



A major new  
version of the Mac OS  
will arrive any time now.  
**Rob Buckley** brings you the  
inside story on Apple's  
exciting new OS and finds out  
if Tiger will burn as brightly  
as its predecessor,  
Panther

# Mac OS X 10.4 Preview



**W**hy is the Mac so appealing? Well, apart from its impressive design, there's this thing called the Mac OS. Just as you might use

Windows to operate a PC, so the Mac OS lets you take control of your Mac. It lets you organise your files, open programs, access the Internet, print, scan and do just about everything else. It puts the Dock at the bottom of the screen, the menu bar at the top, an Apple in the corner and pictures and icons for your files, folders and disks on your Desktop. It's very easy to use, fun to work with and beautiful to look at. It's what makes a Mac a Mac.

But in the computer world, what was fashionable and cutting edge two years ago is slow, out of date and inadequate. A computer with built-in CD and DVD burning may seem an obvious necessity now, but less than a decade ago, no one even thought a CD drive in a computer was important. So Macs – and the Mac OS – have to move with the times.

The biggest change to the Mac OS, almost since 1984, was the move from OS 9 to OS X. With its 'lickable' buttons and rock-solid stability, OS X revolutionised the Mac OS. But unbelievable as it may seem to many, that was nearly five years ago. Since then, there have been three big updates, the last of which was OS X 10.3 (codenamed Panther), released in

October 2003. All of them added new features, refined existing ones, and made the Mac faster, more powerful and even more lickable. Now a new version is due: OS X 10.4, codenamed Tiger.

Tiger has a lot to top. Panther not only brought OS X up to the same level as OS 9, it was a huge leap forward technologically, too. After releasing a new version of OS X almost every 12 months, Apple will have had 18 months to work on Tiger since Panther's release. The expectations for Tiger are even higher than for Panther so how can it possibly trump its predecessor?

In preparation for its imminent release, we're going to shine a spotlight on Tiger and highlight the best of the new features, as well as let you know whether Tiger is worth the inevitable upgrade cost.

### Putting a Tiger in your tank

Tiger isn't going to be for everyone, unfortunately. Just as Jaguar and Panther cut off support for some older Macs, so Tiger is going to cut off a few more old-timers. Tiger's official minimum system requirements are a G3 or

better, a DVD drive, built-in FireWire, 128Mb of RAM and most importantly, at least 2Gb of disk space.

Once you've installed Tiger, a quick restart will bring up the setup assistant. One big change in the setup assistant is the Migration Assistant. Familiar already to those who have bought new Macs in the last six months, the Migration Assistant will help transfer your files, applications and settings from another Mac or another disk drive or partition. It's surprisingly easy to use and takes a relatively short time, but if you choose to transfer applications, you'll probably find quite a few third-party applications don't survive the transition and will require re-installing. Nevertheless, it's a welcome addition.

Another new arrival is VoiceOver. This is perhaps the biggest selling point of Tiger for those with visual impairments, since it effectively means they can use OS X again. Imagine trying to point and click on icons and run your Mac without being able to see the screen and you'll have some understanding of just how vital a tool narrating your Mac's interface and your actions is for the blind. ▶

**“Apple has pulled off a miracle in the performance department once again. Unlike Windows, OS X has got faster with every release”**

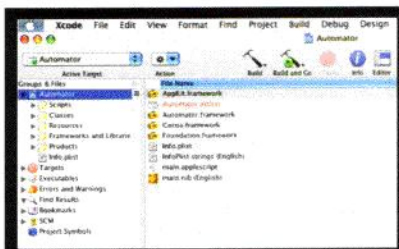
The last screen reader left for Macs was discontinued last year so VoiceOver effectively jumps OS X over Windows, which while having a plethora of third-party screen readers, does not have one built in.

VoiceOver appears on the scene right from the setup assistant. An option to activate it at this stage is available and from then on, every aspect of Mac set up and control is amenable to VoiceOver. It really is outstanding compared to the competition.

