



eXpress Chart

8 May 2008

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eXpress Chart

eXpress Chart

eXpress Chart is an on-line graphics presentation tool. eXpress Chart is a 32-bit Windows application acting as a true OLE server, and as such, may be initiated and controlled from any Windows application (16- or 32-bit). eXpress Chart may also be manually executed and utilized as a stand-alone application. Express Plus Scripts may be written to obtain data from a host application and supply eXpress Chart with the necessary information to produce charts (see A-Series Example or 2200 Example).

Chart button

Click this button to view the chart.

Grid button

Click this button to view/change the data grid.

Options button

Click this button to change the chart options.

File menu

This menu contains manual selections to create, save and open eXpress Charts.

New Chart

Make this selection to discard any currently displayed chart, its associated data and manually define a chart from scratch.

New Series

Make this selection to manually add an additional series to the current chart.

Open...

Make this selection to open a previously saved chart data file (.CHT).

Save Data...

Make this selection to save the currently displayed chart to a data file (.CHT).

Save Chart...

Make this selection to save the currently displayed chart as a picture (.BMP, .EMF or .WMF).

Print. . .

Make this selection to print the currently displayed chart.

Exit

Make this selection to exit eXpress Chart. Note: If eXpress Chart is automatically started from a client application, do not make this selection. Instead, terminate from the client application.

Edit menu

This menu contains selections to copy the currently displayed chart/data to the Windows clipboard for subsequent inclusion into other Windows applications.

Copy Chart As Bitmap

Make this selection to copy the chart to the clipboard as a Windows Bitmap (.BMP).

Copy Chart As Metafile

Make this selection to copy the chart to the clipboard as a Windows Metafile (.WMF).

Copy Chart As Enhanced Metafile

Make this selection to copy the chart to the clipboard as a Enhanced Metafile (.EMF).

Help menu

This menu contains selections to acquire on-line help and copyright information

Contents

Make this selection to display the Windows Help Topics dialog for eXpress Chart.

This Window

Make this selection to display the on-line help topic for this dialog.

About

Make this selection to display copyright and version information about eXpress Chart.

New Chart Wizard

This dialog is used to create the initial properties of a new chart.

Chart Properties

The properties in this group supply the type and titles of the chart.

Title

In this text box, enter the optional title of the chart.

Footer

In this text box, enter the optional footer of the chart.

Type

From this drop-down list box, select the type of chart desired.

Row Properties

The properties in this group supply the number of rows in the chart (not applicable to pie charts).

Count

Use this spin box to set the number of rows for the chart.

X-axis label

In this text box, type the optional X-axis (horizontal) label.

Column (series) Properties

The properties in this group supply the number of columns in the chart (not applicable for pie charts).

Count

Use this spin box to set the number of columns or series for the chart.

Y-axis label

In this text box, type the optional Y-axis (vertical) label.

OK

Click this button to accept the changes and close the dialog.

Cancel

Click this button to discard any changes and close the dialog.

Help

Click this button to view the Windows help on this dialog.

Options

Chart

For all but pie charts, you may zoom in on a portion of the chart in the following manner. Hold down the left mouse button over some portion of the chart and drag the mouse cursor to downward and to the right. A white box will appear surrounding the area selected. Release the mouse button and the chart will zoom in. To zoom out, select the bottom right-hand corner of the chart, drag the mouse cursor to the top left-hand corner, and release the mouse button.

Grid

The grid consists of a number of rows and columns of data that is used to produce the chart. A column is sometimes referred to as a series in that its values represent points on a line chart, pieces of a pie chart, etc. A row represents a point in time in which a sampling or value was recorded.

The individual cells of the grid may be altered by clicking on the cell and typing.

The options of a series may be changed by clicking on the small button on the column heading in the first row. The options that may be changed are the series name and color.

Series Options

On this dialog change the column heading and the color of the series and text.

Heading Text (Series Title)

In this text box, type the information that will identify the series.

Column (Series) Color

Use this button to change the background color of the series.

Column Text Color

Use this button to change the text color of the data values in the column. This selection does not affect the color on the chart.

OK

Click this button to accept the changes and close the dialog.

Cancel

Click this button to discard any changes and close the dialog

Help

Click this button to view the Windows help on this dialog.

Options

The options selection allows you to manually change the appearance of the chart. There are four tabs upon which different aspects of the chart may be changed:

- Use the Chart tab to select the type of chart.
- Use the Label tab to apply titles and labels to the chart.
- Use the Color tab to change chart colors. Note: The color of individual series (columns) may be changed by pressing the **Grid** button under **Quick View** and clicking the small button of each column head.
- Use the Grid tab to change the dimension of the data values grid.

