# iDoctor Updates 2024

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**IBM i**
continuous innovation
continuous integration
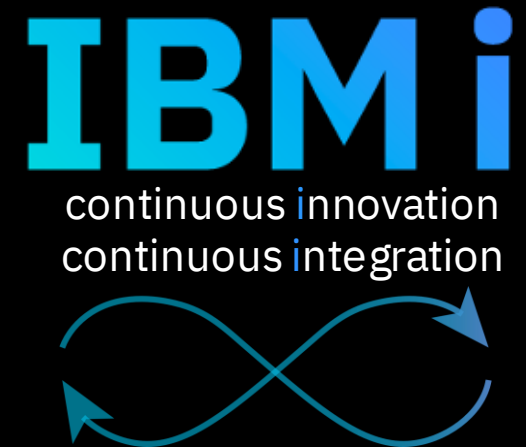
# Agenda

- **Overview**

- **UI modernization**

- **New Features**

- **Questions?**

# Strategy changes in the last year ("Take aways")

- Improved performance, stability and usability

    - Collections caching

    - Consistency in drill-down flow

    - Running SQL in the background


- Modernizing the UI experience


- Removing functions that are not used and simplifying the rest

# Overview

- iDoctor is a suite of **dynamic** performance tools offered by the IBM i Global Support Center and sold via Technology Services.

- We cover most areas of performance on IBM i.

- Been around for roughly 24 years.

# Dynamic on demand

- iDoctor was created primarily to help IBM support solve performance problems.

- Working on unique customer problems required ability to make changes to analysis tooling more quickly than at release boundaries.

- Feedback from users also drives enhancements, but our **#1** focus remains on helping support help you.

# Grouped MDI

- iDoctor uses a multiple document interface with Grouped mode by default.
- The tabs / views can be moved into new vertical or horizontal tab groups.
- Drag and drop will create these too.
- By default, 1 view shown at a time.

# Standard MDI

- Some users prefer this style of interface where each view can be resized individually, maximized, minimized or tiled.
- This mode also features a caption bar per tab/view.
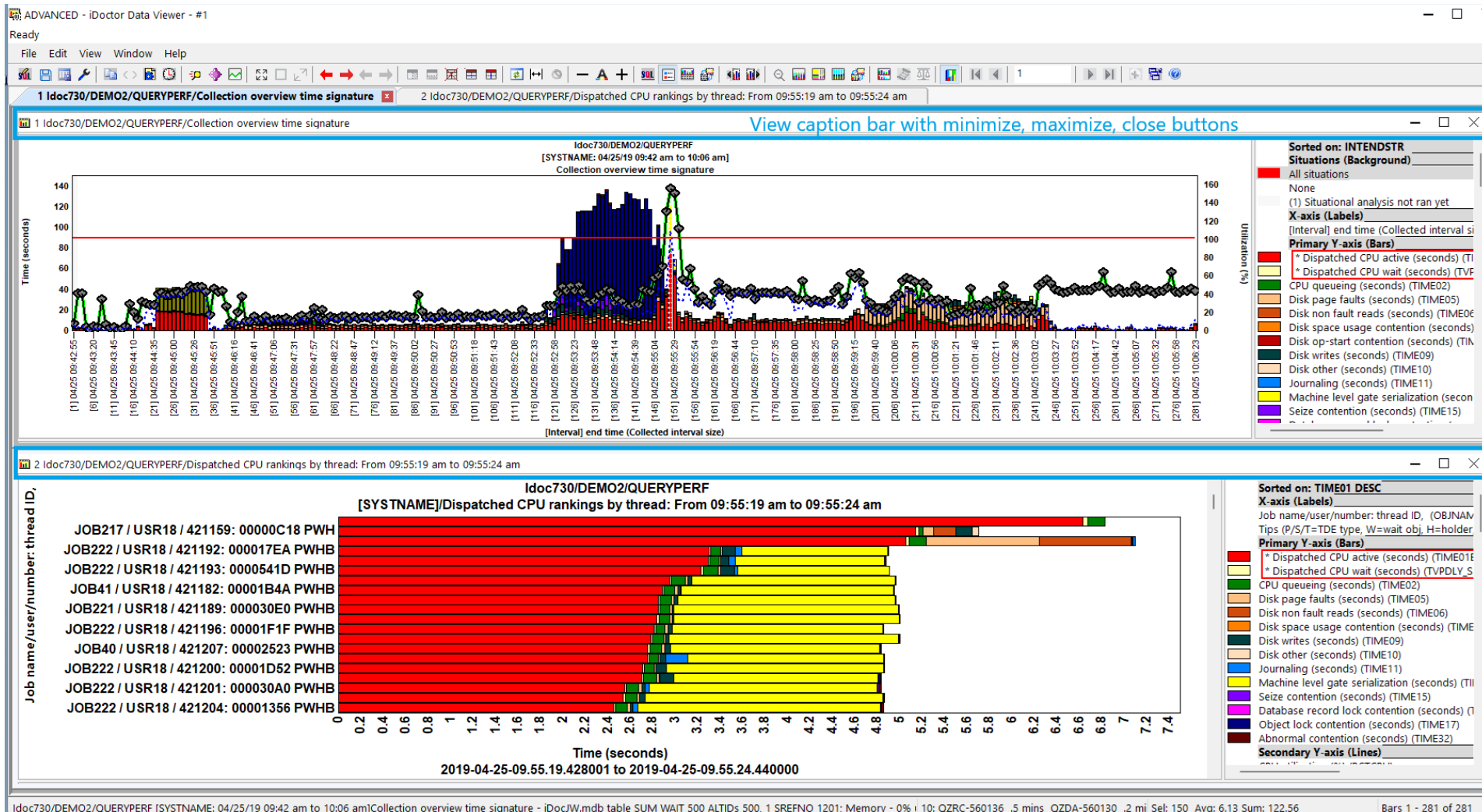
# Modal interfaces vs Panes

- A modal popup interface is one where you must finish a task before returning to the previous window.
- This is why panes were added to make completing common tasks faster by avoiding extra steps.
- We also use tabbed panes to show appropriate content for the interface you are currently using.
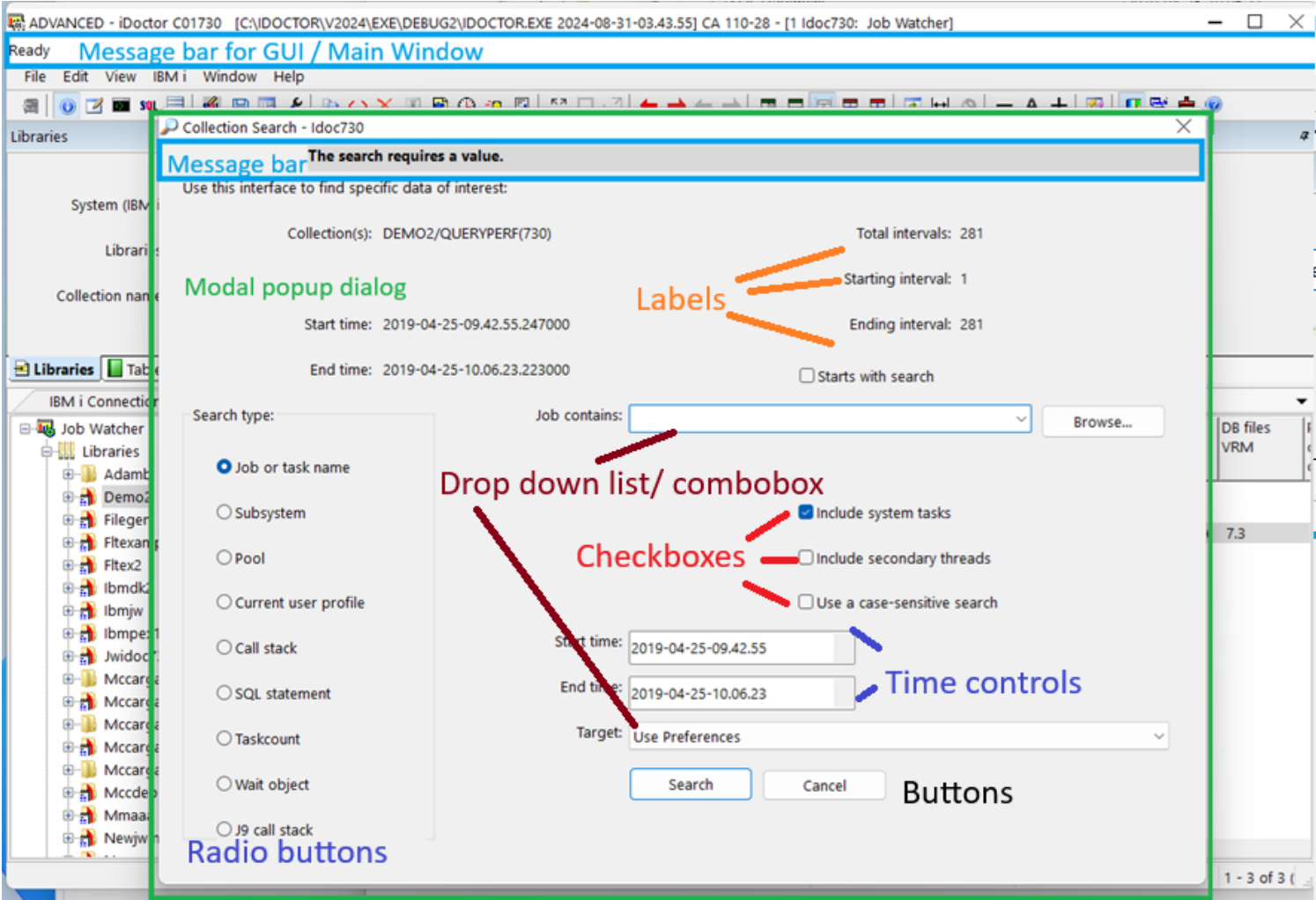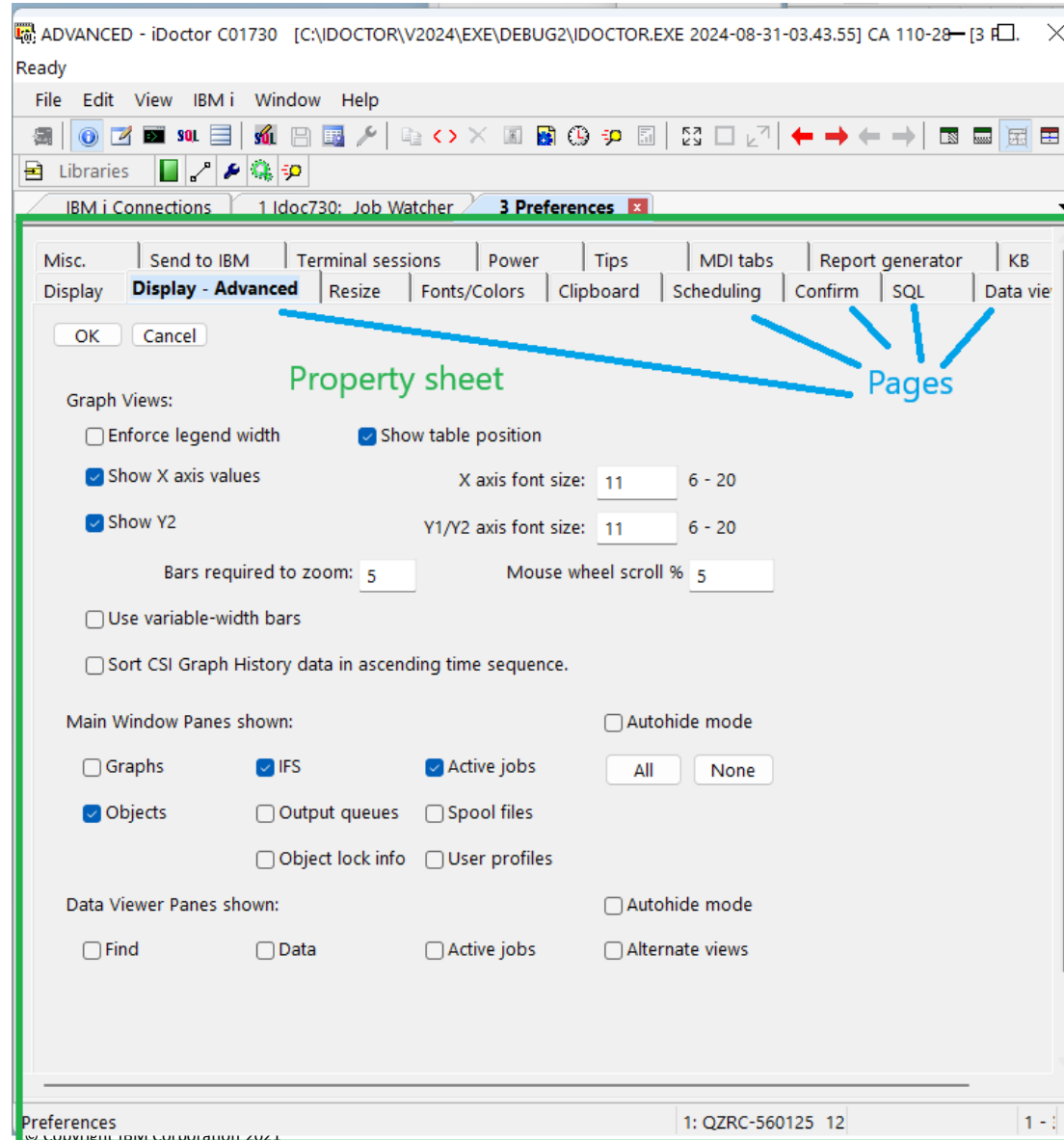
# All Wizards are non-modal

