

Topic:
Workstations

Workstation usage in the CAD sector

Business Advantage recently carried out research to better understand the usage of workstations by SMEs (<500 employees) in the CAD sector.

iCAD is produced by Business Advantage, a B2B research, business development and marketing consulting practice operating in the global IT, Digital and Telecommunication sectors.

Business Advantage recently carried out research to better understand the usage of workstations by SMEs (<500 employees) in the CAD sector. As part of the research, vendors and resellers were interviewed and, additionally, a series of focus groups with end-users were undertaken.

What is a Workstation?

First of all, when talking about workstations, one has to define what is meant. This concept is not easy to define anymore, as the border between workstations and PCs is becoming more and more blurred. The traditional definition of a workstation is a stand-alone desktop computer running on proprietary UNIX. However, with Windows NT and Linux as workstation operating systems, this definition is not correct anymore.

High-end PCs can offer the same computing power as low and middle workstations and to purchase a workstation is significantly less expensive than it used to be. We therefore asked this question to users and vendors: where do they see the border between PCs and workstations? End-users agreed that the distinction between a workstation and PC is very cloudy. Historically it was much clearer. The general opinion was that workstations had kudos status, but some felt this has changed and top range PCs are now as good as workstations.

All in all workstations are considered more expensive and can be considered more robust, but none of the users had a clear definition of the difference. Vendors and resellers were more specific about the equipment a computer needs to have to be considered a workstation, specifically they must be 64-bit capable and OpenGL-capable.

The CAD Workstation Market

The CAD segment has traditionally been a classical workstation target, but this is changing now. Other related segments such as the Electronic Design Automation, Computer Aided Engineering and Visualisation used to be targeted as separate segments, which usually required more specialist knowledge from the resellers, but also brought them higher margins. This segmentation, however, is increasingly disappearing, with standard CAD packages offering many of the specialist functionality traditionally offered within those segments.

Talking to vendors and resellers we were told that the workstation/high-end PC market as a whole is growing in terms of numbers as single high-end workstations are being replaced through clustering PCs, achieving higher computing power and a more flexible work environment. Traditional workstations are now used primarily in a collaborative design environment, where many different areas get involved, such as engineering, security etc. The growth in the CAD market is primarily coming from the migration from 2D to 3D and from UNIX to Windows.

In the CAD segment the trend goes towards replacing workstations in the classical sense with high-end PCs. More and more users are not using their CAD seats exclusively for CAD applications but run all sorts of programs on them. The most common applications we found were general Microsoft Office applications and Outlook, rendering and surfacing applications, graphics applications such as Photoshop, Visual, Corel and 3D Studio Max, and analysis, calculation and mathematics applications. Heavy power-user software such as 3D Studio Max and mathematical applications are however, more likely to remain on traditional workstations.

Running such a variety of applications on a machine, which might have been bought for a CAD application in the first place, obviously has a major impact on the performance of the computer. Some graphics packages are extremely memory intensive. Microsoft applications are taking a major part of the processing power, making the computers run slow and tedious to work with. Other problems rise from software updates. The general view from users is that you always play catch up with your machines and sooner or later the initial machine specs are insufficient for their needs.

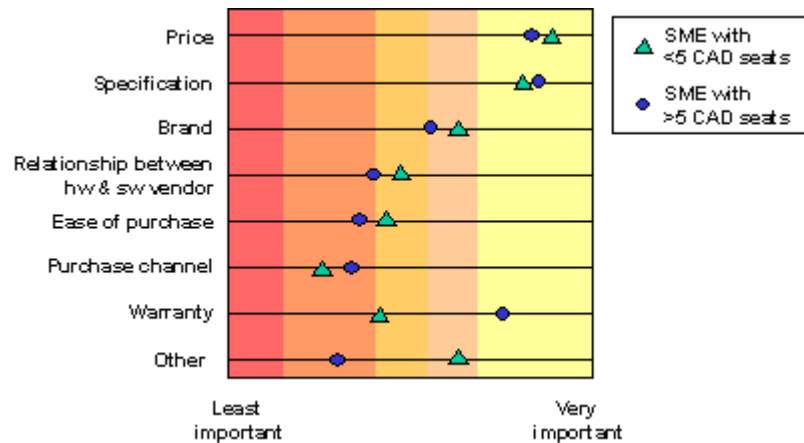
Replacing your Workstation

The replacement process depends on the company. Generally, the hardware is being replaced every two to three years. Smaller companies (<50 employees) tend to replace their equipment on a rolling basis, while larger companies tend to prefer a unified solution.

According to the end-users, the new machine requirements are researched via various sources. On-line research was seen as a very important factor for updates and pricing. The Dell website is one of the most visited ones for these purposes. Additionally, the information contained in CAD and PC magazines is seen as a very valuable source for machine selection. Recommendations from dealers and vendors are also sought, especially if an established relationship with an account manager already exists.

The purchasing route itself is influenced primarily by the price and the spec. Whoever can offer the best price and the best spec for the agreed budget will get the deal. In the buying process, a well-known brand is important, as it is a brand that has typically been tested with the CAD software. The speed of obtaining the machine was felt more important than the purchase route, especially for smaller companies, where purchase is often based on immediate need rather than routine replacement.

We offered a number of criteria to the users and asked them which of them are more important in their decision. The diagram below shows how important each of the criteria was. For most criteria the answers did not differ much for SMEs with less than 5 CAD seats from those with more than 5 CAD seats. An exception was the importance of the warranty, which was much more important for companies with a larger number of CAD seats.



Importance of influencing criteria in purchasing process

The way computer equipment is bought is slowly changing, with the Internet as a sales channel taking an ever-increasing role. With companies such as Dell in the market, which can offer the equipment cheaper than many resellers, more and more consumers buy online. We wanted to know whether this is also true for workstations. The opinion of most workstation users was that buying online is fine for smaller items, but expensive workstations are still primarily bought via personal contact. The main issue with buying online is, that it is difficult to negotiate special deals or free delivery. Therefore, in many cases, the buyer prefers to deal with a dealer via telephone. The Internet was seen more as a good tool for researching prices and delivery times. It can be seen, that the workstation users are very price focused. The Internet channel is increasingly competing with more classical channels even for workstations. This is especially true if the Internet channel is complemented by a real person one can call to close the deal.

In summary

Our research indicates that the usage of classical workstations in the SME CAD segment is declining. Users want to run all sorts of applications, many of which are not compatible with UNIX. For the replacement of the equipment, buyers are turning increasingly towards the Internet, as budget constraints are almost always a major issue for SMEs.

Please [Click HERE](#) to leave a comment or question.