### Scratching the surface

Once you've got it all installed, Tiger looks a little different from Panther. The window and menu bar colours seem slightly different – the Apple menu now has a blue background and there's a magnifying glass for Spotlight (more on that later) in the top right-hand corner, but otherwise there's not much new to look at initially.

Start playing around with it, though, and you'll realise that Apple has pulled off a miracle



On the Developer Tools CD-ROM you'll find new tools for creating Automator plug-ins

### Under the hood

Take a quick look at the incredibly powerful technologies underpinning Tiger

Although there are plenty of exciting things happening above the surface, beneath Tiger's bonnet some even more significant things are going on. Tiger has been written to take full advantage of the G5's 64-bit processing capabilities, meaning it can handle huge amounts of data more easily. Improvements to the system's 'kernel' mean that dual-processor Macs will get even faster. Anyone worried about security will be delighted by the introduction of access control, which gives each file a list of which users can do what to it. Topping it all, a new daemon manager called launchd has been introduced that can register applications and audit and control network resources.

Command-line users will be happy to know that many existing commands, such as cp, tar, and rsync, will be upgraded to support all the facilities of the HFS+ file system, including resource forks. And a range of new commands will let them use Spotlight and other Tiger functions directly from Terminal.

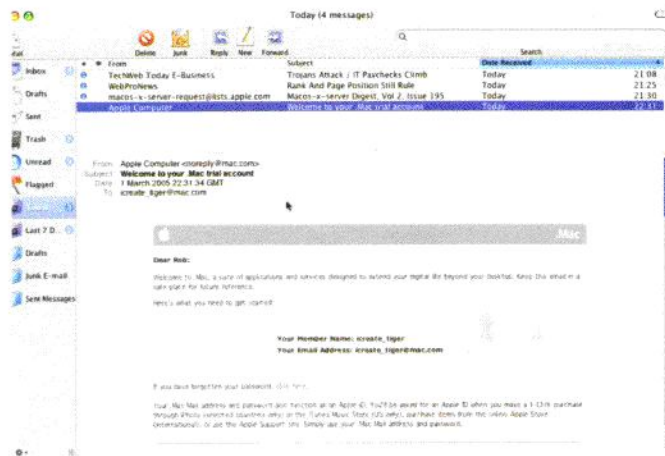
For developers, there's plenty to celebrate. The developer tools now include the gcc 4.0 compiler, which features lots of speed improvements, including auto-vectorisation to really get the most out of the G4 and G5's AltiVec graphics unit. XCode 2.0, a big update to the development environment included with the tools, has a lot for Java programmers, including code completion and code sense indexing. And a healthy wedge of open source APIs and libraries are included with Tiger, including SQLite, to make cross-platform programming even easier.

## “Automator will be a blessing for anyone that regularly does a series of tasks and wants to take some of the drudgery out of the process”

in the performance department once again. Unlike Windows, every generation of which requires a newer faster computer just to provide the same performance as the previous version, OS X has got faster with every release. Tiger is no different and even with a few programs running you'll feel as though your Mac has a spring in its step. That speed boost is even bigger for G5-based Macs, particularly ones with dual processors, so Tiger will certainly begin to pay for itself right from day one. How Apple does it, no one knows.

The introduction of Core Image and Core Video to Tiger should also speed things up further. These provide hardware acceleration for QuickTime and a range of hardware-accelerated image and video manipulation tools for developers that practically amount to Photoshop in a box. But just as Aqua and Quartz Extreme provided a way for every application to have drop shadows, transparent windows and live resizing without any real overhead or development work, so Core Image and Core Video should open up a new world of effects – even to applications that were content to sit there and look rubbish.

Tiger is also beginning to show how mature OS X is now. While Jaguar introduced a completely new printing system and Panther messed around with some of the hardware drivers, Tiger has proved refreshingly immune to the new 'Operating System, new problems' syndrome that has beset previous releases. None of our printers, scanners or other bits of hardware suddenly stopped working once Tiger was on board. Dare we tempt fate and say that you can approach a Tiger upgrade relatively confident that nothing's going to stop working?