- Since modal interfaces tend to restrict use, all Wizards are non-modal and act like a tab/view.
- Wizard navigation buttons were moved to the top.
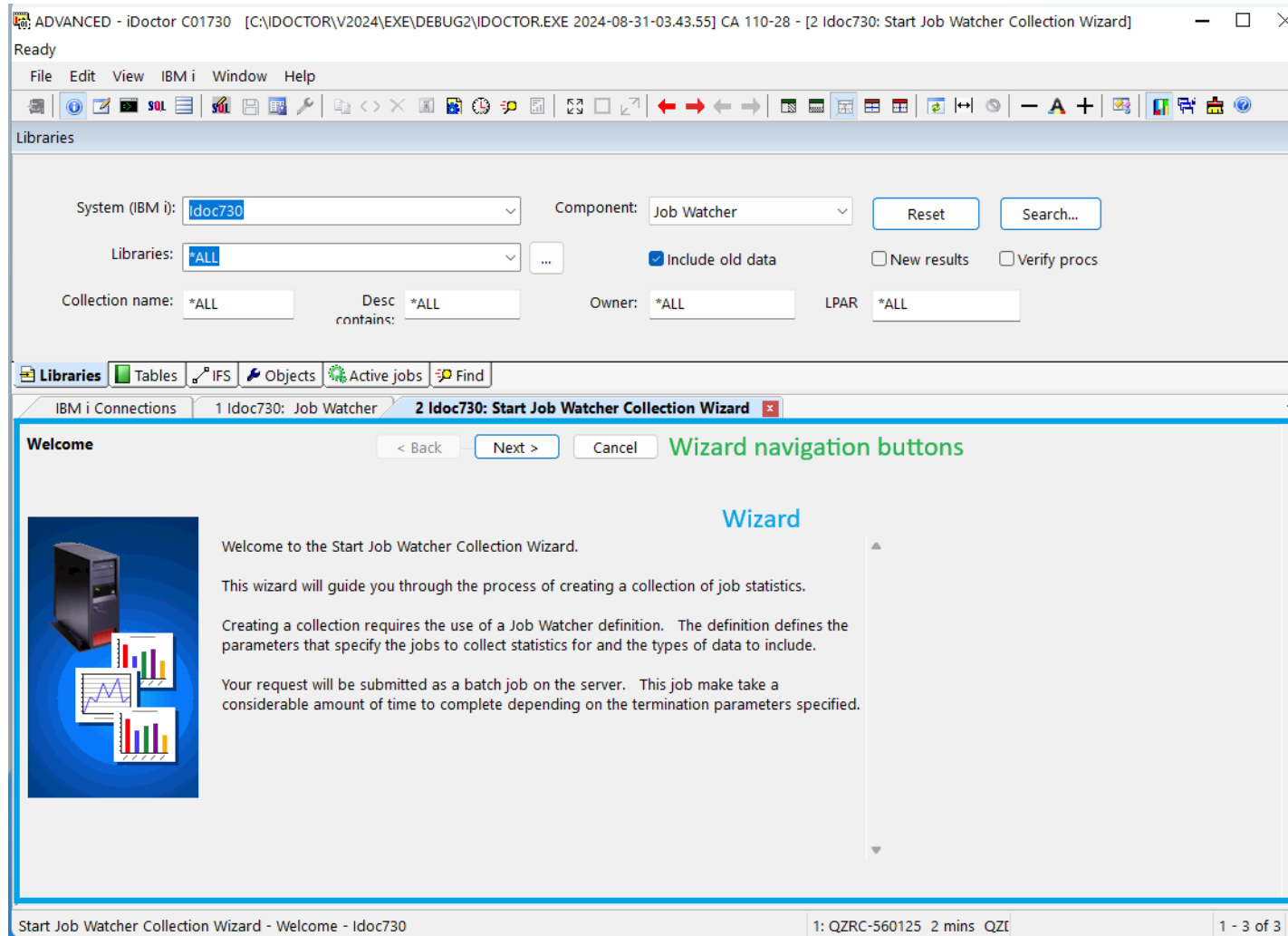
# Property Sheets

- Property sheets are used for things like Libraries, Collections and Preferences.

- Buttons are up top now.
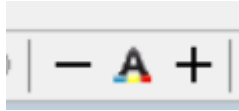
- Most are non-modal now.

# UI modernization (1/2)

- Custom font support

- Auto resize controls options

- MDI Tabbed Styles updates

- Panes

- Replaced message boxes with message bars.

- New toolbar buttons

# Custom font support

- Uses the windows default font (Segoe UI – 9) but adjusts based on windows scaling.

- Change font size or settings with these toolbar buttons:

- Can also use **Ctrl +** or **Ctrl -** to change font size.

- Most of the GUI will honor the setting except:
  1. Popup message boxes (disabled by default)
  2. MDI tab flyovers (disabled by default)
  3. Menu bars don't update immediately until a Data Viewer is opened.

# Resize controls

- If enabled, GUI elements (controls) will resize when windows resize.  See **Preferences -> Resize** tab or **View -> Resize Controls** menu to configure.

- Resize controls has 4 options and the % value is how dramatic the resize should be:
  1. **Minimally (20%)  - Default  Requires a font size of 12 or less.**
  2. Compact (33%) – Requires font size of 14 or less.
  3. Standard (50%) – Font size 16 or less.
  4. Full (100%) – Font size 17+

- If Minimally still resizes too much you can use the override option on Preferences -> Resize.  Minimum value is 2%.

- A few interfaces don't support this yet.

# MDI Tabbed Styles

- This defines the style of interface used.  (See **View -> MDI Tabbed Style** menu)

- MDI Tabbed Style None (Classic MDI) removed.

- **Grouped** (the default) or **Standard** can be used.

- New toolbar buttons can help you switch between Standard or Grouped for different types of scenarios and remembers the previous layout.

1. Grouped mode - New vertical tabbed group
2. Grouped mode – New horizontal tabbed group
3. MDI Style Grouped
4. Standard mode – Tile Horizontally
5. Standard mode – Tile Vertically

# Tabbed Panes

- Panes now use tabs, meaning only 1 is shown at a time.

- They help with switching tasks more quickly, like viewing perf data, active jobs, IFS, or objects.

- These automatically hide/reappear if you use F11 (full screen mode)
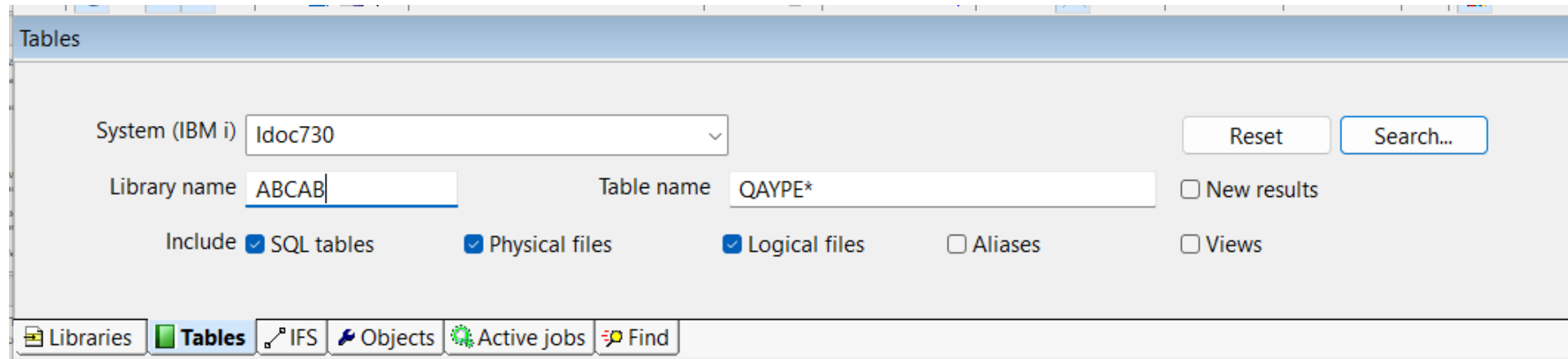
# Libraries Pane

- A shortcut to get into the desired performance data.
- **Include old data** checkbox can be used to show/hide data older than 1 year.  Use **Preferences -> Display -> Old at N months** option to change the threshold.
- **Verify procs** should be checked if moving to a new GUI build, at least temporarily or reinstall server builds.

- **Tip:** Use **Tables**, **IFS**, **Objects** or **Active jobs** panes to get into IBM i Explorer.

# Find Pane

- This help you find something on the screen and cycle through the results.

- Works for tables, graphs, graph legends, SQL editors.

- Can't be used in trees or modal interfaces.

# Find Pane – Type ahead support

- If you want to find something in a list, follow these steps:
  1. Click on list.
  2. Start typing something.
  3. Find pane will automatically appear.
  4. Press enter to search.
  5. Press enter again to cycle through results (if applicable.)

# Message bars (1/2)

- **ALL windows** contain a message bar at the top of each interface.



ADVANCED - iDoctor C01729  [C:\IDOCTOR\V2024\EXE\DEBUG2\IDOCTOR.EXE 2024-08-27-06.21.

**Welcome to iDoctor! Messages are shown here. Yellow background means the GUI is busy.**
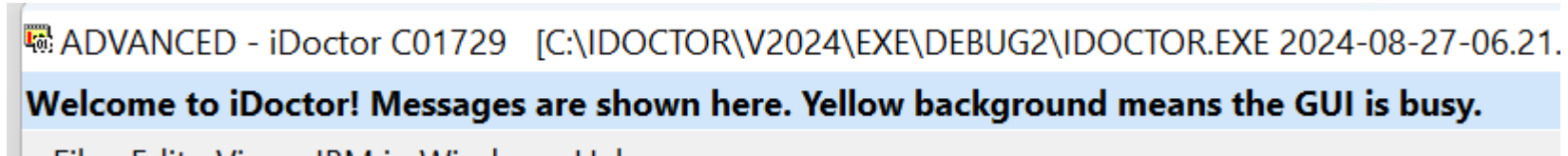
- Replaces popup message boxes and also gives status of operations.

- Blue highlight color is used when asking questions.



| Yes | No | **This sets the default user mode for all connections to the desired user ID.  Continue?** |
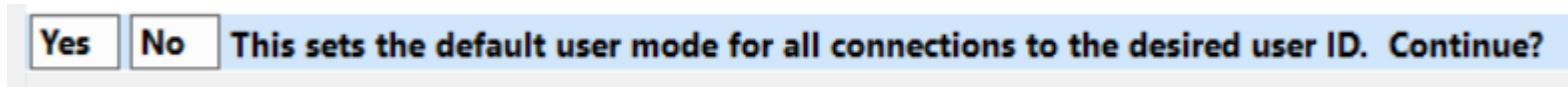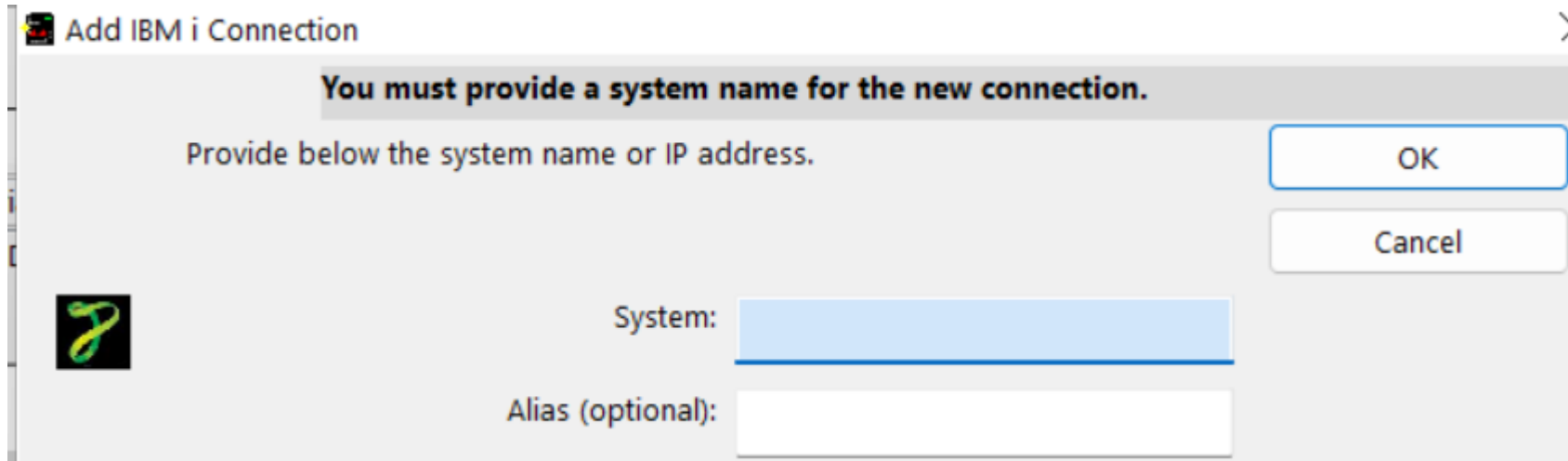
- Yellow background color means something is running.



