RediPlus FAQ

The following questions were compiled by the Client Consulting Group to assist in the implementation of the RediPlus Active/X and DDELink interface.

Programming Tips

The RediPlus DDE Link vs. the Active/X Interface

Using the RediPlus DDE Link

Using the Active/X Interface

Known Issues

Programming Tips

Q. Do I have to set anything up in my account to use the interface?

You can use the interface in RediPlus to receive DDE price feed and position
information or the DDE functionality in addition to the ActiveX interface,
depending on the Quote Feed values associated with your Redi User Id.

Please contact the FOC Redi Support group at 312.362.2800 and ask for the
RediTech staff to change or confirm your Quote Feed settings for price feed
and position information and/or order submission.

Q. What is the best way to test my coding?

The symbol TESTB is available for NASDAQ and OTC systems testing. It is
strongly recommended that you use TESTB for program testing to avoid
creating actual market positions.

TESTB, which represents a single "actively traded" test stock symbol, is
supported by REDI, NASDAQ and OTC systems. You can view TESTB in the
NASDAQ Level 2 windows, send TESTB orders through the REDI system,
and view the results of TESTB orders without impacting actual market
positions.

Currently, there is no symbol for testing listed stocks or options.

You can use the Redi User ID u40000 to access the demonstration and
simulation environment. This environment supports most production features
and can be used for testing. To obtain the user id and password, contact the
Redi Support Group at 312.362.FIXX.

Q. How do I enable file I/O from within an Excel macro?

The following example, taken from an Excel macro, provides basic information for enabling file I/O within an Excel macro. For more information, please refer to the Excel on-line help.

1. The necessary library must be linked into the VBA project.
To link them:
    In the VBA Editor, from the Tools menu, select **References**.
        Under References, select **Microsoft Scripting Runtime**

2. Add the necessary file objects to the global section of the project.

```
Dim FSys As New FileSystemObject
Dim fnum As TextStream
```

3. In a routine that will be execute upon startup, or other controlled execution, place the file open calls. (True = Overwrite the file)

```
Set FSys = CreateObject("Scripting.FileSystemObject")
Set fnum = FSys.CreateTextFile("LOGFILE.txt", True)
```

Add the appropriate write statements in the code:
```
fnum.WriteLine "hello world"
fnum.WriteLine "< time = " & time & " > "
```

Q. Can I see from which exchange a price quote originated?

A. No, you cannot use the Active/X or DDE link interfaces to view where a price quote came from. All quote information comes to you without any indication of the originating exchange.

Q. Can I set up my interface to receive quotes only from a specific exchange?

A. No, there is no mechanism to request a quote from a particular exchange. This is true for both equities and options.

The RediPlus DDE Link vs. The Active/X Interface

Q. What is the difference between using the DDE link and using the Active/X interface?

A. The DDE link, detailed in the RediPlusddelink document, supports interfacing into the L1 price table and position table within the RediPlus client. The Active/X interface, detailed in the Cache Control document, allows access into the same tables as the DDE link and also allows access to the RediPlus client message table.

The DDE link connects locally to the RediPlus client running on the desktop machine. The Active/X interface connects remotely to the configured RediPlus server. To use the Active/X interface, the RediPlus client must be installed on the desktop machine but does not need to be running.

Q. Should I use the DDE link or the Active/X interface?

A. Using the DDE link for quote and position information is recommended. It is simpler and generally supplies the information needed by most people.

Using the RediPlus DDE Link

Q. What settings do I need in my Redi User ID profile to use the price feed with the DDE link?

A. To use the price feed with the DDE link, your Redi User ID profile must include the following setting:

> Quote Feed = F

If you want to use the price feed with the Active/X interface in addition to the DDE link, your Redi User ID profile must include the following setting:

> Quote Feed = Y

To determine or confirm you Quote Feed setting, contact the FOC Redi Support group at 312.362.2800. However, any requests for changes must originate in customer service.

