Mac

What AppleWorks Users Should Know about Apple's New Intel iMacs

by Warren Williams and Cathleen Merritt

This article summarizes the results of the authors' 30 hours of tests of AppleWorks 6 running on a new Intel iMac. The authors describe how AppleWorks runs on these computers and provide information designed to help AppleWorks users transition to Apple's current and forthcoming Intel systems. They wrote this article using AppleWorks running on an Intel iMac.

Figure 1: AWUG's Test Systems

Apple is now shipping a new generation of Macintosh systems – the first Macintosh computers powered by Intel processors. These systems are designed around Intel's newest processor, called the Core Duo because it contains two computers on the same chip. Apple reports that these processors have more than twice the throughput of the G5 processors they replace.

The new iMacs also come with Rosetta, a technology that lets applications designed for earlier PowerPC Macs run on the new Intel iMacs. (We will talk more about Rosetta later in this article.)

However, these are the first iMacs to ever ship without AppleWorks, although Apple continues to sell AppleWorks for $79 ($39 for educators) through the Apple Store. As a result of Apple's decision to drop AppleWorks from the new iMacs, rumors abound about the performance and stability of AppleWorks running on these new systems. So we put AppleWorks through its paces on AWUG's

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new Intel iMac.

The Systems

We used the two 20-inch iMacs in *Figure 1* for our tests. The Intel iMac (on the right) was equipped with the 2 gigahertz Intel Core Duo processor we described earlier.

The G5 iMac contained a PowerPC G5 processor running at 1.8 gigahertz.

Both computers were running AppleWorks 6.2.9 under Mac OS X 10.4.4, which was the latest version of the Macintosh operating system available when we conducted our tests in late January. Both computers had one gigabyte of RAM and the standard graphic cards that Apple includes in these iMacs.[1]

The Tests

We know that AppleWorks runs reliably on the G5 iMac, so we concentrated our tests on Apple's new

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[1] The G5 system had an nVidia GeForce FV 5200 with 64 megabytes of VRAM. The Intel iMac had an ATI RadeonX1600 with 128 megabytes of VRAM.

Intel system. Using the Intel iMac, we tested AppleWorks' ability to open, edit and save more than 100 AppleWorks word processing, database, spreadsheet, presentation, drawing and painting documents and templates from AWUG's Public Domain Library. We also created dozens of documents, including a spreadsheet with 20,000 simple formulas, and word processing documents designed to test AppleWorks 6.0's outlining capability, built-in spell-checker, thesaurus and equation editor, internet links, mail merge and more. Along the way, we also tested AppleWorks' ability to open and save files in ClarisWorks 4 and AppleWorks 5 format on the Intel iMac and AppleWorks' ability to open those files on the Intel and G5 iMacs.

Finally, we tested AppleWorks' ability to re-create, open and save the complex seven page word processing document we originally prepared for the "What AppleWorks Users should Know about iWork" series published in the iWork section of this newsletter. (We describe this document in the "Creating a 'Ringer' for AppleWorks" sidebar elsewhere on this page.)[2]

We did one round of tests using a copy of AppleWorks we installed from a CD on our brand new Intel iMac.[3] We then restored the iMac to its original state and used Apple's Setup Assistant to transfer all our applications (including AppleWorks), settings and data to the iMac. We then repeated our tests of AppleWorks.

You can see why the 30 hours went quickly.

The Results

Here are the results of our tests:

Briefly stated, we found that AppleWorks running on the Intel iMac was as reliable as AppleWorks running on other platforms – in our case, our G5 iMac comparison system.[4]

All our documents formatted properly. Spreadsheets calculated correctly. Presentations ran without a hitch.

Overall, we could discern no difference in the reliability of AppleWorks or any differences in the documents we created, opened and saved using the two systems. And documents created and saved in

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[2] A copy of this document is on AWUG's Journal Templates.15 disk that you can download from the Public Domain Library at AWUG's website at **<www.awug.org>**. (Unlimited Web downloads costs $10, payable with your membership renewal.) The Journal Templates.15 disk is also on AWUG's March 2006 CD, which costs $14.95 (plus $2 U.S. s/h) directly from AWUG.

[3] You need AppleWorks 6.2 or later to install AppleWorks from a CD – earlier versions of AppleWorks came with a "Classic" installer that required OS 8.x or 9.x. If you have an earlier version of the AppleWorks CD, you should use the Setup Assistant to install AppleWorks. Alternatively, you can buy a current (AppleWorks 6.2.9) CD from Apple or on eBay.

[4] Throughout our tests, AppleWorks only force-quit once (when we were repeatedly and rapidly checking internet links in a word processing template) and acted strangely once (the black edge around the Find dialog turned blue and left blue text in its wake when we moved the Find dialog over a word processing document). In both cases we saved our work, quit AppleWorks and re-launched the application. We then re-tested the same documents and could not replicate either of these problems.