Connecting to IBM i, please wait.  If connection has been LOST, it may take a minute to reestablish connection.
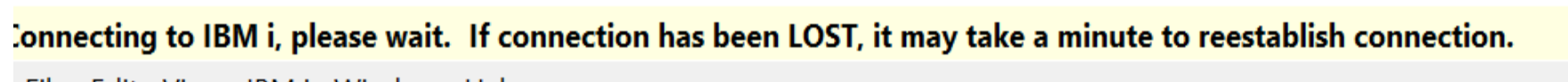
# Message bars (2/2)
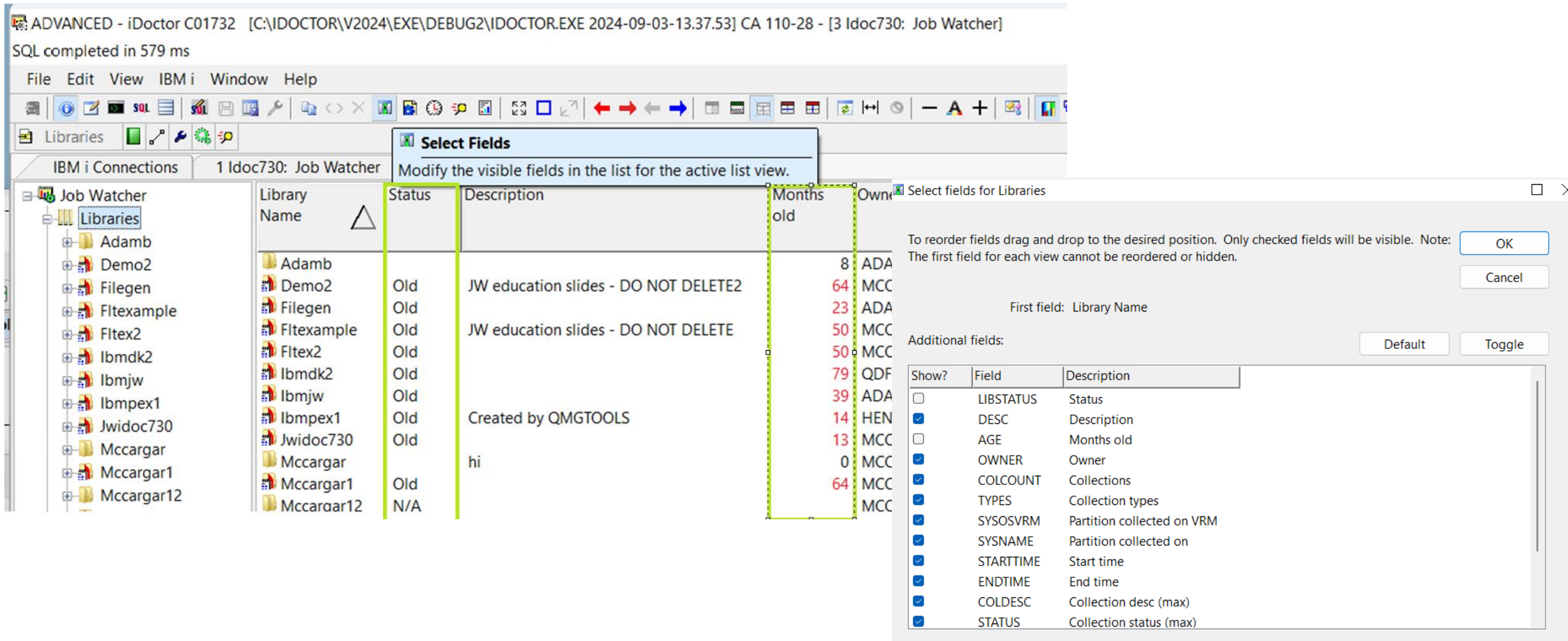
- Dark grey color background is just an informational message or error.

- On errors, the control with an issue is highlighted (light blue).

# Toolbar button – Select Fields

- This modifies the columns shown by default for the current folder.
- Shown in Main Window toolbar for the component views only.

# Toolbar button – Find Pane



- This opens the Find Pane.

# Toolbar button – Copy Window  ‹ ›

- This copies the current interface to the clipboard.

- Also available under **Edit -> Copy Window** menu.

- Only works for tables (lists) and property pages.

- 3 formats are copied to clipboard TXT (or CSV), RTF and HTML.

- Up to target app to decide format to use.

- See **Preferences -> Clipboard** for options.

| Display | Display - Advanced | Resize | Fonts/Colors | **Clipboard** | Sche |

OK    Cancel

☐ Use CSV text format

☑ Include field headings          ☐ Use multiple lines

☑ Copy visible columns

☑ Only include cached rows when list is built using SQL.

HTML options:

Table border      1

Table cellpadding   1

Table cellspacing   1

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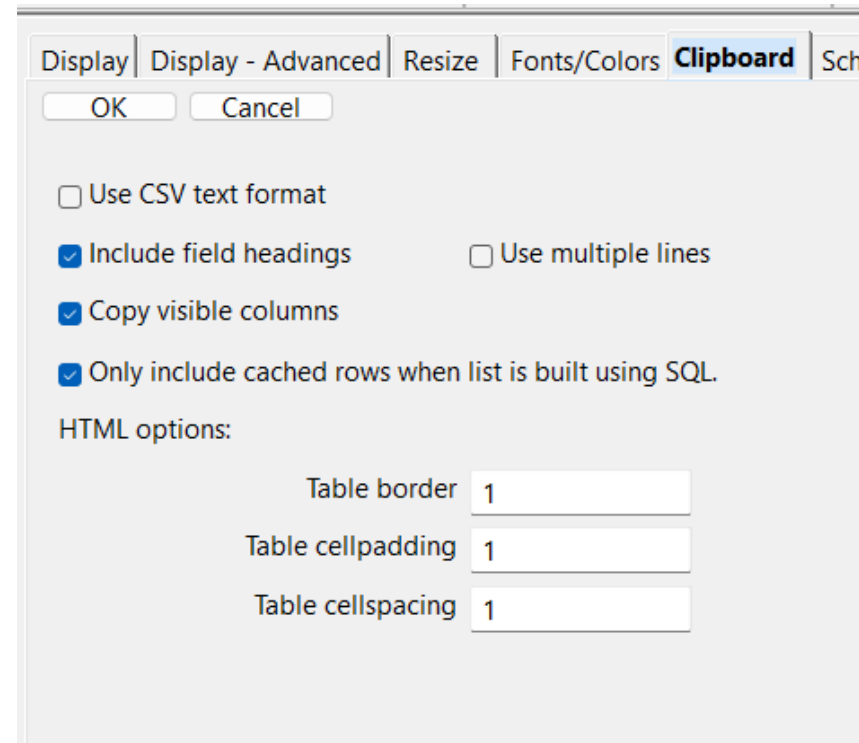
# Toolbar button - Full screen mode (F11)

- If enabled these things happen:
    - Maximizes the window
    - Autohides the panes
    - Hides the status bar

- Also available under **View -> Full screen** menu.

- Some settings to control behavior are under **Preferences -> Resize**.

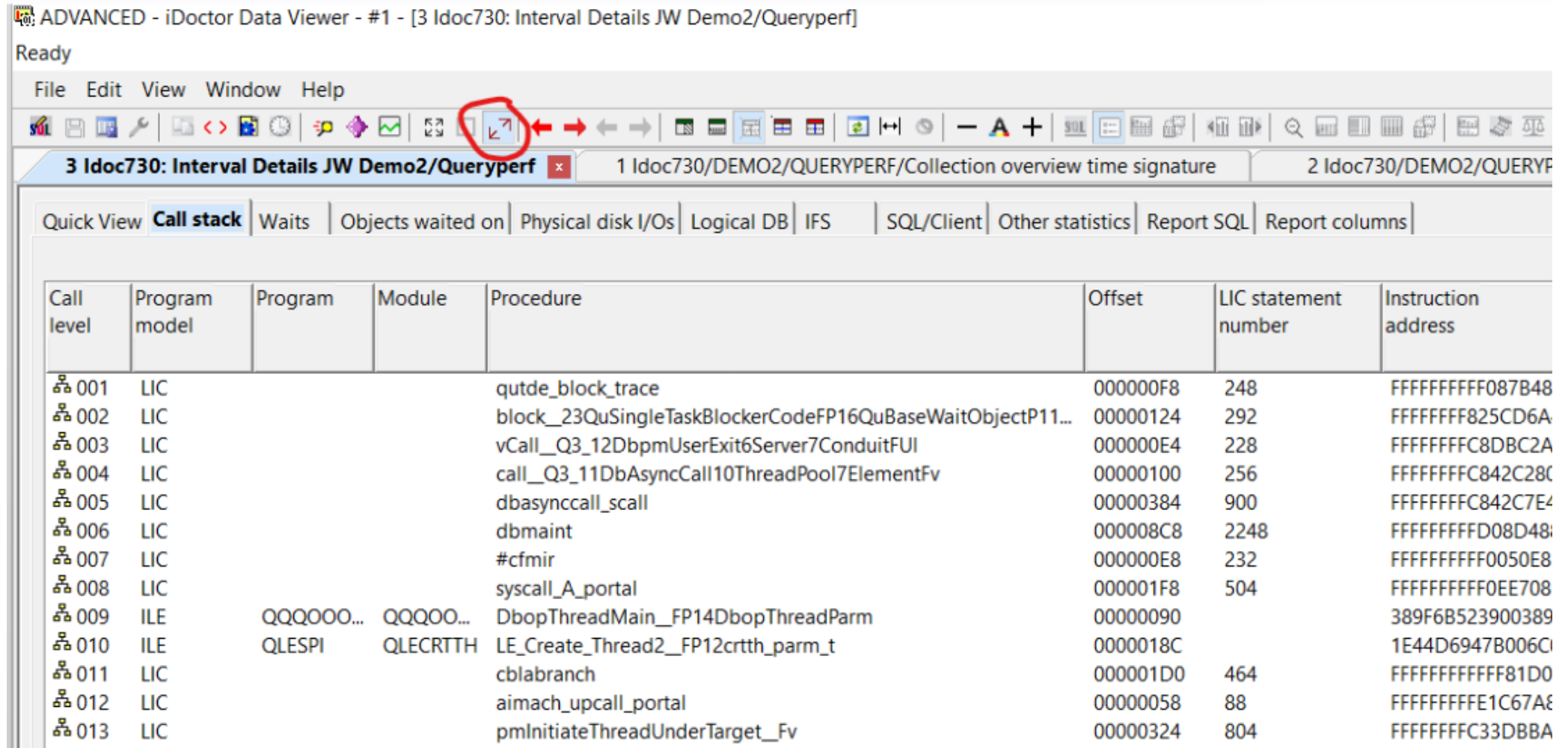# Toolbar button – Merge Groups (F12)

- When using **Grouped** MDI only, consolidates all views into 1 row/group.
- Useful if you wish to switch a view to full screen mode.
- Currently this does not toggle back to restore the previous layout.
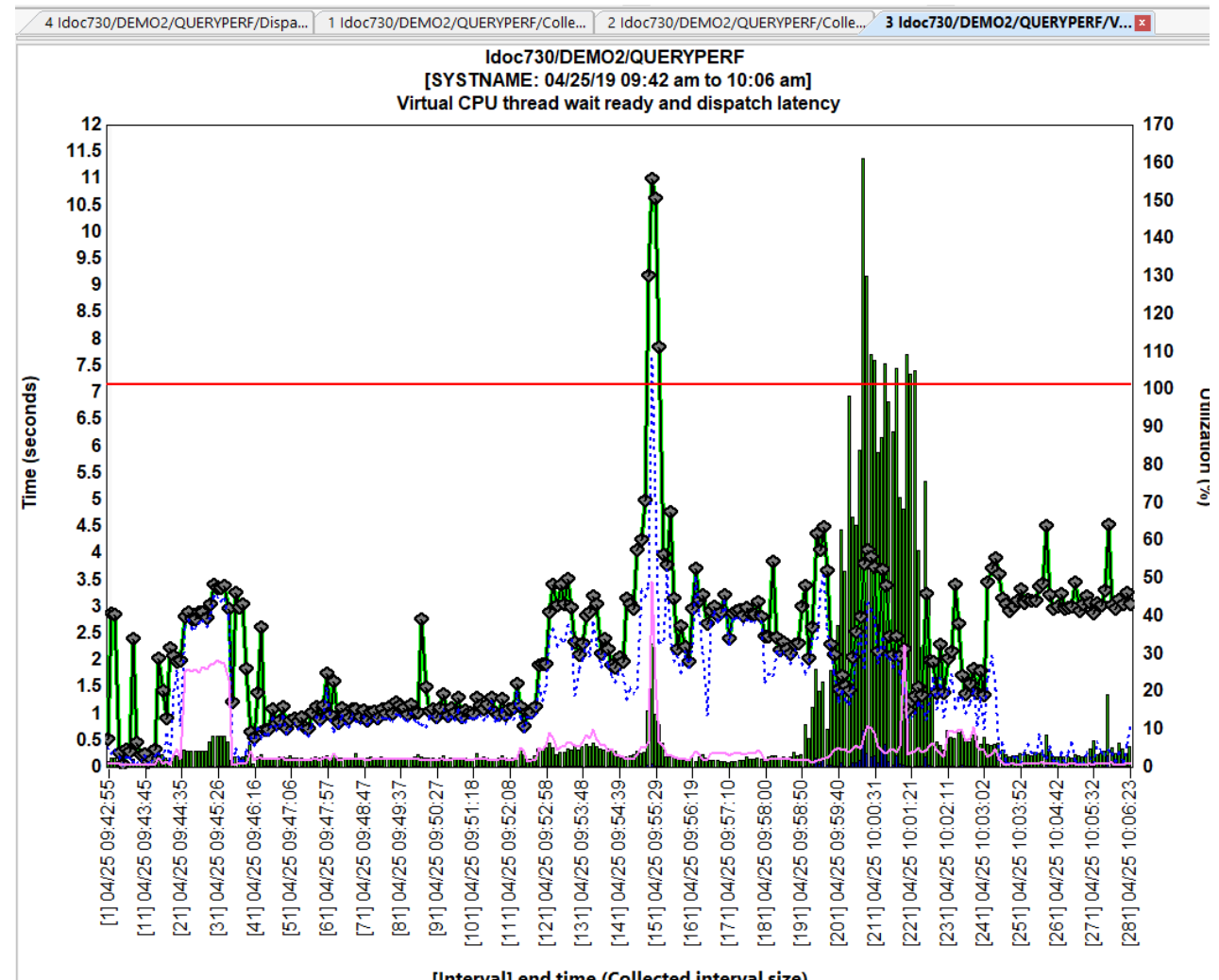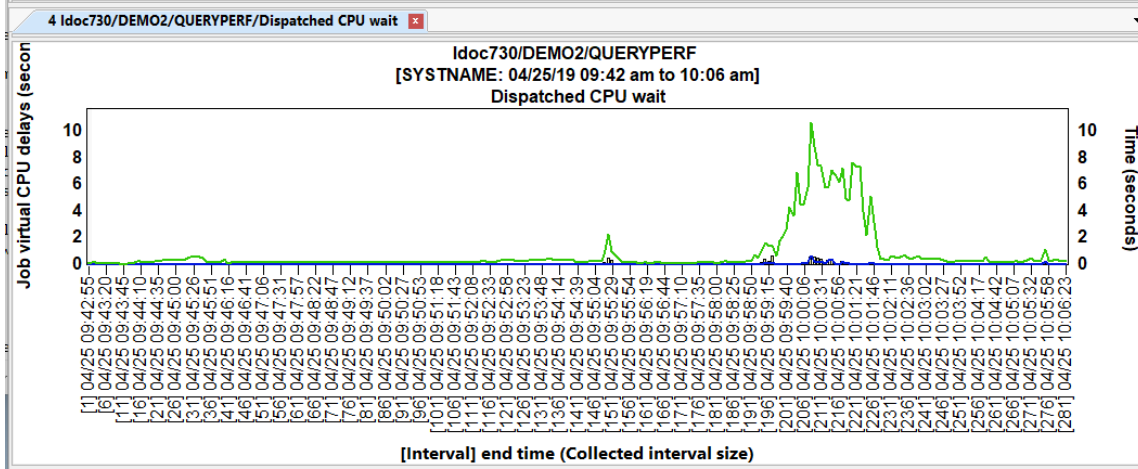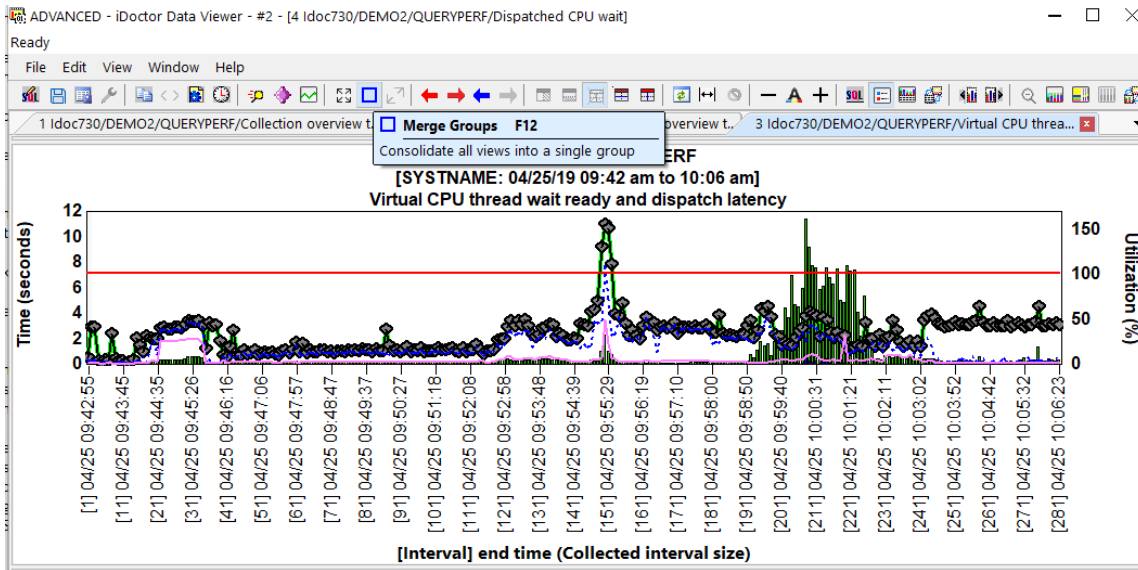
# Toolbar button – Maximize List (F9) 

