Microsoft® Office Visio® 2003 User Guide

The Microsoft Office Business and Technical Diagramming Solution

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Contents

Welcome to Microsoft Office Visio 2003

Microsoft® Office Visio® 2003 provides templates, shapes, and drawing tools you can use to create effective business and technical diagrams. Using Visio Standard, you can analyze business processes, schedule projects, visualize thought processes, and chart your organization. Using Visio Professional, you can do all of those things, as well as visualize your network infrastructures, floor plans, facilities equipment, electrical circuits, software systems, and database structures.

Working in a familiar Microsoft environment, you can also import data to create diagrams, export data from diagrams, store data with diagrams, generate reports from stored data, and incorporate diagrams into Microsoft Office files.

The *Microsoft Office Visio 2003 User Guide* includes the following topics to get you started:

- Visio installation and activation
- Visio diagram examples and an overview of the drawing process
- The basic methods you need to know to create any Visio diagram, shape, or template
- More specific methods you can use to create several common diagram types

Topics in this section

Visio installation and activation

Installing and activating Visio is a quick and simple process.

Installation

Before you begin the installation, locate the product key on your Visio CD. To prevent installation conflicts, close all programs and turn off virus-protection software. Then, place your Visio CD in the CD-ROM drive. On most computers, Visio Setup will start automatically and guide you through the installation.

If Visio Setup does not start automatically, complete the following procedure.

Manually start Visio Setup

1. Insert your Visio CD into the CD-ROM drive.
2. On the **Start** menu click **Run**.
3. Type *drive:\setup* (replace *drive* with the letter assigned to the CD-ROM drive).
4. Click **OK**.

   Visio Setup starts and guides you through the installation.

TIP: *After installing Visio, if you suspect a problem with your product, on the **Help** menu, click **Detect and Repair** to repair it. To check for product updates on the Web, on the **Help** menu, click **Check for Updates**.*

Activation

The first time you start Visio, you are prompted to activate the product. The **Activation Wizard** guides you though all the steps necessary to activate Visio through an Internet connection or on the telephone.

If you choose not to activate Visio the first time you start the product, you can complete activation later by clicking **Activate Product** on the **Help** menu.

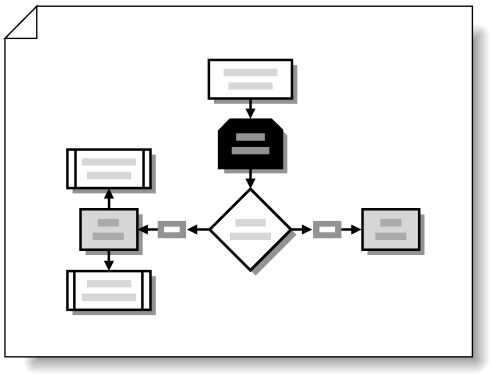
NOTE: *If you do not activate the product after using it several times, you will experience reduced product functionality. Eventually, the only thing you will be able to do without activating Visio is open and view files.*

Visio diagrams for all of your business and technical needs

Unlike many bundled programs that provide limited drawing capabilities, Visio provides a dedicated, familiar, Microsoft drawing environment, complete with a broad range of templates, shapes, and sophisticated tools designed to make creating a wide variety of business and technical diagrams easy. The sample diagrams on the following pages represent just a few of the many types of diagrams you can create using Visio Standard 2003 and Visio Professional 2003.

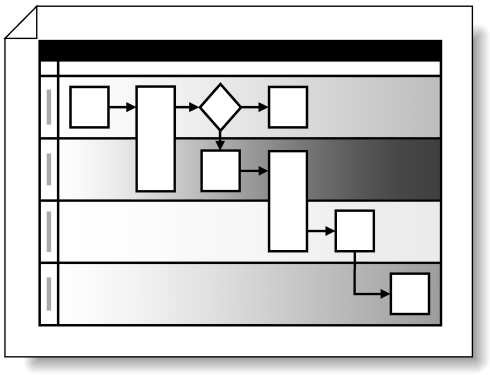
TIP: *Visio 2003 includes **Diagram Gallery**, which provides you with sample diagrams for every diagram type in Visio and ideas about who could use them and how. To browse these sample diagrams, on the **Help** menu, click **Diagram Gallery**.*

Flowcharts



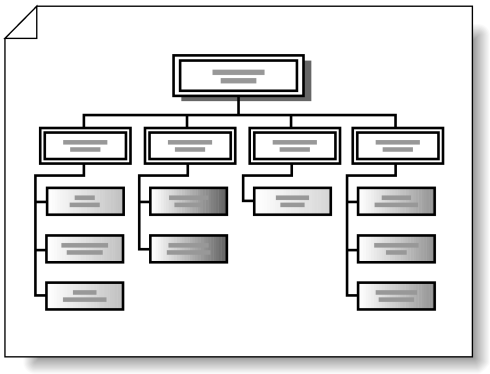
- Accountants can use flowcharts to describe fiscal management, money management, and financial inventory processes.
- Hiring managers can use product development flowcharts to highlight the important decisions new employees need to be prepared for.
- Insurance companies can use flowcharts to document risk-assessment processes.

Cross-functional Flowcharts



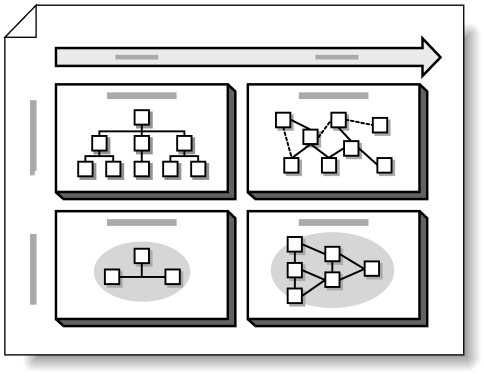
- TQM personnel can use cross-functional flowcharts to understand how processes work and which departments are involved.
- Executive assistants can use cross-functional flowcharts to describe processes to executives and suggest improvements.
- Project managers can use cross-functional flowcharts to determine the effects of projects across organizations.

Organization Charts



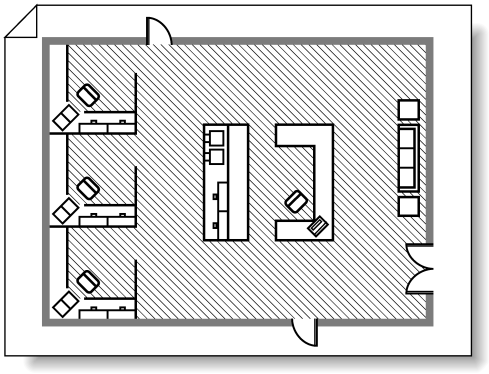
- Project managers can use organization charts to show team structures and task allocations when developing project schedules.
- Managers can use organization charts to visualize how to restructure their departments or to estimate staffing needs.
- Human resources professionals can create organization charts and post them on a company's intranet.

Block Diagrams



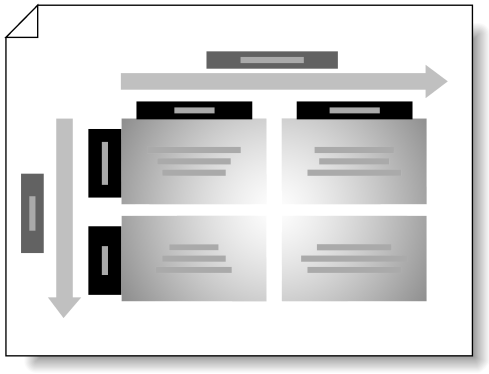
- Software programmers can use block diagrams to communicate ideas and complex concepts.
- Project managers can create conceptual block diagrams that illustrate how project tasks fit together.
- Sales and marketing professionals can include block diagrams in their presentations, proposals, and reports.

Office Layouts



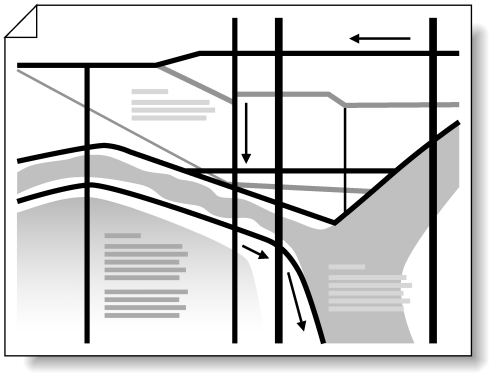
- Space planning consultants can use office layouts to make recommendations to clients.
- Operations departments can use office layouts to track asset inventories.
- Interior designers can use office layouts to determine the best ergonomic layout for an office.

Marketing Charts and Diagrams



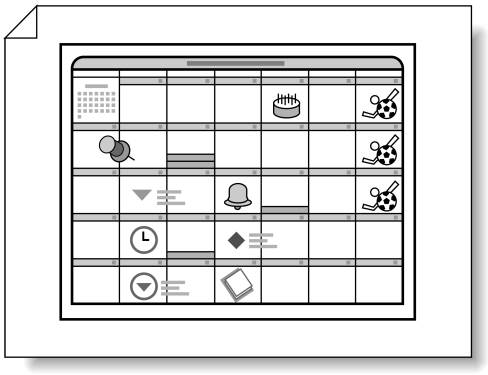
- CFOs can use marketing charts to describe company finances in annual reports.
- Newspaper and magazine professionals can use diagrams, sometimes called infographics, to illustrate statistical data.
- Marketing professionals can use charts to display data more effectively than in text form.

Directional Maps



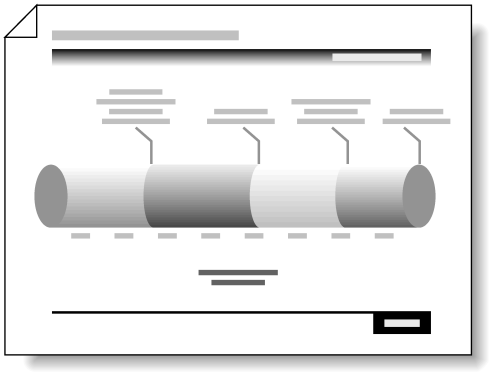
- Traffic officers can use directional maps to evaluate traffic patterns.
- Event planners can use directional maps to provide directions to employees for company events.
- Sales managers can use directional maps to provide clients with directions to trade shows.

Calendars



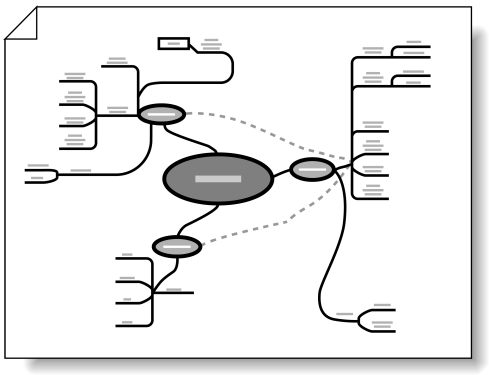
- Administrators can use calendars to keep track of employee holidays.
- Project managers can incorporate calendars into project management documents to help team members visualize project schedules.
- Event planners can use calendars to schedule and track events throughout the year.

Timelines



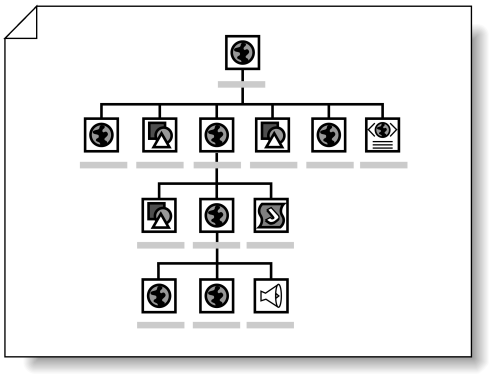
- Project managers can use timelines to represent project durations and milestones.
- Supervisors can use timelines to make sure team members understand their deadlines.
- Documentation specialists can use timelines to track process-completion dates.

Brainstorming Diagrams



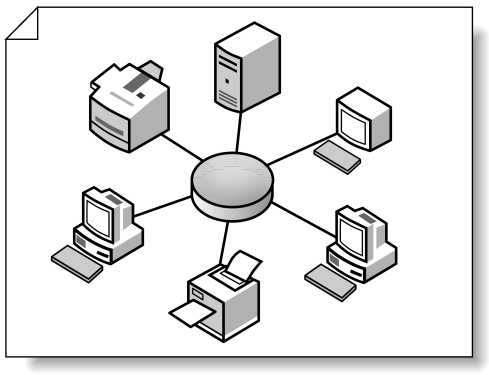
- Project managers can use brainstorming diagrams in team meetings to analyze and solve process problems or identify new product ideas.
- Writers can visually organize their ideas with brainstorming diagrams.
- Project team members can use brainstorming diagrams to generate action items.

Web Diagrams



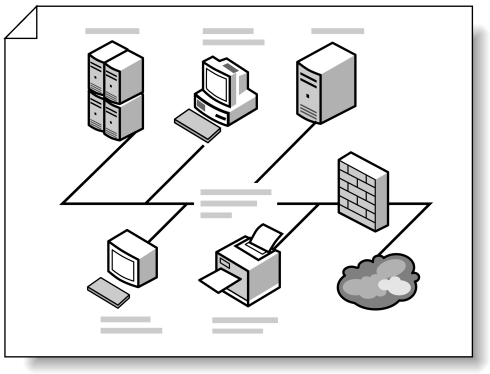
- Intranet site managers can use Web diagrams as visual aids in reorganizing departmental intranet sites.
- Web developers can use maps of their sites to help them inventory files, pictures, data, and other content.
- Web designers can incorporate Web diagrams into presentations for company meetings.

Logical Network Diagrams



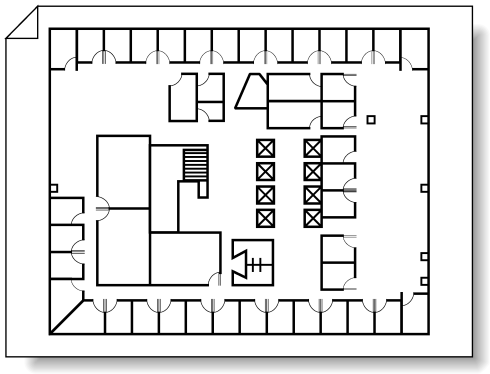
- Network managers can create logical network diagrams to show high-level views of their networks.
- IT professionals can use logical network diagrams to determine how geographic locations are interconnected.
- IT engineers can identify obstacles or backlogs in their network flows.

Physical Network Diagrams



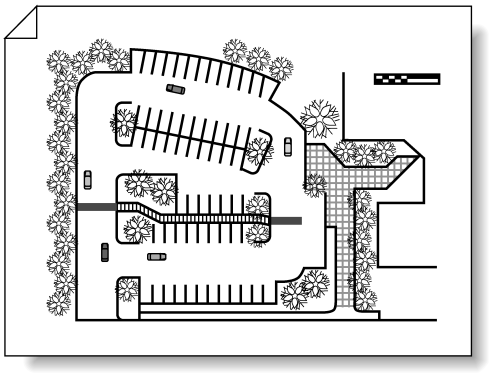
- Facilities managers can incorporate physical network diagrams into plans for disaster recovery and documents about company assets.
- Network managers can use physical network diagrams to show the distribution of products throughout their organizations.
- Employees can refer to physical network diagrams to find printers, copy machines, and other devices.

Floor Plans



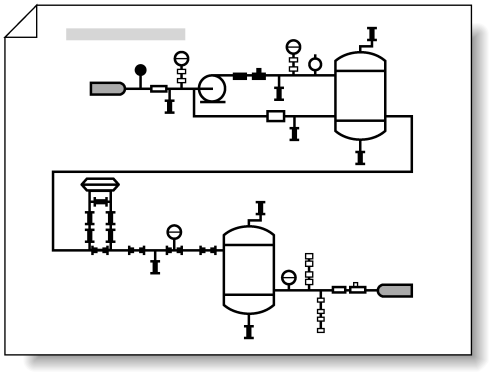
- Architects can use floor plans in brainstorming sessions to quickly show various layout options.
- General contractors can use floor plans to configure the best wiring plans for buildings.
- Facilities managers can annotate proposed floor plans, and then return them to the architect for review.

Site Plans



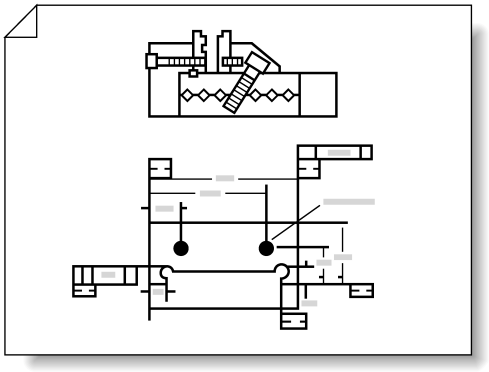
- Facilities managers can use site plans to design parking lot configurations.
- Space planners can incorporate site plans into relocation proposals.
- Contractors and site designers can use site plans to see how buildings fit their surroundings.

Process Engineering Diagrams



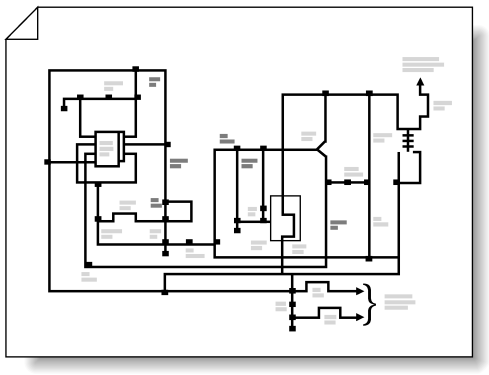
- Process engineers can create process flow diagrams to show piping plans for petroleum plants.
- Plant operators can use P&IDs to document changes to existing facilities, such as boiler systems.
- Controls operators can use piping diagrams to show how logic diagrams relate to physical pipe plans.

Mechanical Engineering Diagrams



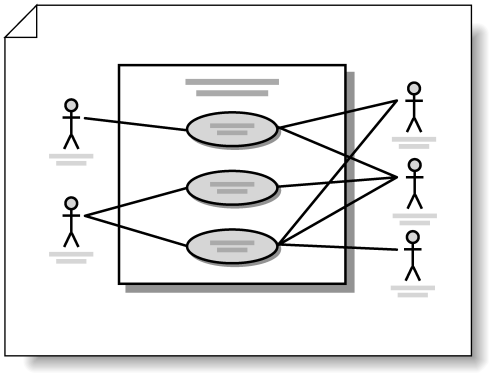
- Mechanical engineers can diagram hydraulic systems, fluid power assemblies, and valves.
- Engineering teams can share and comment on design concepts.
- Engineers can use 2-D mechanical engineering diagrams with 3-D design systems.

