add one subordinate SmartShape symbol at a time to the diagram, follow the procedure detailed above, dropping Manager SmartShape Symbols on top of Executive SmartShape symbols, dropping Position SmartShape Symbols on top of Manager SmartShape symbols, dropping Vacancy SmartShape symbols, Consultant SmartShape symbols, and Assistant SmartShape symbols as necessary to describe the structure of the Organization being documented.

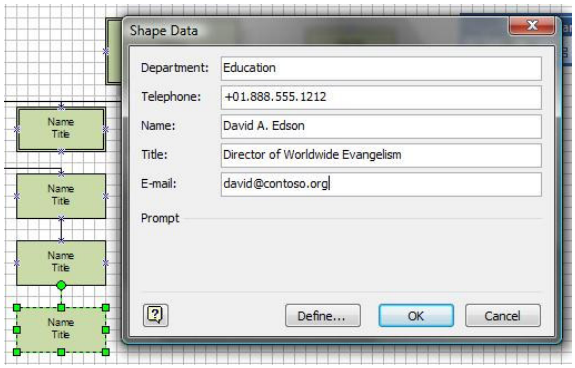
A resultant Organization might look something like that shown below.



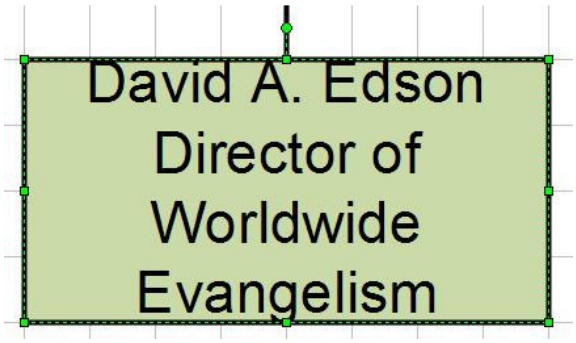
Note that as each SmartShape symbol is added to the Organizational Diagram, each SmartShape symbol displays the text “Name” and “Title” on the face of the particular symbol. This text may be easily replaced by editing the Shape Data for that given SmartShape symbol. To edit the Shape Data for any given SmartShape symbol, Right-Click on the SmartShape symbol and select Properties from the SmartShape symbol’s context menu. This action will cause the Shape Data dialog to be displayed.



Left-Click into each field that requires a new value to be set. Edit the text as necessary.



When all edits have been completed, Left-Click the OK Command Button to confirm the changes and close the dialog. The SmartShape symbol's Text will be updated to reflect these changes.



Keep in mind that by default, only the Name and Title fields are visible on the face of the SmartShape symbol. As will be discussed later, this is totally customizable and user configurable.

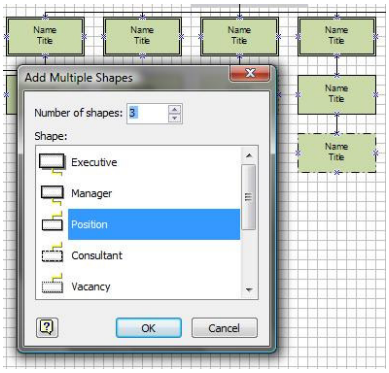
Adding Three Subordinates at the Same Time

If, for any reason, exactly three Position subordinates report to the same singular Manager, the process of adding the three Position SmartShape symbols may be shortened by selecting the Three positions Master SmartShape symbol from the Organization Chart Shapes stencil, Left-Click, (Hold the Left Mouse Button Down) Drag, and Drop the Three positions Master SmartShape symbol directly on top of the

Manager SmartShape symbol. Visio will automatically take care of providing a Dynamic Connector SmartShape symbol for each Position SmartShape symbol and glue the Beginning of the Dynamic Connector SmartShape symbol, utilizing Dynamic Glue, to the Manager SmartShape symbol, and glue the Ending of each Dynamic Connector SmartShape symbol, utilizing Dynamic Glue, to the individual Position SmartShape symbols. The resultant three Position SmartShape symbols will be evenly spaced below the Manager SmartShape symbol.

Adding Multiple Subordinates at the Same Time

A more generic, and perhaps, more flexible method for adding multiple subordinates under a superior is to make use of the Multiple shapes Visio SmartShape symbol found on the Organization Chart Shapes stencil. Left-Click, (Hold the Left Mouse Button Down) Drag, and Drop the Multiple shapes Master SmartShape symbol found on the Organization Chart Shapes Stencil directly on top of the desired superior SmartShape symbol. Visio will not actually place a new SmartShape symbol, but, rather, will trigger the execution of some Automation Code which will display a small dialog as shown below.



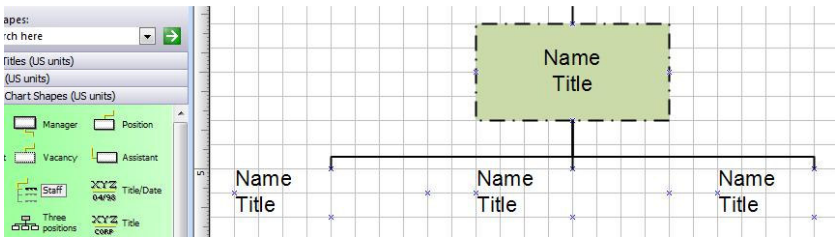
This dialog allows the user to (a) specify the number of subordinate SmartShape symbols to be added under the superior SmartShape symbol selected by the Drop action, and (b) specify which Master SmartShape symbol will be used to create and glue the multiple subordinate SmartShape symbols

Visio will automatically take care of providing a Dynamic Connector SmartShape symbol and gluing the Beginning of the Dynamic Connector SmartShape symbol, utilizing Dynamic Glue, to the superior SmartShape symbol, and gluing the Ending of the Dynamic Connector SmartShape symbol, utilizing Dynamic Glue, to each of the subordinate SmartShape symbols. This process may be repeated for each additional superior SmartShape symbol requiring multiple subordinate SmartShape symbols.

Adding Staff Members

An additional SmartShape symbol used in Organizational Diagrams is the Staff SmartShape symbol. The Staff SmartShape symbol is used similarly to any other Organization Chart SmartShape symbol. Its primary difference is that the Staff SmartShape symbol is not confined within a rectangle. An example of

adding three Staff SmartShape symbols subordinate to a Position SmartShape symbol is illustrated below.



To add Staff SmartShape symbols subordinate to a Position SmartShape symbol, Left-Click, (Hold the Left Mouse Button Down) Drag, and Drop the Staff Master SmartShape symbol found on the Organization Chart Shapes Stencil directly on top of the Position SmartShape symbol. Visio will automatically take care of providing a Dynamic Connector SmartShape symbol and gluing the Beginning of the Dynamic Connector SmartShape symbol, utilizing Dynamic Glue, to the Position SmartShape symbol, and gluing the Ending of the Dynamic Connector SmartShape symbol, utilizing Dynamic Glue, to the Staff SmartShape symbol. This process may be repeated for each additional Staff member reporting directly to the Position member.

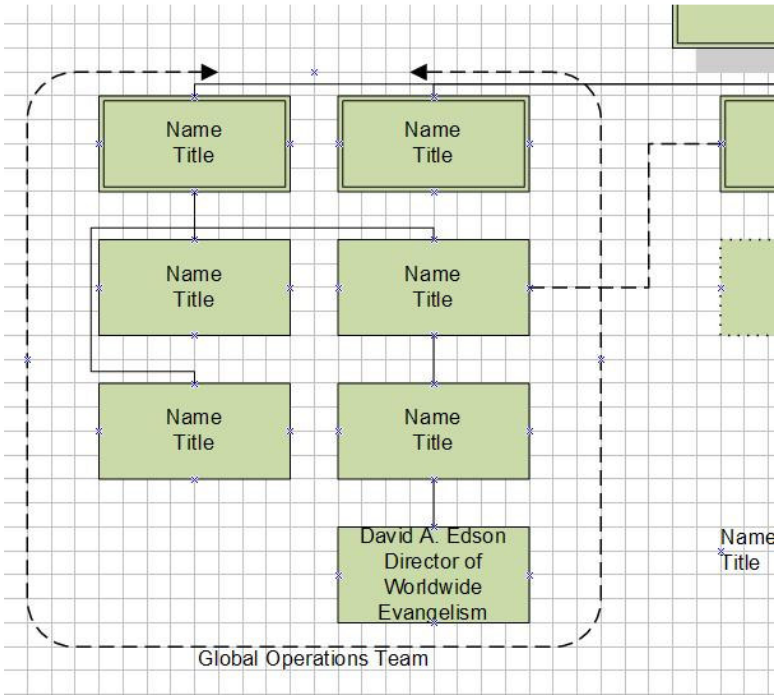
Adding a Dotted-Line Reporting Indicator

The structure of the Visio 2007 Organization Charting Solution is very rigid and works with the following logic. Any Individual in an Organization may have as many individuals reporting to him or her as desired, however each individual may ONLY report to one superior person. In other words, One-to-Many going DOWN the hierarchy, but One-to-One going UP the hierarchy. Because of this limitation in logic, Visio provides a specialized Dynamic Connector SmartShape symbol called a Dotted-line report SmartShape symbol.

By dragging and dropping a Dotted-line report SmartShape symbol onto the Organizational Diagram Page and subsequently gluing the beginning and end of the Dotted-line report SmartShape symbol to the appropriate Superior and Subordinate SmartShape symbols, the Dotted-line report SmartShape symbol can be used to visually indicate the “Dotted Line”, “Alternate”, or “Secondary” reporting relationship required in some Organizations. The Process is simply to Left-Click, (Hold the Left Mouse Button Down) Drag, and Drop the Dotted-line report Master SmartShape symbol found on the Organization Chart Shapes Stencil onto the Visio Diagram Page. Next drag the Begin Point or End Point of the Dotted-line report SmartShape symbol to the required Connection Point on the Superior or Subordinate SmartShape symbol to establish the necessary glue. Keep in mind that this is totally a manual process, and should the diagram need to be recreated, these Dotted-line report SmartShape symbols would need to be manually laid in again by the creator of the new or updated diagram.

Adding a Team Frame Indicator

A Team Frame SmartShape symbol is used to encompass all members of a designated group that work together, obviously, as a team. This SmartShape Symbol, as illustrated below, may be dropped, then relocated, and resized utilizing the SmartShape symbol's sizing handles to adjust its size to fit around the team in question. The Text of the Team Frame SmartShape symbol may be edited to provide a proper label for the subject team.



Adding Extra Features

Visio additionally provides two Master SmartShape symbols which may be used to add either a Title, or a Title and Date to the Organizational Diagram after the diagram has been created, edited, and is ready for subsequent printing.

Adding a Title to the Organizational Diagram

To add a Title Master SmartShape symbol to an Organizational Diagram Left-Click, (Hold the Left Mouse Button Down) Drag, and Drop the Title Master SmartShape symbol found on the Organization Chart Shapes Stencil to any desired location on the Visio Diagram Page. Using the Left Mouse Button, Double-Click on any of the text displayed. This action will cause the SmartShape symbol to enter text editing mode. The user is free to edit the Company Name and The Department Name in any manner that best suits their need.

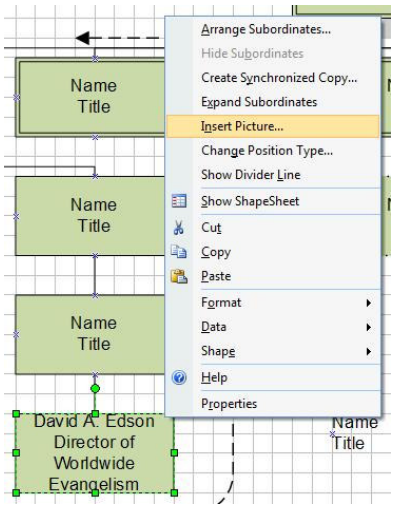
Adding a Title and Date to the Organizational Diagram

To add a Title/Date Master SmartShape symbol to an Organizational Diagram Left-Click, (Hold the Left Mouse Button Down) Drag, and Drop the Title/Date Master SmartShape symbol found on the Organization Chart Shapes Stencil to any desired location on the Visio Diagram Page. Note that the current date will be already set in this SmartShape symbol. Using the Left Mouse Button, Double-Click on any of the text displayed. This action will cause the SmartShape symbol to enter text editing mode. The user is free to edit the Company Name in any manner that best suits their need.

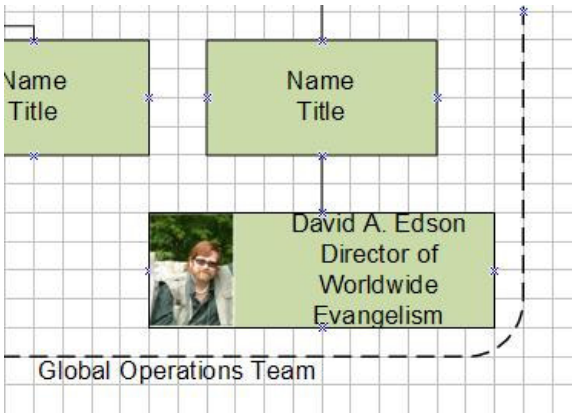
Adding Pictures to Organizational Diagram SmartShape symbols

All of the Organizational SmartShape symbols that represent members of the Organization (with the exception of the Staff SmartShape symbol) are capable of having a Picture associated with them. Pictures may be imported from any available source accessible from the user's network and may be in *.emz, *.emf, *.gif, *.jpg, *.png, *.svg, *.svgz, *.tif, *.tiff, *.bmp, *.dib, or *.wmf format.

To add a picture to an Organizational SmartShape symbol, Right-Click on the selected SmartShape symbol and select Insert Picture… from the SmartShape symbol's context menu.



This action will cause a file dialog to display. Browse to the network or PC Drive, Directory, and File where the required picture resides. Select the Picture file. When selected, Left-Click the Open Command Button to confirm the choice and close the dialog. The Picture will automatically be resized and will be added to the SmartShape symbol as shown below.



Editing Manually Created Organizational Diagrams

An old adage states that “there is no such thing as an absolutely correct layout algorithm”. This is absolutely true. Often it will be necessary to subtly adjust the organization of the Organizational Diagram created with the Visio Tools. This section will provide the user with the tools to edit and adjust the Organizational diagram to suit the visual and logical needs of their particular use and their organizational requirements.

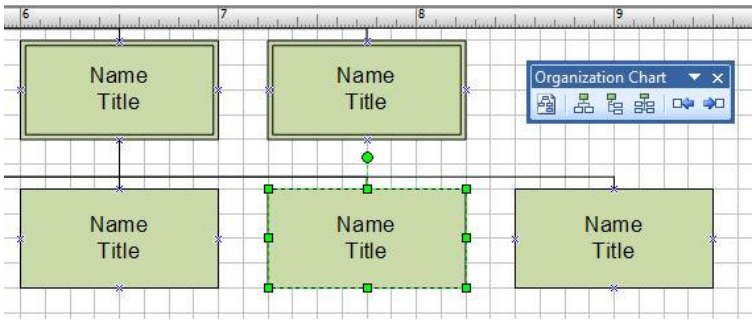
Changing the Layout of Subordinates

By default as subordinates are added to the Organizational diagram by dragging and dropping the SmartShape symbols on top of the superior SmartShape symbols, Visio lays these new subordinates out in a horizontally arranged manner. While this might work in very small organizations, in the vast majority, this would rapidly result in a very wide, very shallow layout and would require either numerous printed pages taped together or roll-feed plotter paper to print the resultant diagram.

To overcome this difficulty, Visio, while making no assumptions, provides tools to reconfigure the layout to a more compact and visually appealing layout.

Changing Layout with the Organization Chart Toolbar

As was stated earlier, when the Organizational Diagram was begun, Visio displayed an Organization Chart Toolbar floating over the Diagram Page area.



This toolbar contains six toolbar buttons which trigger alternate layout commands. From Left to Right these toolbar items are:

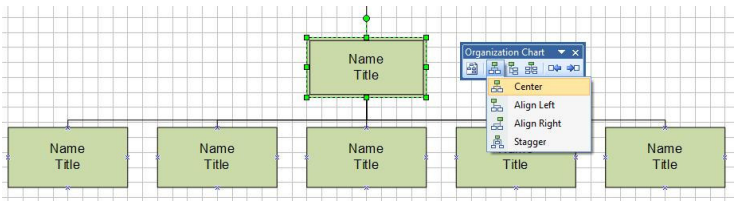
- Re-layout
- Horizontal Layout
- Vertical Layout
- Side by Side
- Move Left
- Move Right

Selecting the Re-layout toolbar item retains any previously applied layout methodology and performs an analysis of both the collection of all SmartShape symbols on the page and the page size, and adjusts the spacing (both vertical and horizontal) of the SmartShape symbols to best fit the page.

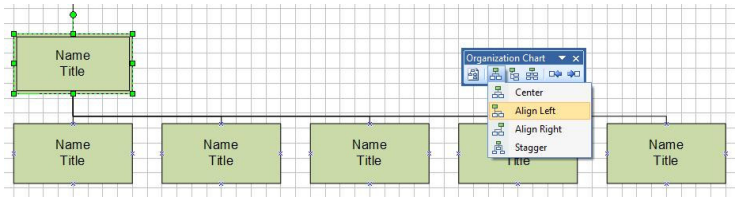
Selecting the Horizontal Layout toolbar item brings up four sub-options for horizontal layout. These are:

- Center
- Align Left
- Align Right
- Stagger

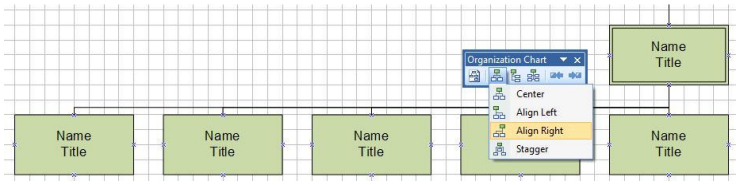
The Center sub-option works on all of the subordinates to the selected superior. The Center sub-option centers the individual subordinates under the superior as shown below.



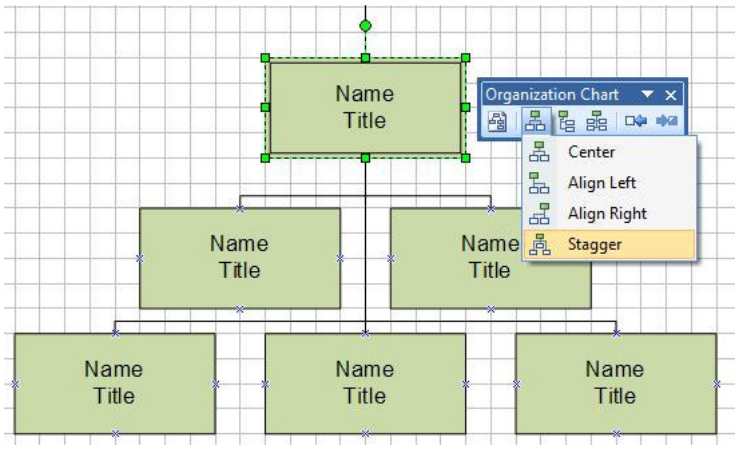
The Align Left sub-option works on all of the subordinates to the selected superior. The Align Left sub-option locates all of the subordinates stacked out to the Right from the Left-most subordinate stacked immediately under the superior as shown below.



The Align Right sub-option works on all of the subordinates to the selected superior. The Align Right sub-option locates all of the subordinates stacked out to the Left from the Right-most subordinate stacked immediately under the superior as shown below.



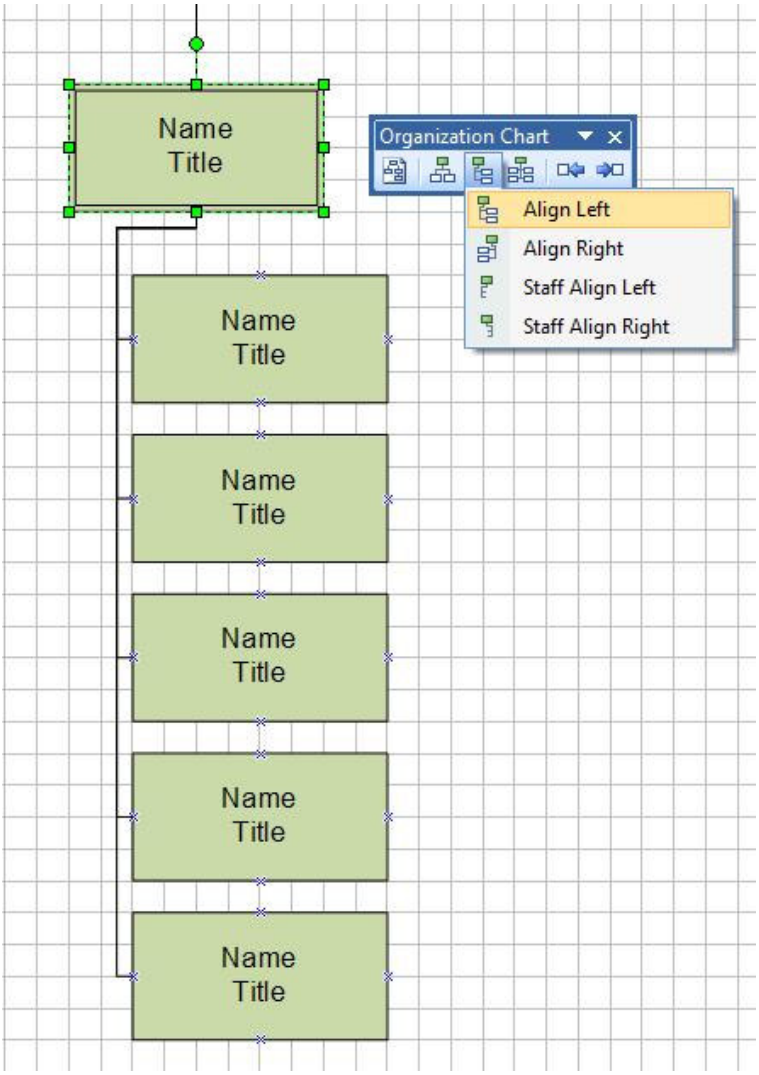
The Stagger sub-option works on all of the subordinates to the selected superior. The Stagger sub-option locates all of the subordinates in a compact horizontal cluster by staggering the subordinates above and below each other maintaining their left to right relationship as shown below.



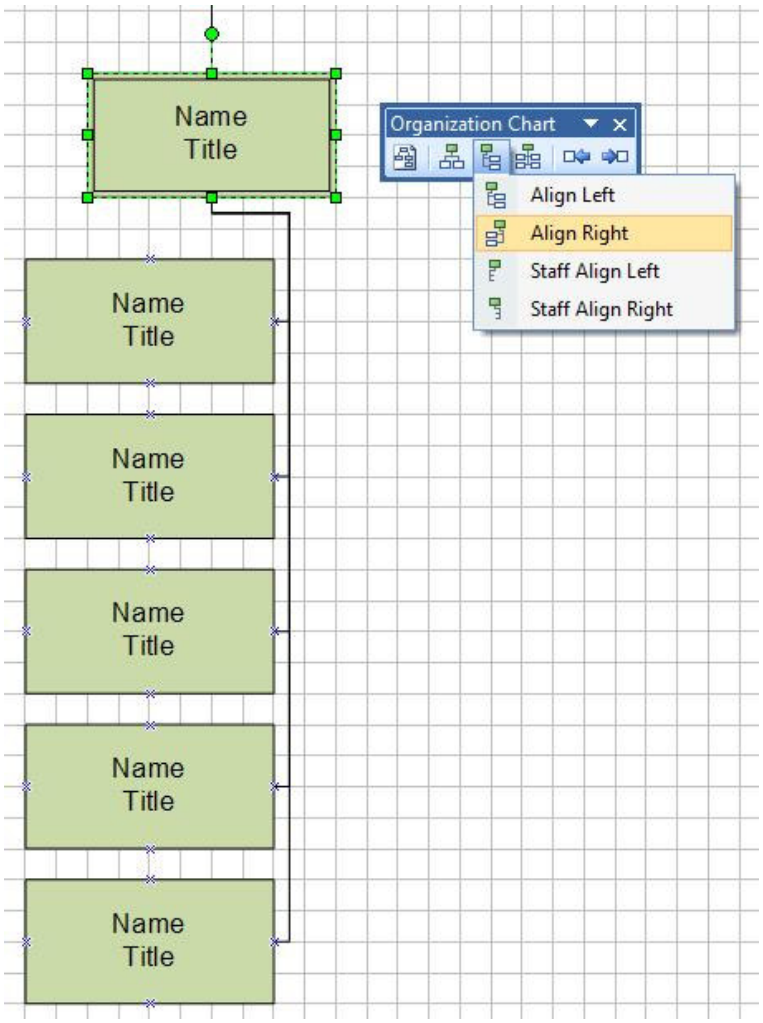
Selecting the Vertical Layout toolbar item brings up four sub-options for vertical layout. These are:

- Align Left
- Align Right
- Staff Align Left
- Staff Align Right

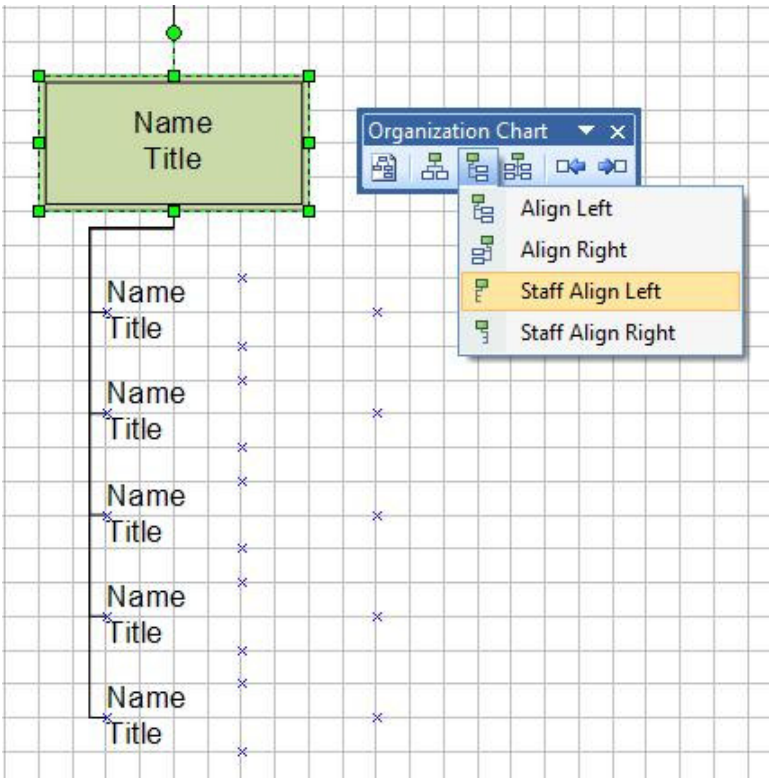
The Align Left sub-option works on all of the subordinates to the selected superior. The Align Left sub-option locates all of the subordinates stacked top to bottom connected on their Left side to the bottom of the superior.



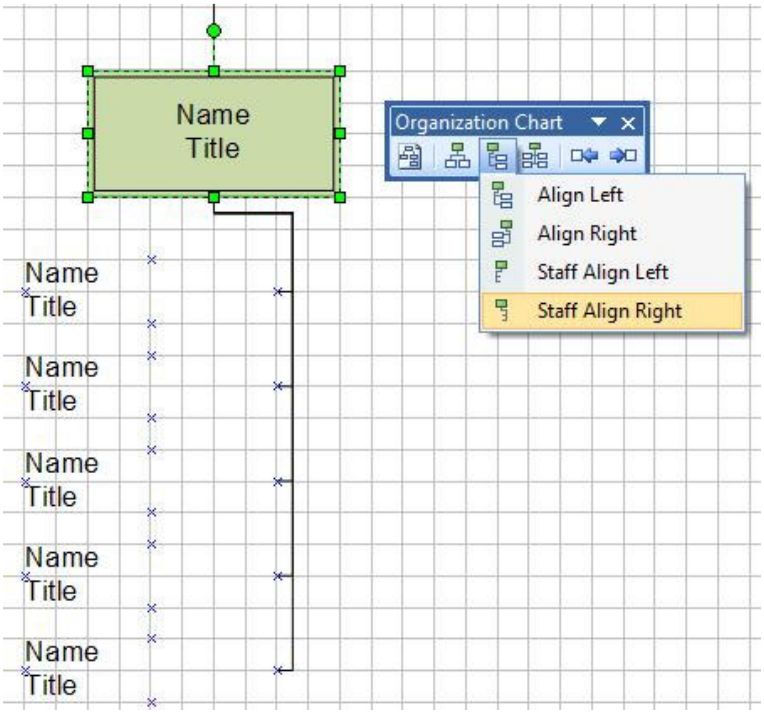
The Align Right sub-option works on all of the subordinates to the selected superior. The Align Right sub-option locates all of the subordinates stacked top to bottom connected on their Right side to the bottom of the superior.



The Staff Align Left sub-option works on all of the subordinates to the selected superior. The Staff Align Left sub-option transforms all of the subordinate SmartShape symbols from their previous Master to the Staff Master SmartShape symbol instances, and locates all of the subordinates stacked top to bottom connected on their Left side to the bottom of the superior.



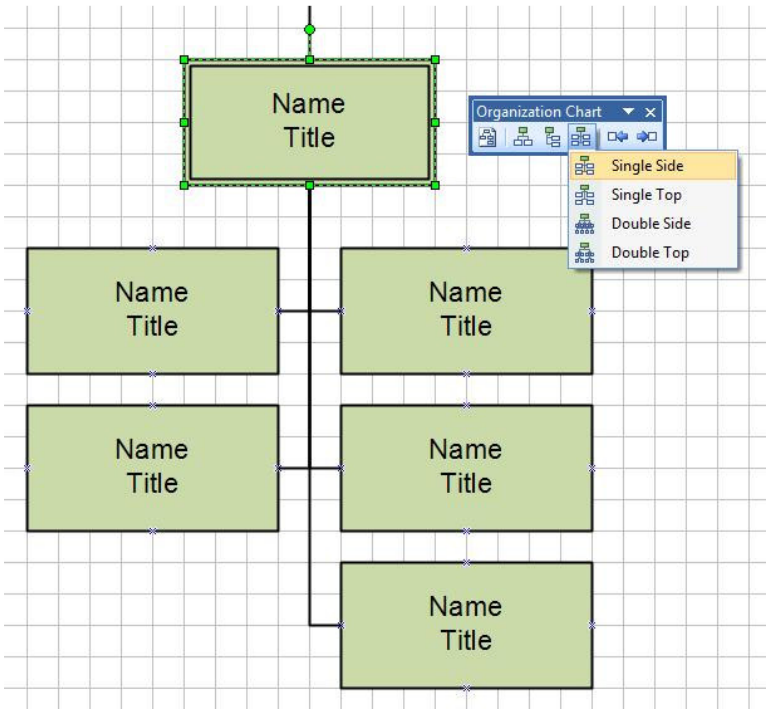
The Staff Align Right sub-option works on all of the subordinates to the selected superior. The Staff Align Right sub-option transforms all of the subordinate SmartShape symbols from their previous Master to the Staff Master SmartShape symbol instances, and locates all of the subordinates stacked top to bottom connected on their Right side to the bottom of the superior.



