

R&M Visio Course



Edition of 10/24/2005
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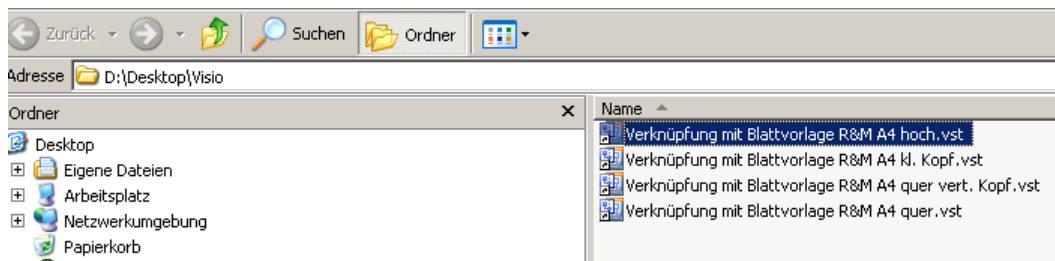
R&M Visio Course

In this crash course (with a limited time available) you will learn the basic functions, tips and tricks for efficiently working with Microsoft Visio and R&M Visio Shapes.

1. Accessing Visio

1.1. Starting the program

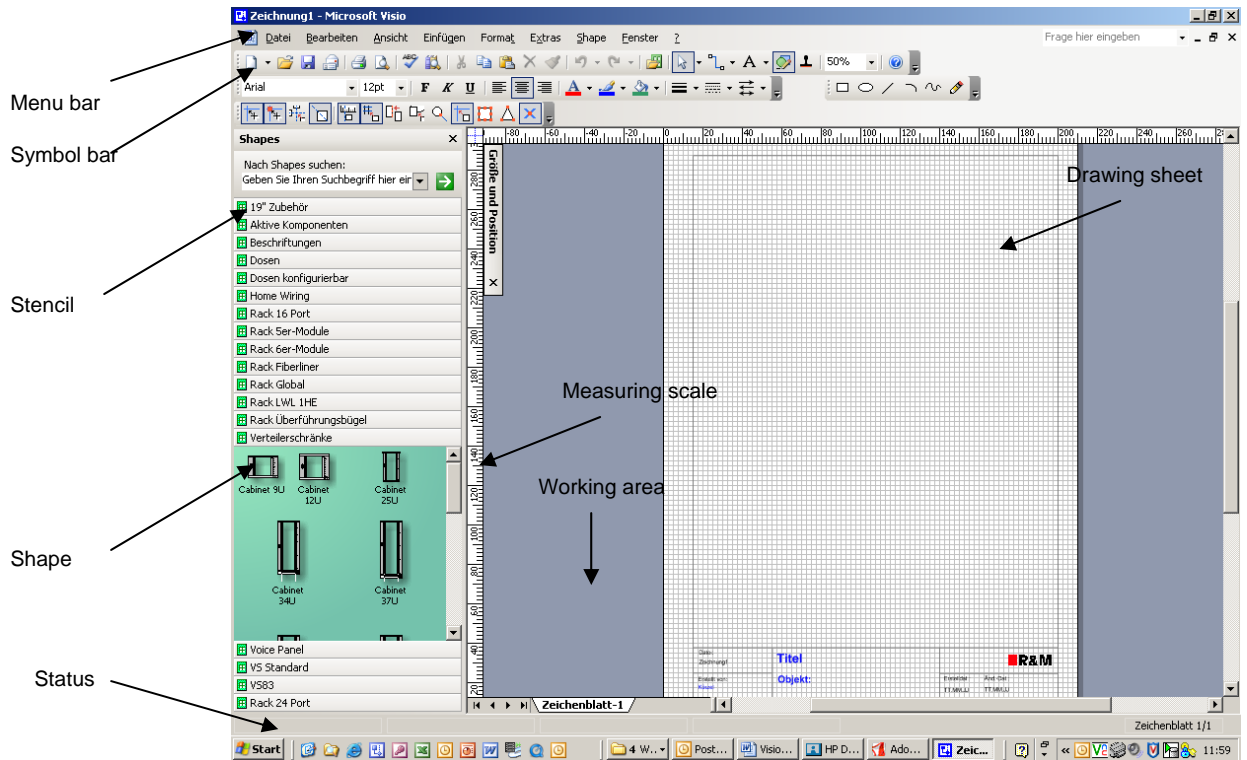
If you would like to create R&M specific drawings, it is recommended that you start up the appropriate drawing template on the desktop.