Option Tabs

Chart tab

The options on this tab are used to select the type of chart, whether it is to be displayed in 3D and the range of values to be displayed.

Chart Type

Set one option button that corresponds to the chart type desired:

Line

Vertical Bar

Horizontal Bar

Pie (One Series)

Area

Scatter

Stacked

For Vertical Bar, Horizontal Bar and Area charts, choose the type of stacking option desired:

None - Series objects (see **Styles** below) appear one behind the other.

Side - Series objects appear side by side (not applicable for area charts).

Staked - Series objects are stacked one on top of the other.

Staked 100% - Series objects are stacked one on top of the other, but occupy 100% of the chart surface.

Style

For Vertical Bar, Horizontal Bar and Area Charts choose the style or object to be used for chart points in a series:

Rectangle

Arrow

Cylinder

Ellipse

InvPyramid (Inverted Pyramid)

Pyramid

3D Chart

Check this box to view the chart in a three dimensional perspective.

3D Amount

In this text box, specify the depth of the 3D effect. The depth is specified as a percentage representing the size ratio between the chart dimensions and the char depth. Valid values are in the range of 1 to 100. 15 is a reasonable value.

Show Guidelines

Check this box to display horizontal and vertical grid lines.

Set Range

Check this box to establish a range of values to display along the Y-axis (vertical). If this box is not checked, eXpress Chart will use the minimum and maximum value from all series to determine the range that will be displayed.

Minimum

In this text box, enter the minimum value to be displayed along the Y-axis.

Maximum

In this text box, enter the maximum value to be displayed along the Y-axis.

Label tab

The options on this tab are used to manually select the labeling options for the chart.

Header TitleHeader> (w95sec)

In this text box, type any words to be placed at the top of the **Chart**. This label will appear as blue text.

Footer Title

In this text box, type any words to be placed at the bottom of the **Chart**. This label will appear as blue text.

X-axis label

In this text box, type any words that should appear as a label for the X-coordinates (horizontal). This option is not available for pie charts.

Y-axis label

In this text box, type any words that should appear as a label for the Y-coordinates (vertical). This option is not available for pie charts.

Label on each point

Check this box if labels should appear at each point (value) in a series.

Value

Select this option if the actual value should be used for the label.

Percentage

Select this option if the label should appear as a percentage of the total values at a point.

Color tab

The options on this tab are used to manually select the color options for the chart.

Default Series Color

Check this box to use the eXpress Chart default series colors. If this box is not checked, the chart series will display no color (default). A series color may be changed by clicking on the small button on the column heading of the series on the **Data Grid** tab.

Note: This is the only option shown in this group if multiple series (columns) are being used.

Show Color

For a single series chart, check this box if color is desired.

All values are set to one color

Select this option if all values of the single series are to be shown in one color. Next, select the desired color from the **Color** drop-down list box.

Color

Select the color from this drop-down list box for single-series single-color charts.

Assign random color

Select this option if each value of the single series is to be shown in a different color.

Grid tab

The options on this tab are used to manually change the number of rows and columns shown on the **Data Grid** tab.

Rows

Use this spin box to increase or decrease the number of rows maintained in the grid.

Columns (Series)

Use this spin box to increase or decrease the number of series maintained in the grid.

Methods

AppToFront

This method brings the Chart Application to the front of the screen giving it focus.

Format:

AppToFront

ColHeaders

This method associates a label with a column header.

Format:

ColHeaders *Col, Header*

Col is Integer, while *Header* is an OLEVariant.

Columns are indexed at zero.

CopyChart

This method allows user to copy the chart to the clipboard in a certain format.

Format:

CopyChart(*Format*)

Format is an Integer.

0 = Bitmap

1 = Metafile

2 = Enhanced Metafile

CopyData

This method allows user to copy selected data from the grid to the clipboard.

Format:

CopyData

DrawChart

This method draws the chart.

Format:

DrawChart

NewChart

This method closes current chart and starts a new one.

Format:

NewChart

NewSeries

This method adds a column to data, and adds a series to the chart. Note: New data needs to be specified for the new series.

Format:

NewSeries

PasteData

This method allows user to paste the data to the grid from the clipboard.

Format:

PasteData

Print

This method prints the current chart.

Format:

Print

SetData

This method sets data in each coordinate specified.

Format:

SetData *Col, Row, Data*

Col and *Row* are Integers, while *Data* is an OleVariant.

Columns and Rows are index at zero. Label column is zero. First row is zero.

Properties

AllValuesOneColor

This property sets single-series chart to one color only.

Format:

AllValuesOneColor (*Integer*)

0 = False

1 = True

Amount3D

This property shows the depth of the 3D chart. The depth is specified as a percentage representing the size ratio between the chart dimensions and the chart depth. Valid values are in the range of 1 to 100.

