PRECISION ENGINEERING

Dell Precision workstations with AMD FirePro graphics can transform advanced design and engineering workflows using three or more displays

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PRECISION ENGINEERING

» Dell Precision workstations are specifically designed to run demanding CAD/CAM/CAE & visualisation software.

Image courtesy of Dassault Systèmes

Dell Precision workstations are specifically made for professional engineers and designers to offer a powerful and reliable platform for advanced CAD/CAM/CAE software. All workstations are certified by the leading Independent Software Vendors (ISV) to ensure stability and performance under extreme compute intensive workloads.

Multi-core Intel Xeon processors offer powerful processing and advanced multi-tasking. ECC (Error Correcting Code) memory provides increased reliability for compute intensive operations like simulation or rendering. AMD FirePro professional graphics delivers advanced 3D graphics performance to help maintain all important frame rates when manipulating huge CAD/CAM/CAE datasets on screen.

Dell offers a total of four desktop workstations. The compact Dell Precision T1600 is perfect for entry-level 3D CAD, while the T3500 raises the bar for mid-range and high-end users. For dual processor power the compact T5500 and scalable T7500 boost performance for manufacturing, simulation and rendering workflows.

Dell Precision is not just for the office and the Dell Precision M4600 and M6600 deliver workstation-class hardware in a mobile laptop chassis.

All Dell Precision workstations come with a three year warranty with remote diagnosis and on-site service, which gives peace of mind during critical projects.

AMD FIREPRO GRAPHICS

AMD FirePro workstation graphics cards are available in all Dell Precision workstations – desktop and mobile. Designed specifically for users of professional CAD/CAM/CAE software, the cards are specifically tuned to deliver optimised 3D performance and offer levels of reliability and image quality that cannot be matched by consumer graphics cards.

To help ensure professional engineers and designers are working inside a stable and high performance workstation graphics environment, AMD works closely with all the major CAD/CAM/CAE Independent Software Vendors (ISVs).

The ISVs test and certify each card while AMD's engineers carry out compliance, performance and functionality verification tests.

AMD FirePro also features a unique multi-monitor technology called AMD Eyefinity. This enables a single graphics card inside a Dell Precision workstation to drive up to four individual displays (see page 3 for more info).

The AMD FirePro V5900 is available in the Dell Precision T3500, T5500 and T7500

ON THE OPEN SEA

Image courtesy of Knud E. Hansen

Knud E. Hansen A/S is a global naval architecture, engineering and design consultancy to the maritime industry. The firm has a strong focus on customised design, specialising in ferries and special purpose vessels, but also offers a range of design and consultancy services for container vessels, tankers, yachts and many other types of ships.

Computer aided design and simulation technology plays a key role at the Danish firm. Its global project teams use a range of 2D and 3D engineering solutions for general design, hull design, stability analysis and structural design. With a broad portfolio of software – including AutoCAD, Inventor and Rhino for design, MSC Patran/Natran for structural analysis, STAR-CCM+ for Computational Fluid Dynamics (CFD) and NAPA for stability analysis – its designers and engineers demand a powerful, stable, certified workstation platform.

Dell Precision mobile workstations form the backbone to its workstation platform enabling its naval architects to work between shipyards and the office. The 15-inch Dell Precision M4600 with AMD FirePro graphics is a recent addition which, when in the office, can be hooked up to two 24-inch Dell UltraSharp displays to create a bigger design canvas. For more demanding workflows, involving complex rendering or simulation, its Dell Precision T1600s or T3500s offer additional compute power, hard drive performance, and memory capacity.

For CFD, to accelerate its complex fluid dynamics calculations, Knud E. Hansen A/S has deployed a 12 node Dell PowerEdge blade server cluster.

www.knudehansen.com

THE IMPORTANCE OF CERTIFICATION

Professional designers and engineers demand a stable, reliable platform to run CAD/CAM/CAE software. That's why Dell Precision workstations are rigorously tested and certified by Independent Software Vendors (ISVs). Certification provides assurance that specific combinations of hardware and software meet key requirements to deliver a high-performance, reliable workstation.