Q. What settings do I need in my Redi User ID profile to receive real-time position information with the DDE link?

A. To receive real-time position information with the DDE link, your Redi User ID profile must include the following setting:

Position Eligible = Y

By default, NY and Amex use the last trade price to calculate Profit and Loss (PNL).

By default, OTC uses the previous close price to calculate PNL. If you want OTC PNL calculations to use the current bid/ask price, your Redi User ID profile must include the following setting:

Use Bid/Ask for OTC on P&L = Y

To determine or confirm your Position Eligibility and/or OTC settings, contact the FOC Redi Support group at 312.362.2800. However, any requests for changes must originate in customer service.

Q. How do I use the DDE link?

A. The DDE link is used within individual Excel spreadsheet cells. The RediPlus client DDE interface is registered as RediLink on the desktop machine. See the RediDDEv2.txt document for examples and more information on using the DDE link.

Using the Active/X Interface

Q. What settings do I need in my Redi User ID profile to use the Active/X interface for order submission?

A. To use the Active/X interface for order submission, your Redi User ID profile must include the following setting:

Quote Feed = Y

To determine or confirm you Quote Feed setting, contact the FOC Redi Support group at 312.362.2800. However, any requests for changes must originate in customer service.

Q. Are any particular values required for sending orders to the NYSE NX system via the RediPlus Active/X interface?

A. Yes. The following values must be set in order to send orders to the NYSE NX system using the RediPlus Active-X interface (case sensitive):

hOrder.Exchange = "NYSE"
hOrder.PriceType = "Limit-NX"

This was tested with the 4/25/01 version of the RediPlus client application. The values may vary depending upon the specific RediPlus version loaded on the desktop system. No specific variances are known at this time.

Q. Can I use one Redi ID on my RediPlus Client and a different Redi ID on a programmatic interface on the same machine?

A. No. The programmatic interface sends the messages through the RediPlus client running on the desktop. The use of a second id in the RediPlus client may produce unknown and unexpected results.

Q. Is the RediPlus user interface SellAuto feature available through the Active/X programmatic interface?

A. No. To create your own SellAuto functionality, run a position query to determine the appropriate sell side value to set in the order message.

Q. How can I get price information from a macro within an Excel spreadsheet?

A. L1 quotes are possible. You have to do a "submit" for the L1 table then do an "addwatch" for the symbols. When a cache event is triggered from the watches you need to do a "getcell" using the returned row number from the event requesting the table data element.

The following is an example of code for price information from a macro within an Excel spreadsheet. The first part is creating the watch that will cause the events to be sent to the application. The DDE link is much simpler to implement for price information.

The userid and password must match your RediPlus User ID.

```
Set hCache = CreateObject("REDI.QUERY")
hCache.UserID = "U40000"
hCache.Password = "demo12"
Symbol = "QCOM"
vtable = "L1"
vwhere = "true"
vreturn = hCache.Submit(vtable, vwhere, verr)
Symbol = "CSCO"
vreturn = hCache.AddWatch(watchtype, Symbol, "", verr)
```

Once the watch determines that appropriate criteria have been met, an event is sent to the application. The following is an example of how to process an event related to the price (hCache) table watch.

```
Sub hCache_CacheEvent(ByVal A As Long, ByVal B As Long)
Dim vsymbol As Variant
Dim vprice As Variant
Dim verr As Variant

Worksheets("Sheet1").Cells(20, 2).Value = A
Worksheets("Sheet1").Cells(20, 3).Value = B

Select Case A
   Case 1
        If B <> 0 Then
             B = B - 1
        End If
        hCache.GetCell B, "Symbol", vsymbol, verr
        hCache.GetCell B, "BidPrice", vprice, verr
        Worksheets("Sheet1").Cells(20, 4).Value = vsymbol
        Worksheets("Sheet1").Cells(21, 5).Value = vprice
        hCache.GetCell B, "AskPrice", vprice, verr
        Worksheets("Sheet1").Cells(22, 5).Value = vprice
        hCache.GetCell B, "LastPrice", vprice, verr
```