Electrical Engineering Diagrams



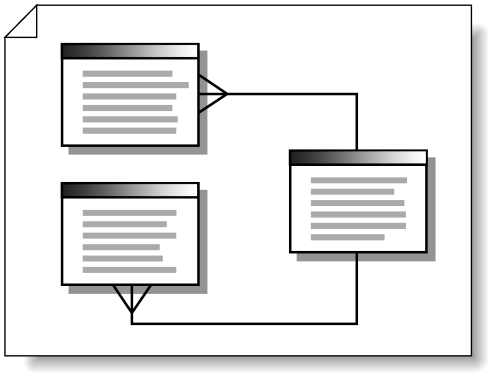
- Electrical engineers can create blueprints, schematics, and wiring diagrams.
- Control engineers can use electrical engineering diagrams to design complex industrial control components and systems.
- Telecommunication engineers can use telecommunications diagrams to share component and service design ideas.

Software Diagrams



- Software engineers can create code structure diagrams, and then test and revise the diagrams during the development process.
- User interface designers can use software diagrams to create prototypes of dialog boxes, menus, toolbars, and wizards.
- Usability engineers can use software diagrams to test user interaction with proposed software.

Database Model Diagrams



- Technical support personnel can use database model diagrams to see and troubleshoot database schemas.
- Software engineers can design and revise database model diagrams after they brainstorm with colleagues.
- Trainers can use database model diagrams to show students database structures.

What's new in Visio 2003

New or improved features and templates in Visio 2003 make it easier than ever to create professional diagrams that help you better communicate key information and make a more professional impact on your audience.

Work faster and do more with new or improved Visio 2003 features

You can work faster and do more using the following core group of new or improved features that Visio 2003 provides:

- Easily rotate shapes with the new rotation handle ( ) that appears on two-dimensional shapes.
- Easily select multiple shapes using the new **Area Select** ( ) and **Lasso Select** ( ) tools and the **Multiple Select** mode. Resize all of the selected shapes at once using the new selection handles that enclose them.
- Share information and ideas with colleagues on your Tablet PC wherever you happen to be with the new **Ink** tool ( ). Sketch freely and work through ideas as you would on paper or whiteboards.
- Quickly find shapes with the improved **Search for Shapes** feature in the **Shapes** window. Drag the shapes you find directly onto the drawing page.
- Organize the shapes you use often in one location so they're easy to find. Save them on the new **Favorites** stencil or custom stencils in the new **My Shapes** folder.
- Use the task panes docked to the right of the drawing page to quickly access options for starting diagrams, searching the Web, inserting clip art into diagrams, researching, reviewing, collaborating, and getting Help.
- Mark up Visio diagrams with shapes and annotations using the new **Reviewing** task pane. It supports global teams, whose members need to review and collaborate on projects, but may not be in the same building, or even the same country.
- Easily collaborate on and share documents with Microsoft SharePoint® integration in Visio 2003. Work with documents in the **Shared Workspace** task pane, which contains a library of all related files, and provides immediate access to your collaboration group, assignments and action items, and external links to information.
- View, share, and print Visio diagrams in Microsoft Internet Explorer 5.0 or later using the improved Visio Viewer, even if your team members, clients, and partners don't have Visio.
- Ensure CAD files you convert to the Visio file format have higher fidelity than your original CAD files. The **DWG Converter** also includes improved text handling and graphic support.

Create a lasting impression with new or enhanced templates and shapes

Gain more control over your Visio diagrams and use them to create a lasting impression on your audiences using new or enhanced Visio 2003 templates.

Templates with shapes already positioned on the drawing page Create diagrams faster with new Visio templates that come with shapes already on the drawing page. Just fill in the detail without worrying about the layout or starting from a blank page.

Brainstorming Diagram Capture and arrange ideas generated by a group or generate and diagram ideas on your own with the new **Brainstorming Diagram** template. Then, export the diagram to a Microsoft Word outline for those who prefer to see the information in a linear view, or to an XML file for reuse elsewhere.

Organization Chart Specify the employee information you want to show in your organization charts, add employee photographs to shapes, show dotted-line reporting relationships, and experiment with different layouts using the enhanced features and shapes in the **Organization Chart** template.

Timeline Easily communicate schedule information, visualize milestones, and reinforce the progression of time with the improved **Timeline** template. Create vertical timelines and synchronize milestones and intervals across multiple timelines. Use the new **Expanded timeline** shape to create a more detailed timeline segment. Edit all date and time formatting at once, and divide your timeline by seconds, minutes, hours, or quarters of the year.

Basic Network Diagram and Detailed Network Diagram Create presentation-quality network diagrams with the enhanced **Basic Network Diagram** template in both Visio Standard 2003 and Visio Professional 2003. Document the physical and logical topology of your network using the **Detailed Network Diagram** template in Visio Professional 2003. Shapes in both templates have a dramatically improved appearance.

Rack Diagram Quickly diagram rack space requirements for new network equipment using the **Rack Diagram** template in Visio Professional 2003. The new shapes are designed with industry-standard measurements, to fit together precisely, making it easy to stack shapes in a rack and size them appropriately. You can also store data, such as serial number and location, with the shapes and then generate detailed reports.

Windows XP User Interface Prototype user interfaces with the new **Windows XP User Interface** template in Visio Professional 2003, which includes all the controls you need to draft your user interfaces before you begin coding. Create drop-down menus, tabbed dialog boxes, and toolbars that comply with the Microsoft Windows XP® look and feel.

Web Site Map Take advantage of the enhanced features in the **Web Site Map** template included with Visio Professional 2003. Gain more control over layout options and shape text, use new shapes to represent current and upcoming technologies, and generate Web site maps faster. Using the new interactive discovery feature, you can even map protected Web site areas for which you have the appropriate access rights.

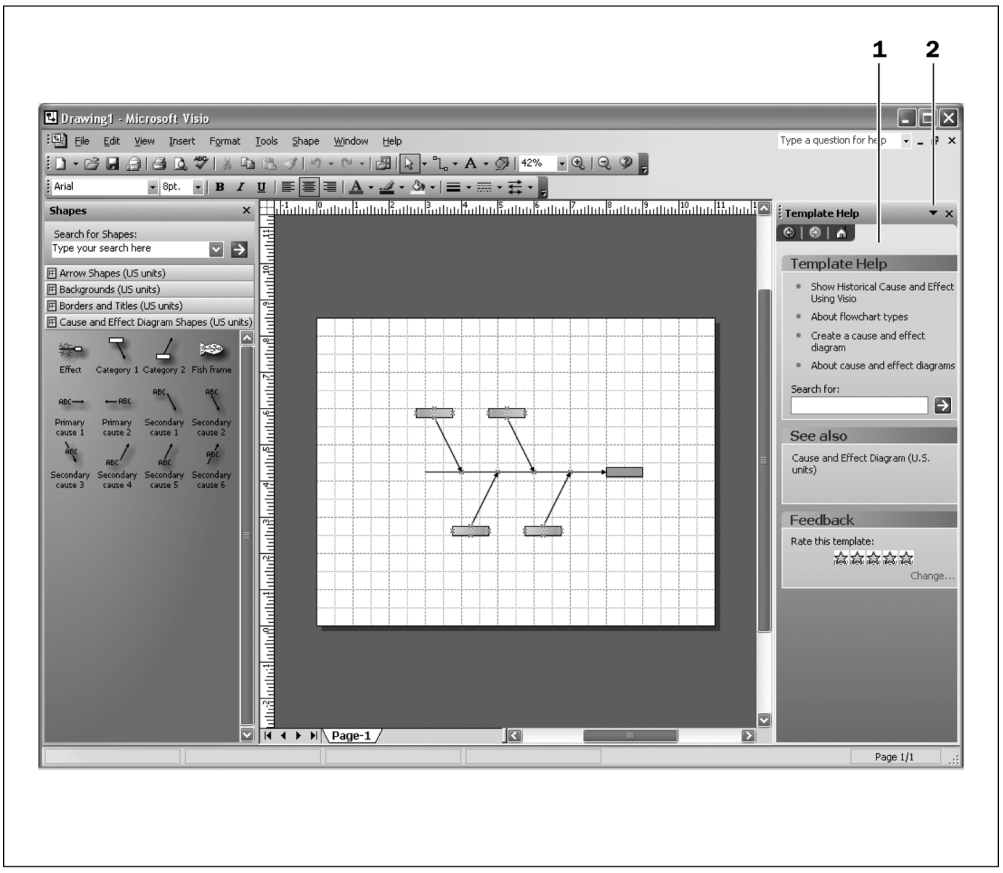
Task-specific information while you work

Visio 2003 includes new task panes that give you quick access to task and diagram-specific information while you work. You can use them to get Visio and template-specific Help, insert clip art into your diagrams, search and do research on the Web, collaborate, review shared documents, and update your copy of a shared document to the most recent version—all in the Visio drawing window and over your Internet connection.

Show a specific task pane

- On the task pane title bar, click the arrow, and then click the name of the task pane you want to show.

NOTE: *If a task pane is not open, on the* ***View*** *menu, click* ***Task Pane****.*



The Microsoft Office Visio 2003 drawing environment

1 Task panes are docked to the right of the drawing page.

2 On the task pane title bar, click the arrow to see the list of task panes you can choose from.

Visio 2003 includes the following task panes to help you work faster and smarter:

- **Getting Started** Quickly open diagrams, create new diagrams, and search for shapes, templates, and diagram-specific information on your computer or on Microsoft Office Online.
- **Visio Help** Get detailed, up-to-date answers to your Visio questions so you can create diagrams effectively.
- **Clip Art** Search for clip art on your computer or on Microsoft Office Online. Then organize and insert the clip art into your Visio diagrams.
- **Research** Search for and research diagram-specific or work-related topics on the Microsoft Web site using the Microsoft Research Library, which includes encyclopedias, dictionaries, and thesauruses.
- **Search Results** Search for Microsoft product information on the Microsoft Web site.
- **New Drawing** Start new drawings from scratch or from one of your most recently used templates. Search for templates installed on your computer or new ones on Microsoft Office Online.
- **Template Help** Follow template-specific procedures to create your diagrams, get template information on Microsoft Office Online, and give feedback to Microsoft Corporation.
- **Shared Workspace** Share diagrams with team members in the next building or the next country.
- **Document Updates** Update your copies of shared documents. This pane works in conjunction with diagrams shared through the **Shared Workspace** task pane.
- **Reviewing** Review and annotate project diagrams circulated among team members.

TIP: *For detailed information on using specific task panes, type the name of the task pane in the* ***Type a question for help*** *box to the right of the menu bar, press* ***ENTER****, and then choose the appropriate topic from the list that appears.*

Visio Help and other sources of information

Details and how-to information on working in Visio are just a click away in online Visio Help.

Get Visio Help

Visio Help provides topics that answer your questions about working with Visio. To provide you with the most up-to-date information, Visio looks for the most recent Help on Microsoft Office Online by default.

Get Visio Help from the Visio menu bar

1. Start Visio. In the **Type a question for help** box, located on the right side of the menu bar, type your question or keyword, and then press **ENTER**.
2. From the list of topics that appears, select the topic that answers your question.

Get Visio Help in the Help task pane

- Start Visio. On the **Help** menu, click **Microsoft Office Visio Help**.

Use the Visio Help task pane

The **Visio Help** task pane opens to the right of the drawing page. It contains three main sections:

- **Assistance** Allows you to search for the appropriate Help topic using questions or keywords and browse the table of contents.
- **Office Online** Directs you to the most recent Help on the Microsoft Office Web site, training materials, community forums, new templates, and Office updates.
- **See Also** Provides access to frequently used information and online content settings so you can personalize your Help experience.

TIP: *You can move backward and forward through Help topics you already viewed using the arrow keys under the task pane title bar.*

Get help quickly while you work

For help with	Do this
Concepts, terms, and features	Type a question in the **Type a question for help** box on the menu bar.
Shapes	Do one of the following: • Pause the pointer over a shape in the **Shapes** window until a ScreenTip appears. • Right-click a shape on the drawing page or in the **Shapes** window, and then click **Help** on the shortcut menu.
Menu commands	Type the menu command in the **Type a question for help** box on the menu bar.
Dialog boxes	Click the **Help** button (?) in the dialog box.
Automation and the ShapeSheet® spreadsheet	With a ShapeSheet cell or automation object selected, press the **F1** key. Or on the **Help** menu, click **Developer Reference**.

Developer Reference

Developer Reference provides detailed help for software developers who want to extend Visio functionality by creating their own applications or customizing the existing Visio environment. It includes information on what's new for developers in Visio 2003; detailed Visio object, property, method, and event topics; and how-to information for first-time Visio developers.

Start Developer Reference

- Start Visio. On the **Help** menu, click **Developer Reference**.

Getting Started Tutorial

Getting Started Tutorial introduces you to the Visio drawing environment and uses a combination of step-by-step procedures and animation to teach you the basic skills you need to create and share any Visio diagram.

Start Getting Started Tutorial

- Start Visio. On the **Help** menu, click **Getting Started Tutorial**.

Diagram Gallery

Diagram Gallery gives you examples of diagrams you can create using Visio templates and shapes. It also suggests who could use particular diagram types and how.

Start Diagram Gallery

- Start Visio. On the **Help** menu, click **Diagram Gallery**.

Microsoft Office Online

The Microsoft Office Web site connects you to information that helps you get the most out of your Visio product. The site offers product tours, templates, sample diagrams, tutorials, tips and tricks, in-depth articles about using Visio, answers to frequently asked questions, and links to Knowledge Base articles. You'll also find information that helps you get software upgrades, new components, and service releases.

Go to Microsoft Office Online

- Start Visio. On the **Help** menu, click **Office on Microsoft.com**.

TIP: *To find contact information for Microsoft Corporation, on the **Help** menu, click **Contact Us**.*

Personalized Visio experience and drawing environment

You can personalize your Visio experience and drawing environment to make working in Visio comfortable for you.

If you have a slow Internet connection and you don't want Visio to look for the most recent Help on Microsoft Office Online, use the **Service Options** dialog box to use the installed Help on your computer instead.

Use the Visio Help installed on your computer instead of the Help on Microsoft Office Online

1. Do any of the following to open the **Service Options** dialog box:
   - On the task pane title bar, click the arrow, and then click **Help**. Under **See also**, click **Online Content Settings**.
   - On the **Help** menu, click **Customer Feedback Options**.
   - On the **Tools** menu, click **Options**. On the **General** tab, click **Service Options**.
2. In the **Service Options** dialog box, under **Category**, click **Online Content**.
3. Under **Settings**, clear the **Search Office Online content automatically when connected** check box, and then click **OK**.

If you're an experienced Visio user and you don't want to show the **Template Help** task pane each time you open a template, specify this in the **Service Options** dialog box. You can also use this dialog box to select Visio feedback and shared workspace settings.

Hide the Template Help task pane

1. On the task pane title bar, click the arrow, and then click **Help**.
2. In the **Visio Help** task pane, under **See also**, click **Online Content Settings**.
3. In the **Service Options** dialog box, under **Category**, click **Online Content**.
4. Under **Settings**, clear the **Show Template Help automatically when opening a template** check box, and then click **OK**.

If you want Visio to show all of the commands on its menus instead of only the most commonly used commands, you can change the settings in the **Customize** dialog box. You can also use the settings in this dialog box to customize your menus and toolbars.

Show full Visio menus

1. On the **Tools** menu, click **Customize**.
2. Under **Personalized Menus and Toolbars**, select the **Always show full menus** check box, and then click **Close**.

If you want to customize your Visio drawing environment, you can use the use the **Options** dialog box to do the following:

- Change the color of the drawing window and stencil background.
- Set text quality so your text appears smooth or jagged. Visio takes longer to display smooth text.
- Change the default file paths for Visio drawings, templates, stencils, and other files.
- Specify developer settings.
- Specify how and where the **Search for Shapes** feature looks for shapes.
- Change the language, regional settings, and default units of measurement for Visio.

Specify Visio drawing environment settings

1. On the **Tools** menu, click **Options**.
2. Do any of the following:
   - To change drawing window and stencil background colors, click the **Advanced** tab, and then click **Color Settings**. In the **Color Settings** dialog box, change the drawing environment colors, and then click **OK**.
   - To set text quality, click the **View** tab, and then under **Text quality**, specify the quality.
   - To change the default file paths, click the **Advanced** tab, click **File Paths**, type the new file paths, and then click **OK**.
   - To specify developer settings, click the **Advanced** tab, and then under **Advanced options**, select the appropriate check boxes.
   - To specify how and where the **Search for Shapes** feature looks for shapes, click the **Shape Search** tab, and then specify search settings.
   - To change language, regional settings, and default units of measurement for Visio, click the **Regional** tab, and then change the settings.
3. Click **OK**.

Microsoft Office Visio basics

Microsoft® Office Visio® Standard 2003 and Microsoft Office Visio Professional 2003 share a core set of features, allowing you to use common methods to create your diagrams.

This section begins with an overview of the basic Visio drawing process, and then explains the following tasks that will get you started creating your diagrams:

- Begin your diagrams with a template.
- Work with shapes in your diagrams.
- Connect shapes in your diagrams.
- Add and change text in your diagrams.
- Format shapes in your diagrams.
- Add and work with pages in your drawing files.
- Save and print your diagrams.
- Share your diagrams.

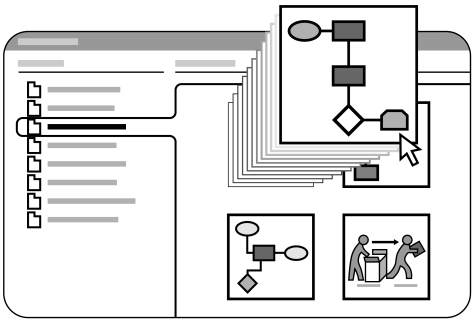
Subsequent sections focus on using these basic tasks and diagram-specific tools in your everyday work to create flowcharts, organization charts, network diagrams, and floor plans.

Topics in this chapter

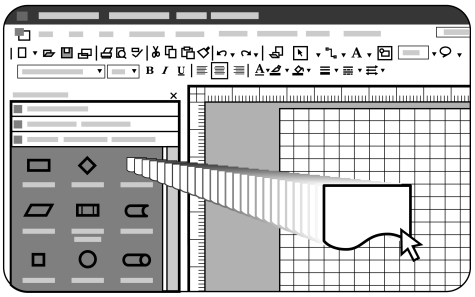
Overview of the Visio drawing process

The following illustrations show the basic steps you'll follow to create most Visio diagrams.