For certification Dell typically provides ISVs with workstations to test. ISVs have in-depth knowledge of their applications so are best placed to check specific features. If any issues are found, these are then fed back to Dell, who will then work closely with the ISV for a solution. If the issue relates to FirePro graphics, AMD also plays a key role, making changes to the graphics driver if appropriate. It's a collaborative process.

The most significant part of certification involves testing with professional graphics. This is one of the most complex aspects of any 3D software as it needs to work with graphics cards from multiple vendors. Testing typically includes loading and spinning a model and running through different viewing states – such as wireframe, shaded or rendered – to check it displays correctly. Geometry is often modified to see if the model updates correctly.

On-going support is a key benefit of buying a certified workstation. Certified configurations will be supported by all parties, so if any problems arise then Dell, AMD and the ISV will do their best to resolve them. Technically speaking, if a customer buys a non-certified PC all parties are not fully responsible for support.

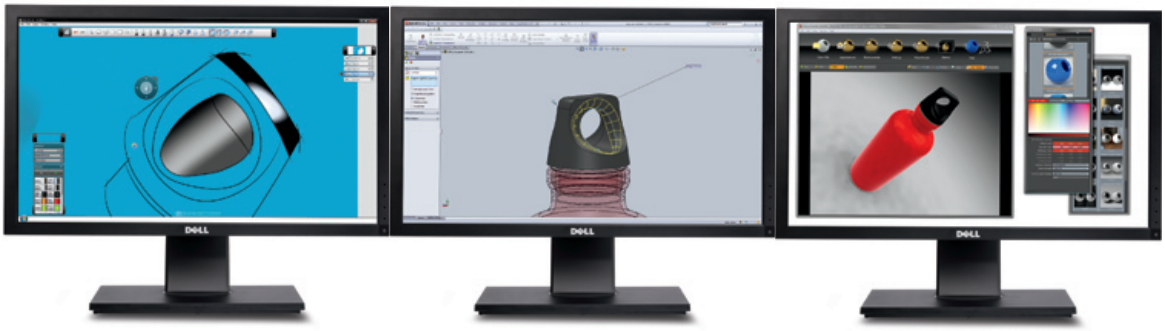
Software support is best handled by specialists so Dell often helps ISVs by leaving a workstation with them post certification. This helps ISVs reproduce customer problems promptly so all parties can then work towards a fix quicker. This type of customer feedback is essential to help Dell continue to develop high-performance, reliable workstations.

THE MULTI-MONITOR REVOLUTION

>> AMD Eyefinity enables three or more displays to be run off a single graphics card. Here are some typical design workflows supported by Dell Precision workstations with AMD FirePro.

For CAD (design viz)

During the conceptual design phase product designers typically use a number of different applications, from dedicated sketching tools to 3D rendering software. Having all these applications at your fingertips can streamline the process as data moves between them.



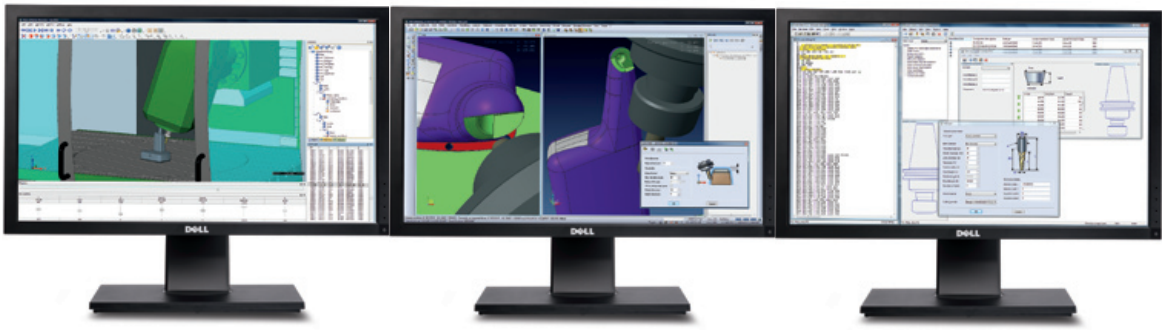
1. Conceptual design of a water bottle using Autodesk Alias Sketch

2. Building up a solid model of the water bottle inside SolidWorks

3. Rendering and material tweaking inside PhotoView 360

For CAM (machining)

CAM operators typically have a number of tasks running in parallel. VISI Machining, like many other CAM applications, allows the toolpath calculation to run on separate processors, therefore freeing the operator to set up and calculate further toolpaths without a performance penalty.



