

Chapter 1

Getting Started with Visio

Humans are visual creatures, so it isn't surprising that we want to visualize our ideas, designs, and final products and communicate them graphically. In the past, high-quality presentations were the work of professional graphic artists and illustrators, but with Visio 2007, anyone can produce informative and attractive diagrams, drawings, and models. Visio is so straightforward that you can use it to capture the fast-paced output of brainstorming sessions or the frequent changes made to initial designs. At the same time, Visio is powerful enough to develop sophisticated models, and precise enough to document the details of existing systems.

Visio 2007 jumpstarts your efforts with solutions designed specifically to produce different types of diagrams. Visio templates set up your work environment with menus of specialized tools, sets of predefined shapes, and drawing settings such as page size and orientation typical for the type of drawing you want to create. Visio stencils categorize thousands of predefined symbols by industry, drawing type, and application. These Visio *SmartShapes* have built-in behaviors and properties to help you quickly assemble drawings and collect information.

Simplicity and convenience are key to the power of Visio. To construct a drawing, you drag and drop predrawn shapes from stencils onto drawing pages. Defining relationships between shapes has gotten even easier in Visio 2007 with the introduction of AutoConnect, which helps you place and connect new shapes on drawing pages. Specialized tools help lay out drawings and perform typical tasks. The simplicity of integrating Visio with tools such as Microsoft Office, AutoCAD, and database management systems makes it easy to maintain drawings and documentation of systems.

IN THIS CHAPTER

Discovering features new to Visio 2007

Learning the basic concepts behind Visio's power

Exploring the Visio interface

What's New in Visio 2007?

Visio 2007 has dramatically simplified connecting shapes, formatting diagrams, and visualizing data. As always, Visio 2007 includes several new templates and stencils as well as improvements and enhancements to many existing ones. This section highlights some of the new features and tells you which chapter to read to learn more.

NEW FEATURE

Look for the New Feature icon throughout this book to discover what's new and improved.

Productivity Enhancements

Visio enhances its reputation for being quick and easy with the following new or improved features:

- **AutoConnect** — This brand-new method for connecting shapes helps you add shapes to drawing pages, connect them to existing shapes, and align them in one step. However, not all shapes work with AutoConnect, which is the case if you don't see the distinctive blue AutoConnect arrows when you hover the pointer over existing shapes. See Chapter 5 for more on connecting shapes with AutoConnect.
- **Themes** — Whether you don't have time for fancy formatting or tend to wear stripes with checks, the new Themes feature makes attractive, color-coordinated diagrams incredibly easy. In Visio 2007, the Themes feature offers sets of designer-coordinated colors that look good together as well as Theme effects for applying predefined consistent fills and borders to the shapes on your diagrams. See Chapter 7 for the details on Themes.
- **Data Link** — The new Data Link feature simplifies connecting Visio diagrams to data sources, connecting data source fields to Visio shape data fields, and managing the data connections you've made. In addition, for two-way data links, the Database Wizard is still available. See Chapter 10 for more information on integrating Visio drawings with data sources.
- **Data Graphics** — Data Graphics can visualize data associated with shapes in several ways, including text callouts, status bars, and icon sets (for example, to represent status stoplight fashion with red, green, and yellow circles). Unlike the extensive shape customizations required in earlier versions of Visio, Data Graphics provide several pre-defined methods for showing data associated with shapes. However, if you want to build your own Data Graphics, that's easy, too. See Chapter 10 for more on working with Data Graphics.
- **Getting Started** — When you choose File ⇨ New ⇨ Getting Started, the reorganized Getting Started window provides easy access to templates and recent documents. The categories for templates have been simplified so you don't have to scan the list for the category you want. In the main area of the window, you can choose thumbnails of templates you've used recently or Visio drawings you've opened recently. The Recent Documents pane even shows thumbnails of the contents of your drawings. In addition, templates appear in multiple categories if they support different diagramming tasks. See Chapter 2 for more information on the Getting Started window.
- **CAD Integration** — The overall design of CAD integration hasn't changed, but the Visio team has enhanced the integration in many ways, as discussed in Chapter 29.