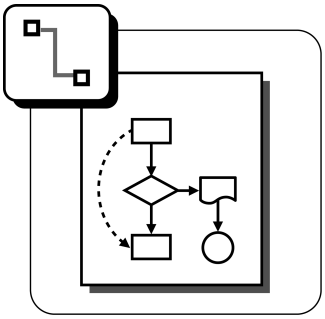
Overview of the Visio drawing process



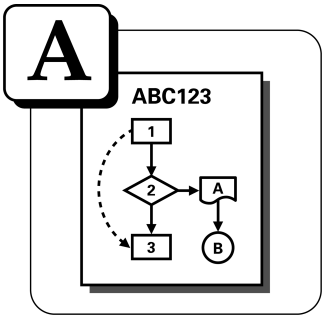
1 Begin your diagram by opening a template.



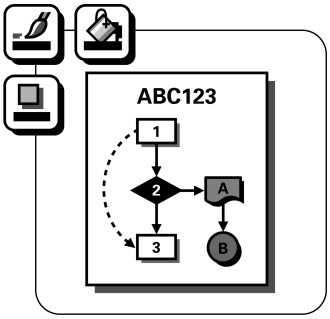
2 Add shapes to your diagram by dragging them onto the drawing page. Then rearrange, resize, and rotate them.



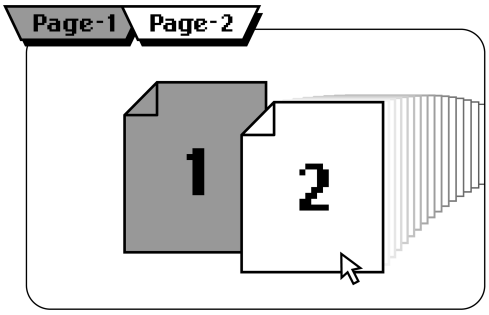
3 Connect the shapes in your diagram using the Connector tool.



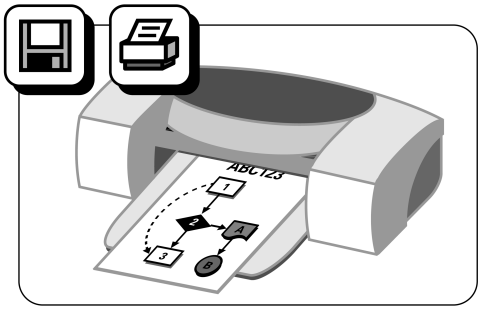
4 Add text to shapes in your diagram, and add independent text for titles.



5 Format shapes in your diagram using formatting menus and toolbar buttons.

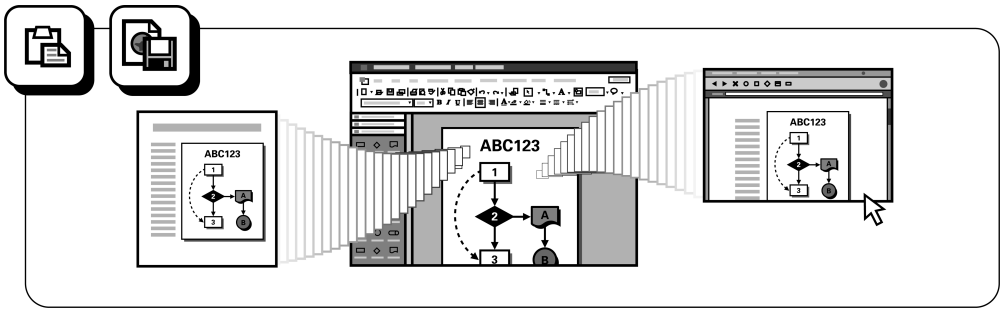


6 Add and work with drawing pages in your drawing file.



7 Save and print your diagram.

Overview of the Visio drawing process



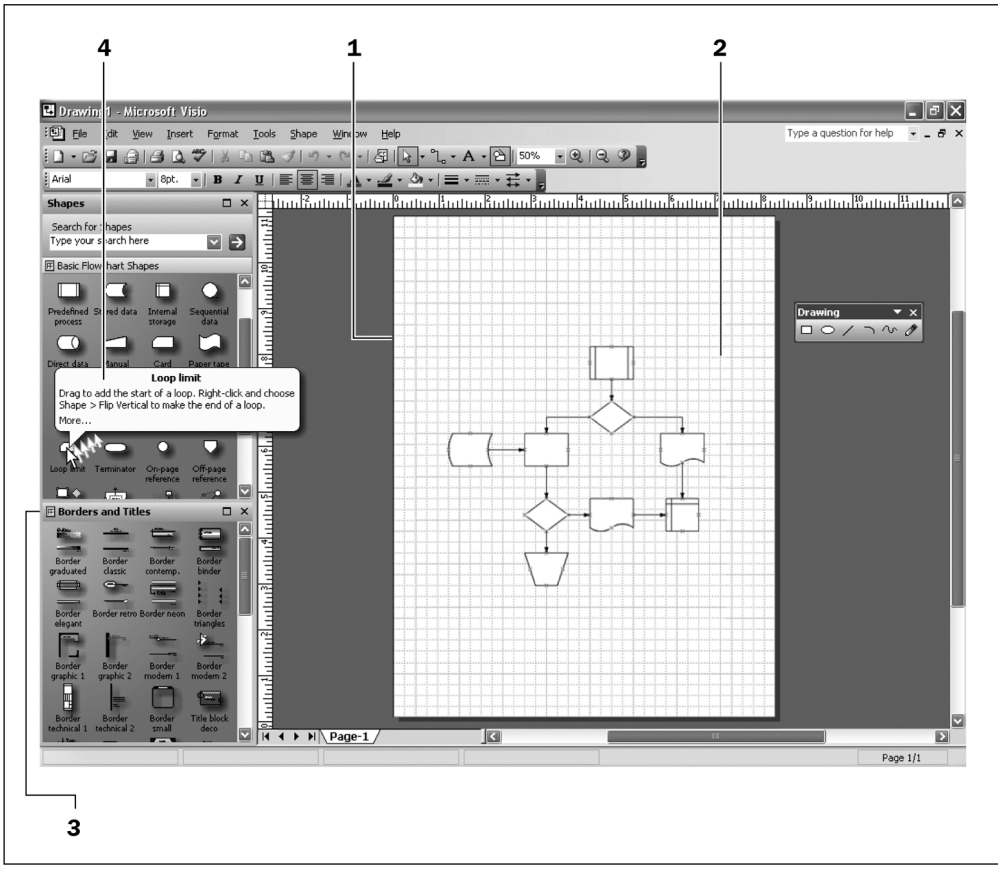
8 Share your diagram by publishing it to the Web or incorporating it into Microsoft Office files.

Begin your diagrams with a template

You begin a Visio diagram with a template—a file that opens a drawing page and stencils that contain the shapes you need to create your diagram. A template also includes the styles, tools, and other settings appropriate for the drawing type.

For example, to create a basic flowchart, you open the **Basic Flowchart** template, which includes flowchart shapes and arrowhead line styles appropriate for many types of flowcharts. Then you drag shapes from the stencils in the **Shapes** window onto the drawing page.

The Microsoft Office Visio 2003 drawing environment



1. The drawing page, on which you create diagrams, represents the printed page. It opens with size, orientation, scale, grid, and units of measurement appropriate for the drawing type.
2. The grid helps you align and position shapes on the drawing page.
3. Stencils contain the shapes you need to create your diagrams. By default, they dock to the left of the drawing page in the **Shapes** window.
4. Shape information appears when you pause the pointer over a shape on a stencil.

Begin your diagram by opening a template and adding shapes to the drawing page

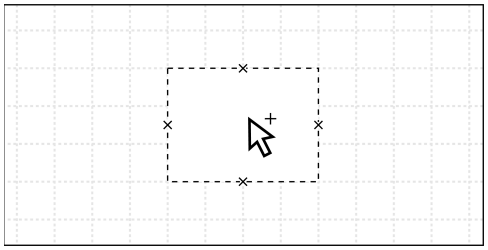
1. Start Visio. In the **Choose Drawing Type** window, under **Category**, click the drawing type you want to create.
2. Under **Template**, click the template you want to open.

   A drawing page appears, with the shapes and tools you need to begin your diagram.

NOTE: *To open the **Choose Drawing Type** window again without restarting Visio, on the **File** menu, point to **New**, and then click **Choose Drawing Type**.*

3. Drag shapes from stencils in the **Shapes** window onto the drawing page.

   Visio snaps the shape to the nearest grid line on the drawing page so you can position it precisely in your diagram.



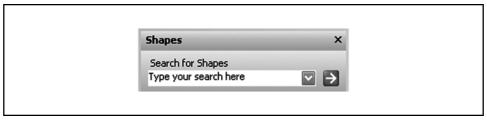
TIP: *From the task pane to the right of the drawing page, you can get help using Visio templates, open other drawing files, add clip art, search the Web, or add review comments to diagrams. The **Getting Started** task pane opens when you start Visio. To work in other task panes, click the arrow on the task pane title bar, and then click the type of information you want to display.*

Find more shapes

If the shapes you want to add to your diagram are not included with the template you're using, you can easily search for them on your computer or the Web.

Find more shapes

1. On the **View** menu, make sure **Shapes Window** is selected.
2. In the **Shapes** window, under **Search for Shapes**, type the name, a keyword, or a description of the shape you want to find, and then click the arrow or press the **ENTER** key.



   A new stencil appears, containing the shapes that match the search description you typed.

3. Drag the shape you want from the **Shapes** window onto the drawing page.

Do either of the following to open more stencils

- To open a Visio stencil, on the **File** menu, point to **Shapes**, point to the appropriate drawing type, and then click the name of the stencil you want to open.
- To open a custom stencil, on the **File** menu, point to **Shapes**, point to **My Shapes**, and then click the name of the stencil you want to open.

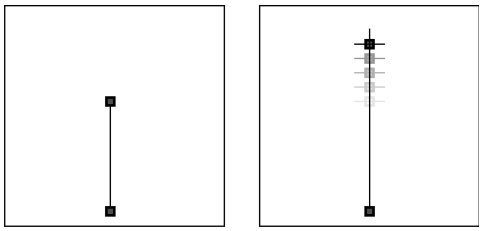
  The stencil opens in the **Shapes** window.

Work with shapes in your diagrams

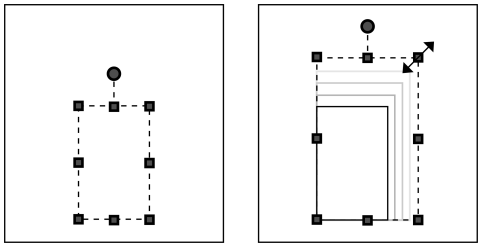
After you begin adding shapes to your diagram, you can rearrange, resize, rotate, and change the appearance of them as you refine your diagram. If you're creating a large or detailed diagram, you may also want to zoom in on the drawing to see more detail.

Resize, rotate, and change the appearance of shapes using handles

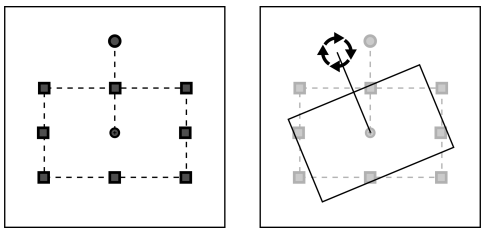
Visio shapes are one-dimensional (1-D) or two-dimensional (2-D). When you select a shape, it shows selection handles (□), which you use to resize it, and a rotation handle (○), which you use to rotate it. The number and type of selection handles a shape displays depends on whether it's 1-D or 2-D.



1-D shapes behave like lines and display endpoints you drag to resize the shapes.

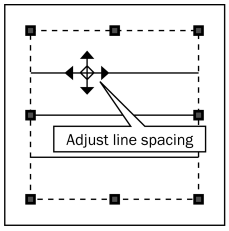


2-D shapes have corner handles you drag to resize the shapes proportionally, and side selection handles you drag to resize the shapes horizontally or vertically.

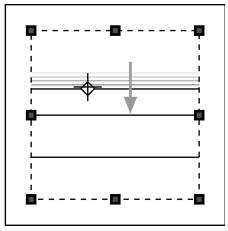


2-D shapes also include a rotation handle you can use to rotate them.

Some shapes also have control handles (◇), which perform actions that are unique to the particular shape on which they appear. For example, you might use a control handle to create a connection between network shapes or open a drawer in a filing cabinet shape.



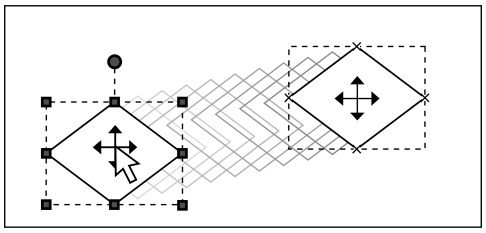
Control handles look like yellow diamonds. To see a ScreenTip describing a control handle's function, pause the pointer over the control handle.



Drag a control handle to perform the action described in the ScreenTip.

Move one or more shapes at one time

Moving Visio shapes is as easy as selecting the shapes and then dragging them to a new location in your diagram. You can also position shapes precisely by nudging them slightly in one direction using the arrow keys on the keyboard.



Move shapes by dragging them with the Pointer tool.

Move one shape

- To move one shape, click the shape with the **Pointer** tool (), hold the left mouse button while dragging the shape to the location you want in your diagram, and then release.

  A four-headed arrow appears under the pointer () when the shape is ready to be moved.

NOTE: *You don't have to place the **Pointer** tool exactly over the center of the shape; however, it's a good habit to develop so you don't drag a shape handle by mistake. Dragging a shape handle changes the appearance of the shape. If you drag a shape handle by mistake, just undo your last action. (On the **Edit** menu, click **Undo**.)*

Nudge a shape

- Click a shape, and then press the up, down, left, or right arrow keys.

Move multiple shapes

1. Do one of the following to select more than one shape:
   - Click one of the shapes you want to move with the **Pointer** tool (), hold down the **SHIFT** key, and then click the other shapes you want to move.
   - Using the **Pointer** tool, drag a selection rectangle around all of the shapes you want to move.
   - Click the arrow next to the **Pointer** tool, and then click the **Area Select** tool () to draw a selection rectangle around all of the shapes you want to move.
   - Click the arrow next to the **Pointer** tool, and then click the **Lasso Select** tool () to draw a freeform selection outline around all of the shapes you want to move.
   - Click the arrow next to the **Pointer** tool, click **Multiple Select**, and then select the shapes you want to move. After you move the shapes, click **Multiple Select** again to turn multiple selection off.
2. Move the pointer over one of the selected shapes until a four-headed arrow appears under the pointer ().
3. Drag the shapes to their new position.

   All selected shapes move, retaining their original relative spatial relationship.

TIP: *To limit the movement of shapes to horizontal or vertical, hold the **SHIFT** key while dragging the shapes.*

Zoom in and out of the drawing page to work with shapes

If the shapes in your diagram look too small to work with, you'll want to zoom in closer. If you're working with a large diagram (for example, a network diagram or floor plan) you may need to zoom out to check the overall view.

Zoom in on the drawing page using either of the following keyboard shortcuts

- To zoom in on specific shapes in your diagram, click the **Pointer** tool (), and then hold down the **CTRL+SHIFT** keys while you drag a selection rectangle around the shapes.

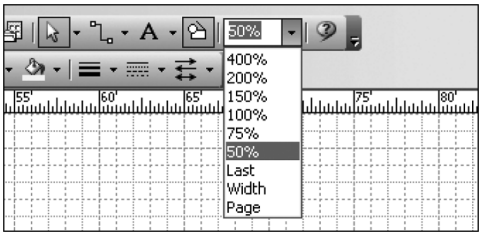
  When you hold down the **CTRL+SHIFT** keys, the pointer changes to a magnifying glass (). This visual clue tells you Visio is ready for you to specify the shapes you want it to zoom in on.
- To zoom in on an area of the drawing page, click the **Pointer** tool, position it over the area you want to magnify, and then hold down the **CTRL+SHIFT** keys while you click the left mouse button.

Zoom out of the drawing page using either of the following keyboard shortcuts

- To zoom out of the drawing page, click the **Pointer** tool (), position it over the area you want to zoom out of, and then hold down the **CTRL+SHIFT** keys while you click the right mouse button.
- To quickly center the drawing page in the Visio window and check the overall look of your diagram, press the **CTRL+W** keys.

Zoom in and out of the drawing page using the Zoom toolbar box

- Click the arrow in the **Zoom** toolbar box, and then select a zoom percentage.



TIP: *You can also use the **Pan & Zoom** window to zoom in and out of and pan (move around) your diagram. To open the **Pan & Zoom** window, on the **View** menu, click **Pan & Zoom Window**.*

Connect shapes in your diagrams

Diagrams such as flowcharts, organization charts, block diagrams, network diagrams, and Web diagrams all have one thing in common: connections. In Visio, you create these connections by attaching, or gluing, one-dimensional shapes called connectors to two-dimensional shapes.

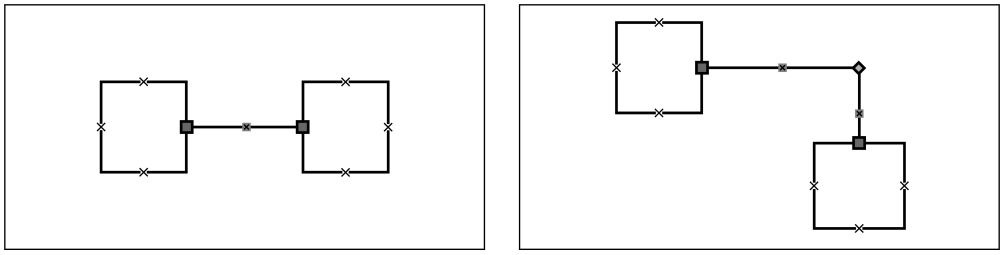
Connectors stay glued when you move the shapes. For example, when you move a flowchart shape, the connector automatically repositions itself to keep its endpoints glued to the shape.

You can use two types of connections in Visio—shape-to-shape and point-to-point. The type of connection you use depends on how much control you want over the diagram layout.

With shape-to-shape connections, Visio maintains the most direct connection between the two connected shapes. This means that the points of connection might change when you move the connected shapes.