1. Simulation of the programme prior to running, to check against physical machine limits

2. Setting up machining parameters for a 5-axis milling program

3. Updating the tooling carousel / library and validating the NC code in the CAM database

For CAE (simulation)

An engineer's workflow when using CAE applications like Siemens PLM Software's NX Simulation typically revolves around model preparation and results visualisation. The whole process is managed from inception to completion, in this case using Teamcenter.

1. Simulation tasks are assigned and managed inside Teamcenter

2. CAE models are prepared using NX and simulations are executed

3. Simulation results are visually verified using Teamcenter Lifecycle Visualisation

AMD EYEFINITY

AMD Eyefinity is a new multi-monitor graphics technology. It enables a Dell Precision workstation with a single AMD FirePro graphics card to drive up to four individual displays. Monitors can sit side by side on a desk or be arranged in a 2 x 2 array to create a massive visual workspace. By comparison, other professional 3D graphics technologies can only support two displays from a single graphics card.

The AMD FirePro V5900 enables three monitors to be grouped side-by-side, giving 3D professionals access to a much bigger design canvas. Three monitors can also aid advanced engineering workflows, where users switch between applications or datasets within a project. Key tasks include conceptual design, part and assembly modelling, drawing production, rendering, simulation and data management, not forgetting email, spreadsheets and Web browsing. Having all relevant project data displayed on screen offers huge productivity benefits as time is not wasted 'Alt / Tabbing' between applications.

Moving up a level, a single AMD FirePro V7900 can support four displays. These can be grouped in a 2 x 2 array to create a powerwall with a 3D model spread across all screens. This can be used for presentations, design/review or digital mockup. For even larger scale visualisation, the AMD FirePro V7900 can also drive a 4k projector, where product styling and form and fit can be assessed and refined.

A single AMD FirePro V7900 can support up to four displays

WORKSTATIONS FOR CAD

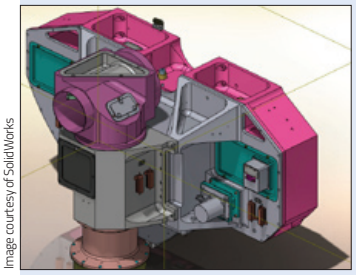


Image courtesy of SolidWorks

Computer Aided Design (CAD) software plays a key role in modern product development workflows. It is used to create intelligent 3D mechanical design models, which can then be used downstream for drawing production, simulation, manufacturing or design visualisation.

Key applications include Autodesk Inventor, Dassault Systèmes (DS) CATIA, Dassault Systèmes SolidWorks, PTC Creo, Siemens PLM Software NX and Siemens PLM Software Solid Edge.

Workstation

The Dell Precision T1600 is well suited to entry-level 3D, with the Dell Precision T3500 offering more for high-end CAD with better options for CPU, graphics and storage.

Processor (CPU)

As a lot of CAD software is single threaded — i.e. it can only make use of one core in a multi core processor — it is generally more important to have high GHz CPU than one with lots of CPU cores. There are exceptions, however, and certain elements of CAD software can be multi-threaded. The process of opening models or creating drawings, for example, is often accelerated by multi-core CPUs. Rendering, an important part of design visualisation, makes full use of multi-core CPUs. As a rule of thumb, doubling the number of CPU cores, halves the rendering time.

