

Whether you work with information technology or manage a group or business, the Visio® Professional drawing application can help you efficiently design and document your systems and processes. With Visio Professional, you can

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In addition to solutions, templates, stencils, shapes and wizards, Visio Professional includes features common to all Visio products that make it the program of choice for visualizing and communicating ideas. Those features include

- Easy-to-use drag and drop drawing.
- SmartShapes® technology—shapes programmed to behave the way you expect.
- Compatibility and consistency with Microsoft Windows 95, Office 97, and Windows NT 4.0.
- A quick and easy process for publishing drawings as Web pages.
- A built-in development tool, Visual Basic for Applications (VBA), that you can use to customize the Visio interface and create custom solutions.

The Visio user manuals

Visio Professional includes three pieces of printed documentation: *Using Visio Professional* (this book), *Using Visio Products*, and *Developing Visio Solutions*. Here's the type of information you can find in each:

Using Visio Professional (this book)

- Instructions for installing Visio Professional.
- An overview of what's new in this version and what the product contains.
- Detailed instructions for using features specific to Visio Professional, such as the Network Diagram Wizard, the Map Database Wizard, or the UML diagram semantics checker.
- An introduction to ShapeSheet™ spreadsheets and other tools for customizing Visio shapes and controlling its shapes, pages, menus, and other objects using a programming language, such as VBA, that supports Automation.
- Where to go for more information about using basic Visio features, working with a specific shape, or creating a specific type of drawing.

Using Visio Products

- Detailed information about standard Visio functionality.

Developing Visio Solutions

- Everything you need to know about Visio as a development platform, including sample code, tips, and techniques.

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Installing Visio Professional

This section includes information about installing Visio Professional and where to go for help with installation.

System configuration

Required:

- Microsoft Windows 95 or Microsoft Windows NT 4.0
- VGA or better display
- Mouse
- CD-ROM drive for installation

Recommended:

- Pentium, Pentium Pro, or Pentium II PC with 16 MB or more RAM for Windows 95, and 24 MB or more RAM for Windows NT
- Up to 110 MB of hard disk space required for a full installation; 15 MB for minimum installation

Optional:

- Windows-compatible printer or plotter
- Modem and Internet access
- Local area network (volume licenses available)

How to prepare for installation

- Close all programs and turn off virus protection software to prevent installation conflicts.
- If you have another version of Visio installed on your computer and do not want to overwrite that version, change the default installation folder for Visio Professional during installation setup.
- To avoid overwriting stencils or templates you've customized or created, place them into a separate folder before you install.

Installing electronic versions of manuals and files

During installation, you have the option of installing .pdf format files for the following manuals and tools:

- *Using Visio Products, Using Visio Professional, Developing Visio Solutions*
- Copies of the Unified Modeling Language (UML) notation, semantics, and other guides developed by Rational Software Corporation. If you create UML diagrams, these guides are an excellent source of reference information.

If you work in a corporate environment where most users don't receive printed copies of the manuals, you can make these electronic copies available on the corporate network or intranet.

To open, read, or print the .pdf files, you need to install the Adobe Acrobat Reader by double-clicking the Setup.exe file located in the Acrobat Reader folder on the Visio Professional CD.

If you choose not to install the .pdf files during installation, you can still copy them to your computer. The .pdf files are located in the Docs folder on the Visio Professional CD.

Installing Visio Professional from the CD

You must be running Microsoft Windows 95 or Microsoft Windows NT 4.0 to install Visio Professional. Installation starts when you insert the Visio Professional CD into your CD-ROM drive. If installation does not start, you can install Visio Professional using the following procedure.

To install Visio Professional on Windows 95 or Windows NT 4.0:

1. Insert the Visio Professional CD into your CD-ROM drive.
2. From the Start menu, choose Run.
3. In the Run dialog box, type *d:\setup*, where *d* is the letter assigned to your CD-ROM drive.
4. Click OK, then follow the instructions on your screen.

The Setup program guides you through the installation process.

Installing Visio Professional on a network

There are two ways to set up Visio Professional on a network server:

- Install a copy on a network server so that multiple workstations can run it from the server.
- Place the Visio Professional files on a network server so the program can be copied onto the hard disks of individual workstations.

For information about network administrator installation options, see Network.txt at the root of your Visio Professional CD.

If you need help with installation

If you encounter problems while installing Visio Professional, call Technical Support (see *Using Visio Products* for the correct number for your area). For help with technical issues, see the Visio Corporation Web site, which you can access from within Visio by choosing Help > Visio On The Web > Online Support.

New and enhanced features

About Visio Professional 5.0

Visio Professional 5.0 offers new and smarter shapes, an improved drawing environment, and features that integrate Visio seamlessly with Microsoft Office 97 applications. And, the Visio Professional enhanced wizards, connectors, and other tools make your work easier and faster.

For details about developer tools new to version 5.0, see *Developing Visio Solutions*.

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New features

The following tables describe the new and enhanced features available in Visio Professional 5.0.

Compatibility

Feature	Description
<i>New!</i> Microsoft Office 97 compatibility	<p>Send To support From within Visio, route and send drawings through e-mail to other recipients.</p> <p>Binder support Add headers and footers to Visio drawings included in Microsoft Binder files and view the drawings in Print Preview mode.</p> <p>Outlook journaling Automatically record the time you spend working on Visio drawings in your Outlook journal.</p>
<i>New!</i> In-place editing	Edit objects you embed in Visio drawings without leaving the Visio environment.

Drawing environment

Feature	Description
<i>Updated!</i> Backward compatibility	Opening files Open any Visio file in Visio Professional 5.0, regardless of the version you created the file in. Saving files Save drawings you create in Visio Professional 5.0 so they can be opened in earlier versions.
<i>New!</i> Drawing page behavior	Sizing To resize the drawing page, simply place the cursor over an edge of the page, hold down the Ctrl key, and drag. Rotation Rotate the contents of the page for any aspect of a drawing that is at an angle to the rest of the drawing.
<i>Improved!</i> Toolbar	Organization Toolbar buttons are grouped by function so they're easier to see and access. Independent display Show or hide groups of buttons to make the toolbar more convenient to use. Pop-up palettes Select colors, patterns, and other attributes from pop-up palettes associated with toolbar buttons, such as Fill Color or Line Weight.

Tools

Feature	Description
<i>New!</i> Connector technology	Fewer connectors Fewer, but more powerful connectors make it easier to choose the one you need. Dynamic routing Connectors automatically re-route around shapes when you drop or move them.
<i>New!</i> Custom patterns, fills, and line ends	Create your own custom patterns, fills, and line ends, then easily apply them to shapes.
<i>New!</i> Full-screen view	View drawings in full-screen or presentation mode without toolbars or other interface elements, and navigate from page to page using the mouse buttons or arrow keys.
<i>New!</i> ODMA support	Handle Visio Professional drawings as part of your Document Management System (DMS). When Visio detects the presence of Open Document Management Architecture (ODMA), it passes file management operations to the ODMA program.
<i>New!</i> Import and annotate AutoCAD files	Bring .dwg/.dxf AutoCAD files into Visio Professional as images to view, annotate, and add Visio shapes to them. Save the imported files as Visio drawings.

Feature	Description
<i>New!</i> Shape Explorer	Search for and catalog shapes, stencils, or templates stored on your own computer or on the Visio Web site.
<i>New!</i> Database Export	Export data from selected cells in a shape's ShapeSheet spreadsheet and store the data in a database table.
<i>New!</i> Graphics/file support	<p>Import Import Enhanced (32-bit) Metafiles, CorelDRAW 7, and AutoCAD .dwg/.dxf/.dwf files.</p> <p>Export Export Visio drawings as Enhanced (32-bit) Metafiles.</p>
<i>Improved!</i> Web tools	<p>Adding hyperlinks Efficiently add hyperlinks to Visio shapes and drawing pages so you can jump to other Visio drawing pages or files, documents created in other applications, or to Web sites (URLs). You can even link to a specific location within a document or on a Web page.</p> <p>Saving drawings as HTML files Improved interface for saving Visio drawings as HTML files you can publish on the Web. More precise boundaries around shapes that serve as hot links.</p> <p>Web Diagram Wizard Enhanced HTML-code handling, so you can diagram a broader range of Web sites.</p> <p>Internet Explorer Open Visio files in Internet Explorer and edit them there. Use the browser's Forward and Back buttons to move between Visio drawings, Web pages, and other files open in Explorer.</p>
<i>Improved!</i> Database Wizard	<p>Efficiency The Database Wizard in Visio Professional 5.0 runs faster and supports more ODBC (Open Database Connectivity standard) drivers and new custom property types. You can also control some ODBC settings from within Visio.</p> <p>Drawing Monitor In Visio Professional 5.0, you can control when the drawing monitor launches. You can add an action to a drawing page so you can launch the drawing monitor by right-clicking the page.</p> <p>ODBC settings From within Visio Professional, modify some of the ODBC settings that affect how the Database Wizard operates.</p>
<i>Improved!</i> Faster report creation	<p>Reports for large drawings Enhanced performance of the Property Reporting Wizard enables you to generate inventory and numeric reports quickly even for very large drawings that include shapes with many custom-property fields.</p> <p>Faster inventories To extract data from a drawing, such as an organization chart, office plan, or network diagram, you can quickly create an inventory report and write the data to a spreadsheet or text file.</p>

Content

Feature	Description
<i>New!</i> UML support	UML diagrams Visio Professional includes a Unified Modeling Language (UML) Template with shapes that support static structure UML diagrams. Microsoft Repository Export UML diagrams as models that can be stored in the Microsoft Repository, and import models from the Repository into Visio Professional as UML diagrams.
<i>New!</i> Network Equipment shapes	Visio Professional includes approximately 700 new manufacturer-specific network equipment shapes (representing 3Com, Cabletron, Cisco, Bay Networks, and HP equipment).
<i>New!</i> Database and Software Diagramming solutions	Additional templates and stencils support the creation of Bachman and ORM (Object Role Modeling) database design diagrams, UML (Unified Modeling Language) software modeling diagrams, and Office 97 user interface diagrams.
<i>New!</i> Marketing shapes	Two new Marketing stencils for quickly creating colorful and informative marketing presentations that include pyramids, bubble charts, spoke diagrams, and more.
<i>Improved!</i> IDEF0 shapes	Improved IDEF0 shape behavior, and several new methodology-specific shapes, make creating IDEF0 diagrams more efficient.
<i>Improved!</i> Project Timeline Solution	Data columns Add data columns for information such as Start Date, End Date, and Duration to Gantt charts. Dynamic updating Typing in a data column updates the task bars in the Gantt chart. When you drag a task bar, you update the data in the data columns. Microsoft Project Import files in Microsoft Project Exchange (.mpx) format and display the data in a Visio Professional Gantt chart. You can also export data from a Visio Gantt chart into .mpx format.
<i>Improved!</i> Organization Chart Wizard	Use the Organization Chart Wizard to create organization charts from data stored in a database table created in an ODBC-compliant database program. Display some of the database table's column headings (such as Name and Department) on position shapes in the chart and add the other column headings to the shapes as custom-property fields.

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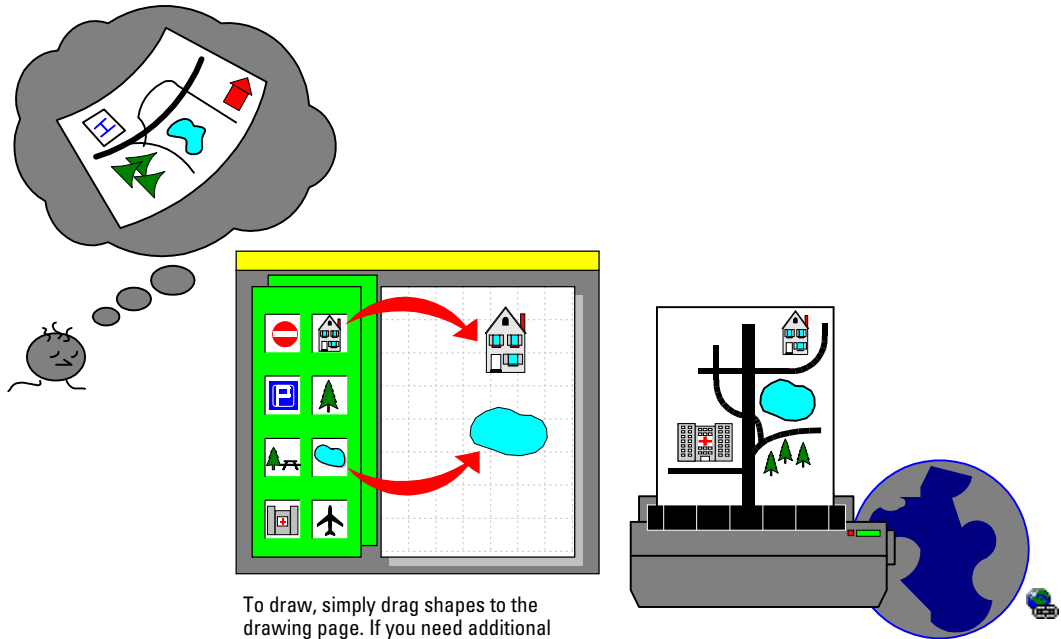


Visio Professional concepts and content

About Visio Professional concepts and content

Whether you create drawings as your primary job or only occasionally, you don't have to learn a complex design or CAD program. Visio Professional provides powerful graphics capabilities, an intuitive user interface, and the drag and drop drawing technique you can use to quickly create and distribute the drawings you need.

From idea to Visio Professional drawing



To draw, simply drag shapes to the drawing page. If you need additional shapes, you can create them.

