



The Newsbyte

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Microsoft to Carry Sun's Java Version

In the latest move involving the bitter dispute between Microsoft and Sun Microsystems, U.S. District Judge J. Frederick Motz of Baltimore ordered Microsoft to begin carrying Sun's Java Virtual Machine in upcoming versions of the Windows operating system.

The injunction enforcing this ruling comes from an antitrust suit that Sun filed against Microsoft. In the suit, Sun argues that Microsoft has intentionally crippled Microsoft's version of Java so that its version is not compatible with other implementations, thereby reducing the language's usefulness. (One of the key selling points of Java, which was developed by Sun, is that it is

cross-platform. Developers can write one version of their program and it can execute on any platform with a compatible Java Virtual Machine.)

The long-term effect of this ruling is rather unclear. Microsoft has said that it will appeal the injunction. Aside from the appeal, Java is being battled on several fronts. One major attack comes from Microsoft's new .NET platform, which is being promoted as an alternative to Java. Another problem comes from the fact that users have had to download a Java Virtual Machine on their own as of late since Microsoft did not ship a Java VM as a part of Microsoft Windows XP.

Lindows: Coming to a Store Near You

In a move that could pose a challenge to Microsoft Windows' dominance of PC operating systems, startup company Lindows released its Lindows 3.0 operating system to retail stores on December 16.

Lindows is a new consumer-oriented operating system based on the Linux operating system.

Effectively, Lindows is intended to be an open source alternative to Windows. Basically, Lindows users are supposed to receive a Windows-like user experience without actually having to use the Microsoft product. How this goal will actually play out

remains to be seen, however. Lindows has already backtracked from its originally stated goal of being able to run all common Windows software within Lindows. Lindows is instead now focusing on including open source applications that are able to work with the same files created by their Windows-based equivalent programs. To help support this need for open source software, Lindows is including a year-long subscription to the Click-N-Run Warehouse with purchase. The subscription allows users to easily locate and download open source programs to their systems.

Shuttle XPC: An Adventure in Miniature Computers

by Brian Powell, Tri-County Computer Club

For years now, the desktop computer market has been dominated by relatively large systems housed in mid-tower and mini-tower cases. While the motherboards that once necessitated relatively large cases have shrunk dramatically, the cases themselves have not. That may be changing, though, with the introduction of new systems such as those based upon the Shuttle XPC case.

Defining the Requirements

One of my most recent computer undertakings has been the construction of a new server computer (named NOBLE) to help manage my home network and computer files. In building this system, I had several requirements that affected the type of computer system that I built. I currently live with my parents as I finish working on my Bachelor's degree, which means that I share the same living space as all of my computers. This brings two challenges to building a computer in dealing with noise levels and case size.

Because my computer functions as a server, I needed to have it run continuously to handle any necessary processing tasks. This gets to be a bit of a problem for me because I sleep several feet away from where my computers are located. If I get a noisy computer, I have to deal with that while I'm trying to rest. This problem is particularly acute today due to the proliferation of high-powered processors, which generate large amounts of heat. In order to remove all of this heat, many computers now feature four or five processors. The power supply in any computer always has a fan and modern processors all require a fan mounted on top of the processor itself. A number of newer video cards included their own fans and finally, many cases now include one or two additional fans. While all of these fans do keep the computer relatively cool and help prolong system longevity, they cause a great deal of noise. In my case, I was looking for a system that would be nearly silent.

The second major problem I faced was finding a location to place my computer. Today's mid-tower systems are still fairly large affairs. Ideally,

I was looking for a case that was small enough to be placed underneath my desk. For the type of usage I was planning for computer, direct access to the system is not really needed. Nearly everything that I need to do to the system can be completed using remote access tools such as Windows' Remote Desktop Connection. Because of this, I could afford to place the computer in an out-of-the-way location.

Shuttle to the Rescue

In my case, I stumbled upon the solution for my computer problems when a friend showed me the system he built to take to network-based computer game parties (LAN parties). When he was building his computer, he was looking for something with the power of a desktop but with the portability of a laptop. He found these features in the Shuttle SS51G, and when I saw his machine, I realized that I had also found the solution for my needs.



The Shuttle SS51G is an example of the company's XPC technology for small form factor computers.

The SS51G is one of the latest models in the XPC line of small form factor computers produced by Shuttle, a Taiwanese manufacturer of computer motherboards. While not as well-known as the larger motherboard manufacturers, Shuttle has built itself a reputation as a provider of

cost-efficient, dependable system components. Recently, Shuttle has worked to reinvigorate its product line. The XPC concept and the SS51G model are fruits of this plan.

The Shuttle SS51G product is what is referred to as a "barebones system." The unit consists of a brushed aluminum case that is roughly 12-inches deep by 8-inches wide by 7.25-inches tall. Without any installed components, the case weighs approximately 7 pounds. Fully loaded, the system should weigh around 12 pounds. This is extremely lightweight considering that many traditional systems (with steel cases) weigh close to 30 pounds.