Graphics card

Professional graphics cards enable users to manipulate 3D CAD models smoothly on screen. For most CAD software a mid-range graphics card, such as the AMD FirePro V5900, is powerful enough. All applications are different though and DS CATIA, for example, benefits more from high-end graphics cards, like the AMD FirePro V7900. On-board memory can also be important and 2GB gives plenty of capacity to load 3D models into graphics memory, which can improve overall performance. AMD Eyefinity technology, at the heart of the FirePro V5900, offers the unique capability of running three displays from a single graphics card. This can lead to big productivity benefits for those swapping between multiple applications, datasets or parts and assemblies.

Memory (RAM)

Large assembly modelling and multi-application workflows can put a big load on memory. If memory limits are hit, performance can seriously slow down. 8GB is a good entry-level for 3D CAD, with anything up to 24GB for high-end users. A 64-bit Operating System, such as Microsoft Windows 7 Professional 64-Bit, is essential.

WORKSTATIONS FOR CAM

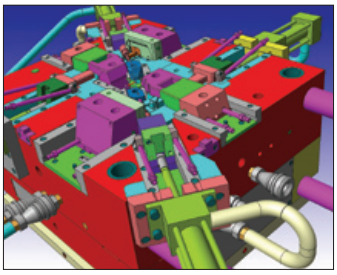


Image courtesy of Vero

Computer Aided Manufacturing (CAM) software is typically used in the production of workpieces, from which parts are manufactured. It can control a range of machine tools, including turning, 5-axis machining and wire EDM. Key applications include Cimatron, CNC Software MasterCAM, Dassault Systèmes CATIA, Delcam PowerMill, DP Technology Esprit, Missler TopCAM, OpenMind HyperMill, Planit EdgeCAM, PTC Creo, Siemens PLM Software NX CAM, Tebis, and Vero VISI.

Workstation

The Dell Precision T3500 is a good choice for entry-level CAM, with the dual processor Dell Precision T5500 offering more for high-end users with multi-tasking workflows.

Processor (CPU)

In recent years a number of Computer Aided Manufacturing (CAM) software developers have optimised their applications to take advantage of multi-core processors. By making the software 'multi-threaded', compute intensive NC code generation can be accelerated, but there are typically diminishing returns when more than two or three CPU cores are used.

As a result, a dual processor workstation, such as the Dell Precision T5500, will not accelerate a single toolpath calculation any more than a single processor workstation. The main benefit will come from being able to run a number of jobs concurrently. These advanced workflows enable CAM operators to prepare new jobs, while others calculate in the background.

Graphics card

CAM software does not have huge requirements with regards to graphics, which makes the mid-range FirePro V5900 a good choice. AMD has helped some CAM software developers boost 3D performance, including Vero and Planit. This has made graphics memory more important as geometry is now loaded onto the graphics card. AMD Eyefinity technology, at the heart of the FirePro V5900, offers the unique capability of running three displays from a single graphics card. This can lead to big productivity benefits for those running tasks in parallel, as new jobs can be prepared while others are monitored.

Memory (RAM)

Generating NC code can take up a lot of memory, particularly when generating multiple NC codes at the same time, and 16GB of ECC memory is not unusual. A 64-bit Operating System, such as Microsoft Windows 7 Professional 64-Bit, is essential.

THE DELL PRECISION WORKSTATION FAMILY

The Dell Precision workstation family caters for all types of designers and engineers, from those using entry-level 2D CAD, right up to high-end simulation software. All machines come with a choice of powerful AMD FirePro graphics cards and Microsoft Windows 7 Operating System.

Dell Precision T1600

Compact tower workstation, ideal for 2D and entry-level 3D CAD.

Processor: Intel Core i3 (Dual Core) up to Intel Xeon E3 Series (Quad Core).

Graphics: AMD FirePro V4800 (1GB) with support for up to three displays with AMD Eyefinity

Memory: Up to 32GB DDR3 SDRAM at 1,333Mhz (4 DIMMS)

Dell Precision T3500

3D CAD workstation for mid-range to high-end users.

Processor: Intel Xeon W Series (Dual Core to Six Core).