General start up of Visio:

- Click on the Windows button START.
- Select the menu item VISIO under Microsoft Office PROGRAMS.

Main Visio Screen



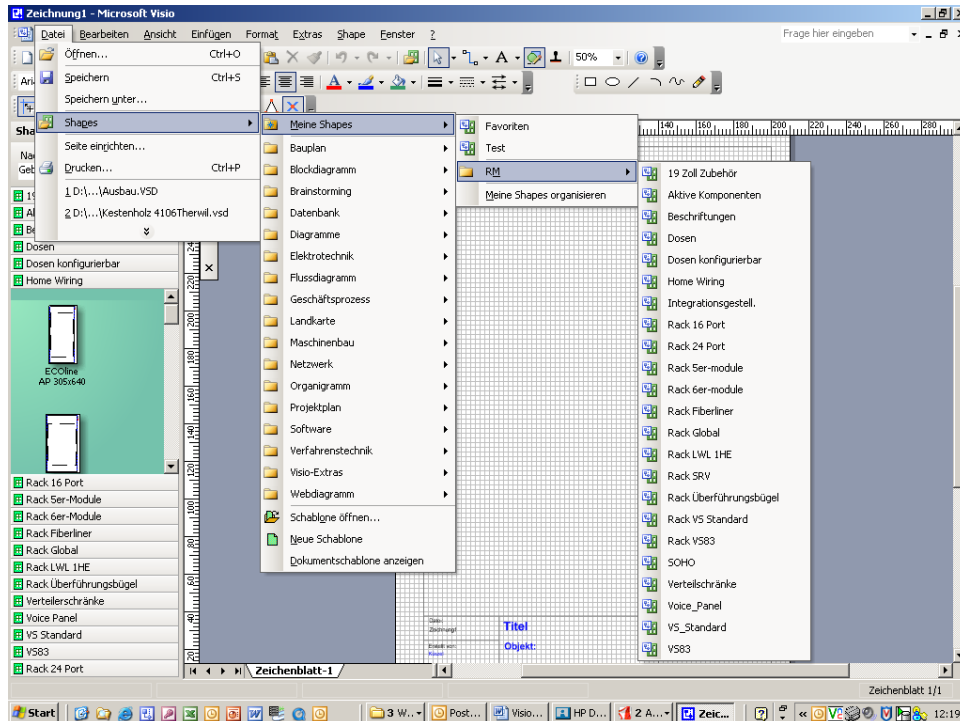
1.2. The three different file types

There are three different types of file:

- Drawing (*.vsd) d = drawing
- Stencil (*.vss) s = stencil
- Template (*.vst) t= template

1.3. Working with stencils

Open stencils:



Close stencil:

Right mouse button on stencil - close

Shapes

A basic concept of Visio is that as little as possible should be drawn, i.e. as many parts and elements of a drawing should be available from so-called stencils. In Visio, these elements are called shapes. A shape can have any kind of form.

A new shape is best prepared from a similar existing shape, which is changed and subsequently filed again in a stencil.

Exercise 1:

Create a new stencil

FILE – SHAPES – NEW STENCIL

Draw a new shape (e.g. rectangle)

Drag the new shape into the new stencil

You can label the new shape in the stencil, save the stencil, and thus you can reuse the shape.

Placing shapes

In the stencil, point the mouse on the symbol of the shape you require.

Drag the symbol onto the drawing sheet.

Now, a thin frame appears, which indicates where the shape will be put. You can leave the shape where you will need it.

This way, you can place as many shapes from as many stencils as you like on your drawing sheet.