[HTTP://W W W](http://www)

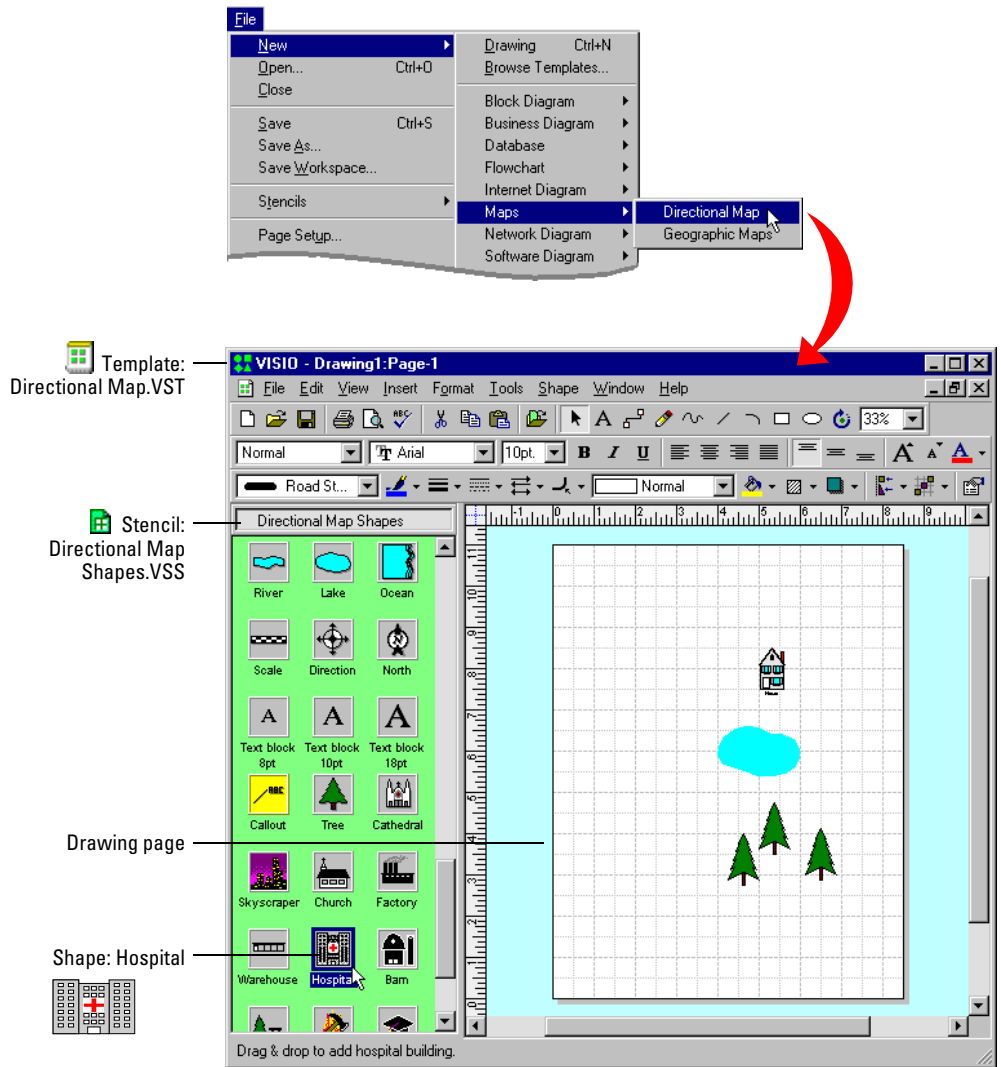
When your drawing is complete, you can print it, include it in other documents, or distribute it on an intranet or the World Wide Web.

The Visio Professional drawing environment

You start by choosing a *solution* that matches the type of drawing you want to create. A solution includes everything you need to turn an idea into a drawing, such as

- Blank drawing pages set up with an appropriate size, orientation, and scale.
- Shapes that look and behave like real-life objects.
- Tools for editing existing shapes or drawing your own shapes from scratch.
- Pre-set styles for text, lines, and shapes so you don't need to spend time formatting.
- Wizards that automate complex or routine tasks.
- Automation tools that help you customize the way the program works.

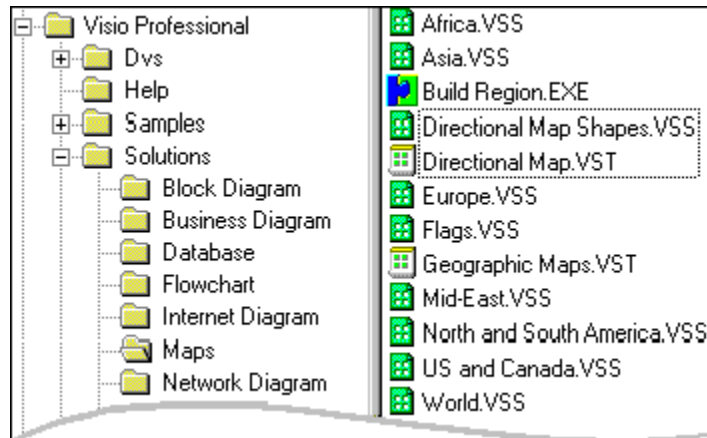
To open a solution from within Visio Professional, choose File > New, then choose the drawing type you want. Opening a solution actually opens a *template* file, a file that contains shapes, drawing pages, and other tools. Each template includes one or more *stencil* files on which shapes are stored. You can open additional stencils whenever you need them, no matter what template you're working in.





When you choose a Visio Professional solution, you actually open a template file, which includes shapes on stencils, a drawing page, styles, and other tools.

Working with Visio Professional files

Because templates and stencils are types of files, you can find them in the Visio Professional folder in Windows Explorer organized the same way solutions are organized under the File > New menu. The Visio folder includes a Solutions subfolder, where you can find a folder for each drawing type. Within a drawing-type folder, you can find template and stencil files. You can open a template or stencil from within Visio Professional or from the Windows Explorer by double-clicking the file icon.



Template files, (), have a .vss extension. Stencil files, (), have a .vst extension. Drawing files have .vsd extensions.

Related topics

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Basing new drawings on templates	<i>Using Visio Products</i> 9
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Visio Professional content

To create a drawing in Visio Professional, you open a solution. Each solution consists of a template (a file that serves as the container for the shapes), a drawing page, and tools you use to create a drawing. Each template includes one or more stencils, which are files that contain the shapes you drag onto the drawing page.

The following table, which is organized by drawing type, lists the Visio Professional solutions and the templates and stencils they contain. For details about creating a drawing using a specific template, choose Help > Template Help, then double-click Visio Templates.

Block Diagram Solutions



Templates

Basic Diagram

Block Diagram

Block Diagram with Perspective



Stencils

Basic Shapes

Blocks, Blocks Raised

Blocks with Perspective

Business Diagram Solutions



Templates

Charts and Graphs

Form Design

Office Layout

Marketing Charts and Diagrams

Organization Chart

Project Timeline



Stencils

Charting Shapes

Forms Shapes

Office Layout

Charting Shapes, Marketing Clipart, Marketing Diagrams

Organization Chart Shapes

Project Timeline

Database Solutions



Templates

Crow's Foot ERD

Bachman

IDEF1X ERD

Object Role Modeling



Stencils



Crow's Foot ERD Shapes

Bachman

IDEF1X ERD Shapes

Object Role Modeling Shapes



Flowchart Solutions

 Templates	 Stencils
Audit Diagram	Audit Diagram Shapes, Connectors and Callouts
Data Flow Diagram	Data Flow Diagram Shapes
Flowchart - Basic	Basic Flowchart Shapes, Basic Flowchart Shapes2
Flowchart - Advanced	Audit Diagram Shapes, Connectors and Callouts, Data Flow Diagram Shapes, Miscellaneous Shapes, SDL Diagram Shapes, TQM Diagram Shapes Work Flow Diagram Shapes
IDEF0 Diagram	IDEF0 Diagram Shapes
Mind Mapping Diagram	Mind Mapping Diagram Shapes
SDL Diagram	SDL Diagram Shapes, Connectors and Callouts
TQM Diagram	TQM Diagram Shapes
Work Flow Diagram	Work Flow Diagram Shapes, Connectors and Callouts

Internet Diagram Solutions

 Templates	 Stencils
Web Diagram	Web Diagram Shapes

Map Solutions

 Templates	 Stencils
Directional Map	Directional Map Shapes
Geographic Maps	Africa, Asia, Europe, Mid-East, North and South America, US and Canada, Maps of the World

Network Diagram Solutions



Templates

3Com Equipment

Basic Network

Bay Networks Equipment

Cabletron Equipment

Cisco Equipment

Hewlett Packard Equipment

Logical Network Diagram



Stencils

3Com LinkBuilder Shapes, 3Com Other Equipment Shapes, 3Com SuperStack Shapes, Accessories, Miscellaneous Equipment, Structured Racks

Basic Network Shapes, Basic Network Shapes 2

Bay Networks Access Node, Bay Networks BayStack, Bay Networks Centillion, Bay Networks Distributed 5000, Bay Networks Other Equipment, Bay Networks System 3000, Bay Networks System 5000, Accessories, Miscellaneous Equipment, Structured Racks



Cabletron Micro MMAC, Cabletron MMAC Plus, Cabletron MMAC, Accessories, Miscellaneous Equipment, Structured Racks

Cisco 7000 Family, Cisco Access Products, Cisco Catalyst Switches, Cisco Other Equipment, Accessories, Miscellaneous Equipment, Structured Racks



Hewlett Packard, Accessories, Miscellaneous Equipment, Structured Racks

Desktop Symbols, General Annotation, IBM Symbols, Miscellaneous Symbols, Network Connections, Network Icons, Telecom Symbols

Software Diagram Solutions

 Templates	 Stencils
Booch OOD	Booch OOD
Chen ERD	Chen ERD
COM and OLE	COM and OLE
Express-G	Express-G
Fusion	Booch OOD, Rumbaugh OMT, Jacobson Use Cases, Connectors
Gane-Sarson DFD	Gane-Sarson DFD
Jacobson Use Cases	Jacobson Use Cases
Martin ERD	Martin ERD
Nassi-Schneiderman	Nassi-Schneiderman
Program Structure	Language Level Shapes, Memory Objects
Rumbaugh OMT	Rumbaugh OMT
Shlaer-Mellor OOA	Shlaer-Mellor OOA
SSADM	SSADM
System Structure	System Diagrams
UML - Static Structure Diagram	UML - Static Structure Shapes
Windows User Interface	Office 97 User Interface, Win95 User Interface
Yourdon and Coad	Yourdon and Coad

Visio Extras

 Templates	 Stencils
	Borders, Callouts, Clipart, Connectors, General Annotation, Symbols

Related topics

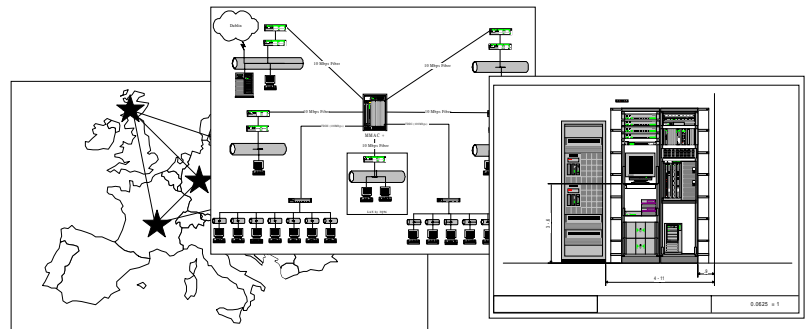
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Designing and documenting networks

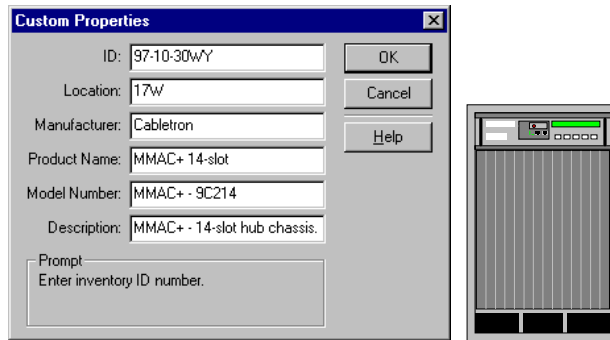
About network diagrams in Visio Professional

The network diagramming solution in Visio Professional includes the templates and wizards you need to create and manage physical and logical network diagrams.

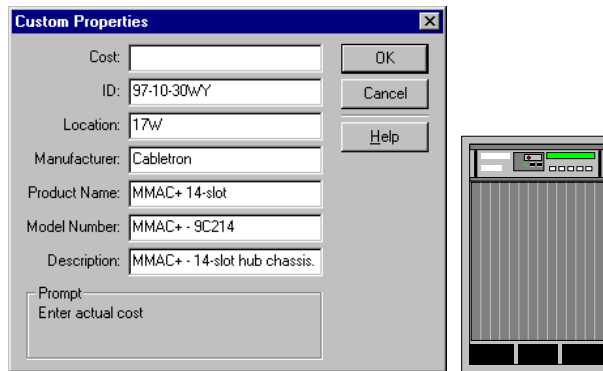
You can represent a network at different levels of detail in a single drawing file, from a general geographic overview of the locations linked by the network to an annotated physical diagram of a server room.



You can store data with network shapes by entering the data into the existing custom-property fields of the shapes.



When you want to store additional custom data, you can add new custom-property fields.



The network wizards in Visio Professional make it easy to base network diagrams on existing data or to generate databases from network diagrams. You can

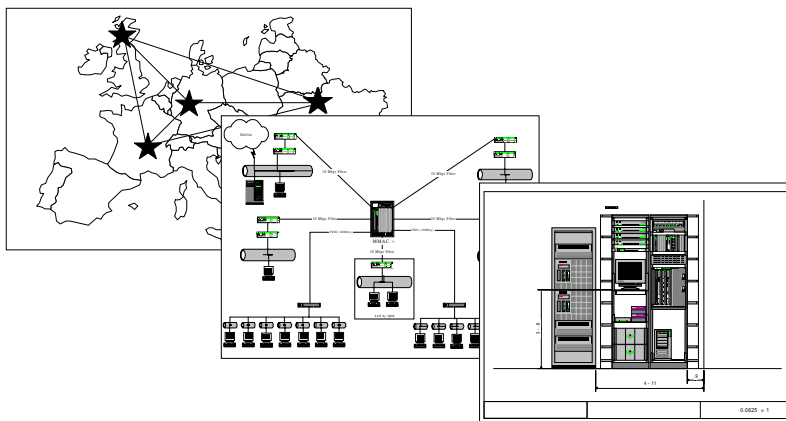
- Use the Network Diagram Wizard to create a network diagram based on node and segment information stored in a spreadsheet or database.
- Plan your network first using a diagram, store data in the shapes, and then use the Network Database Wizard to create a database from the diagram.
- Use the Network Database and Network Diagram Wizards together to revise and update network diagrams based on changes to the database table.

Related topics

About storing data in shapes	<i>Using Visio Products</i> 177
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From overview to detail: Creating “drill-down” network diagrams

A “drill-down” network diagram can consist of several levels of detail. For example, one level can display a network geographically, indicating the location of your company offices on a map. From each office location, you can drill down in the network diagram one level to a logical diagram of the servers, desktop computers, printers, and other equipment the network includes. From the logical diagram, you can “drill down” another level to a specific description of one piece of equipment or to a physical diagram of how a particular server room is organized.



Each drawing page in a Visio diagram can have different settings. For example, you can draw the geographic level of your network diagram on an unscaled, legal-sized (A3) drawing page, and you can draw a physical diagram of a server closet on a scaled, letter-sized (A4) page.

Because you can add hyperlinks to shapes or pages in Visio drawings, you can jump directly from an office location at the geographic level to a logical diagram for that location’s network. Or, you can jump from the logical diagram to a Microsoft Excel spreadsheet that includes inventory data for all the equipment in the network.