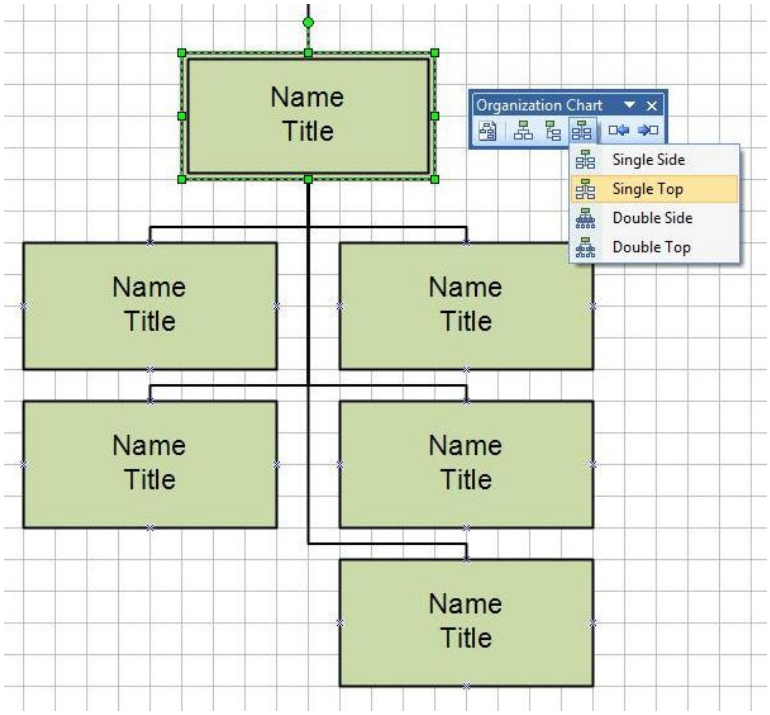
Selecting the Side by Side Layout toolbar item brings up four sub-options for side-by-side layout. These are:

- Single Side
- Single Top
- Double Side
- Double Top

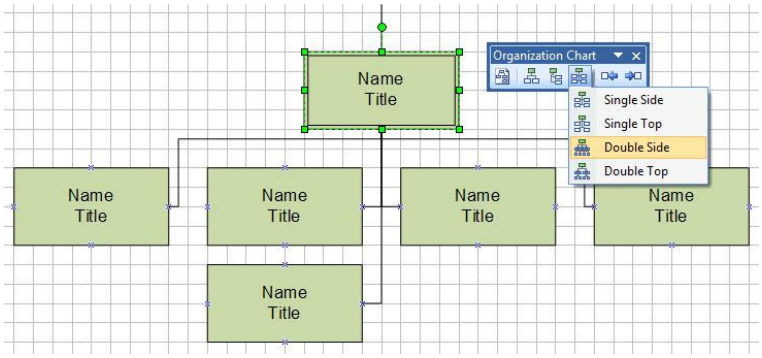
The Single Side sub-option works on all of the subordinates to the selected superior. The Single Side sub-option locates all of the subordinates stacked side by side in single pairs, top to bottom connected on their Left and Right sides to the bottom of the superior.



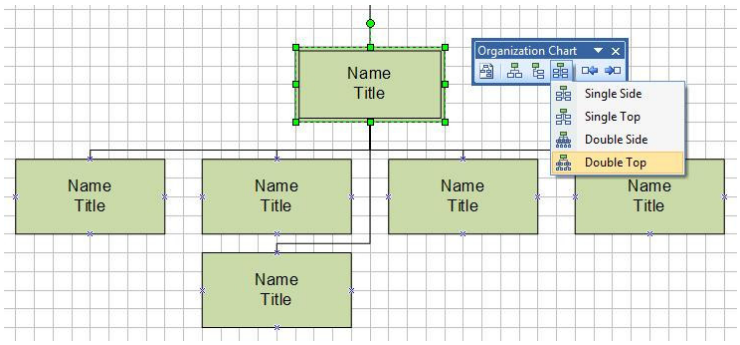
The Single Top sub-option works on all of the subordinates to the selected superior. The Single Top sub-option locates all of the subordinates stacked side by side in single pairs, top to bottom connected on their Top sides to the bottom of the superior.



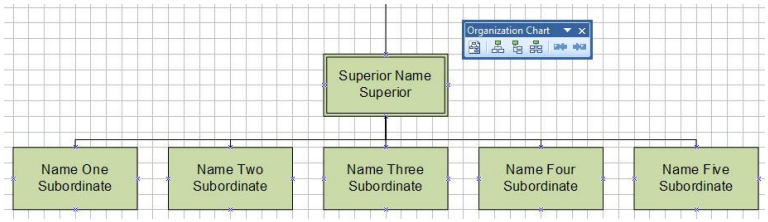
The Double Side sub-option works on all of the subordinates to the selected superior. The Double Side sub-option locates all of the subordinates stacked side by side in double pairs, top to bottom connected on their Left and Right sides to the bottom of the superior.



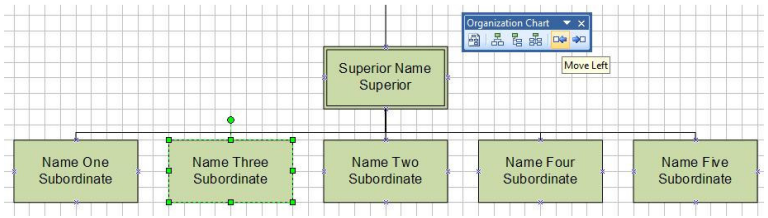
The Double Top sub-option works on all of the subordinates to the selected superior. The Double Top sub-option locates all of the subordinates stacked side by side in double pairs, top to bottom connected on their Top sides to the bottom of the superior.



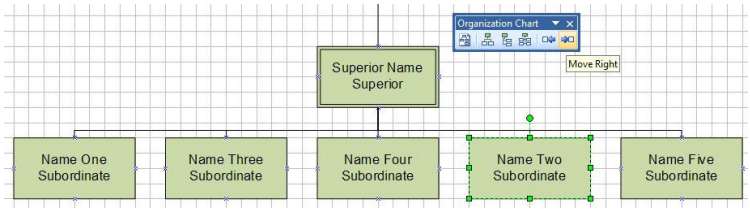
The Move Left and Move Right options work on the singularly selected subordinate in a group of subordinates to a single superior. The Move Left and Move Right options relocate the singularly selected subordinate to the left or right within the grouping. The illustration below shows a horizontal center layout of five subordinates before a move request is made.



The Move Left option moves the selected subordinate Left within the group.



The Move Right option moves the selected subordinate Right within the group.

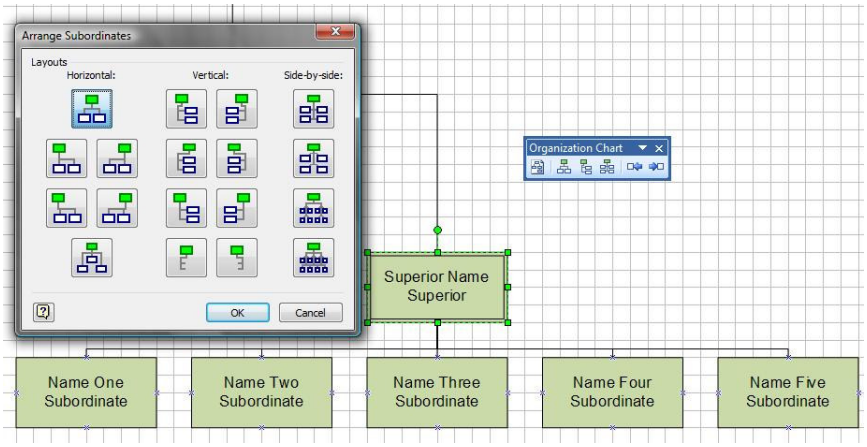


Changing the Layout with the Re-layout Menu Selection from the Organization Chart Menu

Selecting Organization ▸ Chart Re-layout from the Visio Organization Chart Menu performs exactly the same function as if it were selected from the toolbar. Selecting the Re-layout menu command retains any previously applied layout methodology and performs an analysis of both the collection of all SmartShape symbols on the page and the page size, and adjusts the spacing (both vertical and horizontal) of the SmartShape symbols to best fit the page.

Changing the Layout with the Arrange Subordinates… Context Menu

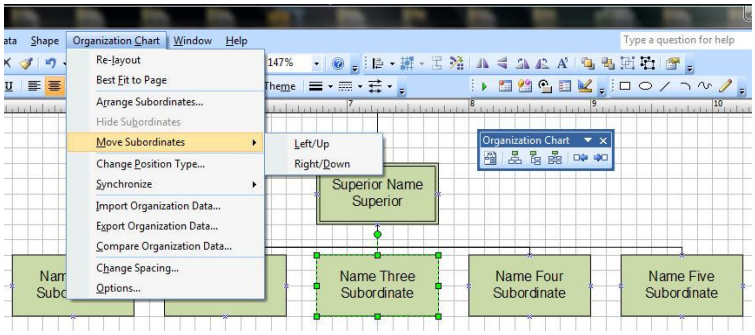
Right-Clicking on a desired superior SmartShape symbol displays that symbol's Context Menu. Among the context menu items listed is the Arrange Subordinates… menu item. Selecting the Arrange Subordinates… menu item displays the Arrange Subordinates dialog as illustrated below.



The options within the Arrange Subordinates dialog mirror their counterparts from the Organization Chart Toolbar. With these options the user can perform all of the Horizontal, Vertical, and Side-by-Side layout transformations in exactly the same manner as detailed above. Left-Clicking on the OK Command Button accepts the layout change, closes the dialog and applies the transformation to the subordinate SmartShape symbols to the selected superior SmartShape symbol.

Moving Subordinates

The Visio Organization Chart Menu has a pair of menu items dedicated to relocating individual subordinate SmartShape symbols within their subordinate groups. The pair of commands are accessed by selecting either Organization Chart ▸ Move Subordinates ▸ Left/Up or Organization Chart ▸ Move Subordinates ▸ Right/Down from the Visio Organization Chart Menu. These behave exactly as their toolbar counterparts do as detailed above.

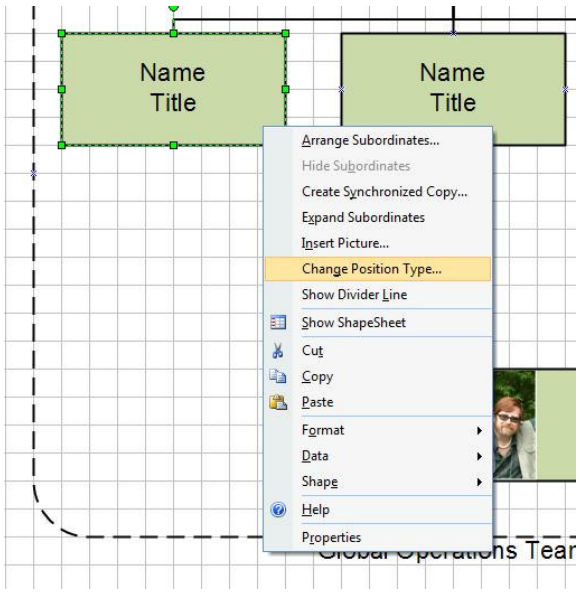


Fitting Organizational SmartShape symbols as a Best Fit to Page

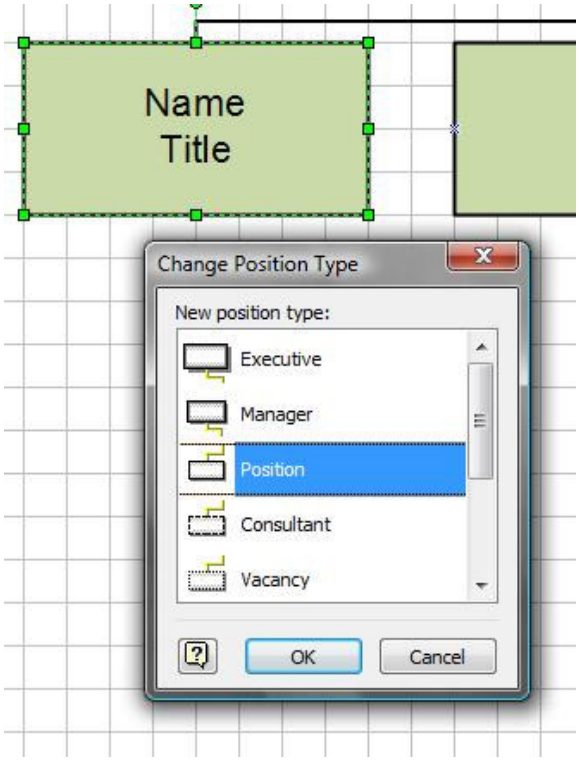
The Visio menu option Organization Chart ▸ Best Fit to Page works exactly as the Re-layout toolbar button does. This menu action causes a re-layout of all Organizational Charting SmartShape symbols on the page and retains any previously applied layout methodology. It performs an analysis of both the collection of all SmartShape symbols on the page and the page size, and adjusts the spacing (both vertical and horizontal) of the SmartShape symbols to best fit the page. Note that it DOES NOT take into account additional SmartShape symbols such as Team Frames.

Changing a Position Type

Another menu command available from the Context Menu of a selected Organization Chart SmartShape symbol is the Change Position Type… command. Right-Click on the selected SmartShape symbol to then select this option.



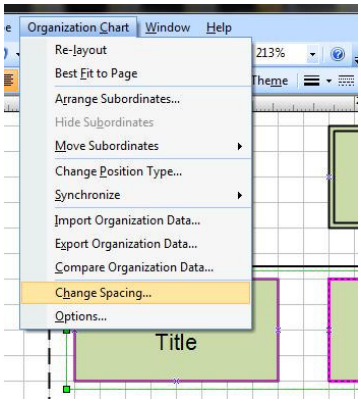
This action displays the following dialog.



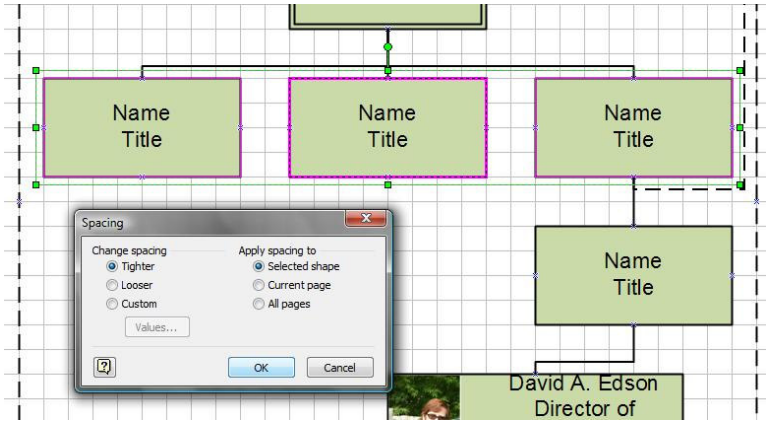
In the Change Position Type dialog the desired replacement for the selected Organizational Chart SmartShape symbol may be selected. When the proper replacement has been selected, Left-Click the OK Command Button to confirm the choice, close the dialog, and apply the change to the selected SmartShape symbol.

Changing the Spacing between Subordinates

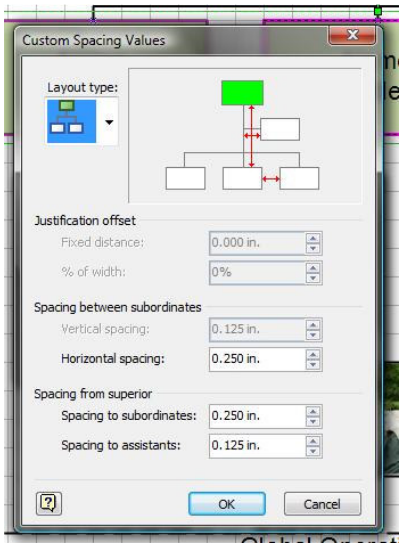
The spacing between the any set of two or more SmartShapes may be modified by choosing Organization Chart ▸ Change Spacing… from the Visio Organization Chart Menu.



This action causes the Spacing dialog to be displayed.



Note that within the Spacing dialog, the Change Spacing options are (a) Tighter, (b) Looser, and (c) Custom (whereby the user can Left-Click on the Values… Command Button. This action will display the Custom Spacing Values sub-dialog.



In the Custom Spacing Values sub-dialog the values for horizontal and vertical spacing can be set to a very granular level to suit the user's requirements.

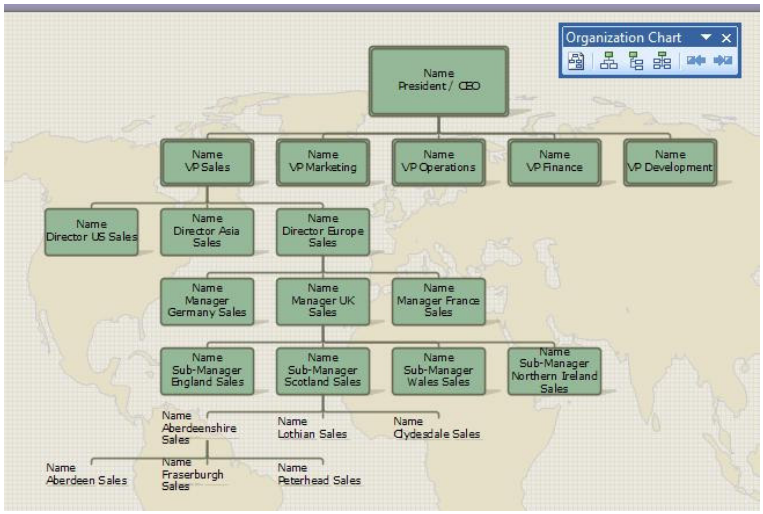
Within the Spacing dialog, the changes may be applied to (a) the selected shapes, (b) the current page, or (c) the entire diagram. Left-Click the OK Command Button to confirm the choices, close the dialog, and apply the change to the designated range of SmartShape symbols.

Creating Synchronized copies across Pages

With large organizations, there is quite literally no way that all of the Organizational Member SmartShape symbols will fit on a standard 8.5"X11" or A4 sheet of paper. Therefore it is desirable for each Manager or Superior and their collection of subordinates to be displayed on their own page and

have a visual reference to the team shown on the original page. This ability to segregate teams onto their own pages and yet still keep any changes synchronized between the “roll-up” page and the “team page” is native behavior to the Visio Organizational Charting solution.

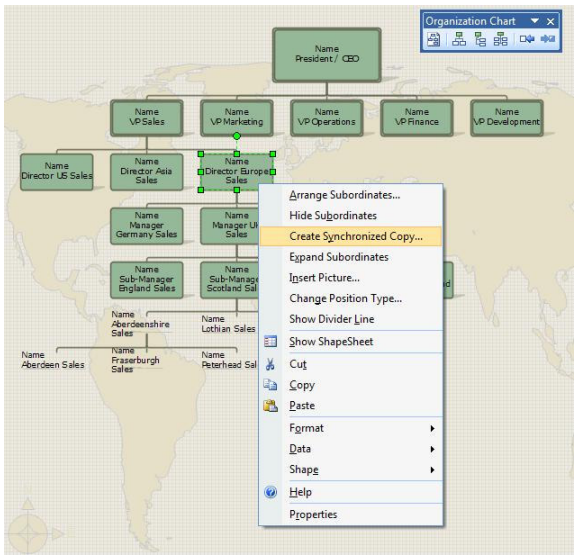
The steps to accomplish this advanced behavior are very easy. Begin by looking at the following example.



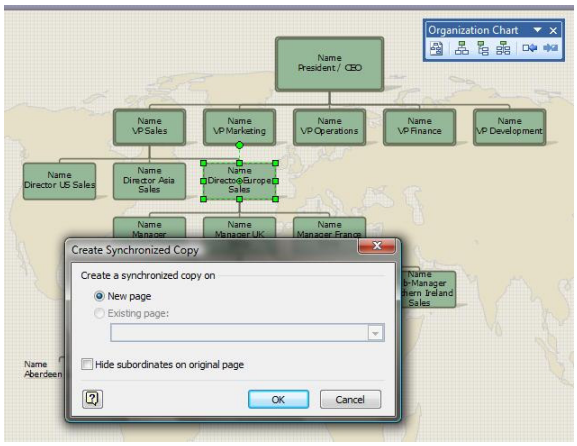
The illustration shows a series of Vice Presidents reporting to the President and CEO. The VP of Sales has Directors for US, Asia, and Europe reporting to him or her. The Director of Sales for Europe has German, UK, and French Managers reporting to him or her. The UK Manager has four Sub-Managers for England, Scotland, Wales, and Northern Ireland reporting up to him or her. The Scottish Sub-Manager has Sales Staff for Aberdeenshire, Lothian, and Clydesdale. Finally the Aberdeenshire staff is segregated into sales staff for Aberdeen, Fraserburgh, and Peterhead.

If each of the VP’s were to be filled out to this level the number of individuals simply would not fit on the page. Therefore it would be beneficial to segregate the European Sales Team off to their own page. The following details the procedure for creating a synchronized copy of this team on a new page.

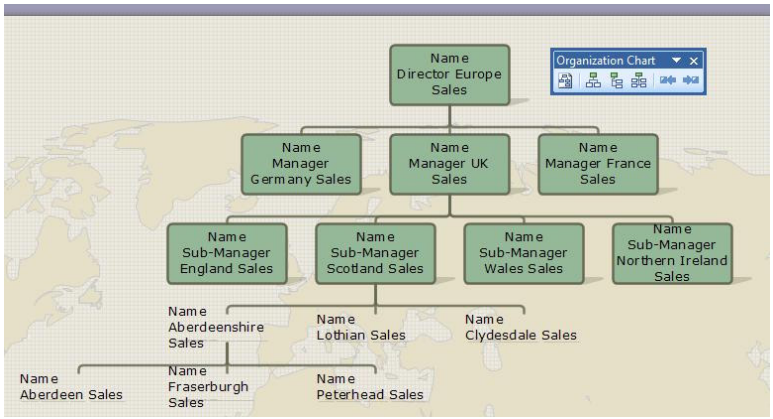
Begin by Right-Clicking on the Director of European Sales SmartShape symbol and choosing Create Synchronized Copy… from the context menu.



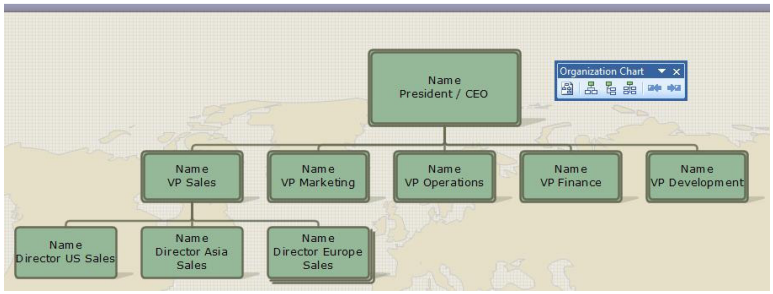
This action will display the Create Synchronized Copy dialog. By Default, the selection of Create a synchronized copy on New page is selected. Since the diagram thus far only has one page, the first page, established within it, this is the logical choice. If the diagram already had multiple pages in it, the user would be free to select any existing page to create the synchronized copy and duplicate the team to that page. Notice, also, the check box for Hide subordinates on original page. This check box should be clicked and checked to ensure that the team is “rolled up” under this Director as displayed on the original first page.



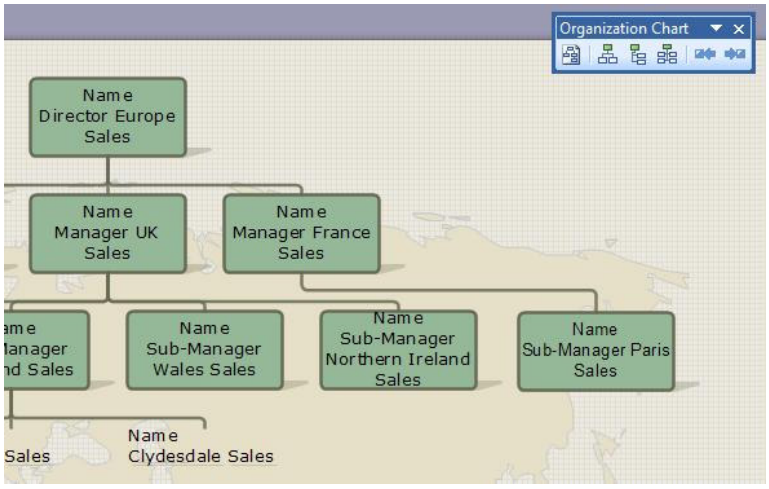
When the OK Command Button is Left-Clicked, Visio confirms the action request, closes the dialog, rolls the team up on the original page, creates a new page, and displays the team on the new page as shown below.



By clicking on the Page-1 Page tab at the bottom of the diagramming window, the user returns to Page-1 and notes that the team is now displayed as "rolled up" on the original page. This is designated by the illustration of the "stack" of Position SmartShape symbols, actually just a modification of the singular Director SmartShape symbol, on the page.

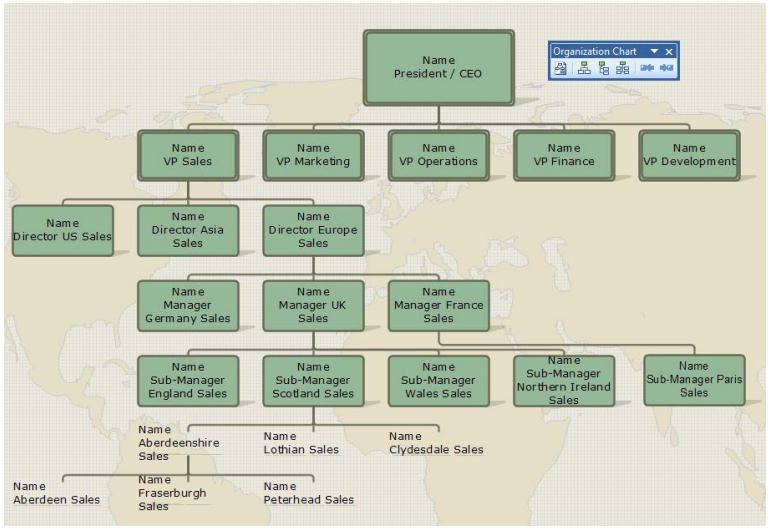


Returning to the newly created page by clicking on the "Page-2" page tab, the user can now work with more detail on the synchronized copy. Here, the creator of the diagram has added a new Position SmartShape symbol reporting to the French Sales Manager. The new Sub-Manager for Paris was added in exactly the same manner all subordinates are added under superiors: drag and drop on top of the superior.



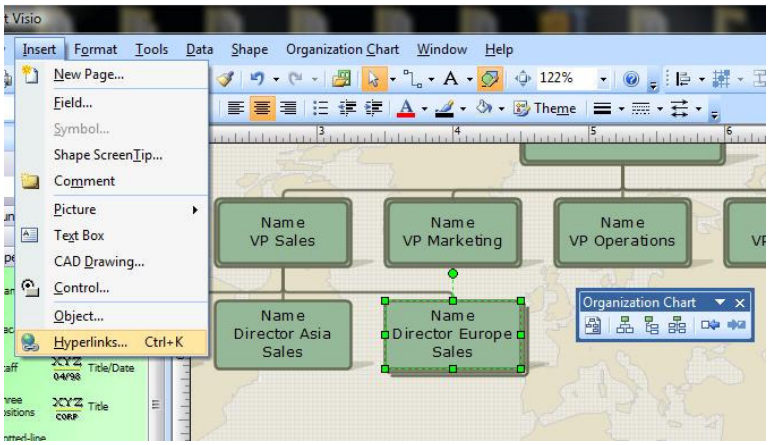
Returning to the first page by Left-Clicking on the “Page-1” tab in the collection of page tabs at the bottom of the diagramming area, the user then Right-Clicks on the Director for Europe Sales and chooses the Expand Subordinates context menu item. The team expands and is shown with the new changes in place on the original page.

So as has been demonstrated, creating a synchronized copy is very fast and easy to accomplish. Whenever a change is made to the details of the team on any given page, whether the original page or the synchronized new page, the diagram details and organizational structure remain exactly the same. At any time the user can opt to show or hide subordinates for any superior as desired.



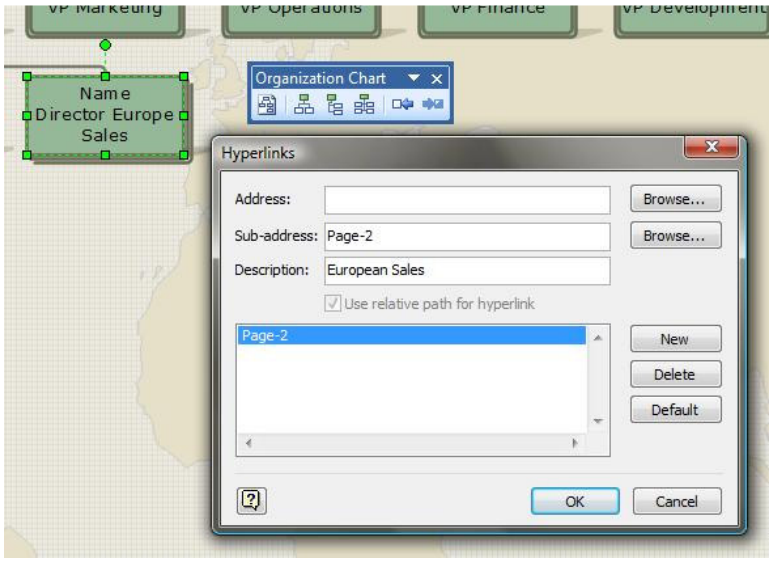
While it is not difficult to traverse between the top-level page and a subordinate detail page utilizing the page tabs at the bottom of the diagramming area, it would be beneficial and far more productive to provide a navigational shortcut from the SmartShape symbol on the original page to the details for that individual and his or her team. This can be accomplished one or both of two methods; hyperlinks and double-click actions. This section will step the user through both of these methods.