This procedure of dragging and dropping something is called “drag & drop” and can be used frequently and versatilely in Windows applications.

A shape must be selected to be moved again.

This is how you select several shapes:

Click on the first shape.

Press the SHIFT key.

Now click on all other shapes that are to be selected
or:

point the mouse immediately above the outermost shape.

Draw a frame around the shapes that are to be selected.

This is how you select all shapes and objects:

CRTL + a)

Moving shapes:

Simply move with the mouse

Parallel moving of a shape

Select the desired shape.

Keep the **SHIFT key** pressed down and place the shape again. Now, you can move the shape only in a parallel direction (horizontally or vertically).

If the **CTRL** and **SHIFT** keys are **simultaneously pressed**, the shape is being copied and moved in a parallel direction at the same time.

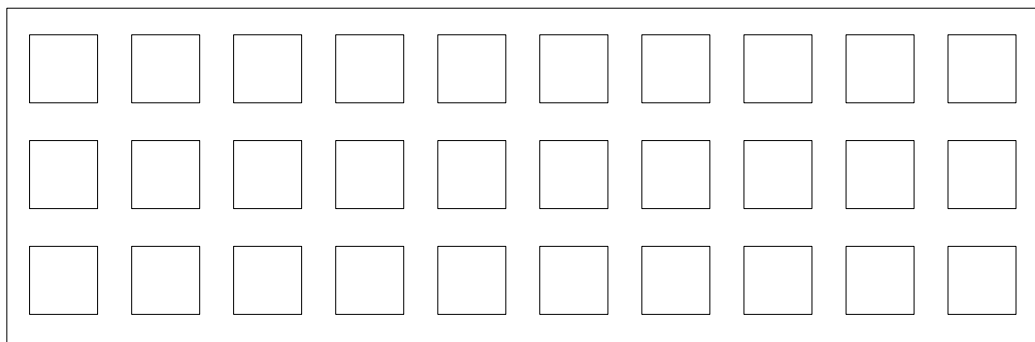
In other words, **press SHIFT** then the **CTRL key** and move the item.

If this is followed by pressing the **F4 key**, the last operation will be repeated.

In this way you can easily copy shapes parallel to each other and at the same distance from each other.

Exercise 2:

Draw a panel with 30 connections as shown in the picture

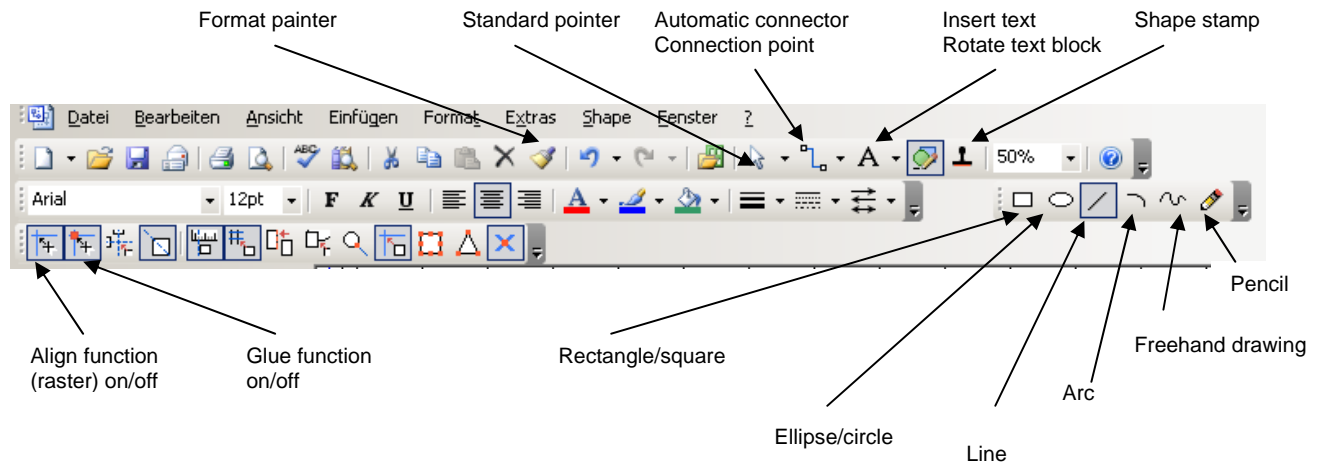














Changing shapes

Although the objective is to use as many existing shapes as possible, these must often be adapted to specific requirements. Various tools and operations are available for this process.