As you create a drill-down network diagram, you can get detailed information in the following ways:


- For details about how to use a specific shape, right-click the shape, then choose Shape Help from the shortcut menu.
- For details about drawing a specific type of diagram (for example, a geographic diagram, or a physical network diagram), choose Help > Template Help, then double-click Visio Templates.

To create the geographic level in a drill-down network diagram:

1. In Visio Professional, choose File > New > Drawing.
2. Choose File > Page Setup, then click Page Size.

3. For Page Size, click Standard or Metric (ISO), then select the page size you want in the list. For Page Orientation, click Portrait (tall) or Landscape (wide), then click OK.
4. Choose File > Stencils > Maps, then choose the geographic area you want to include in your drill-down network diagram. Drop the state, country, or geographic region you want on the drawing page.

NOTE Continents and other large geographic areas, such as Europe or the United States, are located at the bottom of stencils, so you may have to scroll to see them.

5. Choose File > Stencils > Block Diagram > Basic Shapes to open the Basic Shapes stencil. Drop a shape (for example, Star 5) in all the locations on the map where your company has branches. Select the shapes representing the branches, click the fill color button () and then choose the color you want to apply.
6. Choose File > Save As to save and name the drill-down network diagram.

TIP To close stencils you are no longer using, right-click the stencil's title bar, then choose Close.

To create the logical or physical level in a drill-down network diagram:

1. In the same network diagram where you drew the geographical level, choose Insert > Page, then click Page Properties.
2. Under Name, type a name for the new drawing page (for example, Logical Network or Server Room), then click OK.
3. Choose File > Stencils > Network Diagram, then choose the network stencils you want.
4. If you're drawing a physical network diagram, choose File > Page Setup, then click Drawing Scale to choose a scale (for example, 1/16:1) for the drawing page. Click OK.
5. Drop and connect shapes to create the logical or physical network diagram you want.
6. Choose File > Save to save the diagram.

To add a hyperlink to a shape or page in a drill-down network diagram:

1. Select the shape or display the page to which you want to add a hyperlink.
2. Choose Insert > Hyperlink.
3. Type or locate the name of the file or Visio drawing page you want to link to, then click OK.

To jump to the location you linked to, right-click the shape you added a hyperlink to, then choose Hyperlink > Open from the shortcut menu.

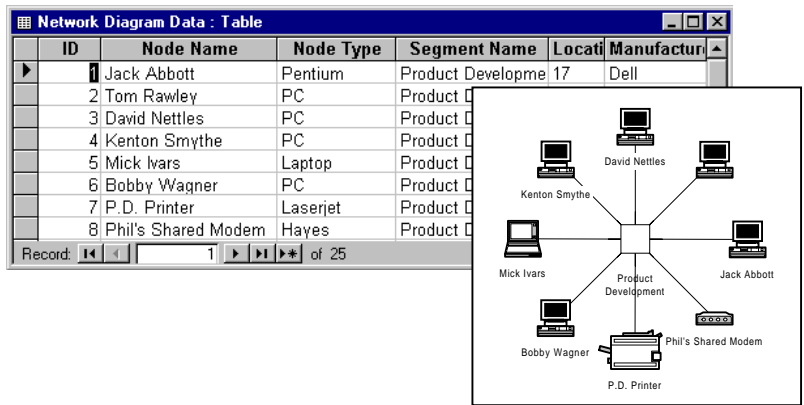
TIP You can customize a shape’s double-click behavior, so that you can double-click the shape to jump to another page in the same drawing. To customize double-click behavior, select the shape, then choose **Format > Double-click**. In the **Double Click** dialog box, choose **Go To Page**, select the page you want to jump to, then click **OK**.

Related topics

Adding, modifying, and deleting hyperlinks *Using Visio Products* 228
Setting page orientation and scale *Using Visio Products* 17

Creating network diagrams from ODBC databases

If you store data about the physical structure of a network (that is, the network’s segments and the nodes each segment includes) in a database created in an ODBC-compliant application, the **Network Diagram Wizard** can analyze the data and represent it in a network diagram.



The **Network Diagram Wizard** interprets each record in the database as a single node on the network. If no field in the database lists segment names, the wizard treats all the nodes as attached to one segment.

The **Network Diagram Wizard** works best if the data in your database is easy to interpret. To assist the **Network Diagram Wizard**, set up the database as follows:

- Arrange your data in a single database table (the table can be the result of a query).
- Include a field in the database table that contains node-name information. The wizard prompts you for the name of this node-name field, then uses the data in the node-name field to create labels on the nodes in the diagram.

- Include segment-name and node-type fields to save time, although these fields are not mandatory.

The segment name determines how the nodes are grouped. If no segment-name field exists, the wizard treats all the nodes as belonging to one segment and prompts you for the segment name.

The node type is a physical description of the node hardware. The wizard uses the node-type field to choose a Visio shape to represent each node in the network diagram. If a node-type field exists in the database table, the wizard prompts you to map each unique node type to a Visio master. If no node-type field exists, the wizard prompts you to map each individual node.

- Include as many additional fields as you want in the database table. You have the option of adding these fields to shapes in your network diagram as custom-property fields.

To create a network diagram from a database:

1. In Visio Professional, choose Tools > Macro > Network Diagram > Network Diagram Wizard.
2. On the first wizard screen, click Next. On the second screen, choose ODBC Data Source, then click Next.
3. On the next screen, choose the data source from which you want to create a network diagram.

If you're creating a diagram based on a database you created using the Network Database Wizard, choose [Original Table Name] Diagram.

If the database you want to use doesn't appear, click Create Data Source to set up the database as an ODBC data source.

4. Follow the remaining wizard screens. For help on a screen, click More Info.

NOTE You can also create a network diagram by entering node and segment information manually on Network Diagram Wizard screens.

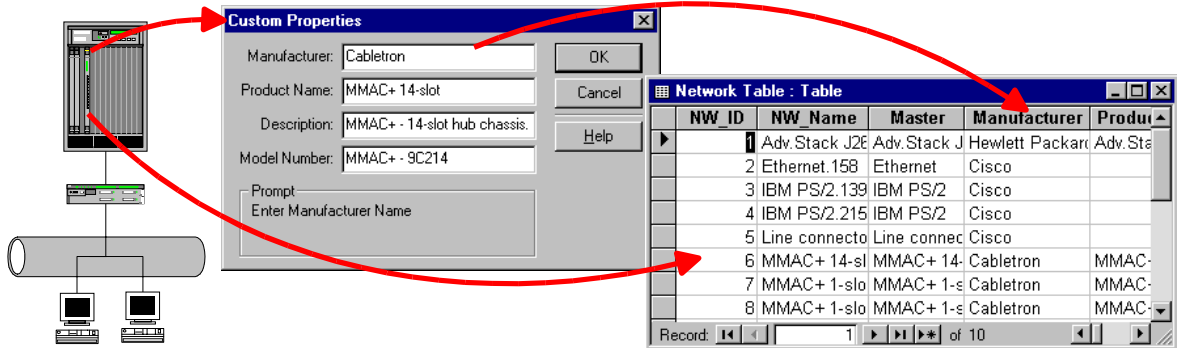
After you run the Network Diagram Wizard to create a diagram from a database, you may want to revise the diagram. For example, you can add more nodes to a segment or add a custom-property field, such as Cost, to the network shapes. After you've made your revisions, you can run the Network Database Wizard to create an updated database that incorporates revisions made to the diagram.

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Creating ODBC databases based on network diagrams

If shapes in a network diagram have custom-property fields, you can run the Network Database Wizard to generate a Microsoft Access 7.0 database from the diagram. You can choose which drawing pages, shapes, and custom-property fields you want the database to include.



The Network Database Wizard generates two database tables. Network Table contains a row for each shape in the diagram and a column for each custom-property field associated with the network shapes. If you have data stored in the custom-property fields, the data appears in the table cells. Network Table Connections stores information about the connections between the network shapes.

If you want to pass data between the database and the network diagram, you can link the drawing to the database. Then, if you revise the database, you can update the diagram based on the revisions. Or, if you revise the diagram, you can update the database.

To generate a database based on a network diagram:

1. In Visio Professional, open the network diagram you want to create a database from.
2. Choose Tools > Macro > Network Diagram > Network Database Wizard.
3. On the first wizard screen, click Next. On the second screen, choose Create A Database From A Network Drawing, then click Next.
4. Follow the remaining wizard screens. For help with a screen, click More Info.

TIP You can add right-click actions and events to a linked diagram with which you can control when information passes between the diagram and database. To add actions and events, run the Network Database Wizard. On the second screen, choose Add Database Actions And Events To A Drawing, then click Next.

Related topics

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Revising and updating network diagrams based on database tables

The Network Diagram Wizard and the Network Database Wizard are designed to work together. This collaboration allows you to

- Add records or fields to a database you originally created from a network diagram and generate a new diagram based on the revisions. Adding a record (row) adds a piece of equipment to the diagram. Adding a field (column) adds a new custom-property field to the shapes in the diagram.
- Distribute the database to other Visio users, who can then generate network diagrams of their own.

When you create a database from a network diagram, the Network Database Wizard creates two database tables in which it stores the network information. It also creates a query. You can run this query to merge information from the two tables into one new table of node and segment information. The new table is organized so the Network Diagram Wizard can read its data and create a network diagram.

To revise a diagram based on changes to database tables:

1. In Microsoft Access 7.0, revise the tables the Network Database Wizard created when it generated a database from a network diagram.
2. Run the query named Create Diagram Query From [Table Name] to create a new table named [Original Table Name] Diagram.
3. In Visio Professional, choose Tools > Macro > Network Diagram > Network Diagram Wizard. On the first wizard screen, click Next. On the second screen, choose ODBC Data Source, then click Next.
4. On the third screen, choose [Original Table Name] Diagram for the table you want the wizard to read, then click Next.
5. Follow the remaining wizard screens. For help with a screen, click More Info.

Related topics

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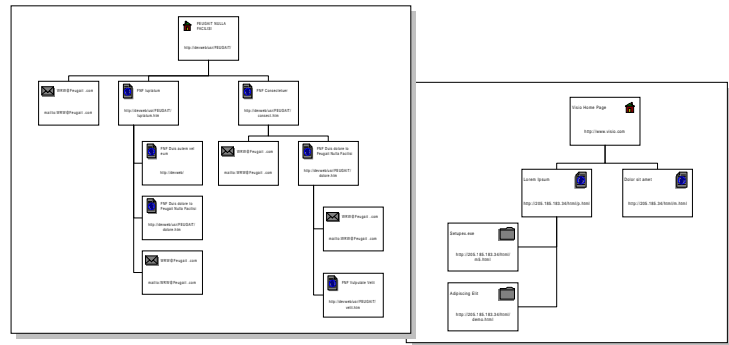
Planning and designing Web sites

About the Visio Web site tools

With the shapes on the Web Diagram stencil, you can diagram the structure of a Web site before you actually create the HTML pages and put them on the Web. By first diagramming your Web site, you can visualize and experiment with the site's navigation patterns so you can solve problems the site's visitors might have in advance.

Using the Web Diagram Wizard, you can create a diagram of an existing intranet or Web site. The diagram provides a graphical representation of how a site is organized.

Because shapes in a Web site diagram are linked to the Web locations they represent, you can save the diagram as an HTML page and include it on your Web site as a site map.



You can use a Web site diagram to visualize the navigation of a large site with which you're not familiar or to plan and revise a site for which you're responsible.

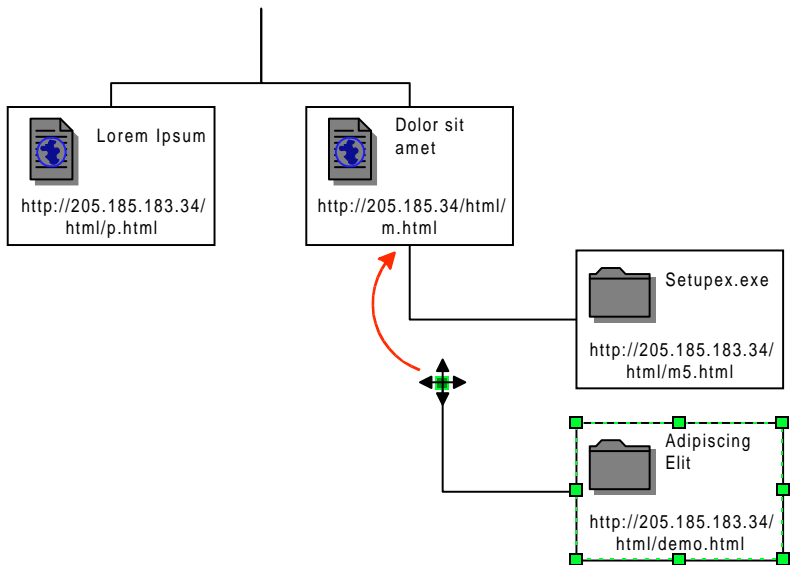
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Planning new Web sites

The shapes on the Web Diagram stencil are designed to make planning and revising the structure of a Web site easy and convenient.

The stencil includes URL shapes you can use to represent links in a Web site. URL shapes have built-in connectors that connect a link to the page on which the link originated, creating a Web site diagram that resembles an organization chart.



There are several kinds of URL shapes. Choose a shape based on the kind of connection (top, side, stackable) you want to create. Drag a control handle to connect a link to the Web page on which the link originated.

You can add a title, a Web address (for example, <http://www.visio.com/>), and an icon representing a link type to each URL shape.



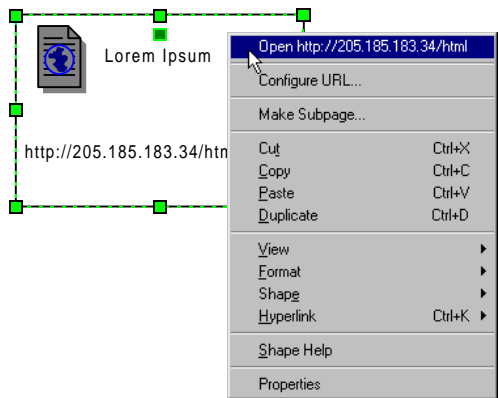
A URL shape representing a page on a Web site. To change a shape's title, URL, and icon (link type), right-click the shape, then choose **Configure URL**.

You can add differentiating icons to URL shapes when you need to indicate special types of Web locations, such as graphics, forms, or a home page.



To add a differentiating icon to a URL shape, select the shape, then choose **Edit > Open URL**. In the group window, select the current icon and delete it, then drag the differentiating icon you want from the Web Diagram stencil. Click the close box to close the group window.