The First method is establishing a hyperlink. Left-Click, to select, the SmartShape symbol to be used as the starting point of the hyperlink. From the Visio Insert Menu, choose Insert Hyperlinks…

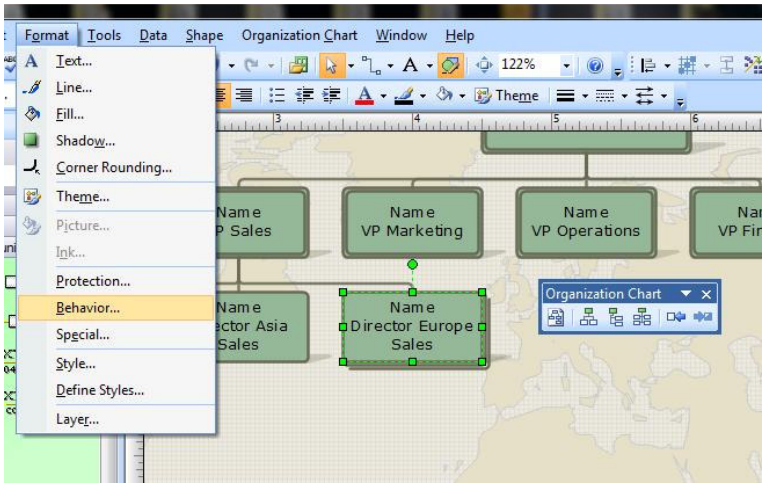


This action will display the Hyperlinks dialog. Left-Click on the Browse… Command Button directly across from the Sub-address Text Box. In the listing choose “Page-2” as the target of the hyperlink (remember that in this case the expanded team resides on Page-2 of the diagram). Fill in the text for the verbiage for the hyperlink in the Description Text Box. In this case the user has added the text “European Sales”.

Left-Click the OK Command Button to confirm the request to create a Hyperlink, close the dialog and complete the action.

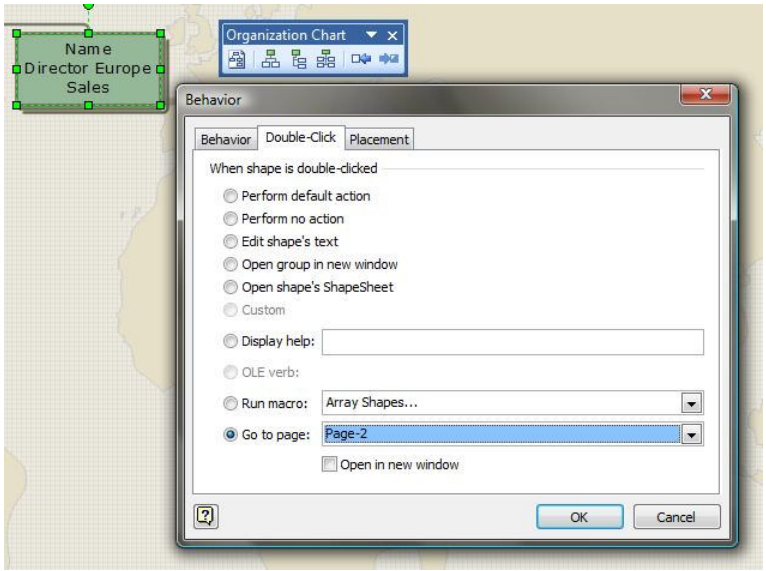


The Second method is establishing a Double-Click action so that when the viewer of the diagram uses the Left Mouse button and Double-Clicks on the face of the Director of European Sales SmartShape symbol, the user will jump directly to the expanded team on Page-2. Left-Click, to select, the SmartShape symbol to be used as the source for the Double-Click action. From the Visio Format Menu, choose Insert Behavior…

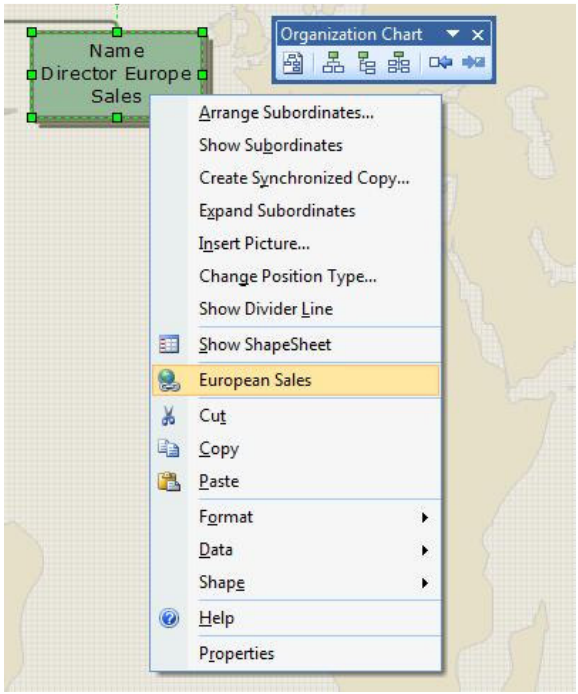


This action will cause the Behavior dialog to display. In the Behavior dialog, Left-Click on the Double-Click tab at the top of the dialog. On the Double-Click tab look toward the very bottom of the dialog and

locate the Go to page Radio Button. Left-Click to select the Go to page Radio Button and use the drop-down listing to select the Page-2 item. When these tasks have been completed, Left-Click the OK Command button to confirm the choices, close the dialog and complete the creation of the double-click action for this SmartShape symbol.



After this action has been completed, at any future time the user can either Right-Click and select the "European Sales" hyperlink, or simply use the Left Mouse Button and Double-Click to navigate to the detail page (in this case Page-2) for that director's team.



In best practice, the same hyperlinks, behaviors, and actions would be established on the Page-2 representation of the Director's SmartShape symbol to create Hyperlinks and Double-Click actions to return to the original page (in this case Page-1).

Working with Synchronized SmartShape Symbols

Many times users of Visio diagrams tend to think of the diagrams as static images, as if they were printed on a sheet of paper. However, while in the Visio environment, the diagrams are actually vibrant, alive, interactive documents. We have shown above how adding hyperlinks and double-click actions assists in navigating around multi-page diagrams. Note also that at any time the viewer of the diagram can expand or collapse the visualization of any team within the Visio Organizational Diagram.

Expanding Subordinates

To expand Subordinates under a superior, simply Right-Click on the superior SmartShape symbol and choose Expand Subordinates. Alternately, Left-Click to select the desired superior SmartShape symbol, and from the Visio Organization Chart menu, choose Organization Chart ▸ Show Subordinates.

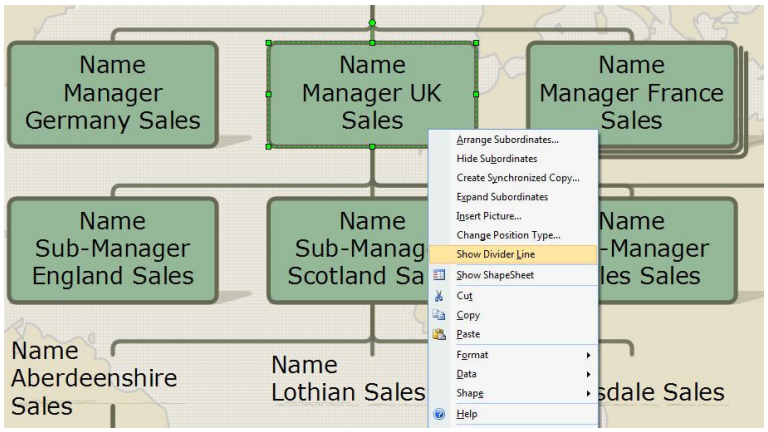
Collapsing Subordinates

To collapse Subordinates under a superior, simply Right-Click on the superior SmartShape symbol and choose Hide Subordinates. Alternately, Left-Click to select the desired superior SmartShape symbol, and from the Visio Organization Chart menu, choose Organization Chart ▸ Hide Subordinates.

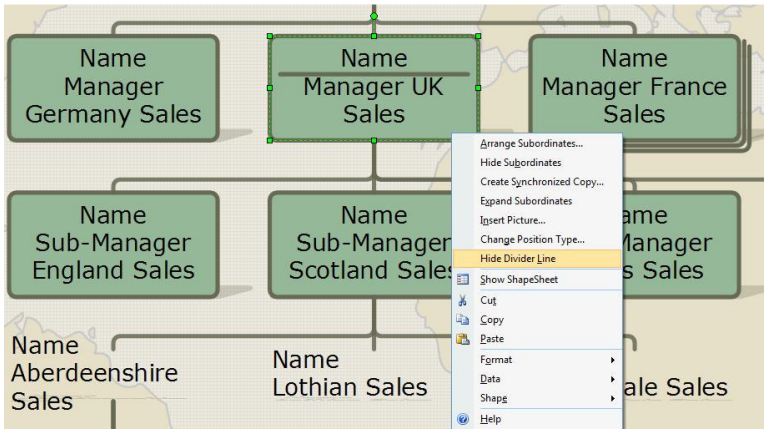
Adding Divider Lines in Organizational SmartShape Symbols

By default the Name of the person and their title are shown stacked directly on top of each other on the face of the SmartShape symbol. This can make it more difficult to read in a situation where there are hundreds of employees in the organization. Visio provides a mechanism for adding or removing a dividing line between the Name and the Title on an Organizational Charting SmartShape symbol.

To add a Divider Line between the Name and Title of an Organizational Charting SmartShape symbol, Right-Click on the SmartShape symbol and choose Show Divider Line from the Context Menu.

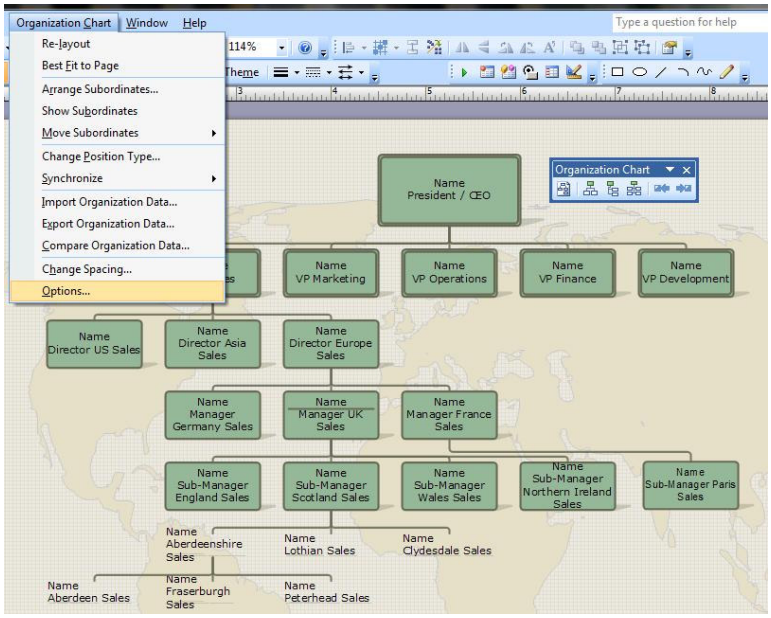


To remove a Divider Line between the Name and Title of an Organizational Charting SmartShape symbol, Right-Click on the SmartShape symbol and choose Hide Divider Line from the Context Menu.

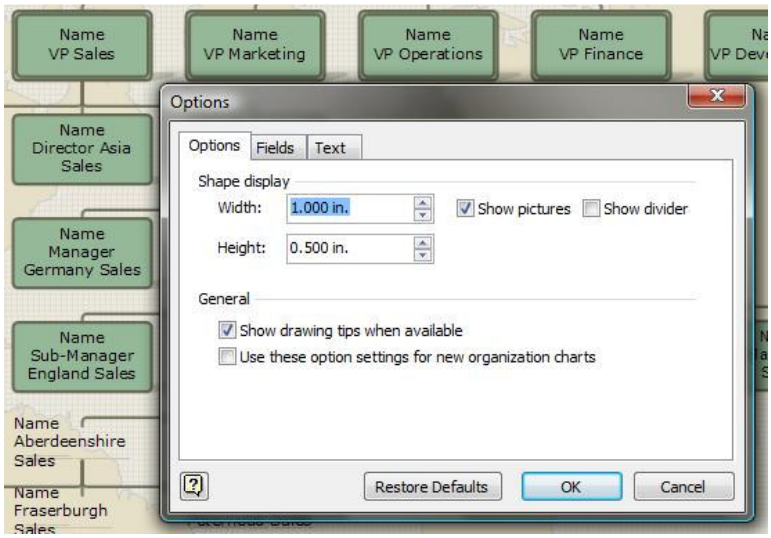


Organizational Diagram Options

There are a large number of options available to the user of Visio Organizational Charting Diagrams. This section will detail those options. To access the options choose Organization Chart ▸ Options… from the Visio Organization Chart menu.



This action will display the Options dialog with the Options dialog open to the Options tab as its focus.



Options

The available Options on the Options tab are the Width and Height of the SmartShape symbol, whether or not to show pictures on the face of the SmartShape symbol, Whether or not to show the divider line between the Name and Title fields on the face of the SmartShape symbol, whether or not to show drawing tips when available, and whether or not to use these option settings for new organization charts

Shape Display Width

The Shape Display Width has both a scroll arrow set and a direct text entry. Modifying the value in this field changes the width of all of the Organizational Charting SmartShape symbols in the current diagram.

Shape Display Height

The Shape Display Height has both a scroll arrow set and a direct text entry. Modifying the value in this field changes the height of all of the Organizational Charting SmartShape symbols in the current diagram.

Shape Display Show Pictures

The Shape Display Show Pictures is a Check Box. Checking or un-checking this box determines whether or not pictures can be displayed on ANY of the Organizational Charting SmartShape symbols. If enabled, only those who have explicitly added a picture will display them. If disabled, NONE of the Organizational Charting SmartShape symbols will be able to accept the addition of pictures.

Shape Display Show Divider

The Shape Display Show Dividers is a Check Box. Checking or un-checking this box determines whether or not a dividing line can be displayed on ANY of the Organizational Charting SmartShape symbols. If enabled, only those who have explicitly added the dividing line will display the line. If disabled, NONE of the Organizational Charting SmartShape symbols will be able to accept the addition of the dividing line.

General Show Drawing Tips When Available

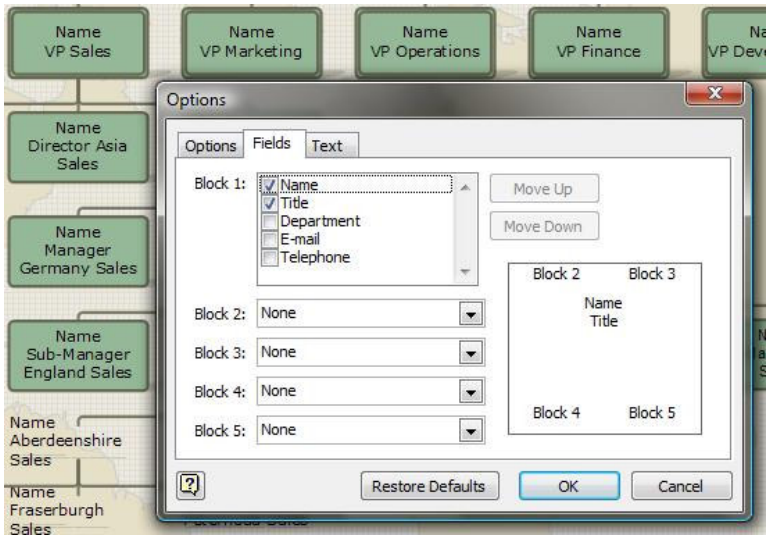
The General Show drawing tips when available is a Check Box. Checking or un-checking this box determines whether or not drawing tips can be displayed where they are available within the Organizational Charting Solution. If enabled, drawing tips will be displayed if and when they are available. If disabled, drawing tips will NOT be displayed regardless of their availability.

General Use These Options for New Organizational Diagrams

The General Use these options for new Organizational diagrams is a Check Box. Checking or un-checking this box determines whether or not new Organizational diagrams based upon the Organizational Charting Solution and Template will use the settings configured in this dialog. If enabled, new Organizational Charting Diagrams will use the settings as configured in this dialog. If disabled, new Organizational Charting Diagrams will use the default settings provided as part of the Organizational Charting Solution and Template.

Fields

The Fields Tab of the Options Dialog includes the following options: Block 1 Field Display Choices, Blocks 2 through 5 Field Choice, and the Restore Defaults option.



Block 1

The Block 1 area controls the display field(s) for the main text block for the Organizational Charting SmartShape symbols. The user can configure the display of the Name, Title, Department, E-mail, and Telephone fields. Each item checked will display in the center text block, each unchecked item will not display.

Block(s) 2 through 5

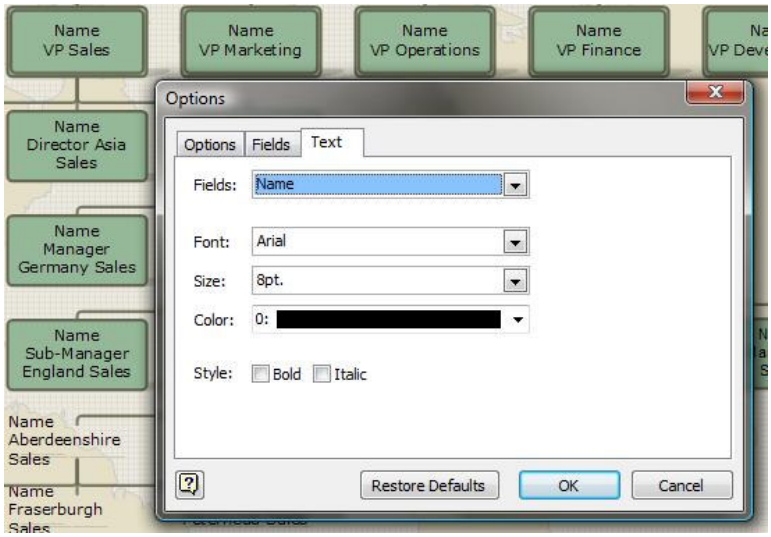
For each of the Block 2, Block 3, Block 4, and Block 5, a drop-down list of fields to be displayed in the respective area as shown on the diagram within the dialog is available. For each additional field that is desired to be displayed in each of the blocks, choose the desired field.

Restoring Defaults

The Restore Defaults Command Button, when Left-Clicked, will reset the field information back to the default state, showing only the Name and Title as entered in the Shape Data fields of the SmartShape symbol.

Text

The Text Tab of the Options dialog contains options to set the Font, Font Size, and Font Color as well as the bolding and italicization for the displayed fields.



Fields

The Fields provides a listing of the currently displayed fields associated with the SmartShape symbol. In order to change any of the characteristics of the text of any of the fields, the particular field must be selected. For example, to change the Font and point size and color of the text displaying the employee's

name, the Name field would need to be selected in this drop-down listing. This process would need to be repeated for each desired field.

Font

Using the Font drop-down list, the user may select and apply the given Font Type to be associated with the selected field.

Size

Using the Size drop-down list, the user may select and apply the given Font Size (in Points) to be associated with the selected field.

Color

Using the Color drop-down list, the user may select and apply the given Font Color (among the first 24 indexed colors) to be associated with the selected field.

Style Bold

Using the Bold Check Box, the user may select and apply whether the given Font to be associated with the selected field is or is not bolded.

Style Italic

Using the Italic Check Box, the user may select and apply whether the given Font to be associated with the selected field is or is not italicized.

When all Options have been set in the Options Dialog, Left-Click on the OK Command Button to confirm the desired Option Configuration settings, close the dialog, and apply the changes.

02 - Organizational Diagrams Created Utilizing the Organization Chart Wizard

Having progressed through using the Visio Organizational Charting Solution, this section will next detail how to utilize the Organization Chart Wizard to (a) utilize data from an external data source, and (b) automate the process for completely generating an Organizational Diagram.

Creating a New Organizational Diagram with the Organization Chart Wizard

There are actually two parallel methodologies for beginning the creating a new Organizational Diagram utilizing the Organization Chart Wizard. Like creating a new Organizational Diagram manually, the process can be instigated by either selecting from the Getting Started Task Pane, or from the Visio File menu.

Getting Started Methodology

While the Getting Started Screen is active in Visio 2007 (both Standard and Professional editions), look at the Template Categories at the Left Side of the Getting Started set of Task Panes. Left-Click to select the Category listed as Business. This action will display the Business Category and its store of available Visio Business Templates.

Left-Click on the Organization Chart Wizard Icon in either the Featured Templates area or the Other Templates area of the Business Category Page of the Getting Started Task Area. Next, Left-Click to choose either the US units or the Metric Radio Button, depending on the desired target output. Finally, Left-Click on the Create Command Button to confirm the choices and create the new blank Organizational Diagram. This action will also, as soon as the Organization Chart Diagram environment is ready, display the first screen of the Organization Chart Wizard.

File Menu Methodology

Whether or not the Getting Started Screen is active in Visio 2007 (both Standard and Professional editions), Left-Click on the File Menu in the Visio 2007 Menu Sets at the top of the Visio environment. Choose File ▸ New ▸ Business ▸ Organization Chart Wizard (US units) from the Visio File Menu.

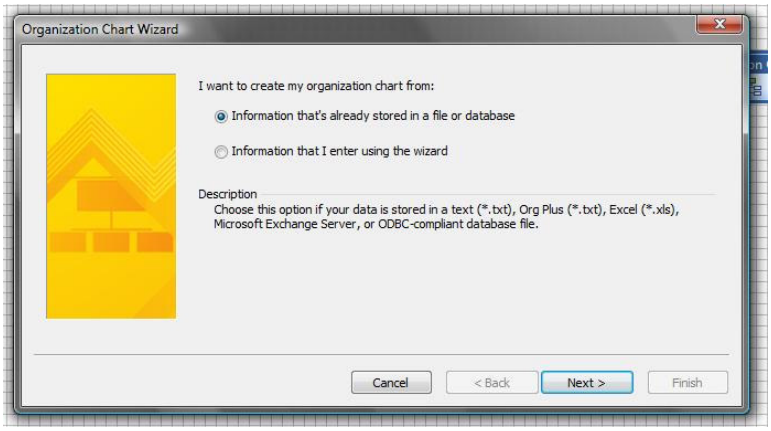
Creating a New Organizational Diagram with the Import Organization Data… from the Organization Chart Menu

When a new Organizational Diagram is begun using the Organization Chart Template (and NOT the Organization Chart Wizard Template), or if the creator of the Organization Chart opted to cancel out of the Wizard (having based the diagram on the Organization Chart Wizard Template), the user still has the ability to launch and display the opening screen of the Organization Chart Wizard by choosing Organization Chart ▸ Import Organization Data… from the Visio Organization Chart menu.

The Wizard

Any of the above actions will display the first screen of the Organization Chart Wizard. Screen 1 of the Wizard will look similar to the Illustration below.

Screen 1



The first screen of the Organization Chart Wizard prompts the creator to answer one question. “I want to create my organization chart from:”. The creator can opt to either create the Organizational Diagram from “information that’s already stored in a file or database”, or “Information that I enter using the wizard”.

In the case of this example, the creator will opt to utilize an Excel Spreadsheet containing the organizational structure. The structure of this spreadsheet will be discussed shortly.

From Data Stored in an External Data Source

The first option, From data stored in an external data source, will later prompt the creator to select a particular data file.

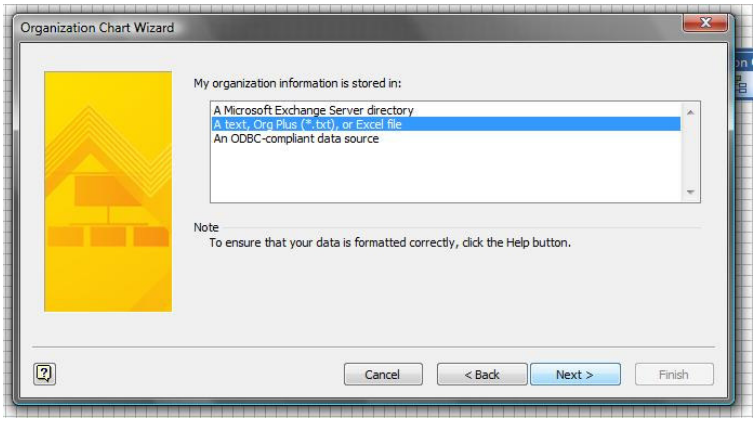
From Data Manually Entered in the Wizard

The second option, From data manually entered in the wizard, will solicit the creator to either open Microsoft Office Excel (to create a spreadsheet of data), open Windows Notepad (to create a deliminated text file), or browse for a file of either of these two types. The creator will then enter the data into one of these two formats, save and close the newly created data source file, then return to the wizard.

Left-Click the Next > Command Button to advance to the Second Screen of the Organization Chart Wizard.

Screen 2

The second screen then asks the creator to select the type of data source which will be used to import in the structure of the organization in question.



These data sources can be any of the following:

- A Microsoft Exchange Server directory
- A Text file (in comma, space, or character deliminated format)
- An OrgPlus file (which has already been converted to text format and saved as such)
- A Microsoft Office Excel Workbook spreadsheet
- Any ODBC-compliant data source

Data Sources

A Microsoft Exchange Server directory

A Microsoft Exchange Server directory may be utilized as a valid data source. However, the Organization Chart Wizard needs to have two discrete fields of information to properly establish the hierarchy of the organization. These fields equate to (a) “Who am I”, and (b) “Who do I report to”. Many implementations of Exchange Server have the employee’s name, and their E-mail alias, and possibly their telephone extension and/or office/cubicle number; however, they rarely seem to have the Manager’s name listed within the Exchange Server directory.

The creator can work with the Exchange administrator to add this vital field, or opt to utilize another data source type.

A Text file (cdf, sdf, or chdf- delimited file)

A simple text file can be utilized to hold the source data. This text file can be either Comma, Space, or Character deliminated. The structure of these files would be similar to the examples below:

Comma Deliminated

```
Name, Title, Manager, Department, Telephone, E-mail, Master_Shape, Office Number

Jossef Goldberg,President & CEO,,Office of the President,555-0100,jossef@championzone.net,,17102

Suzan Fine,Executive Assistant,Jossef Goldberg,Office of the President,555-0101,suzan@championzone.net,Assistant,17104

Clair Hector,COO,Jossef Goldberg,Operations,555-0102,clair@championzone.net,,17106
```

Space Deliminated

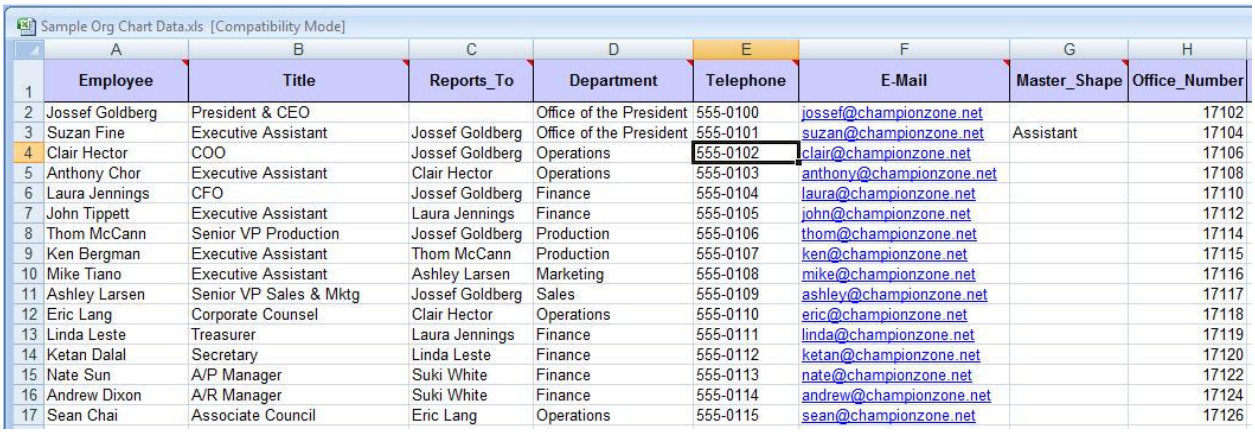
```
Name Title Manager Department Telephone E-mail Master_Shape Office_Number

Jossef_Goldberg President_&_CEO  Office_of_the_President 555-0100 jossef@championzone.net  17102

Suzan_Fine Executive_Assistant Jossef_Goldberg Office_of_the_President 555-0101 suzan@championzone.net Assistant 17104

Clair_Hector COO Jossef_Goldberg Operations 555-0102 clair@championzone.net  17106
```

Character Deliminated

```
Name# Title# Manager# Department# Telephone# E-mail# Master_Shape# Office Number

Jossef Goldberg#President & CEO##Office of the President#555-0100#jossef@championzone.net##17102

Suzan Fine#Executive Assistant#Jossef#Goldberg#Office of the President#555-0101#suzan@championzone.net#Assistant#17104

Clair Hector#COO,Jossef Goldberg#Operations#555-0102##clair@championzone.net##17106
```

A Microsoft Office Excel Workbook file

A Microsoft Office Excel Workbook (spreadsheet) may be utilized as a valid data source. The only caveat is that Row "1", the first row, MUST be the headers of the columns of information presented below. Below is shown a portion of a valid Excel spreadsheet to be used as a data source.



Sample Org Chart Data.xls [Compatibility Mode]

	A	B	C	D	E	F	G	H
1	Employee	Title	Reports_To	Department	Telephone	E-Mail	Master_Shape	Office_Number
2	Jossef Goldberg	President & CEO		Office of the President	555-0100	jossef@championzone.net		17102
3	Suzan Fine	Executive Assistant	Jossef Goldberg	Office of the President	555-0101	suzan@championzone.net	Assistant	17104
4	Clair Hector	COO	Jossef Goldberg	Operations	555-0102	clair@championzone.net		17106
5	Anthony Chor	Executive Assistant	Clair Hector	Operations	555-0103	anthony@championzone.net		17108
6	Laura Jennings	CFO	Jossef Goldberg	Finance	555-0104	laura@championzone.net		17110
7	John Tippett	Executive Assistant	Laura Jennings	Finance	555-0105	john@championzone.net		17112
8	Thom McCann	Senior VP Production	Jossef Goldberg	Production	555-0106	thom@championzone.net		17114
9	Ken Bergman	Executive Assistant	Thom McCann	Production	555-0107	ken@championzone.net		17115
10	Mike Tiano	Executive Assistant	Ashley Larsen	Marketing	555-0108	mike@championzone.net		17116
11	Ashley Larsen	Senior VP Sales & Mktg	Jossef Goldberg	Sales	555-0109	ashley@championzone.net		17117
12	Eric Lang	Corporate Counsel	Clair Hector	Operations	555-0110	eric@championzone.net		17118
13	Linda Leste	Treasurer	Laura Jennings	Finance	555-0111	linda@championzone.net		17119
14	Ketan Dalal	Secretary	Linda Leste	Finance	555-0112	ketan@championzone.net		17120
15	Nate Sun	A/P Manager	Suki White	Finance	555-0113	nate@championzone.net		17122
16	Andrew Dixon	A/R Manager	Suki White	Finance	555-0114	andrew@championzone.net		17124
17	Sean Chai	Associate Council	Eric Lang	Operations	555-0115	sean@championzone.net		17126

The header titles are shown in row 1. The Header Titles can be anything the creator desires. They will be mapped in the Wizard to the "Who am I", and the "Who do I report to" fields.