2. Tools

A tool is an aid allowing you to perform operations with the mouse.



Standard pointer 	For selecting, moving and changing shapes
Automatic connector Connection point 	For creating connections between shapes. Connection point: glue point for one-dimensional shapes
Insert text Rotate text block 	For entering and editing text Rotate text block: rotate or move text
Shape stamp 	For multiple insertion of shapes from a stencil
Align function (raster) on/off 	Switch align function on or off on the raster
Glue function on/off 	Switch glue function on or off
Rectangle/square 	For drawing rectangular shapes use SHIFT key > Square
Ellipse/circle 	For drawing elliptical shapes use SHIFT key > Circle
Line 	For drawing straight lines
Arc 	For drawing arc segments
Freehand drawing 	For drawing wavy lines
Pencil 	For drawing circle segments and for moving control points and angular points

1.4. Changing a shape

Exercise 3:

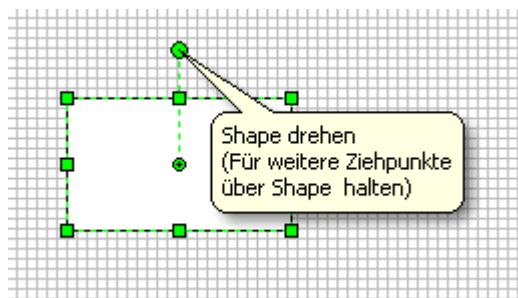
Change a rectangle by using the standard pointer and the pencil

Rotate shape

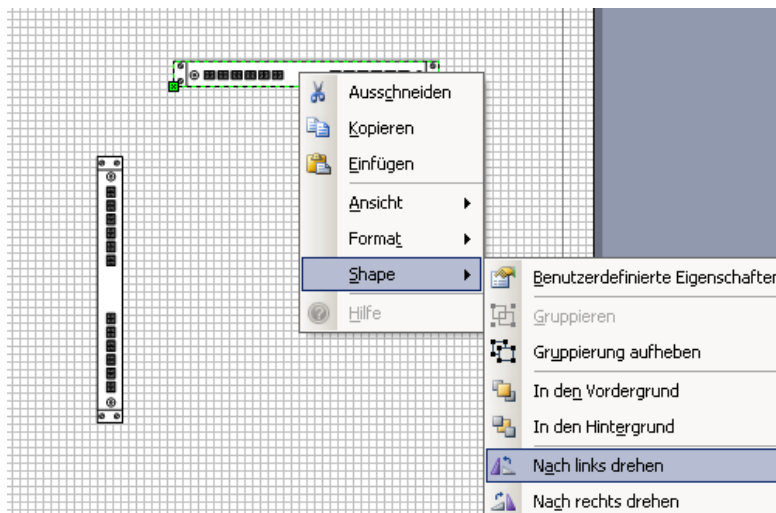
Exercise 4:

Rotate a rectangle by using the rotating point

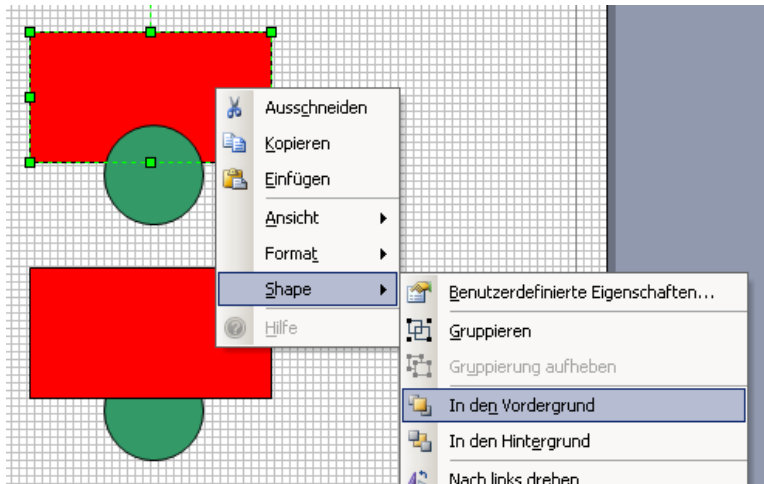
Also try to move the rotation center point