New and Improved Templates and Stencils

See Chapter 42 for a guide to all the Visio 2007 templates and the categories in which you can find them. The following templates and stencils are new in Visio 2007:

- **PivotDiagram template** — This new template available in Visio Professional 2007 emulates Excel pivot tables and helps visualize business information from multiple viewpoints.
- **ITIL Diagram template** — This new template available in Visio Professional 2007 includes a new ITIL stencil, but also opens stencils from other categories that support the ITIL approach to documenting IT services.
- **Value Stream Map** — This new template available in Visio Professional 2007 helps illustrate process performance, which you can use to eliminate delays and waste.
- **Rack Mounted Servers stencil** — The Detailed Network Diagram template opens this new stencil, which contains 16 rack servers drawn in the isometric perspective.
- **XML Web Service shape** — This one new shape on the Detailed Network Diagram stencil represents an XML web service.
- **Department stencil** — This new stencil for the Work Flow Diagram template shows departments and people in three-dimensional shapes that work with the new Themes feature.
- **Work Flow Objects and Work Flow Steps stencils** — These are additional new stencils for the Work Flow Diagram template.

CROSS-REF

To find other sources for Visio stencils and templates, refer to Chapter 40.

What's Missing in Visio 2007

As much as Visio gives, it also takes away a few things in each new release. Here are some of the items that are no longer available in Visio 2007:

- The Novell Directory Services template and its stencils are no longer available.
- File Search is no longer available on the File menu.
- The Insert Picture from Scanner or Camera feature is gone.
- The Getting Started Tutorial and Diagram Gallery are no longer available on the Help menu.
- The New Drawing and Template Help task panes are no longer available.
- The Org chart theme feature has been replaced by the Themes feature.

New Homes for Features in Visio 2007

Microsoft loves to move things around. Here's how to find some of your old but relocated favorites:

- The Color Schemes add-on appears only when you right-click the page in an old drawing created in an earlier version of Visio, because Color Schemes have been replaced by Themes.
- Custom Properties Sets, now called Shape Data Sets, are available only when you right-click the Shape Data window.
- The Shared Workspace task pane has been renamed to Document Management.
- Export to Database is available only by choosing Tools ⇄ Add-ons ⇄ Visio Extras.
- Rotate Left, Rotate Right, Flip Vertical, and Flip Horizontal are available only on the main Shape menu.
- Format ⇄ Special appears only if you run Visio in developer mode.
- The option to save the drawing workspace with a Visio document is available by choosing File ⇄ Properties.

What Visio Is and Isn't

Visio can be many things to many people. Applied properly, Visio can help you produce simple diagrams as well as complex models. However, Visio's far-reaching capabilities can be confusing if you don't understand how they differ. Even worse, Visio can be downright diabolical if you try to use it for tasks too far afield from what it's designed for.

Many drawings are simple diagrams with some basic connections and little or no associated data. For these drawings, dragging and dropping shapes and gluing connectors are about all you need to know. If you use the new AutoConnect feature, you don't even have to align shapes after you connect them. The remaining chapters in Part I, *Understanding Visio Fundamentals*, describe the basic tools you need to diagram with Visio.

However, Visio Professional can also produce intelligent models and specialized documentation for numerous fields, including software engineering, architecture, mechanical and electrical engineering, and business process modeling. Templates for these purposes often contain specialized tools. However, the real stars are usually the shapes in the stencils for these templates, which have smart features — built-in behaviors and attributes that fit the shapes to their roles. For example, intersecting walls in building plans are smart enough to clean up their overlapping lines. Cubicle shapes might contain shape data for identifying the people who occupy the space for occupancy reports. These features are time-savers when you know how to use them but can make Visio seem to have a mind of its own when you don't. Parts III, IV, and V of this book teach you the ins and outs of more sophisticated Visio solutions.

You can draw precise plans to scale with Visio. Visio Standard supports only basic building plans, whereas Visio Professional supports a variety of architectural and engineering plans. Nonetheless, you'll probably want the extra power of a CAD application, such as AutoCAD, to design and document large or complex plans. Even so, Visio can complement your CAD application. You can create shapes faster and more easily in Visio and then import them for use in AutoCAD or other CAD applications. Team members who don't have access to AutoCAD can create their drawings in Visio using CAD drawings as a backdrop and import their work into AutoCAD if necessary. Visio also simplifies preparing presentations for large projects.