The data in Column A "Employee", must be in **exactly** the same format as the data in Column C "Reports_To" in order for the Wizard to understand the hierarchal relationship. In other words, if the name in the Employee column is "Jossef Goldberg", then the name in the Reports_To column must also be "Jossef Goldberg", not "Joe Goldberg", or "Joseph Goldberg". An **exact** match is necessary for the structuring algorithm to work properly.

An Org Plus file (saved in .TXT format)

An OrgPlus file may be used as a valid data input source. However, the OrgPlus file must be already saved in OrgPlus' text format file structure PRIOR to attempting the import of the data into Visio.

An ODBC-Compliant Data Source

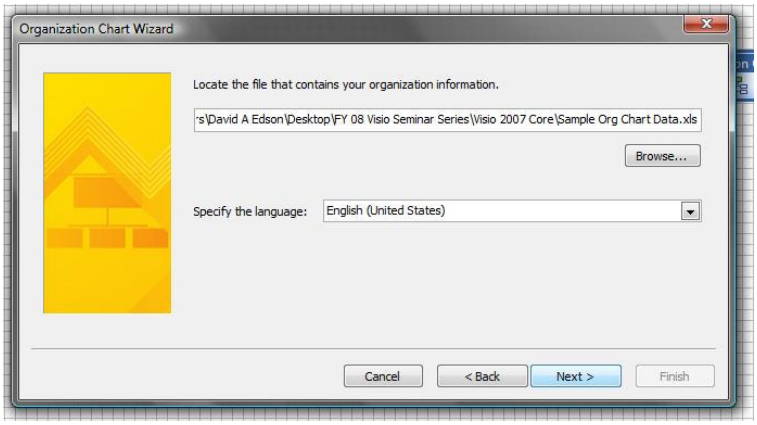
Additionally, ANY ODBC-compliant data source may be used as a data input source for the Organization Chart Wizard. The only caveat is that the ODBC-compliant data source must also contain in the same table or view or query, the two data fields for "Who am I", and "Who do I report to".

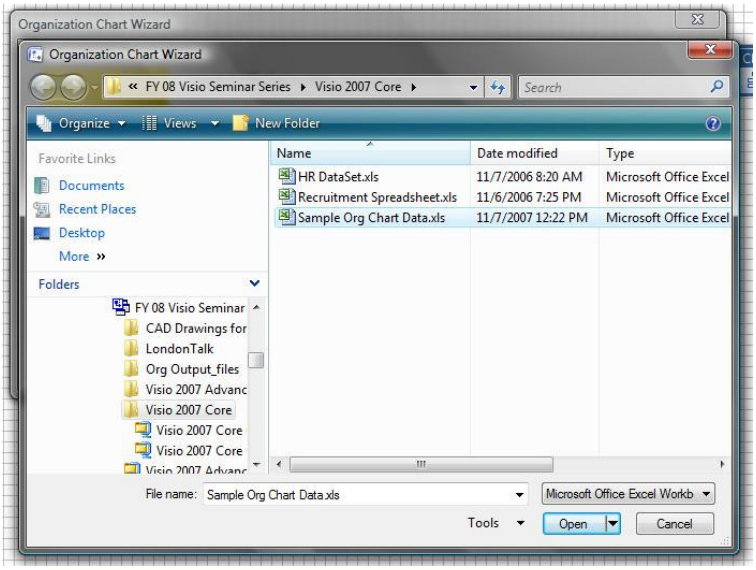
This means that a Microsoft Office Access database, a Microsoft SQL database, a PeopleSoft database, an Oracle database, or any other data base (OLEDB or ODBC-compliant) is valid as an input source.

Left-Click the Next > Command Button to advance to the Third Screen of the Organization Chart Wizard.

Screen 3

The third screen solicits the user to both enter the complete path, and file name, for the input source file, or Left-Click on the Browse… Command Button to display a Windows File Selection dialog





If the Browse… function is utilized, the creator will need to Left-Click on the Open Command Button to confirm the selection of the file and return the complete path and filename to the Organization Chart Wizard.

NOTE: After the first usage of the Wizard, the Wizard remembers this file and path as well as all other settings in the Wizard. This is because in Visio, Organization Chart Diagrams are referred to as "disposable" diagrams. This DOES NOT mean that they are any less important than any other diagram type. It is simply that it is so quick and easy to generate an Organizational Chart Diagram, that if the data changes, a new diagram can be generated on the fly. Therefore, if the creator has already answered the questions in the Wizard the first time through, why should he or she be required to answer them again? Visio remembers all the previous run's settings, and therefore the next time the creator wishes to generate a new Organization Chart Diagram from the same data source, he or she simply needs to repetitively click the Next Command Button (and finally the Finish Command Button) to rapidly generate the diagram. The creator simply Left-Clicks "Next", "Next", "Next", "Next", "Next", "Next", and "Finish".

Locating the data file

As stated before, the creator has full control to Browse for the data source file by Left-Clicking on the Browse… Command Button. The source file may be either on the creator's own local PC or on any PC or Server attached to the network that the creator can access.

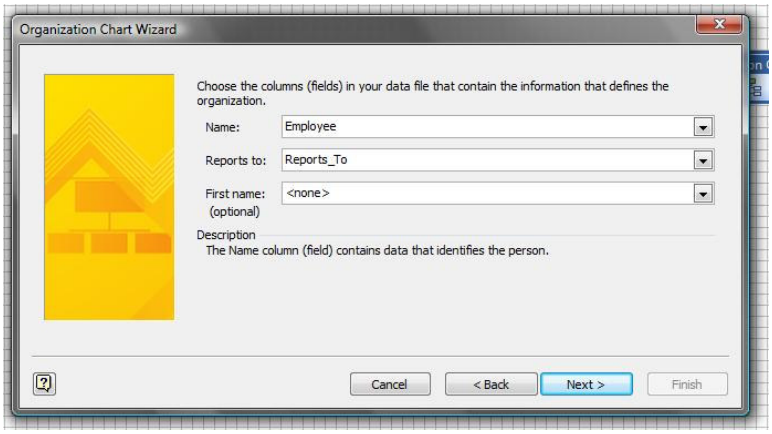
Specifying the language

Though rarely necessary to alter, the creator can specify an alternate language set for the data source to be input. Therefore Simplified Chinese, Kanji, Cyrillic, etc. may be specified as necessary.

Left-Click the Next > Command Button to advance to the Fourth Screen of the Organization Chart Wizard.

Screen 4

The Fourth screen is where the mapping between the source data fields, and the fields that the Wizard needs, takes place.



Data Fields

There two mandatory and one optional data fields are; Name, and Reports to, as well as First name (optional).

Name

The Name field equates to the Employee Name within the organization. Select the data field from the data source that references the Employee Name.

Reports to

The Reports to field equates to the Manager or Supervisor Name within the organization. Select the data field from the data source that references the Manager or Supervisor Name.

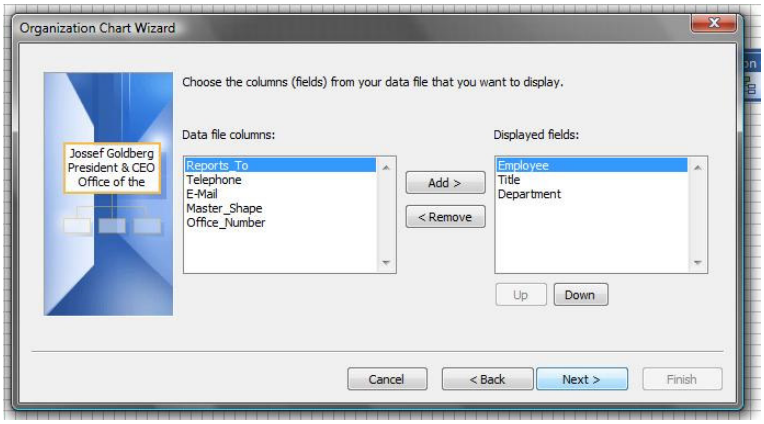
First name (optional)

The optional First name field may be used in conjunction with the Name field if, in the data source, these two items are in separate fields. If, in the data source, the First Name field contains the value “Jossef” and the Last Name field contains the value “Goldberg”. Then in the Wizard the Name field would be mapped to “Last Name” and the optional First Name field would be mapped to “First Name”. The Reports to field in the Wizard would map to the “Manager field in the data source.

Left-Click the Next > Command Button to advance to the Fifth Screen of the Organization Chart Wizard.

Screen 5

The fifth screen in the Wizard is where the fields of data to be displayed on the face of the SmartShape symbol will be configured.



Displayed Fields

The data file columns listing contains all of the data field columns as discovered by the Wizard from the data source. The Displayed fields listing contains the list of fields to be displayed, and in which order, on the face of the SmartShape symbol.

By utilizing the Add > and the Remove < Command Buttons, items from the Left and Right columns can be transferred back and forth.

By utilizing the Up and Down Command Buttons, items in the Right Column, those to be displayed on the face of the SmartShape symbol, can be re-ordered to suit the requirements of the creator of the new Organizational Chart.

Adding

To add a data item to the display on the face of the SmartShape, Left-Click the item in the Left Column, then Left-Click the Add > Command Button.

Removing

To remove a data item from the display on the face of the SmartShape, Left-Click the item in the Right Column, then Left-Click the < Remove Command Button.

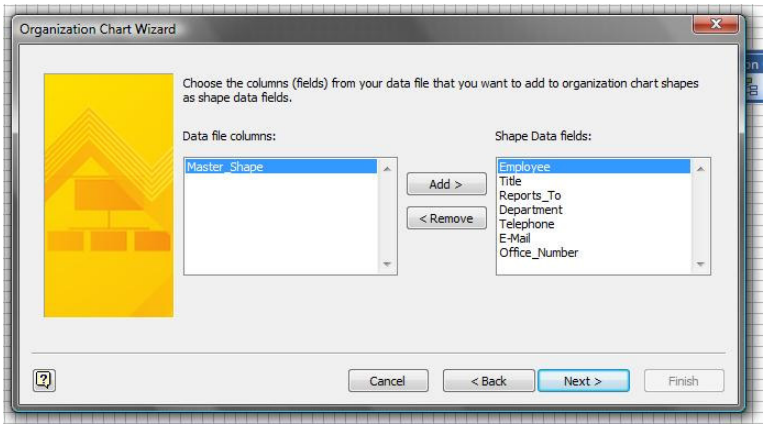
Reordering

To display any item in the Displayed fields listing higher in “Top-to-Bottom” order, Left-Click the desired item in the Right Column and then Left-Click the Up Command Button. To display any item in the Displayed fields listing lower in “Top-to-Bottom” order, Left-Click the desired item in the Right Column and then Left-Click the Down Command Button.

Left-Click the Next > Command Button to advance to the Sixth Screen of the Organization Chart Wizard.

Screen 6

The Sixth screen of the Organization Chart Wizard contains options to include or exclude data fields from the data source as Shape Data attached to the SmartShape symbol.



Shape Data Fields

The data file columns listing contains all of the data field columns as discovered by the Wizard from the data source. The Shape Data fields listing contains the list of fields to be attached to the SmartShape symbol as Shape Data items.

By utilizing the Add > and the Remove < Command Buttons, items from the Left and Right columns can be transferred back and forth.

Adding

To add a data item to the Shape Data items attached to the SmartShape, Left-Click the item in the Left Column, then Left-Click the Add > Command Button.

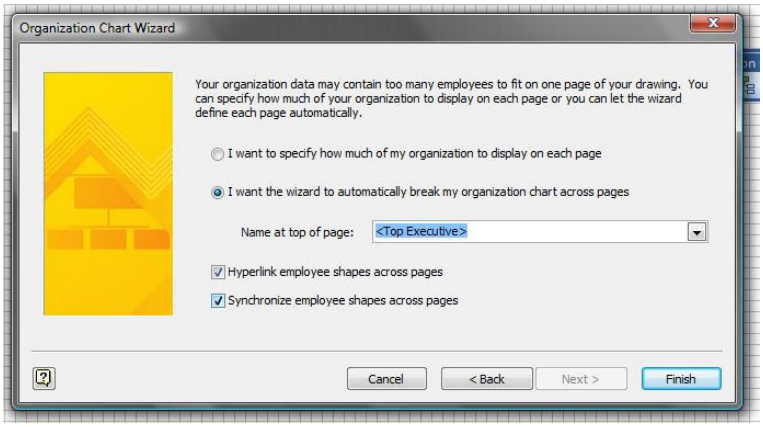
Removing

To remove a data item from the Shape Data items attached to the SmartShape, Left-Click the item in the Right Column, then Left-Click the < Remove Command Button.

Left-Click the Next > Command Button to advance to the Seventh and Final Screen of the Organization Chart Wizard.

Screen 7

The Seventh and Final screen of the Organization Chart Wizard contains options controlling the breakdown of the Hierarchy of the diagram as well as options for hyperlinking and synchronization.



Breaking Down the Organization by Hierarchy

The creator of the Organizational Chart can opt to either allow the Visio Organization Chart Wizard make its own decisions as to how the Organizational Structure should be broken down, or, alternately, exercise manual control over the breakdown structure.

User Specified Breakdown

To manually specify the breakdown points for breaking out teams to their own individual pages, ensure that the "I want to specify how much of my organization to display on each page" radio button is selected.

Wizard Calculated Breakdown

To allow the Visio Organization Chart Wizard to specify the breakdown points for breaking out teams to their own individual pages, ensure that the "I want the wizard to automatically break my organization chart across pages" radio button is selected.

Utilizing the optional Name at top of Page drop-down listing the creator can either let the Wizard place the name of the top-level data entry as the highest ranking person and build the hierarchy from there (this is the default), or opt to manually select the highest ranking person to begin the hierarchy on the first page of the completed Organization Chart Diagram.

Hyperlinks

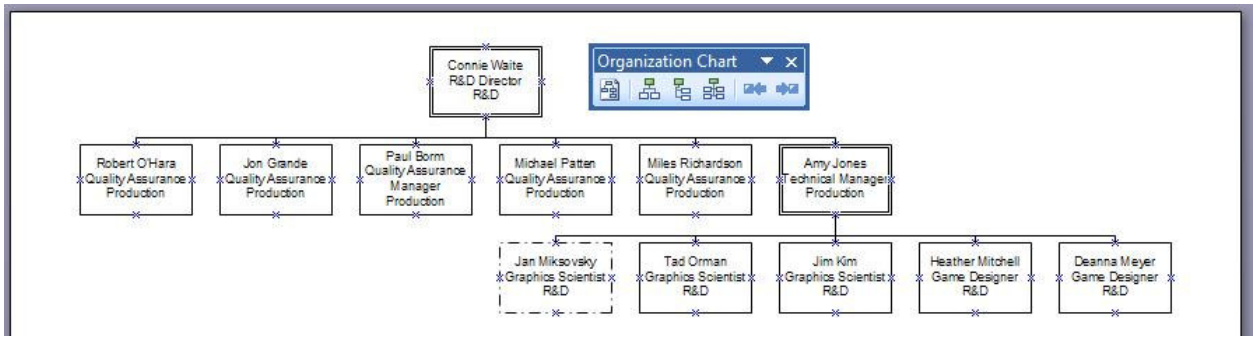
The "Hyperlink employee shapes across pages" check box allows the creator to determine if the Wizard should automatically establish hyperlinks between superiors on one page and their expanded teams on subsequent pages, by checking, or un-checking the Check Box.

Synchronization

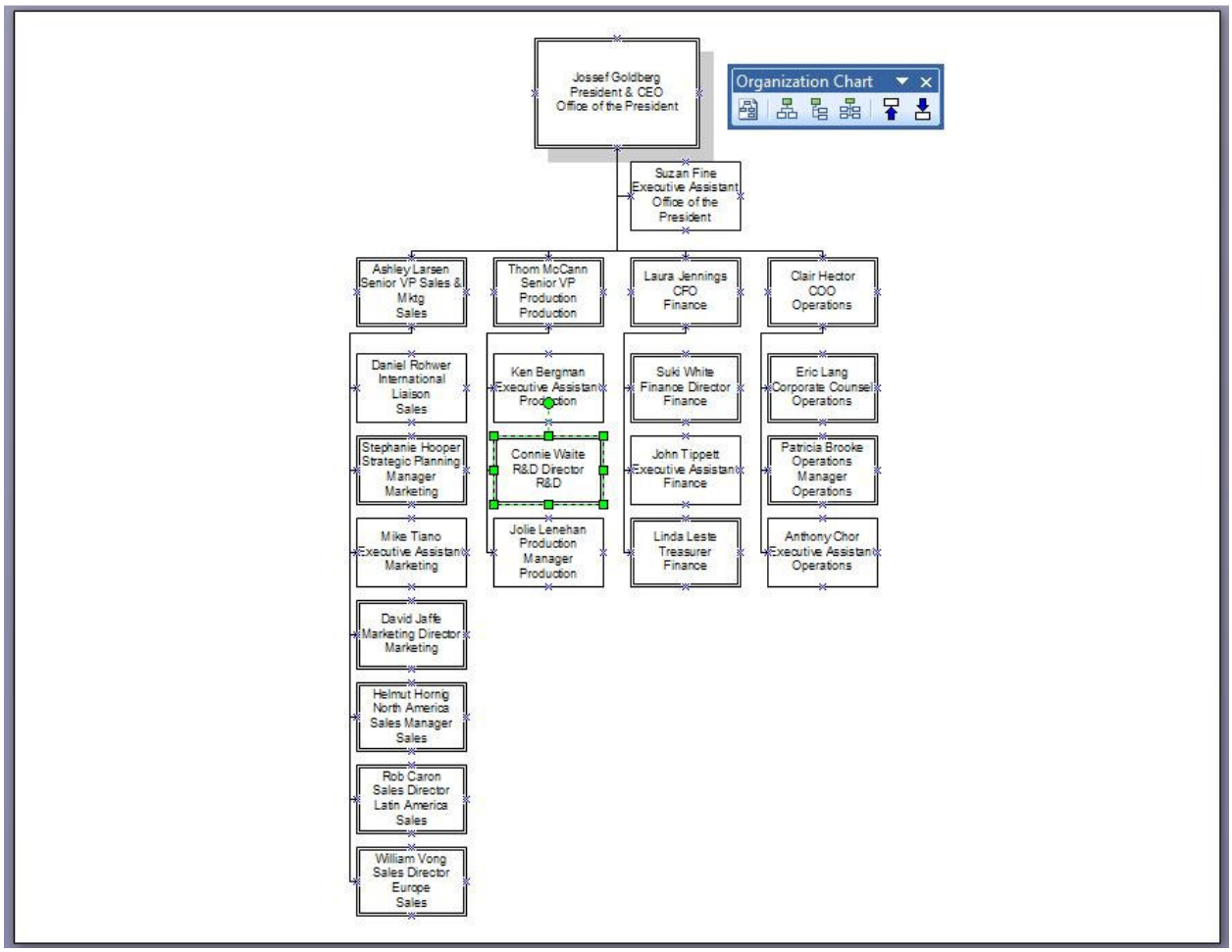
The "Synchronize employee shapes across pages" check box allows the creator to determine if the Wizard should automatically maintain the synchronization between pages for rolled up teams on one page and their expanded teams on subsequent pages, by checking, or un-checking the Check Box.

Left-Click the Finish Command Button to confirm all of the choices made in the Organization Chart Wizard, close the Wizard, and complete the building of the entire Organization Chart Diagram.

When complete, the wizard will close, then display two progress dialogs as it proceeds to generate the organizational hierarchy. Upon successful completion of all of the Wizard's tasks, the creator/user will be confronted with the final page of the diagram.



At any time thereafter, the user can utilize the Page Tabs and Page VCR-style controls to navigate back to the first page ("management roll-up") of the Visio Organization Chart Diagram.



03 - Best Practice Techniques for Organizational Diagrams

This section provides the user of Visio Organization Chart Diagrams some "Best Practice" techniques for working with Organizational Diagrams. This section will discuss and detail utilizing Background Pages and when to create Background Pages. This Section will discuss the insertion and placement of Corporate Logos and Title Block and Border information. This section will also detail how to alter the hyperlinks generated by the Organization Chart Wizard as well as the Page Names to make navigation through the Organization Chart Diagram even more intuitive to the user / viewer.

This section will also address the issues of adding additional data fields to SmartShape symbols in order to track even more data about each employee. This section will also address the issue of the new Visio 2007 Themes to provide a standardized and highly professional "Look and Feel" to the final Visio Organization Chart Diagram.

Background Pages

One of the frustrations that users of Visio Organizational Chart Diagrams experience is that once they have learned about the power of Background Pages, they create a Background Page and then struggle through applying that background to each of the many foreground pages in the diagram. The key to overcoming the frustration and intensive labor of setting page properties numerous times is to create the Background Page PRIOR to running the Visio Organization Chart Wizard.

Here are the steps:

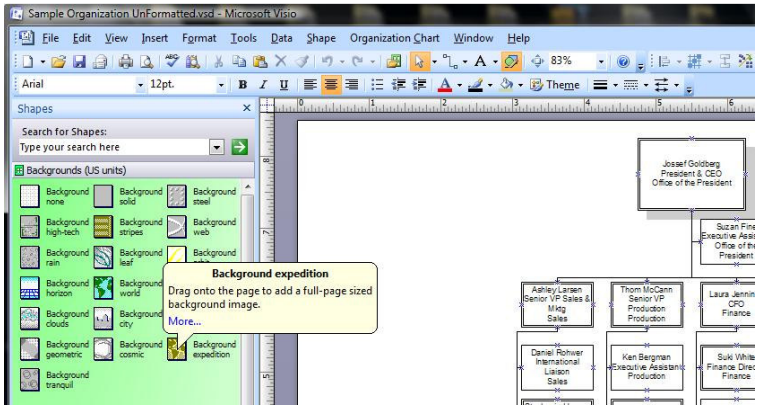
1. Begin a new Visio Organizational Chart Diagram based on the Visio Organization Chart Wizard Template or the Visio Organization Chart Template.
2. If the Visio Organization Chart Wizard launches, CANCEL the Wizard by Left-Clicking on the Cancel Command Button on the First Screen of the Wizard.
3. Create a Background Page. Choose Insert ▸ New Page from the Visio Insert Menu. In the Page Setup Dialog, on the Page Properties Tab Left-Click on the Background Radio Button for the Type Field. If desired, provide a preferred name for the background page, or accept the default name of "Background-1". Left-Click the OK Command Button to confirm the choices and close the dialog.
4. Add all required elements to the Background Page.
5. Return to the First Page (Page-1) of the Diagram.
6. Choose File Page Setup… from the Visio File Menu.
7. In the Page Setup Dialog, on the Page Properties Tab, in the Background drop-down listing, choose the newly created Background page (Background-1) as the assigned background page for

this foreground page. Left-Click the OK Command Button to confirm the choices and close the dialog.

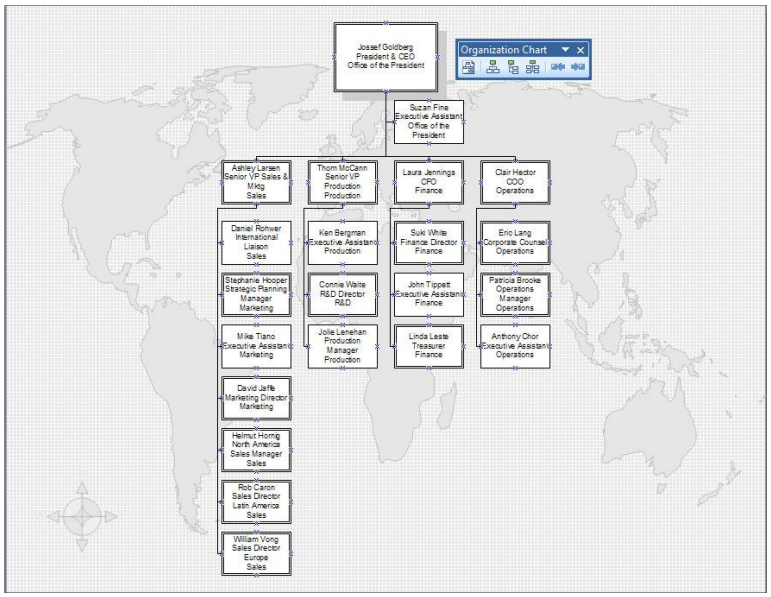
8. Restart the Organization Chart Wizard by choosing Organization Chart ▸ Import Organization Data… from the Visio Organization Chart Menu.
9. Continue through all Screens of the Wizard.

As the Wizard builds the pages of the Diagram, Visio will automatically assign the designated Background page to each of the new Foreground pages.

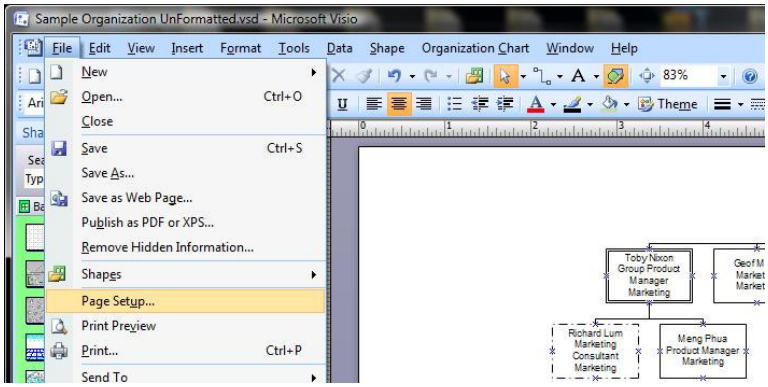
If a Visio Organization Chart Diagram has already been created, and that diagram does not already contain a Background, the creator can quickly add a Background to a page by dragging a background from the Visio Backgrounds Stencil.



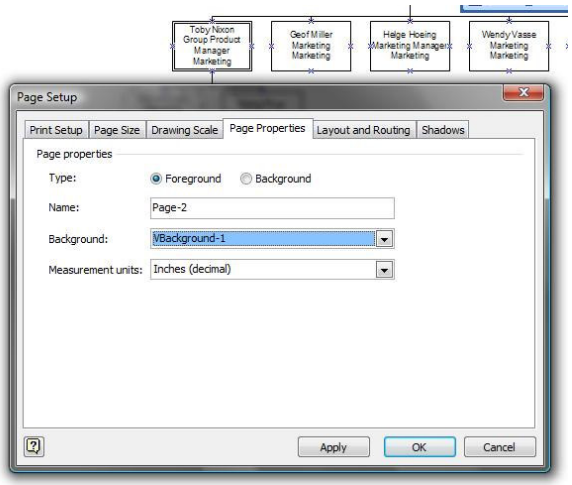
Upon dropping the desired background, Visio will create the Background Page and assign it to the current Foreground Page.



To then apply the Background page to every subsequent Foreground page, choose File ▸ Page Setup… from the Visio File Menu.



In the Page Setup Dialog, on the Page Properties Tab, in the Background drop-down listing, choose the newly created Background page (Background-1) as the assigned background page for this foreground page. Left-Click the OK Command Button to confirm the choices and close the dialog.



This process of assigning a Background page to each and every Foreground page will need to be accomplished once for each Foreground Page. Ensure that the desired Foreground Page is active prior to going through the process of assigning the Background page.

Remember that once a Background page has been created, additional “static” elements such as Title Blocks, Borders, and Corporate Logos may be added to the Background Page and those elements will be visible to each and every Foreground page with that Background page assigned to it.

Corporate Logos

Adding a Corporate Logo to the Background page ensures that the Logo is visible by all Foreground pages. It has the additional benefit of conserving Visio Diagram file size as well. Rather than adding the corporate logo to each and every Foreground page, and thereby increasing the file size by, say, 45Kbytes for each instance, adding it only once to the Background dramatically conserves file size while still providing the benefits of seeing the logo on every page, and in exactly the same position on every Foreground page.

Adjusting Hyperlink References

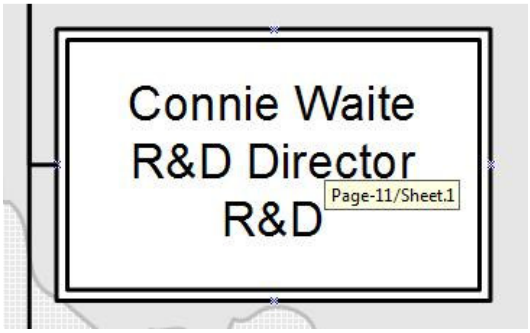
When the Visio Organization Chart Wizard generates the Hyperlinks between a superior on a "management team" first page, and the individual Manager's team's on their unique subsequent pages, the Wizard takes a series of default actions. These actions and assumptions include:

1. The pages that the Wizard generates have the default page names, i.e. "Page-1", "Page-2", "Page-3", etc.
2. The SmartShape symbols are indexed by the order that they are dropped on the Page (this is, in the case of the Wizard generating them, absolutely random, by design) and as such, individual SmartShape symbols on the "management team" page have indexes like "Sheet.21", "Sheet.126", "Sheet.15", etc. The Referenced SmartShape symbol for the unique Manager on his or her own page will always have that particular manager as "Sheet.1" on their own page.
3. The Hyperlink reference always includes a pan and zoom command to place the subject SmartShape symbol at the center of the view for the target of the Hyperlink.

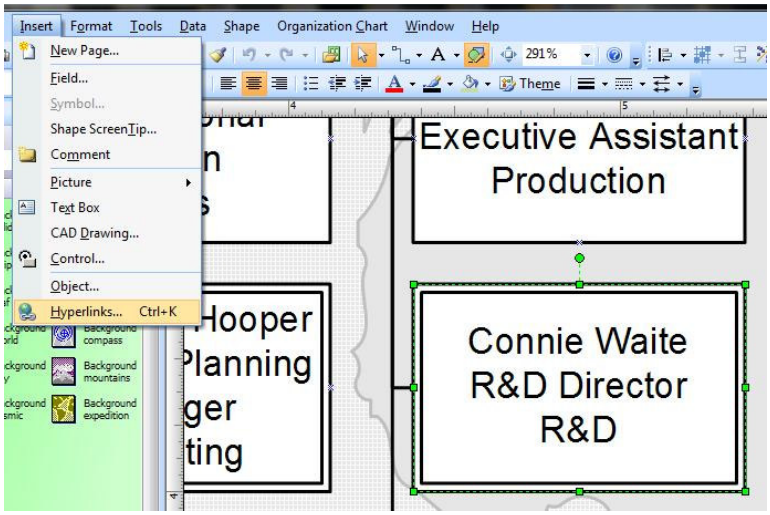
This causes the user to have the target page skewed, and zoomed at a magnification that is less than conducive to utilizing Visio's Full Screen Viewing Mode (accessed by pressing the F5 key).

