Visio ShapeSheet Functions by Version

This document is designed as a quick reference for understanding which Visio ShapeSheet functions can be used in which versions. The functions are split into the current 2013 release, followed by 2010, 2007, 2003 and finally all functions that appeared in versions prior to 2003.

The data for this document is collated from the online and downloadable Visio SDK with cross-references to each year's "What's New" sections. If you find any discrepancies, please let me know at http://visualsignals.typepad.co.uk/vislog/2014/07/visio-shapesheet-functions-by-version.html

Each function name contains a hyperlink to the relevant page on MSDN apart from THEMEPROP which doesn't appear online.

2013

FONT
Returns the integer value of the unique identifier for a font, specified by name. [Recommended as replacement for FONTTOID from 2013 onwards]

ISTHEMED
Returns a Boolean value indicating whether a shape has a theme applied to it.

LANGUAGE
Allows comparison operations between different language representations. It is best used for converting Internet Engineering Task Force language tags (BCP 47) values to locale id (LCID) values.

THEMECBV
Returns an RGB value or an integer that represents an index in the document's color palette, where the color (number) passed in as an argument has been modified by the specified tint or shade value stored in the gradient settings of the active theme.

THEMEPROP
Returns the 'embellishment' and 'multiformat' property values of a dynamic theme

THEMEVAL
Retrieves values from the active theme

2010

ANGLEALONGPATH
Returns the angle of the tangent to the path at a given point.

BOUNDINGBOXDIST
Returns the measurement of the specified part of the shape's bounding box.

BOUNDINGBOXRECT
Returns the coordinate of the specified edge of the shape's bounding box.

CALLOUTCOUNT
Returns the total number of callout shapes that are associated with the shape.

CALLOUTTARGETREF
Returns a sheet reference to the target shape of the callout shape.

CONTAINERCOUNT
Returns the total number of containers that include the shape as a member (including nested relationships).

CONTAINERMEMBERCOUNT
Returns the total number of shapes in the container.

CONTAINERSHEETREF
Returns a sheet reference to the specified container that contains the shape.

DISTTOPATH
Returns the shortest distance from the point represented by the specified coordinates to a point on the path.

HASCATEGORY
Returns TRUE if the specified string is found in the shape's category list.

IFERROR
Returns the evaluated result of a primary expression, if it does not evaluate to an error. Otherwise, returns the evaluated result of an alternate expression.

IS1D
Returns TRUE if the shape is 1-D (one-dimensional); returns FALSE if the shape is 2-D (two-dimensional).

LISTMEMBERCOUNT
Returns the number of member shapes in the list container shape.

LISTORDER
Returns the 1-based position of the shape in the list.

LISTSHEETREF
Returns a sheet reference to the list container shape that contains the shape.

MSOSHADE
Modifies the color by decreasing its luminosity by the specified percentage.

MSOTINT
Modifies the color by increasing its luminosity by the specified percentage.

NEARESTPOINTONPATH
Returns the percentage of the distance along the path of the point that is nearest to the specified coordinates, as a value between 0 and 1.

PATHLENGTH
Returns the length of the path that is defined in the specified Geometry section.

PATHSEGMENT
Returns the 1-based segment number at the specified percentage mark along the specified path

POINTALONGPATH
Returns the coordinates of a point on, or offset from, the path

SEGMENTCOUNT
Returns the number of line segments that make up the path

SHEETREF
Returns a reference to the sheet (shape) that is specified in sheetref, or, if there is no sheetref qualifier, to the current sheet

VERSION
Returns an integer that matches the major version of the currently active Microsoft Visio application

2007

ARG
Specifies an argument that the calling cell can pass to a custom function, as well as the default value returned by the custom function if the calling cell does not pass in a value for the argument. Returns the value specified by the calling cell and the matching argName parameter.

BLEND
Blends two colors in the proportion specified by the float parameter.

