Avid Configuration Guidelines
DELL 3430 workstation Tower
4 or 6 Core CPU System

Ports & Slots
1.) DELL 3430 AVID Qualified System Specification:

3430 Hardware Configuration

Supported Intel Xeon and 8th Generation Intel Core i7 CPU Choices

- Intel core i7 8700 3.2 Ghz, turbo up to 4.6 Ghz 6-core
- Xeon E-2136 3.3 Ghz, turbo up to 4.5Ghz 6-core (Better)
- Xeon E-2146G 3.5 Ghz, turbo up to 4.5Ghz 6-core (Best Performance)
- Xeon E-2174G 3.8 Ghz, turbo up to 4.7Ghz 4-core

Supported Video Cards

1.) NVIDIA P620 2GB PCIe video board
2.) NVIDIA P1000 4GB PCIe video board

System Disk Drive – 500 GB (recommended) SATA SSD. DELL offers higher performing solid-state, NVMe, and SAS boot drive options which are acceptable. Recommend a DELL qualified drive be selected.

Standard AVID memory configuration:

- Systems using the Xeon CPU’s will use DDR4-2666MHz ECC memory (up to 4 DIMMs per system)
- Systems using core i7 will use DDR4-2666Mhz Non-ECC memory (up to 4 DIMMs per system)
- 64 GB memory max for this system
- Each CPU has 2 memory lanes - optimal bandwidth when 2 or 4 memory lanes filled
  - 32GB (2 x 16GB) DDR4 2666MHz memory – (Requires two 16GB DIMMs)

Memory modules must be installed according to manufacturer’s requirements

Optional AVID memory configuration:

- 16GB (2 x 8GB) DDR4 2666 memory – (Requires two 8GB DIMMs)
- 32GB (4 x 8GB) DDR4 2666 memory – (Requires four 8GB DIMMs)
- 64GB (4 x 16GB) DDR4 2666 memory – (Requires four 16GB DIMMs)

Memory configuration constraints
- No other memory configurations are formally supported in AVID environments.
- Un-balanced memory configurations which mix and match memory module sizes and locations will result in a poor performing, non-optimal operating environment.

2.) Qualified Operating Systems, Avid Client Editing Applications, Hardware and Shared-Storage support for the DELL 3430:

DELL Supports:

- Microsoft® Windows 10 Pro for workstations 64-bit Version 1803 – (MC 2018.7 or above)

Not Supported –

- Microsoft® Windows 7 – any version
- Microsoft Windows 8 or 8.1 – any version
<table>
<thead>
<tr>
<th>Media Composer Application</th>
<th>Minimum Rev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Media Composer</td>
<td>2018.7</td>
</tr>
<tr>
<td>Media Composer 7.x, 8.x</td>
<td>Not supported</td>
</tr>
<tr>
<td>NewsCutter 11.x</td>
<td>Not Supported</td>
</tr>
</tbody>
</table>

* Nvidia P620, P1000 require Nvidia driver that ships with the version of MC 2018.7 and above

The required GPU files and installation instructions for AMD graphics can be found at the following Avid KB link: [http://avid.force.com/pkb/articles/en_US/download/AMD-Supported-GPU-Drivers](http://avid.force.com/pkb/articles/en_US/download/AMD-Supported-GPU-Drivers)
3.) Qualified O.S., Hardware and shared storage supported:

<table>
<thead>
<tr>
<th>Qualified / Supported</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitris DX</td>
<td>NOT SUPPORTED Low profile slots</td>
</tr>
<tr>
<td>Mojo DX</td>
<td>NOT SUPPORTED Low profile slots</td>
</tr>
<tr>
<td>Artist DNxIO/ DNxIQ thunderbolt connection)</td>
<td>Yes – Supported – Thunderbolt only</td>
</tr>
<tr>
<td>Artist DNxIV/DNxIP/DNxID (thunderbolt only connection)</td>
<td></td>
</tr>
<tr>
<td>3rd Party Qualified Hardware</td>
<td>See release notes and Avid website for information regarding supported 3rd party hardware (vendor qualified)</td>
</tr>
<tr>
<td>NEXIS / ISIS Single 1Gb Ethernet Client</td>
<td></td>
</tr>
<tr>
<td>NEXIS Dual 1Gb Ethernet Client</td>
<td></td>
</tr>
<tr>
<td>Intel i350, i219, i210</td>
<td></td>
</tr>
<tr>
<td>NEXIS / ISIS Hi-res (single 10Gbit) client</td>
<td></td>
</tr>
<tr>
<td>Myricom Single-Port 10Gbit</td>
<td></td>
</tr>
<tr>
<td>Atto FFRM-NS11, NT11, Intel X710</td>
<td></td>
</tr>
<tr>
<td>NEXIS / ISIS Ultra Hi-res (dual 10Gbit)</td>
<td></td>
</tr>
<tr>
<td>Myricom Dual-Port 10Gbit</td>
<td></td>
</tr>
<tr>
<td>Atto FFRM-NS12, NT12, Intel X710</td>
<td></td>
</tr>
</tbody>
</table>