ClarisWorks 4, AppleWorks 5 and AppleWorks 6 files on the Intel iMac looked identical when opened on the older G5 system.[5]

	G5 iMac 1.8 GHz	Intel iMac 2.0 GHz Core Duo
Launch AppleWorks	8*	6
Create new word processing doc.	1	1
Count words in 67,000 word doc.	1.5	1.5
Find word in 5,500 word doc.	<1	<1
Spell check 1,000 word doc.**	<1	<1
Copy SS row into 499 rows***	3	<1
Calculate 20,000 formulas	<1	<1
Copy formula into 20,000 cells	85	64
Create scatterplot w/ 20K data points	1	2
Find in 2,250 record database	<1	<1
*All times are seconds. Lower numbers are better.	**With no spelling errors	***With 40 columns

Figure 2: Speed Tests

Speed Tests

Since Apple advertises that the Core Duo Intel processors used in the iMac are twice as fast as the 2.1 gigahertz G5s they replace, we tested the speed of different AppleWorks operations on our 1.8 gigahertz G5 and 2.0 gigahertz Intel systems.

As you can see from the results in *Figure 2*, AppleWorks runs at blazing speed on both systems. The only noticeable difference appeared when we were working with very large spreadsheets, where the Intel system seemed more sprightly.

We found no difference in the performance or reliability of AppleWorks installed "from scratch" on a brand new iMac or the copy of AppleWorks that we later transferred to the Intel iMac along with our other applications, network settings and data.

Why the Intel Isn't Faster

These timing tests raise a question: If Intel's Core Duo processor is more than twice as fast as the G5 it replaces, why are there such small differences in the speed of AppleWorks running on our two systems?

Answering that question gives us an opportunity to explain some of the terminology and technologies you will encounter as you consider your move into Apple's Intel era – specifically, the terms "compiler", "translator", "Rosetta" and "Universal code".[6]

Applications such as AppleWorks are written using a high level computer language (such as "C++") which has a structure and set of rules programmers can learn and understand. The "code" written by the programmers is then run through an application called a "compiler" that converts their code into "machine language" – a set of instructions that is understood by the processor in the computer. Since different processors require their own customized set of instructions, the software developer must use different compilers for each processor.

Since the new iMacs have a different processor, they would normally not run any of the applications compiled to run on Apple's older PowerPC processors. Of course, that would make it difficult for anyone to buy a new iMac – you would have to buy all new software. To eliminate that problem, the new iMacs come with a "translator" – an appli-

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[5] Some documents created on older systems looked different on the Intel iMac. This occurred because this is the first AWUG system that lacks OS 9. (Apple's Intel systems cannot run in the Classic environment.) As a result, AppleWorks substituted fonts in documents that used the Classic fonts not provided with Mac OS X. However, this is unrelated to Apple's switch to an Intel processor – the same results will occur on any Macintosh not running Classic. (See the article "Tips for Migrating to an Intel Mac" elsewhere in this issue for help moving your OS 9 fonts onto a new Mac.)

[6] The authors recognize that they are simplifying their explanations in the interest of helping AppleWorks users understand these concepts.

cation called "Rosetta" that automatically converts machine language code written for PowerPC chips into code that is understandable by the Intel Core Duo chip. It is Rosetta that lets you run older OS X applications (like AppleWorks) on your new Intel system. However, Rosetta introduces another step in the operation of an application because your iMac must "translate" every instruction from PowerPC machine language into instructions the Intel chip can understand.

And that explains why the new Intel iMacs are not significantly faster than the G5 iMacs when running AppleWorks. Although the Intel processors have at least twice the throughput of the PowerPC chips they replace, some of that power is being used to translate instructions. And it speaks well for Apple's engineers that the new systems run AppleWorks as quickly as they do.

We did quick tests of some other applications under Rosetta and all ran well, with one exception – Adobe Photoshop Elements 3, which ran reliably but was about 25% slower on the Intel system than on the comparable G5 iMac. We heard that the America Online software would not run on the new iMacs, but we had no problem launching the AOL application and using it to manage our email or access AOL- or web-based content using the Intel iMac.

The Future

Of course, the need for Rosetta masks some of the speed and power of these new systems, so Apple is encouraging developers to update their software so it runs without the Rosetta translator. The conversion process requires developers to "tweak" their applications and run them through new compilers designed to produce a new "Universal" set of computer instructions. (The resulting code is called "Universal" because it runs without translators (which is call "running natively") on both PowerPC and Intel Macs.) We expect developers to release all their future software updates in this Universal format.

Apple has already converted most of its consumer applications (including Safari, iWork '06 and the iLife '06 suite of applications) to the Universal

code.[7] However, there is no indication that Apple will release a Universal version of AppleWorks, so the performance numbers in *Figure 2* reflect what you can expect to see on your Intel system.

Conclusion

We were concerned when Apple first announced its plans to shift to Intel processors – such a shift normally requires new software and the "growing pains" we frequently encounter with any new technology. But Apple has "done it right". Our new Intel iMac is a reliable and impressive system. It runs AppleWorks flawlessly and with the same blazing speed as on the fastest G5 iMacs the Intel systems replace.

We suggest that members who need a new computer consider buying one of the new iMacs. Our system proved fast and reliable.[8]

And with Intel iMacs and MacBook Pro's already available, can Intel-powered tower, iBook and Mac minis be far behind? ◼

[Ed: To hear a podcast of Warren Williams discussing the results of these tests, go to <www.macvoices.com/archives/2006/awug1.html> after March 1.]

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7 You can find an up-to-date list of Universal applications at **<http://guide.apple.com/universal>**.

8 Although we did not test Apple's about-to-be-released Intel-equipped MacBook Pro laptop, we expect it to perform equally well with AppleWorks.