Tilting/mirroring shapes



In the foreground/background

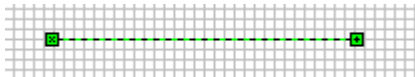


Exercise 5:

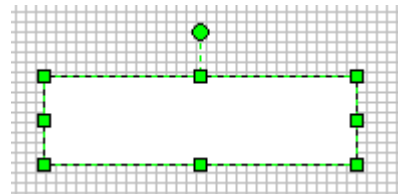
Create these two shapes and check the foreground and background function

Behavior of shapes

One-dimensional shape

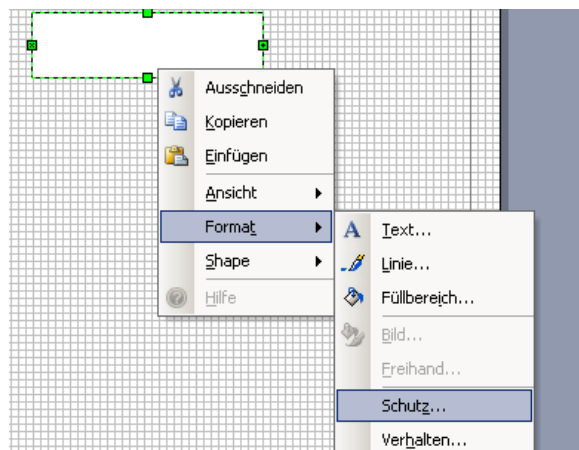
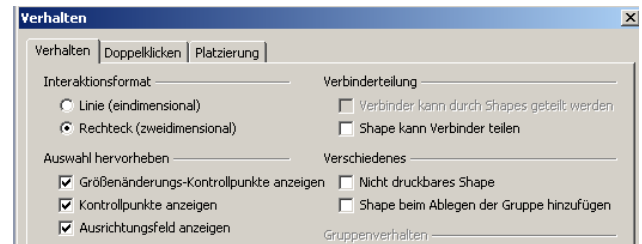
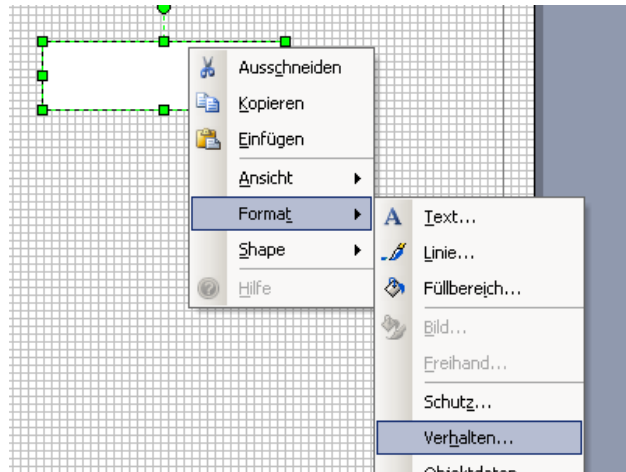


Two-dimensional shape



Exercise 6:

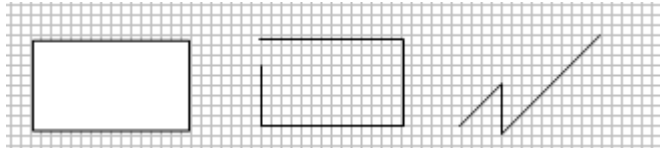
Change a two-dimensional shape (rectangle) into a one-dimensional shape
Protect the height



Formatting shapes

You can format the shapes contained in your drawing by changing one or more attributes of the shapes.