- This option will toggle a list to take up the entire view.

- Only applies to property sheet interfaces. (i.e. **JW – Interval Details – Call stack**)



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# Toolbar button – Show previous/next tab

- This moves to the previous/next tab in the current tabbed group.

- Show previous tab shortcut:  Ctrl+Shift+Tab

- Show next tab: Ctrl+Tab

- Works for both Grouped and Standard MDI modes.
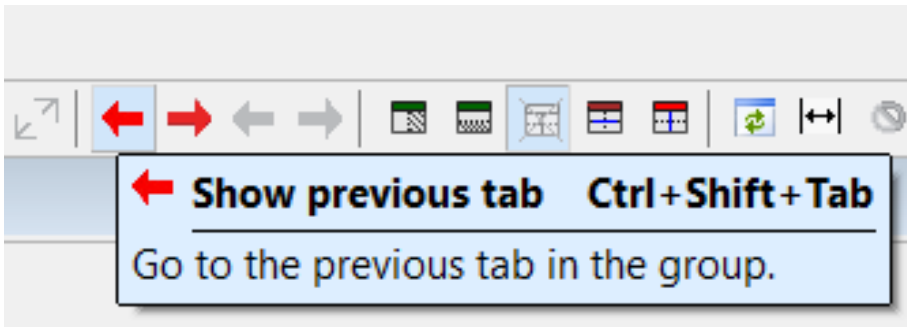
# Toolbar button – New vertical group (Ctrl+Shift+V)

- This moves the current view into a new vertical tabbed group.

- Useful when you want to compare something or better utilize screen space.

- Grouped MDI mode only
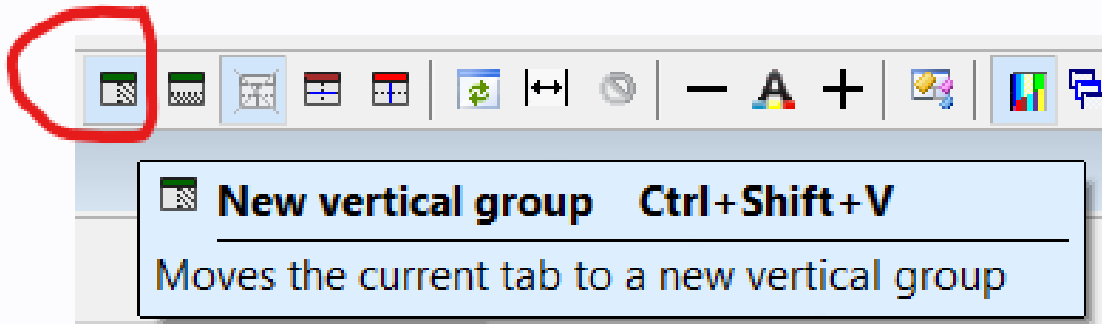
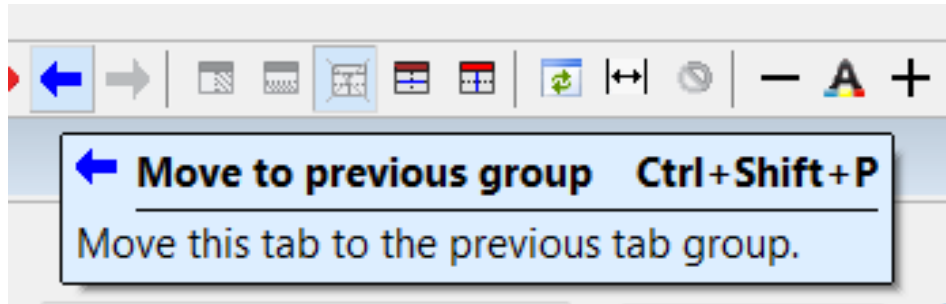# Toolbar button – New horizontal group (Ctrl+Shift+B)

- This moves the current view into a new horizontal tabbed group.

- Useful when you want to compare something or better utilize screen space.

- Grouped MDI mode only
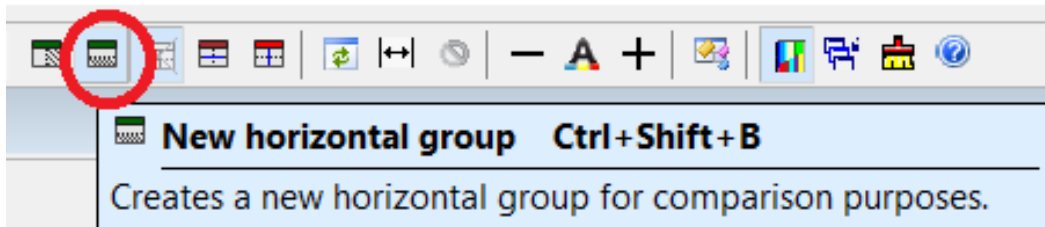
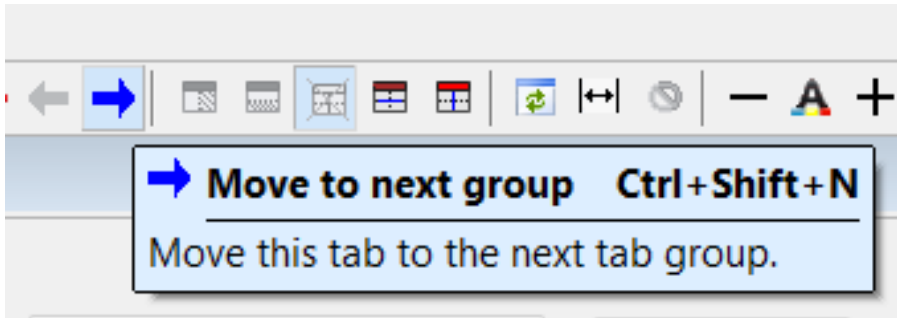# Toolbar button – Move to previous group (Ctrl+Shift+P)

- This moves the current view back to the previous tabbed group.

- Grouped MDI mode only

# Toolbar button – Move to next group (Ctrl+Shift+N) ➡

- This moves the current view to the next tabbed group.

- Grouped MDI mode only



➡ **Move to next group**   **Ctrl+Shift+N**

Move this tab to the next tab group.

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# Toolbar button – Tile Horizontally

- This switches to Standard MDI mode and rearranges windows in a horizontal layout.

- Available from both Grouped/Standard MDI modes.

- Also available under **Window -> Tile Horizontally**

- If more than 6 views exist, only 1st 6 are tiled. **Note:** In the future, this will change to 4 max but has not yet been changed.

- This ignores any minimized views.



Tile Horizontally

Arrange windows as horizontal, non-overlapping tiles
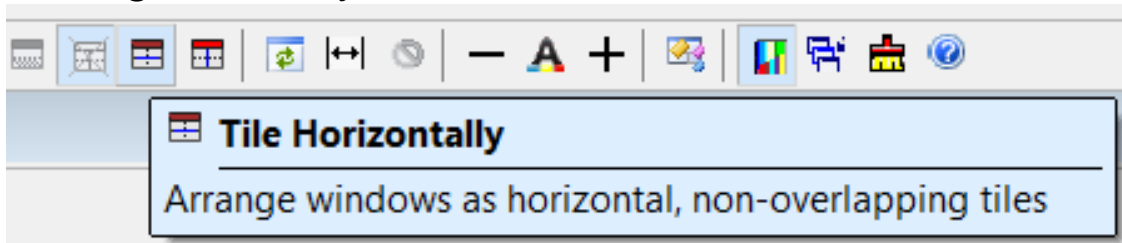
# Toolbar button – Tile Vertically

- This switches to Standard MDI mode and rearranges windows in a vertical layout.

- Available from both Grouped/Standard MDI modes.

- Also available under **Window -> Tile Vertically**

- If more than 6 views exist, only 1st 6 are tiled.   **Note:** In the future, this will change to 4 max but has not yet changed.

- This ignores any minimized views.



**Tile Vertically**

Arrange windows as vertical, non-overlapping tiles

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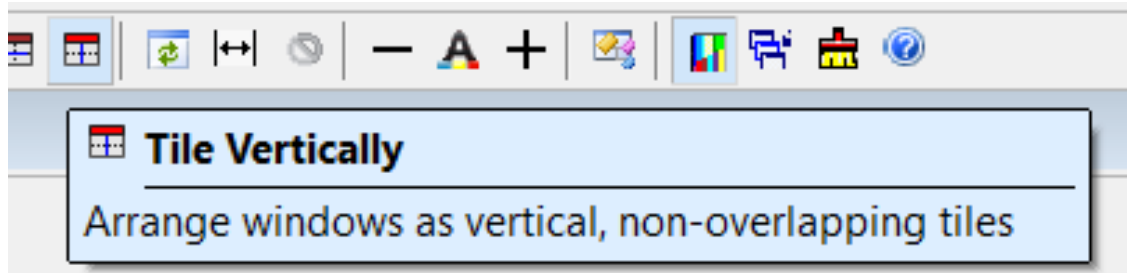
# Toolbar button – MDI Style Grouped

- This switches to Grouped MDI mode and restores the previous grouped mode layout.

- Available from Standard MDI mode only.

- Also available under **View -> MDI Tabbed Style -> Grouped** menu.
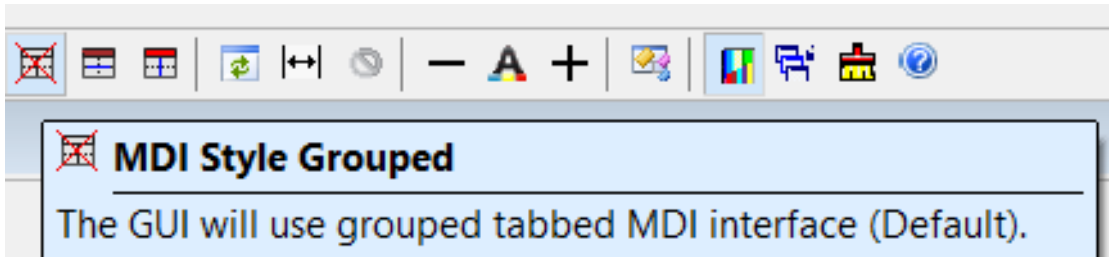
# UI modernization (2/2)

- DPI - windows scaling support

- Tab previews

- PDF support (situations, spool files)

# DPI – Windows scaling support

- GUI updated to detect and auto update based on windows scaling changes.

- Dragging a window from one monitor to another works better.

- Large icons will be used if scaling is >= 175%.   See **View -> Icon Size** menu to override this behavior.

- Scroll bars will appear if property sheets are cut off.

