

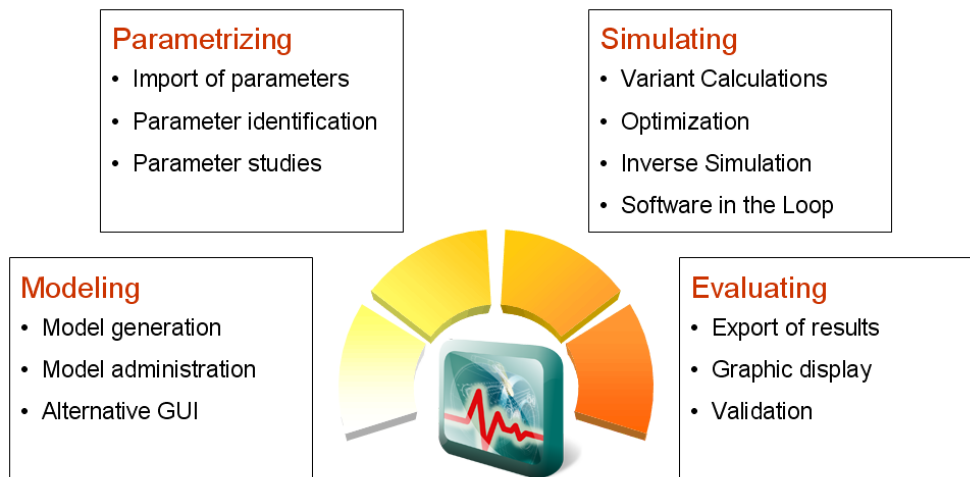
## Fact Sheet

### COM Interface

A standard protocol for MS Windows called Component Object Model (COM) is available, which allows different applications – independent of a certain programming language – to intercommunicate with each other.

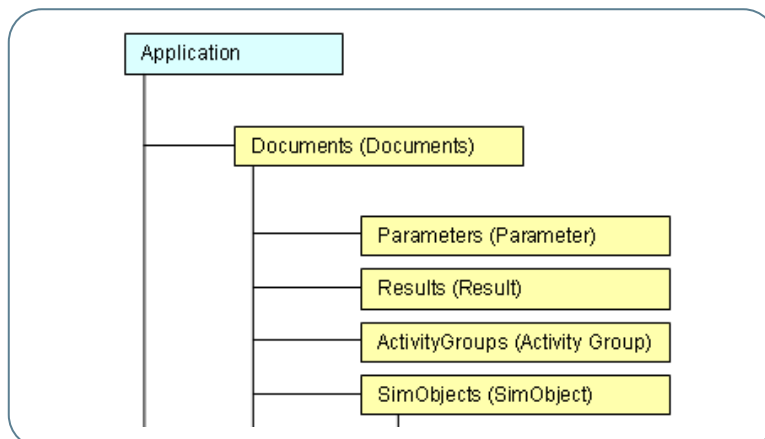
The SimulationX COM interface enables you to automate often recurring work processes, both within SimulationX itself as well as in co-operation with other software products, especially Microsoft Office world.

#### COM Interface Applications



The script languages VBScript and JScript are available for the programming of the scripts within MS Windows. VBA (Visual Basic Application) and MS Visual Basic - integrated macro languages in the MS Office products provide a more comfortable access. Certainly you can use any other programming language which supports the access to COM.

**SimulationX** provides a number of objects, which enable the access to models (documents), elements as well as their parameters and result variables.



- *Manage simulation models*
- *Access to all parameters of a model*
- *Table-supported parameter studies*
- *Controlling simulation runs*
- *Editing result quantities automatically*
- *Parameter modification by interactive control elements*
- *Distributed simulations in networks by means of DCOM*

The following part of a VBA macro shows how the values of all recorded result variables of a SimulationX model can be imported into an MS-Excel Table.

```

col = 1

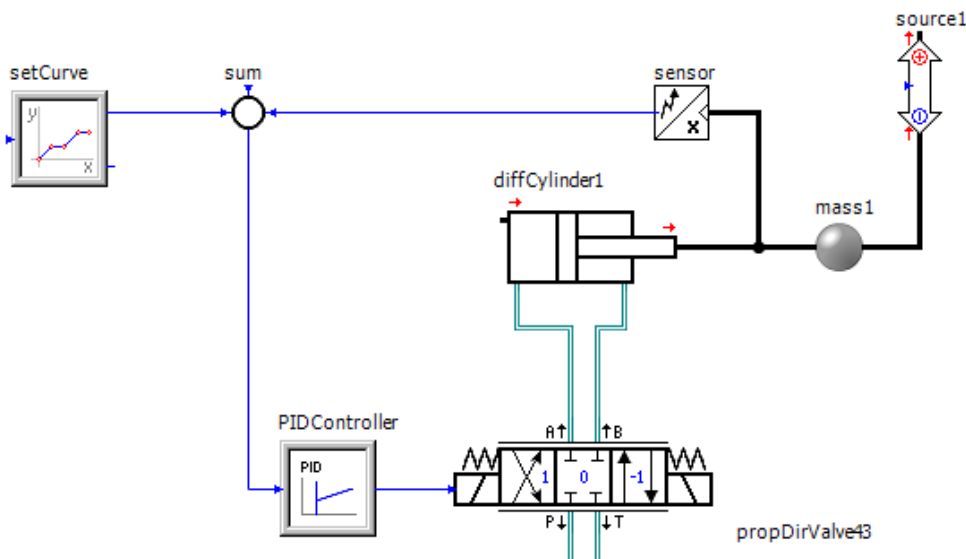
Cells.Clear
Cells.Item(1,col) = "Result variable:"
Cells.Item(2,col) = "Minimum: "
Cells.Item(3,col) = "Maximum: "
Cells.Item(4,col) = "Mean value: "
Cells.Item(5,col) = "RMS value: "

Columns(col).AutoFit
col = col + 1

For Each SimObject In Doc.SimObjects
  For Each Result In SimObjects.Results
    If Result.Protocol Then
      Cells.Item(1, col) = Result.Comment & (" SimObject.Name & ")
      Cells.Item(2, col) = Result.MinValue
      Cells.Item(3, col) = Result.MaxValue
      Cells.Item(4, col) = Result.MeanValue
      Cells.Item(5, col) = Result.RMSValue

      Columns(col).WrapText = False
      Columns(col).AutoFit
      col = col + 1
    End If
  Next
Next

```



	A	B	C
1	Result Variable:	Pressure Drop (Cylinder)	Piston Stroke(Cylinder)
2	Minimum:	-73.72431209	0.189171703
3	Maximum:	46.33302103	0.22
4	Mean value:	-45.27076453	0.201621878
5	RMS value:	5070575.323	0.201865016

Moreover, you can take advantages of the possibilities of DCOM (Distributed COM). For example, complex parameter studies in SimulationX can be distributed among several computers within the network.