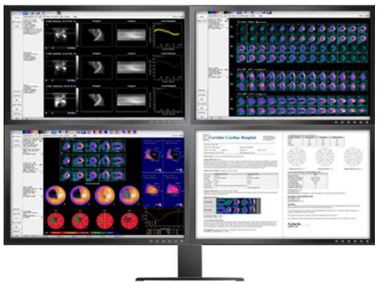
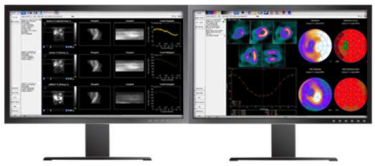
Multi-monitor Displays

OVERVIEW

To improve workflow efficiency, users have the ability to display 4DM application screens in up to four separate windows when a patient is launched. Enhance workflow performance and effectiveness by tailoring your throughput so that less time is spent navigating application screens.



Quad monitor display



Dual monitor display

Virtual monitor display

HOW TO GUIDE

Upon initial installation, 4DM automatically detects the system's display environment and configures the multi-monitor settings accordingly. To make changes, navigate to the **Screen Layout** page within **Preferences** (see ❶ Figure 1). Under the **Screen Setup** section, there are three **Multi-Monitor Support** settings: Multi-Monitor, Virtual Monitor, and Not Supported (see ❷ Figure 1). The user is only presented with the toggle(s) that fits their monitor configuration.

The **Multi-Monitor** toggle is auto-selected when two or more hardware displays are detected. The **Virtual Monitor** toggle is auto-selected when a minimum display of 2560 x 1024 or 1280 x 2048 is detected. This selection divides a single, oversized monitor into multiple displays (up to four). If changes are made to display settings or the number of hardware displays change, the user can click the **Reset** button (see ❸ Figure 1) to revert to the last saved monitor settings. In a single monitor setup, the **No Support** toggle is selected.

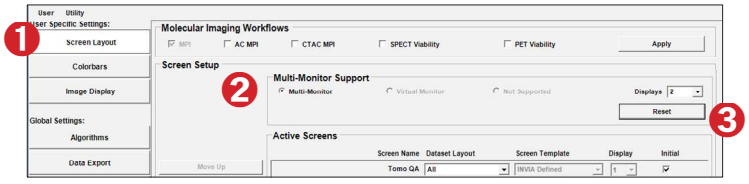


Figure 1: Multi-Monitor Support Settings

CHANGING SCREEN ORDER

The user has the ability to customize the order of 4DM screens on each hardware or virtual display. Increase efficiency in reading studies by viewing any combination of 4DM screens simultaneously. To change screen order, begin by launching patient image data into 4DM and selecting the **Preferences** button from the **Control Panel**.

1. Select the **User** menu (see ❶ Figure 2) from the **Preferences**.
2. Click **Select User** (see ❷ Figure 2) and choose a 4DM standard **Workflow** or **User**.
3. Select the **Screen Layout** page under **User Specific Settings**.

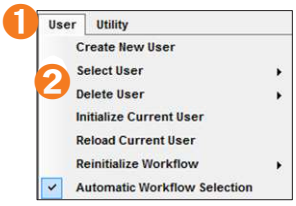


Figure 2: User menu

4. Locate the **Display** column in the **Active Screens** section (see ❶ Figure 3) — the application automatically detects the number of hardware displays or virtual displays starting with the top-left display as number one.
5. Change the order of screens by clicking on the display number of the screen (see ❷ Figure 3) and selecting the desired hardware or virtual display from the drop-down list.
6. Under the **Initial** column (see ❸ Figure 3), select which screen will display initially on each of the monitors or virtual displays when the workflow is launched with a patient.