**Knowledge Base: H.264: Rubbish name, nice technology**

**The future of video?**  
H.264 doesn't sound particularly exciting but it promises to be the next big thing in video. It's the successor to a whole load of things, including MPEG4 (another name for it is MPEG4 Part 10) and H.263, the standard iChat uses for videoconferencing. To use its other name, it's the Advanced Video Codec. Why's it so good? The main reason to celebrate is that it promises to give much better video quality for smaller file sizes. So iChat videoconferencing and Internet downloads will be much clearer. But with hundreds of companies pledging to support it, it could be the first true video standard.

*Tiger's H.264 video codec has a pants name, but it'll make the video quality of your iChats much more impressive. Take a look at [www.apple.com/macosx/tiger/h264.html](http://www.apple.com/macosx/tiger/h264.html) for more*

A brand new look and Smart Mailboxes for organising your messages make Mail better than ever

**Mail**

**Mail? Man!**  
Mail has a new look, smart mailboxes and can synchronise all its rules, accounts and settings with .Mac.

**Automator**

Get Mail

- Inbox
- Drafts
- Sent
- Trash
- Unread
- Flagged

Today

- Last 7 Days
- Drafts
- Junk E-mail
- Sent Messages

iCreate's really s

iCreate's burning

Rob Buckley  
Available

Buddies

Co-Workers

Family

**Smart Folders**

**Group mentality**  
Smart Folders fill themselves with items according to rules you set. They're everywhere in Tiger.

**.Mac**  
**That syncing feeling**  
 More of your data will sync with .Mac, and there'll be even more that can sync very soon.

**Dashboard**  
**All your tools, a button away**  
 Dashboard is full of handy 'gadgets' that disappear and reappear at the touch of a button.

**RSS**  
**All the news, all the time**  
 Keep up to date with the news that interests you using Safari. Your bookmarks will tell you what's new.

**Spotlight**  
**Still haven't found what you're looking for?**  
 Find any file that you want. Click on 'Spotlight', type your query and the files will appear instantly.



**iChat**  
**Brought to account**  
 iChat has improved video quality, support for Jabber accounts and the option to use more than one AIM account.

**Burnable folders**  
**Tiger, Tiger, burning bright**  
 Always burning the same CD? Fed up waiting for Panther to copy files twice? Burning folders are for you.

**Automator**  
**Taking the tedium out of tasks**  
 Get all your Mac apps working together to solve your problems with Automator.

# Mac OS X Timeline

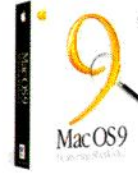
The Mac OS X story has been long and dramatic. Here's what's been happening over the last seven years...

**March 1998:**  
'Pink' devised  
Apple engineers and managers get together for the first of many attempts to 'modernise' the Mac OS.

**12 October 1988:**  
First version of NeXTStep  
Steve Jobs' first post-Apple company, NeXT, shows off its cube-shaped computers, running a blend of Unix called NeXTStep.

**1994:**  
'Copland' announced  
Another attempt by Apple to modernise the existing Mac OS. Cancelled in May 1996 when everyone realised it wasn't working.

**1997:**  
'Rhapsody' demonstrated  
After buying NeXT, Apple adopted NeXTStep as the basis of the next Mac OS. Rhapsody was the first (dodgy) stab at it.



**May 1999:**  
OS 9 released  
The last release of the original Mac OS. It was later slightly re-engineered to work as part of the forthcoming OS X.

**24 March 2001:**  
OS X 10.0 (aka Cheetah) released  
After a sub-standard public beta, the first modern Mac OS arrived. Should really have still been called a beta.