CELLISTHEMED
Enables you to specify one behavior for a shape when it has a theme applied to it and another when it does not. [Deprecated in 2013. Replaced by ISTHEMED in 2013]

EVALCELL
Takes a reference to a cell that contains a custom function as well as one or more name-value pairs to pass to the custom function as arguments (optional). Returns the calculated result of the custom function given the specified arguments and values.

HUE
Returns the value of a color's hue component.

LUMDIFF
Returns the difference in luminosity between color1 and color2.

SATDIFF
Returns the difference in saturation between color1 and color2.

SHADE
Modifies the color by decreasing its luminosity by the amount (positive or negative) specified in the int parameter

THEME
Gets the current theme's format settings

THEMEGUARD
Guards the formatting cells of a shape to ensure that they use appropriate aspects of the current theme

THEMERESTORE
Stores the local formatting value of a shape when you apply a theme so that you can restore the local formatting if the user subsequently removes the theme

TINT
Modifies the color by increasing its luminosity by the amount (positive or negative) specified in the int parameter

TONE
Modifies the color by decreasing its saturation by the amount specified in the int parameter

2003

BLOB
Decodes a base64 string and stores it as binary data.

BOUND
Constrains the value of a cell to a range or set of ranges.

FIND
Finds one text string contained within another text string, and returns the starting position of the text string you are seeking relative to its position in the text string that contains it.

FORMULAEXISTS
Indicates whether the referenced cell contains a formula.

LEFT
Returns the left-most character or characters in a text string, based on the number of characters you specify.

LEN
Returns the number of characters in a text string.

LOCALFORMULAEXISTS
Indicates whether the referenced cell contains a local formula.

MID
Returns a specific number of characters from a text string, starting at the position you specify, based on the number of characters you specify.

QUEUEMARKEREVENT
Causes the application to fire a marker event to your add-on, Microsoft Visual Basic for Applications (VBA) code, or COM add-in

REPLACE
Replaces part of a text string, based on the number of characters you specify, with a different text string

REPT
Repeats text a given number of times

REWIDEN
Converts a formula that produces 16-bit character codes that are widened single-byte or multibyte character-set codes into a string of 16-bit Unicode character codes, using the specified character sets.

RIGHT
Returns the last character or characters in a text string, based on the number of characters you specify

RUNMACRO
Calls a macro in a Microsoft Visual Basic for Applications (VBA) project.

SETATREFEVAL
Used in the set_expression parameter of the SETATREF function to indicate that set_expression should be evaluated before assigning to the reference parameter in SETATREF

SETATREFEXPR
Stores a value that is set through an action in the user interface (UI) or Automation

SETATREF
Redirects updated values resulting from actions in the user interface (UI) or Automation to another cell

SUBSTITUTE
Replaces part of a text string with a different text string

TRIM
Removes all space from text, except for single spaces between words

UNICHAR
Returns the Unicode character from a number

Pre 2003

ACOS
Returns the arccosine of number, for example, the angle whose cosine is number.

AND
Returns TRUE (1) if all of the logical expressions supplied are TRUE. If any of the logical expressions are FALSE or 0, the AND function returns FALSE (0).

ANG360
Normalizes an angle's range to be 0 <= result < 2PI radians (0 <= result < 360 degrees).

ANGLETOLOC
Returns a transformed angle in the destination shape's local coordinate system. Converts an angle from local coordinates in a source shape to the local coordinates in a destination shape.

ANGLETOPAR
Returns a transformed angle in the destination shape's parent coordinate system. Converts an angle from local coordinates in a source shape to the parent coordinates in a destination shape.

ASIN
Returns the arcsine of a number, for example, the angle whose sine is number.

ATAN2
Returns the angle between the vector represented by x,y and the direction of the x-axis. The result is a number in the current unit of measure for angles.

ATAN
Returns the arctangent of a number, for example, the angle whose tangent is number. The resulting angle is in the range -PI/2 <= angle <= PI/2 radians (-90 <= angle <= 90 degrees).

BITAND
Returns a 16-bit binary number in which each bit is set to 1 only if the corresponding bit in both binarynumber1 and binarynumber2 is 1. Otherwise, the bit is set to 0.