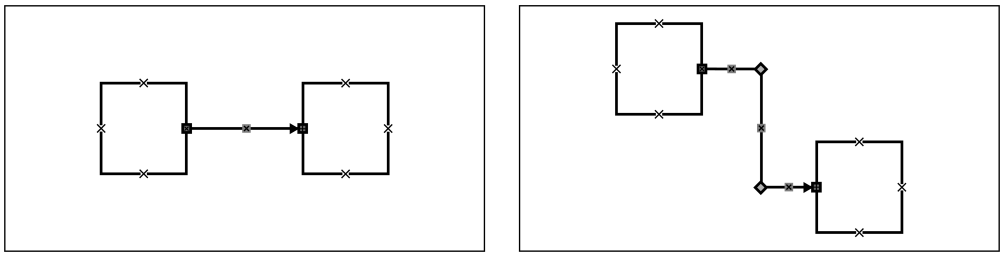
With point-to-point connections, you determine the points of connection by gluing endpoints to specific points on the shapes. The connector endpoints stay where you put them no matter where you move the connected shapes.

Shape-to-shape connection



When you move shapes that have a shape-to-shape connection, the connector attaches to the closest points between the shapes, which might be different from the original point of connection.

Point-to-point connection



When you move shapes that have a point-to-point connection, no matter how you arrange the shapes in relation to each other on the drawing page, the shapes maintain their original points of connection.

Connect shapes with a shape-to-shape connection as you drag them onto the drawing page

1. Click the **Connector** tool ( ).
2. Drag a shape from the **Shapes** window onto the drawing page.
3. While the shape is still selected, drag another shape from the **Shapes** window onto the drawing page.

   A connector appears, establishing a shape-to-shape connection. When you select the connector, both of its endpoints turn red to show they are glued.

TIP: *You can change the style of a connector you draw with the **Connector** tool. Right-click the connector, and then click **Right-Angle Connector**, **Straight Connector**, or **Curved Connector** on the shortcut menu.*

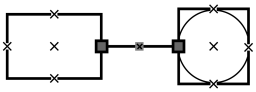
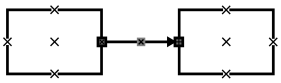
Connect shapes that are already on the drawing page with a shape-to-shape connection

1. Using the **Pointer** tool ( ), drag two shapes, one at a time, from the **Shapes** window onto the drawing page.
2. Click the **Connector** tool ( ), and then position it over the center of the first shape until a red outline appears around the shape.
3. Hold down the mouse button and drag to draw a connector to the center of the second shape until a red outline appears around the shape, and then release the mouse button.

   The connector endpoints turn red to show they are glued.

TIP: *To delete a connector, just click it to select it, and then press the **DELETE** key.*

Using connections

Connection type	When to use it	How to create it
Shape-to-shape 	Use to connect shapes when their specific points of connection don't matter, and you want Visio to maintain the closest points of connection.	Click the **Connector** tool ( ), and then drag shapes you want to connect onto the drawing page. Visio creates a shape-to-shape connection by default. When shapes are already on the drawing page, click the **Connector** tool, position it over the center of the first shape, and then drag it to the center of the second shape.
Point-to-point 	Use to control where the connector attaches to the 2-D shape.	Click the **Connector** tool ( ), hold down the mouse button on a connection point (×) on the first shape, and then drag to a connection point on the second shape.

Connect shapes that are already on the drawing page with a point-to-point connection

1. Using the **Pointer** tool (), drag two shapes, one at a time, from the **Shapes** window onto the drawing page.
2. Click the **Connector** tool (), and then drag from a connection point ( ) on the first shape to a connection point on the second shape.

   The connector endpoints turn red to show they are glued at the connection points you specified. When shapes are connected point-to-point, the connector endpoints appear smaller than they do for shape-to-shape connections.

If a shape does not have a connection point at the location where you want to create a point-to-point connection, you can add one.

Add a connection point to a shape

1. Select the shape.
2. Click the arrow next to the **Connector** tool, and then click the **Connection Point** tool ().
3. Hold down the **CTRL** key, and then click the shape where you want to add the connection point.

   The new connection point ( ) appears, highlighted in magenta, on the shape.

You can also add text to connectors and connect shapes with connectors from the **Shapes** window. For example, in a flowchart, you can drag curved connectors from the **Shapes** window and use them instead of straight lines to connect your shapes.

Add text to a connector

- Click the connector to select it, and then type.

TIP: *You can change the position of text on connectors drawn with the **Connector** tool by dragging the control handle ( ) located at the base of the text.*

Connect shapes with a connector from the Shapes window and with a point-to-point connection

1. Drag a connector from the **Shapes** window onto the drawing page.
2. Drag one of the connector endpoints to a connection point on a shape.

   The connection point turns red to show the connector is glued to it.
3. Drag the other end of the connector onto the connection point of the second shape you want to connect.

   Both connector endpoints turn red to show they are glued.

Add and change text in your diagrams

Most Visio shapes, including connectors, are designed so that you can add text to them. If a shape has text, you can edit the text by opening its text block.

In addition, you can create text-only shapes—shapes that show no lines or fill—to add notes, titles, and lists to diagrams.

Add text to a shape

1. Select the shape, and then type the text.
2. When you finish typing, press the **ESC** key or click outside the shape.

Delete all of the text from a shape

1. Double-click the shape to select all of its text.
2. Press the **DELETE** key, and then click outside the shape.

Change or delete a portion of a shape's text

1. Click the **Text** tool (A), and then click the shape.
2. Click in the text block where you want to place an insertion point, and then type the new text. Or highlight the text you want to change or delete, and then type the new text.

   To replace all of the existing text, press the **CTRL+A** keys to select all of the text, and then type the new text.
3. When you finish typing, press the **ESC** key or click outside the shape.

Do any of the following to format selected text

- On the **Format** menu, click **Text** to open the **Text** dialog box.
- Use the tools on the **Formatting** toolbar to change the font, size, font style (bold, italic, underline), horizontal alignment, or color of the text.
- Use the **Text Style** list on the **Format Text** toolbar to apply a style, which can contain multiple formatting attributes, to the selected text.

Create a text-only shape

1. Click the **Text** tool (A).
2. Click the drawing page where you want the text to begin, and then type.

   Or, hold down the left mouse button and drag it to create a text block the size you want, release the mouse button, and then type.
3. When you finish typing, press the **ESC** key or click outside the text-only shape.

Move a text-only shape

- Using the **Pointer** tool (), position the pointer directly over the text, and then drag the text to a new location.

  A four-headed arrow appears under the pointer () when the text-only shape is ready to be moved.

Format shapes in your diagrams

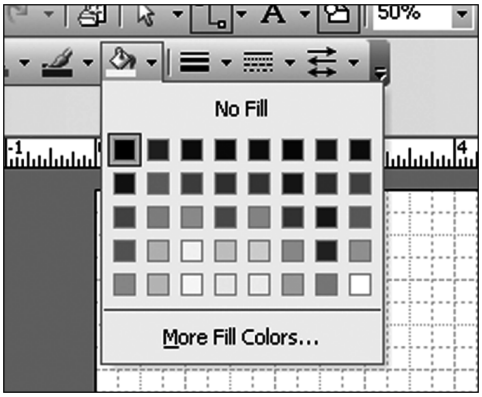
The type of formatting you apply to a shape depends on whether the shape is one-dimensional (1-D) or two-dimensional (2-D). You can change the following formatting settings for 2-D shapes:

- Fill color (the color inside the shape)
- Fill pattern (the pattern inside the shape)
- Pattern color (the color of the lines that form the pattern)
- Line color and pattern
- Line weight (the thickness of the line)
- Fill and line transparency

You can also add a shadow to a 2-D shape and control the corner rounding.

Do any of the following to format a 2-D shape

- Click a 2-D shape, click the arrow next to the **Line Color** ( ) or **Fill Color** ( ) button on the **Formatting** toolbar to display the color palette, and then choose a line or fill color.



- Click a 2-D shape, and then on the **Format Shape** toolbar, click the **Corner Rounding** ( ), **Transparency** ( ), **Fill Pattern** ( ), or **Shadow Color** ( ) button.

  To display the **Format Shape** toolbar, right-click the menu bar, and then click **Format Shape** on the shortcut menu.
- Click a 2-D shape, and then on the **Format** menu, click **Line**, **Fill**, **Shadow**, or **Corner Rounding**.

You can change the following formatting settings for 1-D shapes, including connectors:

- Line color, pattern, and transparency
- Line weight (the thickness of the line)
- Line end type and size
- Line end cap (whether the line end is square or round)

You can also add a shadow to a 1-D shape.

Do any of the following to format a 1-D shape

- Click a 1-D shape, and then on the **Formatting** toolbar, click the **Line Color** ( ), **Line Weight** ( ), **Line Pattern** ( ), or **Line Ends** ( ) button.
- Click a 1-D shape, and then on the **Format Shape** toolbar, click the **Transparency** ( ) or **Shadow Color** ( ) button.
- Click a 1-D shape, and then on the **Format** menu, click **Line** or **Shadow**.

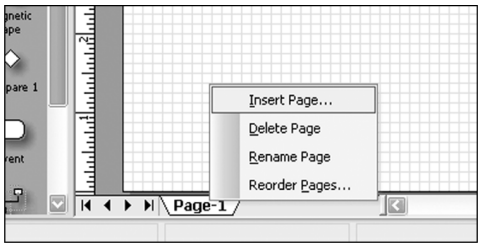
Add and work with pages in your drawing files

For some projects, you might need multiple-page diagrams, in which each page represents a different aspect or stage of a project. For example, one drawing file might contain a high-level project timeline on one drawing page, a process flowchart for the project on another page, and the staffing and resources plan on another page.

When you add a new drawing page to your drawing file, the new page inherits the current page's size, orientation, scale, measurement units, shadow offset, and grid settings. You can change these settings using the **Page Setup** dialog box when you add the page, or at any other time.

Add a drawing page

1. Right-click a page tab at the bottom of the drawing page window, and then click **Insert Page** on the shortcut menu.



2. In the **Page Setup** dialog box, on the **Page Properties** tab, type a name for the page, or use the default name.
3. To define additional page settings, click the **Page Size** tab, choose the settings you want, and then click **OK**.

Set the page size, orientation, and drawing scale

1. Display the drawing page you want to change.
2. On the **File** menu, click **Page Setup**.
3. In the **Page Setup** dialog box, click the **Page Size** tab. Choose the page size and orientation you want.
4. Click the **Drawing Scale** tab, choose the scale you want, and then click **OK**.

Display a different drawing page

- Click the page tab for the page you want to display.

Delete a drawing page

- Right-click the page tab for the page you want to delete, and then click **Delete Page** on the shortcut menu.

Rename a drawing page

1. Right-click the page tab for the page you want to rename, and then click **Rename Page** on the shortcut menu.

   Visio highlights the page tab name.
2. Type the name of the new page, and then press the **ENTER** key.

Reorder drawing pages

- For the page you want to move, drag the page tab to its new location in the page tab sequence.

Save and print your diagrams

After you finish your diagram, you can save or print it much the same way you save or print any Microsoft Office file.

Save your diagrams

You can save your Visio diagrams in the Visio file format or other file formats.

Save your diagram

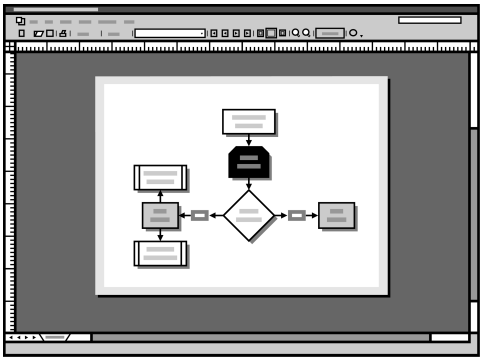
1. On the **File** menu, click **Save** or **Save As**.
2. For **File name**, type a name for the drawing file.
3. For **Save in**, open the folder in which you want to save the file.
4. If you want to save your diagram in another file format, in the **Save as type** box, select the file format you want. If you want to save your diagram in the Visio file format, you can skip this step.
5. Click **Save**.

Print your diagrams

Most templates are set up so that the drawing page size is the same as the size of the paper in your printer, so you don't have to change page settings to print the diagram the way it appears on the screen. However, it's a good idea to preview your diagram before you print to make sure you get the results you expect.

Preview your diagram before printing

- Click the **Print Preview** button ( ) on the **Standard** toolbar.



In the print preview window, shapes that appear in the gray margins will not print. To print them, move them to the white area within the gray margins.

If the drawing page and printer page orientation do not match, on the **File** menu, click **Page Setup**, to adjust these settings so they match.

Do either of the following to print your diagram

- To specify which pages to print or to print all pages, on the **File** menu, click **Print**.
- To print the current page, click the **Print Page** button ( ) on the **Standard** toolbar.

Share your diagrams

You can incorporate your Visio diagrams into project documents that you create in other programs and share with your teams. You can also share your diagrams with your entire company by publishing them to the Web or your company's intranet site.

Incorporate Visio diagrams into Microsoft Office files

One way to share your Visio diagrams with a wider audience is to incorporate them into project documents created with Microsoft Office programs, such as Microsoft Word, Microsoft Excel, and Microsoft PowerPoint®.

NOTE: *The following steps focus on using Visio diagrams in Word documents. You can use similar steps in other Office files.*

Incorporate a diagram into a Word document

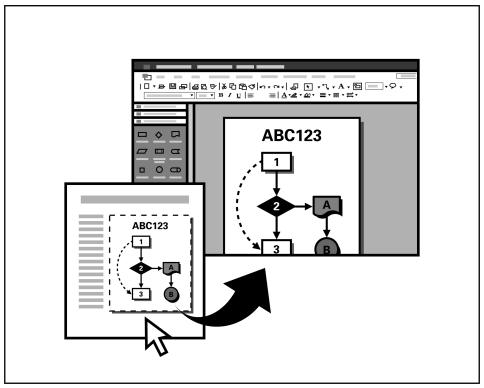
1. Open your Visio diagram. On the **Edit** menu, click **Select All**.

   TIP: *To incorporate only a few shapes into a Word document, select only the shapes you want to include in the document.*

2. On the **Edit** menu, click **Copy**.
3. Open a Word document and click an insertion point in the location you want to insert your Visio diagram.
4. On the **Edit** menu, click **Paste**.

   Word pastes your Visio diagram into the document.

The Visio diagram or shapes that you paste into a Word document become part of the document. When you modify the diagram in the document, you do not change the original Visio diagram.



You can easily modify your diagram in a Word document.

Modify a Visio diagram in a Word document

1. In the Word document, double-click the Visio diagram.

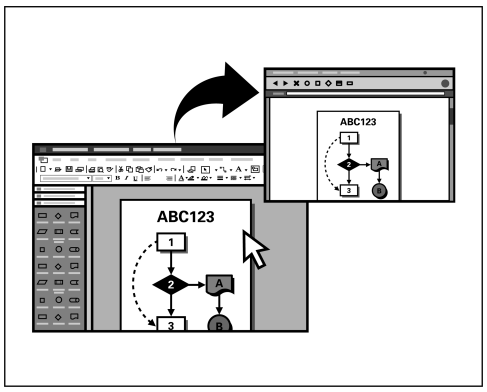
   Visio opens within Word and displays Visio toolbars and menus.
2. Make a change to the diagram; for example, move or change the color of a shape.

   The change applies only to the diagram in the Word document.
3. Return to the Word document by clicking in the document outside the Visio diagram.

   Visio closes, and Word becomes the active program again.

Publish your diagrams to the Web

Using Visio, publishing your diagrams to the Web or an intranet site is as easy as saving a file. Visio adds the HTML codes necessary to display your diagram in a Web browser, so all you have to do is make sure your diagram looks the way you want it to.



You can save diagrams in many different file formats, including Web page format with hyperlinks.

Save a diagram as a Web page

1. Open the diagram you want to save as a Web page. On the **File** menu, click **Save As Web Page**.
2. For **Save in**, open the folder in which you want to save the file.
3. Click **Save**.

> **TIP:** *You can customize your Web page settings by clicking **Publish** in the **Save As** dialog box and altering the settings.*

Add hyperlinks to shapes or pages

You can add one or more hyperlinks to Visio shapes and drawing pages before you save your diagram as a Web page. A link can jump to a Web site, another page in the same Visio diagram, another Visio drawing file, or any other file. For example, you can link a process shape in a flowchart to a Microsoft Word file containing Total Quality Management (TQM) documentation for that process.

Add a hyperlink to a page or shape

1. Do one of the following:
   - To add a link to a page, display the page with nothing selected.
   - To add a link to a shape, select the shape.
2. On the **Insert** menu, click **Hyperlinks**.
3. Do one of the following:
   - **Link to a Web site** For **Address**, type the Web site address. If you don't know the address, click **Browse**, and then click **Internet Address** to open your default Web browser.
   - **Link to a file** For **Address**, click **Browse**, and then click **Local File**. Locate the file you want, and then click **Open**. (If necessary, change the type of file in **Files of type**.)
4. For **Description**, type a link description, which appears on a shape's shortcut menu, a page's shortcut menu, or when you pause the pointer over a shape.
5. Click **OK**.

Add a hyperlink to another page in the same Visio diagram

1. Do one of the following:
   - To add a link to a page, display the page with nothing selected.
   - To add a link to a shape, select the shape.
2. On the **Insert** menu, click **Hyperlinks**.
3. In the **Hyperlinks** dialog box, for **Address**, click **Browse**, and then click **Local File**.
4. In the **Link to File** dialog box, locate the Visio drawing file, and then click **Open**.
5. For **Sub-address**, click **Browse**.
6. In the **Hyperlink** dialog box, for **Page**, click the down arrow and select the page you want this shape or page to link to, and then click **OK**.
7. Click **OK** in the **Hyperlinks** dialog box.

NOTE: *To follow a hyperlink on a page or shape, right-click the page or shape, and then click the link description on the shortcut menu.*

Create your own shapes and templates

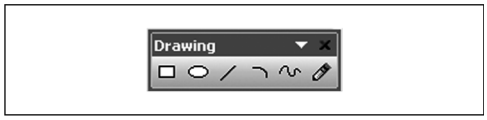
As well as providing you with ready-to-use templates and shapes, Microsoft® Office Visio® 2003 gives you the flexibility to create your own. For example, you can use drawing tools or menu commands to create or customize shapes. Then, you can organize your favorite shapes in one location so it's easy to find them while you work. You can also design new templates that include Visio shapes, your own custom shapes, and drawing page settings you know you'll use again.

Topics in this chapter

Create your own shapes

Visio offers several ways to create your own shapes:

- Draw a shape from scratch using any of the drawing tools—**Rectangle**, **Ellipse**, **Line**, **Arc**, **Freeform**, or **Pencil**—on the **Drawing** toolbar. For example, if you want to add a freeform arrow to a block diagram, you can draw the arrow with the **Freeform** tool.