It would be far better to have each page name refer to the Manager's name associated with that particular page, and have the Hyperlinks reference the Manager by name, and have the Hyperlink jump go to the target page with the full page in the center of view.

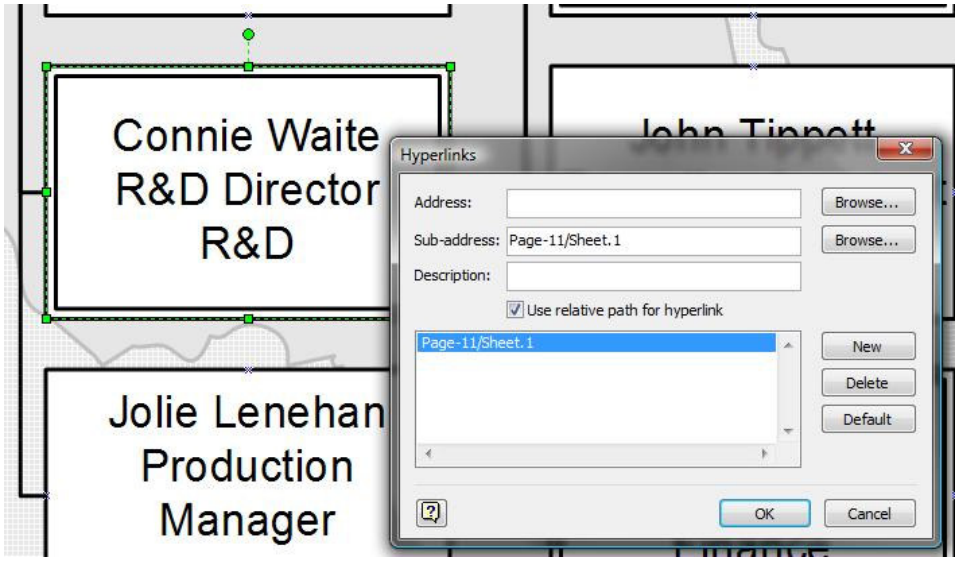
As can be seen below, when the mouse cursor is floated over Connie Waite's SmartShape symbol on the "management team" first page, the Hyperlink reference is to "Page-11/Sheet.1". Hardly helpful.



To correct this difficulty, Left-Click to select the SmartShape symbol and then choose Insert ▸ Hyperlinks… from the Visio Insert menu.



This action will display the Hyperlinks dialog, with the Visio Organization Chart Wizard-created hyperlink already highlighted.

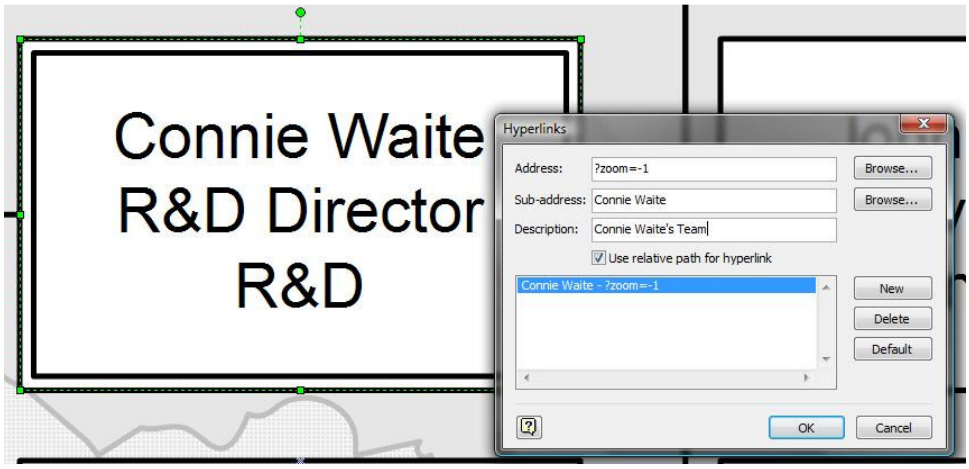


Left-Click on the Browse… Command Button directly opposite the Sub-address Text Box. The Sub-address is used since the hyperlink is referring to a location within the current Visio Diagram.

This assumes that the creator has already renamed each of the Foreground Pages to have the Page Name be the same as the Manager's name as the top of that team on that page. In other words, "Sheet-11" should be renamed to "Connie Waite".

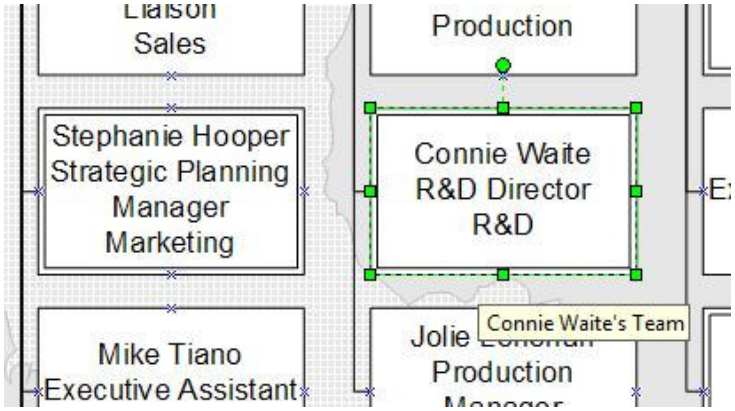
Modify the settings such that the Sub Address refers to the "Connie Waite" page. Modify the settings such that the Zoom reference is to the full Page.

Upon returning to the Hyperlinks dialog, the Address should contain the text string “?zoom=-1”, which means that the zoom is to the full page. The Sub-address should contain the text string “Connie Waite”, which is the name of the page that the hyperlink should traverse to. The Description should then be filled in, in the Description Text Box, to let the user know that the Hyperlink will take them to Connie’s team page. The text string would read something like “Connie Waite’s Team”.



When these edits have been accomplished, the Hyperlinks dialog should look similar to that shown above. Left-Click on the OK Command Button to confirm the changes and close the dialog.

Now when the user floats the mouse cursor over the Connie Waite SmartShape symbol, the hyperlink prompt text will assist the user in understanding where they will be transported to.



Obviously, this tack would need to be accomplished for each hyperlink in the diagram, and furthermore, would need to be accomplished for both ends of the Hyperlink. In other words, the edited hyperlink would navigate properly to the full page view for Connie Waite, and when the user Right-Clicks on the Connie Waite SmartShape symbol on her individual team page, the Hyperlink should navigate back to the “management team” page in full page zoom, with an appropriate Description to assist the user in understanding the return Hyperlink.

Adding Additional Shape Data to Organizational Diagram SmartShape symbols

Each Visio Organization Chart SmartShape symbol designed to represent an employee has a series of Shape Data fields already designed into it. These are:

- Department
- Telephone
- Name
- Title
- E-mail

These were determined by the creators of the Visio Organization Charting Solution from within, first, Visio Corporation, and secondarily, Microsoft Corporation after the acquisition of Visio by Microsoft.

For many applications of the Organization Charting Solution these fields may be totally adequate. However, it may also be necessary to track more information that these fields provide. For example, the employee's date of hire, the employee's date of last performance review, the employee's latest performance rating, whether or not they have completed certain required training seminars, etc.

At any time it is possible to add additional Shape Data fields to any Visio SmartShape symbol. This is actually a very easy process. If the user has ever created a simple Microsoft Office Access Database Table, the process should feel almost identical.

One concept and one setting should be covered prior to undertaking this modification, however. Firstly the user needs to understand that each SmartShape symbol on the Visio Diagram Page is an INSTANCE of a Master SmartShape symbol. Whenever a Master SmartShape symbol is dragged and dropped from an external Visio Stencil, the first thing that Visio does, is make a copy of that Master SmartShape symbol on the current Diagram's own Local Document Stencil. Every Visio Diagram has its own Local Stencil. Any modification made to the Local Master SmartShape symbol will be propagated to every Instance of that Local Master SmartShape symbol. By default, the Local Document Stencil is always NOT displayed in the collection of Stencils in the Shapes Pane of the Visio environment. The Local Document Stencil, however, can be opened at any time by choosing File ▸ Shapes ▸ Show Document Stencil from the Visio File menu.

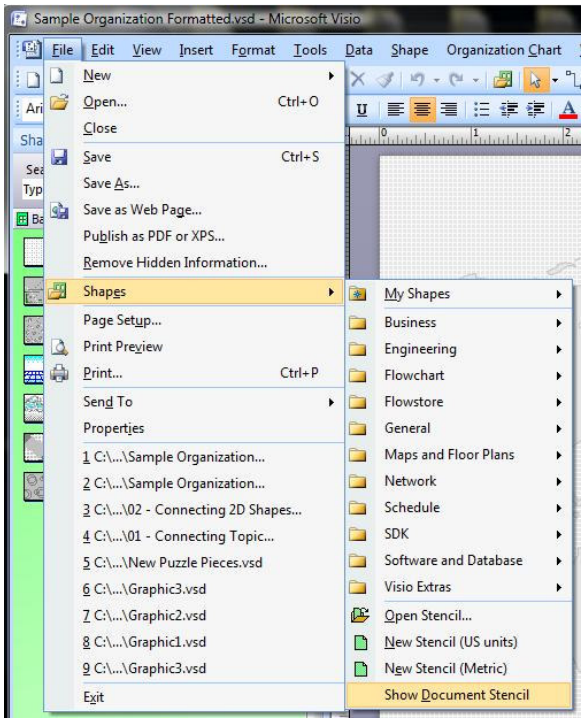
In order to maximize the power of the Define Shape Data dialog for adding more Shape Data fields to a SmartShape symbol, one setting should be properly set in the Visio Options dialog.

Choose Tools ▸ Options… from the Visio Tools Menu. In the Options Dialog, Left-Click on the Advanced Tab to activate the advanced options. On the Advanced Tab, in the Advanced Options area, ensure that the "Run in developer mode" Check Box option is checked. When this has been accomplished, Left-Click the OK Command Button to confirm your choices and close the dialog. This action will ensure that every available option is displayed in the Define Shape Data dialog.

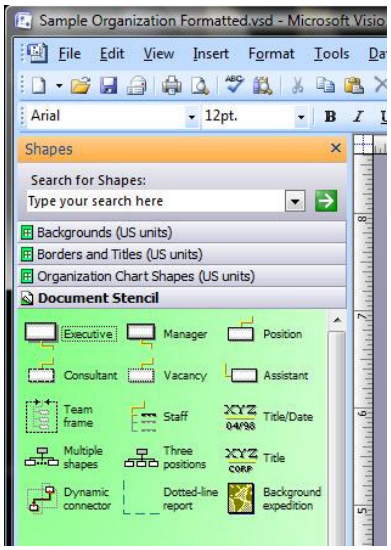
Though it would be equally as easy to add additional Shape Data to any singular SmartShape symbol, it makes far more sense to modify the local Master SmartShape symbol. This will ensure that the modifications that are made need only be made once, and then every Instance of that Master will have those new Shape Data fields incorporated into them.

Here is the process for adding new Shape Data fields to a Local Master SmartShape symbol.

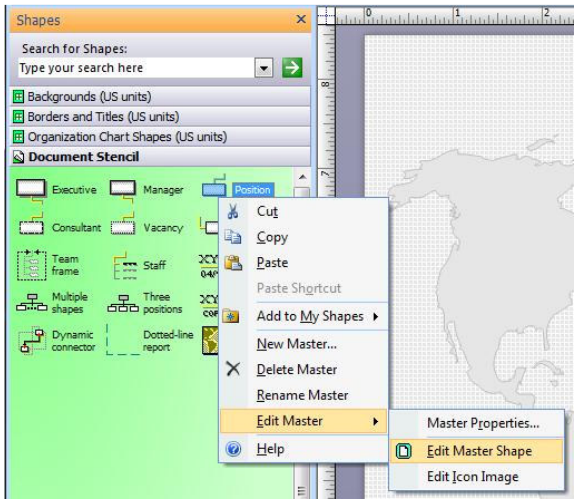
Begin by opening the Local Document Stencil. This is accomplished by choosing File ▸ Shapes ▸ Show Document Stencil from the Visio File menu.



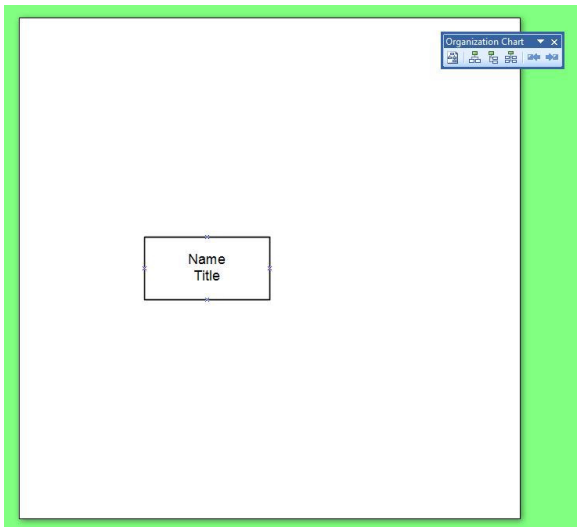
This action will cause the Local Document Stencil to be added to the collection of open Stencils in the Visio Environment for the Organization Chart Solution.



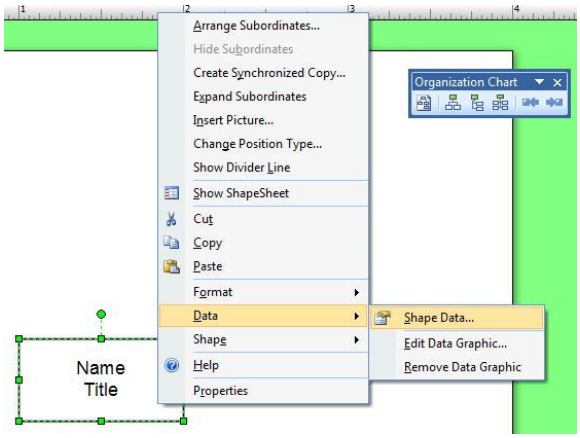
Next, Right-Click on a Local Master SmartShape symbol, for example the Position Master SmartShape symbol, and choose Edit Master ▸ Edit Master Shape from the Position Master SmartShape symbol's context menu.



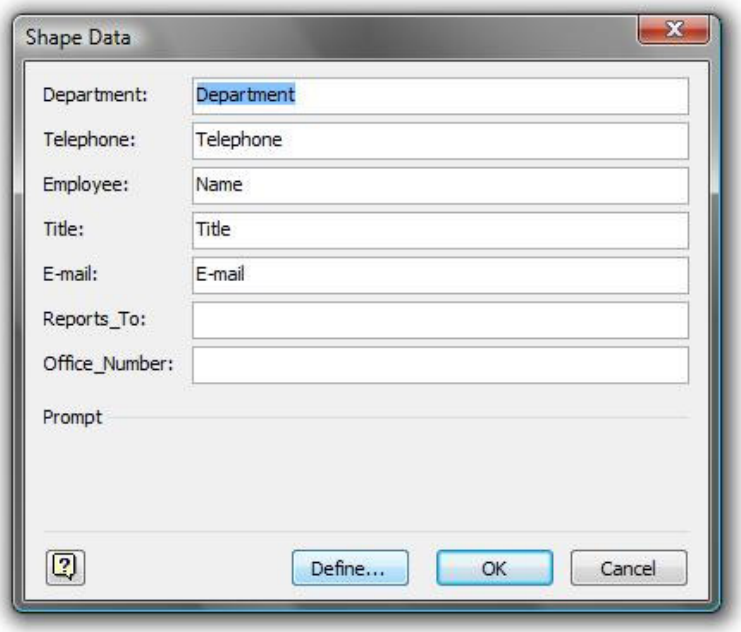
This action will open an entirely new window in the Visio Environment, a Master Editing Window. The Position Master SmartShape symbol will be displayed in this window.



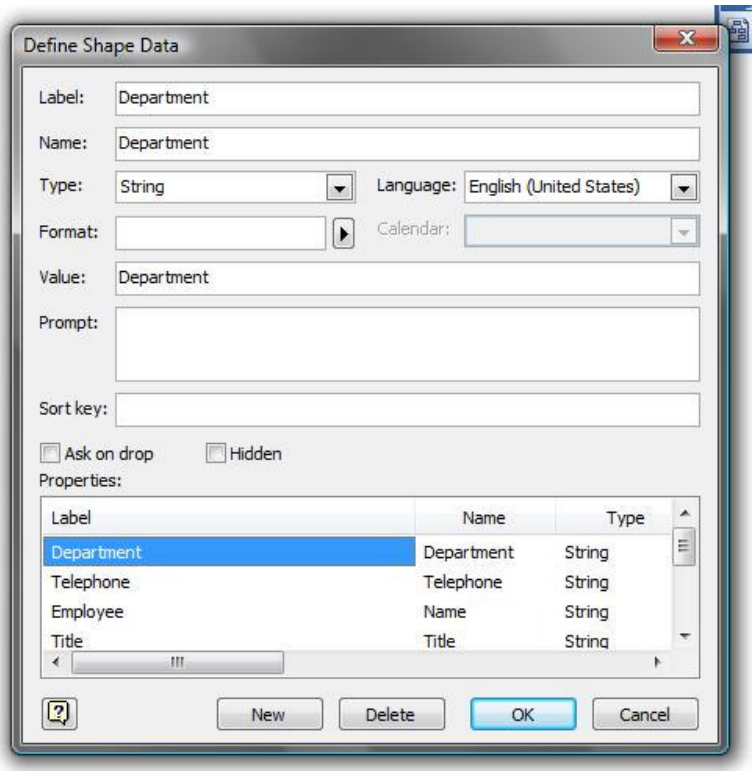
With the Local Master Editing Window open, Right-Click on the Process Master SmartShape symbol and choose Data ▸ Shape Data… from the Process Master SmartShape symbol's context menu.



This action will display the Shape Data dialog for the Process Master SmartShape symbol.



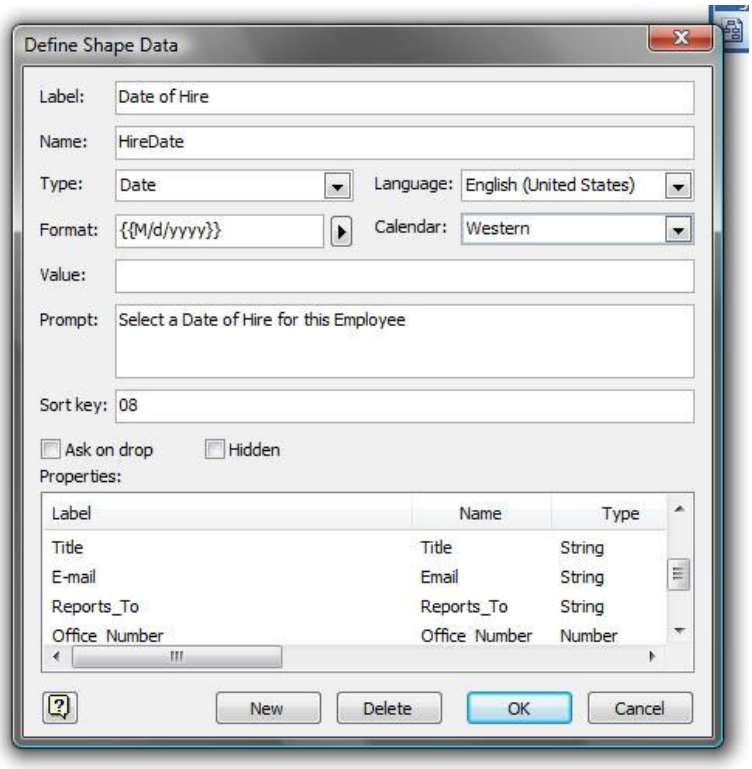
Next, Left-Click on the Define… Command Button at the bottom of the Shape Data dialog. This action will display the Define Shape Data dialog.



To add a new Shape Data field to the Process Master SmartShape symbol, Left-Click the New Command Button at the bottom of the dialog.

To add a new Shape Data field for the Date of Hire for the Position Master SmartShape symbol, complete the Label, the Name, the Type, the Format, and the Prompt fields as shown below.

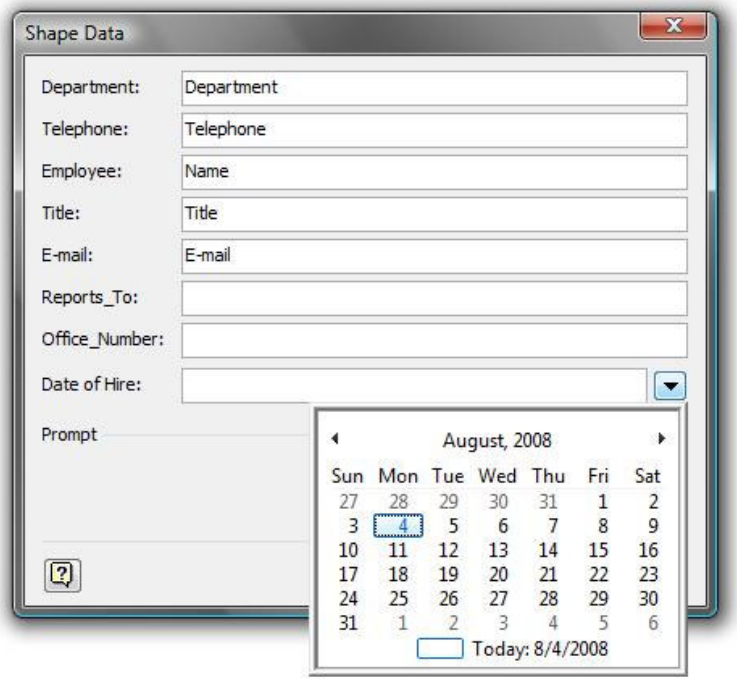
Note that the Label field is a string and CAN contain spaces, however the Name field is the physical name of the field, and as is typical of programming logic, this field cannot contain any spaces. The choices would be to use things like “HireDate” or “Hire_Date” for this entry. Since this is a Hire Date, the type field would be selected as a Date Data Type. The Format is any acceptable format chosen from the drop-down listing of date format types. The Prompt is the verbiage which will be presented to the user in either the Shape Data dialog or the Shape Data dock-able Window. The Sort key is any alpha-numeric sequencing for the order the fields will be displayed in the Dialog or Window. Keep in mind that the order is based on ASCII character code sequence, not alphabetical or numeric.



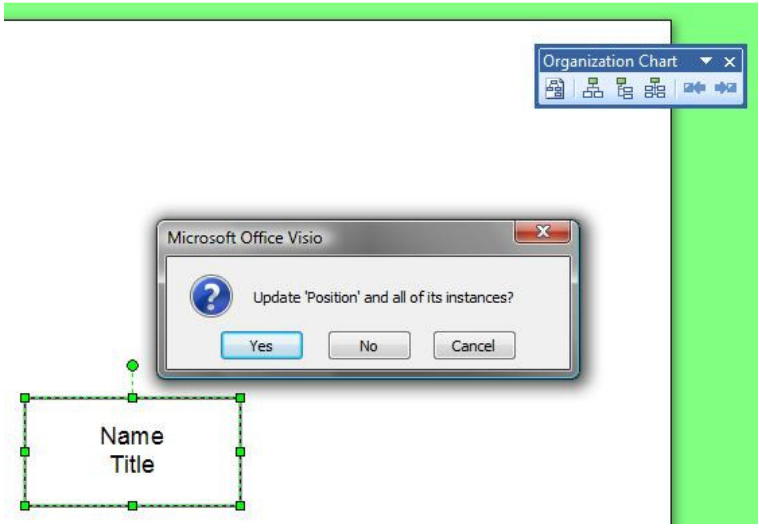
This process would be repeated for each additional Shape Data field to be added to the Local Position Master SmartShape symbol.

When all of the desired fields have been added to the Local Master Position SmartShape symbol, Left-Click to confirm the added fields and close the Dialog. When closed, the Shape Data dialog will be updated to reflect the newly added fields.

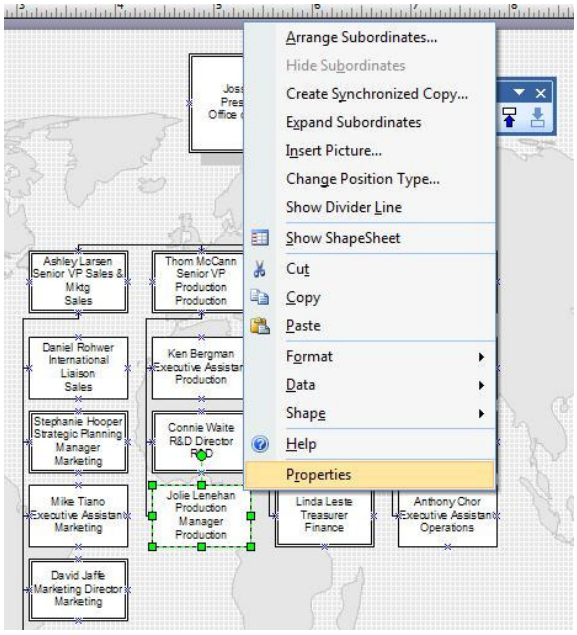
Looking at the Shape Data dialog, note that utilizing the Date Data Type provides the use of a Calendar Control for selecting dates as part of the filling in of the Shape Data Fields.



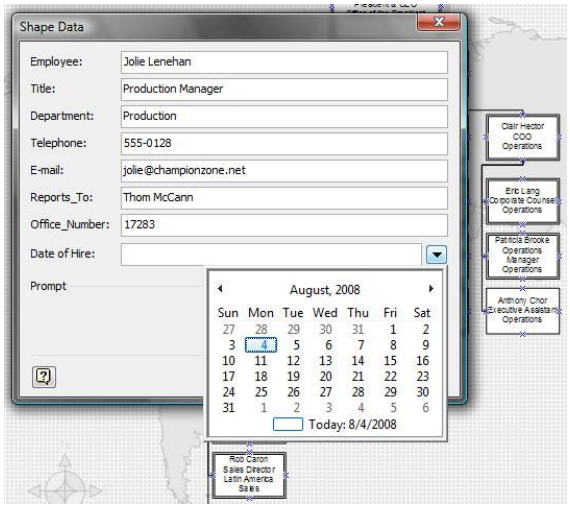
Once the desired fields have been added to the Local Master Position SmartShape symbol, and all functionality has been verified, Left-Click to close the Shape Data dialog. Next close the Master Shape Editing Window by selecting the small "X" for the window (being careful not to select the larger red "X" which would close Visio completely). Notice the prompt dialog asking if the Position Master and all of its instances in the current diagram should be updated. Respond by Left-Clicking on the Yes Command Button. This action will close the Master Editing window and update the Local Process Master SmartShape symbol and every instance of that Master throughout the entire current Diagram.



After the dialog is closed, Right-Click on the Process SmartShape in the active Organization Chart Diagram and choose Properties from the SmartShape symbol's Context menu.



This action will display the Shape Data Window.



Left-Click on the Down-pointing Triangle(▾) at the right end of the Date of Hire Shape Data field. Select a date of hire from the calendar control. Left-Click the OK Command Button in the Shape Data dialog to accept the added data field value and close the dialog.

Repeat the entire process for each Organization Chart Local Master which should have the additional information tracked.

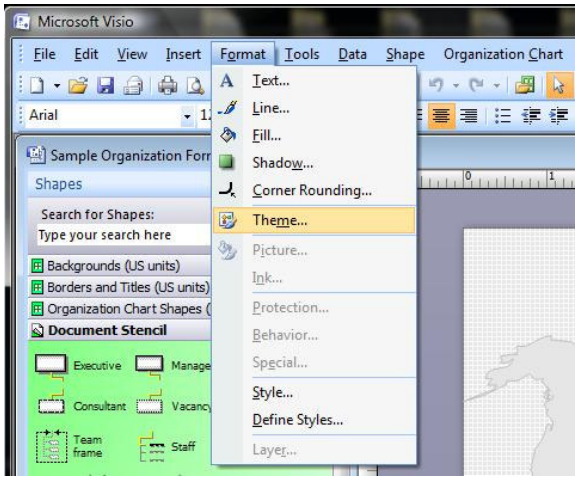
Applying Visio 2007 Themes to Organizational Diagrams

By default, as Visio creates the Organization Chart Diagram, whether manually or via the Organization Chart Wizard, Visio creates white boxes on a white background. Certainly, as was discussed earlier, Background pages can be added to the diagram. Regardless of Background or not, the user is still confronted with white boxes. This is certainly less than desirable.

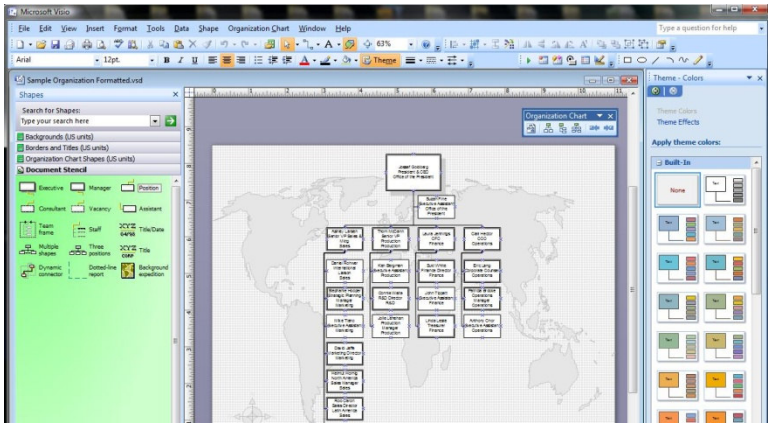
Visio provides a new technology to update an entire diagram with a selected palette of colors and formatting options designed to make the Organizational Diagram far more attractive to the viewer of the Organization Chart Diagram. The color and formatting options are part of a new technology called "Themes". Themes encompass colors and formatting for each element in a Visio diagram. They are consistent across all Visio diagram types. They are also the same themes that can be found in every Microsoft Office 2007 application. This ensures a consistent "look and feel" across every document and diagram produced by any group within the organization.

There are two elements to Themes: Theme Colors, and Theme Effects.

To access Themes, choose Format ▸ Theme… from the Visio Format menu.



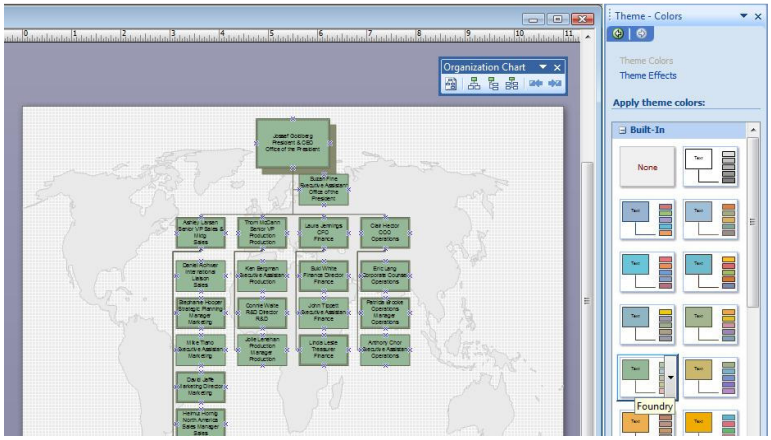
This action displays the Theme Task Pane, by default, sized and docked to the Right side of the Visio Environment.