CONFIDENTIAL

```
            Worksheets("Sheet1").Cells(23, 5).Value = vprice
    Case 2
            If B <> 0 Then
                    B = B - 1
            End If
            hCache.GetCell B, "Symbol", vsymbol, verr
            Worksheets("Sheet1").Cells(24, 4).Value = vsymbol
            hCache.GetCell B, "BidPrice", vprice, verr
            Worksheets("Sheet1").Cells(24, 5).Value = vprice
            hCache.GetCell B, "AskPrice", vprice, verr
            Worksheets("Sheet1").Cells(25, 5).Value = vprice
            hCache.GetCell B, "LastPrice", vprice, verr
            Worksheets("Sheet1").Cells(26, 5).Value = vprice
    Case Else
            If B <> 0 Then
                    B = B - 1
            End If
            hCache.GetCell B, "Symbol", vsymbol, verr
            Worksheets("Sheet1").Cells(24, 1).Value = vsymbol
            hCache.GetCell B, "BidPrice", vprice, verr
            Worksheets("Sheet1").Cells(24, 2).Value = vprice
            hCache.GetCell B, "AskPrice", vprice, verr
            Worksheets("Sheet1").Cells(25, 2).Value = vprice
            hCache.GetCell B, "LastPrice", vprice, verr
            Worksheets("Sheet1").Cells(26, 2).Value = vprice
End Select
End Sub
```

Q. How do I access the message table from an Excel spreadsheet?

A. The following example of code for message table access is from an Excel spreadsheet. The first part is creating the watch that will cause the events to be sent to the application.

The userid and password must match your RediPlus User ID.

```
Sub OpenMessageTable()
Dim verr As Variant
Dim vtable As Variant
Dim vwhere As Variant

Set OrderQuery = CreateObject("REDI.QUERY")

OrderQuery.UserID = Worksheets("Sheet2").Cells(1, 11).Value
OrderQuery.Password = Worksheets("Sheet2").Cells(1, 12).Value
vtable = "Message"
vwhere = "true"
If MessageQuery Then 'A query was previously set
  OrderQuery.Revoke verr  'clear it before setting new
End If
```

CONFIDENTIAL

```
MessageQuery = OrderQuery.Submit(vtable, vwhere, verr)
End Sub
```

Once the watch determines that the appropriate criteria have been met, an event is sent to application. The following is an example of how to process an event related to the message (OrderQuery) table watch. Note that all messages will be sent to this function for processing. It is the responsibility of the developer to validate the message being sent is the proper type (for example, orders and related messages versus user notice messages).

```
Sub OrderQuery_CacheEvent(ByVal Action As Long, ByVal Row As
Long)
  Dim i As Integer
  Dim mycolumn As Variant
  Dim BrSeq As Variant
  Dim Price As Variant
  Dim Qty As Variant
  Dim Symbol As Variant
  Dim ExecPrice As Variant
  Dim Status As Variant
  Dim Time As Variant
  Dim myerr As Variant
  Dim Excel_Row As Integer


  'This is the Event handler to catch the events fired by the
CacheControl
    If (Action = 1) Then       'Event is caused by submit
        For i = 0 To Row - 1
            mycolumn = "BranchSequence"
            OrderQuery.GetCell i, mycolumn, BrSeq, myerr
            Debug.Print BrSeq, Row
              mycolumn = "Price"
              OrderQuery.GetCell i, mycolumn, Price, myerr
              mycolumn = "Symbol"
              OrderQuery.GetCell i, mycolumn, Symbol, myerr
              mycolumn = "Quantity"
              OrderQuery.GetCell i, mycolumn, Qty, myerr
              mycolumn = "ExecPrice"
              OrderQuery.GetCell i, mycolumn, ExecPrice, myerr
              mycolumn = "Status"
              OrderQuery.GetCell i, mycolumn, Status, myerr
              mycolumn = "Time"
              OrderQuery.GetCell i, mycolumn, Time, myerr
              'hCacheControl.Cancel i, myerr
              Debug.Print "Event1   : "; Symbol; Price; Qty
        Next i
    Else               'Event is caused by other actions
            mycolumn = "BranchSequence"
            OrderQuery.GetCell Row, mycolumn, BrSeq, myerr
            mycolumn = "Price"
            OrderQuery.GetCell Row, mycolumn, Price, myerr
            mycolumn = "Symbol"
            OrderQuery.GetCell Row, mycolumn, Symbol, myerr
            mycolumn = "Quantity"
            OrderQuery.GetCell Row, mycolumn, Qty, myerr
            mycolumn = "ExecPrice"
```