- Not perfect; more work remains.
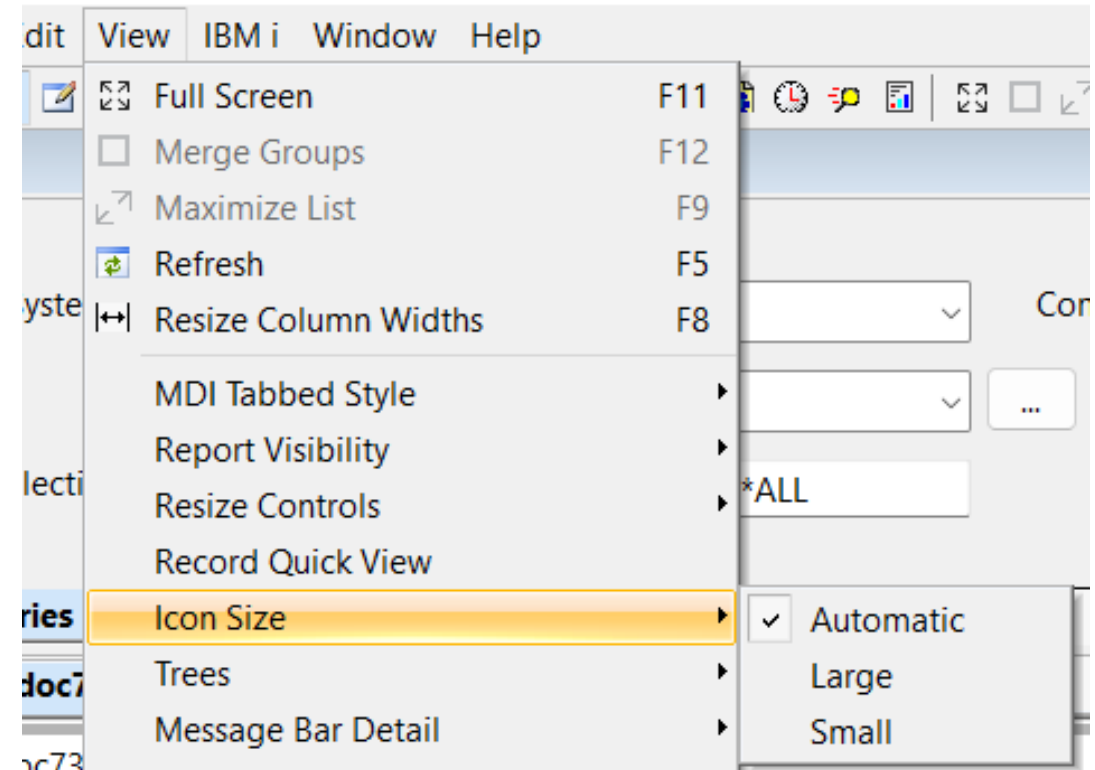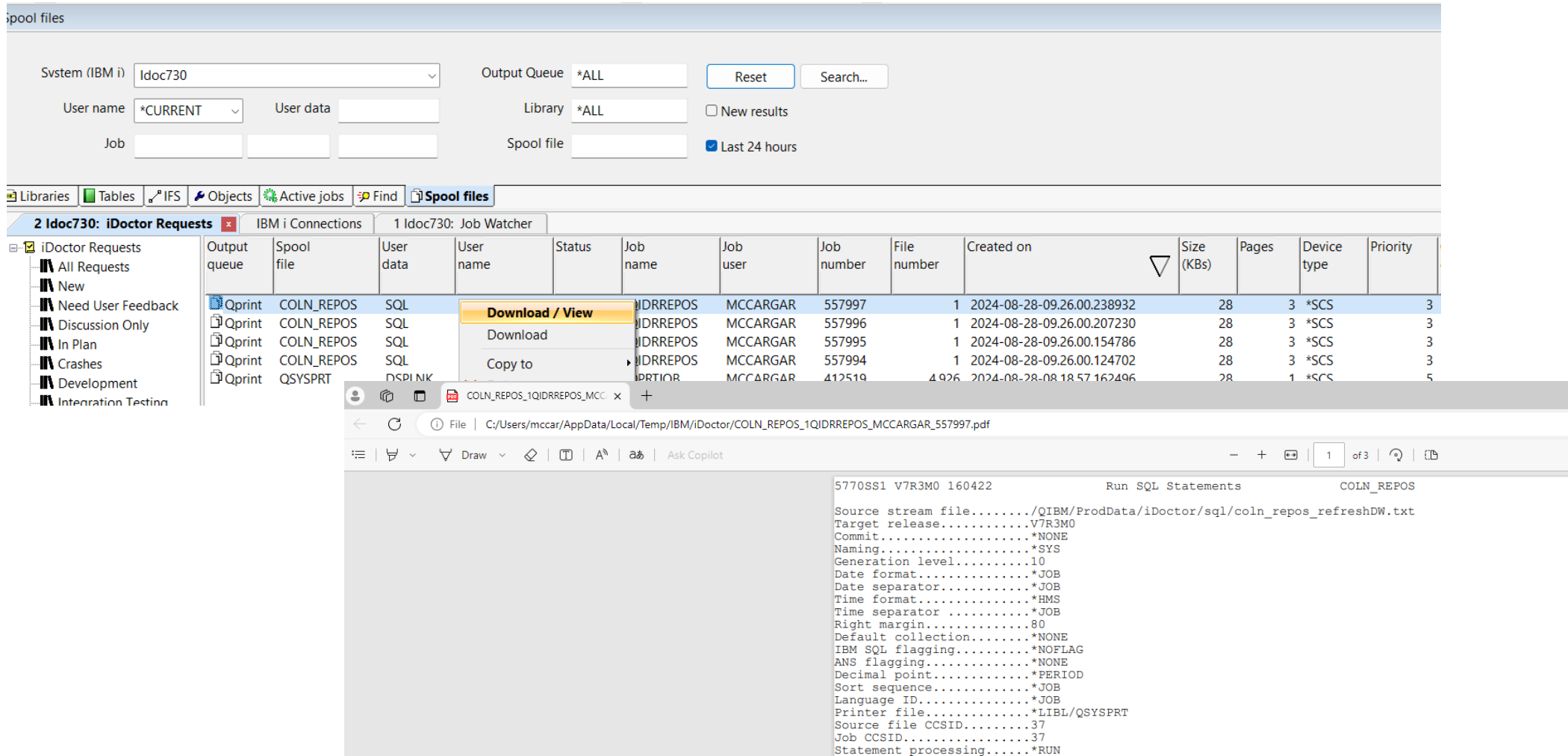
# Tab previews

- When mouse is over a tab, these appear to show you what is behind that tab/view.
- Screenshots saved to %AppData% folder.
- Customize these under Preferences -> Display.
- Not shown for the current view.
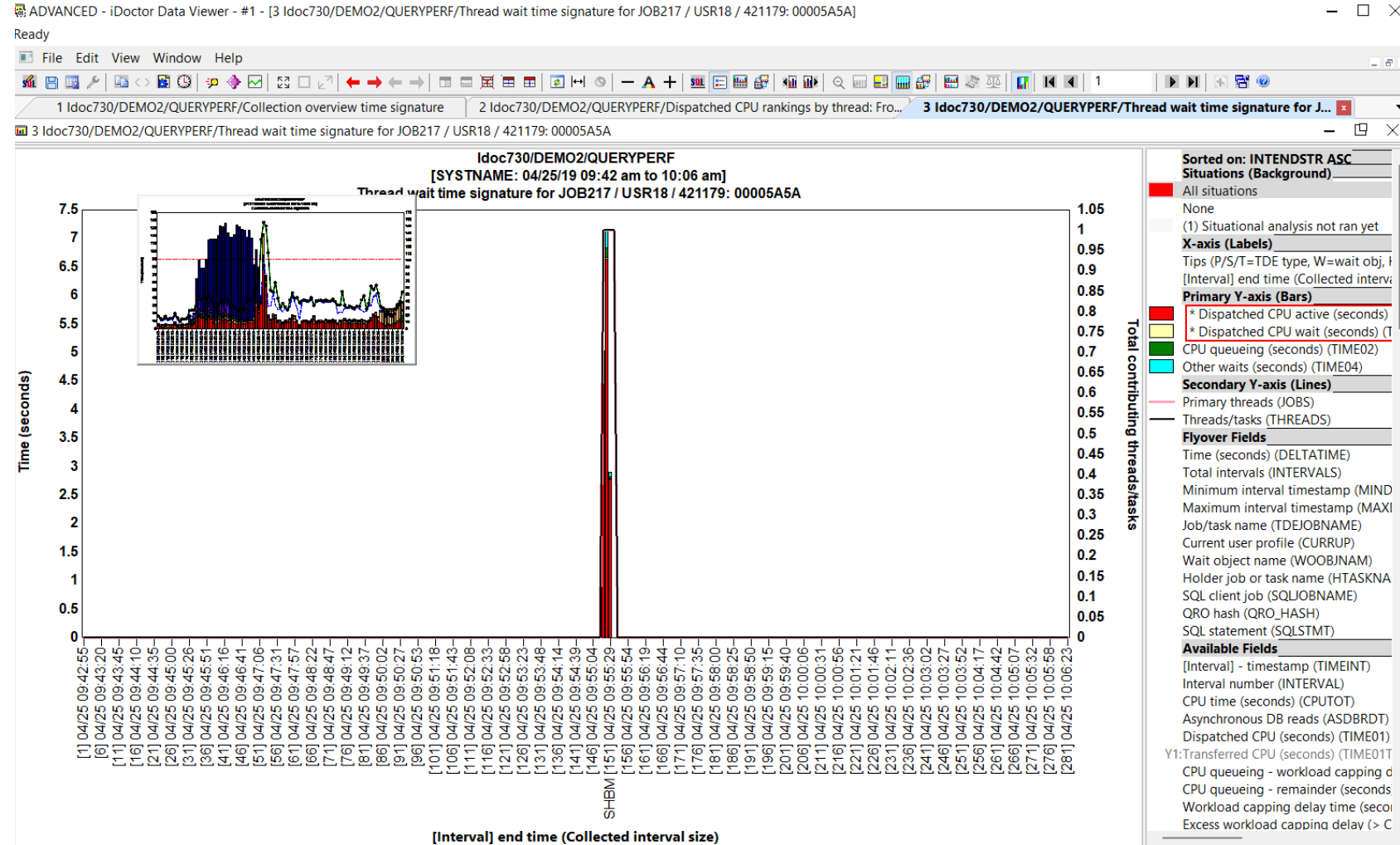
# PDF support

- Double-click a situation to view a PDF. (collection properties or graph legend)

- Spool files can be downloaded / viewed as a PDF. (7.3+)

# Graphing updates

- View -> Graph title format menu

- View -> Graph margin % menu

- View -> X-axis menu

- Legend updates

- Widget size
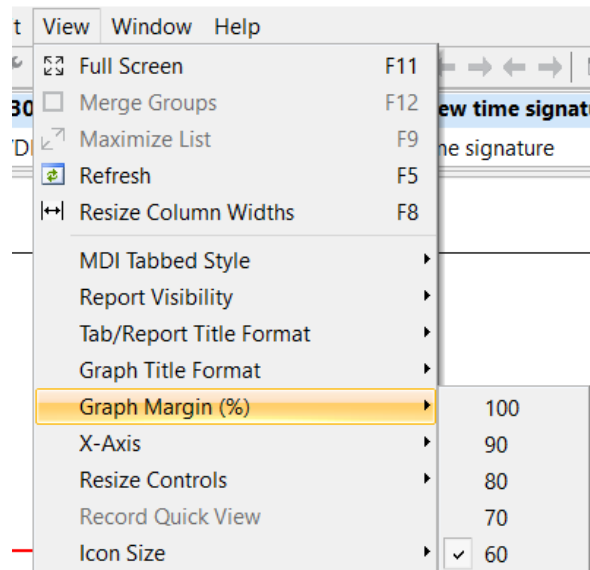
- Zoom in/out

# Graph Title Format

- Available under the View menu or Preferences -> Display.