BITNOT
Returns a 16-bit binary number in which each bit is set to 1 only if the corresponding bit in binary number is 0. Otherwise, the bit is set to 0.

BITOR
Returns a 16-bit binary number in which each bit is set to 1 if the corresponding bit in either binary number1 or binary number2 is 1. The bit is set to 0 only if the corresponding bit is 0 in both binary number1 and binary number2.

BITXOR
Returns a 16-bit binary number in which each bit is set to 1 if the corresponding bit in either but not both binary number1 and binary number2 is 1. Otherwise, the bit is set to 0.

BKGPAGENAME
Returns a background page name as a string.

BLUE
Returns the blue component of a color. The return value is an integer in the range of 0 to 255, inclusive. The function returns 0 for invalid input.

CALLTHIS
Calls a procedure in a Microsoft Visual Basic for Applications (VBA) project.

CATEGORY
Returns the text from the Category field of a document's properties.

CEILING
Rounds a number away from 0 (zero) to the next instance of multiple. If multiple is not specified, the number rounds away from 0 to the next integer.

CHAR
Returns the ANSI character for a number.

COMPANY
Returns the text from the Company field of a document's properties.

COSH
Returns the hyperbolic cosine of an angle.

COS
Returns the cosine of an angle.

CREATOR
Returns the text from the Author field of a document's properties.

CY
Returns a currency value.

DATA1
Returns the text from the Data 1 box in the Shape Name dialog box for a shape (on the Developer tab, click Shape Name), as a string.

DATA2
Returns the text from the Data 2 box in the Shape Name dialog box for a shape (on the Developer tab, click Shape Name), as a string.

DATA3
Returns the text from the Data 3 box in the Shape Name dialog box for a shape (on the Developer tab, click Shape Name), as a string.

DATETIME
Returns the date and time value represented by datetime or expression.

DATEVALUE
Returns the date value represented by datetime or expression.

DATE
Returns the date represented by year, month, and day formatted according to the short date style in the system's Regional Settings. The values for year, month, and day reflect the Gregorian calendar.

DAYOFYEAR
Returns an integer, 1 to 366, that represents the sequential day of the year in datetime or expression. The DAYOFYEAR function uses the Gregorian calendar.

DAY
Returns an integer, 1 to 31, representing the day in datetime or expression. The DAY function uses the Gregorian calendar.

DECIMALSEP
Returns the decimal separator string for the current user locale.

DEFAULTEVENT
Performs the default event associated with the object.

DEG
Converts the value of an angle from radians to degrees.

DEPENDSON
Creates a cell reference dependency.

DESCRIPTION
Returns the text from the Description field of a document's properties.

DIRECTORY
Returns the full path of the directory (folder) in which a document is saved, as a string. Returns an empty string if the document has not been saved.

DOCCREATION
Returns the date and time a document was created, as a serial value.

DOCLASTEDIT
Returns, as a serial value, the date and the time that a document was last edited.

DOCLASTPRINT
Returns the date and time a document was last printed, as a serial value.

DOCLASTSAVE
Returns the date and time a document was last saved, as a serial value.

DOCMD
Performs the identified command.

DOOLEVERB
Executes a verb for the OLE object.

EVALTEXT
Evaluates the text in shapename as if it were a formula and returns the result.

FIELDPICTURE
Returns a format-picture string that matches the Microsoft Visio internal text field format code.

FILENAME
Returns a document's file name as a string.

FLOOR
Rounds a number toward 0 (zero), to the next integer, or to the next instance of multiple.

FONTTOID
Returns the identifier (ID) of the specified font.

FORMATEX
Returns the result of expression evaluated in srcUnit as a string formatted according to format expressed in dstUnit.

FORMAT
Returns the result of expression as a string formatted according to formatpicture.

GETREF
References a cell and doesn't recalculate the formula when the referenced cell changes.

GETVAL
Gets the value of a cell and doesn't recalculate the formula when the cell's value changes.