Thunderbolt Guidance

Thunderbolt 2 & 3 - higher system over-head, not recommended to share Thunderbolt devices on the same Thunderbolt bus with DNxID, DNxIV

DNxIO would require TB3 to TB2 converter

Thunderbolt 3 offers support of cable lengths up to 60-meters (via qualified Corning Thunderbolt cables) for users needing to physically place the Artist DNxIO at longer distances from the host CPU Workstation.
### 4.) AVID qualified HBA info

<table>
<thead>
<tr>
<th>AVID qualified HBA</th>
<th>AVID Part Number</th>
<th>Slot Location</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>DELL Thunderbolt 3 adapter card</td>
<td>Not stocked by AVID</td>
<td>#1</td>
<td>2 ports TB3</td>
</tr>
<tr>
<td>Vendor qualified 3rd party hardware X4 PCI-E</td>
<td>Not stocked by AVID</td>
<td>#1</td>
<td>Vendor qualified 3rd party hardware interface. See release notes and Avid website for information regarding supported 3rd party hardware</td>
</tr>
<tr>
<td>Atto FFRM-NS11,NS12, NT11, NT12 10 Gb single or dual port</td>
<td>Not stocked by AVID</td>
<td>#1</td>
<td>Shared Storage: NEXIS Optical Gb-Ethernet</td>
</tr>
<tr>
<td>Intel i350-T2 – Dual Gb NIC</td>
<td>Not stocked by AVID</td>
<td>#1</td>
<td>Shared Storage: NEXIS Copper Gb-Ethernet Dual Gb NEXIS Connectivity</td>
</tr>
<tr>
<td>Intel X710 dual port 10Gb</td>
<td>Not stocked by AVID</td>
<td>#1</td>
<td>Shared Storage: NEXIS Optical Gb-Ethernet</td>
</tr>
<tr>
<td>Myricom 10G-PCIE-8B-S 10G-PCIE-8B2-2S, 10G-PCIE-8C2-2T</td>
<td>7030-30041-01</td>
<td>#1</td>
<td>Shared Storage: NEXIS 10Gb-Ethernet</td>
</tr>
</tbody>
</table>

**Notes:**
- **DELL thunderbolt 3 PCIe card is supported in 7920, 7820, 5820, 3630, 3430. For older DELL workstations, use Thunderbolt 2 PCIe card from DELL.**
5.) Slot Configuration:

<table>
<thead>
<tr>
<th>Slot #</th>
<th>Electrical</th>
<th>Mechanical</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>X4 PCI-E Gen 3</td>
<td>X4 open ended Low profile</td>
<td>DELL Thunderbolt 3 adapter card for DNxIV/DNxIP/DNxID 3rd party PCIe Open IO card (PCIe x4 or less) Shared storage PCIe card</td>
</tr>
<tr>
<td>2</td>
<td>x16 PCI-E Gen 3</td>
<td>X16 Low Profile</td>
<td>Graphics Card: Nvidia P620, P1000</td>
</tr>
<tr>
<td>M1</td>
<td>M.2 slot 1 PCI-E Gen 3</td>
<td>M.2 x4</td>
<td>DELL NVMe SSD storage cards</td>
</tr>
<tr>
<td></td>
<td>Embedded Intel I219-LM Gb</td>
<td>PCI-E x1 Gen 3</td>
<td>Qualified for Avid Nexis/ISIS</td>
</tr>
</tbody>
</table>

6.) Use of embedded NIC ports for Nexis/ISIS connectivity  **Important Information**

The Dell 3430 has one embedded NIC ports. This port is qualified for Nexis.

For proper operation and connectivity of the Intel network interface with NEXIS the following settings are required:

1. For the Intel NIC driver, under the performance settings, change the following parameters:
   - Receive Buffers to 1024
   - Transmit Buffers to 1024

2. Disable the windows firewall.

7.) **Required system BIOS settings for AVID environments:**

   Use latest version from Vendor website

   **Please Note:** CPU Hyper-threading should be enabled in all configurations. It is currently enabled by default by DELL for shipping 3430 systems

3430 **Required system BIOS changes:**

1. Verify CPU Processors are set to Hyper-Threaded
   - During boot up press F1 at the DELL splash screen to invoke Set Up.
   - Select the Performance tab
- Select Hyper-Threading
- Verify setting is Enabled (or enable if currently set to disable)

8.) Graphics Qualified Drivers:

<table>
<thead>
<tr>
<th>AVID Software</th>
<th>Version(s)</th>
<th>GPU</th>
<th>Driver Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Media Composer</td>
<td>2018.7 or later</td>
<td>Nvidia P620, P1000</td>
<td>Nvidia 390.77</td>
</tr>
</tbody>
</table>

After installation of the AVID software the supported Nvidia driver can be found in the following directory:

Program Files / Avid / Utilities / Nvidia.