- Now supports multiline graph titles.  **CR** designates a new line.   3 lines max.
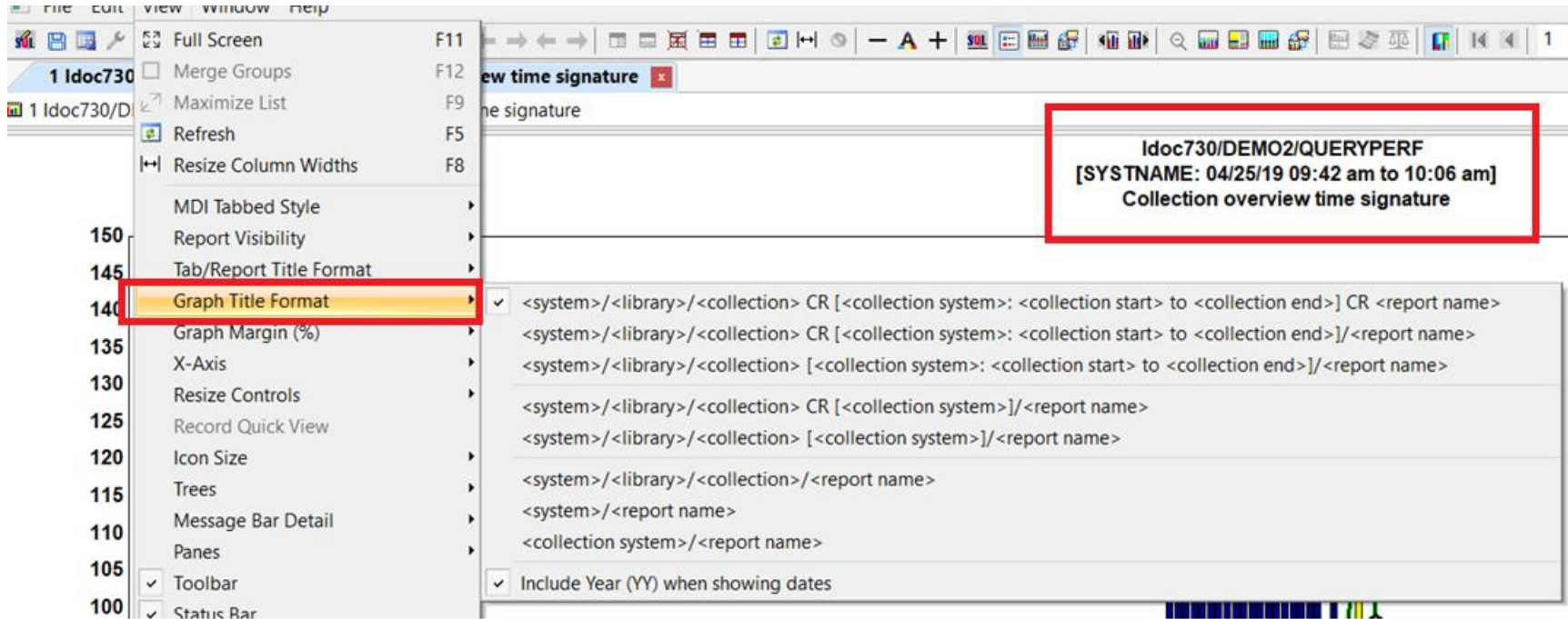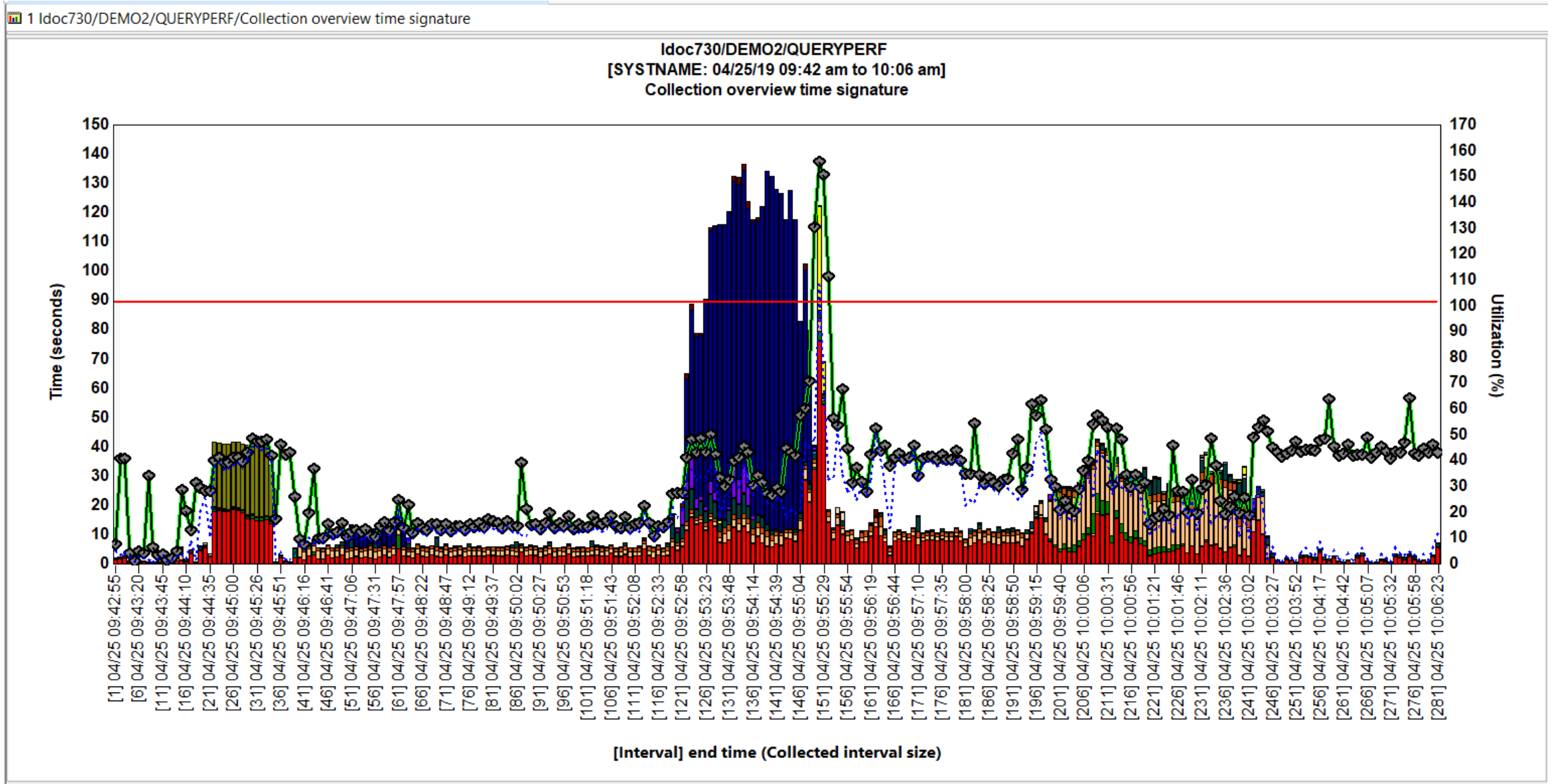
# View -> Graph Margin % menu (1/3)

- Available under the View menu only.

- This controls how much white space is around the X/Y axis labels.   Higher % means more white space.  **Default is 80%.**

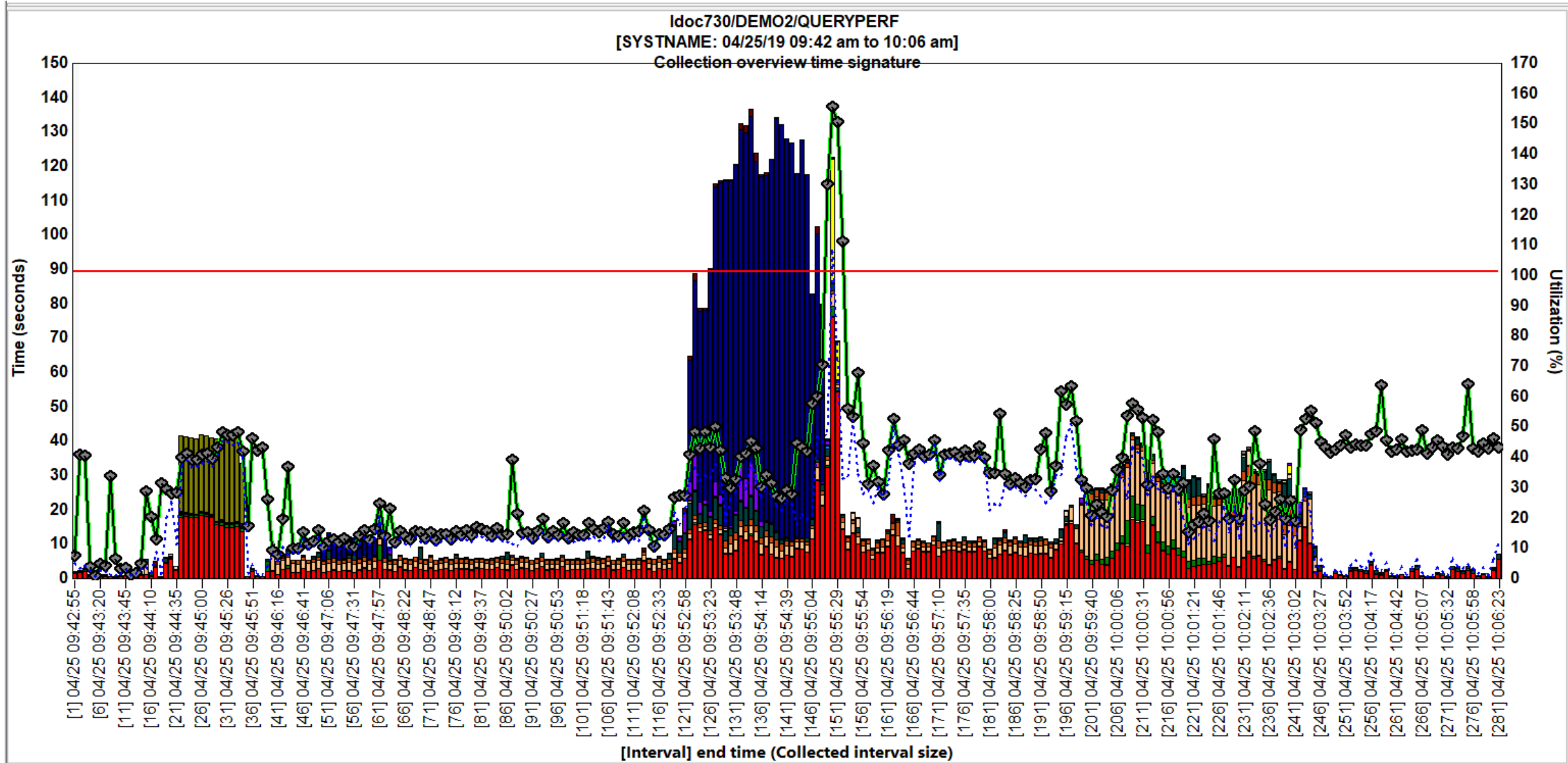- <u>Smaller value increases the size of the graph itself by sacrificing space in the label area.</u>

# View -> Graph Margin % menu (2/3)

- 100%

# View -> Graph Margin % menu (3/3)

- 60%



Idoc730/DEMO2/QUERYPERF
[SYSTNAME: 04/25/19 09:42 am to 10:06 am]
Collection overview time signature

# View -> X-axis menu

- These options let you decide what appears on the X-axis labels on graphs.

- **Tips** are the single character flags that appear in JW/CS graphs to tell you what exists in the data. (i.e. H = Holder)

- **Note:** These options modify the SQL statement, so reopening the graph after making changes is required.



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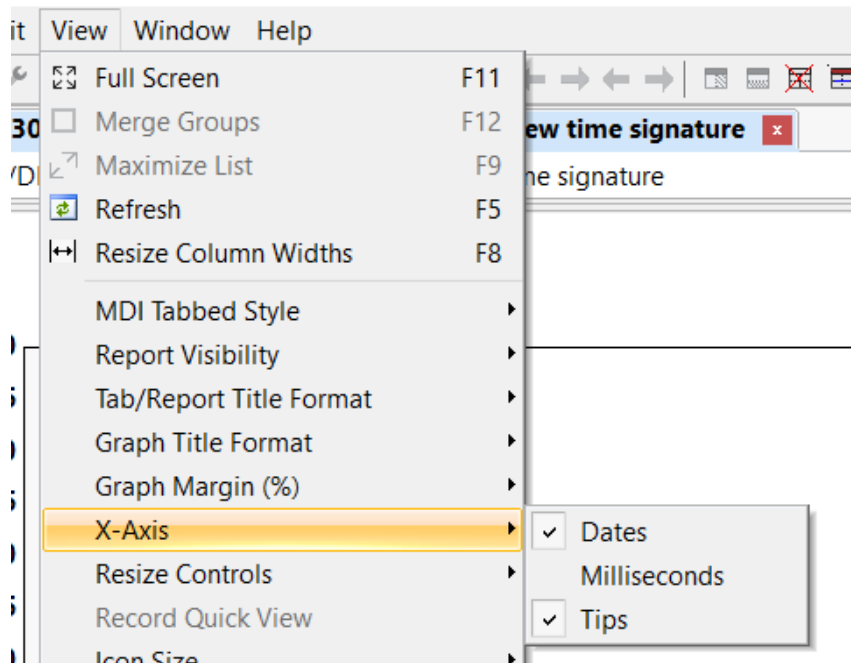
# Graph legend updates

- Double-click a situation shows a PDF with more detail.
- Widgets drawn in legend now. Set widget size under Preferences -> Display.
- Added find support for legend or graph itself (drawn label text only.)
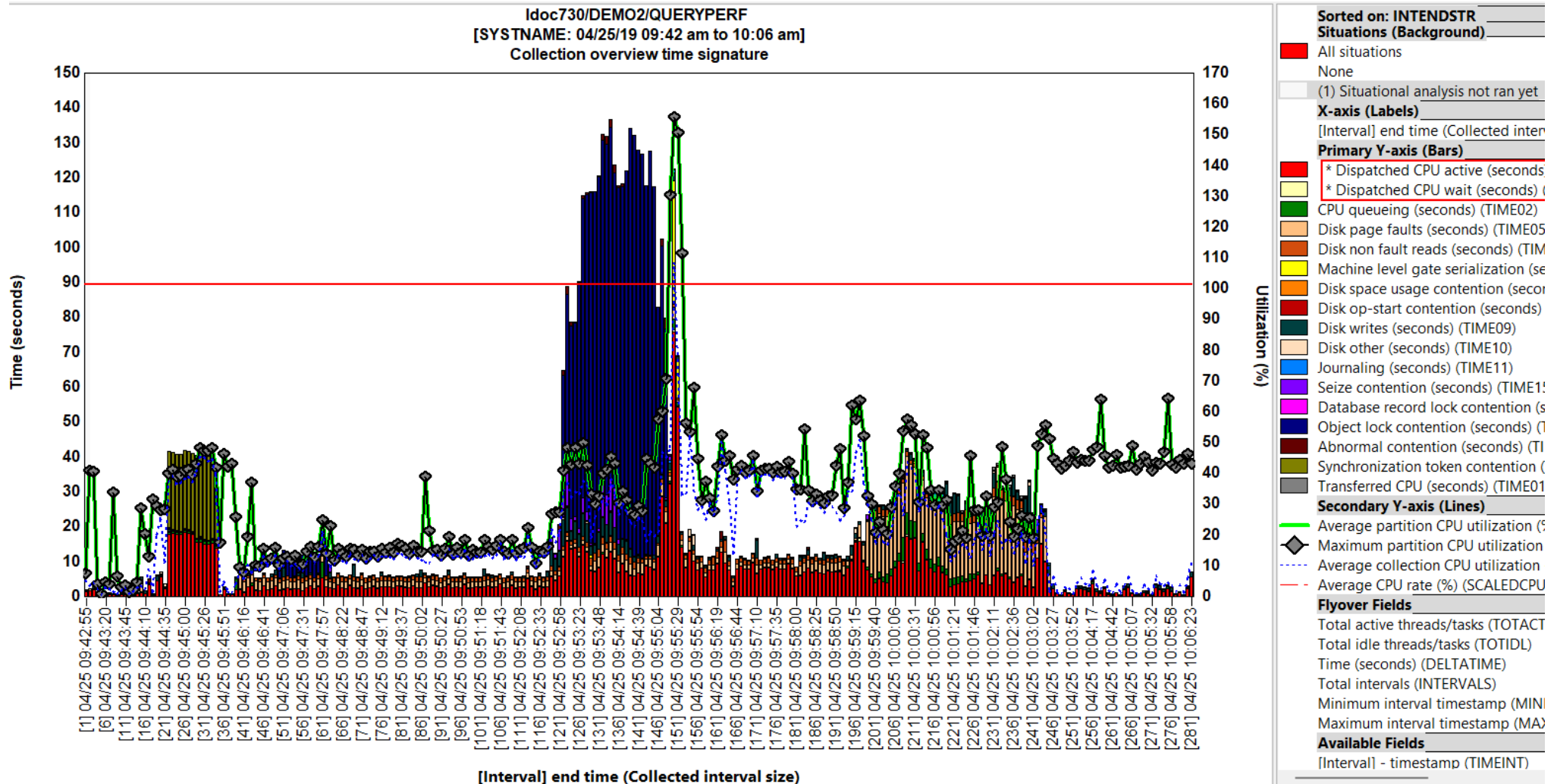
# Graph widget size

- These are the small characters drawn on Y2 lines to help distinguish them.