Format:

Amount3D (*Integer*)

BarStyle

This property allows Bar graphs to take different shapes.

Format:

BarStyle (*Integer*)

0 = Rectangle

1 = Arrow

2 = Cylinder

3 = Ellipse

4 = Inverted Pyramid

5 = Pyramid

Chart3D

This property allows 3D to be changed while running.

Format:

Chart3D (*Integer*)

0 = False

1 = True

ChartType

This property specifies type of chart to create.

Format:

ChartType (*Integer*)

0 = Line

1 = Vertical Bar

2 = Horizontal Bar

3 = Pie (one series only)

4 = Area

5 = Scatter

Columns

This property sets the number of Series columns.

Format:

Columns (*Integer*)

DataLabels

This property allows labels at each point in the graph.

Format:

DataLabels (*Integer*)
0 = None
1 = Data Values
2 = Data Percentages

DefaultSeriesColor

This property sets the default color of the chart (only used for multi-series charts).

Format:

DefaultSeriesColor (*Integer*)
0 = False
1 = True
If false, the chart series will display no color (default).

Footer

This property is the footer title of the chart.

Format:

Footer (*WideString*)

GridLines

This property shows horizontal and vertical gridlines in chart.

Format:

GridLines (*Integer*)
0 = False
1 = True

Header

This property is the header title of the chart.

Format:

Header (*WideString*)

MaximumValue

This property is the highest value displayed on the chart.

Format:

Maximum (*Integer*)
default = 100

MinimumValue

This property is the lowest value displayed on the chart.

Format:

MinimumValue (*Integer*)
default = 0

OneSeriesColor

This property allows single-series chart to have color.

Format:

OneSeriesColor (*Integer*)
0 = False
1 = True

RandomColors

This property allows a different color for each value in a single series.

Format:

RandomColor (*Integer*)
0 = False

1 = True

Rows

This property sets the number of Data rows.

Format:

Rows (*Integer*)
0 - 100

SpecificColor

This property specifies one color for all values in the single series.

Format:

SpecificColor (*Integer*)
0 = Red
1 = Yellow
2 = Blue
3 = Green
4 = White
5 = Black
6 = Maroon
7 = Olive
8 = Navy
9 = Purple
10 = Teal
11 = Gray
12 = Silver
13 = Lime
14 = Fuchsia
15 = Aqua

Stacked

This property allows Bar and Area graphs to be stacked or not.

Format:

Stacked (*Integer*)

Area graphs:

0 = None - Series objects (see BarStyle) appear one behind the other.
1 = Stacked - Series objects are stacked one on top of the other.
2 = Stacked 100% - Series objects are stacked one on top of the other, but occupy 100% of the chart surface.

Horizontal and vertical Bar graphs:

0 = None - Series objects appear one behind the other.
1 = Side - Series objects appear side by side.
2 = Stacked - Series objects are stacked one on top of the other.
3 = Stacked 100% - Series objects are stacked one on top of the other, but occupy 100% of the chart surface.

UseRange

This property allows user to specify a range for the chart.

Format:

UseRange (*Integer*)
0 = False
1 = True

If false, eXpress Chart will use the minimum and maximum value from all series to determine the range that will be displayed.

Xaxis

This property is the X-Axis label of the chart. This property does not apply to pie charts.

Format:

Xaxis (WideString)

Yaxis

This property is the Y-Axis label of the chart. This property does not apply to pie charts.

Format:

Yaxis (WideString)