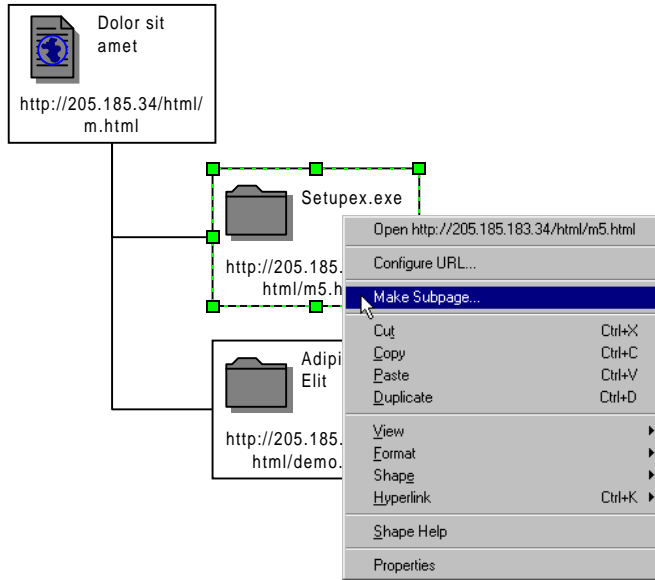
After you add a URL to a URL shape, Visio links the URL shape to the site the address represents. To jump to the Web site, right-click the shape.



When you choose the URL for a URL shape from the shortcut menu, Visio opens your Web browser and locates the site the URL represents.

The URL shapes in your Web site diagram are linked to the Web locations they represent, so you can save the diagram as an HTML page and include it in the Web site as a site map.

Most Web sites are fairly large and complex, so that their diagrams are unlikely to fit on one printed page. You can quickly move a URL shape and its links to a new drawing page.



To move a portion of a Web site diagram to a new page, right-click the URL shape you want to move, then choose **Make Subpage**.

For details about creating a Web site diagram, choose **Help > Template Help**; double-click **Visio Templates**, then double-click **Internet Diagram**; and finally double-click **Web Diagram**.

Related topics

Creating diagrams of existing Web sites 28
Saving drawings as HTML pages *Using Visio Products* 120

Creating diagrams of existing Web sites

You can use the Web Diagram Wizard to create a graphical representation of an existing Web site. A Web site diagram can help you understand the way a site is organized and serve as a visual tool for reorganizing or expanding a site. While you can't automatically update a Web site using a Visio Web site diagram, the diagram serves as an excellent structural guide.

When the Web Diagram Wizard explores a Web site, it actually generates two files:

- A Visio drawing file (.vsd) that contains the Web site diagram. The diagram resembles an organization chart, in which each link in the Web site is represented by a shape.

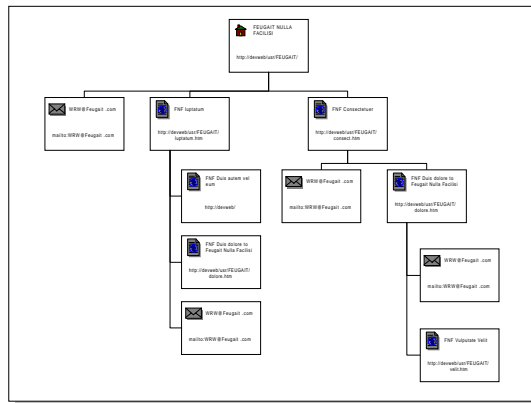
- A text file that describes the relationships among the links in the Web site. If you want to revise the layout or formatting of a Web site diagram (for example, use a vertical instead of a horizontal layout), you can save time by having the wizard read the information from the text file rather than from the actual site on the Web.

When you're diagramming a Web site, it's a good idea to limit the search in some way. For example, the home page of the Web site you're searching might include a link to the Microsoft Web site so people can download the newest version of some software. However, you probably don't want all the links in the Microsoft site to appear in your diagram. You can tell the wizard to display only local links in the diagram, not remote ones.

You can also specify a limit to the total number of links (the default is 1,000) you want to include, the link depth you want the wizard to search, and the kinds of links (for example, HTML pages, MailTo links, downloadable files, multimedia files, and so on) you want the diagram to include.

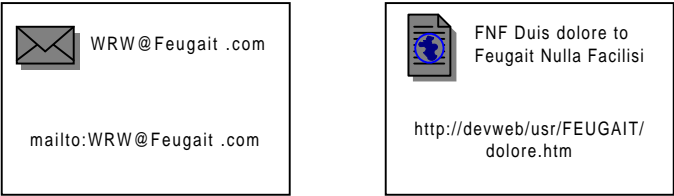
The Web site diagram

When the Web Diagram Wizard diagrams the structure of a Web site, it creates a diagram that looks like an organization chart. The home page is positioned at the top. The shapes connected to the top shape represent the links (or anchors) on the home page. The same model holds throughout the chart. The same link may be represented more than once in a drawing because a link may be located on more than one page.



When you run the wizard, you can make choices about the layout and format of the drawing. For example, you can decide whether to make the layout horizontal or vertical. You can also choose how much of the Web site the wizard searches and what types of links it draws.

The wizard adds information to each shape about the Web location that the shape represents. It also add hyperlinks to shapes so you can jump directly from the shape to its site on the Web.



The wizard labels each shape in the Web site diagram with the URL and title (if appropriate) of the location the shape represents and adds an icon to the shape that identifies the link type. Right-click a shape to change the URL, title, link type, and icon.

If the wizard encounters an error when browsing for a link (for example, Site Not Found), it creates a shape for the link but marks the shape with a red border. You can turn off the error marking for a single shape or for all shapes in the diagram.

To create a diagram of an existing Web site:

1. In Visio Professional, choose Tools > Macro > Internet Diagram > Web Diagram Wizard.
2. On the first wizard screen, click Next. On the second screen, check Read Data From A Web Site, then click Next.
3. On the third screen, click Browse to open a basic Web browser.
4. Type the URL you want or choose Go > Search The Internet to locate the site you want, then click Use This URL.
5. Follow instructions on the remaining wizard screens to tell the wizard how to search and how to lay out and format the diagram. For help with a screen, click More Info.

To jump to the URL that a shape represents:

- Right-click the shape, then choose Open [URL address].

To change a shape's URL, title, link type, or icon:

1. Right-click the shape, then choose Configure URL.
2. Choose a new link type or icon or type a new title or URL, then click OK.

To turn off error marking for a single shape:

1. Right-click the shape, then choose Configure URL.
2. Under Hide Error, choose None, then click OK.

TIP To turn off error marking for all shapes in the diagram, right-click the drawing page with no shapes selected, then choose Properties. In the Custom Properties dialog box, under Error, choose True.

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Revising diagrams created with the Web Diagram Wizard

You can quickly revise a Web site diagram you created using the Web Diagram Wizard without having the wizard search links on the Web a second time.

When the wizard creates a diagram of an existing Web site, it also creates a tab-delimited text file that describes relationships among the site's links. To revise a Web site diagram, have the wizard read data from the text file instead of from the actual site on the Web.

'Starting URL:	http://devweb/usr/FEUGAIT		
'Maximum Depth:	4		
'Maximum Documents:	60		
'Follow Method:	Follow Links Only On Initial Server		
'Diagram Links:	All Links		
'Surf Algorithm:	Breadth First		
'			
'ID	Parent_ID	Title URL	Link_Type

1		Feugait Nulla Facilisi	http://devweb/usr/FEUGAIT/HTML document
2	1	WRW@Feugait.com	mailto:WRW@Feugait.com MailTo:
3	1	FNF Luptatum	http://devweb/usr/FEUGAIT/luptatum.htm HTML document
4	1	PNF Consectetuer	http://devweb/usr/FEUGAIT/consect.htm HTML document
5	3	FNF Duis autem vel eum	http://devweb/HTML document
6	1	WRW@Feugait.com	mailto:WRW@Feugait.com MailTo:
7	2	FNF Duis dolore to FNF	http://devweb/usr/FEUGAIT/dolore.htm HTML document

In this Web Diagram Wizard text, the header information, preceded by a single quotation mark, describes choices you made to limit the wizard's search. Each data row represents a Web site link and the links are listed in order by relative ID number.

By default, the Web Diagram Wizard names the text file after the title of the first page of the Web site you've asked the wizard to diagram. For example, if the title (that is, the text in the <TITLE > </TITLE > HTML tags) of the page is Visio Corporation Home Page, the text file name is Visio Corporation Home Page.txt. The wizard saves the text file in the Internet Diagram subfolder in the Visio Professional Solutions folder.

If you use the wizard to diagram the same Web site more than once, a text file with the default name may already exist in the Internet Diagram folder. The wizard asks you if you want to replace the old file with the new one.

You can also change the layout of a Web site diagram by moving a URL shape and its links to a new drawing page. After you move the shapes, the URL shape is located on both the original page and the new page. You can jump to the new page by right-clicking the URL shape on the original page.

To revise a Web site diagram by reading the text file:

1. Choose Tools > Macro > Internet Diagram > Web Diagram Wizard.
2. On the first wizard screen, click Next. On the second screen, check Read Data From A Text File This Wizard Created, then click Next.
3. Follow instructions on the remaining wizard screens to tell the wizard how to lay out and format the diagram.

To move a URL shape and its links to a new drawing page:

1. In a Web site diagram, right-click the URL shape you want to move, then choose Make Subpage from the shortcut menu.
2. For Page Name, Visio enters the name of the Web site the URL shape represents. If you want the new drawing page to have a different name, type the new name.
3. If you want a title bar that includes the page name to appear at the top of the new page, leave the Add Title Bar To New Page option checked, then click OK. The URL shape and all the shapes connected to it move to the new drawing page. A copy of the URL shape remains on the original page.
4. To return to the original drawing page, right-click the new drawing page, and choose Go To [Original Page Name].

TIP To jump from the URL shape on the original page to the new page, right-click the URL shape, then choose Go To [New Page Name].

Related topics

Creating diagrams of existing Web sites 28

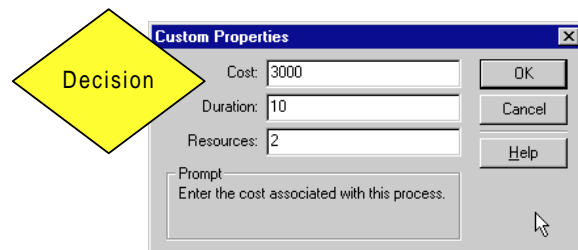
Creating business process engineering diagrams

About the business process diagramming solutions

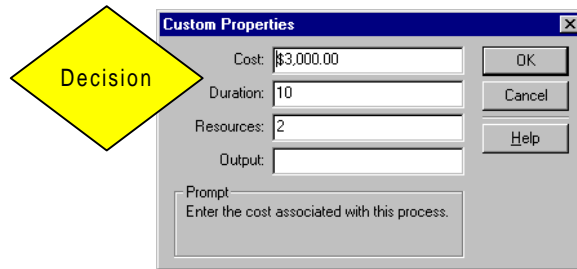
Visio Professional flowcharting solutions are designed specifically to help you plan, modify, and document business processes. For example, using Visio Professional shapes, you can

- Create flowcharts to describe existing processes.
- Create banded diagrams (Rummler-Brache style) to analyze the structure of cross-functional processes.
- Create IDEF0 diagrams to model process activities.
- Develop process maps that document procedures for ISO 9000 quality standards reviews.
- Generate flowcharts, cause and effect diagrams, and force field diagrams as part of a Total Quality Management (TQM) process.

The flowchart and other business process shapes in Visio Professional are designed to store data about the processes the shapes represent. For example, shapes in the Flowchart, TQM, and other templates have custom-property fields in which you can enter data about the cost, resources, and time required to complete a step in your process.



You can also add new custom-property fields to business process shapes if you want to store additional data. For example, you can add an Output custom-property field if you want to identify the expected output from each process step.



After associating data with the shapes, you can generate numeric reports that make it easy to compare processes or track progress over time. You can also use the Flowchart Database Wizard to generate databases from business process diagrams if you want to display and manipulate the data in relational tables.

After you create business process diagrams, you can easily distribute them for review by converting them to HTML documents and publishing them on the company intranet.

Related topics

About converting shapes and drawings to HTML	<i>Using Visio Products</i> 119
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Creating business process diagrams

The Process Flow diagram, IDEF0 diagram, and cross-functional process map that follow are representative of the types of business process diagrams you can create using Visio Professional. The following table lists the tools most useful for creating these diagram types.

Tools for creating business process diagrams

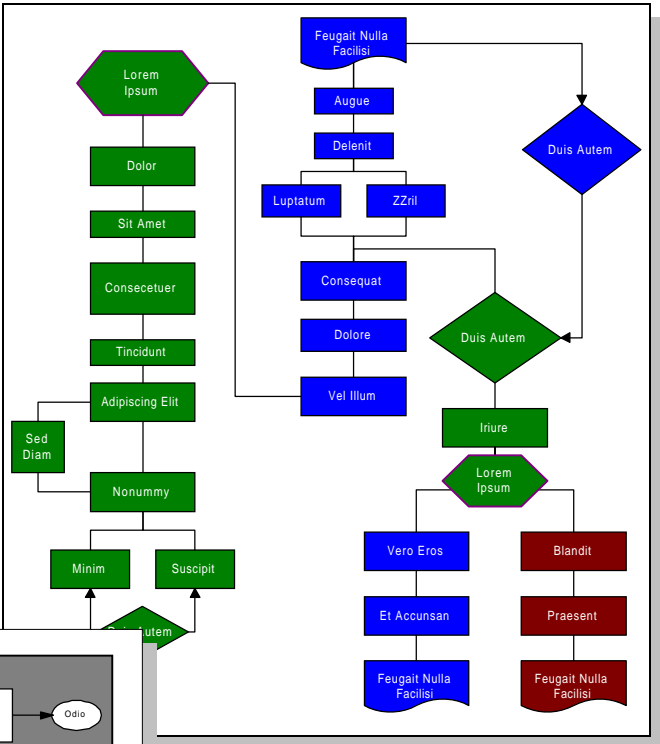
Tool name	Visio command	Result
Flowchart templates	File > New > Flowchart	Opens one of the following business process diagram templates: Audit, Data Flow, Flowchart-Basic, Flowchart-Advanced, IDEF0 Diagram, Mind Mapping Diagram, SDL Diagram, TQM Diagram, Work Flow Diagram.
Template Help	Help > Template Help > double-click Visio Templates > double-click Flowchart	Opens a template help topic that discusses the best way to use the shapes and page settings in a template to create a specific drawing type.
Shape Help	Right-click any shape and choose Shape Help.	Opens a shape help topic that discusses how a specific shape behaves.
Flowchart-TQM Diagram Wizard	Tools > Macro > Flowchart > Flowchart-TQM Diagram Wizard	Starts the wizard, which guides you through the process of drawing a Cause and Effect (Fishbone), Top Down, or Cross-Functional flowchart.
Custom Properties dialog box	Shape > Custom Properties	Opens the dialog box where you can enter data into existing custom-property fields.
Custom Properties Editor	Tools > Macro > Custom Properties Editor	Starts the editor, which you can use to add new custom-property fields to business process shapes.
Property Reporting Wizard	Tools > Property Report	Starts the wizard you can use to create numeric and inventory reports based on the custom-property data associated with business process shapes.
Flowchart Database Wizard	Tools > Macro > Flowchart > Flowchart Database Wizard	Starts the wizard you can use to generate Microsoft Access database tables from the custom-property data associated with business process shapes.