Theme Colors

Theme Colors will be displayed by default. Near the top of the Theme Task Pane, there are two entries, Theme Colors and Theme Effects. Left-Clicking on either of these two entries will display that particular Theme Task.

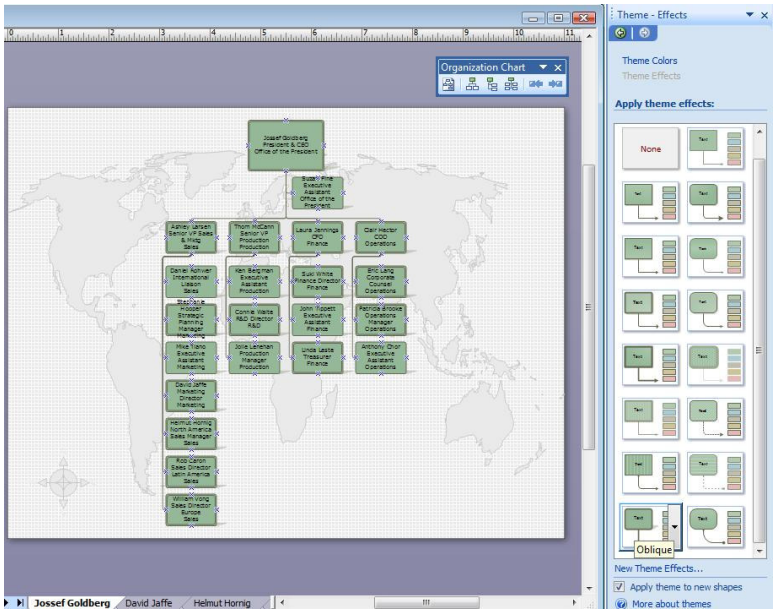
Theme colors are a pre-defined palette of color sets. To apply any Theme Color, Select one or more SmartShape symbols and then Left-Click on any desired Theme Color. The Theme Color will be applied.



Above, note that the Theme Color “Foundry” has been applied to the first page of the Organizational Chart Diagram. If, for any reason, a mistake has been made or it has been determined that none of the Themes provided are acceptable, Left-Clicking on the None Theme will clear any applied Theme. Additionally at the very bottom of the Theme Pane, there is a New Theme Color… item which may be Left-Clicked and then a new palette of colors saved under a new Theme name.

Theme Effects

Theme Effects, like Theme Colors, are a palette of formatting options including things like line style and weight, fill patterns, and corner rounding.



Above, note that the Theme Effect “Oblique” has been applied to the first page of the Organizational Chart Diagram. If, for any reason, a mistake has been made or it has been determined that none of the Themes provided are acceptable, Left-Clicking on the None Theme will clear any applied Theme. Additionally at the very bottom of the Theme Pane, there is a New Theme Effects… item which may be Left-Clicked and then a new palette of formatting options saved under a new Theme name.

04 - Inherent Limitations of Visio Organization Diagrams

This section provides a brief dissertation on some of the known limitations when working with Visio Organization Chart Diagrams. This section is, by no means, meant to be a negative commentary on the Visio Organization Chart Solution. It is meant to make the user aware of where Visio Organization Chart Diagrams “bump up against the wall” of things that the solution, as currently designed. Microsoft is always looking for input as to how any of the Visio solutions can be either improved or become even more suited to meeting the needs of the Visio community.

Manual Dotted-Line Reporting Only

As was stated earlier, there is no methodology, utilizing the Visio Organization Chart Wizard, to specify a “dotted line”, “alternate”, or “secondary” reporting relationship. There does exist a specialized Visio Dynamic Connector SmartShape symbol which may be manually applied to represent this type of relationship. However since it must be manually applied, it would need to be manually applied each and every time that the Organizational Diagram was generated by the Organization Chart Wizard.

Use of Pre-Defined SmartShape Symbols Only

The Organization Chart Solution has been very carefully crafted to work in specifically one manner only. As such, it is not possible to make use of a user-defines set of SmartShape symbols to represent the Organization Chart Employee items. The user must neither replace nor modify (with the exception of adding additional Shape Data fields) any of the Organization Chart Master SmartShape symbols found on the Local Document Stencil. To be even more precise, the external Organization Chart Shape Stencil is, in fact, not used, since in this particular solution, the Master SmartShape symbols are pre-populated on the documents own Local Document Stencil, and that is what the solution looks for.

Any alteration of these Local Master SmartShape symbols can, and will cause many different features, like multiple text blocks to display differing information, rendered inoperable.

No Automation for Developer-Defined Layouts

Because the Organization Chart Solution resides within a sealed Visio Add-In, its logic cannot be altered in terms of custom layout algorithms. Post-processing by creating additional automation code to change the behavior of the SmartShape symbols and their layout will surely, and only, result in ongoing frustration.

Keep in mind that manual dragging of SmartShape symbols still functions just fine. To relocate a team, simply drag the superior and all of the subordinates follow. It is that sort of intelligence which blocks the automation of these procedures by other post-process applications.

Generated Diagram is Not Refreshable from Source Data

Even though the Organization Chart Wizard looks to a user-specified data source to generate the Organizational structure from the external data, the data “connectivity” is simply a one-way, one pass activity. As soon as the Organization Chart diagram has been created by the Wizard, the Wizard no longer knows about the external data in any manner at all. Because of this fact, Visio and Microsoft have historically referred to the Organization Chart Diagrams as being “disposable” diagrams, meaning that if the data changes, the user simply generates a new diagram from the changed data.

As we will discuss later, the Organization Chart, when complete, can be re-linked back to the data using the new Visio 2007 Data Connectivity. In this manner, if the existing data is changed, for example a person is assigned a new telephone number or office number or a new title, the data CAN be updated and reflect that updated data within the Shape Data of the SmartShape symbol.

However, if new records are added to the data in the data source, or data records are removed from the data source, the Visio diagram will know only that records are missing (resulting in SmartShapes with no data in them), or that new records are in the record set but having no idea what to do with the new records. Again… attempting to use automation to make the additions and deletions will be thwarted by the existing Visio Organization Chart Solution Add-In. Best practice advice is that if this sort of advanced updating requirement needs to be built into an organization's solution, it would be best to create a similar but behaviorally different hierarchical data visualization solution.

05 - User Attached External Data and Organizational Diagrams

One of the singular most exciting features of the new Visio 2007 set of features is the ability to have any Visio SmartShape symbol connect (in a read only / pull methodology) to any number of data sources concurrently. In terms of the Visio Organization Chart Solution this means that Visio can re-connect to the source data that the diagram was generated from, AND connect to other data sources that provide even MORE data that can be visualized as part of the greater solution.

In this section the method for attaching to multiple data sources will be detailed. Additionally, a new technology for visualization called Data Graphics (which allow Key Performance Indicators) will be detailed.

Keep in mind that both of these new features require the use of Microsoft Office Visio 2007 Professional Edition.

Attaching Completed Organizational Diagram to External Data Sources

In this demonstration of how multiple data sources may be linked to Visio SmartShape symbols and then visualized for the newly attached key performance indicators, it is necessary to look at the two data sources that will be used.

Firstly, the data source used to generate the Organizational Diagram, a Microsoft Office Excel 2007 Workbook looks like that shown below.

Sample Org Chart Data.xls [Compatibility Mode]

	A	B	C	D	E	F	G	H
1	Employee	Title	Reports_To	Department	Telephone	E-Mail	Master_Shape	Office_Number
2	Jossef Goldberg	President & CEO		Office of the President	555-0100	jossef@championzone.net		17102
3	Suzan Fine	Executive Assistant	Jossef Goldberg	Office of the President	555-0101	suzan@championzone.net	Assistant	17104
4	Clair Hector	COO	Jossef Goldberg	Operations	555-0102	clair@championzone.net		17106
5	Anthony Chor	Executive Assistant	Clair Hector	Operations	555-0103	anthony@championzone.net		17108
6	Laura Jennings	CFO	Jossef Goldberg	Finance	555-0104	laura@championzone.net		17110
7	John Tippett	Executive Assistant	Laura Jennings	Finance	555-0105	john@championzone.net		17112
8	Thom McCann	Senior VP Production	Jossef Goldberg	Production	555-0106	thom@championzone.net		17114
9	Ken Bergman	Executive Assistant	Thom McCann	Production	555-0107	ken@championzone.net		17115
10	Mike Tiano	Executive Assistant	Ashley Larsen	Marketing	555-0108	mike@championzone.net		17116
11	Ashley Larsen	Senior VP Sales & Mktg	Jossef Goldberg	Sales	555-0109	ashley@championzone.net		17117
12	Eric Lang	Corporate Counsel	Clair Hector	Operations	555-0110	eric@championzone.net		17118
13	Linda Leste	Treasurer	Laura Jennings	Finance	555-0111	linda@championzone.net		17119
14	Ketan Dalal	Secretary	Linda Leste	Finance	555-0112	ketan@championzone.net		17120
15	Nate Sun	A/P Manager	Suki White	Finance	555-0113	nate@championzone.net		17122
16	Andrew Dixon	A/R Manager	Suki White	Finance	555-0114	andrew@championzone.net		17124
17	Sean Chai	Associate Council	Eric Lang	Operations	555-0115	sean@championzone.net		17126

The data source for additional key performance indicators looks like that shown below.

Employee Metrics.xlsx

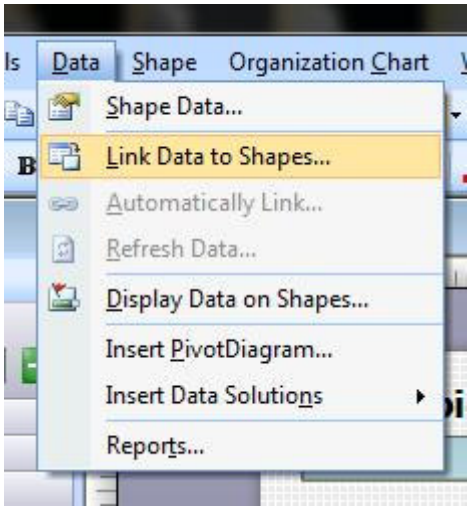
	A	B	C	D	E	F
1	Employee	Rating	Diversity Training	Safety Training	Date of Hire	Date of Last Review
2	Jossef Goldberg	5	1	1	11/15/2004	4/1/2008
3	Suzan Fine	4	0	1	11/16/2004	4/2/2008
4	Clair Hector	4	1	1	12/1/2004	4/3/2008
5	Anthony Chor	3	1	1	12/1/2004	4/4/2008
6	Laura Jennings	4	1	1	12/1/2004	4/5/2008
7	John Tippett	2	1	1	12/1/2004	4/6/2008
8	Thom McCann	3	1	1	12/1/2004	4/7/2008
9	Ken Bergman	4	1	1	12/1/2004	4/8/2008
10	Mike Tiano	4	1	1	12/1/2004	4/9/2008
11	Ashley Larsen	3	0	1	12/1/2004	4/10/2008
12	Eric Lang	2	1	1	12/1/2004	4/11/2008
13	Linda Leste	3	1	0	12/1/2004	4/12/2008
14	Ketan Dalal	4	1	1	12/1/2004	4/13/2008
15	Nate Sun	4	1	1	12/1/2004	4/14/2008
16	Andrew Dixon	4	1	1	12/1/2004	4/15/2008
17	Sean Chai	3	0	1	12/1/2004	4/16/2008

Note that the one field that these diverse data sets have in common is the Employee's Name. It was this exact same field that was used in the initial pass to actually generate the Organization Chart Diagram. Again… the process that is about to be executed is done AFTER the Visio Organization Chart diagram has been successfully generated.

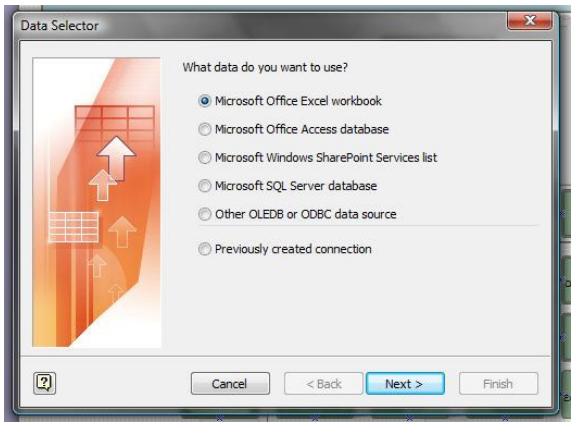
Link Data to Shapes…

The first task is to link a data source to the Visio diagram as a whole. Later the links will be established between the individual records and the unique SmartShape symbols.

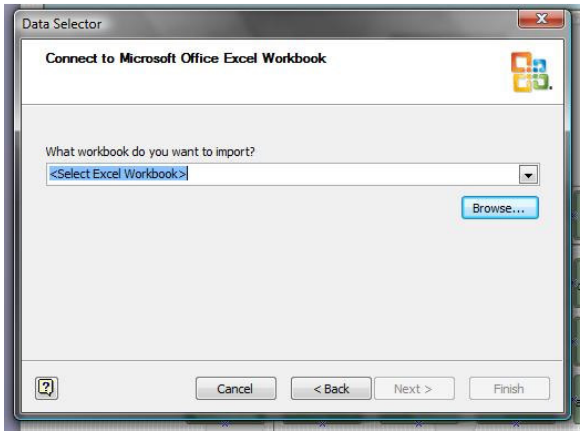
Begin by choosing Data ▸ Link Data to Shapes… from the Visio Data menu



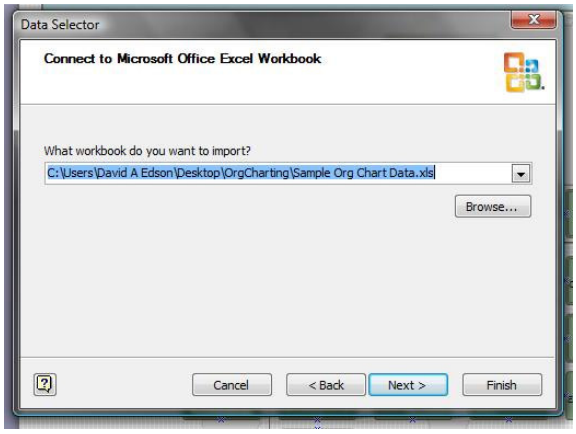
This action will display the Data Selector dialog.



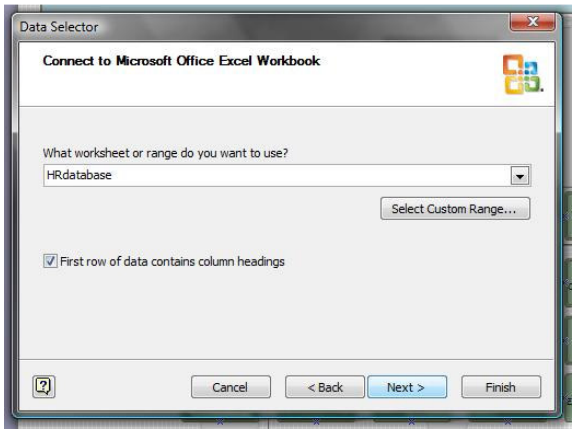
The first question that requires a selection is “What data do you want to use?”. The potential choices are (1) a Microsoft Office Excel workbook, (2) a Microsoft Office Access database, (3) a Microsoft Windows SharePoint Services list, (4) a Microsoft SQL Server database, and (5) any Other OLEDB or ODBC data source. In the case of this demonstration, the Excel workbook will be selected. Left-Clicking on the Next> Command Button advances to the next screen of the Data Selector Wizard.



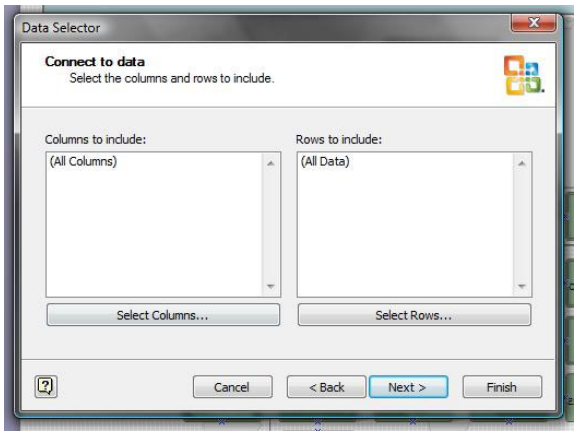
The next step is to browse to the desired data source. Left-Clicking the Browse… Command Button displays a File Dialog allowing the user to select the desired file from the network file system.



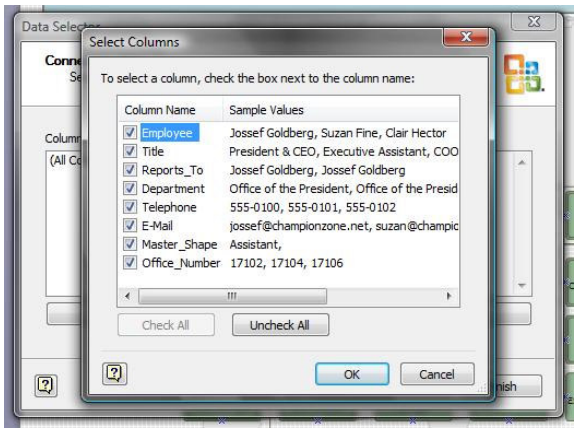
When complete, the required file name will be displayed in the Text Box. Left-Clicking on the Next> Command Button advances to the next screen of the Data Selector Wizard.



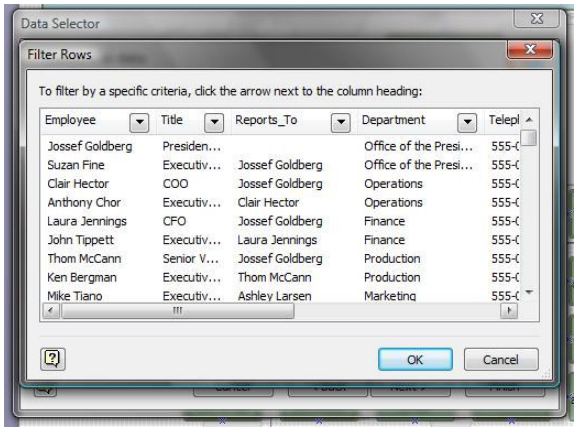
Because an Excel workbook was selected, the Wizard offers the user the opportunity to select a specific range of data on the worksheet. If no named range is available, the user can create one on the fly or simply use the entire worksheet. Left-Clicking on the Next> Command Button advances to the next screen of the Data Selector Wizard.



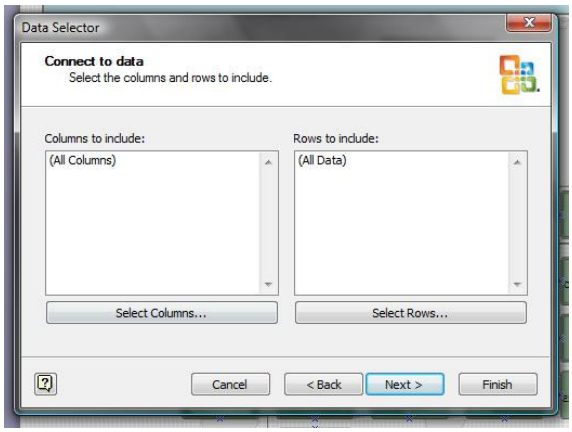
Utilizing the Select Columns… and Select Rows… Command Buttons, the user can filter the selection of data being used for the data link.



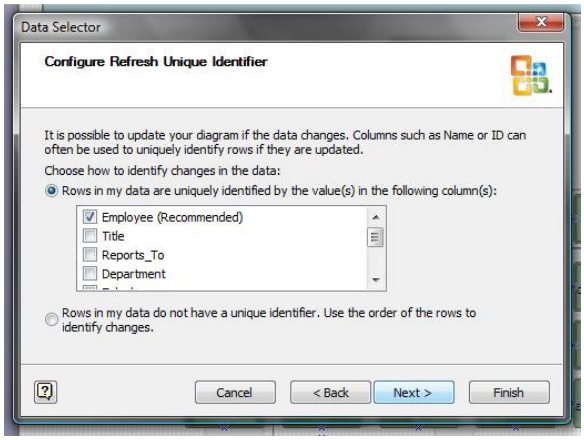
Select Columns… allows individual fields to be included or excluded from the data link.



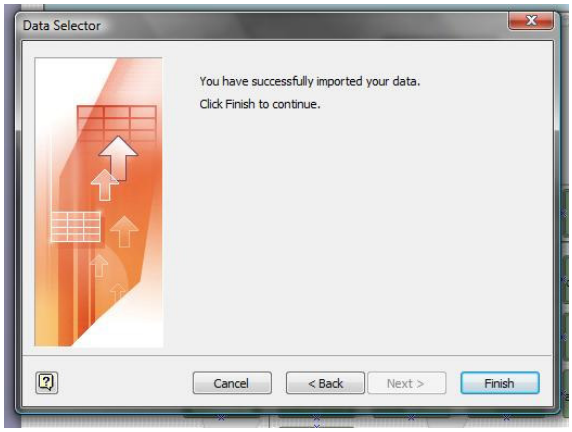
Select Rows… allows individual records to be included or excluded from the data link.



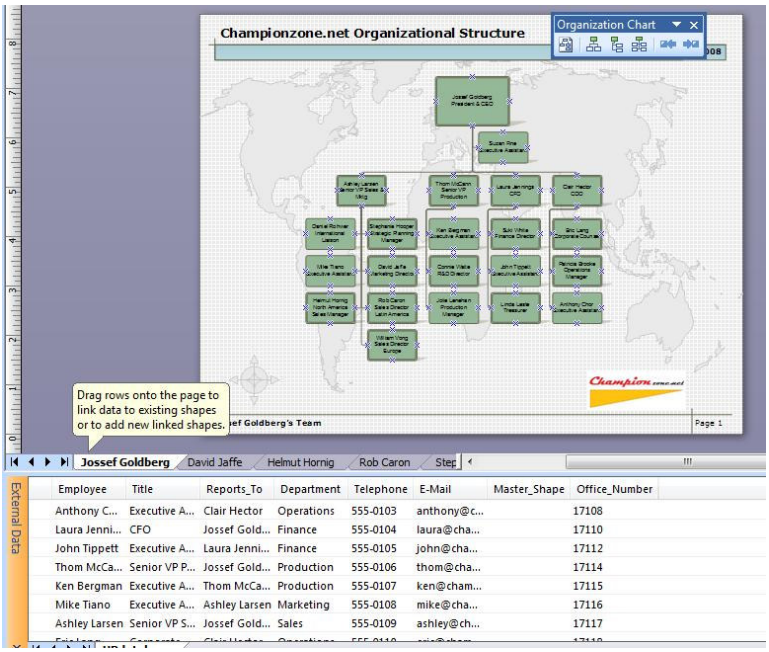
Once any filters have been applied to the data set, the user is returned to the Connect to Data screen of the Wizard. Left-Clicking on the Next> Command Button advances to the next screen of the Data Selector Wizard.



The Wizard takes a first pass estimate at which field in the data set contains unique record entries and offers this as the Unique Identifier. The user may either accept this default, or un-check that option and select another. Left-Clicking on the Next> Command Button advances to the next screen of the Data Selector Wizard.



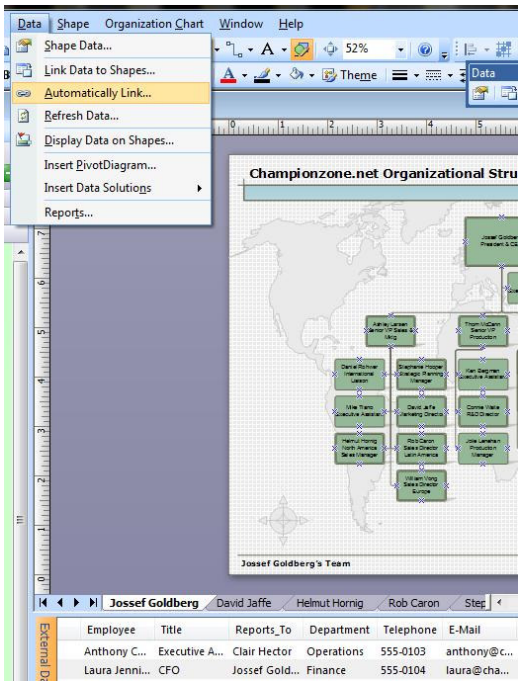
The final screen of the Wizard simply confirms that the Wizard has all of the necessary information to import the data to the Visio Diagram as a whole. Left-Clicking the Finish Command Button confirms the user's choices, closes the dialog and attached the data set to the Visio diagram.



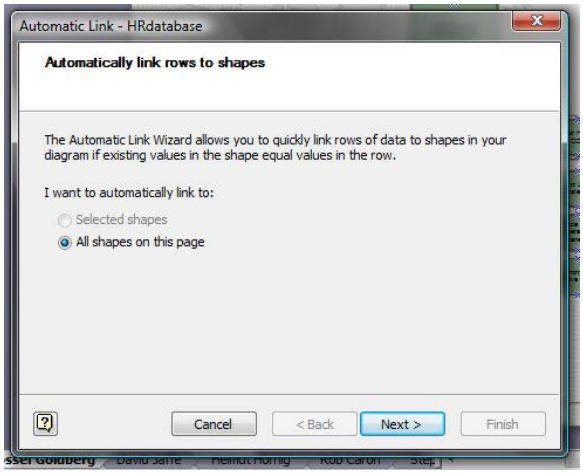
The above process would be repeated to attach the second data source.

Automatically Link…

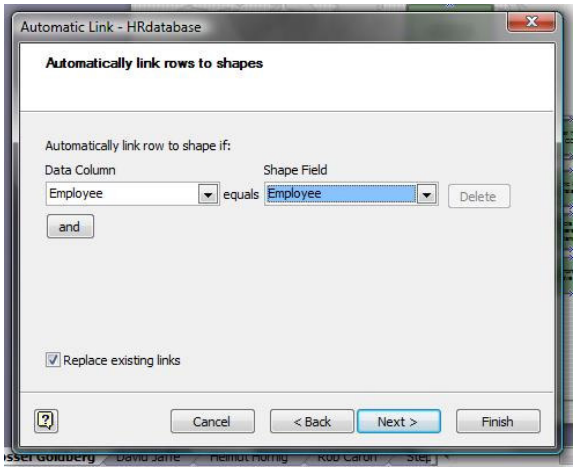
With the Data Source attached, the next step is to automatically link the records in the imported data source to individual SmartShape symbols. To begin this process, choose Data ▸ Automatically Link… from the Visio Data menu.



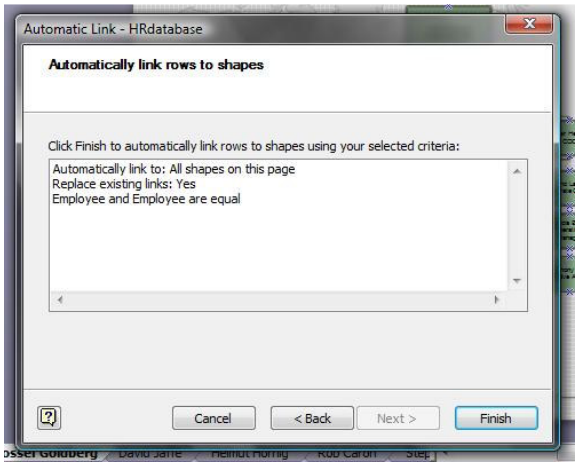
This action will display the Automatic Link dialog.



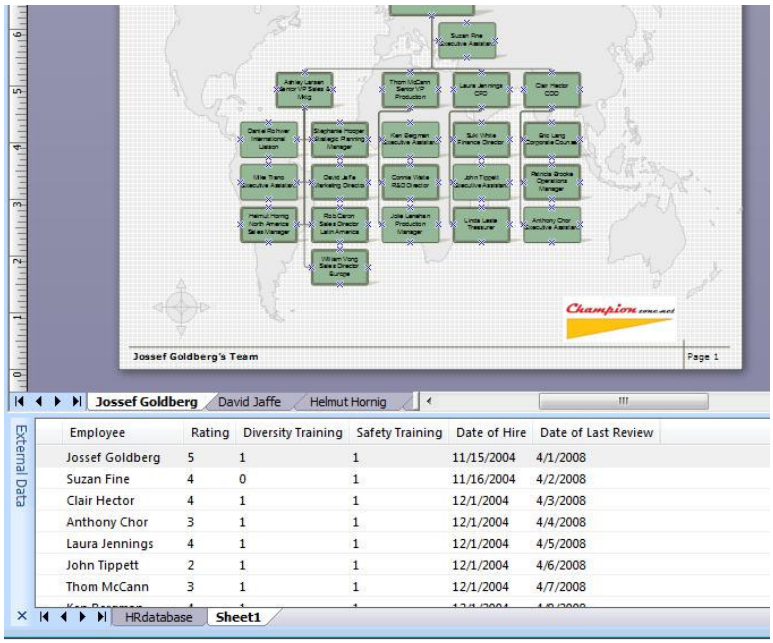
The first screen of the dialog requests the scope of the linking. The user can opt to either automatically link to any specifically selected shapes, or, All shapes on the current page. Ensure that the “All shapes on this page” option is selected Left-Clicking on the Next> Command Button advances to the next screen of the Automatic Link Wizard.



In this screen of the Automatic Link Wizard the user maps the field in the data source to the field in the SmartShape symbol's Shape Data. There is an AND Command Button allowing for multiple criteria, however there is no OR functionality. In the case of this demonstration, ensure that Employee (the unique key field) is selected in BOTH the Data Column and the Shape Field lists. Left-Clicking on the Next> Command Button advances to the next screen of the Automatic Link Wizard.



The final screen of the Wizard restates the actions that have been selected and will be executed. Left-Clicking on the Finish Command Button closes the Automatic Link Wizard, and scans the diagram for matching criteria. Wherever the criteria match, Visio places a small chain-link symbol at the left of the record in the data set in the diagram and performs the link.