- Merge two or more shapes. For example, to create a round sign with an arrow cut out of its center, you can place an arrow shape on top of a circle and then use the **Combine** command.
- Revise an existing shape. For example, if your company uses a special process shape for flowcharts, you can modify a Visio process shape, save your modified version, and then use it in future flowcharts.

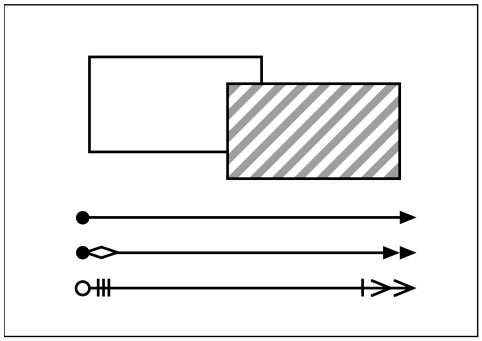
TIP: *When you use the drawing tools, you can hold down the **SHIFT** key while you draw to constrain the drawing behavior.*

Draw shapes from scratch using Visio drawing tools

When you use the Visio drawing tools on the **Drawing** toolbar to create shapes from scratch, keep in mind that shapes can be either open or closed.

Open shapes are lines, arcs, or zigzag shapes. You can format the line ends, but you cannot fill the shapes with colors or patterns, because they contain no enclosed area.

Closed shapes are rectangles, circles, or other shapes that include an area you can fill with colors and patterns.



You can apply a fill and pattern to a closed shape, such as a rectangle, and ends to open shapes, such as lines.

Draw a shape using a Visio drawing tool

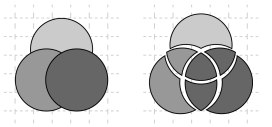
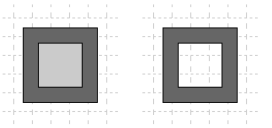
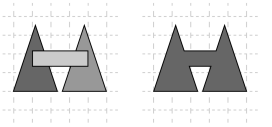
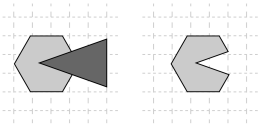
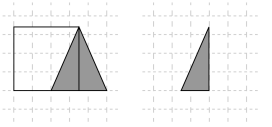
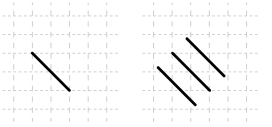
1. Show the **Drawing** toolbar by clicking the **Drawing Tools** button () on the **Standard** toolbar.
2. On the **Drawing** toolbar, click a drawing tool.
3. Hold down the mouse button and drag on the drawing page to create the shape you want.

Merge existing shapes to create new ones

An easy way to create a complex shape is to use shape operation commands to merge simple shapes. To use the shape operation commands, select the shapes you want to merge, and then, on the **Shape** menu, point to **Operations**.

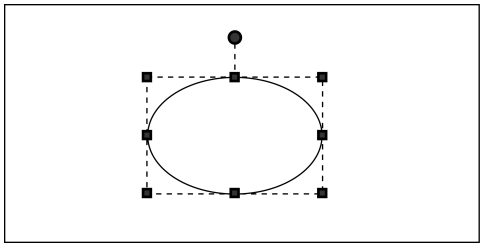
NOTE: *When you merge existing shapes, the new shape inherits the formatting of the first shape you select (the primary selection).*

Examples showing different ways you can use shape operation commands

Command	Result	Example
Fragment	Breaks a shape into smaller parts or creates new shapes from intersecting lines or from 2-D shapes that overlap.	
Combine	Creates a new shape from selected shapes. If the selected shapes overlap, the area where they overlap is cut out (discarded), creating a cookie-cutter effect.	
Union	Creates a new shape from the perimeter of two or more overlapping shapes.	
Subtract	Creates a new shape by subtracting the area where selections overlap from the primary selection.	
Intersect	Creates a new shape from the area where the selected shapes overlap, eliminating non-overlapping areas.	
Offset	Duplicates a line or curve to the right and left of the original shape, at the distance you specify. If the shape is an arc, Visio creates the new arcs so that their endpoints remain on the same x- and y-axes.	

Revise existing shapes

You can revise any shape that isn't locked to prevent specific changes. When a shape is locked, you see gray boxes when you select the shape.

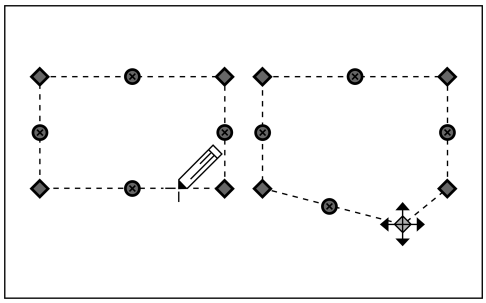


Shapes with gray boxes are locked to prevent changes.

When you select shapes for revision using the **Pencil** tool (), the **Line** tool (), the **Arc** tool (), or the **Freeform** tool (), vertices ( ) appear at the ends of each line segment. Once the vertices appear, pause the mouse pointer over the shape to display control points ( ) at the midpoint of each line segment. You drag these vertices and midpoints to change the appearance of the shape.

Revise an existing shape with the Pencil tool

- Select a shape with the **Pencil** tool (), and then do one or more of the following:
  - Drag a vertex ( ) to change the angle of a segment.
  - Add a vertex by pressing the **CTRL** key and clicking a line segment.
  - Delete a vertex by clicking it and pressing the **DELETE** key.
  - Drag a control point ( ) to change the curve of a segment.

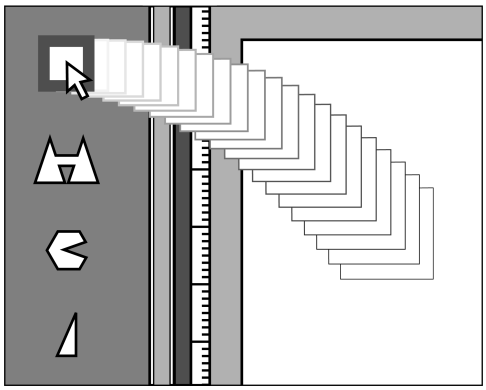


You can reshape shapes by selecting them with the Pencil tool, and then dragging, adding, or deleting vertices and control points.

Organize your shapes

If you create or modify a shape you want to keep for future diagrams, you can save it on a stencil—a file that contains groups of similar shapes. Once it's saved on a stencil, Visio treats it as any other shape. To use it again, you just open the stencil and drag the shape onto the drawing page.

You can also import a graphic created in another program and save it on a stencil. For example, if the company logo you use in all of your reports is in the .gif file format, you can import the file into a Visio diagram, and then save it on a stencil, just as you would any other Visio shape.



You can easily save your shapes on custom stencils, so you can reuse them at any time.

TIP: *Visio 2003 stencils are read-only, so you cannot modify them. However, you can add a shape from any Visio stencil to your* ***Favorites*** *stencil. Right-click the shape on the Visio stencil, point to* ***Add to My Shapes****, and then click* ***Favorites****.*

Add a shape to your Favorites stencil or another custom stencil

1. Display the drawing containing the shape you want to add to your **Favorites** stencil or another custom stencil.
2. On the **File** menu, point to **Shapes**, point to **My Shapes**, and then click **Favorites** or the stencil you want to add the shape to.

   The stencil appears docked to left side of the drawing window.
3. Right-click the title bar of the **Favorites** stencil, and then click **Edit Stencil** on the shortcut menu.

   The icon on the stencil title bar has a red asterisk ( ) to indicate that you can edit it.
4. Hold down the **CTRL** key, and then drag the shape from the drawing page onto the stencil.

   A new icon representing your shape appears on the stencil, with a name such as **Master.0**.

   NOTE: *When you hold down the* ***CTRL*** *key and drag a shape onto the stencil, Visio makes a copy of the shape on the stencil. If you do not hold down the* ***CTRL*** *key, Visio moves the shape onto the stencil, removing the shape from the drawing page.*
5. Select the new shape on the stencil, click the name, and then type a new name.
6. Click the **Save Stencil** button ( ) on the stencil title bar to save the changes.

Add a shape to a new stencil

1. Display the diagram containing the shape you want to add to a new stencil.
2. On the **File** menu, point to **Shapes**, and then click **New Stencil**.

   The new stencil appears docked to left side of the drawing window. The icon on the stencil title bar has a red asterisk ( ) to indicate that you can edit it.
3. Hold down the **CTRL** key, and then drag the shape from the drawing page onto the new stencil.

   A new icon representing your shape appears on the stencil, with a name such as **Master.0**.
4. Select the new shape on the stencil, click the name, and then type a new name.
5. Click the **Save Stencil** button ( ) on the stencil title bar.
6. In the **Save As** dialog box, for **File name**, type a name for your stencil.
7. Click **Save**.

   Now you can use the new shape as you do any other Visio shape.

NOTE: *To open a custom stencil you created, on the **File** menu, point to **Shapes**, point to **My Shapes**, and then click the name of the stencil you want to open.*

Import a graphic created in another program and save it on a stencil

1. Open any Visio diagram.
2. On the **Insert** menu, point to **Picture**, and then click **From File**.

   You can also choose other commands to import pictures directly from your scanner or digital camera, or to import clip art.
3. In the **Insert Picture** dialog box, locate the picture you want to insert, and then click **Open**.

   Visio inserts the picture on the drawing page.
4. Do either of the following:
   - To save the picture on a custom stencil, on the **File** menu, point to **Shapes**, point to **My Shapes**, and then click **Favorites** or the stencil you want to add the shape to. Then, right-click the title bar of the stencil and click **Edit Stencil** on the shortcut menu.
   - To save the picture on a new stencil, on the **File** menu, point to **Shapes**, and then click **New Stencil**.
5. Drag the picture from the drawing page onto the stencil.
6. Select the new shape on the stencil, click the name, and then type a new name.
7. Click the **Save Stencil** button ( ) on the stencil title bar to save the changes.
8. If you saved the picture on a new stencil, in the **Save As** dialog box, for **File name**, type a name for your stencil. Then, click **Save**.

Design your own templates

When you design a template, you can specify page settings, create your own styles, include the stencils you want, and so on. After you save a file as a template, you can reuse it as often as you want or share it with colleagues.

You might want to create your own templates if your drawings fall into either of these categories:

- They require customized settings such as page size or scale, window size and position, or shape or text styles.
- They often use the same shapes in a particular location on the drawing page. For example, if you use the same border for every drawing, you can create a template with the border on a background page.

Create and save your own template

1. Do any of the following to start creating your template:
   - To open an existing drawing file you want to save as a template, on the **File** menu, click **Open**. In the **Open** dialog box, locate your drawing file, and then click **Open**.
   - To open a Visio template you want to revise and save as a custom template, on the **File** menu, point to **New**, point to the appropriate drawing type, and then click the name of the template you want to open.
   - To start your template with only a blank drawing page, on the **File** menu, point to **New**, and then click **New Drawing**.
2. Open any additional stencils you want to save with your template by doing either of the following:
   - On the **File** menu, point to **Shapes,** click **Open Stencil** and then click the custom stencil you want to open.
   - On the **File** menu, point to **Shapes**, point to the appropriate drawing type, and then click the name of the stencil you want to open.
3. Change drawing page settings and styles. To change page settings, click **Page Setup** on the **File** menu. To add or modify styles, click **Define Styles** on the **Format** menu.
4. On the **File** menu, click **Save As**.
5. For **Save as type**, select **Template**.
6. For **File name**, type a name for your template.
7. For **Save in**, open the folder in which you want to save the template.
8. For **Save**, click the arrow next to **Save** and verify that **Workspace** is selected, and then click **Save**.

Use background pages to display common page elements in templates

You can include background pages in your template to give the diagrams you create with the template a uniform look. For example, if you want your company logo to appear in all diagrams you create with your template, you can create a background page that contains the logo and then assign the background page to the foreground page (the page on which you create your diagram). When you save the drawing file as a template, the logo appears on the drawing page each time you open the template. Because the logo is on a background page, you can't accidentally modify it while you're working with your diagram.

Create a background page for your diagram

1. Right-click a page tab in the lower left corner of the drawing window, and then click **Insert Page** on the shortcut menu.
2. On the **Page Properties** tab, for **Type**, click **Background**.
3. If necessary, click the **Drawing Scale** tab to change the scale or the **Page Size** tab to change the page size for the new page, and then click **OK**.
4. Place shapes and other design elements onto the drawing page.

NOTE: *When you assign this background page to a blank foreground page and then save it as a template, any diagram you create with the template includes the design elements on a background page.*

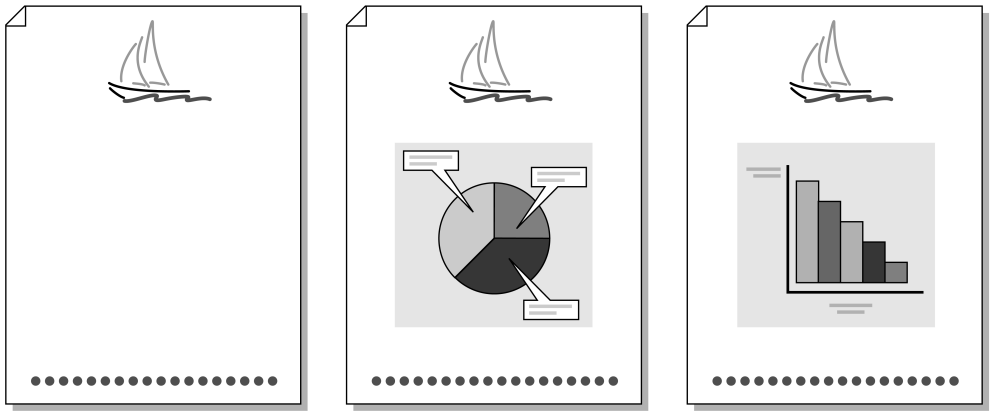
Assign the background page to your diagram

1. Display the diagram (foreground page) to which you want to assign the background page.
2. On the **File** menu, click **Page Setup**, and then click the **Page Properties** tab.
3. In the **Background** list, select the name of the background page you want to assign, and then click **OK**.

   The background page appears behind the shapes in the diagram on the foreground page.

Display the background to modify it

- Click the page tab for the background page, and then modify the background page as you would any other page.



Use a background page to repeat a common element in multiple diagrams. Each of these three drawing pages uses the same background page to display the sailboat in the same position.

Analyze your business processes with flowcharts

Flowcharts can often make complex business processes easier to analyze and explain to others. Using the Microsoft® Office Visio® 2003 flowchart templates, you can accomplish the following tasks:

- Facilitate communication between departments using business flowcharts.
- Examine the causes of problems and see relationships among factors with cause-and-effect diagrams.
- Communicate how a process works or how to improve a process and the departments it affects using cross-functional flowcharts.

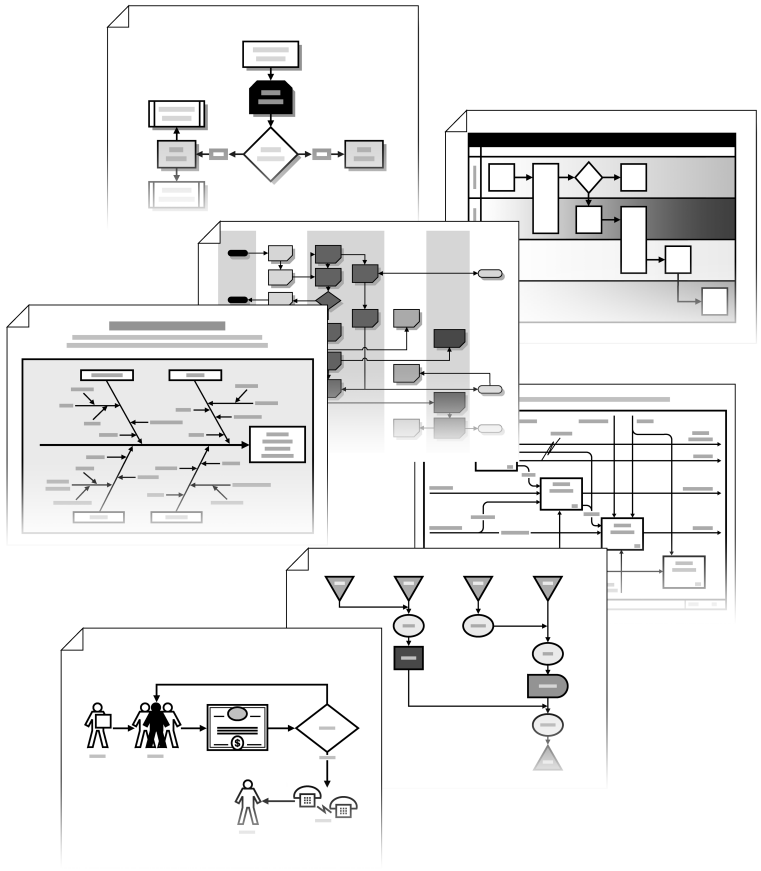
Topics in this chapter

Create flowcharts

Flowcharts are visual representations of a process and are frequently referred to as process flowcharts. Managers often create process flowcharts to help them understand and communicate how a process works and how it can be improved.

Visio Standard and Visio Professional provide a number of flowchart drawing types, as shown in the illustration below.

Examples of flowcharts you can create with Visio



Create a basic flowchart using the Connector tool and point-to-point connections

1. Start Visio. In the **Choose Drawing Type** window, under **Category**, click **Flowchart**.
2. Under **Template**, click **Basic Flowchart**.
3. Drag a shape, such as **Process** or **Decision**, from **Basic Flowchart Shapes** onto the drawing page.
4. Drag a second shape onto the drawing page.
5. On the **Standard** toolbar, click the **Connector** tool, and then drag from a connection point on the first shape to a connection point on the second shape.

   The connector endpoints turn red to show they are glued at the connection points you specified.

NOTE: *If you want to create a shape-to-shape connection instead, position the **Connector** tool over the center of the first shape until a red outline appears around the shape, and then drag to the center of the second shape.*

6. To change the style of the connector, right-click the connector, and then click **Right-Angle Connector**, **Straight Connector**, or **Curved Connector** on the shortcut menu.
7. Continue adding and connecting shapes to complete your diagram.

TIP: *To connect shapes as you drag them onto the drawing page, use the **Connector** tool to drag shapes onto the page instead of the **Pointer** tool. Visio connects each shape you drag onto the drawing page to the selected shape.*

Add information to your flowchart

You can add information to your flowchart in the following ways:

- Add titles, callouts, captions, or other text.
- Add information, or custom properties, to flowchart shapes. Custom properties provide a way for you to store data such as cost, duration, and resources associated with a process.
- Add hyperlinks to shapes in your flowchart, to jump to other drawing pages, files, or documents on an intranet or the Web.