Related topics

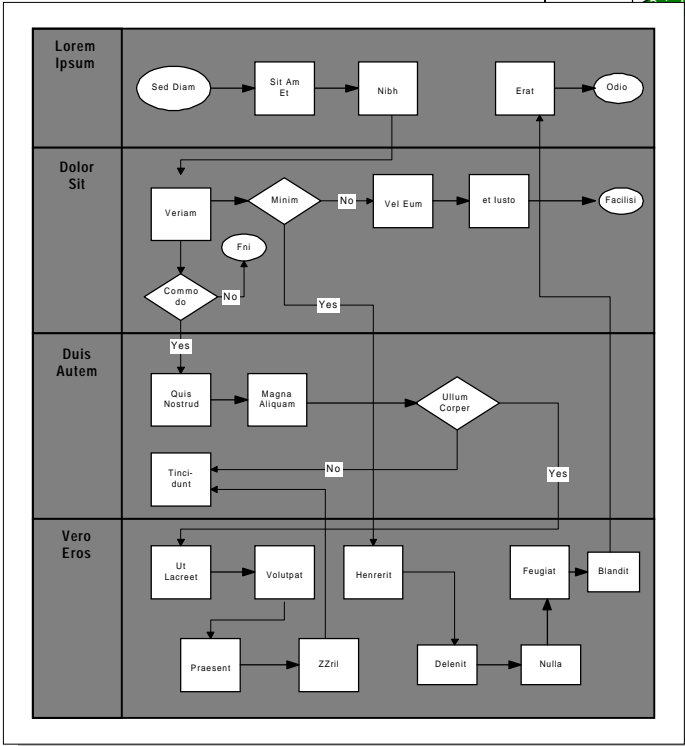
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Process flowchart

V. Daniel Hunt, author of *Process Mapping: How to Re-engineer Your Business Processes*, writes that you can't understand or improve a business unless you "peel the onion and examine the processes through which inputs are converted into outputs." The basic and specialized flowchart shapes that come with Viso Professional are designed to help you peel the onion.

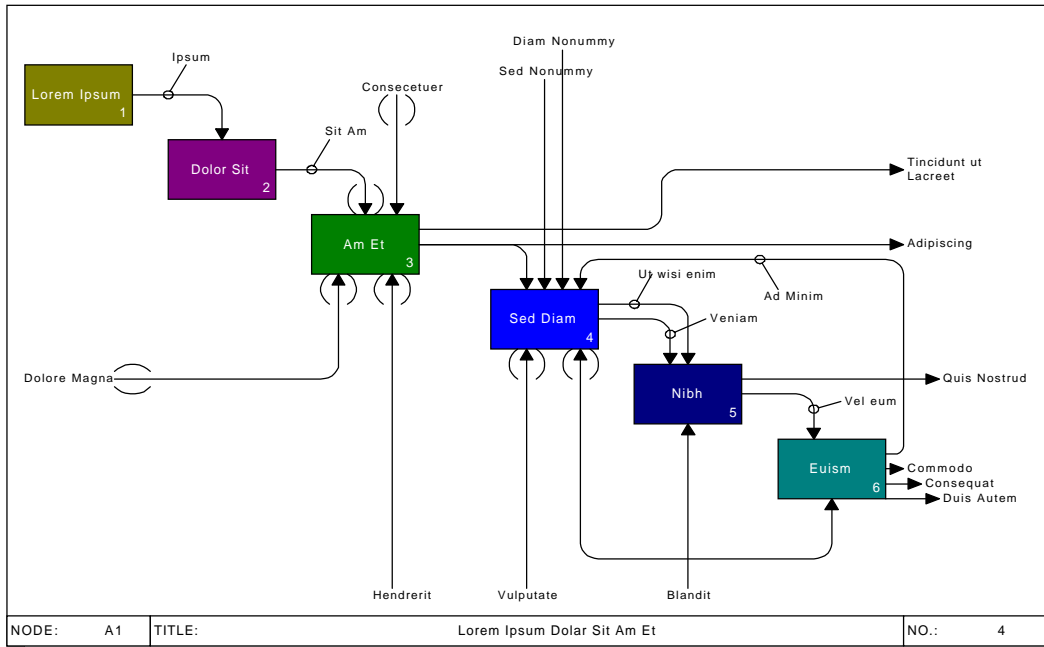


Cross-functional process map



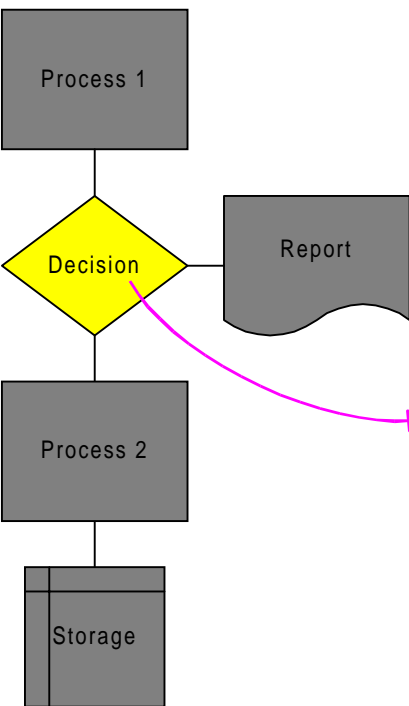
A cross-functional process map is a flowchart that displays the contribution each function or department makes to a process. You can use process maps to document existing processes, plan for process improvement, and reflect departmental goals. Use the Flowchart-TQM Wizard (File > New > Flowchart) to quickly lay out the basic structure of a cross-functional process map.

IDEF0 diagram



IDEFO is a graphical modeling technique for performing needs analysis, systems design, and other planning processes. The IDEFO Template includes all the shapes you need to create detailed hierarchical IDEFO diagrams.

Creating databases from business process diagrams



With the Flowchart Database Wizard, you can generate a Microsoft Access 7.0 database that contains data stored in business process shapes. If you want to pass data between the database and the flowchart, you can link the two files. Then, if you revise either the database or the diagram, you can pass changes to the linked file. You can choose which shapes and custom-property fields you want the database to include.

Custom Properties

Cost: \$100.00

Duration: 1

Resources: 2

OK

Cancel

Help

Flowchart-properties : Table

ShapeKey	FillForegnd	ShapeText	PropCost	PropDuration	PropResources
1	2	Process 1	250	2	2
2	3	Decision	100	1	2
3	7	Report	150	3	1
4	2	Process 2	300	2	2
5	7	Storage	200	1	1
6	1		0	0	
7	1		0	0	
8	1		0	0	

Record: 2 of 9

The Flowchart Database Wizard generates two database tables, Flowchart Table and Flowchart Table Connections. Flowchart Table contains a row for each shape in the diagram and a column for each custom-property field associated with the flowchart shapes. If you have data stored in the custom-property fields, the data appears in the table cells. Flowchart Table Connections stores information about the connections between the flowchart shapes.

To generate a database based on a business process diagram:

1. Open the diagram from which you want to create a database.
2. Choose Tools > Macro > Flowchart > Flowchart Database Wizard.
3. On the first wizard screen, click Next. On the second screen, choose Create A Database From A Flowchart, then click Next.
4. Follow the remaining wizard screens. If you need help with a screen, click More Info.

TIP You can add right-click actions and events to a linked diagram that you can use to pass information between the diagram and database. To add actions and events, run the Flowchart Database Wizard. On the second screen, choose Add Database Actions And Events To A Drawing, then click Next.

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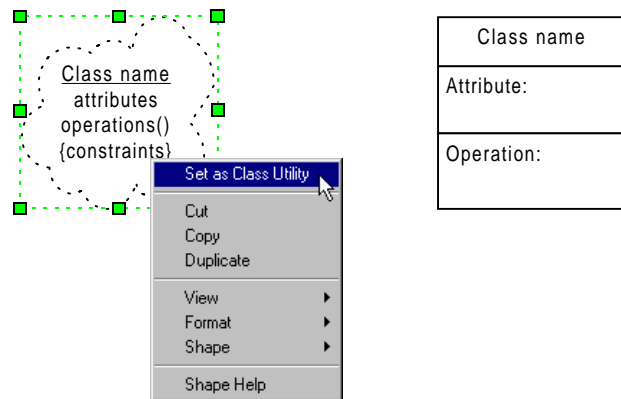
Developing software and designing user interfaces

About software development and user interface diagrams

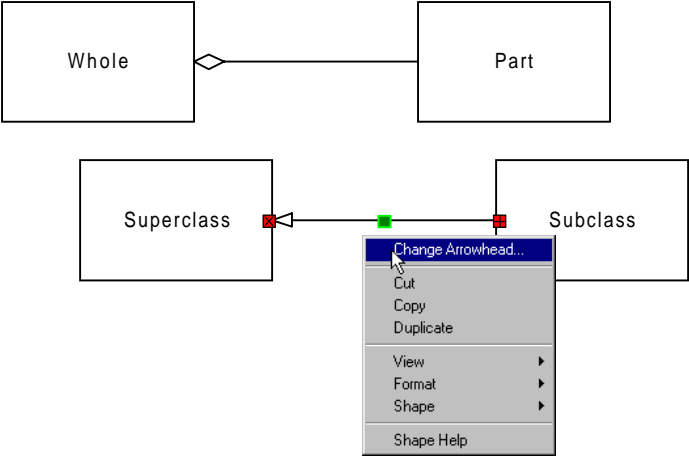
The Visio Professional software diagramming solution includes templates that support the major software modeling languages as well as templates you can use to mock up Microsoft Windows 95 and Office 97 interfaces. With the software diagramming shapes, you can

- Create use-case, class, behavior, and implementation diagrams using Booch, Rumbaugh, Jacobson Use Cases, or other standard notation.
- Develop structured charts (such as Nassi-Schneiderman charts) that show the procedural components of programs.
- Assemble prototype dialog boxes, menus, wizard screens, and other interface elements for review, distribution, and usability testing.

The software diagramming shapes are designed so you can quickly represent the elements in a system and the relationships between them.

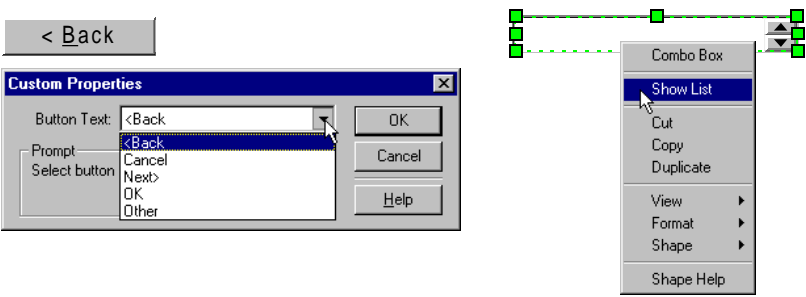


You can right-click some class shapes to change the type of class the shape represents, and you can easily indicate a class shape's attributes and operations.



You can right-click connectors to add line ends that indicate types of relationships between classes and other shapes.

Interface shapes are designed so you can customize them to represent the elements you want.



When you drop a Button shape on the drawing page, Visio Professional prompts you for the text to appear on the button. With the List/Combo Box shape, you can represent either a list or combo box. Right-click a list/combo box, then choose a command to show or hide the drop-down list.

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Creating software design and user interface diagrams

The Rumbaugh object model, Booch class diagram, Nassi-Schniederman chart, and Prototype wizard screen that follow represent the kinds of software diagrams you can create with Visio Professional. The following table lists the tools most useful for creating these diagram types.

Tools for creating software diagrams

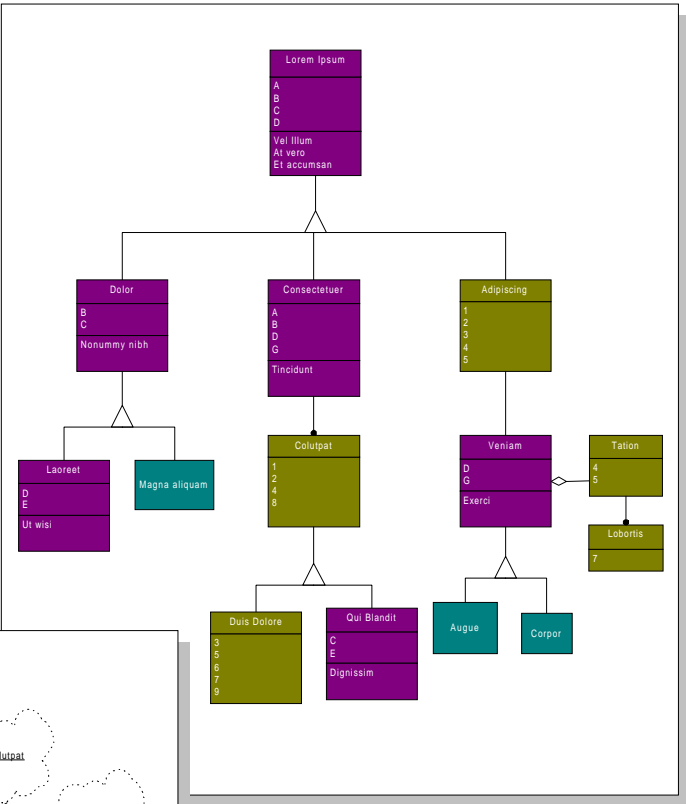
Tool name	Visio command	Result
Software diagramming templates	File > New > Software Diagram	Opens one of the following software diagramming templates: Booch OOD, Chen-ERD, COM and OLE, Express-G, Fusion, Gane-Sarson DFD, Jacobson Use Cases, Martin ERD, Nassi-Schneiderman, Program Structure, Rumbaugh OMT, Shlaer-Mellor OOA, SSADM, System Structure, UML - Static Structure Diagram, Windows User Interface, Yourdon and Coad.
Template Help	Help > Template Help > double-click Visio Templates > double-click Software Diagram.	Opens a template help topic that discusses the best way to use the shapes and page settings in a template to create a specific drawing type.
Shape Help	Right-click any shape and choose Shape Help.	Opens a shape help topic that discusses how a specific shape behaves.