Understanding Visio Concepts

Visio enhances your drawing and modeling productivity because so many of its elements include features that incorporate industry expertise. Most of the time, you don't even think about how much Visio does for you because the templates, stencils, and shapes do just what you would expect. However, some of Visio's specialized capabilities might surprise or even confuse you at first. By understanding the concepts that make Visio so powerful, you can prevent problems and keep your productivity at a blistering pace.

Using Templates and Stencils

In the real world, templates are patterns you use to build something. For example, you could use a standard design for a log house to simplify the construction of your home. In Visio, a template is a special type of Visio drawing file that contains the tools you need to produce a specific type of drawing. Each template comprises settings, stencils, styles, and sometimes special commands to make your work on a drawing as easy as possible.

When you create a drawing based on a template, Visio does the following things:

- **Opens stencils with shapes** — Visio opens stencils that contain the shapes you need for the type of drawing you are creating.
- **Includes styles** — Visio provides special formatting styles typical for the current drawing type. For example, a construction project created from a floor plan template includes line styles typically used to dimension architectural plans.
- **Automatically displays menus and toolbars** — If the template contains a special menu, Visio adds an entry for the menu to the menu bar. If the template contains a special toolbar, Visio floats the toolbar in the drawing area.
- **Specifies settings** — Visio specifies settings typical for the type of drawing. For basic block diagrams, Visio uses letter-size paper, portrait orientation, one-to-one scale, and inches for measurement units. For site plans, it specifies a 36" × 42" architectural drawing size in landscape orientation, a scale of 1 inch to 10 feet, and measurement units of feet and inches.
- **Displays rulers and grid** — To make positioning shapes easy, the rulers and grid take into account the scale and units for the drawing. For example, a block diagram shows inches on the rulers with each grid cell equal to one-quarter inch. Conversely, rulers for a site plan display feet in the rulers with each grid cell equal to 10 feet.

Visio stencils are categorized collections of shapes. To continue the house analogy, a Visio stencil is like a catalog of cedar logs and connecting brackets that are available from your local building supply store. To build your home, you order the components you need from the store and assemble them according to your house design. In Visio, you assemble your drawings by dragging and dropping shapes from stencils onto your drawing page.

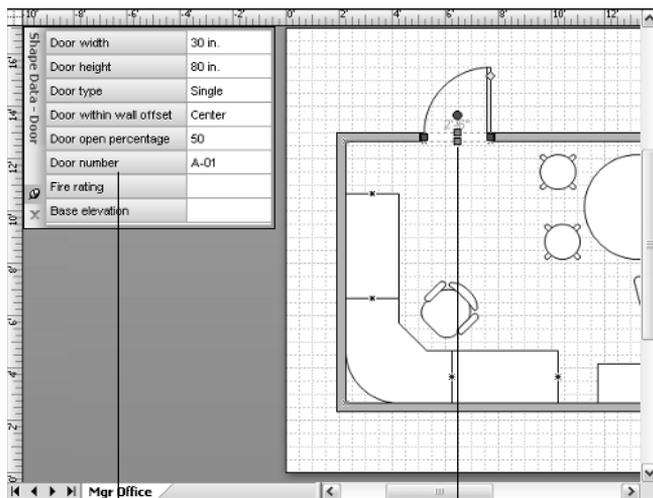
What Makes Shapes Smart

The Visio philosophy is elegantly simple — you construct drawings primarily by dragging and dropping predefined shapes onto drawing pages. Although working with Visio can seem like copying clip art into a document, Visio shapes are much more powerful. In fact, Visio calls them *SmartShapes* because their built-in properties and behaviors make them seem, well, smart.