- See **Preferences -> Display -> Widgets and (Widget) Size** settings.
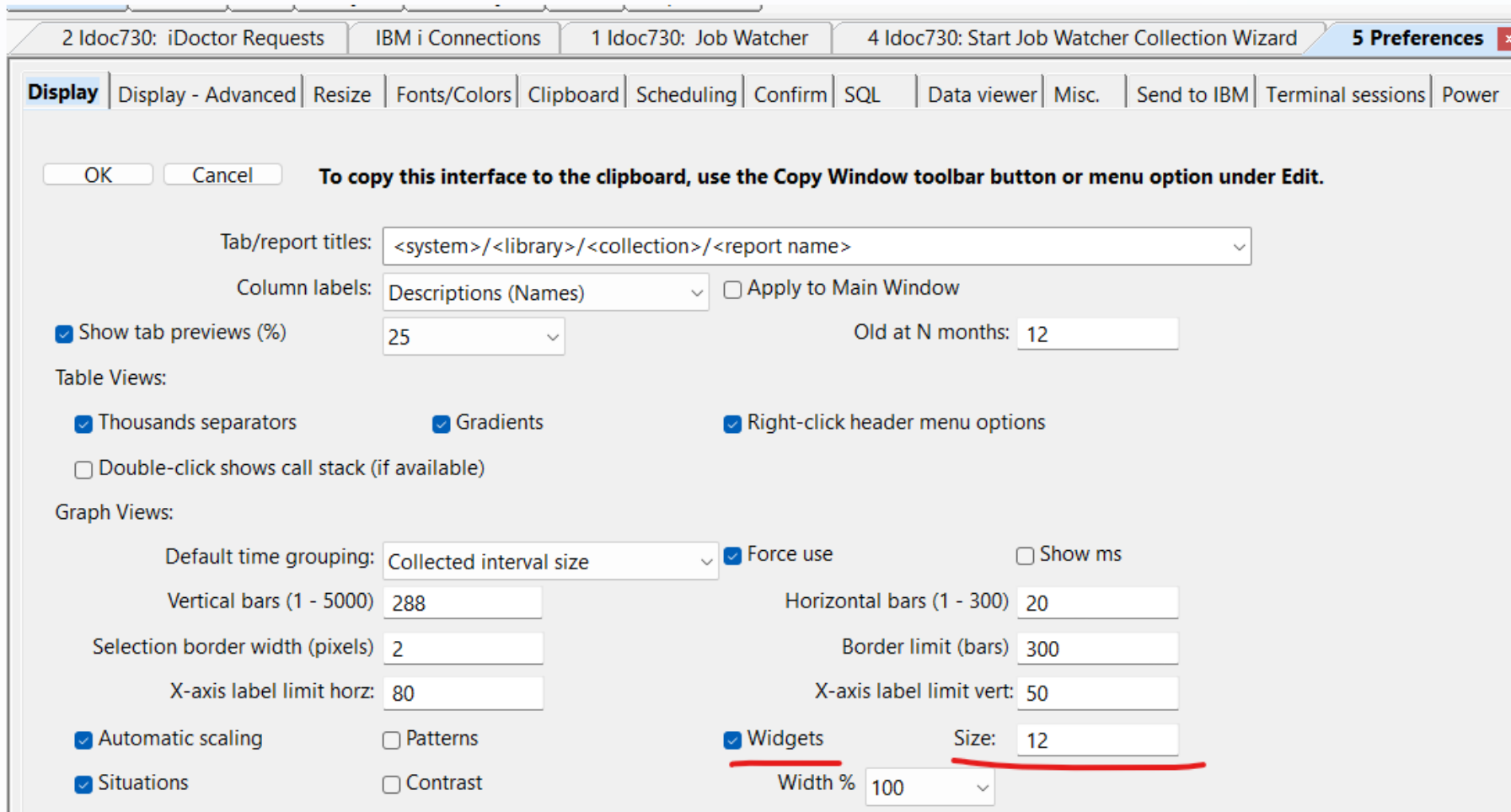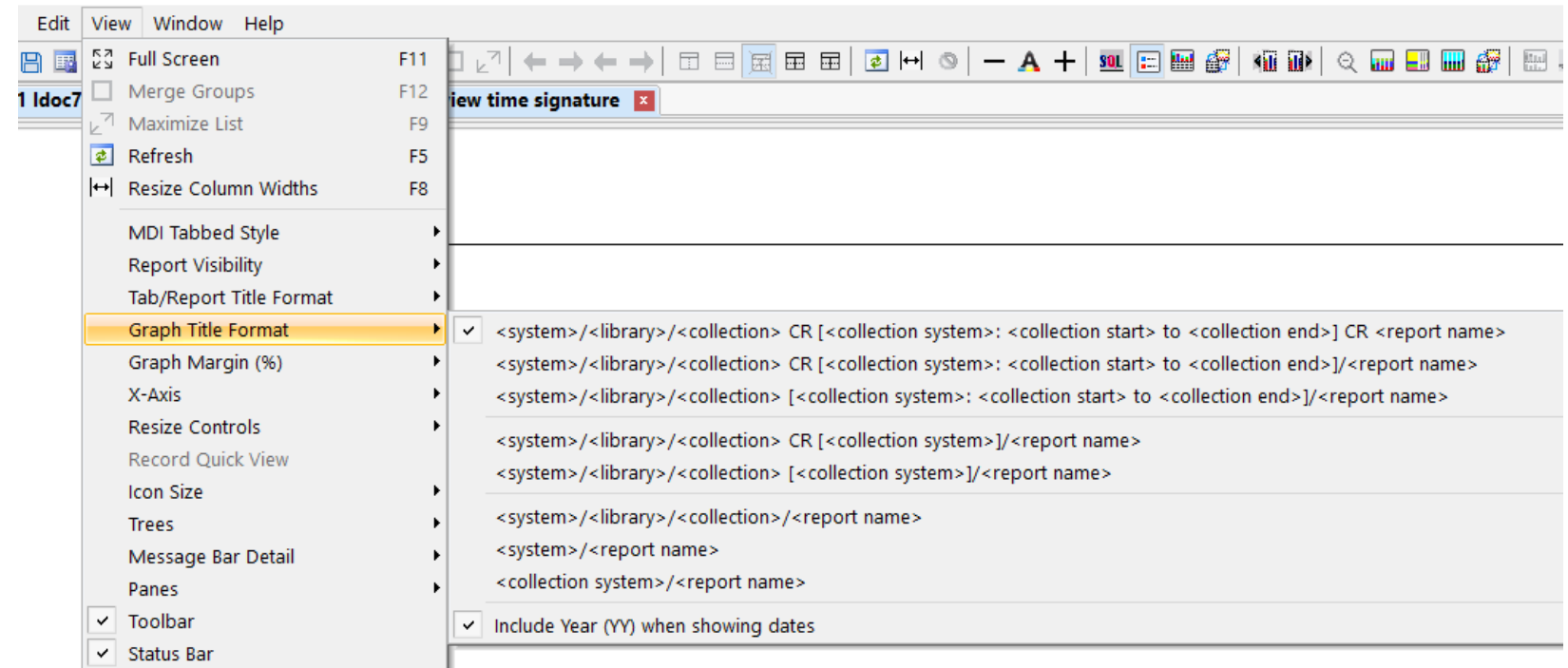
# Zoom in / out

- Hold down left mouse button and drag over an area to zoom in.  You can do this multiple times.
- Zoom out via this toolbar button or Alt+Z keyboard shortcut.
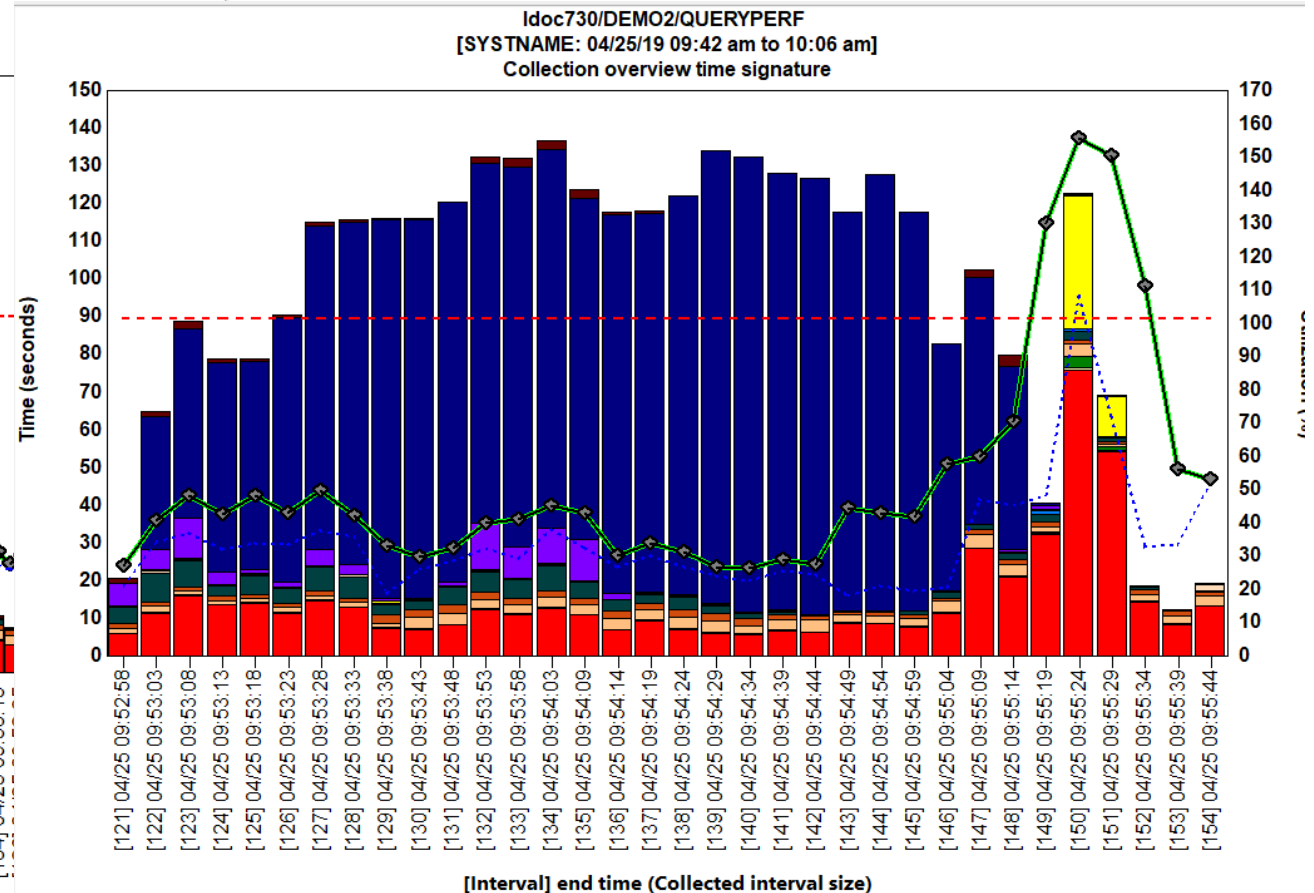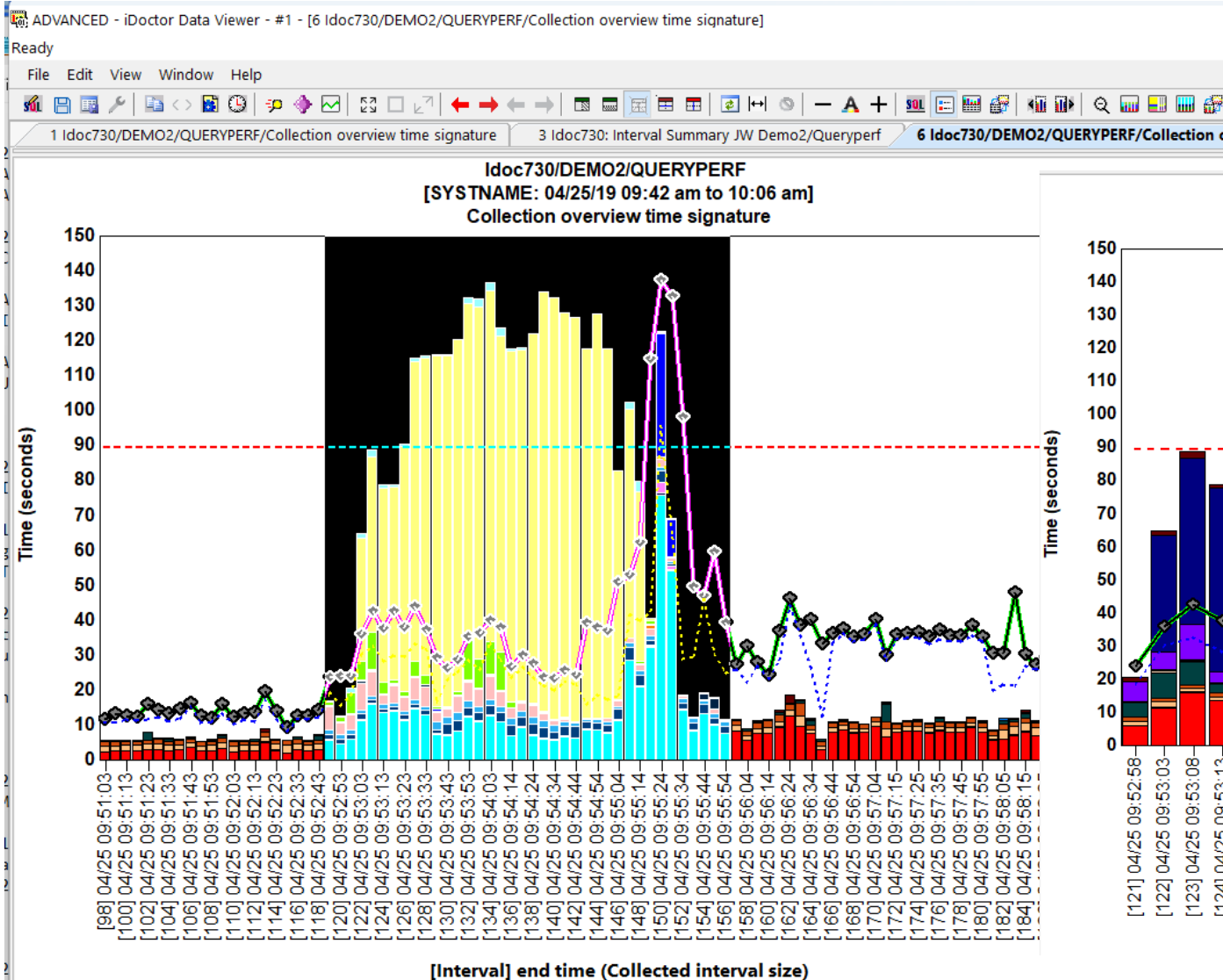
# General changes summary (1/2)