Inside the case is Shuttle's FS51 motherboard, which runs a VIA chipset and follows the small Flex-ATX form factor. The motherboard conforms to Intel's Socket 478 specification, which means

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Shuttle XPC (Continued)

that it can support all but the very oldest Pentium 4 processors and many recent Celeron processors. For AMD Athlon and Duron enthusiasts, Shuttle makes another model that supports AMD's Socket A specification.

In order to support all of the computer's basic operations in a limited amount of space, the SS51G's motherboard is highly integrated. Among other things, this motherboard includes on-board 10/100 Ethernet networking, 5.1 channel audio, and 3D video. For most users, these three integrated components mean that the system can be used without any additional cards. For those looking at future expansion, the SS51G includes one PCI slot and one 4x AGP slot. The motherboard also includes a floppy drive connector and two UltraDMA-133 IDE channels. The motherboard features two slots supporting DDR memory rated up to 333mhz.

Moving from the motherboard to the case, we find that the SS51G includes a miniature 200-watt power supply in the unit. While this is small (in terms of power) by modern standards, it should be more than sufficient for the limited amount of components that can be added to this computer. The case only has one external 5.25-inch bay and one each external and internal 3.25-inch bays. These limit the machine's expandability, but they are necessary trade-offs to achieve the small size.

Looking at the exterior of the case, you will find that Shuttle has included a bevy of ports. On the front, there are two USB 2.0 ports, one FireWire (IEEE 1394) port, a SPDIF-out jack, a microphone-in jack and a speaker-out jack. The back of the case features connectors for the Ethernet network and VGA monitor output as well as two serial ports, two USB 2.0 ports, two FireWire ports, a SPDIF-in jack, several audio input and output jacks, PS/2 keyboard and mouse jacks and space for an optional parallel port (sold separately).

A look at the SS51G's innards would not be complete with reviewing Shuttle's innovative ICE technology. ICE's job is to handle heat removal from the system. Rather than have a heat sink and fan on top of the processor and a fan on the back of the case, ICE places a large copper heat sink (without a fan) on top of the processor. The heat sink is connected with gas-filled copper heat tubes to a set of radiator fins attached to an 80-

millimeter fan on the back of the case. This ingenious system efficiently transmits the heat from the processor to the back of the case where it can be exhausted by the fan. The fan automatically selects from one of three speed levels depending on the system temperature. Under normal operating conditions, the ICE system allows for the computer to be very quiet.

Building the System

Now that we've reviewed the basic SS51G system, let's take a look at the computer that I actually bit with the Shuttle kit. Obviously, I used the Shuttle SS51G, for which I paid \$287.00 at AJump.com. Compared to a conventional motherboard and case, this is quite a bit more expensive. In my case, I decided that the benefits provided by the SS51G outweighed its added cost. For the processor, I used an Intel Pentium 4 1.7ghz chip. I also included a Western Digital Caviar 80-gigabyte hard drive, a Toshiba SD-R1202 combination DVD-ROM/CD-RW drive, a Teac 3.5-inch floppy drive, 512mb of PC2100 DDR memory, and a Best Data V.92 modem. In all, the components came to about \$650.00.

Despite the limited working area in the case itself, I found it fairly easy to install components in the case. This is a great testament to the case design itself. Many of the items in the case (such as the power supply) ride on rails, which makes it easy to move them out of the way to gain access to needed areas in the case. In all, I was able to assemble all of the system components and have a functional computer in a little over an hour. Considering everything that was involved in working with such a small case, I thought that this was quite a good time.

Conclusion

As of this writing, I have had my computer running continuously for several weeks and have not encountered any troubles or instabilities that would seem to indicate a problem with the SS51G. In all respects, NOBLE has proven to be a nearly ideal computer.

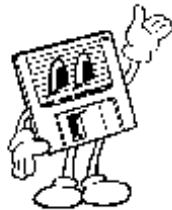
Based on my experiences, I highly recommend the Shuttle XPC series to anyone who is looking for a quiet, compact computer or is simply out to try something new and different. It seems quite clear that small form factor PCs are definitely here to stay.



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Mr. Disk's Website of the Month:

Google Groups

<http://groups.google.com/>

Before there was the World Wide Web, there was USENET. USENET refers to the collection of Internet newsgroups that are based on the NNTP protocol. While usage of newsgroups has leveled off somewhat in the past several years with the explosion of the World Wide Web portion of the Internet, newsgroups still represent a great place for users to communicate with other people on nearly any topic imaginable.

Search engine giant Google began its Google Groups service in early 2001 when it acquired the archives of former USENET portal DejaNews.

Thanks to DejaNews and some other sources, Google Groups contains practically every USENET message posted since 1981. This collection contains hundreds of millions of messages representing over a terabyte (1,000 gigabytes) of data.

In many ways, a look through this archive is a walk down memory lane. Among other things, the archive contains posts announcing the World Wide Web and the development of Linux. For a listing of some major posts in Google's archive, visit http://www.google.com/googlegroups/archive_announce_20.html.