Related topics

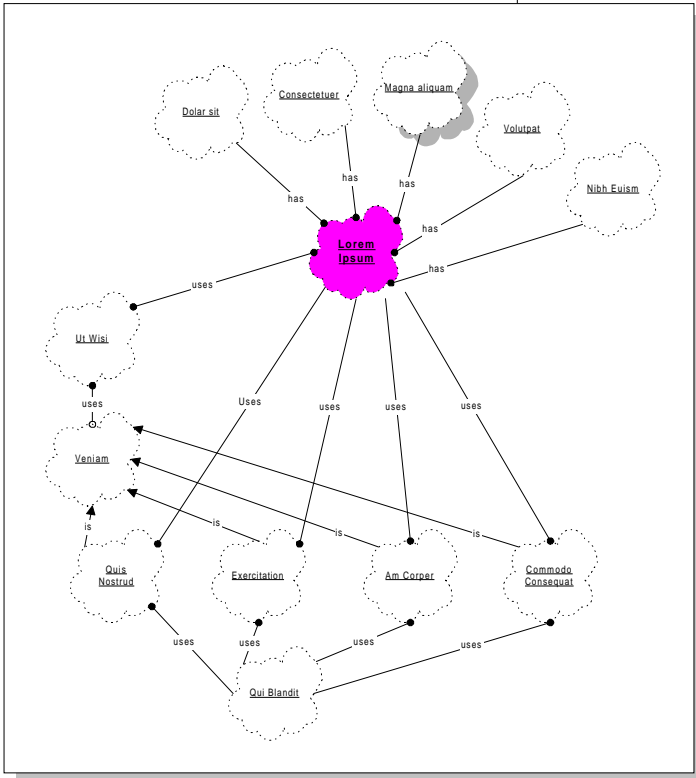
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Rumbaugh object model

A Rumbaugh object model represents the relationships between object types or classes. The model indicates relationships, such as aggregation, association, and generalization, with connector shapes that have special line ends.



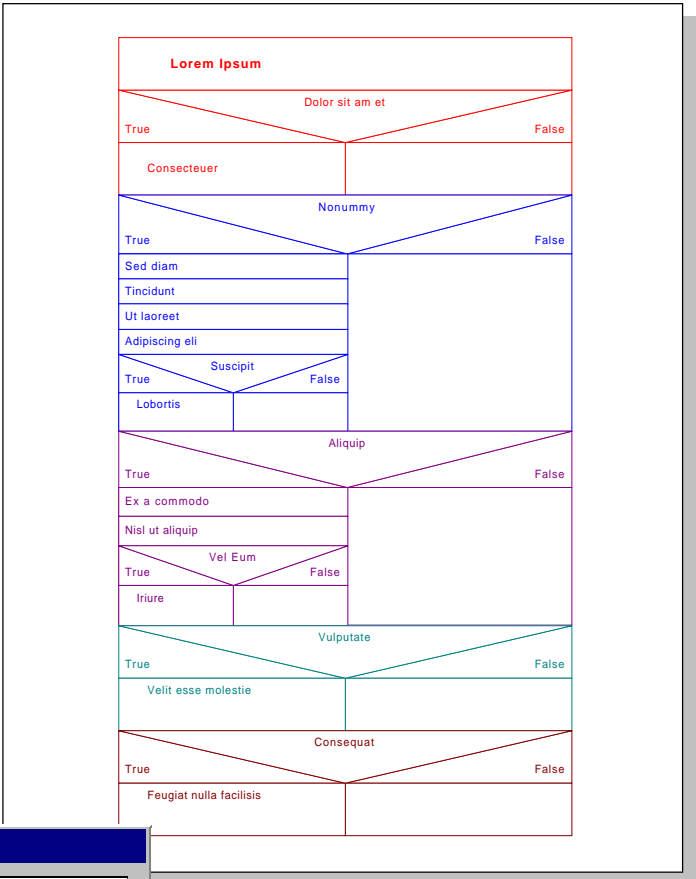
Booch class diagram



A Booch class diagram is a logical view of a system. It illustrates the classes and the relationships between them.

Nassi-Schneiderman chart

Nassi-Schneiderman charts stack and divide process boxes into parts to represent sequence, selection, and repetition. The charts offer a structured, hierarchical view of the logic of programs with one entry and one exit point.



Prototype Wizard screen

Lorem Ipsum Dolor Sit

☒ Consectetur ☐ Adipiscing

Consectetur adipiscing elit, sed diam nonummy nibh euism.

Duis autem

OK

Cancel

Help

Apply

The Windows 95 and Office 97 user interface shapes make it easy to prototype wizard screens, dialog boxes, and other interface elements.



Working with UML diagrams

About UML and the Microsoft Repository

Sharing system solutions independent of the process or tools used to create them can improve software quality and reduce development costs and time to market. Visio Professional provides two tools for sharing system solutions: the Unified Modeling Language (UML) and the Microsoft Repository.

Using these tools in Visio Professional, you can

- Create UML static structure diagrams using shapes that look and behave in ways defined in the UML notation.
- Add attributes and operations to UML class, interface, and type shapes so that attribute and operations data is stored with the shapes as properties.
- Run a wizard that checks the semantics of a UML static structure diagram and identifies and diagnoses errors.
- Export UML static structure diagrams (including the attribute and operations data) into the Microsoft Repository as models that can be accessed and used by people with tools other than Visio Professional.
- Import models from the Microsoft Repository into Visio Professional as UML static structure diagrams regardless of the tools and processes with which the models were originally created.

UML

Rational Software Corporation, where UML was developed, defines UML as a language for specifying, constructing, visualizing, and documenting the artifacts of a software-intensive system. The vocabulary of the language is a notation—a set of shapes in which each shape has a particular meaning. The grammar has carefully defined semantics that describe how each shape can be used. In combination, the notation and semantics make it possible to describe all kinds of systems, regardless of their scope and complexity. Rational Software Corporation compares UML to a blueprint for a construction project: it helps a team visualize a program's architecture throughout the development cycle.

UML is a derivative language, formed from parts of three earlier languages: Booch, OMT (Object Modeling Technique), and OOSE (Object-Oriented Software Engineering). Unofficially, UML has become widely accepted as a standard and the Object Management Group (OMG) is considering a proposal for the adoption of UML as the official standard modeling language.

Microsoft Repository

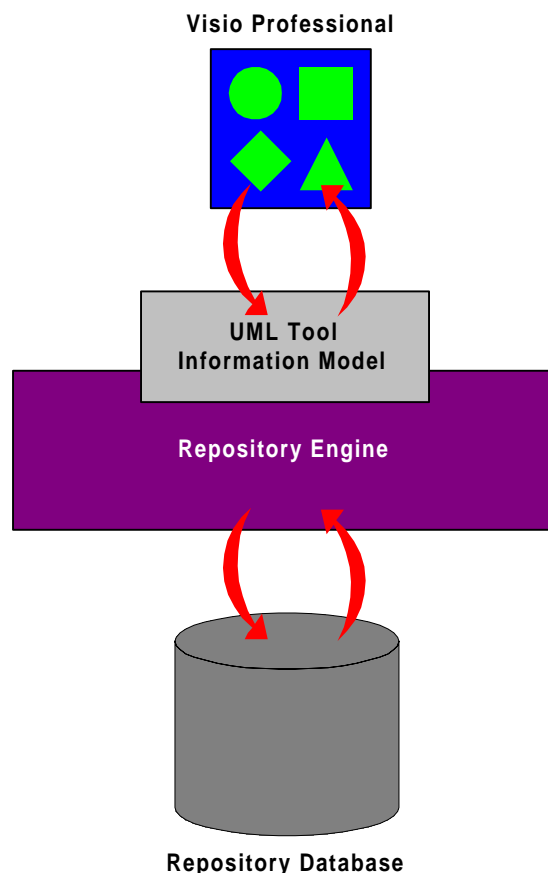
UML is a universal language developers can use to describe their systems. It doesn't, however, solve the problem of data exchange. That's where the Microsoft Repository comes in.

The Microsoft Repository is a storage system developers can use to store models described using the UML language. These models can be accessed by other developers regardless of the tools the developers use.

The Repository system consists of the following:

- A relational database.
- A Repository engine that manages the data in the database. You use the engine to store and retrieve objects and their relationships from the database.
- Tool information models, which define the kinds of data specific tools can handle. The data definitions, called types, are then stored in the repository database. For example, Visio Professional uses the UML tool information model, which specifies the UML objects Visio Professional can handle.
- Software development tools, such as Visio Professional, which you use to develop and maintain software applications.

Install the UML components during the Visio Professional installation to automatically install the software you need to store and retrieve models from the Microsoft Repository.



You can store the UML static structure diagrams you create as models in the Repository and you can retrieve models from the Repository and represent them using UML shapes. Visio Professional stores and retrieves models in Microsoft Access and Microsoft SQL Server format.

For details about the Microsoft Repository and tool information models, see the Microsoft Web site. For details about UML, see the UML notation and semantics guides included as .pdf files on the Visio Professional CD. If you didn't install the UML .pdf files when you installed Visio Professional, you can find the files in the Docs directory on the CD.

You must have the Adobe Acrobat Reader installed on your computer to view, read, or print the .pdf versions of the UML guides. You can install the Acrobat Reader by double-clicking Setup.exe in the Acrobat Reader directory on the Visio Professional CD.

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Importing UML models from the Microsoft Repository

If you want to examine a component model stored in a Microsoft Repository database so you can use it in a system you're creating, you can import the model into Visio Professional as a UML static structure diagram. The database you import from must be in Microsoft Access 97 or Microsoft SQL Server 6.5 format.

When you import a model, keep the following in mind:

- **Logical View** The first page of a UML static structure diagram, called the Logical View, is the top-most package (storage container for model elements) of the model.
- **Packages** Visio Professional automatically puts the contents of each package on a separate drawing page. It also adds right-click actions to each package shape so you can easily jump from a package to a detailed diagram of its contents.
- **UML property editors** After you import a model, you can right-click shapes in the diagram and choose UML Properties to access a property editor where you can add property data. For example, some of the properties associated with Association shapes include Name and Stereotype. Some of the properties associated with Class shapes include Name, Type, Stereotype, and Visibility.
- **Shape actions** Right-clicking a shape also gives you access to shape actions. For example, you can choose Suppress Attributes from a Class shape right-click menu to hide the attributes portion of the shape.
- **Shape display** When Visio Professional places shapes representing model elements on the drawing page, some connector shapes may not display properly. You may need to rearrange some shapes to display them appropriately on the drawing page.

To import a model from the repository:

1. Choose File > New > Software Diagram > UML - Static Structure Diagram to open the UML template.
2. Choose Tools > UML Import Wizard.
3. On the first wizard screen, click Next.
4. On the second screen, type the name and location of, or browse to locate, the Repository database that includes the model you want to import, then click Next.
5. On the third screen, select the model you want in the list, then click Next.
6. On the last screen, verify that the information listed is correct. If it's incorrect, click Back to make different choices in the wizard. If it's correct, click Finish.

TIP After you have imported a UML diagram, you can use the UML Navigator to see the entire structure of the diagram or to jump to a specific page. To start the UML Navigator, choose Tools > UML Navigator or right-click any page in the diagram.

To jump from a package to a diagram of its contents:

- Right-click a package shape, then choose Go To Package Overview from the shortcut menu.

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Exporting UML diagrams as models to the Microsoft Repository

If you’ve created a system component that you want other developers to access and re-use, you can represent the component in a UML static structure diagram. Then, you can export the diagram as a model to a Microsoft Repository database. To export to a Repository you store the model in a Microsoft Access or SQL Server database with the UML type information model, or framework, in it.

You can add properties to the shapes in a UML static structure diagram using a property editor. For example, you can add data to a class shape for properties such as name, attributes, visibility, stereotype, and cardinality. When you export the diagram, you also export the property data.

When you choose the UML Export Wizard command to export a UML static structure diagram, Visio Professional runs the Semantics Checker before starting the wizard. The Semantics Checker identifies errors in your diagram and suggests ways to resolve them. You can also run the Semantics Checker independently any time you want to check a UML diagram for errors.

To add properties to a shape:

1. Right-click the shape, then choose UML Properties from the shortcut menu.
2. Fill in the values you want, then click OK.

TIP You can also double-click most UML static structure shapes to open the property editor.

To run a semantics check and correct errors:

1. Choose Tools > UML Semantics Checker.

The UML Semantics Checker analyzes your diagram. If it finds errors, it highlights the relevant shapes in red.

2. Right-click a red shape, then choose Show Error for a diagnosis of the error and advice about how to fix it.
3. Correct the errors in the diagram, then run the UML Semantics Checker again to find any additional errors.

If you want to clear all the errors regardless of whether you've fixed them, choose Tools > UML Clear Errors to turn off the error marking, then save the diagram.

TIP You can use the UML Navigator to see the entire structure of a UML diagram or to jump to a particular page. To start the UML Navigator, choose Tools > UML Navigator or right-click any page in a UML diagram.

To export a UML diagram to the Microsoft Repository:

1. Choose Tools > UML Export Wizard.
2. On the first wizard screen, click Next.
3. On the second screen, choose the diagram you want to export.
4. On the third screen, type or browse for the name of an existing Microsoft Access database (*.mdb), or type an ODBC data source name or connection string.

To create a new Microsoft Access (.mdb) repository file, type the name and path for the new file.

5. On the fourth screen, type a name for the model you want to create in the Repository.
6. On the last screen, verify that the information listed is correct. If it's incorrect, click Back to make different choices in the wizard. If it's correct, click Finish.

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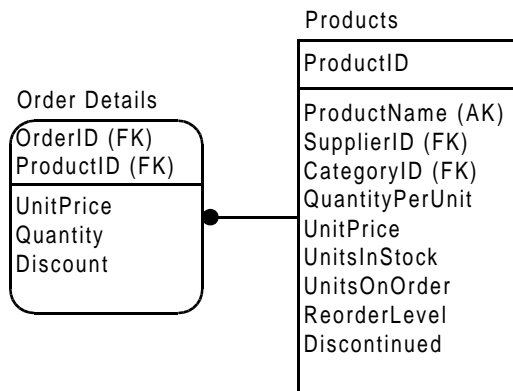
The background of the page features a collage of various database-related diagrams. On the left, there is a hierarchical tree structure with rectangular nodes. In the center, a network diagram shows several cloud-like shapes connected by lines. On the right, a flowchart or ER diagram is visible with rectangular and diamond-shaped nodes connected by lines. The title 'Mapping and creating database structures' is overlaid on the left side of this collage.

Mapping and creating database structures

About mapping and creating database structures

The Visio Professional database solution provides tools you can use to map the structure of an existing database and to plan and create new database structures. The tools include

- The IDEF1X ERD Template and the Crow's Foot ERD Template, which include shapes you can use to map databases. IDEF1X and Crow's Foot are specification languages for describing data structures.
- The Map Database Wizard, which analyzes the structure of an existing Microsoft Access, Microsoft SQL Server, Oracle SQL Server, or other ODBC-compliant database and creates an IDEF1X or Crow's Foot diagram that reflects the structure.
- The Create Database Wizard, which uses the data in an IDEF1X or Crow's Foot diagram to generate a Microsoft Access database structure.