- Crash management

- Select all and Select all visible

- JW – call stack report drill downs

- Data Viewer View menu updates

- Connection status view

# Crash management

- In the past year, improved usability by analyzing and fixing several crash bugs.
- Crash dumps can be analyzed if sent to me at idoctor@us.ibm.com
- See **Preferences -> Misc -> Copy crash dumps** setting.

© Copyright IBM Corporation 2021
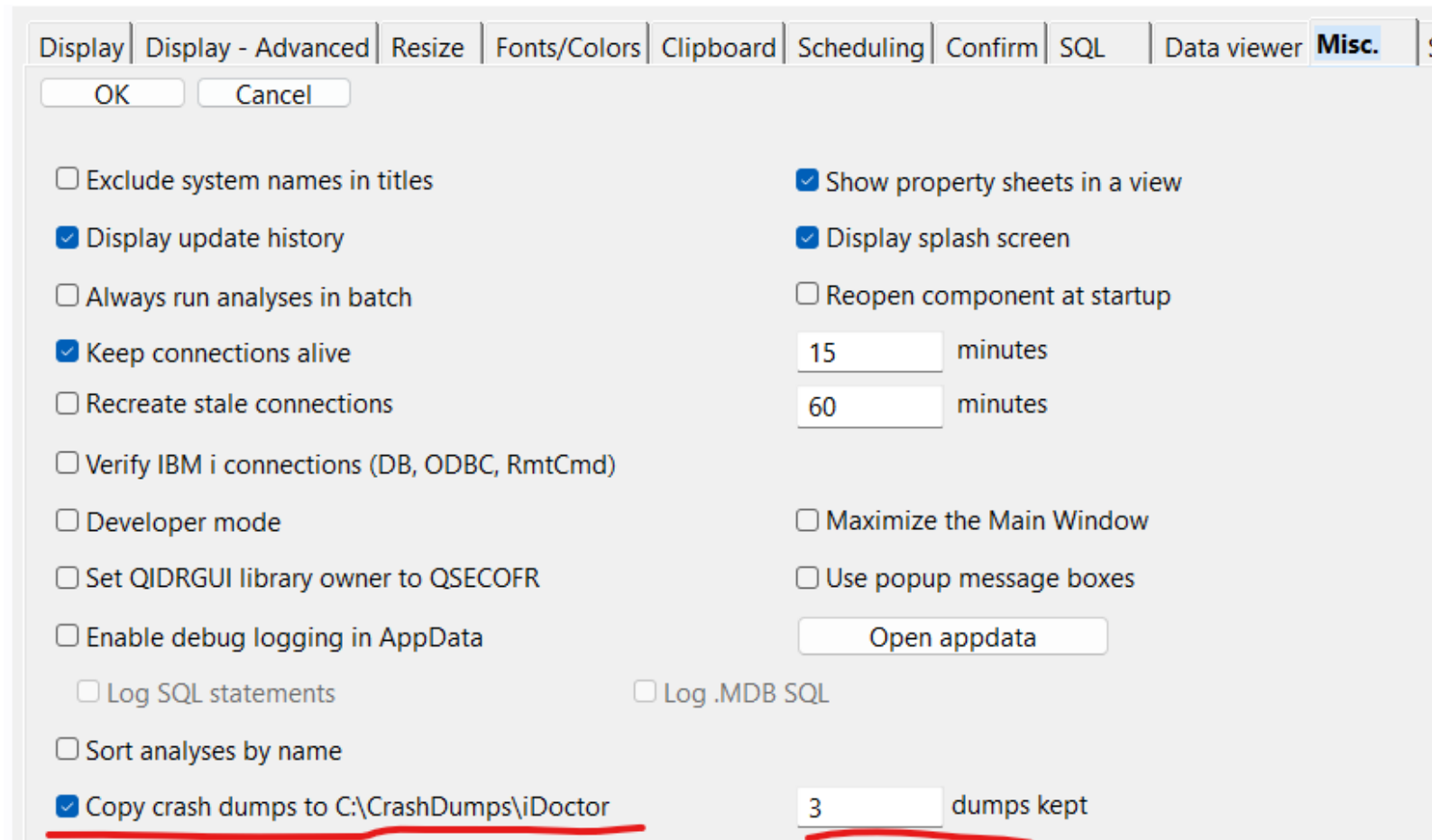
# Select All (Ctrl+A)

- This is used to select all rows in a table, or all bars in a graph.

- Available from the **Edit -> Select All** menu or use the keyboard shortcut.

# Select All Visible (Alt+A)

- This is used to select all **currently visible** rows in a table, or bars in a graph.
- Useful on a graph after zooming in, prior to drilling down.
- Use the **Edit -> Select All Visible** menu or keyboard shortcut.
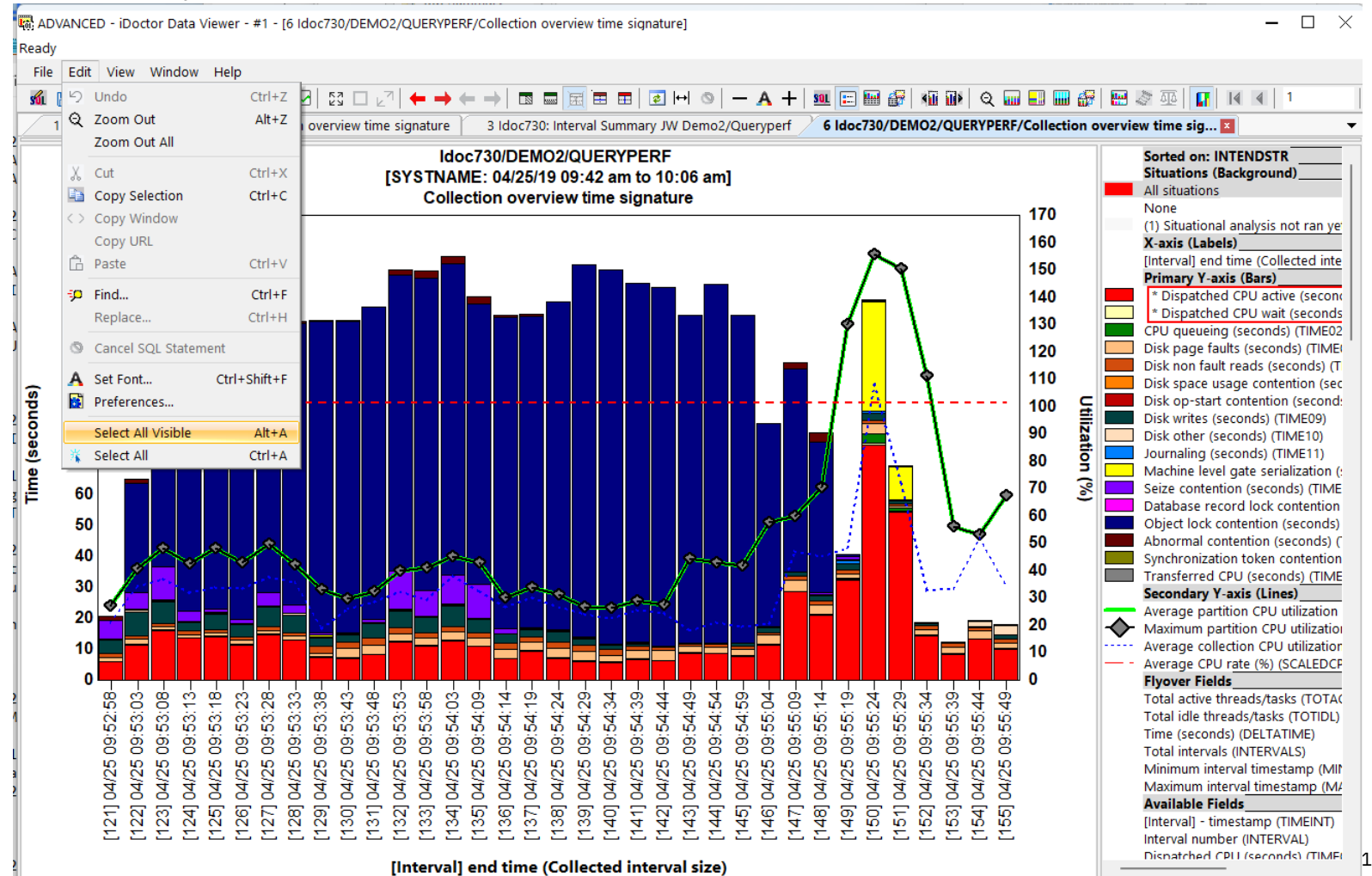
# Job Watcher interval details - QRO hash/Plan ID/Client Job

- Changed the SQL client job label to be a drop-down list to let you choose which to see of:
  - SQL client job, Plan ID, QRO hash or QRO + plan ID
- **Note:** Drop-down list only enabled if more than 1 choice exists.   If nothing exists, it won't appear at all.

- Plan ID requires PTFs at 7.4+ (not yet released).

# Job Watcher call stack report drill downs

- Select a single level options:
  1. Trace back table (TBT) address + offset
  2. TBT address only

- Select multiple call levels option:
  1. Multiple TBTs

# Letting non-*ALLOBJ users use iDoctor

- More work remains in the installer to create more files/objects to make this easier.
- The installer does not create the monitor files QUSRSYS/QAIDRJWM2 for example but will in the future.
- See FAQ 4.8:
- File list in speaker notes.

## 4.8 What objects and IFS folders does a user need access to in order to use iDoctor?

For users that do not have full authorities on an IBM i they will require at a minimum the following:

1. The user profile must be added to function group QIBM_SERVICE_TRACE.
2. The user profile must be added to function group QIBM_SERVICE_JOB_WATCHER.
3. The user profile must be added to function group QIBM_SERVICE_DISK_WATCHER.
4. *ALL to library QIDRGUI.
5. *ALL to file QAPEXDFN in library QUSRSYS.
6. *ALL to file QAPYJWDFN in library QUSRSYS.
7. *ALL to file QAPYDWDFN in library QUSRSYS.

8. *ALL to files QAIDR* in libraries QGPL and QUSRSYS.   PLEASE NOTE: All files must exist (QUSRSYS/QAIDRCOLS, QUSRSYS/QAIDRLIBS, QUSRSYS/QAIDRJWM2, etc) which may require a full authority user, using all desired functions in the GUI you wish to let the other users use (such as the Monitors folder) prior to running the ADDIDRUSR command.

9. *USE to commands ADDPEXDFN/RMVPEXDFN in library QSYS.
10. *USE to commands ADDPEXFTR/RMVPEXFTR in library QSYS.
11. *USE to commands ADDJWDFN/RMVJWDFN/STRJW in library QSYS.
12. *USE to commands ADDDWDFN/RMVDWDFN/STRDW in library QSYS.
13. *USE to commands SAVPFRCOL/STRPFRCOL/DLTPFRDTA in library QSYS.
14. *USE to CS API QYPSRSCA in library QSYS.
15. *OBJEXIST *OBJMGT *OBJOPR *OBJREF *READ *EXECUTE to QAYPE*, QAPY* and QAPM* files in QSYS.
16. *RWX to IFS path /QIBM/UserData/iDoctor and all subdirectories
17. *RWX to IFS path /QIBM/ProdData/iDoctor and all subdirectories.

**Note:** An administrator can grant these authorities by running the QIDRGUI/ADDIDRUSR command on your user profile.

Return to Common Problems

# Data Viewer View menu updates

- Some options do not appear in preferences.

# Connection Status View

- Identifies iDoctor connections in use.

- Use **Main Window -> View -> Connection Status** menu.

- Status bar identifies connection for the view with focus and how long idle.

# Connection Indexes Used by iDoctor

- List applies to ACS RC/ODBC connections only.

- These threads help avoid hangs and improve usability but can take 1-8 seconds to kick off depending on how slow your network connection is to the IBM i.

- With 1732 or higher, connections 10, 20, 30, 3, 2, 102 are pre-created in the background (in that order) when creating a component view.

- Avoid using the same connection at the same time, or you will hang until things complete.
  - Resorting/rerunning multiple already open views can cause this.
  - Use a new DV to avoid this.

| Index | Description |
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# Questions?

- Let me know what questions you have?

- Or I will be at ask the experts later and we can chat or demo something then.

- You can reach me at either idoctor@us.ibm.com or mccargar@us.ibm.com

- Thank you!

# For More Information:

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