Graphics: AMD FirePro V5900 (2GB and up to three displays with AMD Eyefinity) or AMD FirePro V7900 (2GB and up to four displays with AMD Eyefinity).

Memory: Up to 24GB DDR3 SDRAM at 1,333Mhz (6 DIMMS)

WORKSTATIONS FOR CAE

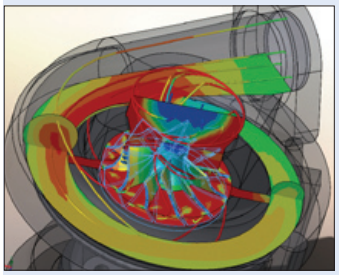


Image courtesy of SolidWorks

Computer Aided Engineering (CAE) or simulation software includes a wide range of tools to help engineers predict the performance of products. Primary software comprises Finite Element Analysis (FEA) for stress analysis, Computational Fluid Dynamics (CFD) for thermal and fluid flow analysis, and kinematics. Key software developers include Ansys, Autodesk, Dassault Systèmes Simulia, CD-adapco, MSC Software, PTC and Siemens PLM Software.

Workstation

A dual processor workstation, such as the compact Dell Precision T5500, is well suited to entry-level CAE. For ultimate performance, with enough memory to handle the biggest datasets, the Dell Precision T7500 is a better fit.

Processor (CPU)

Most CAE software is multi-threaded. i.e. simulations can be solved quicker with multi-core processors. However, a lot of CAE software offers diminishing returns above two or three CPU cores, with a distributed memory architecture (cluster), made up of individual computers, needed to truly accelerate calculations. Dual processor workstations can offer improved performance though and also the ability multi task. For example, an engineer can run multiple 'what-if' simulations concurrently to help find more optimal solutions.

Graphics card

Graphics requirements vary from application to application. A mid-range card, like the FirePro V5900, will be a good fit for a lot of CAE software, but some applications, including CEI Ensight and MSC Patran, can make use of more high-end cards such as the FirePro V7900. AMD Eyefinity technology, at the heart of the FirePro V5900, offers the unique capability of running three displays from a single graphics card. This can lead to big productivity benefits as new jobs can be prepared while others are monitored. Results can also be compared side by side.

The emergence of the OpenCL compute language also means Graphics Processing Units (GPUs) can now be used alongside CPUs to reduce the calculation times of simulations. While this is still a relatively niche technology, high-end cards like the FirePro V7900 will start to offer additional benefits beyond pure 3D graphics.

Memory (RAM)

Simulations can take up lots of memory, so 16GB of ECC RAM is common, with anything up to 192GB needed for extremely complex problems. A 64-bit Operating System, such as Microsoft Windows 7 Professional 64-Bit, is essential.

WORKSTATIONS FOR VIZ

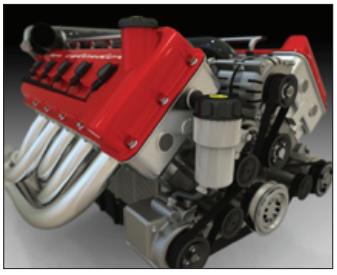


Image courtesy of Jreis and Luxion

Design visualisation software is used to create photorealistic renderings or animations of designs. To achieve this, the majority of applications use 'ray tracing', a computationally intensive technique that traces paths of light and simulates how they interact with virtual objects. Key software includes Autodesk 3ds Max Design, Bunkspeed Shot, Luxion Keyshot, Luxology Modo, Maxon Cinema 4D, NewTek LightWave and RTT DeltaGen. Most CAD software also includes built-in photorealistic rendering technology.

Workstation

A dual processor workstation, such as the compact Dell Precision T5500 is well suited to entry-level design visualisation. For ultimate performance the Dell Precision T7500 is a good match, with expanded options for memory and high-performance RAID hard drive setups.

Processor (CPU)

All rendering software is multi-threaded and can be accelerated by multiple CPU cores, making full use of all of the workstation's computational resources. In fact, as a rule of thumb, doubling the number of CPU cores halves the rendering time. This makes a dual processor system, with six cores per CPU, an excellent choice for those looking to seriously accelerate render times.