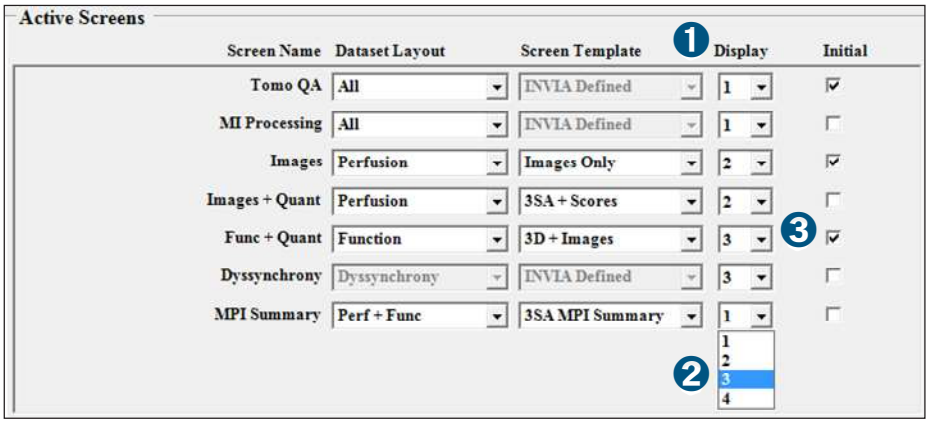


Figure 3: Active Screens list

Examples

- Dual-display (Figure 4) - The user can select quality assurance (QA) and processing screens to display on monitor 1 (e.g. Tomo QA, MI Processing) and review screens display on monitor 2 (e.g. Images, Images + Quant, Func + Quant, MPI Summary). The user can now perform QA and processing on monitor 1 while reviewing the effect of processing with the various review screens on monitor 2.
- Quad-displays (Figure 5) - The user can select QA and processing screens to appear in virtual display 1, perfusion review screens appear in virtual display 2 (e.g. Images, Images + Quant), function review screens to display on virtual display 3, and a summary screen to display on virtual display 4 (e.g. MPI Summary).

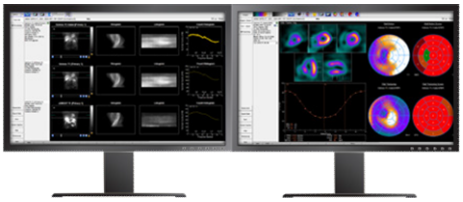


Figure 4: Dual Display

Figure 5: Virtual Quad Display

7. Click **Save** to permanently store the display monitor settings as part of the selected standard **Workflow** or **User-specific** preferences.

REVERTING FROM MULTI-MONITOR TO A SINGLE SCREEN

Users with dual monitor or quad monitor displays can change from a multi-monitor layout to a single screen. Users with oversized monitors, capable of virtual displays can also choose to display 4DM in only one portion of their monitor. To revert 4DM to a single screen set-up, refer to Step 5 in **Changing Screen Order** and choose the number 1 as the **Display** for each screen in the **Active Screens** section.

UTILIZING THE CONTROL PANEL IN A MULTI-MONITOR SETUP

Each monitor that 4DM displays on has a separate **Control Panel** that is used to perform specific tasks within the application. The only **Control Panel** button that is specific to the screen it is selected on is **Screen Capture** (see ❶ Figure 6).

When the **Screen Capture** control is selected on a monitor, it will only screen capture what is displayed on that specific monitor. The **Reporting**, **Export Data**, **Save**, **Help**, **Preferences**, or **Quit** controls are not monitor-specific. The corresponding windows for each function launch within the monitor where the button is selected, but their specific functions apply to data or settings displayed on all monitors together.

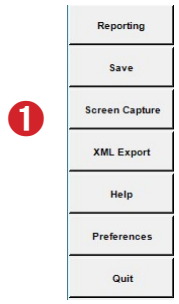


Figure 6: Control Panel

Examples

- If the user wants to screen capture the **Images** workflow screen on monitor 2, select the **Screen Capture** button on the **Control Panel** on monitor 2.
- If the user wants to save 4DM results, select the **Save** button on the **Control Panel** within any monitor.

The following table contains the minimum system requirements necessary to use the 4DM multi-monitor display option:

Supported Operating Systems:	Windows 10 and Windows 11(64-bit), Windows Server 2012 R2, Windows Server 2016, Windows Server 2019, Windows Server 2022
Processor :	Speed: 2.0 GHz or greater Cores: 4 (minimum), 8 (recommended)
Memory:	8 GB Minimum 16 GB or more (recommended)
Video Card:	256 MB of on board Video Memory (minimum) 1GB (recommended) 3D graphic card supporting OpenGL 3.0 (minimum) or greater (4.1 recommended)
Monitor Display:	Up to four HD (1920x 1080) monitor(s)
Disk Storage:	512 GB or larger NVME hard drive (recommended) NOTE: 2 GB is required to install application