Shape behaviors help you position shapes and connect them appropriately to other shapes. For example, when you place a door shape in a wall, the door lines up with the wall and creates an opening into a room, as shown in Figure 1-1. That same door might contain shape data to configure the shape or identify it, also shown in Figure 1-1. For example, one door property specifies whether the door is centered in the wall. Other door properties can define a door's dimensions, its catalog number, or its associated room number, so you can produce a schedule of the doors you need and where they belong in your building.

FIGURE 1-1

Shapes include behaviors and properties that make them seem smart.



Door shapes can create openings in walls

Shape data configures and identifies shapes

CROSS-REF To learn about how to define properties and behaviors for shapes, see Chapter 33.

In Visio, predrawn shapes are called *masters*, which are stored and categorized in stencils. When you drag and drop a master from a stencil onto your drawing page, you create a copy, called an *instance* of that master. Each instance inherits its master's behaviors, so it knows how to act when you add it to your drawing. It also inherits its master's properties, so you can assign unique values to an instance.

As you'll learn in detail in Chapter 4, shapes have handles to help you position, resize, and connect them to one another. When you select a shape, Visio marks these features with colored graphics, so you can drag them to make the changes you want. Shapes include the following types of handles:

- **Selection handles** — Red or green boxes appear when you select a shape. You can drag these selection handles to resize a shape or attach connectors to them.
- **Connection points** — Blue Xs mark locations where you can glue connectors or lines.
- **Rotation handle** — This is a red or green circle that you can drag to rotate a shape.
- **Control handles** — Yellow diamonds appear on some shapes. You can drag control handles to modify a shape's appearance — for example, to change the swing on a door.
- **Eccentricity handles** — You can drag these green circles to change the shape of an arc.

Connecting Shapes

Relationships often convey as much information as the elements they connect. Whether you are showing who reports to a manager in an organization or defining the relationship between two database tables, connections between Visio shapes not only provide information about a relationship, but they also help you lay out and rearrange the shapes on your drawing.

CROSS-REF To learn more about connecting shapes, see Chapter 5.

What Connectors Do

At their simplest, connectors are linear shapes with other shapes attached to each end. However, connectors have smarts of their own. When you move two connected shapes, the connector between them adjusts to maintain that connection. Likewise, connectors reconfigure to keep shapes connected when you use automatic layout tools in Visio. For example, you can change the layout of an organization chart from horizontal to vertical and the connectors alter their paths as the employee shapes take up their new locations.

Connectors have start and end points that define the direction of the connection between shapes. Which end you connect to a shape can make a big difference in behavior. For example, in a database model, the table shape at the start of a connector is the *parent*, whereas the table at the end of a connector is the *child*. When you define a one-to-many relationship between those connected tables, the one is associated with the table at the connector's start point and the many belongs to the table at the connector's end point.

TIP

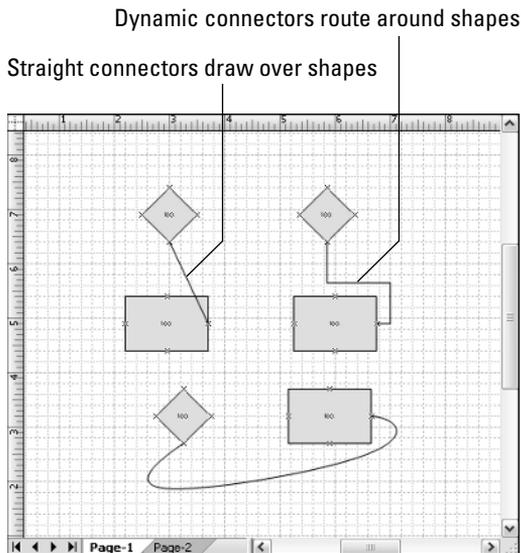
When you want to differentiate the predecessor and successor for two connected shapes, such as in a data flow diagram or project schedule, make sure you glue the start point of the connector to the shape you are connecting from and the end point to the shape you are connecting to.