Graphics card

Most design visualisation software can make good use of high-end graphics technology, making the AMD FirePro V7900 a good option. On-board graphics memory is also important so large textures can be loaded and displayed on screen. Here, 2GB is a good amount.

AMD Eyefinity technology, at the heart of the FirePro V7900, offers the unique capability of running up to four displays from a single graphics card. This can be used to boost productivity in design viz workflows. For example, the digital artist can use the centre display for scene preparation, with two flanking displays used for CAD modelling or to host toolbars, texture libraries, or test renders. Alternatively, a single high-resolution 2 x 2 array powerwall can be made up of four individual displays for stunning presentations.

Memory (RAM)

Design visualisation software can use up a lot of memory with geometry and texture maps both contributing to the load. 8GB to 16GB of ECC memory is typical, with much more needed for complex datasets. A 64-bit Operating System, such as Microsoft Windows 7 64-Bit, is essential.

Dell Precision T5500

Compact dual processor workstation, ideal for CAM, CAE and design visualisation.

Processor: 2 x Intel Xeon E or X series (Quad Core or Six Core).

Graphics: AMD FirePro V5900 (2GB and up to three displays with AMD Eyefinity) or AMD FirePro V7900 (2GB and up to four displays with AMD Eyefinity).

Memory: Up to 72GB DDR3 ECC SDRAM at 1,333Mhz (9 DIMMS)

Dell Precision T7500

High-end, scaleable dual CPU workstation, ideal for CAM, CAE and design visualisation.

Processor: 2 x Intel Xeon E or X series (Quad Core or Six Core).

Graphics: AMD FirePro V5900 (2GB and up to three displays with AMD Eyefinity) or AMD FirePro V7900 (2GB and up to four displays with AMD Eyefinity).

Memory: Up to 192GB DDR3 ECC SDRAM at 1,066Mhz (12 DIMMS)

GOING MOBILE?

Workstation-class performance and reliability doesn't end on the desktop. Dell also offers two mobile workstations: the 15.6-inch Dell Precision M4600 and the 17.3-inch M6600. Both machines feature AMD FirePro and AMD Eyefinity graphics and support up to five external displays. Dell's Precision Mobile workstations offer the latest multi-core mobile processors and capacity for up to 32GB memory. See page 6 for more info.

Image courtesy of Dassault Systèmes

DELL PRECISION MOBILE WORKSTATIONS

DELL PRECISION M6600

Workstation-class performance and certification for CAD/CAM/CAE software is also available with Dell's Precision mobile workstations, the M4600 and M6600.

PROCESSOR (CPU)

The Dell Precision M6600 features second generation Intel Core i5 and i7 processors, up to Intel Core i7 Extreme Editions. With two CPU cores, the Intel Core i5 is a good choice for pure CAD. The quad core Intel Core i7 offers additional processing power for CAM, CAE and design visualisation.

GRAPHICS (GPU)

The AMD FirePro M8900 Mobility Pro provides high-end graphics for all types of professional 3D software. With 2GB of dedicated GDDR5 memory it is also able to load up huge CAD/CAM/CAE and design viz datasets entirely into GPU memory, helping boost performance. For powering desktop monitors, AMD Eyefinity technology can support up to three displays when the M6600 is undocked and five displays when docked. Finally, with 960 Stream processors, the FirePro M8900 can also be used in conjunction with the CPU to accelerate OpenCL-based rendering and simulation software.

MEMORY (RAM)

The Dell Precision M6600 features four DIMM slots, which means it can accommodate up to 32GB of 1,333MHz memory or up to 16GB of faster 1,600MHz memory.
The large memory capacity is on par with a single processor desktop Dell Precision workstation and means it can handle demanding CAD/CAM/CAE and design visualisation datasets.