In this IDEF1X diagram, the entity shapes represent two database tables named Order Details and Products. The connector between the tables indicates an identifying one-to-many (optional) relationship. The attributes listed in the top box of the entity shapes indicate the primary key fields in the database tables. The attributes in the bottom box represent the rest of the fields. (FK) beside a field indicates a foreign key. (AK) indicates a field that is both required and indexed.

Related topics

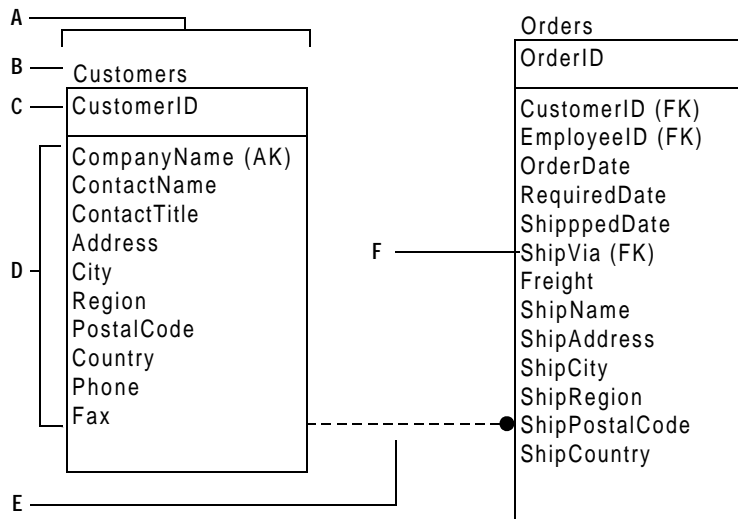
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Mapping database structures

If you have data in a Microsoft Access 7.0, Microsoft SQL Server, or Oracle SQL Server, or other ODBC-compliant database, the Map Database Wizard can analyze the structure of the database and create an IDEF1X or Crow's Foot diagram based on the structure.

You can diagram the entire database or only selected database tables, and you can control whether or not database fields display as attributes on entity shapes in the diagram.

IDEF1X and Crow's Foot are specification languages that use entity and relationship shapes to describe data structures. The following illustration explains the relationship between elements in a database and shapes in an entity-relationship diagram.



- A** Database table, represented by an entity shape in the diagram.
- B** Database table name.
- C** Primary key fields of the database table, called entity shape attributes in the diagram.
- D** Additional fields in the database table or shape attributes in the diagram.
- E** The relationship between the database tables, represented by a connector in the diagram. End dots and line type (solid or dashed) indicate direction and cardinality. In your database, you establish relationships between specific fields. In the drawing, connectors connect entire tables.
- F** In the diagram, relationships between specific fields are indicated by the (FK) designator, for foreign key.

To create an entity-relationship diagram from a database:

1. In an open IDEF1X or Crow's Foot diagram, choose Tools > Macro > Database > Map Database Wizard.
2. On the first wizard screen, click Next.
3. On the second screen, choose the database you want to map, then click Next.
4. Follow the remaining wizard screens. For help on a screen, click More Info.

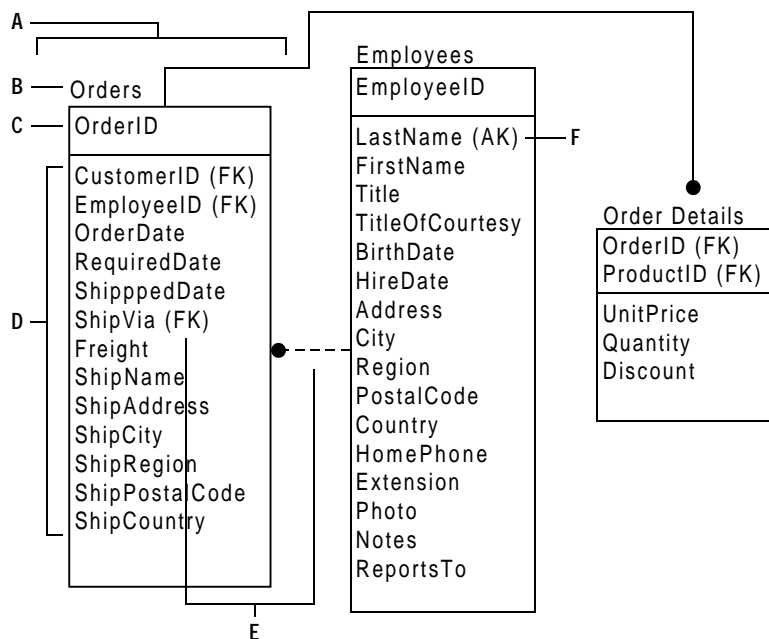
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Creating database structures from entity-relationship diagrams

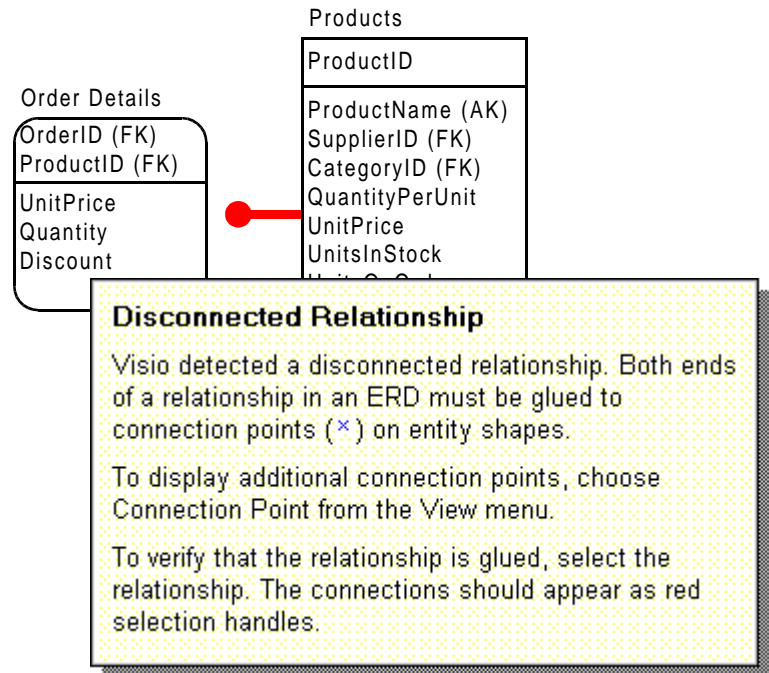
When you're creating a database to store and track process information, it can be difficult to think through all the tables the database will need and how fields in the tables should be related.

Using the IDEF1X and Crow's Foot templates in Visio Professional, you can diagram the database before you actually set it up. When you're satisfied with the tables, fields, and the relationships between the fields, you can run the Create Database Wizard to generate a Microsoft Access 7.0 database structure from the diagram.



- A** Entity shapes become database tables.
- B** Entity shape names become database table names.
- C** Attributes become fields.
- D** Primary key attributes become primary key fields.
- E** Relationship connectors and the fields defined as foreign keys (FK) determine the relationship between fields in database tables
- F** An index will be added in the database to a field labeled (AK) in the diagram.

As the first step in creating the database, the wizard analyzes your drawing. If it detects errors, you must exit the wizard and fix the errors. Errors include relationships that aren't properly connected and entities without attributes.



The wizard indicates errors in your drawing by coloring the incorrectly used shapes red. For help resolving a problem, right-click a red shape.

For details about creating an entity-relationship drawing, in Visio Professional, choose **Help > Template Help**, double-click **Visio Templates**, double-click **Databases**, and then choose either **IDEF1X ERD** or **Crow's Foot ERD**.

To create a database from an entity-relationship diagram:

1. Open the IDEF1X or Crow's Foot diagram from which you want to create a database structure.
2. Choose **Tools > Macro > Database > Create Database Wizard**.
3. Follow the wizard screens.

To diagnose and correct errors in an entity-relationship diagram:

1. Locate the shapes in an IDEF1X or Crow's Foot diagram that the Create Database Wizard marked in red.
2. Right-click a red shape, then choose ERD Errors to learn more about the error associated with the shape, and how to correct it.
3. Make your corrections, turn off the red error marking by right-clicking the drawing page when no shapes are selected, then choosing Clear ERD Errors.

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Creating custom solutions

About creating custom solutions

You can do more with Visio Professional than create business process and information systems diagrams. By taking advantage of the Visio SmartShapes technology and open architecture, you can create specialized shapes, develop combinations of shapes and programs that model the real world and solve specific drawing problems, and customize the Visio Professional user interface.

The following tools are available to you in the Visio Professional development environment:

- The ShapeSheet spreadsheet, which takes you under the surface of shapes to create formulas for specific shape behavior.
- Microsoft Visual Basic for Applications (VBA), with which you can create macros and control Visio Professional through Automation.
- The Visio Type Library, which contains Automation descriptions of the objects, properties, methods, events, and constants that Visio Professional exposes to Automation controllers.

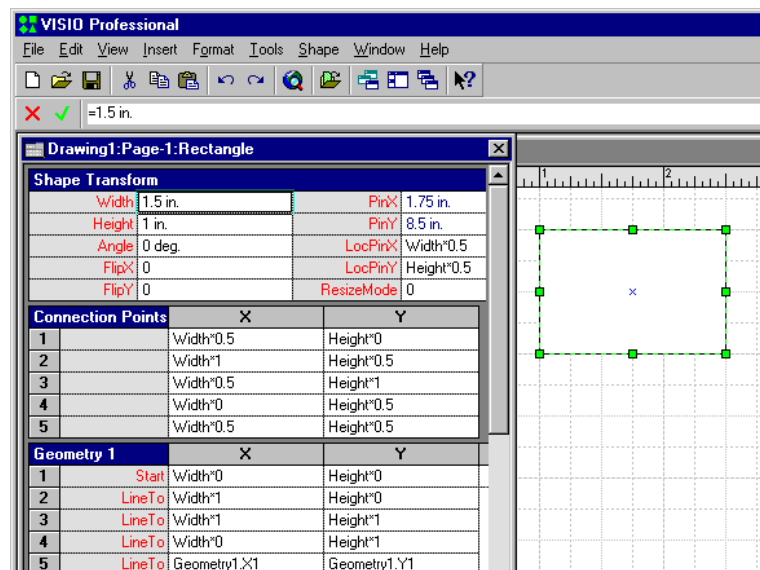
The book *Developing Visio Solutions*, which comes with Visio Professional, contains everything you need to know about Visio Professional as a development platform, including sample code and tips and techniques. In addition, you can view the online Automation Reference by choosing Automation Reference from the Help menu in Visio Professional.

You can also visit the Visio Solutions Development section of the Visio Corporation Web site (<http://www.visio.com/devweb>), where you can learn more about Visio Professional as a development platform and find other developer resources.

Working with the ShapeSheet spreadsheet

When you want to use specialized shapes that model the behavior and appearance of the real-world objects they represent, you can create them by working with formulas in the shapes' ShapeSheet spreadsheets.

Behind each Visio shape or shape you draw using the Visio drawing tools is a ShapeSheet spreadsheet containing formulas that determine how a shape behaves. When you make changes to a shape on the drawing page, you update its ShapeSheet formulas. You can also make changes directly in the ShapeSheet spreadsheet, where you have more precise control over a shape's appearance and behavior. For example, you can add formulas that create a control handle, change a shape's fill color if it reaches a certain size, or make one shape's behavior dependent upon the behavior of another shape on the drawing page.



The ShapeSheet spreadsheet contains sections, each of which controls part of the shape. Each section contains cells with formulas that further define the shape's properties and attributes. For example, the Connection Points section contains cell formulas that represent the x- and y-coordinates of each connection point on the shape.

To display a shape's ShapeSheet:

- Select the shape, then choose Window > Show ShapeSheet.

Once you've created specialized shapes, you can make the shapes part of a drawing solution by storing them on new stencils and distributing the shapes and stencils in a template.

For more information about ShapeSheet spreadsheets, press F1 in Visio Professional, click Index, then type "shapesheet spreadsheets."

Working with Automation

You can take advantage of the Visio open architecture to solve graphics problems and create custom solutions. Open architecture means that Visio exposes its objects, such as windows, drawing pages, shapes, layers, menus, and toolbars, through a well-structured Automation interface. Using a development environment that supports Automation, you can write programs to control Visio objects. For example, you can automatically update drawings you create from data that changes from day to day. Or you can automate routine shape development tasks that you perform over and over.

To write the programs, or macros, that control Visio objects, you can use the fully-licensed version of Microsoft Visual Basic for Applications (VBA) that comes with Visio Professional, or you can use Visual Basic, C/C++, or any other Automation controller.

Visio Professional includes a type library—a file that contains Automation descriptions of the objects, properties, methods, events, and constants that Visio exposes to Automation controllers. Visio object types can help you write code more effectively because you can view Visio Automation descriptions in and copy code templates from the Object Browser.

To open the Visual Basic Editor and create, debug, or run VBA programs:

- Choose Tools > Macro > Visual Basic Editor.

TIP You can also press Alt + F11 to open the Visual Basic Editor.

For details about using the Visual Basic Editor, press F1 in Visio Professional, click Index, then type “Visual Basic Editor.”

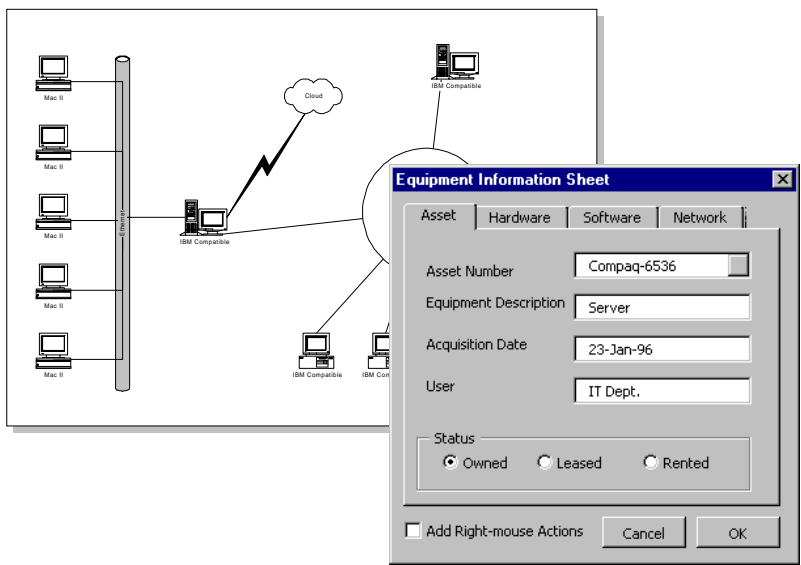
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Sample custom solution: Network Asset Tracking

The Network Asset Tracking solution was designed to make it easy to track detailed information about each piece of equipment in a corporate network. Using the tool, an IS professional can

- Open a custom-designed template and create a diagram representing part of the corporate network.
- Right-click each shape in the diagram to open a specially-designed dialog box.
- Type data in the dialog box for each piece of equipment that describes its hardware and software specifications, inventory number, and information about when it was purchased and how it's used.
- Automatically add the data to each equipment shape in the diagram and generate reports based on the data.
- Automatically store the data in a database table.