Straight versus Dynamic Connectors

Straight connectors are straight lines that connect shapes. They lengthen, shorten, and change their angle to maintain shape connectivity, but they draw straight over shapes that are in their path, as shown in Figure 1-2. Dynamic connectors are smarter. They automatically bend, stretch, and detour around shapes instead of overlapping them, as shown on the right side of Figure 1-2. They can also jump over other connectors to make connections easier to follow on a drawing. By default, dynamic connectors use right angles to bend around shapes. You can change the path of a right-angled connector by moving any of its vertices, or add or move segments of a right-angled connector by dragging a midpoint of a segment. Curved connectors are dynamic as well. You can drag their control points and eccentricity handles, to modify the shape of the curve.

FIGURE 1-2

You can connect shapes with straight or dynamic connectors.



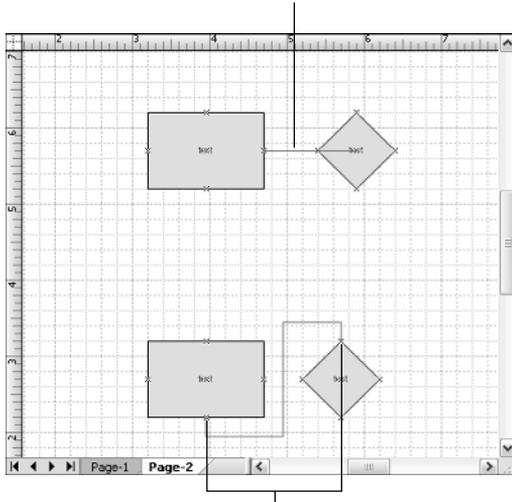
Using Glue

Similar to glue in real life, Visio glue makes things stick together. Visio glue comes in two varieties: shape-to-shape and point-to-point. *Shape-to-shape glue*, also known as *dynamic glue*, builds dynamic connections between shapes. When you reposition shapes connected with shape-to-shape glue, the end points of the connector move to the closest available connection points, as shown in Figure 1-3. *Point-to-point glue*, also known as *static glue*, keeps the connector end points glued to the specific points you selected on the shapes, also illustrated in Figure 1-3. In addition, you can combine dynamic and static glue, gluing a connector to a shape at one end and a specific point at the other.

FIGURE 1-3

Dynamic glue draws the shortest connectors between two shapes.

Shape-to-shape glue draws the shortest connections



Point-to-point glue always connects the points you select

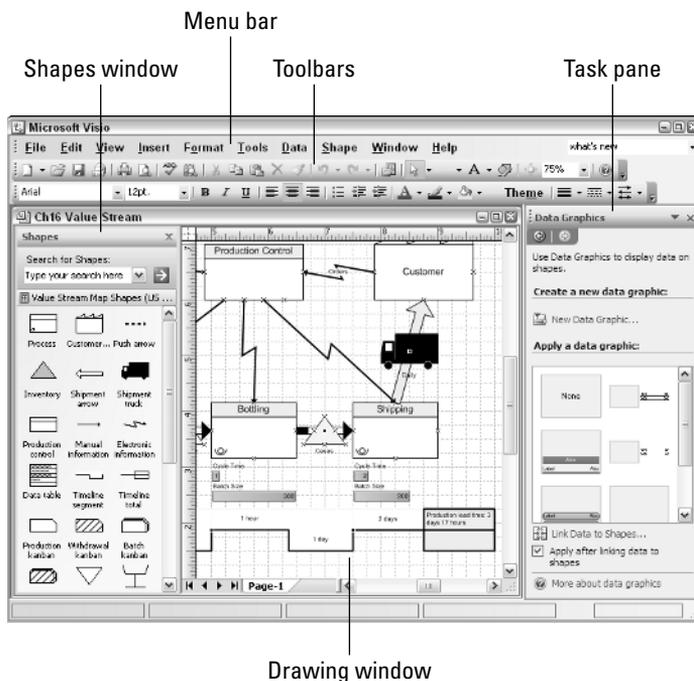
By default, you can glue to entire shapes, connection points, or guides. You can change glue settings to also glue to shape handles, shape vertices, or any point on a shape's geometry. As you draw a connector, a red box appears around a shape when you are connecting to that shape. If you are connecting to a point, the connection point turns red.

Exploring the Visio 2007 Interface

The Visio interface makes it easy to access the features you use. By default, the Visio environment positions menus and toolbars across the top, the Shapes window with stencils and shapes to the left, the task pane to the right, a status bar along the bottom, and the drawing window in the center, as shown in Figure 1-4.