Basically, a distinction must be made between a closed (left) and an open (middle and right) shape.



The following three elements can be formatted on shapes:

- Lines
- Fill area (only in closed shapes)
- Text and text block


This is how you format one (or several) shape(s):

- Mark the shape(s).
- Select the formats from the toolbar

or

Call up the appropriate dialog box in the FORMAT menu.
Formattings can also be transferred to other shapes.

This is how you transfer formats:

- Mark the shape from which you want to transfer formats to another shape.
- Click on the FORMAT PAINTER symbol. 
- Click on the shape to which you want to transfer the formatting.

Double click on the FORMAT PAINTER symbol.

In this way you can successively transfer the formats to several shapes. Via ESC you return to the standard pointer as the mouse symbol.

Exercise 6:

Test the FORMAT PAINTER function.




Lines

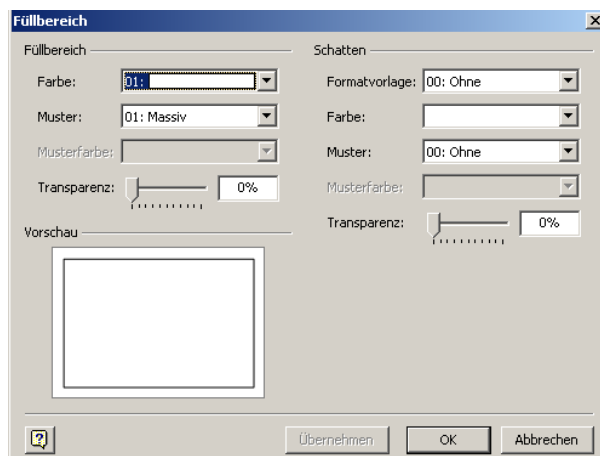
The following attributes can be defined for lines:

- Line color 
- Line thickness 
- Line pattern 
- Line end 

Fill area

To define the fill area of a shape, proceed the same way as for line formatting.
The following attributes can be defined for the fill area:

- Fill color 
- Fill pattern
- Shading color



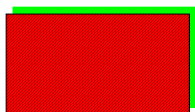
Exercise 7:

Put an arrow at the end of one line. The beginning must have a bullet



Exercise 8:

Create this shape with the use of various formatting possibilities



1.5. Text

This is how you add text to a shape:

- Mark the shape.

- Enter the required text.


If you enter text in this manner, everything that is already written in the shape will be overwritten.

This is how you edit text in a shape:

- Click on the shape
- Change the text format



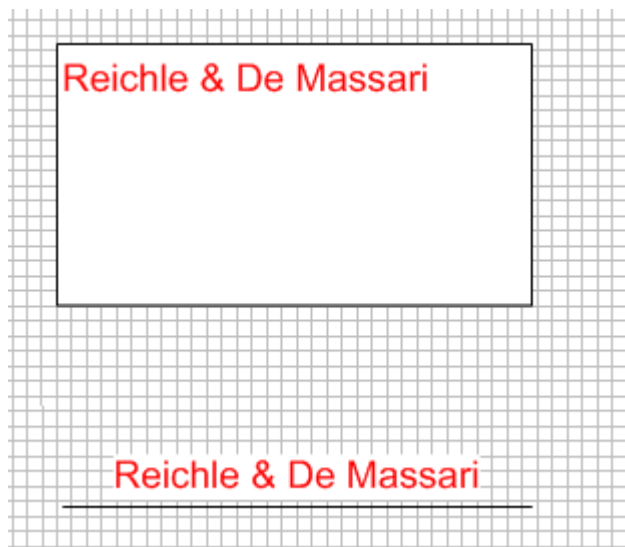
Rotating or moving text

- Mark the shape containing text.
- Select the Rotate Text shape 
- Move or rotate the text


Exercise 9:

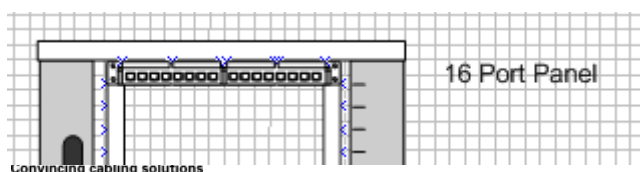
Put text on one line, font: red, 18 pt. (text above the line)

Put text into a rectangle, font: red, 18 pt. (text in the upper left corner)



Stand-alone text

- Select the TEXT TOOL 
- Position the cursor
- Enter the text.