Add custom property data to a shape

1. Right-click a shape in your basic flowchart diagram, and then click **Properties**.
2. Type the information you want for **Cost**, **Duration**, and **Resources**.

NOTE: *If a shape doesn't include a custom property for the type of information you want to add to it, you can create a new custom property. Right-click the shape, and then click **Properties** on the shortcut menu. In the **Custom Properties** dialog box, click **Define**, and then click **New**. Complete the settings for the new property, and then click **OK**.*

Add a hyperlink to your flowchart by doing one of the following

- In the **Shapes** window, click the **Borders and Titles** title bar to show the shapes, and then drag one of the hyperlink shapes onto the drawing page.
- Click the shape you want to add the hyperlink to, and then on the **Insert** menu, click **Hyperlinks**.

Work with large flowcharts

Large flowcharts frequently depict complex processes that span multiple pages.

Visio provides useful methods for working with multiple-page flowcharts:

- Use shape numbering to cross-reference explanatory notes, or to indicate the sequence of steps in a large business process.
- Use **Off-page reference** shapes to navigate pages in multiple-page flowcharts, or to link to another page in your diagram.

Number shapes in your flowchart

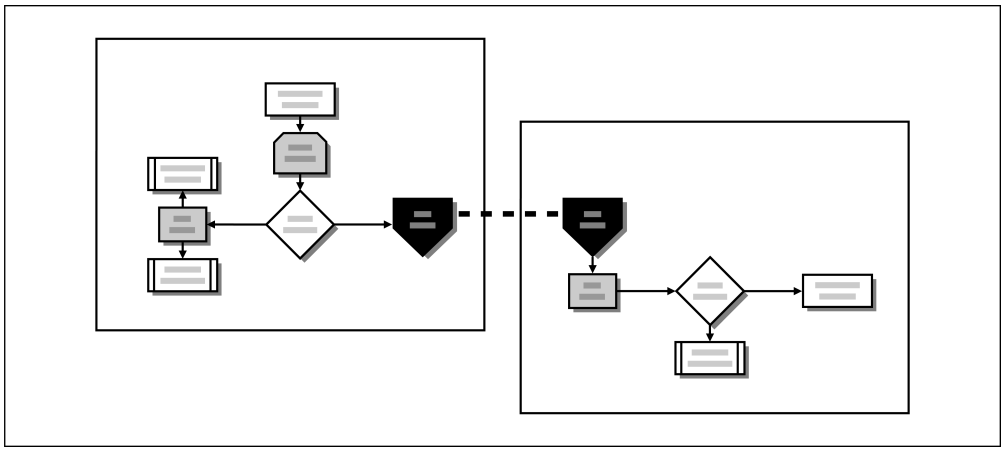
1. Open the flowchart for which you want to indicate the sequence of steps.
2. On the **Tools** menu, point to **Add-Ons**, point to **Visio Extras**, and then click **Number Shapes**.
3. In the **Number Shapes** dialog box, under **Operation**, select the option you want:
   - **Manually by clicking** Specifies that you can assign numbers one at a time so that you can specify the order. If you choose this option, the **Manual Numbering** dialog box appears instructing you to click the shape to which you want Visio to assign the next number. When you finish assigning numbers, click **Close**.
   - **Auto number** Specifies that numbers are automatically assigned and begin a new sequence. The numbering order is top to bottom and left to right.
   - **Renumber maintaining sequence** Specifies that you can preserve an existing numbering sequence for shapes already numbered.
4. Under **Number assigned**, specify the number you want to start with, the intervals you want to use, and the type of text you want to precede each number.
5. Under **Apply to**, choose whether you want to apply your numbering assignments to all shapes or to selected shapes.
6. If you want to number shapes that you subsequently add to your flowchart, select the **Continue numbering shapes as dropped on page** check box.
7. Click the **Advanced** tab to specify whether you want numbers to be placed before or after text in shapes, and to be applied to all or selected layers (if applicable). Select the numbering sequence or the renumbering option you want.
8. Select the **Hide shape numbers** check box if you prefer that numbers do not appear in shapes. Select the **Exclude connectors** check box if you don't want numbering to apply to connector shapes.
9. Click **OK**.

Connect to a new or existing page in your basic flowchart using the Off-page reference shape

1. Display the flowchart page you want to connect to another.
2. From **Basic Flowchart Shapes**, drag the **Off-page reference** shape onto the drawing page.

   NOTE: *If the **Basic Flowchart Shapes** stencil isn't open, on the **File** menu, point to **Shapes**, point to **Flowchart**, and then click **Basic Flowchart Shapes**.*

3. In the **Off-page reference** dialog box, choose whether you want the page to refer to a new page or to an existing page in the diagram.
4. If you want the page to refer to an existing page, click **OK**. If you want the page to refer to a new page, do one or more of the following:
   - Select the **Drop off-page reference shape on page** check box if you also want this shape to be added to your new drawing page.
   - Select the **Keep shape text synchronized** check box if you want text in both of the **Off-page reference** shapes to reflect changes when you add, modify, or delete the text for one of them.
   - Select the **Insert hyperlinks on shapes** check box if you want to create links between the shapes. This is useful for moving from shape to shape in large flowcharts.
5. To change the appearance of the **Off-page reference** shape, right-click the shape, and then click **Outgoing**, **Incoming**, **Circle**, or **Arrow** on the shortcut menu.



Using the Off-page reference shape, you can easily show different parts of a complex process on several pages.

Chart your organization

Organization charts give you an at-a-glance view of your company's employees and reporting structure. Using the shapes and tools included in Microsoft® Office Visio® 2003, you can create organization charts that contain basic employee information such as name and job title, or details such as office location, salary, date hired, manager name, and so on. You can even show employee photographs in your organization charts.

If you already store your employee data in a spreadsheet, database, or text file, Visio can use the information to generate a chart for you. You can choose which information to display in the chart and which to keep hidden in shape properties that do not appear on the drawing page.

You can also compare different versions of organization charts to make sure you're sending the most recent chart to your employees.

Topics in this chapter

Create organization charts

Organization charts show a company in terms of its departments and reporting relationships. You can differentiate departments by color and reporting relationships by line styles.

The **Organization Chart** template includes all the shapes and tools you need to create and maintain your organization chart.

Examples of organization charts you can create with Visio

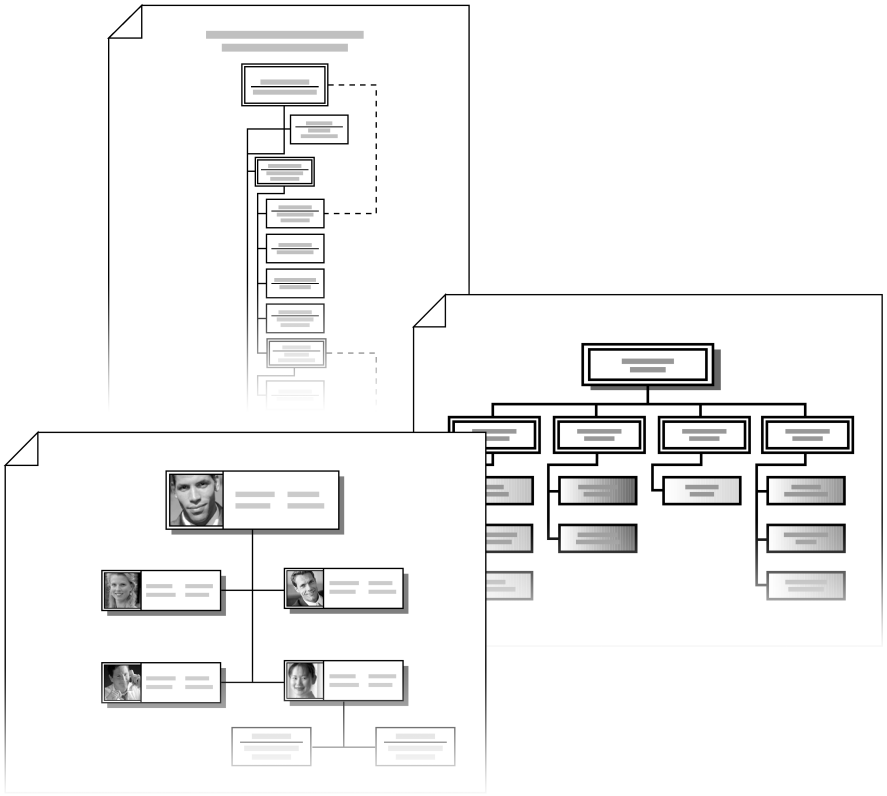
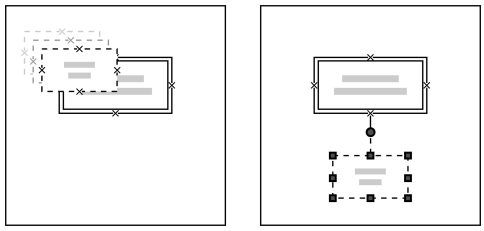


Chart your organization

To create an organization chart that shows reporting relationships, you add **Executive** or **Manager** shapes, and then you drop shapes representing employees onto the shape that represents the person they report to. Visio automatically positions and adds a connector between the two shapes in the reporting relationship.



Drag shapes on top of other shapes to automatically position and connect them.

Begin creating your organization chart

1. Start Visio. In **Choose Drawing Type**, under **Category**, click **Organization Chart**.
2. Under **Template**, click **Organization Chart**.
3. From **Organization Chart Shapes**, drag the **Executive** shape onto the drawing page.

   The **Connecting Shapes** dialog box appears, and an animated demonstration of positioning and connecting shapes appears. Select the **Don't show this message again** check box and click **OK** if you do not want the demonstration to appear again.
4. Drag a **Manager** shape directly on top of the **Executive** shape.

   Visio positions the **Manager** shape below the **Executive** shape and adds a connector between them, establishing a reporting relationship.
5. Repeat step 4 to add more managers.
6. To establish a relationship between a manager and a person who reports to that manager, drag a **Position** shape directly on top of the **Manager** shape.
7. Repeat step 6 to add more positions.
8. To create a second reporting relationship between two positions, drag the **Dotted-Line Report** shape from the **Shapes** window onto the drawing page. Drag one of the connector endpoints to a connection point on one of the shapes in the reporting relationship, and then drag the other endpoint to the other shape.
9. To represent other types of positions and establish reporting relationships, drag **Consultant**, **Vacancy**, and **Assistant** shapes onto the shapes they report to.
10. To replace the default shape text with an employee's name and job title, double-click the shape, type the name, press the **ENTER** key, and then type the job title.

Store data in your organization chart

You can store data, called custom properties, with shapes in your organization chart. You can use this data for reports, reference, or shape text in your chart.

The default custom properties for organization chart shapes are **Department**, **Telephone**, **Name**, **Title**, and **Email**. By default, the **Name** and **Title** properties are shown in the shapes. The other default custom properties and additional ones you create are stored with the shapes, but not shown in the chart. You can choose to keep them hidden or to display them in the shapes.

Store custom property data with organization chart shapes

1. Select the shape you want to add data to.
2. On the **Shape** menu, click **Custom Properties**.
3. In the **Custom Properties** dialog box, type data in each field, and then click **OK**.

View custom properties not shown in your organization chart shapes

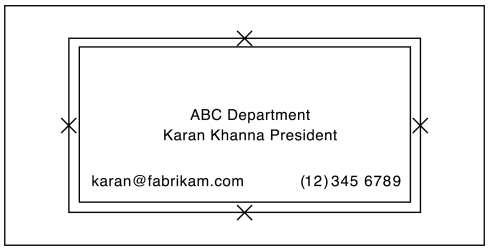
- Right-click the shape, and then click **Properties** on the shortcut menu.

Add, change, or delete custom properties

1. Right-click the shape, and then click **Properties** on the shortcut menu.
2. In the **Custom Properties** dialog box, click **Define**, and then in the **Define Custom Properties** dialog box, add, change, or delete properties, and then click **OK**.

Format the information and shapes in your organization chart

The **Name** and **Title** custom properties are shown by default in organization chart shapes; however, you can show the other default custom properties—**Department**, **Telephone**, and **Email**—in your shapes too. You can also insert employee photographs in your shapes, represent departments by using one color for all the shapes in the department, and change the design theme or color scheme for your chart.



You can choose which employee information you want to display in your organization chart shapes.

Show and format employee information in your organization chart shapes

1. On the **Organization Chart** menu, click **Options**, and then click the **Fields** tab.
2. For each text block, select the type of information you want to display in it.

   The preview on the right side of the dialog box displays the information as it will appear in the shape.
3. Click the **Text** tab. In the **Fields** box, select the information you want to format, specify formatting options, and then click **OK**.
4. To replace the default shape text, click a shape, select the text block for the text you want to replace, and then type the new text.

Insert employee photographs in your organization chart shapes

1. Right-click the shape you want to add the photograph to, and then click **Insert Picture** on the shortcut menu.
2. In the **Insert Picture** dialog box, locate the photograph, and then click **Open**.

Replace an employee photograph in an organization chart shape

1. Right-click the shape for which you want to replace the photograph, and then click **Replace Picture** on the shortcut menu.
2. In the **Insert Picture** dialog box, locate the photograph, and then click **Open**.

Hide an employee photograph in an organization chart shape

- Right-click the shape for which you want to hide the photograph, and then click **Hide Picture** on the shortcut menu.

TIP: *To hide all employee photographs in your organization chart, on the **Organization Chart** menu, click **Options**, and then clear the **Show Pictures** check box.*

Delete an employee photograph from an organization chart shape

- Right-click the shape for which you want to delete the photograph, and then click **Delete Picture** on the shortcut menu.

Change the color of all the shapes in a department

1. Click one of the shapes in the department, hold down the **SHIFT** key while you click the remaining shapes in the department to select all of them.

TIP: *Visio provides different methods and tools you can use to select multiple shapes. Next to the **Pointer** tool (), click the arrow, and then click the **Area Select** tool (), the **Lasso Select** tool (), or **Multiple Select**.*

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2. Click the arrow next to the **Fill Color** button () on the toolbar, and then click a color on the color palette.

TIP: *To convert a shape to another type of position, right-click the shape, click **Change Position Type**, select the new position, and then click **OK**.*

Change the design theme for your organization chart

1. On the **Organization Chart** menu, click **Options**.
2. In the **Options** dialog box, on the **Options** tab, for **Org chart theme**, select the theme from the list, and then click **OK**.

Change the color scheme for your organization chart

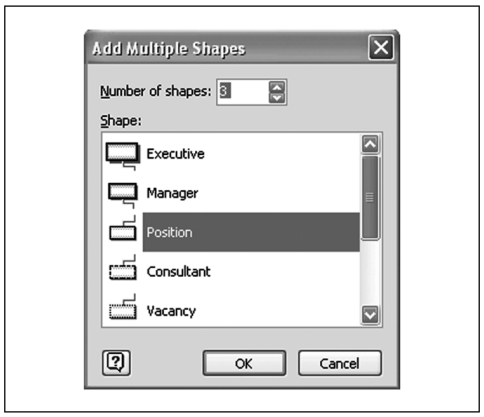
1. Right-click the drawing page, and then click **Color Schemes** on the shortcut menu.
2. In the **Color Schemes** dialog box, choose the scheme you want, and then click **OK**.

Add multiple shapes to your organization chart

Using the **Multiple shapes** shape, you can add a department of up to 50 people at the same reporting level at once. Using the **Three positions** shape, you can add three positions at once.

Add up to 50 positions to your chart at once

1. From **Organization Chart Shapes**, drag the **Multiple shapes** shape onto the drawing page or on top of the shape you want the positions to report to.
2. In the **Add Multiple Shapes** dialog box, for **Number of shapes**, select the number of shapes you want to add.



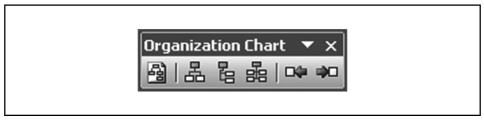
3. Select the type of shape you want from the **Shape** list, and then click **OK**.

Add three positions to your chart at once

- From **Organization Chart Shapes**, drag the **Three positions** shape onto the drawing page or on top of the shape you want the positions to report to.

Change the location or layout of shapes in your organization chart

You can change the location of individual shapes in your organization charts or the layout of all the shapes in a department using the buttons on the **Organization Chart** toolbar. You can also change individual reporting relationships.



Use the Organization Chart toolbar to quickly change the layout of a department and rearrange shapes.

Change an individual reporting relationship

- Drag a subordinate shape onto the new shape you want it to report to.

Move a shape within a reporting relationship

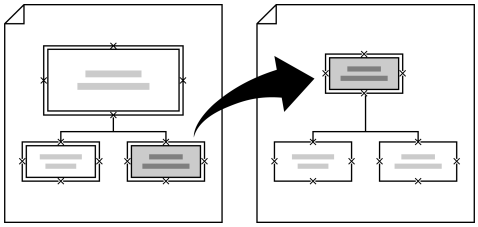
- Select the shape, and then on the **Organization Chart** toolbar, click **Move Left** ( ) or **Move Right** ( ).

Change the layout of an entire department

1. Select the shape representing the manager of the department for which you want to change the layout.
2. On the **Organization Chart** toolbar, click any of the following buttons:
   - **Re-layout** ( ) to lay out the shapes below the selected shape.
   - **Horizontal Layout** ( ), **Vertical Layout** ( ), or **Side By Side** ( ), and then click the button that represents the layout you want.

Manage large organization charts

To display all the departments and positions in your company, you may need to create an organization chart that spans multiple drawing pages. Once you add all the shapes you want to the first drawing page, you can continue your chart on a new page. You add the new page by creating a synchronized copy of a department on the new page. Visio maintains relationships across the drawing pages, so changes you make to the text or custom properties of a shape carry over to all synchronized copies of that shape.



You can use synchronized copies of shapes to create organization charts that span multiple pages.

Create a synchronized copy of a department on a new page

1. Open your organization chart, and then select the shape you want to place at the top level of a new page.
2. On the **Organization Chart** menu, point to **Synchronize**, and then click **Create Synchronized Copy**. Or, right-click the selected shape, and then click **Create Synchronized Copy** on the shortcut menu.
3. In the **Create Synchronized Copy** dialog box, select the **Hide subordinates on original page** check box if you want to hide the subordinate positions on the original page.

   TIP: *To hide subordinate positions for any top-level shape, right-click the top-level shape, and then click **Hide Subordinates** on the shortcut menu.*

4. In the **Create Synchronized Copy** dialog box, click **OK** to create and open a new drawing page that displays a copy of the shape you selected and any shapes that are subordinate to that shape.