FIGURE 1-4

The Visio environment provides convenient access to tools.



Menus and Toolbars

Most Visio features appear on one or more of the plentiful built-in menus or toolbars. In the Visio menu bar, in addition to the menus so familiar to Microsoft Office users, specialized menu entries sometimes appear, which include commands specifically for the template you're using. For example, the Organization Chart template adds an Organization Chart entry to the menu bar, which opens a drop-down menu with commands, such as Arrange Subordinates or Import Organization Data.

However, the fastest route to many tasks is right-clicking something on the drawing page or within the Visio windows to display a shortcut menu. In addition, shortcuts for the most popular

commands are available on the Standard or Formatting toolbars, which appear by default. Some templates include specialized toolbars, which float in the drawing window. You can easily show or hide a toolbar:

- To display a toolbar, choose View ⇨ Toolbars and choose the toolbar you want to use. A check mark appears when the toolbar is displayed. A specialized toolbar appears in the toolbar list when a drawing of its type is active.
- To hide a toolbar, choose View ⇨ Toolbars and click the checked toolbar that you want to hide.

You can dock a toolbar along the top, bottom, or sides of the Visio window. When you dock a toolbar to the left or right, the toolbar hangs vertically along the side. Toolbars are easily manipulated:

- To reposition a docked toolbar, drag its move handle to a new location. The move handle is a series of dots to the left of a horizontal docked toolbar and along the top of a vertical docked toolbar.
- To float a toolbar in the middle of the window, drag its move handle to a new position.
- To reposition a floating toolbar, drag its title bar to a new location.

Task Panes

The more sophisticated features that you might use for long stretches during a session typically have their own task panes, such as the new Themes and Data Graphics features. Task panes dock on the right side of the screen by default. To show or hide a task pane, choose View ⇨ Task Pane. You can also display the task pane by pressing Ctrl+F1.

The Visio 2007 Drawing Area

The drawing window, which contains your active drawing, takes center stage in the Visio drawing area. However, you can display several other windows to facilitate your work. To display one of these other windows, choose View and then the window name.

The Drawing Window

Drawing pages appear in the drawing window, where you can add shapes or modify and format the contents of your drawing. You can view different areas of a page using the horizontal and vertical scrollbars. To view another page, at the bottom of the drawing window select the tab for that page.

A drawing grid and rulers make it easy to position and align shapes on a page. To display a grid in the drawing window, choose View ⇨ Grid. To display rulers, choose View ⇨ Rulers. The units that rulers display vary depending on the type of drawing and scale you are using. For example, the rulers for a block diagram use inches, whereas rulers for a site plan use feet.

To change the ruler units, choose Tools ⇨ Options and select the Units tab. Click the Change button and, from the Measurement Units drop-down list, choose the units you want.

The Shapes Window

You drag and drop shapes from the stencils in the Shapes window onto a drawing page. The Shapes window docks by default on the left, as previously shown in Figure 1-4. However, you can reposition the Shapes window or even individual stencils to suit your needs. For example, you can dock the Shapes window at the top or the bottom of the drawing area to provide more room for pages set to landscape orientation.

Here are some methods for configuring the Shapes window:

- To add another stencil to the Shapes window, choose File ⇨ Shapes, and choose the category and then the stencil you want.
- To display the shapes for an open stencil in the Shapes window, click the stencil's title bar.
- To resize the Shapes window, drag the vertical divider between the Shapes window and the drawing window to the left or right.
- To change the information displayed in the Shapes window, right-click the Shapes window title bar and choose one of the options, such as Icons Only, from the shortcut menu.

NOTE

To change the information in the Shapes window, you can also right-click a stencil title bar, choose View, and then choose the type of information you want to see.

By default, in the Shapes window you see the title bars for all open stencils, but only the shapes for the active stencil. To view multiple stencils at the same time, you can

- Drag a stencil from the Shapes window and float it on the screen, as shown in Figure 1-5.
- Drag a stencil to the top or bottom of the Shapes window to create a second stencil pane, also shown in Figure 1-5.