1.6. Connectors

Connectors are shapes which can be glued between two 2D shapes. Such a connection remains in place even if the two 2D shapes are moved. Connectors are 1D shapes. Therefore, they have end points. You glue these end points to connection points on the 2D shapes and thus create a connection.

Automatic connector tool

The AUTOMATIC CONNECTOR  tool allows you to create connections. If you create a connection with this tool, a universal connection is selected by default.

Exercise 10:

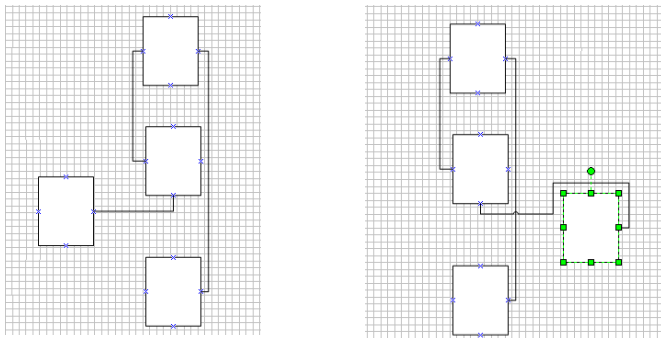
Create this drawing

Take a rectangular shape (with connection points) from the following stencil:

Shape  Visio Extras – Drawing Tools

Connect with the automatic connector 

Subsequently move the left square to the right (note the skipped line)



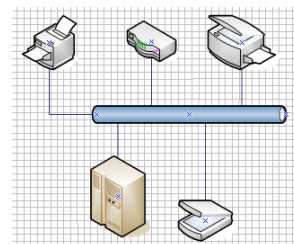
Inside connectors

Some shapes have a special kind of connector: inside connectors. These belong permanently to the appropriate shapes and are positioned with control handles. The path of the connector is programmed by the shape.

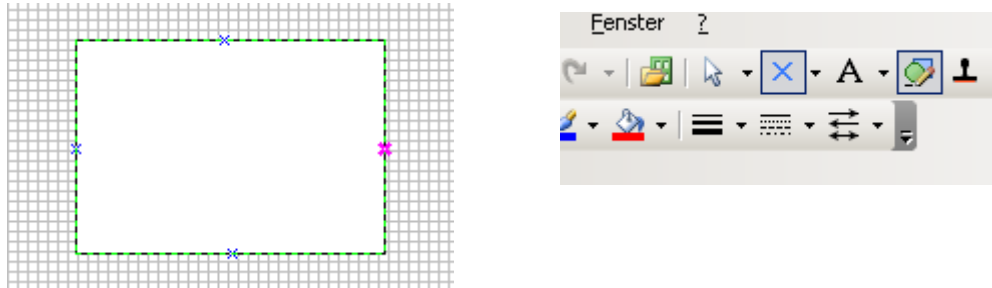
Exercise 11:

Creating a simple network diagram

Select shapes: Shapes Network - Network and peripheral devices



1.7. Connection points

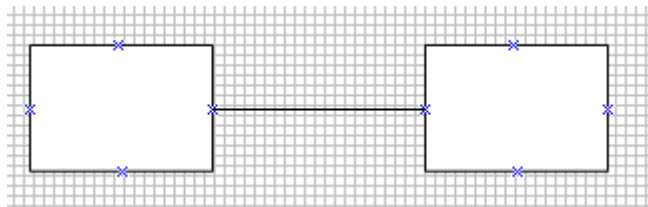


Connection points are small blue crosses, which are used to glue together elements.