To develop the Network Asset Tracking solution, add a right-mouse action called Asset Information to network shapes and store the shapes on a new stencil. Create a new template including the new stencil and save a VBA project as part of the template. In the VBA project, design a form which users see as a dialog box where they can enter equipment-related data, write code behind events in the form so clicking OK adds the data to shapes as custom-property fields and to a database table, and write a macro that opens the form in response to the Asset Information right-click action.

Related topics

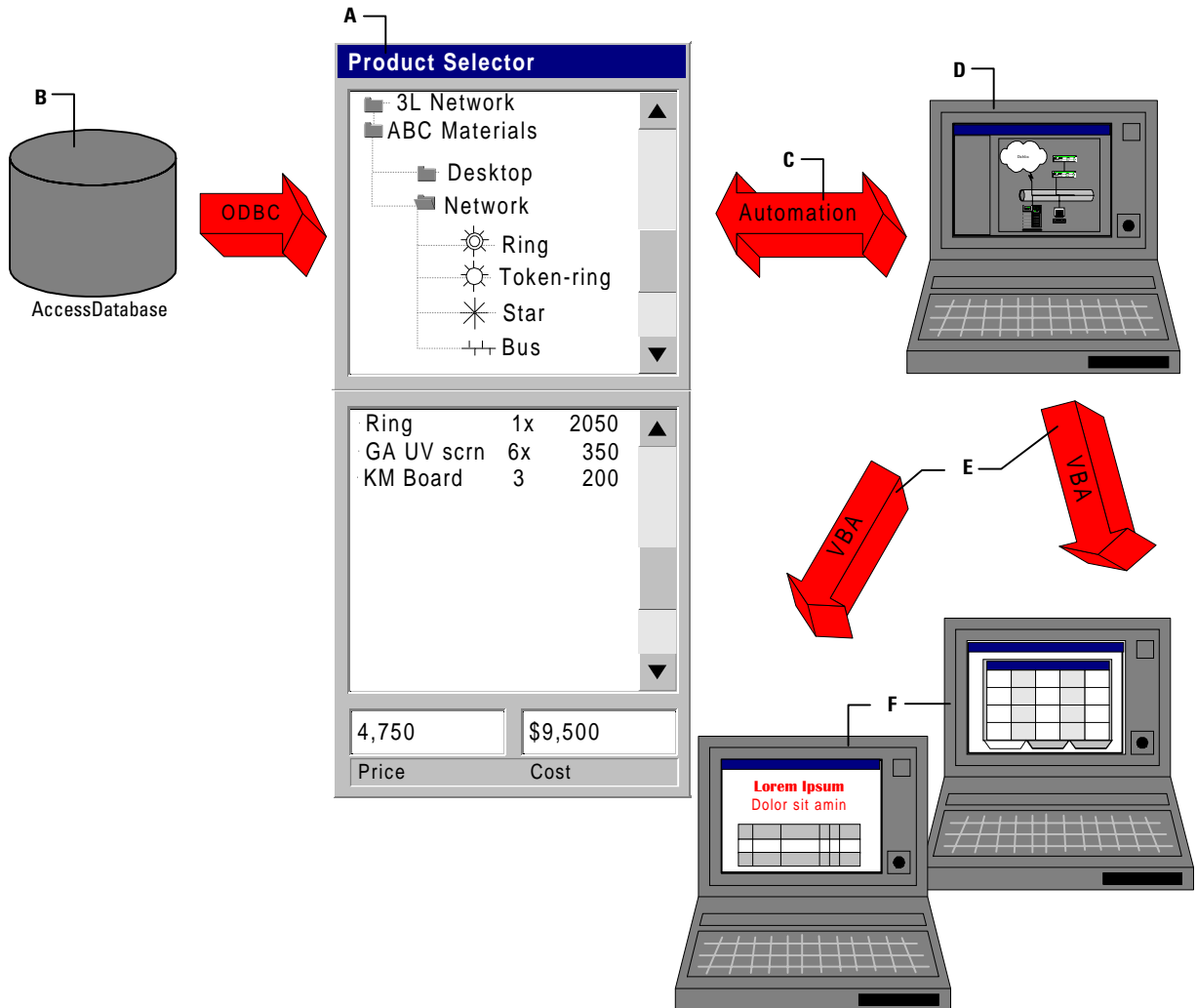
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Sample custom solution: Sales Automation Tool

The Sales Automation Tool was designed to make selling network equipment more convenient for sales personnel on the road. Using the tool, a sales employee can

- Select products from a hierarchical product catalog stored in a Microsoft Access database using selection criteria properties.
- Drag and drop shapes representing these products to create a Visio Professional network diagram that reflects a customer's equipment needs.
- Keep a running total of the cost and list price for the system being assembled.
- Choose a command on the Visio Professional menu to generate a cost estimate that details the cost of each piece of equipment as well as the total cost in a Microsoft Excel spreadsheet.
- Choose a command on the Visio Professional menu to generate a proposal in Microsoft Word. The proposal includes an agreement letter, a copy of the network diagram, and the cost estimate.

The following drawing illustrates the development required to support this tool.



To develop the Sales Automation Tool, in Visual Basic 5.0 build an Automation server (**A**) which categorizes network equipment records stored in a Microsoft Access database (**B**). Visio communicates with the server through Automation (**C**), allowing sales employees to select records and drop them on the drawing page as network shapes (**D**). Using VBA code (**E**), add menu commands to the Visio interface, which open Excel and Word and generate estimates and proposals (**F**).

Related topics

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Where to go from here

This book focuses on features and tools unique to Visio Professional. You can learn more about working with Visio applications from several other sources.

For example, if you're new to Visio products, you might want to start with *Using Visio Products*, which includes chapters on creating and saving drawings, working with shapes and text, and printing. Or, if you're a developer and your focus is Visio as a development platform, *Developing Visio Solutions* contains the information you need.

If you prefer to get help from online sources, you can access an electronic version of the information in this manual and in *Using Visio Products*, or access certain Visio reference tools that are available only in online form. The Visio Corporation Web site at www.Visio.com also includes information and downloadable files that can help you get the most out of Visio Professional.

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Additional sources of Visio Professional information

The following table lists places you can find information about Visio Professional and describes the type of information you'll find in each place.

More information on Visio Professional

Information source	Type of information
<i>Using Visio Products</i>	<p>A good place to start if you've never used Visio before.</p> <p>Covers tasks common to Visio Standard, Visio Professional, and Visio Technical.</p>
<i>Developing Visio Solutions</i>	<p>Contains information about Visio as a development platform, including sample code, tips, and techniques.</p>
Online Automation Reference	<p>Describes the Visio objects, properties, and methods that you can access from an external program.</p> <p>Choose Help > Automation Reference.</p>
More Info buttons on Visio Professional wizard screens	<p>Opens a window of information about the options on a wizard screen, or about Visio features relevant to the task the wizard helps you complete.</p> <p>Click More Info on a wizard screen.</p>
Screen tips	<p>Toolbar buttons Float the pointer over a toolbar button for a moment to see a tip about what the button does.</p> <p>Control handles Float the pointer over a control handle (■) on a shape for a moment to see a tip about what dragging the handle accomplishes.</p>
Online help	<p>An online version of the information in <i>Using Visio Professional</i> and in <i>Using Visio Products</i>, and an explanation of every Visio command and dialog box option. You can search the file by keyword.</p> <p>To use online help, choose Help > Visio Help.</p> <p>For details about options in a dialog box, click the Help button in the dialog box.</p>
Template help	<p>Provides information about how to create specific drawing types, including the most efficient sequence in which to work, how shapes work together, and tips and tricks.</p> <p>Choose Help > Template Help, double-click Visio Templates, and then double-click a drawing type.</p>

Information source	Type of information
Shape help	<p>A window of information that explains how to use a shape.</p> <p>Right-click any shape, then choose Shape Help.</p>
Technical support	Choose Help > Visio On The Web > Online Support.
Visio Corporation Web site	<p>Includes information about Visio Corporation and its products, such as:</p> <p>Case studies that describe how corporations have used Visio products.</p> <p>White papers that describe in detail certain Visio features or functionality.</p> <p>Downloadable files for updates and programs that can help you use Visio more effectively.</p> <p>Developer tips and tools.</p> <p>Choose Help > Visio On The Web > Visio Home Page.</p>
Drawing Resources Web page	<p>A Web page on the Visio Corporation Web site that contains links to resources related to drawing types Visio Professional supports.</p> <p>Choose Help > Visio On The Web > Drawing Resources.</p>
Visio Solutions Library	<p>A section of the Visio Corporation Web site where you can learn about and purchase job-specific shapes, time-saving utilities, and other custom drawing solutions.</p> <p>Choose Help > Visio On The Web > Visio Solutions Library.</p>

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The background of the page features a collage of four overlapping Visio diagrams. From left to right: a hierarchical organizational chart with boxes and connecting lines; a network diagram showing a central server box connected to several desktop computer icons; a complex network diagram with multiple cloud shapes interconnected by lines; and a flowchart with various geometric shapes (rectangles, diamonds, ovals) and arrows indicating a process flow.

Appendix: Visio wizards

Visio Professional wizards

Wizards in Visio Professional automate routine tasks, perform unique functions, and create special drawing types from scratch. The following list describes what each wizard helps you accomplish.

TIP Many wizards include More Info buttons. Click More Info for background information or help understanding the options on a screen.

Wizards in Visio Professional

Wizard name	What it does	How to run it
Build Region	Assembles selected geographic shapes into a region. You can designate an anchor shape to control the position and size of the other shapes in the region.	Tools > Macro > Maps > Build Region
Chart Shape Wizard	Creates stackable and extendable shapes you can use to add special effects to charts.	Tools > Macro > Business Diagram > Chart Shape Wizard
Create Database Wizard	Generates a Microsoft Access 7.0 database table from an entity-relationship diagram created using the IDEF1X or Crow's Foot template.	Tools > Macro > Database > Create Database Wizard
Custom Properties Editor	Edits, adds, or deletes custom-property fields from master shapes that you've used in a particular drawing, or from a standalone stencil that you've created.	Tools > Macro > Custom Properties Editor
Database Export	Generates a database table that reflects the data in custom-property and other ShapeSheet cells. The program that creates the table must be ODBC-compliant.	Tools > Macro > Database > Database Export
Database Wizard	Links Visio shapes and drawings to databases created in ODBC-compliant database programs. After links are established, you can pass information between a drawing and a database, create drawings that are graphical representations of database tables, and generate new master shapes that represent data stored in database records.	Tools > Macro > Database > Database Wizard
Flowchart Database Wizard	Generates a Microsoft Access 7.0 database table from a flowchart. Links flowchart shapes to records in ODBC-compliant databases.	Tools > Macro > Flowchart > Flowchart Database Wizard
Flowchart-TQM Diagram Wizard	Guides you through the process of laying out and formatting a Cause/Effect, Force Field, Top Down, or Cross Functional (Rummler-Brache) diagram.	Tools > Macro > Flowchart > Flowchart-TQM Diagram Wizard
Map Database Wizard	Generates an entity-relationship diagram, using shapes from the IDEF1X or Crow's Foot templates, that describes the structure of a database created in an ODBC-compliant program.	Tools > Macro > Database > Map Database Wizard
Network Database Wizard	Generates a Microsoft Access 7.0 database table from a network diagram. Links network shapes to records in ODBC-compliant databases.	Tools > Macro > Network Diagram > Network Database Wizard
Network Diagram Wizard	Analyzes data describing the structure of a network and represents it in a network diagram. The data must be stored in a database created in an ODBC-compliant program.	Tools > Macro > Network Diagram > Network Diagram Wizard
Office Layout Wizard	Guides you through the process of setting the drawing scale, choosing the page size and orientation, and creating the basic wall structure for an office layout diagram.	Tools > Macro > Business Diagram > Office Layout Wizard

Wizard name	What it does	How to run it
Organization Chart Wizard	Generates an organization chart from a data file in Microsoft Excel (.xls), Org Plus (.txt), or comma- or tab-delimited text (.txt) format, or from a database table created in an ODBC-compliant program.	Tools > Macro > Business Diagram > Organization Chart Wizard
Page Layout Wizard	Automates the process of setting up the drawing page size, orientation, and scale for a drawing. Assists you in adding a title block and border to the pages in a new or existing drawing.	Tools > Macro > Visio Extras > Page Layout Wizard
Print ShapeSheet	Opens the Print ShapeSheet dialog box, where you can choose which sections of the ShapeSheet to print and whether to print the ShapeSheet to a printer, the Clipboard, or a file.	Tools > Macro > Visio Extras > Print ShapeSheet
Project Timeline Wizard	Generates a project timeline from a data file in Microsoft Excel (.xls), comma- or tab-delimited text, or Microsoft Project Exchange (.mpx) format. Or, generates a project timeline structure into which you can enter data.	Tools > Macro > Business Diagram > Project Timeline Wizard
Property Reporting Wizard	Generates inventory reports such as bills of materials or equipment and furniture inventories, and numeric reports such as cost totals or averages, from shapes that store data in their custom-property fields.	Tools > Property Reporting Wizard
Shape Explorer	Locates specific shapes and stencils. You can open the stencil a shape is on or the template a stencil is in from within Shape Explorer.	Tools > Macro > Shape Explorer
SmartShape Wizard	Customizes the appearance or behavior of a selected shape's text, connectors, notes, or protection settings.	Tools > Macro > Visio Extras > SmartShape Wizard
Stencil Report Wizard	Generates a Visio drawing of the masters on a selected stencil. You can choose how many masters appear on a page, whether the page includes a header or footer, and whether or not to list each master's name and status bar prompt.	Tools > Macro > Visio Extras > Stencil Report Wizard
UML Export Wizard	Exports a diagram created using the UML template as a model to be stored in the Microsoft Repository.	Tools > Macro > Software Diagram > UML Export Wizard
UML Import Wizard	Imports a model from the Microsoft Repository into Visio as a UML diagram.	Tools > Macro > Software Diagram > UML Import Wizard
Web Diagram Wizard	Generates a diagram of a World Wide Web or intranet site. You can control which links the diagram includes and its layout and format.	Tools > Macro > Internet Diagram > Web Diagram Wizard

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