The Drawing Explorer

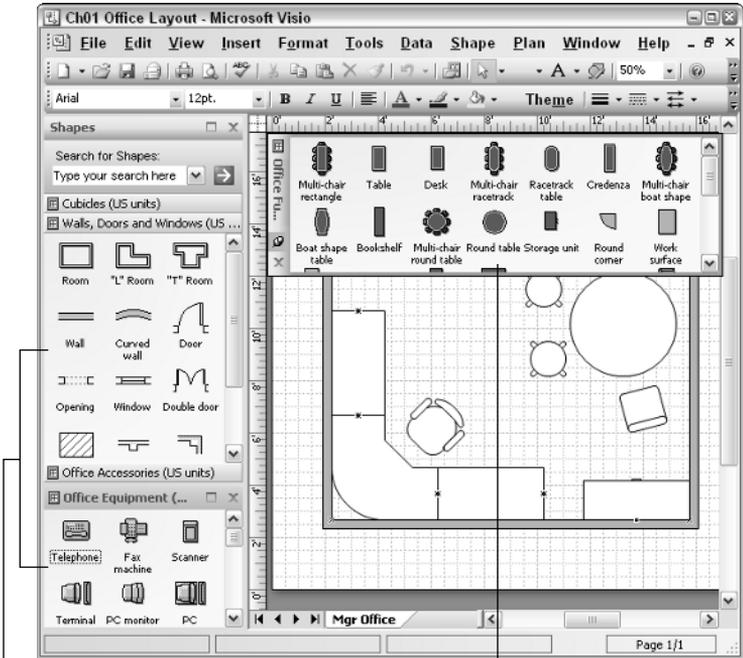
The Drawing Explorer, shown in Figure 1-6, offers a hierarchical view of your drawing. You can use the Drawing Explorer to find, add, delete, or edit the components of your drawing, including pages, layers, shapes, masters, styles, and patterns — sometimes, more easily than performing the same task on the drawing page. For example, you can select and highlight a shape on a drawing by double-clicking its name in the Drawing Explorer window. To display the Drawing Explorer, choose View ⇨ Drawing Explorer Window.

TIP

You can conserve screen real estate by docking and merging view windows. You can dock other view windows within the Shapes window or merge several windows into one. To dock a view window, such as Pan & Zoom, drag it into the Shapes window. To merge view windows, drag one window by its title bar into the center of another window. To switch between merged windows, select the tab for the view you want.

FIGURE 1-5

You can dock stencils in the Shapes window or float them on the screen.

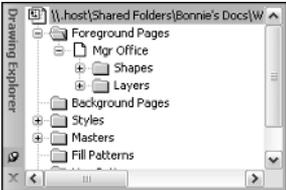


Multiple stencil panes in the Shapes window

A floating stencil

FIGURE 1-6

You can exploit the hierarchy of drawing components in the Drawing Explorer window.



The Size & Position Window

The Size & Position window is particularly useful when you work on scaled drawings such as building plans, where precise measurements are important. You can use the Size & Position window to view and edit a shape's dimensions, position, or rotation.

CROSS-REF To learn more about how to use the Size & Position window, see Chapter 4.

The Shape Data Window

The Shape Data window is the best place to modify the shape data for a number of shapes. The window stays open until you close it and displays the shape data values for the currently selected shape. To edit a property in the Shape Data window, click the property box and enter or edit a value.

CROSS-REF To learn more about shape data, see Chapters 10 and 34.

The ShapeSheet Window

Every aspect of a shape is defined in its ShapeSheet. You can display the ShapeSheet by choosing Window ⇨ Show ShapeSheet.

CROSS-REF To learn more about ShapeSheets, see Chapter 34.

Summary

Visio is a great tool for communicating ideas, documenting business results, and modeling systems. Using drag-and-drop drawing techniques, anyone can produce great-looking diagrams, drawings, and models. This chapter introduced the new and improved features in Visio 2007 and mentioned features that have been discontinued. You also learned a little about the concepts that make Visio so powerful. Finally, you learned about the Visio interface and the windows you can use to make your drawing work as simple as possible.