Burning Folders are like regular folders but click on the Burn button and everything in them will write to a CD or DVD

“Apple is relying on third-party developers to a degree almost never seen before at a company that once had almost terminal ‘Not Invented Here’ disease”

## What's new pussycat?

So what's new with this particular pussycat? Well, Spotlight is certainly one of the high points of Tiger. Spotlight's instant search facility is pretty much what it says on the box. Click on the magnifying glass, type in what you're looking for, and almost everything on your Mac that contains your search terms will pop up, whether it's in an email message, an Address Book contact, a Word file or merely a place name in a PDF map. It's very fast, unlike all previously advertised instant search solutions (no names

mentioned Sherlock. Whoops. We just did.). But there are a few limitations.

First, your Mac has to index all your files, going through each one in turn. Unsurprisingly, this will probably end up taking a few hours if you have a lot of files. However, you won't need to do anything to update the index - Spotlight is integrated deep within Tiger, so whenever you make changes to files, the index will update automatically.

The second limitation is that it will only work with files that Tiger understands. So developers

that have their own file formats and who want Spotlight to be able to search their files will need to make sure they create a Spotlight plug-in. No plug-in, no search.

Automator is a nice new tool for the pro user who doesn't want to learn AppleScript. Essentially, it lets you automate one program, feed the result into another program and so on until the result you wanted is achieved. So you might want to get iPhoto to open a particular album, rotate all the pictures (well, you might...) then send photos via Mail to everyone in a particular Address Book group. A few clicks, drags and drops in Automator and it's all done.

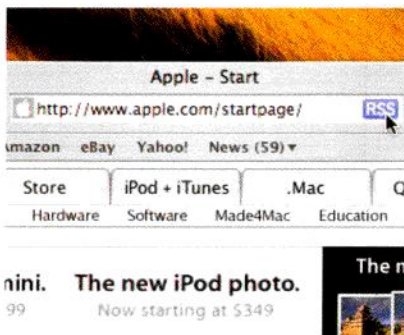
To a large extent, Automator relies on pre-packaged steps, so you have to hope that it has a step that matches what you want to do. But for anyone that regularly does a series of tasks and wants to take some of the drudgery out of it, Automator will be a blessing.

Dashboard is the most visually exciting new feature in Tiger. It activates when you click on its icon in the Dock or press F12, revealing a whole host of 'gadgets', such as currency converters, language translators, flight information and almost everything else that was once the domain of Sherlock. You can add widgets by activating a second Dock, which appears underneath the real Dock, and dragging them out onto the desktop.

## Productivity boosters

While these are the main things that you can show off to other users, there are a lot of little things in Tiger that add up to quite a lot. The Finder now has several new types of folder, including Smart Folders and Burn Folders. Smart

## Step-by-step Tiger Accessing RSS feeds in Safari



### 1. They're everywhere!

There are plenty of Web sites that offer RSS feeds. Any time you come to one, 'RSS' will appear in Safari's location bar. Click on it to see the feed.



### 2. Sort it out

Safari's RSS controls let you sort all your news articles however you like. You can even shorten article summaries and search for keywords in articles.

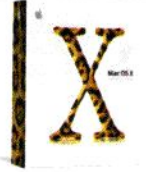


### 3. Got your number

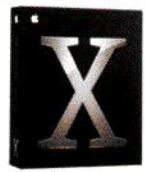
If you bookmark an RSS feed, the number of articles available will appear next to it in brackets. You can also view all the RSS articles in one folder together.



**29 September 2001:**  
OS X 10.1 (aka Puma) released  
Not so much a full release as a bug fix for Cheetah. Fortunately, it was free for existing users.



**24 August 2002:**  
OS X 10.2 (aka Jaguar) released  
The first version of OS X that could really be called usable. It was still a bit slow, though.



**24 October 2003:**  
OS X 10.3 (aka Panther) released  
Filling in the gaps in Jaguar, Panther added a load of extras that finally took OS X beyond OS 9.



**First half of 2005:**  
OS X 10.4 (aka Tiger) due out  
A bit more polished, a bit faster and with some clever extras, Tiger looks like a worthy successor to Panther.