Positioning with: connection point tool, select shape, CTRL, put point (x) on the element.

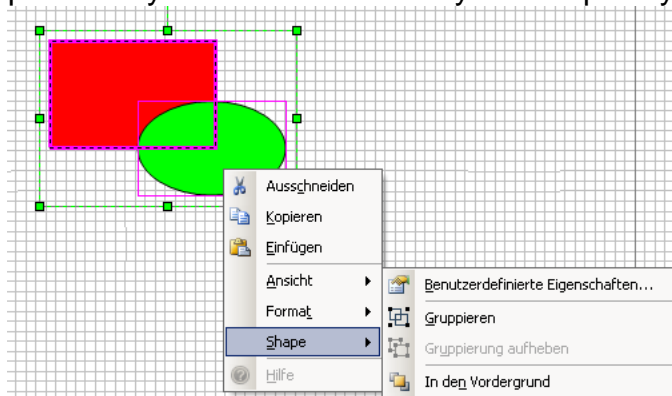
Exercise 12:

Set connection points according to the picture, copy rectangle, draw line in between and then test glue function



1.8. Groups

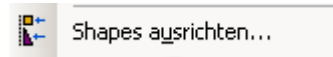
In Visio, several shapes can be grouped into a unit. Grouping of shapes is particularly recommended if they are frequently used together.



1.9. Aligning shapes

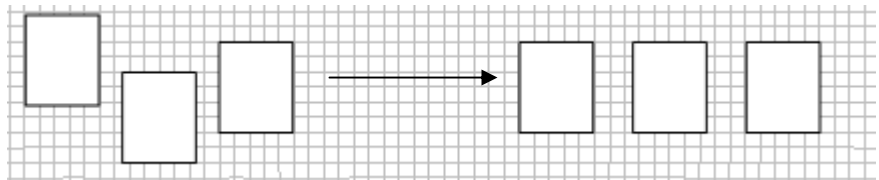
Select all shapes to be aligned

Followed by: Shape – Align shape



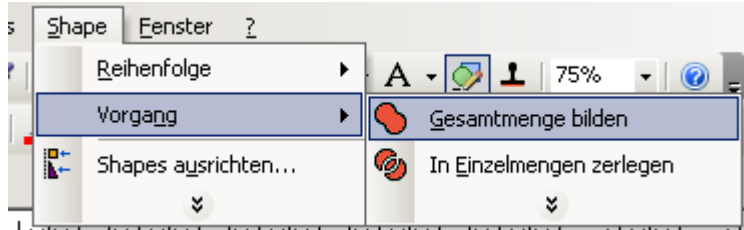
Exercise 13:

Testing



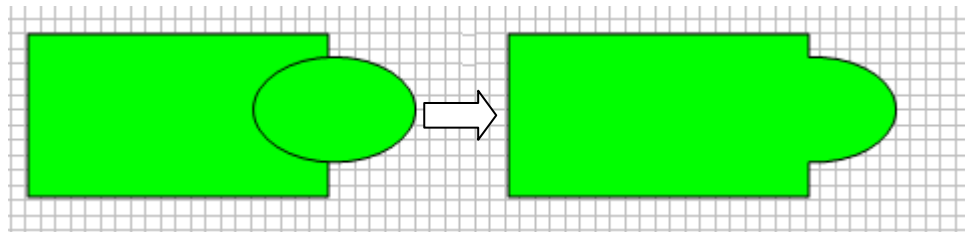
1.10. Volume operation

These operations allow you to combine a shape consisting of various parts to a Boolean operation. A new shape emerges via this operation.



Exercise 14:

Create a new shape with the TOTAL VOLUME operation



3. Working with the R&M specific stencils and shapes

All current R&M components are contained in the R&M stencils.
Appropriate VS-83 distribution cabinet dispositions, as well as basic diagrams, can be created very easily.

Exercise 15:

Drawing a distribution cabinet disposition based on the enclosed sample disposition