CONFIDENTIAL

```
            OrderQuery.GetCell Row, mycolumn, ExecPrice, myerr
            mycolumn = "Status"
            OrderQuery.GetCell Row, mycolumn, Status, myerr
            mycolumn = "Time"
            OrderQuery.GetCell Row, mycolumn, Time, myerr
            'hCacheControl.Cancel i, myerr
            Debug.Print "EventElse: "; Symbol; Price; Qty
    End If
End Sub
```

Q. How do I set a filter for message table access?

A. Use a where clause to filter for the information you want. For example, if you want to see messages where status equals three (a canceled order, as outlined in the Cache Control document), use the following syntax:

```
Status == 3
```

You can also filter for more than one condition by using the following operators:

```
&& --> and
|| --> or
```

Q. What settings are available for the Warning property of the Order object?

A. The Warning property of the Order object affects only the Active/X order object. It has no effect outside the OLE order entry.

The Warning property has two possible settings: **Warning=Yes** and **Warning=No**. **Warning=Yes** allows all warning messages to go through.

Warning=No eliminates the following messages:

- Unable to verify price. Do you want to continue?
- Sell price below NBBO. Do you want to continue?
- Price is out of acceptable range. Do you want to continue?

However, **Warning=No** does not block all messages. You will still receive the following warnings:

- The entered price %s does not fall within the acceptable range of %s to %s. Would you like to continue?
- Error: You are sending a buy scale order with a TO price of %s which is greater than the FROM price of %s.

CONFIDENTIAL

- No open ticket available. Do you want to open Ticket Entry?
- The quantity you specified exceeds the ticket quantity. You have %d share(s) remaining. Do you want to update the ticket?
- Cannot Refresh on this exchange.
- The ticket for the order is deleted. You have %d share(s) remaining.
- Cannot cancel/replace on this exchange.
- Internal Correction is not permitted until the order is completed or cancelled.
- Too late to change this order.
- Unable to status Island orders.
- Leaves quantity has been updated since the current order was loaded. Click OK to use the new leaves quantity.

Note: Messages received in future versions of the Redi system may vary from the ones listed above.

Q. How do I cancel orders using the RediPlus interface?

A. The Cancel method within the RediPlus ActiveX QUERY object is used to cancel orders through the interface to RediPlus. The Cancel method takes two parameters: the RediRow and a return error code. The RediRow number, which is the row within the Redi message table that stores the order information, designates the order that should be cancelled. The row number is returned as part of the CacheEvents returned after a Query is submitted and active.

It is important to note the following items about the row number associated with an order:

- The row number that represents the order may be changed. As an example, an order is stored in row 5. Then the order also is placed in row 6. When a Remove call is received for row5, row 6 is the active row associated with the order. A cancel must be sent for row 6.
- There is no way to specify an order id when submitting an order. The Redi order id is generated in the Redi system and is stored in the "BranchSequence" field in the Redi message table.
- A cancel request must use the RediRow number, not the BranchSequence value.
- There is no way to issue a Cancel All request.