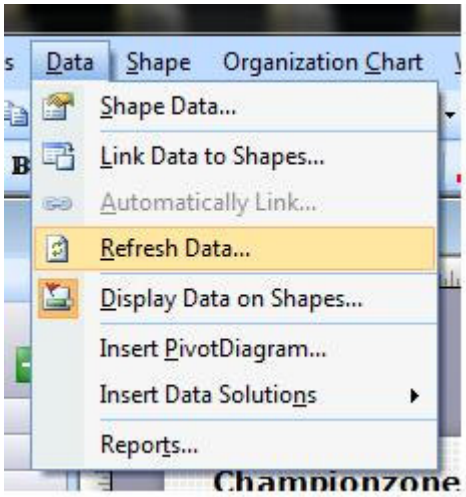


Employee	Rating	Diversity Training	Safety Training	Date of Hire	Date of Last Review
Jossef Goldberg	5	1	1	11/15/2004	4/1/2008
Suzan Fine	4	0	1	11/16/2004	4/2/2008
Clair Hector	4	1	1	12/1/2004	4/3/2008
Anthony Chor	3	1	1	12/1/2004	4/4/2008
Laura Jennings	4	1	1	12/1/2004	4/5/2008
John Tippett	2	1	1	12/1/2004	4/6/2008
Thom McCann	3	1	1	12/1/2004	4/7/2008

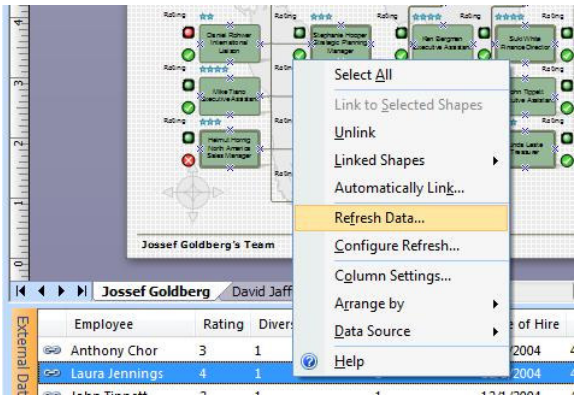
This would be repeated for each and every page in the diagram, for each attached data set.

Refresh Data…

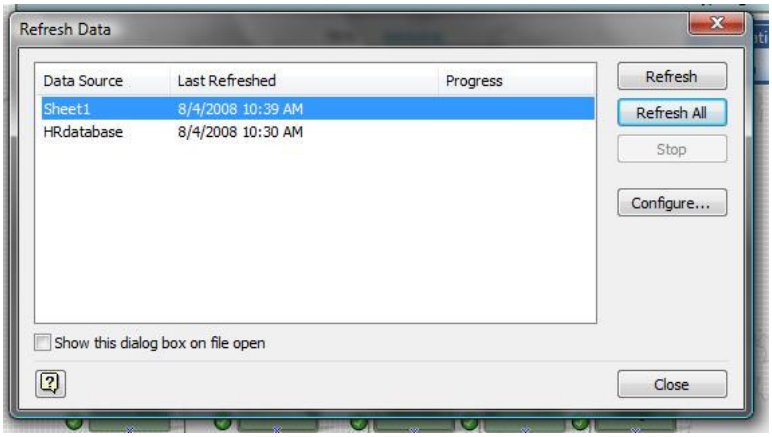
When data changes in the data set(s), the Visio diagram can be updated to reflect these changes. To perform a refresh, either choose Data ▸ Refresh Data… from the Visio Data menu



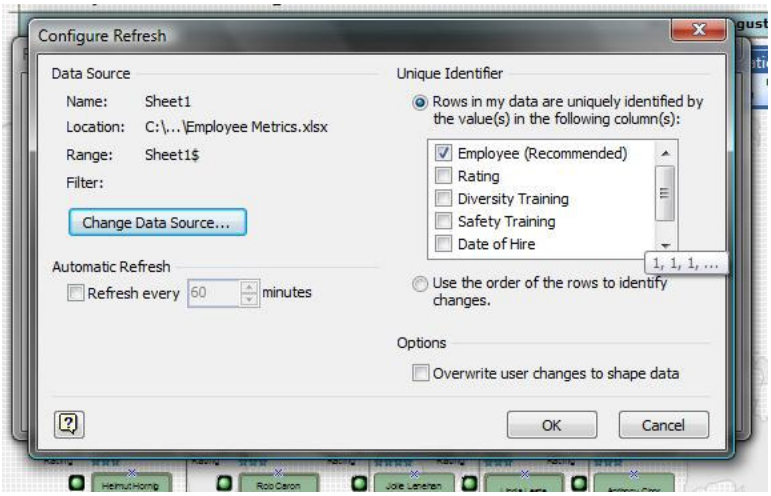
Or Right-Click on the attached data grid at the bottom of the Visio Environment and choose Data ▸ Refresh Data… from the context menu of the data grid.



Both methods will display the Refresh Data dialog.



From within the Refresh Data dialog, either Left-Click the Refresh Command Button to refresh the data from the currently selected data source, or Left-Click the Refresh All Command Button to refresh the data from all listed data sources. Left-Clicking the Configure… Command Button displays a sub-dialog which provides options to schedule refreshes on a given interval, as shown below.



Data Graphics Sets and Organizational Diagrams

While an amazing amount of intelligence can, and is, programmed directly into Visio SmartShape symbols, many solutions are required to maintain the SmartShape symbols in a rigid manner in order for the solution to perform in the desired way. Visio has created a new technology under Visio 2007 Professional called Data Graphics.

Data Graphics are designed to associate additional sub-SmartShape symbols to existing SmartShape symbols. These Data Graphics are often used to display Key Performance Indicators (KPI's) associated with the SmartShape symbols within the diagram.

There are four distinct types of Data Graphics. A Data Graphic set can include any number of Data Graphics at the same time. Any number of Data Graphic Sets can be saved as part of a Visio diagram, and any of these Data Graphic sets can be applied at any time the user desires. In this manner a single Visio diagram can display numerous KPI visualizations.

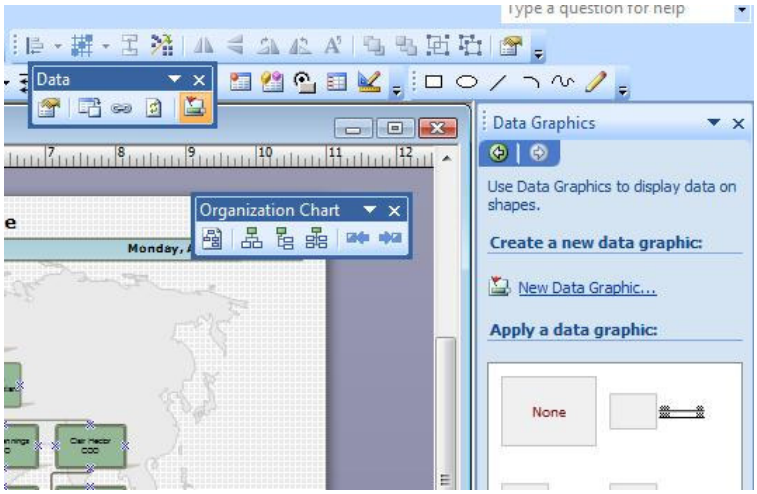
The four distinct Data Graphic Items are:

- Text Callouts
- Data Bars
- Icon Sets
- Color by Value

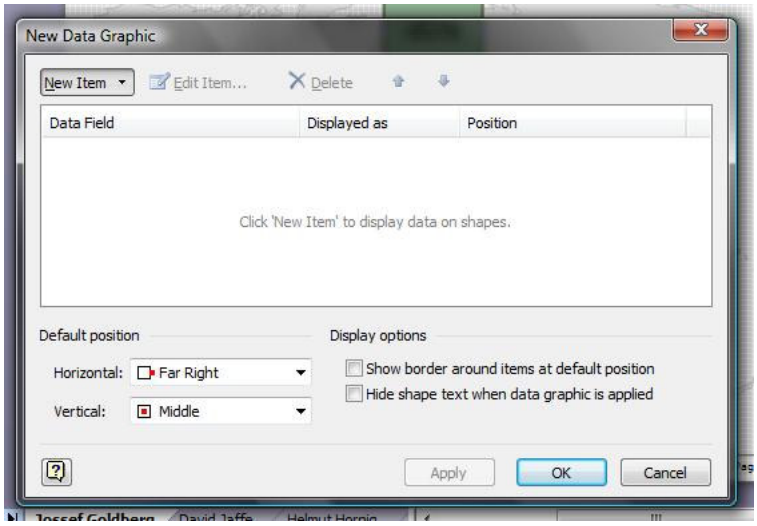
All of these will be discussed and most demonstrated below.

Creating a Data Graphic Set

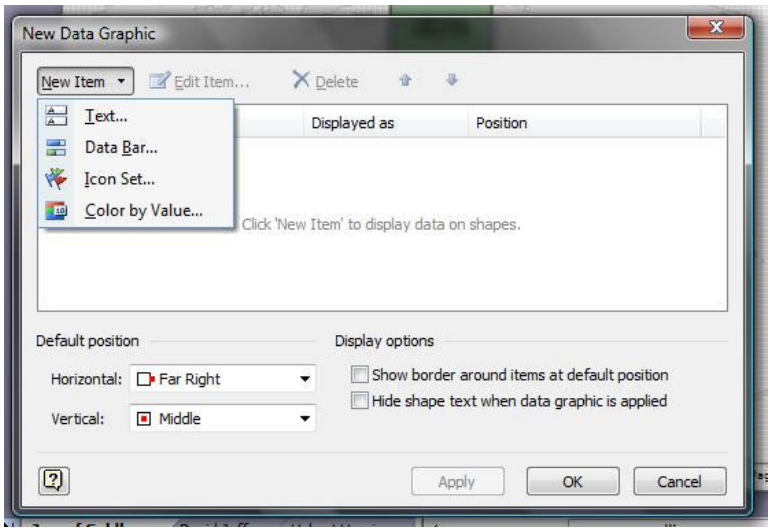
Data Graphics are created through the Data Graphics Task Pane. The Data Graphics Task Pane is accessed by choosing Data ▸ Display Data on Shapes… from the Visio Data menu.



This action opens the Data Graphics Task Pane at the Right of the Visio Environment. To create a new Data Graphic Set, Left-Click on the New Data Graphic… text item near the top of the Task Pane.

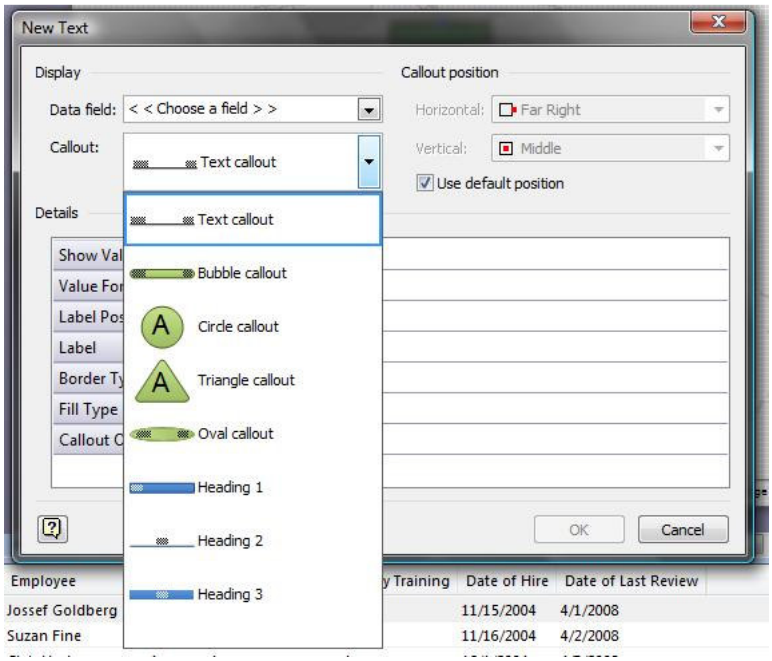


This action displays the New Data Graphic dialog. The New Item Command Button/List reveals the four potential Data Graphic Items which may be included in a Data Graphic Set.



Text Callouts

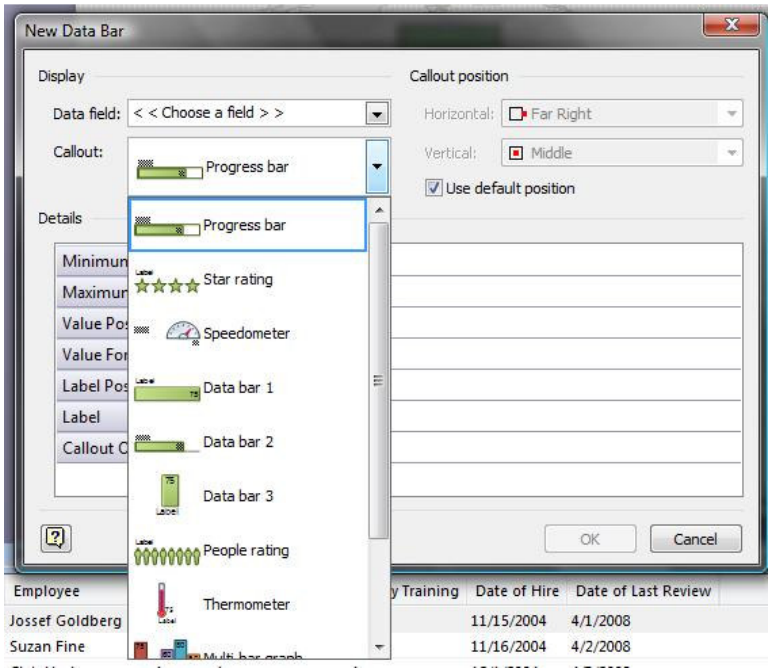
Left-Clicking the Text … option displays the New Text sub-dialog.



In this sub-dialog the user can choose from a list of available text callout styles, and select other options including the position of the callout, the label, the border type, etc. The user MUST choose the Data field that is to be associated with the callout.

Data Bars

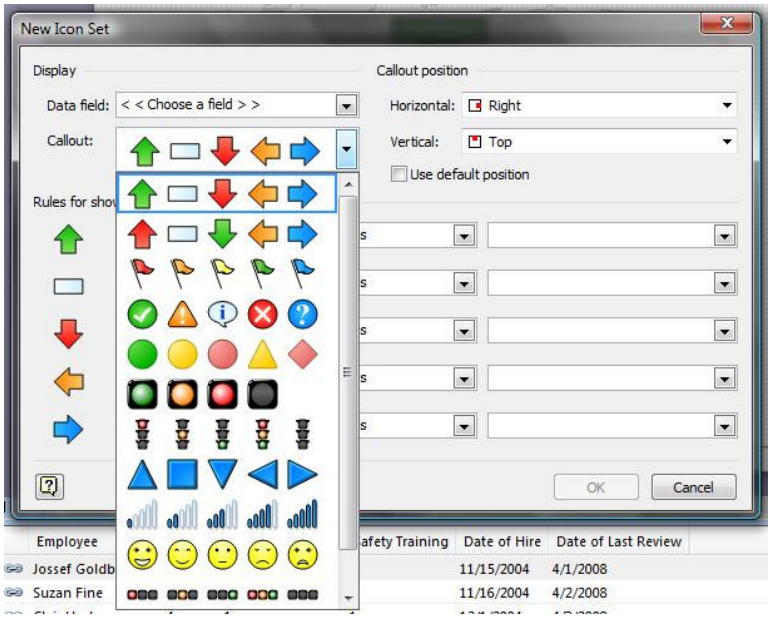
Left-Clicking the Data Bar … option displays the New Data Bar sub-dialog.



In this sub-dialog the user can choose from a list of available Data Bar styles, and select other options including the position of the Data Bar, the label, the minimum and maximum values, etc. The user MUST choose the Data field that is to be associated with the Data Bar.

Icon Sets

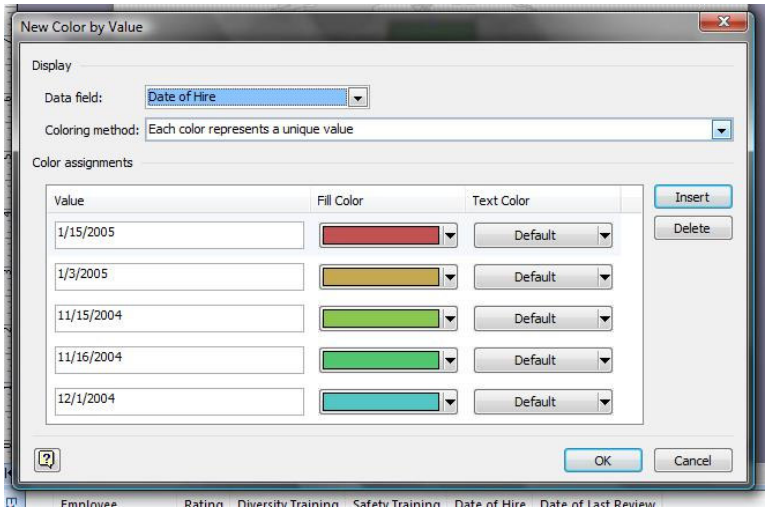
Left-Clicking the Icon Set … option displays the New Icon Set sub-dialog.



In this sub-dialog the user can choose from a list of available Icon Set styles, and select other options including the position of the Icon, the label, the logic and values, etc. The user MUST choose the Data field that is to be associated with the Icon Set. Note that the user may also create his or her own Icon Set to meet their particular corporate needs. Please refer to Microsoft Knowledgebase articles on how to create and use new Visio 2007 Professional Icon Sets.

Color by Value

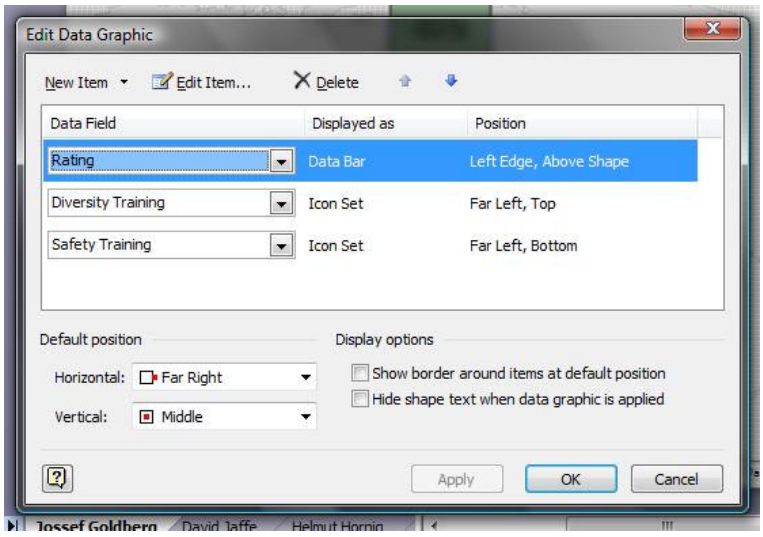
Left-Clicking the Color by Value … option displays the New Color by Value sub-dialog.



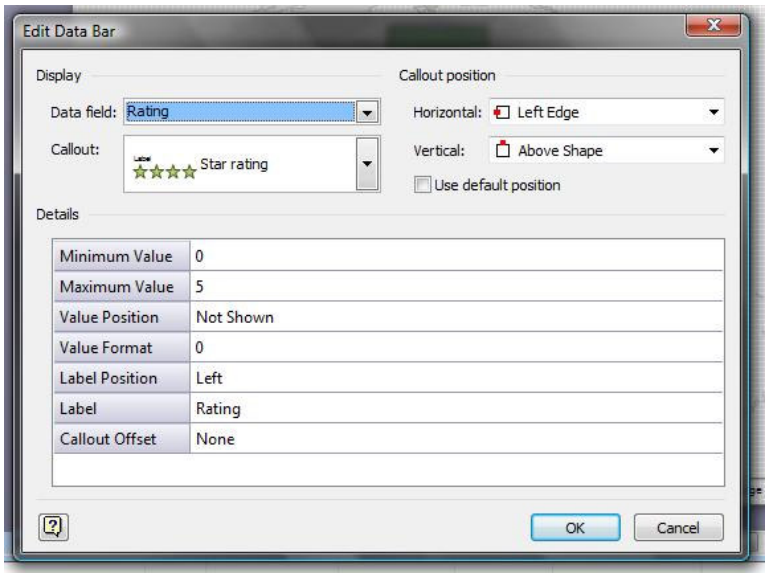
In this sub-dialog the user can choose from a list of available colors to assign to each possible value (note that these colors apply to either or both fill color and text color), and select other options as well. The user MUST choose the Data field that is to be associated with the Color by Value.

In the case of the Organization Chart Diagram, the demonstration presumes that the data fields for Performance (rating) Completion of Diversity Training, and Completion of Safety Training are attached as external data to the Organizational Chart Diagram.

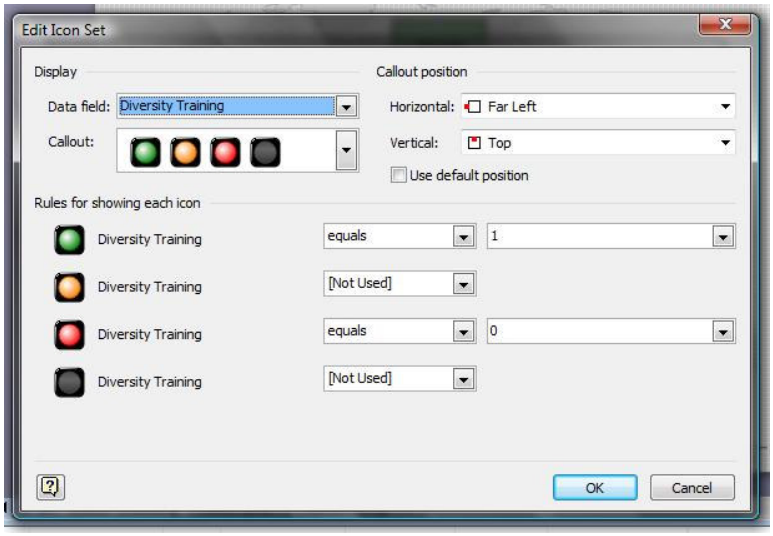
The illustration below shows three Data Graphics created as part of the Data Graphic Set. The First Data Graphic is a Data Bar (in this particular case a star rating), the second and third are Icon Sets (the first Icon Set is a “stop Light”, and the second Icon Set is a Check Mark or X symbol).



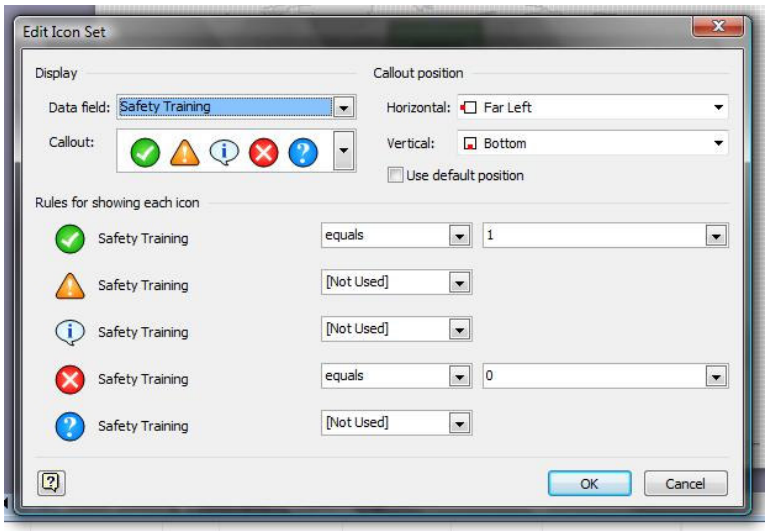
Data Bar (Rating)



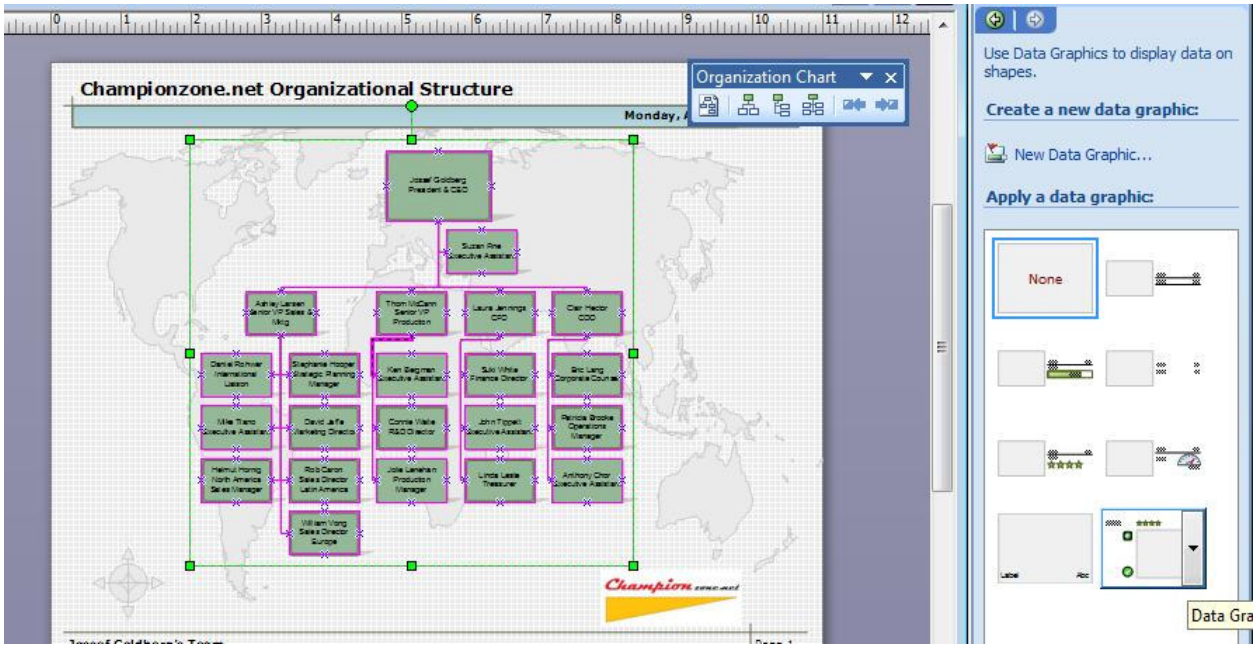
Icon Set (Diversity Training)



Icon Set (Safety Training)

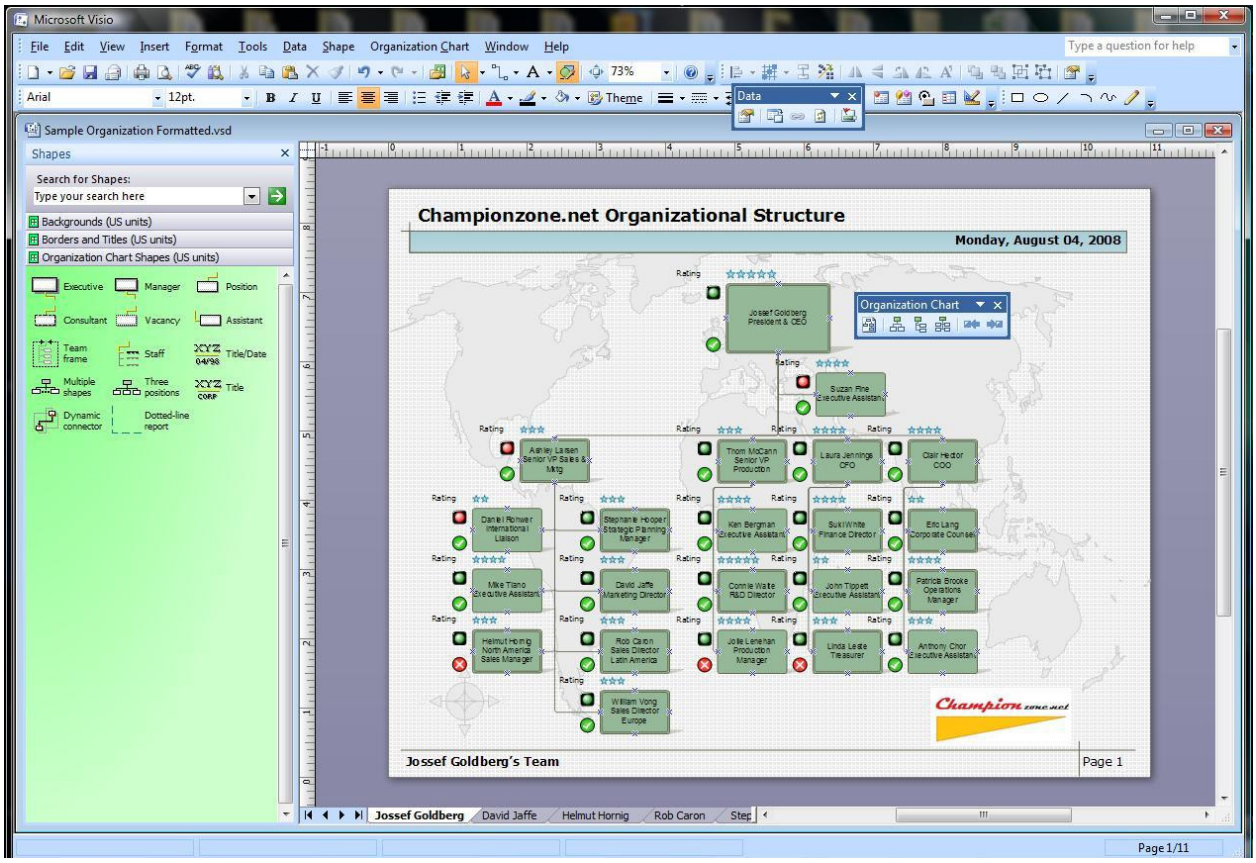


Once the Data Graphic Set has been designed, Left-Click on the OK Command Button to confirm the choices, close the dialog, and add the Data Graphic Set to the Data Graphics Task Pane collection of Data Graphic Sets.



Applying Data Graphic Sets

To apply a Data Graphic Set to a Visio Diagram, first select the SmartShape symbols that are to have the Data Graphic Set applied to them, then Left-Click on the Data Graphic set in question.



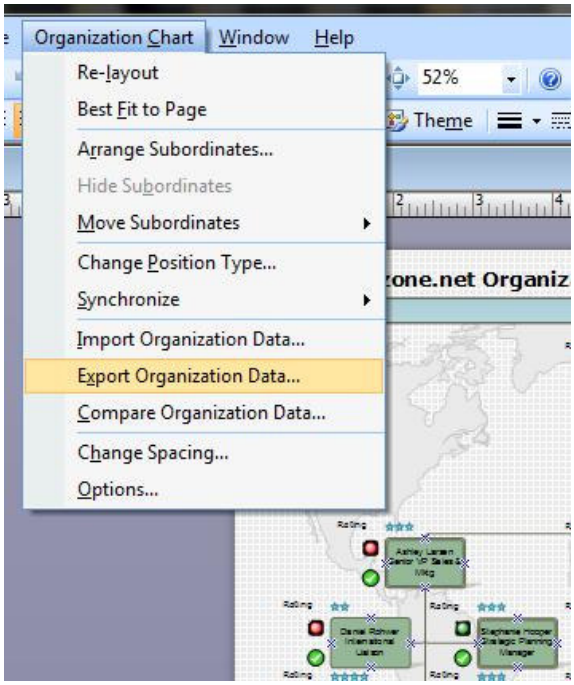
Creating Organizational Diagram Reports from within Visio

One of the features built into Visio 2007 (and even previous versions) is the ability to generate Reports from Visio Diagrams. This ability can be extremely useful when used in conjunction with the Visio Organizational Charting Solution.