   Visio synchronizes the new shapes with the original shapes. When you update the text, custom property data, or photographs in a shape, the changes appear in all synchronized copies.

   NOTE: *Changes such as adding, deleting, or moving synchronized shapes do not apply to all copies of the synchronized shapes, only to that shape and page.*

5. To add employees to the department, drag the appropriate shapes onto the new page, creating reporting relationships as you go.
6. At the bottom of the drawing page window, click the page tab for the original drawing page to display it.

Compare information in organization charts

Comparing information in different versions of your organization chart is useful if you need to update your chart frequently and ensure you communicate the most recent changes to others in the company.

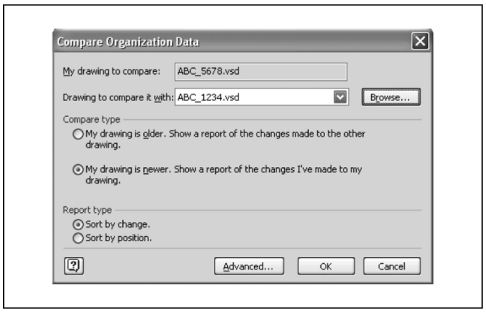
You can use the **Compare Organization Data** command to generate a report that lists the differences between current and previous versions of your chart.

Compare organization charts

1. Open the organization chart you want to compare with another chart.
2. On the **Organization Chart** menu, click **Compare Organization Data**.

   In the **Compare Organization Data** dialog box, the name of the chart open in Visio appears in **My drawing to compare**.
3. Click **Browse**, and then locate the chart you want to compare with the chart you have open in Visio.

   The name of the chart you located appears in **Drawing to compare it with**.



4. Under **Compare Type**, select one of the following:
   - **My drawing is older** Select this option if the chart specified for **My drawing to compare** is not the most recent version.
   - **My drawing is newer** Select this option if the chart specified for **My drawing to compare** is the most recent version.
5. If you want to compare custom property data in the charts, click **Advanced**, and then in the **Compare Data Values** dialog box, select the custom properties you want to compare. Click **OK**.
6. In the **Compare Organization Data** dialog box, click **OK**.

   Visio creates a comparison report, which displays the differences between the two diagrams, if there are any, in Web page format and opens it in your browser.

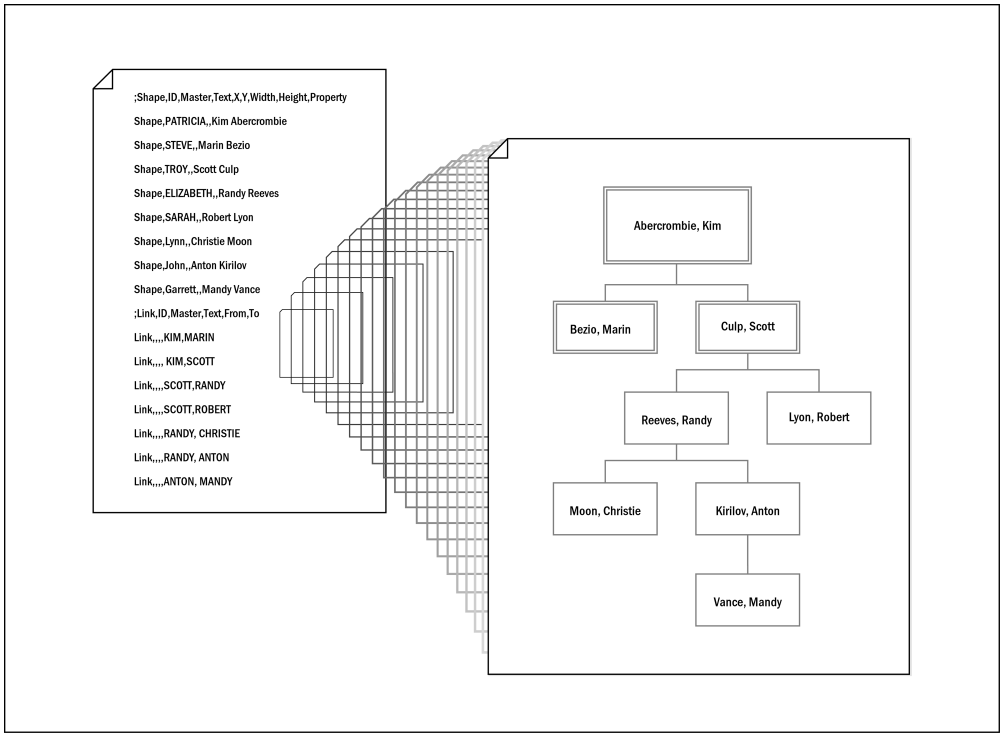
TIP: *You can save this Web page if you want to distribute or refer to at a later time.*

Create an organization chart from existing information

If you store employee information such as name, title, reporting structure, and so on in another data file, you can use the **Organization Chart Wizard** to generate a Visio organization chart based on the information in that file.

You can use a data file such as a text file, Microsoft Excel file, Microsoft Exchange Server directory, or other ODBC-compliant data source.

NOTE: *If you do not already have a data file, but you prefer typing data in a file to dragging shapes in Visio, you can use the* ***Organization Chart Wizard*** *to open a data file template in text (.txt) or Excel (.xls) format. Then you can build your chart by typing in the file, and then using it to generate the chart in Visio.*



Example of an organization chart created in Visio from a text file

When you use the **Organization Chart Wizard**, you can specify elements such as the following:

- Data you want the wizard to display in the organization chart shapes, such as name, title, and department.
- Fields from your data file that you want to use as custom properties in organization chart shapes.
- Whether you want the wizard to determine the number of positions to display on each page, or you want to decide as you create the chart.

Create an organization chart from a data file

1. Start Visio. In **Choose Drawing Type**, under **Category**, click **Organization Chart**.
2. Under **Template**, click **Organization Chart Wizard**.
3. On the first wizard screen, select **Information that's already stored in a file or database**, then click **Next**.
4. On the next wizard screen, select the format of the file in which you store your employee information, and then click **Next**.
5. On the next wizard screen, locate the file that contains your employee information, and then click **Next**.
6. On the next wizard screen, choose the fields in your data file that correspond to the **Name**, **Reports to**, and **First name** information in your organization chart, and then click **Next**.
7. On the next wizard screen, under **Data file columns**, select the type of information you want to display in the shapes, such as name, and then click **Add** to move it to the **Displayed fields** list. Repeat this step for each type of information you want to display, and then click **Next**.
8. On the next wizard screen, under **Data file columns**, select the type of information you want to add to shapes as custom property fields, and then click **Add** to move it to the **Custom Property fields** list. Repeat this step for each type of information you want to add as a custom property field, and then click **Next**.
9. On the next wizard screen, do one of the following:
   - Select **I want to specify how much of my organization to display on each page**. On the subsequent wizard screens, specify the information you want to appear on each page of the organization chart. On the last wizard screen, click **Finish**.
   - Select **I want the wizard to automatically break my organization chart across pages**. Click **Finish**.

   The wizard generates your organization chart.

TIP: *You can also import information into existing organization charts. Open an organization chart in Visio, and then click **Import Organization Data** on the **Organization Chart** menu.*

Design and manage your networks with network diagrams

Microsoft® Office Visio® Standard 2003 and Microsoft Office Visio Professional 2003 include the tools you need to create detailed logical and physical network diagrams. Using the **Detailed Network Diagram** template in Visio Professional 2003 to lay out your network, you can use layers to identify and work with specific components in your diagrams. For example, you can quickly identify all computers made by a particular manufacturer or print only the servers in your diagram.

You can also store information with each network shape, such as manufacturer, product name, product description, and model number, so you can troubleshoot problem areas, track equipment, perform quick inventories, and generate custom reports.

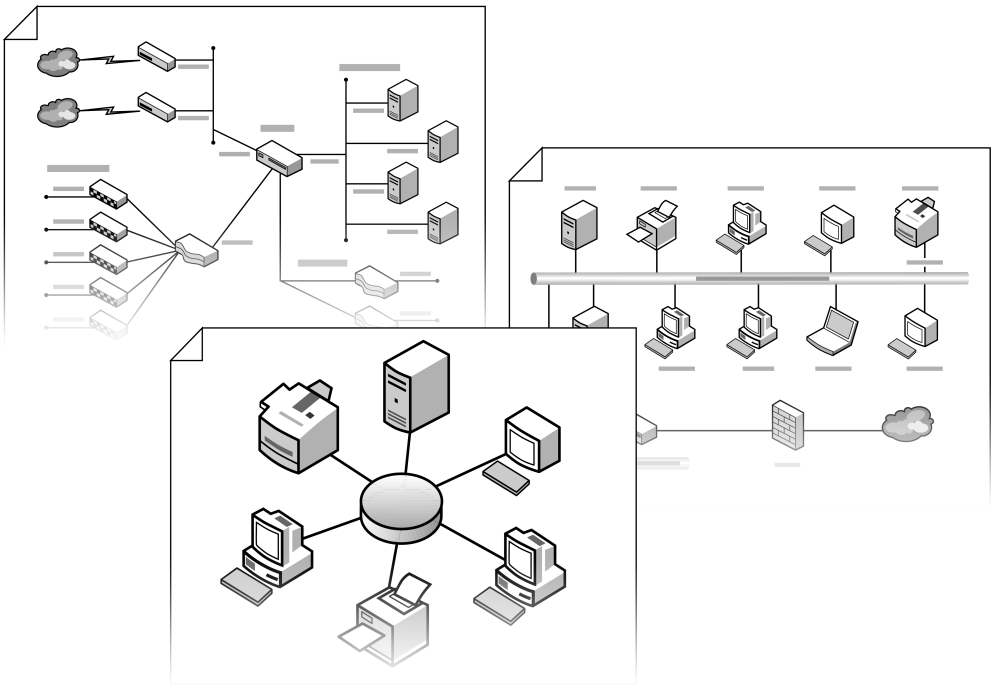
Topics in this chapter

Create network diagrams

You can use detailed network diagrams to design and implement network configurations, keep track of cabling and equipment, and visualize the complexity of an existing network. Troubleshooting your network's infrastructure then becomes easier, because you have accurate and detailed information to refer to.

Using Visio diagramming tools, you can make your diagrams more useful by designating layers to differentiate network components. You can also use custom properties to store and report on data associated with your network shapes.

Examples of network diagrams you can create using Visio



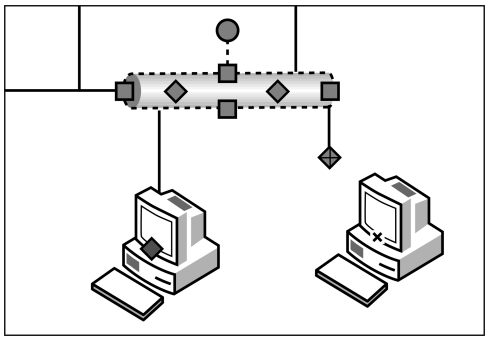
Create a detailed logical or physical network diagram

1. Start Visio Professional. In the **Choose Drawing Type** window, under **Category**, click **Network**.
2. Under **Template**, click **Detailed Network Diagram**.
3. From **Network and Peripherals**, drag an **Ethernet** or **Ring network** network backbone shape onto the drawing page.
4. From the stencils in the **Shapes** window, drag server, workstation, and other component shapes onto the drawing page and position them around the network backbone shape.

   NOTE: *To show shapes on a particular stencil in the **Shapes** window, click the stencil title bar.*

5. Select the network backbone shape, and then drag a control handle (◇) to a connection point (×) on one of the surrounding shapes.

   Visio draws a connector, and the connector endpoint turns red, indicating the connector is glued to the shape.

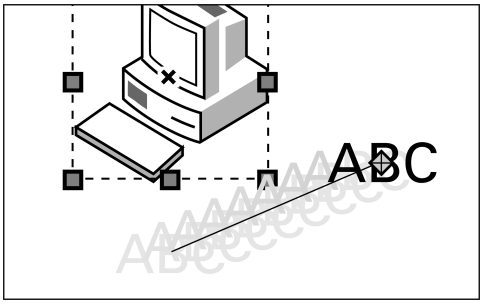


6. Continue connecting other shapes to the network backbone.

   TIP: *In large network diagrams, you can use the **Pan & Zoom** window to magnify shapes so you can position them precisely and connect them correctly. On the **View** menu, click **Pan & Zoom Window**.*

7. Hide any unnecessary connectors on the network backbone shape by dragging the corresponding control handle on top of the shape.
8. To change the color scheme of your network diagram, right-click the drawing page, and then click **Color Schemes** on the shortcut menu. Choose a color, and then click **OK**.
9. To add text to a network shape, select the shape, and then type.

   To reposition the text for many network shapes, drag the control handle (◇), which appears on top of the text after you type it, to a different location.



TIP: *You can also represent network equipment in rack diagrams by using the **Rack Diagram** template included with Visio Professional 2003.*

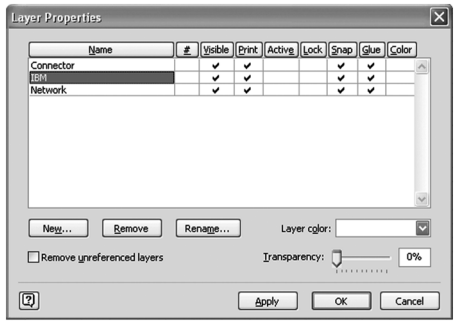
Work with network diagrams

You can manage shapes with layers and store data with network diagrams.

Manage network diagrams with layers

When you create a network diagram using the **Detailed Network Diagram** template, you can place shapes on layers. For example, you can add an **Ethernet** shape to a general **Network** layer.

By working with layers, you can manage one category of your diagram, such as all server shapes or all equipment made by a particular manufacturer, without affecting others, or without others getting in the way. For example, you can hide or lock all layers except the one you want to work on, or you can print shapes based on their layer assignments. You can also create your own layers and assign shapes to them.



Use the Layer Properties dialog box to view and change the properties of layers, create new ones, and remove old ones.

View or print only one layer in a network diagram

1. On the **View** menu, click **Layer Properties**.
2. In the **Layer Properties** dialog box, do either of the following:
   - Under **Visible**, clear the check boxes for all of the layers except for the layer you want to view, and then click **OK**.
   - Under **Print**, clear the check boxes for all of the layers except for the layer you want to print, and then click **OK**.

Add a shape to an existing layer

1. Select the shape you want to add to an existing layer.
2. On the **Format** menu, click **Layer**.
3. In the **Layer** dialog box, select the layer, and then click **OK**.

Create a new layer and add a shape to it

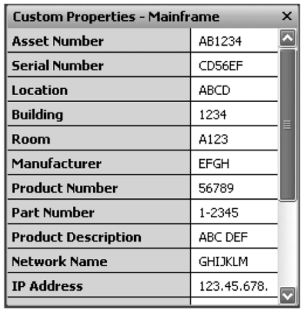
1. Select the shape you want to add to the new layer.
2. On the **Format** menu, click **Layer**.
3. In the **Layer** dialog box, click **New**.
4. In the **New Layer** dialog box, type the name of the new layer, and then click **OK**.

   Visio automatically selects the new layer in the **Layer** dialog box.
5. In the **Layer** dialog box, click **OK**.

TIP: *To quickly see which layer a shape is assigned to, display the **Format Shape** toolbar. Right-click the menu bar, and then click **Format Shape** on the shortcut menu. Select a shape, and then view the layer to which it is assigned in the **Layer** box on the **Format Shape** toolbar.*

Create and view network shape properties

The **Detailed Network Diagram** template contains network shapes that, by default, have individual custom properties associated with them, which you can use to quickly identify components in your network diagram, track equipment, and generate reports, such as inventories, cost estimates, or bills of materials. For example, the **Mainframe** shape has **Asset Number**, **Serial Number**, **Location**, **Building**, **Room**, **Manufacturer** properties, among others, that you can use to identify and track it.



View custom properties and enter network shape data in the Custom Properties window.

Open the Custom Properties window

- On the **View** menu, click **Custom Properties Window**.

  The **Custom Properties** window doesn't display any custom properties until you select a shape (or page) with custom properties.

TIP: *You can resize the **Custom Properties** window by dragging a window edge. You can also undock the window so you can move it around. Right-click the window, click **Float Window** on the shortcut menu, and then drag the window to a new location.*

Do any of the following to view custom properties for a network shape

- If the **Custom Properties** window is already open, select a shape to display its custom properties in the window.
- If the **Custom Properties** window isn't open, right-click a shape, and then click **Properties** on the shortcut menu.

  The **Custom Properties** window opens and shows the custom properties that are already defined for the shape.

  NOTE: *If the **Properties** command doesn't appear on a shape's shortcut menu, the shape doesn't contain custom properties. Follow the steps in the Define New Custom Properties procedure to add them.*

- Select the shape, and then on the **Shape** menu, click **Custom Properties**.

  The **Custom Properties** dialog box appears and shows the custom properties that are already defined for the shape.

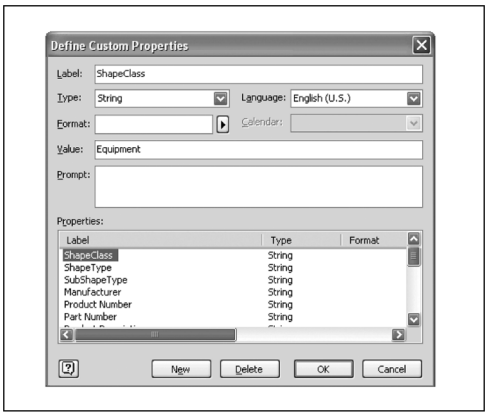
Define new custom properties

1. Select the shape you want to add custom properties to.
2. On the **Shape** menu, click **Custom Properties**.

   NOTE: *If the shape doesn't contain any custom properties, a message appears asking if you want to add custom properties. Click* ***Yes****.*

3. In the **Custom Properties** dialog box, click **Define**.

   The **Define Custom Properties** dialog box appears.



4. In the **Define Custom Properties** dialog box, click **New**, and then enter the label, type, format, value, and prompt for the new custom property.
5. Click **OK** in the **Define Custom Properties** and **Custom Properties** dialog boxes.

Enter custom property data for a shape

1. Right-click a shape, and then click **Properties** on the shortcut menu.
2. In the **Custom Properties** window, select the custom property, and then enter the data for the shape.

   To move to the next property in the list, press the **ENTER** key.

In addition to defining individual custom properties, you can define sets of custom properties for shapes. A custom property set contains one or more individual custom properties and provides an easy way to add, organize, and report on multiple custom properties. For example, if you want to create a series of custom network equipment shapes that contain name, manufacturer, and serial number information, you can create a custom property set for those three properties. When you apply the set to the shapes, Visio adds all three properties at once.