STORAGE

The Dell Precision M6600 supports one or two 2.5" drives - a 7,200RPM SATA drive (up to 750GB) or a Solid state drive (SSD) (up to 256GB). In addition, an optional 128GB Solid State Mini-Card can be installed for operating system and applications, with one or two 2.5" drives used for data storage.
RAID 0 (performance) and RAID 1 (reliability) is supported across any two drives. RAID 5 (performance and reliability) is supported across all three drives. Dell fast response free fall sensor helps protect data loss from drops.

ADVANCED DISPLAY

A choice of advanced LED backlit Dell UltraSharp 17.3-inch displays, which are perfect for displaying high-clarity CAD line drawings and vivid 3D renderings with impressive colour accuracy and richness. Resolutions include the HD+ (1,600 x 900), FHD (1,920 x 1,080) and FHD (1,920 x 1,080) featuring multi-touch with stylus or four finger simultaneous.

All displays come with Dell's Premium Panel Guarantee, which offers a replacement screen should even one bright defective pixel be found on the screen during the warranty period.

I/O PORTS

Support for all the major standards including IEEE 1394 (Firewire), 2 x USB 2.0, eSATA and another USB 2.0 at the rear. On the right side of the machine 2 x USB 3.0 ports are also included for high-speed transfer of large CAD/CAM/CAE and design viz datasets.

KEYBOARD

Full-sized keyboard with numerical keypad for engineering calculations: optional backlit.

EXPANDED DESKTOP WITH AMD EYEFINITY

Dell Precision mobile workstations don't have to remain mobile. These powerful machines can also be hooked up to multiple high-resolution desktop displays. With AMD FirePro graphics featuring AMD Eyefinity technology, both the Dell Precision M4600 and M6600 can support up to three displays undocked and five displays when docked (pictured). Displays can be arranged side by side to create a giant extended desktop, which can help support advanced, multi-application workflows. Alternatively, they can be grouped in a 2 x 2 array, creating a high-res powerwall for presentations.

WEBCAM
Light sensitive HD video webcam

Screen image courtesy of Greg Thune and Luxion

AT A GLANCE: M4600 vs M6600

	Dell Precision M4600	Dell Precision M6600
Display	15.6-inch up to HD resolution	17.3-inch HD resolution
Processor	Intel Core i5 or Core i7	Intel Core i5 or Core i7
Memory	Up to 32GB	Up to 32GB
Graphics	AMD FirePro M5950 (1GB)	AMD FirePro M8900 (2GB)
Storage	Up to 1TB (2 drives) + Raid 0, 1	Up to 1.75TB (3 drives) + Raid 0, 1, 5
Size (HxWxD)	33-37mm x 376mm x 256mm	33-37mm x 417mm x 271mm
Weight	2.79kg	3.5kg

DISPLAY PORTS
The Dell Precision M6600 features the full suite of display options to plug into external monitors including DisplayPort (right) and HDMI and VGA (rear).

REMOVABLE HARD DRIVE
Housed in a toolless caddy, the hard drive is easy to replace or remove, which is useful when working on sensitive projects

TOUCHPAD
Multi-touch touchpad with three buttons and track stick with three buttons.

DURABILITY
Rigid aluminium and magnesium alloy chassis, protecting against temperature, vibration, dust, altitude and shock.

COMMUNICATION
Wireless LAN and WiMax, mobile broadband & GPS, Wireless 375 Bluetooth 3.0 and 10/100/1000 Gigabit Ethernet.

DELL PRECISION M4600

The Dell Precision M4600 offers many of the features of the M6600, but in a smaller form factor. The mobile workstation is based around a 15.6-inch display, which is available in resolutions of 1,366 x 768 up to 1,920 x 1,080. Professional graphics is delivered with the AMD FirePro M5950 Mobility Pro with 1GB GDDR5 memory. This offers the same AMD Eyefinity multi-display capabilities as the Dell Precision M6600's AMD FirePro M8900, but not the same levels of performance in advanced 3D applications and OpenCL software. For storage, the M4600 supports one 2.5"drive and a 128GB Solid State Mini-Card. RAID 0 (performance) or RAID 1 (reliability) is offered across two drives.