** The AMD graphics driver is NOT included with MC release builds. You can find this driver on the AMD web page [http://support.amd.com/en-us/download](http://support.amd.com/en-us/download)
Set optimized Nvidia driver settings for Avid editing environments:

1. See picture below
2. Right-Click on the desktop and select Nvidia Control Panel
3. Select the “Desktop” menu selection in the control panel menu bar.
4. Enable “Desktop -> Video Editing Mode

5. Select Manage 3D Settings
6. Select “Global Settings” Tab
7. Under the “Global Settings” tab select “3D App – Default Global Settings” (Same as Base Profile)
8. Scroll down and locate the “Power Management Mode” feature. The default setting is “Adaptive”
9. For the “Power management mode” feature, select “Prefer maximum performance” as shown in the picture below.

10. Depress the “Apply” button.

11. Nvidia driver optimization settings for Avid environments are complete.
E.) **GPU monitor connectivity:**

The P620 and P1000 has 4 mini-display ports. All 4 ports can be used simultaneously.

*(Important: Display-ports are not HDMI ports; at first glance they do look very similar to HDMI ports)*

F.) **Serial Port Deck Control**

The DELL 3430 workstation does NOT have an embedded serial port. Primary or secondary / additional serial port deck control can be established via two methods (both of which have been qualified by Avid and will maintain frame accuracy in Avid environments)

1. Addenda model **RS-USB / 4** direct USB-to-RS422 serial adapter. This is a simple device which connects directly from a USB port to the RS422 port of a deck. 

2. Combination of a Keyspan (Tripp-Lite) Model USA-19HS USB-to-serial-port adapter with Addenda Rosetta Stone model RS – 2/8 RS232-to-RS422 converter
   - Keyspan (Tripp-Lite) Model USA-19HS (AVID P/N 7080-20013-01) 
   - Addenda Rosetta Stone (or equivalent) model RS – 2/8 RS232-to-RS422 converter (AVID P/N 7070-00507-01)

To connect the Keyspan 19HS / Addenda RS - 2/8 combination:
- Install the Keyspan 19HS driver before plugging the device into USB port.
- Once the Keyspan 19HS driver is installed then plug the Keyspan 19HS into a USB port.
- The Keyspan 19HS will now show up in device driver.
- Using a serial cable, connect the 9-pin serial port of the Keyspan 19HS USB adapter to the port of the Addenda marked RS232 from PC
- Using a 2nd serial port cable connect the port of the Addenda marked “RS422 to VTR” to the deck control serial port of the deck.

G.) **O.S. setting recommendations for optimum performance with Avid Editing applications:**

The following links provide O.S. setting suggestions for ensuring optimum performance when working with your Avid editing application with a Windows operating system.

- Optimizations for Video Editors - windows 10

I.) **Intel NIC Port(s) for NEXIS connectivity:**
For proper operation and connectivity of any Intel NIC port used with NEXIS the settings below are required. Example below is for the Intel PRO 1000 PT.

1. For the performance settings, change the following parameters:
   - Receive Buffers to 1024
   - Transmit Buffers to 1024

2. Disable the windows firewall.

To set the Intel NIC Receive / Transmit buffers:
Go to device manager and select each instance of the network adapter device which will be used for NEXIS connectivity.

Select performance options and then select Properties.

Set Receive Buffers to 1024

Set Transmit Buffers to 1024
Perform this for each instance of and Intel NIC port which will be used for NEXIS connectivity.

**J.) Disable the windows firewall:**

*Navigate to Control Panel / Windows Firewall -- Select Turn Windows Firewall on or off*

![Windows Firewall Control Panel](image)

- **Update your Firewall settings**
  - Windows Firewall is not using the recommended settings to protect your computer.
- **Home or work (private) networks**
  - Networks at home or work where you know and trust the people and devices on the network.
    - Windows Firewall state: Off
    - Incoming connections: Block all connections to programs that are not on the list of allowed programs
    - Active home or work (private) networks:
    - Notification state: Notify me when Windows Firewall blocks a new program

*See also*
- Action Center
- Network and Sharing Center
Select Turn off windows firewall in both network locations, OK to save

Revision Update

<table>
<thead>
<tr>
<th>Revision</th>
<th>Date</th>
<th>Name</th>
<th>Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rev A</td>
<td>Aug 22, 2018</td>
<td>Dave Pimm</td>
<td>Initial release of the DELL 3430 configuration guide</td>
</tr>
</tbody>
</table>