GOTOPAGE
Displays the page that has the name pagename in the currently active window.

GRAVITY
Calculates a text block's correct angle of rotation for the indicated shape rotation to prevent the text from turning upside down.

GREEN
Returns the green component of a color.

GUARD
Protects expression from deletion and change by actions performed in the drawing window, for example, moving, sizing, grouping, or ungrouping shapes.

HELP
Opens an HTML Help file with the specified keyword in the Search box.

HOUR
Returns an integer, 0 to 23, representing the hour of the day of datetime or expression.

HSL
Returns a value representing an index in the document's color palette. It specifies a color by its hue, saturation, and luminosity components.

HUEDIFF
Returns the difference in hue between color1 and color2.

HYPERLINKBASE
Returns the text from the Hyperlink base field of a document's properties.

HYPERLINK
Navigates to the specified address, which can be a file, UNC, or URL path.

ID
Returns a shape's internal ID as a number.

IF
Returns valueiftrue if logicalexpression is TRUE. Otherwise, it returns valueiffalse.

INDEX
Returns the substring at the zero-based location index in the list delimited by delimiter. Or, if the index is out of range, returns an empty string or the optional token provided as the errorvalue argument.

INTERSECTX
Returns the x-coordinate (in the local coordinate system) of the point where two lines intersect.

INTERSECTY
Returns the y-coordinate (in the local coordinate system) of the point where two lines intersect.

INTUP
Rounds a number up to the next integer.

INT
Rounds a number down to the next integer.

ISERRNA
Returns TRUE if the value of cellreference is error type #N/A! (not available); otherwise, it returns FALSE. The ISERRNA function is used in formulas that refer to another cell.

ISERROR
Returns TRUE if the value of cellreference is any error type; otherwise, it returns FALSE. The ISERROR function is used in formulas that refer to another cell.

ISERRVALUE
Returns TRUE if the value of cellreference is error type #VALUE, where an argument in the formula is the wrong type. The ISERRVALUE function is used in logical expressions that refer to another cell.

ISERR
Returns TRUE if the value of cellreference is any error type except #N/A; otherwise, it returns FALSE. The ISERR function is used in formulas that refer to another cell.

KEYWORDS
Returns the text from the Keywords field of a document's properties.

LISTSEP
Returns the list-separator string for the current user locale.

LN
Returns the natural logarithm of a number. The number must be positive, or LN returns the error value #NUM.

LOCTOLOC
Returns a transformed point in local coordinates in the destination coordinate system.

LOCTOPAR
Returns a transformed point in parent coordinates in the destination coordinate system.

LOC
Takes a point defined in one shape's local coordinates and returns the equivalent point expressed in the local coordinates of the shape associated with the formula.

LOG10
Returns the base 10 logarithm of a number. The number must be positive or LOG10 returns the error value #NUM.

LOOKUP
Returns a zero-based index that indicates the location of the substring key in a list, or returns -1 if the target string contains the delimiter.

LOWER
Returns a string converted to lowercase.

LUM
Returns the value of a color's luminosity component.

MAGNITUDE
Returns the magnitude of the vector whose rise is A and whose run is B, multiplied by the respective constants constantA and constantB.

MANAGER
Returns the text from the Manager field of a document's properties.

MASTERNAME
Returns a sheet's master name as a string, or returns the string '' if the sheet doesn't have a master.

MAX
Returns the largest number from a list. Largest means closest to positive infinity.

MINUTE
Returns an integer from 0 to 59 that represents the minutes component of datetime or expression.

MIN
Returns the smallest number from a list. Smallest means closest to negative infinity.

MODULUS
Returns the remainder (modulus) that results when a number is divided by a divisor.

MONTH
Returns an integer from 1 to 12 that represents a month.

NAME
Returns a sheet's name as a string.

NA
Returns the error value #NA!. Use the NA function in a ShapeSheet cell where information is missing, so that the cell's default value is not used in calculations.