Examples

2200 Example

The script below is an example of eXpress Chart interfacing with the OSAM processor on a Unisys 2200 (this script, OSAM1.BAS, may also be found in the **Scripts** directory of the UTS Express Plus or UTS ExpressNet installation directory):

```
Option Explicit

Sub Main()
    dim Id as string
    dim x as integer
    dim chart as object
    dim done as boolean
    dim Evals(1 to 24) as String
    dim Uvals(1 to 24) as String
    dim tm as string
    dim tmp as string
    dim found as integer

    EnterText "@OSAM"
    UTSKey UK_TRANSMIT_KEY
    ' Wait for OSAM to complete initialization
    found = false
    for x = 0 to 50
        Wait 1000
        Tmp = GetScreenText(50, 18, 22)
        If tmp = "Real Time Initializing" then
            found = true
        End If
        if found = true and tmp <> "Real Time Initializing" then
            exit for
        End If
    Next x

    ' This script is executed when the OSAM Main Menu is displayed and OSAM has
    completed its
    ' initialization.

    UTSKey UK_FKEY_2 ' Send F2 to go to the System Summary screen

    ' Hold up here until the correct screen is displayed
    if not WaitForSpecificString(1, 34, 14, "System Summary") then exit sub

    ' Initialize chart settings
    set chart = CreateObject("ExpressChart.ExpressChart")

    chart.rows = 24
    chart.columns = 2
    chart.Header = "OSAM CPU Utilization"
    chart.Charttype = 0 ' Line Chart
    chart.chart3d = 1
    chart.gridlines = 1
    chart.DefaultSeriesColor = 1
```

```

chart.ColHeaders 0, ""
chart.ColHeaders 1, "Exec"
chart.ColHeaders 2, "User"
chart.UseRange = 1
chart.MinimumValue = 0
chart.MaximumValue = 100
chart.Stacked = 1
chart.YAxis = "Utilization Percent"
chart.XAxis = "Readings (2 second intervals)"
' Loop feeding chart new data every 2 seconds until screen changes
tm = ""
done = false
while done = false
    ' Get current time from display screen
    tmp = GetScreenText(43, 2, 8)
    ' If time is different, update the chart.
    if tmp <> tm then
        tm = tmp
        ' Shift the running value to the right
        for x = 23 to 1 step -1
            Evals(x + 1) = Evals(x)
            Uvals(x + 1) = Uvals(x)
        next x
        ' Get the newest values
        Evals(1) = Trim$(GetScreenText(34, 5, 5))
        Uvals(1) = Trim$(GetScreenText(34, 6, 5))
        ' Refresh the chart data values
        for x = 1 to 24
            Chart.SetData 0, x - 1, x
            Chart.SetData 1, x - 1, Evals(x)
            Chart.SetData 2, x - 1, Uvals(x)
        next x
        Chart.DrawChart
    end if
    ' Check for screen change
    Id = GetScreenText(34, 1, 14)
    If Id <> "System Summary" then
        done = true
    else
        wait 2000
    end if
wend
End Sub

```

A-Series Example

The script below is an example of eXpress Chart interfacing with BARS on a Unisys A-Series (this script, BARS.BAS, may also be found in the **Scripts** directory of the T27 Express Plus installation directory):

```

Option Explicit

Sub Main()
    dim Id as string
    dim x as integer
    dim chart as object

```

```

dim done as boolean
dim Evals(1 to 24) as String
dim Uvals(1 to 24) as String
dim Time(1 to 24) as String
dim tm as string
dim tmp as string

EnterText "UTIL"
T27Key TK_TRANSMIT
Wait 3000
EnterText "BARS"
T27Key TK_TRANSMIT
Wait 1000

' This part of the script is executed after the BARS Main Menu is displayed
' and BARS has completed its initialization.

' Hold up here until the correct screen is displayed
if not WaitForSpecificString(3, 23, 9, "CPU Usage") then exit sub

' Initialize chart settings
Set chart = CreateObject("ExpressChart.ExpressChart")
chart.rows = 14
chart.columns = 2
chart.Header = "BARS CPU Utilization"
chart.Footer = "System Summary"
chart.Charttype = 0 ' Line Chart
chart.chart3d = 1
chart.gridlines = 1
chart.DefaultSeriesColor = 1
chart.Xaxis = "Five Second Cycles"
chart.Yaxis = "Percentage of Utilization"
chart.ColHeaders 0, ""
chart.ColHeaders 1, "Exec"
chart.ColHeaders 2, "User"
chart.UseRange = 1
chart.MinimumValue = 0
chart.MaximumValue = 100
chart.Stacked = 1
chart.BarStyle = 3
chart.DataLabels = 0
' Loop feeding chart new data every 2 seconds until screen changes
tm = ""
done = false
while done = false
    ' Get current time from display screen
    tmp = GetScreenText(37, 1, 8)
    ' If time is different, update the chart.
    if tmp <> tm then
        tm = tmp
        ' Shift the running value to the right
        for x = 13 to 1 step -1
            Evals(x + 1) = Evals(x)

```

```
        Uvals(x + 1) = Uvals(x)
        Time(x + 1) = Time(x)
    next x
    ' Get the newest values
    Evals(1) = Trim$(GetScreenText(6, 6, 2))
    Uvals(1) = Trim$(GetScreenText(6, 5, 2))
    Time(1) = Trim$(GetScreenText(40, 1, 5))
    ' Refresh the chart data values
    for x = 1 to 14
        Chart.SetData 0, x - 1, Time(x)
        Chart.SetData 1, x - 1, Evals(x)
        Chart.SetData 2, x - 1, Uvals(x)
    next x
    Chart.DrawChart
end if
' Check for screen change
Id = GetScreenText(23, 3, 9)
If Id <> "CPU Usage" then
    done = true
else
    wait 2000
end if
wend
End Sub
```

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