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## RSView SE - Gaining Access To The SE Display Client Object Model Using A Custom Visual Basic (VB) Executable

### Question

How can a custom Visual Basic (VB v6) executable gain access to the SE DisplayClient Object Model?

### Answer

#### Background:

Starting with the RSView SE 4.00 (CPR7) release, the Display Client's Object Model (DispCliOM), including the SE Tag Object Model (TOM), can be directly accessed by any external VB (executable) application.

The purpose of this technote is to provide the method and sample code that will allow an external VB application to connect and access the properties, methods and events included in the DispCliOM or TOM. Note: a thorough understanding of these object models is recommended before implementing this functionality as code can directly affect the operation of the running display client.

#### Solution:

For an external VB application to gain access the above object models, a display client must already be running on the same machine. A reference to a running display client's application object is established by using the following code:

```
Set oDisplayClient = GetObject
(, "DisplayClient.Application")
```

where oDisplayClient is declared as DisplayClient.Application.

#### Notes:

1. View SE 4.00 implements VBA v6.4 and as such is only compatible with VB v6: MicroSoft's VB.Net is NOT supported. The example code will not work in a VB.Net application;
2. If multiple display clients are running on the machine, the above method will always return the application object for the first running display client;
3. When creating the VB executable, ensure the VB Project References include the RSView Display Client Object Model (two references may exist - one to SEGfxVBACli.exe and the other to a VBA sub-folder - include both); and
4. An external VB application will not receive the TOM TagGroup and Tag objects change events.

#### Example Code:

```
Private WithEvents oSEApplication as
DisplayClient.Application
Private gGroup as DisplayClient.TagGroup
Private tgTag as DisplayClient.Tag

Private Sub btnSetAppWindow_Released()
    On Error GoTo errHandler

    Set oSEApplication = GetObject(,
```

```

"DisplayClient.Application")

    'to reposition and size display client window
using DispCliOM properties
    oSEApplication.Top = 0
    oSEApplication.Left = 0
    oSEApplication.Height = 600

    MsgBox 'Current User: " &
oSEApplication.CurrentUserName

    'to open another display and log message
    oSEApplication.ShowDisplay
"TestMenu", "/x500 /y500"
    oSEApplication.LogDiagnosticsmessage "Caution: VB
Application running"
    ResetGlobalObjects
    Exit Sub
errHandler:
    LogDiagnosticsMessage "VBA error: [" & Err.Number
& "]" - " & Err.Description & "(Source:
btnSetAppWindow_Released)"
End Sub

Private Sub btnSetTags_Released()
    On Error GoTo errHandler

    Set oSEApplication = GetObject(,
"DisplayClient.Application")
    Set gGroup = oSEApplication.CreateTagGroup
("HMIAreaName", 1000)

    'note: HMIAreaname is name of area hosting an HMI
server
    Set tgTag = gGroup.Add("HMIorDirRefTagName")
    If tgTag.Value >= 100 then
        'do something
        tgTag.Value = 0
    Else
        tgTag.Value = tgTagValue + 50
    End If
    ResetGlobalObjects
    Exit Sub
errHandler:
    LogDiagnosticsMessage "VBA error: [" & Err.Number
& "]" - " & Err.Description & "(Source:
btnSetAppWindow_Released)"
End Sub

Private sub ResetGlobalObjects()
    'ensure objects are reset to nothing when no
longer required
    Set tgTag = Nothing
    Set gGroup = Nothing
    Set oSEApplication = Nothing
End Sub

```

**Applicability:** RSView SE CPR7, RSView SE CPR7 Plus, and FTView SE CPR9

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