NOT
Returns TRUE (1) if logicalexpression is FALSE. Otherwise, it returns FALSE (0).

NOW
Returns the current date and time value.

NURBS
Returns a nonuniform rational B-spline (NURBS). This function is used in the E cell in the NURBSTo geometry rows.

OPENFILE
Opens a Microsoft Visio document, if it's not already open, and activates the document window.

OPENGROUPWIN
Opens the group in the group window. If the object is not a group, this function does nothing.

OPENSHEETWIN
Opens the ShapeSheet window in a new window.

OPENTEXTWIN
Opens the shape's text block so that the text can be edited.

OR
Returns TRUE (1) if any of the logical expressions passed as parameters are TRUE.

PAGECOUNT
Returns the number of foreground pages in a document.

PAGENAME
Returns the page name as a string.

PAGENUMBER
Returns the number of the page that contains the shape.

PAR
Returns the x,y coordinates of a point in the coordinate system of the shape's parent.

PI
Returns the mathematical constant pi, which is approximately 3.1415926535898

PLAYSOUND
Plays a sound file or system sound

PNTX
Returns the x-coordinate of a point

PNTY
Returns the y-coordinate of a point

PNT
Returns the point represented by the coordinates x and y as a single value

POLYLINE
Returns a polyline. This function is used in the A cell of PolyLineTo geometry rows.

POW
Returns a number raised to the power of an exponent

RAD
Converts the value of an angle from degrees to radians

RAND
Returns a random floating point number from 0.0 to 1.0. It returns a different number each time the function is evaluated, which is once per minute according to the system clock.

RECTSECT
Calculates the sector of a rectangle associated with x and y and returns an integer 0 to 4, indicating the sector

RED
Returns the red component of a color

REF
The REF function returns the error value #REF!.

RGB
Returns a value representing an index in the document's color palette. It specifies a color by its red, green, and blue components, where each is a number in the range 0 to 255, inclusive, or an expression that evaluates to such a number

ROUND
Rounds a number to the precision represented by numberofdigits

RUNADDONWARGS
Runs string and passes the command line arguments to the program as a string

RUNADDON
Executes an add-on or a macro in a Microsoft Visual Basic for Applications (VBA) project

SAT
Returns the value of a color's saturation component

SECOND
Returns an integer, 0 to 59, that represents the seconds component of datetime or expression

SETF
Sets a cell's formula

SHAPETEXT
Gets the text from a shape

SIGN
Returns a value that represents the sign of a number

SINH
Returns the hyperbolic sine of an angle

SIN
Returns the sine of an angle

SQRT
Returns the square root of a number

STRSAMEEX
Determines whether two strings are the same

STRSAME
Determines whether strings are the same. It returns TRUE if they are the same and FALSE if they aren't

SUBJECT
Returns the text from the Subject field of a document's properties

SUM
Returns the sum of a list of numbers

TANH
Returns the hyperbolic tangent of an angle

TAN
Returns the tangent of an angle

TEXTHEIGHT
Returns the height of the composed text in a shape where no text line exceeds maximumwidth

TEXTWIDTH
Returns the width of the composed text in a shape

TIMEVALUE
Returns the time value represented by datetime or expression, based on the system's Region and Language settings

TIME
Returns the time represented by hour, minute, and second

TITLE
Returns the text from the Title field of a document's properties

TRUNC
Returns a number truncated to the specified number of digits

TYPEDESC
Returns a string that describes an object's internal type

TYPE
Returns an object's internal type as a number

UPPER

Returns a string converted to uppercase

USERUI

Evaluates one of the two expressions depending on the value of state

USE

Applies the line pattern, fill pattern, or line end called name to the shape when placed in the LinePattern, FillPattern, BeginArrow, or EndArrow cell

WEEKDAY

Returns an integer, 1 to 7, representing the weekday in datetime or expression

YEAR

Returns an integer that represents the Gregorian year in datetime or expression, formatted according to the short date style set by the system's current Region and Language settings

Version History

1.0	27th July 2014	created initial document