Image courtesy of Jamie Klopp, Atmos Group and Luxion

DELL ULTRASHARP WITH AMD EYEFINITY

>> Boasting outstanding visual quality Dell UltraSharp displays are the perfect partners for Dell Precision workstations with AMD Eyefinity multi-monitor technology.

Dell UltraSharp monitors are specifically designed for CAD/CAM/CAE professionals who demand high-precision displays. Featuring the very latest high-resolution IPS (Image Plane Switching) technology, they are able to display high-clarity CAD line drawings and vivid 3D renderings with exceptional colour accuracy and richness. Excellent response time reduces ghosting and blur and enables the smooth manipulation of 3D CAD models on screen.

Dell UltraSharp monitors are available in a range of screen sizes, resolution and professional features to suit all budgets and requirements. Models start at 21.5-inch 1,920 x 1,080 (Full HD) right up to 30-inch 2,560 x 1,600 resolution.

AMD Eyefinity

Dell UltraSharp displays are the perfect partners for AMD's multi-monitor Eyefinity technology. With full tilt, swivel and pivot control they can be adjusted to fit any desktop environment. With full VESA support they can also be mounted on stands or walls. When partnering Dell UltraSharp monitors with AMD Eyefinity, there are a few important considerations. In grouped mode, where three monitors create one extended desktop, the ideal scenario is to use three identical monitors or, failing that, three monitors with the same size, resolution and dot pitch. This helps ensure 3D models, windows or dialogue boxes do not suffer from a stepping effect when stretched across screens or moved from one display to another. Using identical screens also makes colour reproduction more consistent when a single image is stretched across multiple displays. This is even more important for presentations or styling on 2 x 2 powerwalls. Using identical monitors is less important when dedicating individual displays for individual applications.

VISI screen shot courtesy of Vero

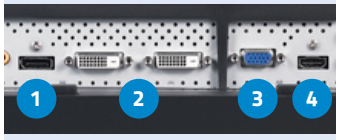
AMD Eyefinity also supports portrait monitors. Pivot mode is available on displays up to 24-inch in size including this Dell UltraSharp U2211H.

CONNECTIVITY

With AMD Eyefinity multi-display technology it is important to match displays with the available outputs on the AMD FirePro graphics card.

The AMD FirePro V7900, for example, features four DisplayPort outputs. This makes it fully compatible with all current Dell UltraSharp monitors. To use older displays that support DVI or VGA but not DisplayPort, a DisplayPort to DVI or DisplayPort to VGA adapter is required.

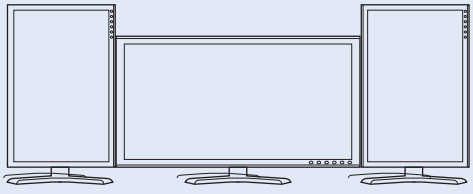
The FirePro V4800 and AMD FirePro V5900 feature two DisplayPort outputs and one DVI output, so to support three displays you need to make sure they have the appropriate ports.



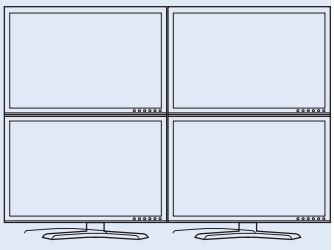
Underside of a Dell UltraSharp U2711
1 DisplayPort 2 DVI (Digital Visual Interface)
3 VGA 4 HDMI (High-def Multimedia Interface)

FLEXIBILITY WITH AMD EYEFINITY

1. Three Dell UltraSharp: landscape (3 x 1)
One extended desktop up to 7,680 x 1,600 resolution. Supported on AMD FirePro V4800 and above.



2. Three Dell UltraSharp: landscape & portrait (3 x 1)
One hi-res 2,560 x 1,600 resolution display flanked by two portrait monitors of any resolution. Supported on AMD FirePro V4800 and above.



3. Four Dell UltraSharp array (2 x 2)
A powerwall for design/review up to 5,120 x 3,200 resolution. Supported on AMD FirePro V7900 and above.

CONTACT

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Call Dell now: 0-844-444-3480
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