Do either of the following to open the Custom Property Sets window

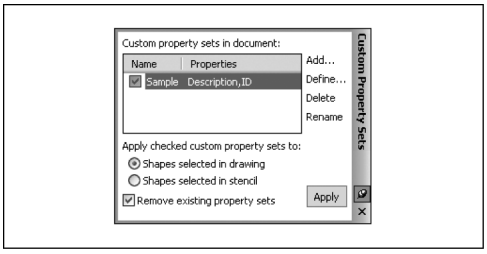
- If the **Custom Properties** window is open, right-click it, and then click **Custom Property Sets** on the shortcut menu.
- If the **Custom Properties** window isn't open, on the **Tools** menu, click **Custom Property Sets**.

TIP: *To resize the **Custom Property Sets** window, drag a window edge. To move it, first undock it by right-clicking the window and clicking **Float Window** on the shortcut menu, and then drag the window to a new location.*

Define custom property sets

1. On the **Tools** menu, click **Custom Property Sets**.

   The **Custom Property Sets** window appears.



2. In the **Custom Property Sets** window, click **Add**.
3. In the **Add Custom Property Set** dialog box, type the name of the set, select **Create a new set**, and then click **OK**.
4. To define individual custom properties in the set, in the **Custom Properties Sets** window, click **Define**.
5. In the **Define Custom Properties** dialog box, define the properties, and then click **OK**.

   The individual custom properties for each set appear in the **Properties** column in the **Custom Property Sets** window.

Define a custom property set using a shape's existing, individual properties

1. Right-click the shape that contains the custom properties for which you want to create a set, and then click **Properties** on the shortcut menu.
2. Right-click the **Custom Properties** window, and then click **Custom Property Sets**.
3. In the **Custom Property Sets** window, click **Add**.
4. In the **Add Custom Property Set** dialog box, type the name of the set, select **Create a new set from the shape selected in Visio**, and then click **OK**.

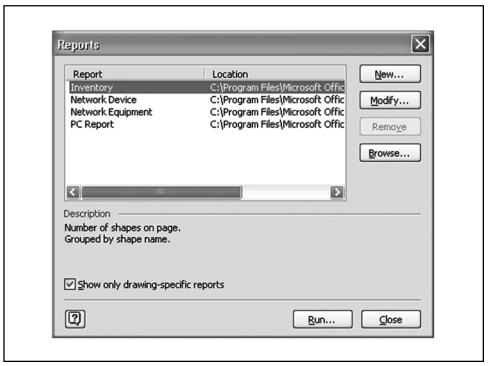
   The individual custom properties for the set appear in the **Properties** column in the **Custom Property Sets** window.

Apply a custom property set to a shape

1. Select the shape, and then in the **Custom Property Sets** window, select the check box next to the property set you want to apply to the shape.
2. Under **Apply checked custom property sets to**, select **Shapes selected in drawing**, and then click **Apply**.

Generate a report on the custom properties in your network diagram

1. On the **Tools** menu, click **Reports**.
2. In the **Reports** dialog box, choose an existing report or click **New** to create a custom report.



3. Follow the steps on the wizard screens.

Design your buildings with floor plans

Whether you are an architect designing a commercial building or a facilities manager planning interior spaces, Microsoft® Office Visio® Professional 2003 provides the tools you need to create detailed, scaled floor plans.

Using the **Floor Plan** template in Visio Professional, you can draw floor plans that show the location of walls, doors, and windows; building core features, such as stairways and elevators; and electrical and telecommunications systems, such as lights, outlets, and switches.

Using other **Building Plan** templates included with Visio Professional, you can build architectural or landscape site plans, lay out manufacturing plants, and draw home plans for your own remodeling, interior design, or landscaping projects.

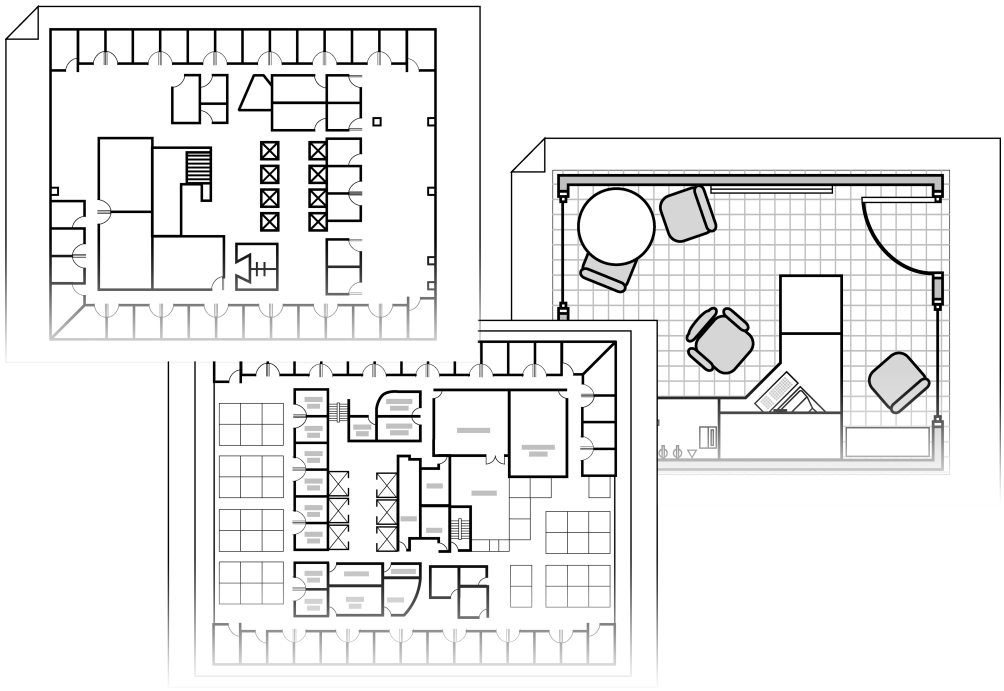
Topics in this chapter

Create floor plans

Floor plans are the core diagrams in a set of construction documents and are frequently used as background images in a wide range of diagrams, from office furniture layouts to electrical wiring diagrams.

Visio Professional includes the shapes and tools you need to assemble walls quickly, add doors and windows, and add dimension lines to your floor plan.

Examples of floor plans you can create with Visio Professional



Begin your floor plan by assembling the building shell

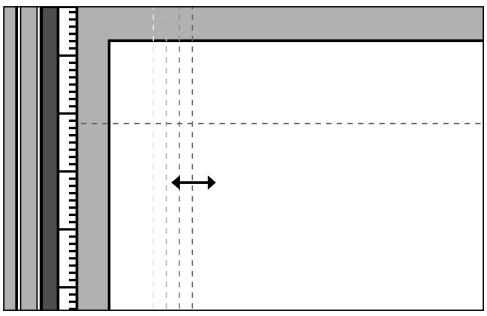
When creating a floor plan, first you assemble the building shell, which includes exterior and interior walls and columns, and major structural features, such as stairways and elevators.

Start a floor plan

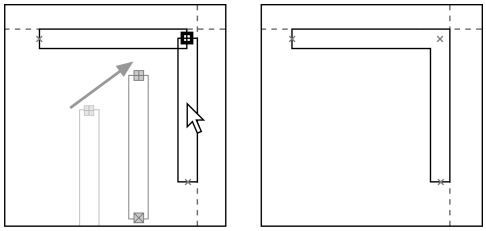
1. Start Visio Professional. In the **Choose Drawing Type** window, under **Category**, click **Building Plan**.
2. Under **Template**, click **Floor Plan**.
3. To change the page size or drawing scale, on the **File** menu, click **Page Setup**.
4. Click the **Page Size** tab to choose a page size, and then click the **Drawing Scale** tab to choose a drawing scale.
5. Click **OK** to accept the new settings and begin creating your floor plan.

Assemble the building shell

1. Drag guides from the horizontal and vertical rulers and position the guides on the drawing page so that they indicate the perimeter of the building.



2. For each exterior wall, drag a wall shape from **Walls, Shell, and Structure** in the **Shapes** window onto the drawing page. Drag the endpoints of the wall shape to the intersections of the horizontal and vertical guides to glue them to the guides and join the walls.



3. To reposition exterior walls, drag the guides to which they are glued.
4. Add columns or other structural shapes from **Walls, Shell and Structure**, or from **Building Core**.
5. Position interior and cubicle walls by dragging wall shapes onto the drawing page. Drag the endpoint of one wall to another wall to join and glue them.
6. Add guides to interior walls by right-clicking a wall and clicking **Add a Guide** on the shortcut menu.
7. To reposition interior walls, drag the guides to which they are glued.

TIP: *You can insert a CAD floor plan into your diagram to use it as your building shell, and then add more detail using Visio shapes. To insert a CAD plan, on the* ***Insert*** *menu, click* ***CAD Drawing****.*

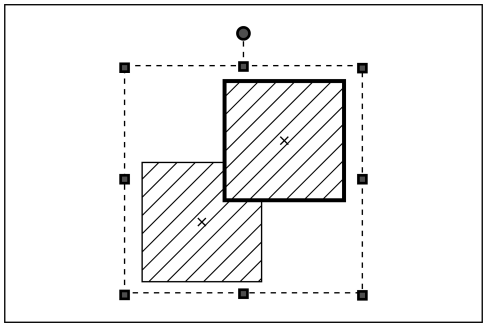
Create interior spaces

The next step in assembling your floor plan is to create interior spaces and lay out the building by using space shapes that you can easily convert into rooms outlined by fully dimensioned walls. You can then continue to create the rest of your floor plan with as much detail as necessary.

Create interior spaces

1. From **Walls, Shell and Structure**, drag a space shape onto the drawing page.

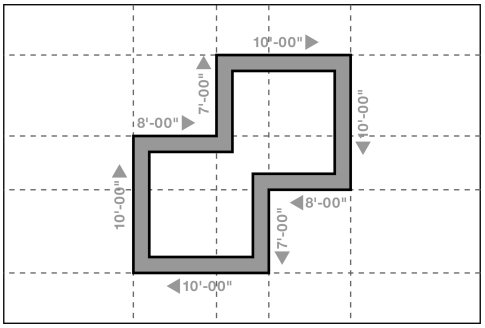
   To create a space that is not a rectangle, position several space shapes to represent the room. Select all of the shapes, right-click them, and then click **Union**, **Subtract**, or **Intersect** on the shortcut menu to merge them.



2. To resize the space shape, drag a shape corner.

   The shape updates to show its new dimensions.

3. Position shapes to represent all of the rooms and common areas in your floor plan.
4. To convert the space shapes into rooms, select the shape, and on the **Plan** menu, click **Convert to Walls**.
5. In the **Convert to Walls** dialog box, under **Settings**, select **Add dimensions** and **Add guides** so that you can easily reposition walls after they are created.
6. Under **Original geometry**, click **Delete** to delete the space shape, and then click **OK**.



TIP: *You can also use the **Line** tool ( ) or **Rectangle** tool ( ) on the **Drawing** toolbar to draw outlines of rooms and common areas in your plan. Then, convert them into rooms using the **Convert to Walls** command on the **Plan** menu.*

Add doors, windows, and openings

Adding the shapes for doors, windows, and other openings to your floor plan is as easy as creating the shell. When you drag a door or window shape onto a wall, the door or window automatically aligns with the wall and glues itself to it. The doors and windows also inherit the wall's thickness.

Add doors, windows, and openings to walls

1. From **Walls, Shell and Structure**, drag a door, window, or opening shape onto a wall.

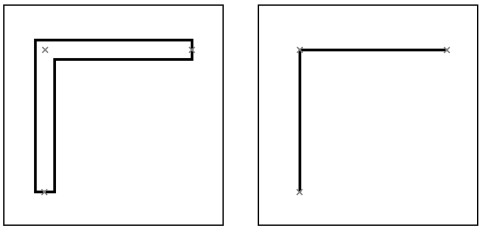
   The shape aligns and glues to the wall.
2. To reposition a door or window, drag it along the wall.

Change the appearance of walls, doors, and windows

For detailed construction diagrams, you can change the default appearance of a single wall, door, window, or space or for all walls, doors, windows, and spaces on a drawing page. For example, you can hide door header or frame components or display walls as single lines instead of double lines.

Change the appearance of all walls, doors, windows, and spaces on the drawing page

1. On the **Plan** menu, click **Set Display Options**.
2. On the **Doors** tab, **Walls** tab, **Windows** tab, or **Spaces** tab, choose the settings you want.



You can quickly change the appearance of all walls on the drawing page from double-line to single-line.

Change the appearance of a single wall, door, window, or space

1. Right-click the wall, door, window, or space shape, and then click **Set Display Options** on the shortcut menu.
2. On the **Doors** tab, **Walls** tab, **Windows** tab, or **Spaces** tab, choose the settings you want.

Measure walls and spaces

Using Visio Professional, you can add dimension lines to walls at any time. As you refine your plan, the dimensions update along with it. You can also determine the area and perimeter of rooms in your floor plan.

Add dimension lines to a wall

1. Select the walls to which you want to add dimensions.
2. Right-click one of the selected walls, and then click **Add a Dimension** on the shortcut menu.

Measure the area and perimeter of rooms

1. Select the wall shapes that make up the perimeter.
2. On the **Tools** menu, point to **Add-Ons**, point to **Visio Extras**, and then click **Shape Area and Perimeter**.

Work with large floor plans

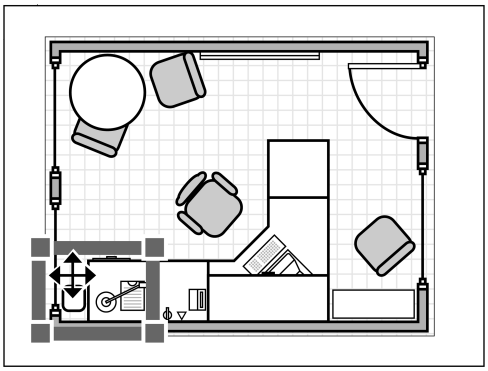
Floor plans are usually large and contain many shapes. Visio 2003 provides the tools you need to easily work with large diagrams. You can magnify details, print a large diagram across multiple pages, or scale your diagram to print on a single page.

Zoom and pan diagrams

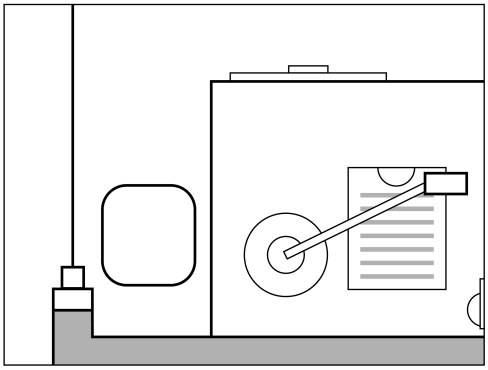
You can use the **Pan & Zoom** window to quickly locate and magnify an area of a large diagram. Panning moves the visible part of the diagram in the drawing window. Zooming changes the magnification of the diagram.

Zoom and pan a diagram

1. On the **View** menu, click **Pan & Zoom Window**.
2. In the **Pan & Zoom** window, drag a rectangle around the area you want to magnify.
3. To pan to a different part of the diagram, position the pointer over the rectangle until it becomes a four-headed arrow (✥), and then drag the rectangle.
4. To zoom in on part of a diagram, decrease the size of the red rectangle by dragging a corner or side; to zoom out, increase the size of the red rectangle.



View in Pan & Zoom window



Magnified view on the drawing page

Print large diagrams

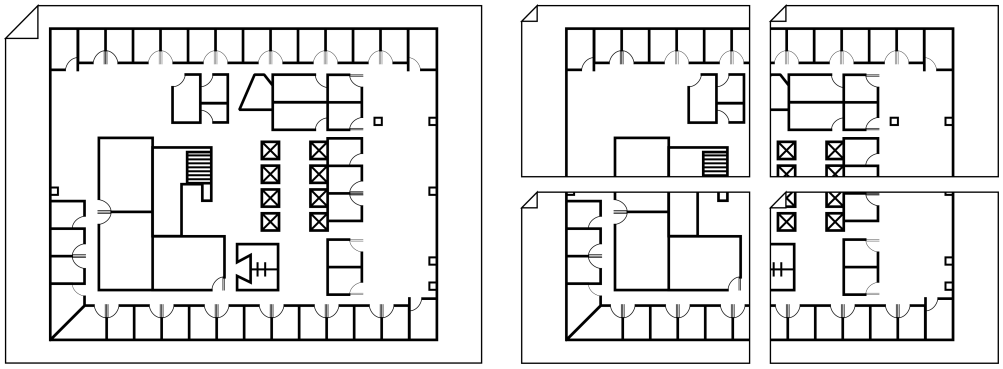
When you work with large diagrams, it's possible to have a drawing page that is larger than the printed page. If the size of a Visio diagram is larger than the paper in your printer, Visio tiles the diagram, which means that the diagram prints on several sheets of paper.

You can preview a large diagram to see if it will require more than one printed page. When you know your diagram will print on multiple pages, you can choose how much a tiled diagram overlaps between adjacent pages. You can also specify the number of pages you want your drawing to span.

Determine whether a large diagram will print on several pages

- On the **View** menu, click **Page Breaks**.

  Gray bands appear on the drawing page, indicating the printed page size and margins selected in the **Print Setup** dialog box.



You can print a diagram on large printer paper or on several smaller sheets of paper.

Reduce or enlarge the size of a printed diagram

1. On the **File** menu, click **Page Setup**.
2. On the **Print Setup** tab, under **Print zoom**, select **Adjust to**, and then type a number greater or less than 100%.
3. Look at the preview on the right side of the dialog box to make sure your drawing page and printer paper appear the way you want, make any necessary adjustments, and then click **OK**.

Specify the number of printed pages for a tiled diagram

1. On the **File** menu, click **Page Setup**.
2. On the **Print Setup** tab, under **Print zoom**, select **Fit to**, and then type the number of pages across and down on which you want the drawing to print.
3. Look at the preview on the right side of the dialog box to make sure your drawing page and printer paper appear the way you want, make any necessary adjustments, and then click **OK**.

Reduce or increase the amount of overlap between printed pages for a tiled diagram

1. On the **File** menu, click **Page Setup**.
2. On the **Print Setup** tab, click the **Setup** button.
3. Type smaller or larger amounts for the margin settings, and then click **OK**.

   The larger the margins, the greater the overlap. Shapes that appear in the margins do not print.
4. In the **Page Setup** dialog box, click **OK**.

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