Q. How do I get position information using the Active-X interface?

A. You can access the Position table via the Active-X interface. In order to get the data, submit a Query to the Position table. Then submit a Watch for the Account or Firm Position.

Below is sample code from an Excel macro to access the Position table data. This sample only continuously lists the data received. A functional application would need to process specifically upon the CacheEvent Action value.

```
'Within the "ThisWorkbook" section of the VBA Project
'Globally defined
Public WithEvents PosQuery As CacheControl
Dim PosMsgQuery

'Sub Routine to issue Query and Watch
Sub OpenPositionTable()
Dim vreturn As Variant
Dim verr As Variant
Dim vtable As Variant
Dim vwhere As Variant
Dim aw_Var2 As String
Const watchtype = 2

  If (PosMsgQuery) Then 'A query was previously set
    PosQuery.Revoke verr 'clear it before setting new
    verr = Empty
    Set PosMsgQuery = Nothing
  End If

  If PosQuery Is Nothing Then
    Set PosQuery = New CacheControl
  End If

  PosQuery.UserID = ActiveSheet.Range("G2").Value
  PosQuery.Password = ActiveSheet.Range("G3").Value
  vtable = "Position"
  vwhere = "true"
  PosMsgQuery = PosQuery.Submit(vtable, vwhere, verr)

  aw_Var2 = ActiveSheet.Range("C32").Value
  vreturn = PosQuery.AddWatch(watchtype, "", aw_Var2, verr)

End Sub

'Sub Routine to Handle CacheEvent and get detailed information
Sub PosQuery_CacheEvent(ByVal Action As Long, ByVal Row As
Long)
Dim i As Integer
Dim mycolumn As Variant
```

CONFIDENTIAL

```vba
    Dim Account As Variant
    Dim Symbol As Variant
    Dim SymbolPos As Variant
    Dim PandL As Variant
    Dim Value As Variant
    Dim PandLStatus As Variant
    Dim PosType As Variant
    Dim Status As Variant
    Dim myerr As Variant
    Dim Excel_Row As Integer
    'This is the Event handler to catch the events fired by the
Position CacheControl

    Excel_Row = Worksheets("Sheet1").Cells(31, "C").Value

    If (Action = 1) Then 'Event is caused by submit
      For i = 0 To Row - 1
        Excel_Row = Worksheets("Sheet1").Cells(31, "C").Value
        mycolumn = "Account"
        PosQuery.GetCell i, mycolumn, Account, myerr
        mycolumn = "Symbol"
        PosQuery.GetCell i, mycolumn, Symbol, myerr
        mycolumn = "SymbolPosition"
        PosQuery.GetCell i, mycolumn, SymbolPos, myerr
        mycolumn = "ProfitAndLoss"
        PosQuery.GetCell i, mycolumn, PandL, myerr
        mycolumn = "Value"
        PosQuery.GetCell i, mycolumn, Value, myerr
        mycolumn = "ProfitAndLossStatus"
        PosQuery.GetCell i, mycolumn, PandLStatus, myerr
        mycolumn = "Type"
        PosQuery.GetCell i, mycolumn, PosType, myerr
        mycolumn = "Status"
        PosQuery.GetCell i, mycolumn, Status, myerr

        'log data
        Worksheets("PosList").Cells(Excel_Row, "A").Value = Action
        Worksheets("PosList").Cells(Excel_Row, "B").Value = i
        Worksheets("PosList").Cells(Excel_Row, "C").Value = Account
        Worksheets("PosList").Cells(Excel_Row, "D").Value = Symbol
        Worksheets("PosList").Cells(Excel_Row, "E").Value =SymbolPos
        Worksheets("PosList").Cells(Excel_Row, "F").Value = PandL
        Worksheets("PosList").Cells(Excel_Row, "G").Value = Value
        Worksheets("PosList").Cells(Excel_Row, "H").Value =
      PandLStatus
        Worksheets("PosList").Cells(Excel_Row, "I").Value =PosType
        Worksheets("PosList").Cells(Excel_Row, "J").Value = Status
        Worksheets("Sheet1").Cells(31, "C").Value = Excel_Row + 1
      Next i
    Else 'Event is caused by other actions
        Excel_Row = Worksheets("Sheet1").Cells(31, "C").Value
```

```
            mycolumn = "Account"
            PosQuery.GetCell Row, mycolumn, Account, myerr
            mycolumn = "Symbol"
            PosQuery.GetCell Row, mycolumn, Symbol, myerr
            mycolumn = "SymbolPosition"
            PosQuery.GetCell Row, mycolumn, SymbolPos, myerr
            mycolumn = "ProfitAndLoss"
            PosQuery.GetCell Row, mycolumn, PandL, myerr
            mycolumn = "Value"
            PosQuery.GetCell Row, mycolumn, Value, myerr
            mycolumn = "ProfitAndLossStatus"
            PosQuery.GetCell Row, mycolumn, PandLStatus, myerr
            mycolumn = "Type"
            PosQuery.GetCell Row, mycolumn, PosType, myerr
            mycolumn = "Status"
            PosQuery.GetCell Row, mycolumn, Status, myerr

            'log data
            Worksheets("PosList").Cells(Excel_Row, "A").Value = Action
            Worksheets("PosList").Cells(Excel_Row, "B").Value = Row
            Worksheets("PosList").Cells(Excel_Row, "C").Value = Account
            Worksheets("PosList").Cells(Excel_Row, "D").Value = Symbol
            Worksheets("PosList").Cells(Excel_Row, "E").Value =
        SymbolPos
            Worksheets("PosList").Cells(Excel_Row, "F").Value = PandL
            Worksheets("PosList").Cells(Excel_Row, "G").Value = Value
            Worksheets("PosList").Cells(Excel_Row, "H").Value =
        PandLStatus
            Worksheets("PosList").Cells(Excel_Row, "I").Value =
        PosType
            Worksheets("PosList").Cells(Excel_Row, "J").Value = Status
            Worksheets("Sheet1").Cells(31, "C").Value = Excel_Row + 1
    End If
    End Sub
```