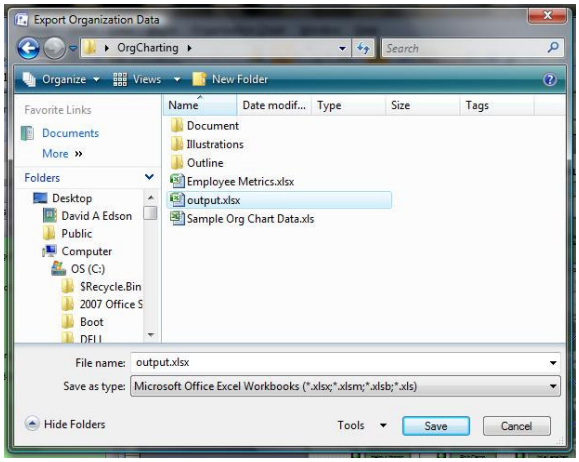
Export Organization Data

Before discussing Custom Reports from within Visio, it will be helpful to diverge just slightly for a moment and look at how a quick data export can be created from Visio Organizational Diagrams.

From the Visio Organization Chart Menu, choose Organization Chart ▸ Export Organization Data…



This action will display a Windows File Dialog prompting the user to select a path and filename for the export as a Microsoft Office Excel Workbook.



When the Path and File Name have been selected, Left-Click the Save Command Button to confirm the choice, close the dialog, and save the export file. When the export is complete Visio will display a Message Box informing the user that the export was successful.

Next, the user can open the export Excel file and see the data export.

output.xlsx

	A	B	C	D	E	F	G	H	I	J
1	Unique_ID	Department	E-mail	Name	Office_Number	Reports_To	Telephone	Title	Reports_To	Master_Shape
2	ID1	Office of the President	jossef@championzone.net	Jossef Goldberg	17102		555-0100	President & CEO		0
3	ID2	Sales	ashley@championzone.net	Ashley Larsen	17117	Jossef Goldberg	555-0109	Senior VP Sales & Mktg	ID1	1
4	ID3	Sales	daniel@championzone.net	Daniel Rohwer	17128	Ashley Larsen	555-0116	International Liaison	ID2	2
5	ID4	Marketing	david@championzone.net	David Jaffe	17291	Ashley Larsen	555-0134	Marketing Director	ID2	1
6	ID5	Marketing	geof@championzone.net	Geof Miller	17302	David Jaffe	555-0139	Marketing	ID4	2
7	ID6	Marketing	helge@championzone.net	Helge Hoeing	17297	David Jaffe	555-0136	Marketing Manager	ID4	2
8	ID7	Marketing	joshua@championzone.net	Joshua Randall	17299	David Jaffe	555-0138	Marketing	ID4	2
9	ID8	Marketing	toby@championzone.net	Toby Nixon	17304	David Jaffe	555-0140	Group Product Manager	ID4	1
10	ID9	Marketing	meng@championzone.net	Meng Phua	17306	Toby Nixon	555-0141	Product Manager	ID8	2
11	ID10	Marketing	richard@championzone.net	Richard Lum	17308	Toby Nixon	555-0142	Marketing Consultant	ID8	3
12	ID11	Marketing	wendy@championzone.net	Wendy Vasse	17298	David Jaffe	555-0137	Marketing	ID4	2
13	ID12	Sales	helmut@championzone.net	Helmut Hornig	17202	Ashley Larsen	555-0117	North America Sales Manager	ID2	1
14	ID13	Sales	denise@championzone.net	Denise Smith	17206	Helmut Hornig	555-0119	National Account Manager	ID12	2
15	ID14	Sales	jae@championzone.net	Jae Pak	17204	Helmut Hornig	555-0118	National Account Manager	ID12	2
16	ID15	Sales	jeffrey@championzone.net	Jeffrey Piira	17273	Helmut Hornig	555-0122	Internal Sales Representative	ID12	2
17	ID16	Sales	jonathan@championzone.net	Jonathan Young	17275	Helmut Hornig	555-0123	Internal Sales Representative	ID12	2
18	ID17	Sales	kimberly@championzone.net	Kimberly Bowen	17208	Helmut Hornig	555-0120	Internal Sales Representative	ID12	2

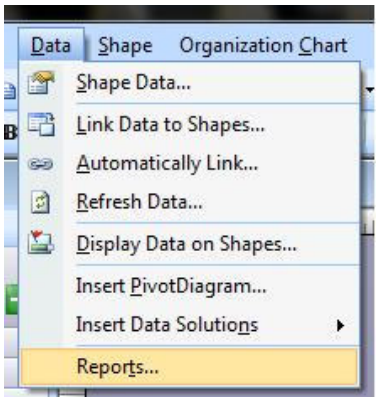
Built-In Reports

Every Visio diagram contains at least one Report Definition, an Inventory Report. Based upon the Template that the Diagram was based upon, the diagram may contain additional Custom Report Definitions. A Visio Organization Chart Diagram will contain the following three Report Definitions:

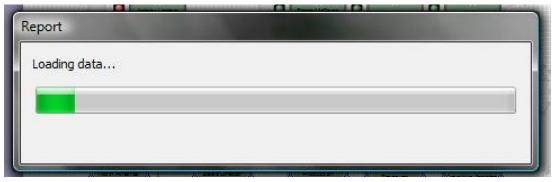
- Count Positions
- Inventory
- Organization Chart Report

Accessing all three of these Report Definitions is accomplished in exactly the same manner.

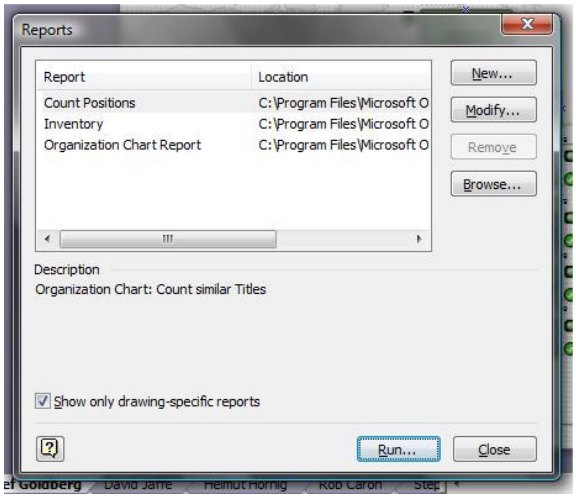
Choose Data ▸ Reports… from the Visio Data menu.



This action will first display a progress bar while Visio locates and loads the applicable Report Definitions.



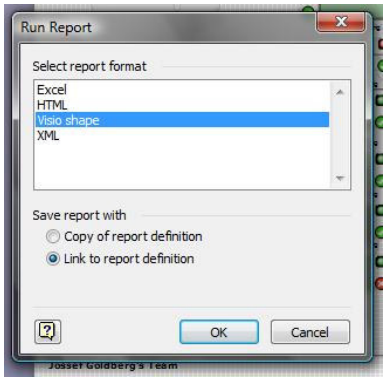
The Visio will display the Reports dialog.



Note that the Count Positions, the Inventory, and the Organization Chart Report Definition listings are all displayed in the Reports dialog.

To run a Report, select the desired Report Definition by Left-Clicking on the desired Report Definition in the listing and then Left-Click on the Run… Command Button.

This action will display the Run Report dialog.



Note that there are Four possible Report Output formats available: (1) Excel (Microsoft Office Excel Workbook), (2) HTML (.HTML File Output in a Table format, (3) Visio Shape (actually an embedded Excel worksheet), and (4) XML (a raw .XML ASCI Text format document).

Left-Click on any of the desired four output formats, in this case the demonstration will use Excel as the output. Finally, Left-Click on the OK Command Button to generate the Report.

Count Positions

Shown below is a sample output from the Count Positions Report.

	A	B	C
1	**Count Positions**		
2	**Master Name**	**Title**	**Quantity**
3	Assistant	Executive Assistant	1
4	Executive	President & CEO	1
5	Manager	CFO	1
6	Manager	COO	1
7	Manager	Corporate Counsel	1
8	Manager	Finance Director	1
9	Manager	Marketing Director	1
10	Manager	North America Sales Manager	1
11	Manager	Operations Manager	1
12	Manager	R&D Director	1
13	Manager	Sales Director Europe	1
14	Manager	Sales Director Latin America	1
15	Manager	Senior VP Production	1
16	Manager	Senior VP Sales & Mktg	1
17	Manager	Strategic Planning Manager	1
18	Manager	Treasurer	1
19	Position	Executive Assistant	4
20	Position	International Liaison	1
21	Position	Production Manager	1

Inventory

Shown below is a sample output from the Inventory Report.

	A	B
1	**Inventory**	
2	**Master Name**	**Quantity**
3	Assistant	1
4	Dynamic connector	21
5	Executive	1
6	Manager	14
7	Position	6

Organization Chart Report

Shown below is a sample fragment output from the Organization Chart Report.

	A	B	C	D	E	F
1	**Organization Chart Report**					
2		**Department**	**Name**	**Title**	**Telephone**	**Number of direct reports**
3		Finance	Andrew Dixon	A/R Manager	555-0114	0
4		Finance	Linda Leste	Treasurer	555-0111	1
5		Finance	Nate Sun	A/P Manager	555-0113	0
6		Finance	Beth Silverberg	Controller	555-0126	0
7		Finance	John Tippett	Executive Assistant	555-0105	0
8		Finance	Laura Jennings	CFO	555-0104	3
9		Finance	Ketan Dalal	Secretary	555-0112	0
10		Finance	Suki White	Finance Director	555-0125	3
11	Count		8			
12		Marketing	Richard Lum	Marketing Consultant	555-0142	0
13		Marketing	Joshua Randall	Marketing	555-0138	0
14		Marketing	Toby Nixon	Group Product Manager	555-0140	2
15		Marketing	Cynthia Randall	Strategic Planner	555-0150	0
16		Marketing	Meng Phua	Product Manager	555-0141	0
17		Marketing	Karen Berge	Strategic Planner	555-0151	0
18		Marketing	Mike Tiano	Executive Assistant	555-0108	0
19		Marketing	Jose Lugo	Strategic Planner	555-0152	0
20		Marketing	Stephanie Hooper	Strategic Planning Manager	555-0135	4
21		Marketing	Suanne Nagata	Strategic Planner	555-0153	0
22		Marketing	David Jaffe	Marketing Director	555-0134	5
23		Marketing	Geof Miller	Marketing	555-0139	0

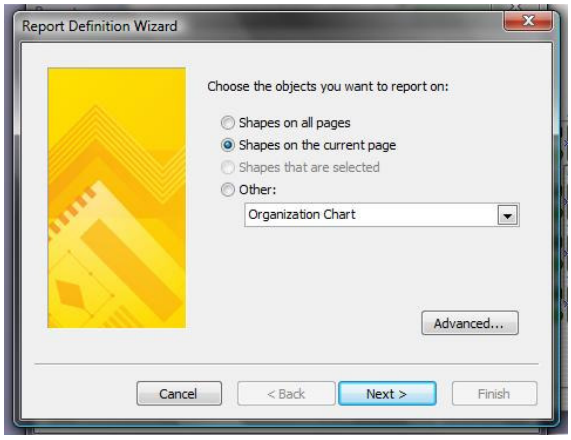
Custom Reports

If none of the included Report Definitions suit the needs of the user's organization, then Custom Report Definitions may be created as well. These Custom Report Definitions may be either stored in the Visio Diagram, or stored to any Network share, such that any other Visio user of the Organization Chart Solution would have access to the Report Definition as well.

Creating Custom Reports

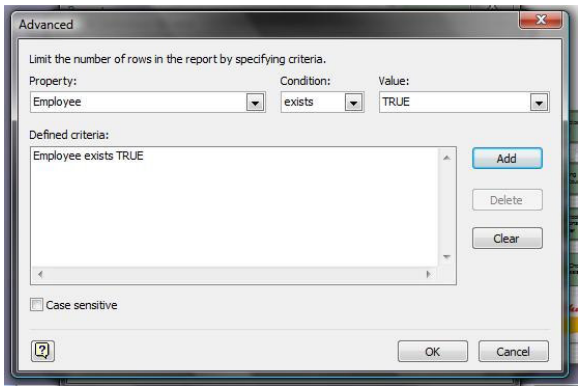
To create a Custom Report Definition, begin by launching the Visio Report Tool. As stated before, this is accomplished by choosing Data ▸ Reports… from the Visio Data menu.

Next, from within the Report Dialog, Left-Click on the New… Command Button. This action will display the first screen of the Report Definition Wizard



Note that the user can specify the scope of the Report to be either (a) all shapes on all of the pages in the current diagram, (b) all of the shapes on the current page, (c) shapes that are selected, or (d) a specific class of shapes such as Organization Chart SmartShape symbols.

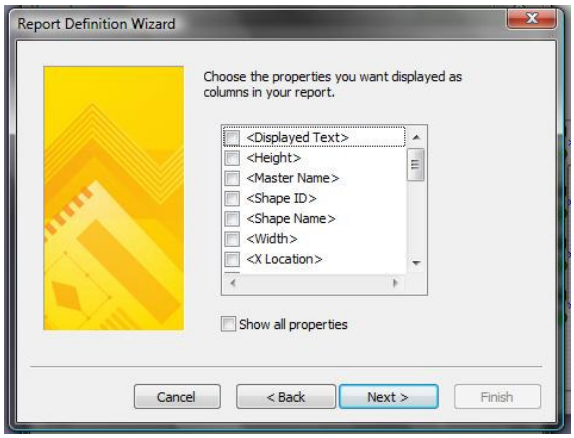
Note also, the Advanced… Command Button. Left-Click on the Advanced… Command Button. This action will display the Advanced sub-Wizard Screen



The Advanced Screen allows the filtering of the SmartShape symbols to be included in the report. In the case illustrated above, the Shape Data property “Employee” must exist in a SmartShape symbol for that SmartShape symbol to be included in the report. This eliminates all dynamic connectors and other superfluous SmartShape symbols from being included in the Report. After the Property, the Condition, and the Value fields are selected from their respective drop-down lists, the user Left-Clicks the Add Command Button to add the given condition. When all proper conditions are set, Left-Click the OK Command Button to return to the first screen of the Report Definition Wizard.

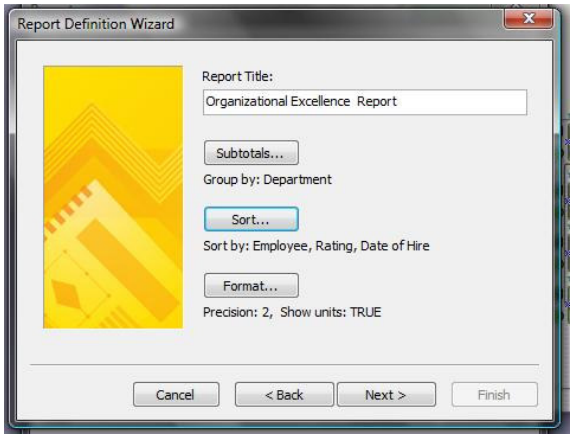
Left-Click the Next> Command Button to advance to the next screen of the Wizard.

The second screen of the wizard allows the user to specify which fields (Shape Data fields) should be included in the Report Definition. Check the specific fields to add to the report definition.



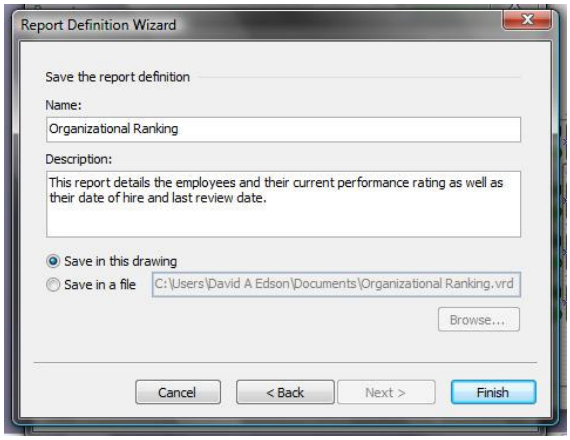
Left-Click the Next> Command Button to advance to the next screen of the Wizard.

The third screen of the wizard allows the user to specify the Report Title, the Grouping, the Sorting, and the formatting of the report elements.

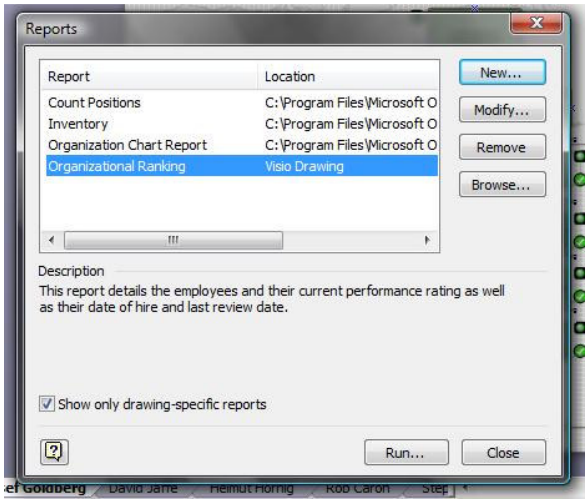


Left-Click the Next> Command Button to advance to the next screen of the Wizard.

The fourth (and final) screen of the wizard allows the user to specify the name for the report definition, and the location.



Left-Click the Finish Command Button to accept the choices, close the Wizard, and return to the Report Dialog.



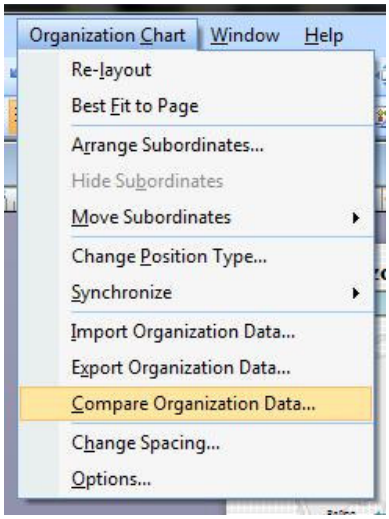
From the Reports dialog, the user may now run the Organizational Ranking Report. The output from this report is shown below.

	A	B	C	D	E	F	G	H
1	Organizational Excellence Report							
2	Department	Employee	Title	Date of Hire	Date of Last Review	Rating	Reports_To	E-mail
3	Finance	John Tippett	Executive Assistant	12/1/2004	4/6/2008	2	Laura Jennings	john@championzone.net
4	Finance	Laura Jennings	CFO	12/1/2004	4/5/2008	4	Jossef Goldberg	laura@championzone.net
5	Finance	Linda Leste	Treasurer	12/1/2004	4/12/2008	3	Laura Jennings	linda@championzone.net
6	Finance	Suki White	Finance Director	12/1/2004	4/26/2008	4	Laura Jennings	suki@championzone.net
7	Marketing	David Jaffe	Marketing Director	1/3/2005	5/5/2008	3	Ashley Larsen	david@championzone.net
8	Marketing	Mike Tiano	Executive Assistant	12/1/2004	4/9/2008	4	Ashley Larsen	mike@championzone.net
9	Marketing	Stephanie Hooper	Strategic Planning Manager	1/3/2005	5/6/2008	3	Ashley Larsen	stephanie@championzone.net
10	Office of the President	Jossef Goldberg	President & CEO	11/15/2004	4/1/2008	5		jossef@championzone.net
11	Office of the President	Suzan Fine	Executive Assistant	11/16/2004	4/2/2008	4	Jossef Goldberg	suzan@championzone.net
12	Operations	Anthony Chor	Executive Assistant	12/1/2004	4/4/2008	3	Clair Hector	anthony@championzone.net
13	Operations	Clair Hector	COO	12/1/2004	4/3/2008	4	Jossef Goldberg	clair@championzone.net
14	Operations	Eric Lang	Corporate Counsel	12/1/2004	4/11/2008	2	Clair Hector	eric@championzone.net
15	Operations	Patricia Brooke	Operations Manager	12/1/2004	4/25/2008	4	Clair Hector	particia@championzone.net
16	Production	Jolie Lenehan	Production Manager	1/3/2005	4/29/2008	4	Thom McCann	jolie@championzone.net
17	Production	Ken Bergman	Executive Assistant	12/1/2004	4/8/2008	4	Thom McCann	ken@championzone.net
18	Production	Thom McCann	Senior VP Production	12/1/2004	4/7/2008	3	Jossef Goldberg	thom@championzone.net
19	R&D	Connie Waite	R&D Director	1/3/2005	5/14/2008	5	Thom McCann	connie@championzone.net
20	Sales	Ashley Larsen	Senior VP Sales & Mktg	12/1/2004	4/10/2008	3	Jossef Goldberg	ashley@championzone.net
21	Sales	Daniel Rohwer	International Liaison	12/1/2004	4/17/2008	2	Ashley Larsen	daniel@championzone.net
22	Sales	Helmut Hornig	North America Sales Manager	12/1/2004	4/18/2008	3	Ashley Larsen	helmut@championzone.net
23	Sales	Rob Caron	Sales Director Latin America	1/15/2005	5/30/2008	3	Ashley Larsen	rob@championzone.net
24	Sales	William Vong	Sales Director Europe	1/15/2005	6/5/2008	3	Ashley Larsen	william@championzone.net

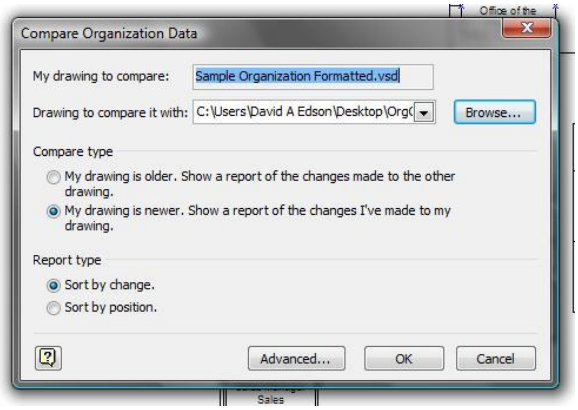
Comparing Visio Organization Chart Diagrams

Another feature of the Visio Organization Chart Solution, which was introduced with Visio 2003, is the ability to compare two organizational diagrams and report on the differences between them. Note that this functionality requires two separate Visio Organization Chart Diagram files. This functionality is found

by choosing Organization Chart ▸ Compare Organization Data… from the Visio Organization Chart Menu while actively working in either of the two Visio Organization Chart Diagrams.



This action will cause the Compare Organization Data dialog to be displayed.



By utilizing the Browse… Command Button, the user may browse to, and select another Visio Organization Chart Diagram from within a File Dialog. Upon return from the File dialog, the second Organization Chart Diagram will be opened. The user may then specify which of the two diagrams is older, in terms of data, and which report type, sorted by change, or sorted by position, is desired.

Left-Click the OK Command Button to run the comparison report. The output will look similar to the illustration shown below.

Comparison, sorted by action

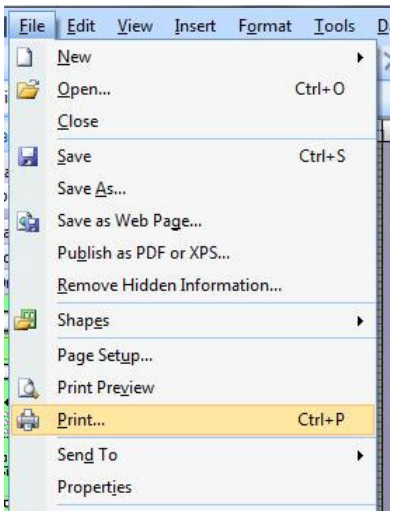
-	Modification	ID	Change description
-	Added	Richard Lum	-
-	Added	Joshua Randall	-
-	Added	Toby Nixon	-
-	Added	Meng Phua	-
-	Added	David Jaffe	-
-	Added	Geof Miller	-
-	Added	Helge Hoeing	-
-	Added	Wendy Vasse	-
Count	8	-	-
-	Changed	Thom McCann	Property (E-Mail) has been changed to (thom@championzone.net) from ().
-	Changed	Helmut Hornig	Property (E-Mail) has been changed to (helmut@championzone.net) from ().
-	Changed	Sean Chai	Property (E-Mail) has been changed to (sean@championzone.net) from ().
-	Changed	Suzan Fine	Property (E-Mail) has been changed to (suzan@championzone.net) from ().

06 - Publishing Visio Organizational Diagrams

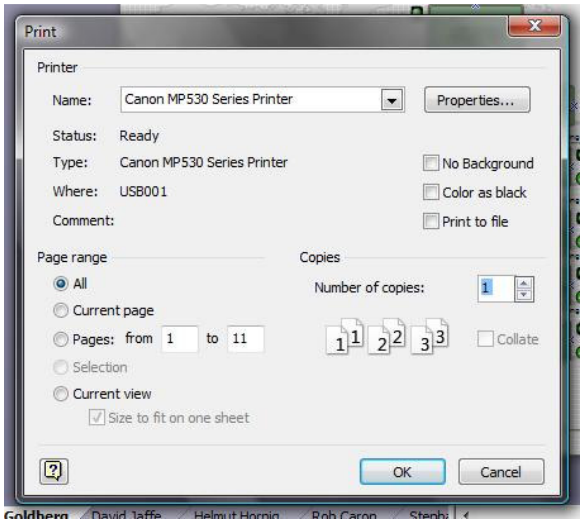
There are numerous ways that Visio Organization Chart Diagrams can be published. This section covers the most often used methods. The choice for publication is both on a need by basis and a corporate policy. The user is advised to choose the methodology that best fits their data sharing requirements.

Publishing to a Printer

The first and easiest is to publish the Visio Organization Chart diagram by sending the output to a connected printer. This is accomplished by choosing File ▸ Print… from the Visio File menu.



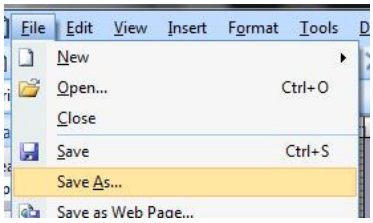
This action causes the Print Dialog to be displayed.



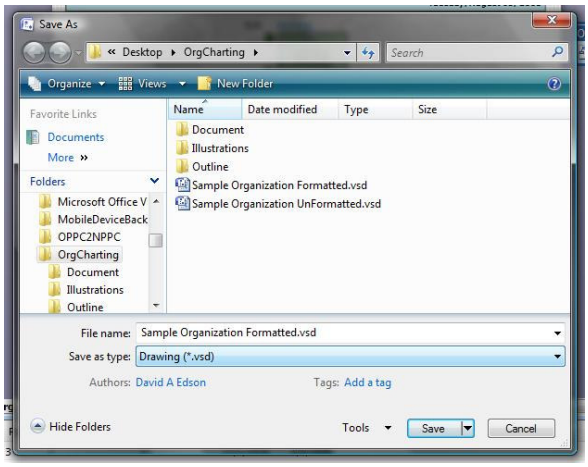
Left-Clicking the OK Command button begins the process of output to the attached printer.

Publishing to a File

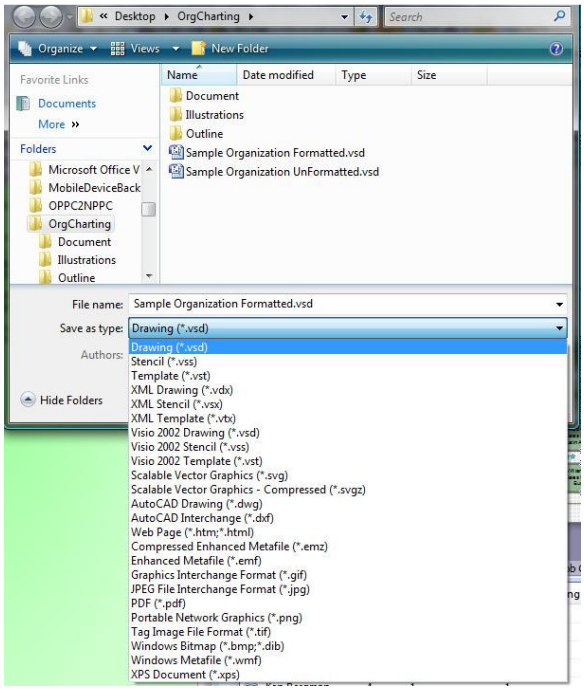
The next method is to simply publish to a file format. This is accomplished by choosing File ▸ Save As… from the Visio File Menu.



This action causes the File Dialog to be displayed.



By selecting the Save as type drop-down list, the user may choose the desired file output type.



.VSD / VDX

Visio's native file format is .VSD (Visio Diagram/Document). Visio's alternate XML format is .VDX.

.PDF

Visio diagrams may be saved to a .PDF format and subsequently shared with other colleagues who might not have access to Visio.

.JPG, .GIF, .BMP, etc.

Visio can save to any number of Graphics formats including .JPG, .GIF, .BMP, etc. These raster formats print nicely at their original output resolution, however, like all raster images, they may suffer from resizing in terms of clarity of image.

Publishing to the Web (.HTML)

Visio also provides an alternative to the simple publication of the image that is the Visio diagram. Visio can also publish as an intelligent Web Page. The output includes both the Visual Diagram but also the data as well. The Visio output to the web may be queried for the Shape Data associated with the SmartShape symbols. The Visio output may be searched for specific content based on data found in the Shape Data associated with the SmartShape symbols.

Since the graphic output to the Web is VML, the diagram output scales incredibly well, with no loss of fidelity when panned and zoomed. The Internet Browser used to display the Visio HTML output includes a “Bird’s Eye” window allowing for rapid pan and zoom capabilities.

The Visio diagram output to the web can also include the report definition output for any and/or all reports defined with the diagram.

07 – Conclusion

While working with the Visio Organization Chart Diagramming Solution may seem daunting at first, a reasonable read through this text should arm the user with the skills to master Organizational Diagrams. The text has provided literally “Click-by-Click”, “Step-by-Step” tutorials for learning everything about creating Organization Chart Diagrams manually, creating Organization Chart Diagrams using the Organization Chart Wizard, numerous best practice tips and tricks for both optimizing and enhancing the Visio Organizational diagrams, and over 150 illustrations to act as a visual guide to mastering your Microsoft Office Visio 2007 Professional Organization Chart Diagramming.

The best of wishes in your Visio work!