CLARION WINDOW RESIZE CONTROL 4 TRACE ANALYSIS

Date: April 04, 2025

EXECUTIVE SUMMARY

This report analyzes the behavior of Control 4 (a List control) during multiple resize operations in a Clarion application window. The analysis focuses on how the resizing system handles controls within Tabs and Sheets, specifically examining how Control 4 (which is a child of Tab1, itself a child of Sheet) is resized when the main window dimensions are changed.

CONTROL HIERARCHY

- Window (Root)
  - Control 1 (Button1)
  - Control 2 (Sheet)
    - Control 3 (Tab1)
      - Control 4 (List - **Target of this analysis**)
      - Control 5 (Button in Tab1)
    - Control 6 (Tab2)
      - Control 7 (List in Tab2)
  - Control 8 (Button next)
  - Control 9 (Debug trace control)

CONTROL 4 PROPERTIES

Initial properties from XmlDebugControls.XML:

- ID: 4
- Type: 14 (LIST)
- ParentID: 3 (Tab1)
- LastParentID: 2 (Sheet)
- ControlInfo: "List Debug Resize 3 Parent, Tab1"

INITIAL POSITION

From early in the trace:
GetSizeInfo, Control= 4, Retrieved position: [15,41,444,265]

This shows Control 4 initially has:

- XPos: 15

- YPos: 41
- Width: 444
- Height: 265

RESIZE PROGRESSION

First Resize Operation:

From record 78:
AI Audit : Result, NewPos[15,41,452,271], xScale=1.0193, yScale=1.0262, OrigLogicalX=10, OrigLogicalY=15, Width Change=8, Height Change=6, X Change=0, Y Change=0

From record 157:
Control=4, X= 15,Y=41,W=452,H=271

Result: Width +8 (444→452), Height +6 (265→271), Position unchanged [15,41]

Second Resize Operation:

From record 212:
AI Audit : Result, NewPos[15,42,452,272], xScale=1.0189, yScale=1.0288, OrigLogicalX=10, OrigLogicalY=15, Width Change=8, Height Change=7, X Change=0, Y Change=1

From record 291:
Control=4, X= 15,Y=42,W=452,H=272

Result: Width unchanged (452), Height +1 (271→272), Y position +1 (41→42)

Third Resize Operation:

From record 346:
AI Audit : Result, NewPos[15,42,451,272], xScale=1.0186, yScale=1.0248, OrigLogicalX=10, OrigLogicalY=13, Width Change=7, Height Change=7, X Change=0, Y Change=1

From record 559:
Control=4, X= 15,Y=41,W=452,H=272

Result: Minor inconsistency between calculation and application

Fourth Resize Operation:

From record 480:
AI Audit : Result, NewPos[15,42,451,272], xScale=1.0182, yScale=1.0265, OrigLogicalX=10, OrigLogicalY=13, Width Change=7, Height Change=7, X Change=0, Y Change=1

From record 693:
Control=4, X= 15,Y=42,W=451,H=272

Result: Width -1 (452→451), Height unchanged (272), Position at [15,42]

KEY MECHANISM: LASTPARENTID

The critical factor enabling Control 4 to resize properly is the use of LastParentID. From record 72:

NOTE AI

, SetPosition with LastParentID - Control=4, LastParentID=2, PTypeTypeOrigPos=[5,26,467,305], PTypeNewPos=[5,26,476,313], Scale factors: X=1.01927194860814, Y=1.02622950819672

The resize system correctly uses LastParentID (2, the Sheet) rather than ParentID (3, the Tab1) when calculating the new position and size of Control 4. This is crucial because:

1. Tabs themselves have no position properties in Clarion runtime
2. The Sheet is the actual container that changes size during window resizing
3. Using LastParentID creates a direct relationship between the List and Sheet, bypassing the Tab

TOTAL CHANGE SUMMARY

From initial dimensions [15,41,444,265] to final dimensions [15,42,451,272]:

- Width: +7 DLUs (1.6% increase)
- Height: +7 DLUs (2.6% increase)
- X position: No change (remained at 15)
- Y position: +1 DLU (41 to 42)

CONCLUSION

Control 4 is successfully resized during window resize operations despite being a child of a Tab control. The resize system accomplishes this by:

1. Properly tracking the control's relationship to both its immediate parent (Tab1) and its container parent (Sheet) using ParentID and LastParentID
2. Using the LastParentID to calculate position changes based on the actual resizable container (Sheet)
3. Applying proportional scaling based on the Sheet's dimension changes

This demonstrates that the LastParentID property is essential for proper resizing of controls within Tab pages. The resize system correctly handles the Sheet>Tab>List hierarchy by using LastParentID to reference the Sheet directly for positioning calculations, which is the key mechanism allowing controls in tabs to resize properly.