CONFIDENTIAL

Known Issues

Q. I am using the 8/9 Release of Redi and I cannot access the L1 or L2 quote tables. I could do it in the previous version.

A. If the Quote feed setting in your Redi Profile is set to Y or F, you cannot access the quote tables. We are currently investigating the matter.

Q. I am using Excel 97 and cannot get my change event macro to work with the DDE link.

A. Currently, a bug in Excel 97 prevents changes from getting picked up when you are using a DDE link. For more information and workarounds, please search in Microsoft's Product Support Services website: http://support.microsoft.com. You might find Article ID: Q172832 helpful.

Q. Can I use Excel 2000?

A. Compatibility with Excel 2000 appears functional but has not been verified.

Q. What should I do if I lose DDE functionality?

A. Upon rare occasions normally functional RediPlus DDE links will not receive update information. The cause of this situation is not known. To correct the situation the following procedure is recommended:

1. Close the application containing the RediPlus DDE links.

2. Close the RediPlus application.

3. Terminate all other programs running on your workstation.

4. Restart your workstation.

5. Restart the RediPlus application

6. Restart the application containing the RediPlus DDE links

If problems continue contact the RediTec Support group at 312-362-2800.

Q. **I seem to have a problem evaluating data using a formula that calls a macro. What is the problem?**

A. You might see some problems with processing when, within a cell, you are using a formula that calls a macro. You might find Excel exiting a macro mid-way through processing or you might find interruptions occurring in the macro processing. The symptoms of this problem may include receiving **#Value** in a cell instead of an actual number.

The problem is related to the way Excel handles formulas and processes cells with formulas. The formula processing is complicated by the use of the macro.

The recommended way of preventing such problems is to avoid using a macro within a formula. A better approach is to use a timer mechanism to call the desired macro.