Folders, which appear like iTunes Smart Folders, don't contain files: they contain search results. So if you want to have a folder that contains all Word documents you've created in the last 30 days, you can create a Smart Folder that will show them all. Better still, it will automatically update its content as time moves on and you create new documents. Smart Folders won't be confined to just the Finder: Mail, Address Book, Font Book and other Apple apps will all get similar functions.

Burnable Folders are a similar innovation, allowing you to create CDs without having to duplicate your files or locate them every time you want to burn the same CD. Create a burnable folder, drag your files onto the folder and then when you open the folder in the Finder, a burn option will appear with the files to create a CD of the folder's contents.

Mac syncing is going to be big in Tiger, too. No longer restricted just to bookmarks, Address Book contacts and the like, Mac syncing will be available to any developer that feels like incorporating it into their programs. A number of Apple's own programs, including Mail, have had Mac syncing added to them.

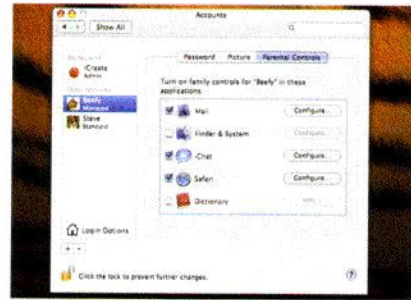
Parental Controls are a new feature designed to give parents peace of mind. As well as allowing them to restrict what programs their children can use, they can also restrict which Web sites Safari can visit.

**Cosmetic surgery**

Just in case everyone was getting used to their applications, Apple has also performed a touch of cosmetic surgery to some minor apps. Keychain Access has been completely renovated with a brushed metal look, Printer Setup Utility now has most printers in a single panel and most of the System Preferences panes show signs of Apple tinkering.

The big guns haven't been left untouched, either. iChat is now up to version three, and for the first time it supports an instant messaging system other than AOL Instant Messenger. Unfortunately, the new system is Jabber rather than something useful like MSN Messenger, which is a shame. iChat also lets you set up more than one account, but you can't use them both at the same time.

QuickTime is now whacked up to version 7, which normally would suggest lots of new features. However, there are actually fewer features for most people since QuickTime Pro 6 licences won't work: you'll have to buy a new licence to access really quite ordinary features, such as having two movie windows open at the same time, which is an odd move by Apple. Just



Parent Controls allow parents to specify who their kids can email and chat to, and which sites they can visit

to really rub it in, QuickTime Player shows all the menu options available to Pro users but greyed out and with 'Pro' written next to them. Here's what you could have won...

Mail has had a complete makeover. It now has a creamy, brushed metal look. The old Mailbox drawer has gone, replaced with a simple left-hand column of mailboxes, making the whole layout the same as most other mail applications - a change for the better, we think. Mac syncing will now sync mail accounts, rules and even Smart Mailboxes (a new feature similar to Smart Folders in the Finder). And one particularly nifty idea we think all mail clients should have is the ability to resize image attachments on the fly within Mail, without using an outside program. Goodbye large attachment problems.

**Big cat Safari**

Safari is perhaps the most enhanced of all the standard Apple applications. As well as parental controls, it can now browse RSS news feeds and can roam around the Web 'privately' - refusing to accept cookies, record a history or leave any trace on your Mac or on Web sites of what you might have been up to. An Internet archive facility similar to Internet Explorer's lets you store Web pages complete with images, movies and anything else on the page, so you'll always have a record of how the site looked when you visited it.

Now, despite these extras, you might be forgiven for thinking that Tiger isn't really that exciting. And to a certain extent you'd be right: the big features really aren't that big and you can certainly live without most of them. But in conjunction with all the little extras (Steve Jobs reckons there's 200 new features dotted around Tiger, but some of them are really well hidden), they do add up to something worthwhile.

But the key to understanding Tiger is to note that for once, Apple is relying on developers: it's been doing its level best to get everyone

**Kitten's got claws**  
Six scorching new Tiger features



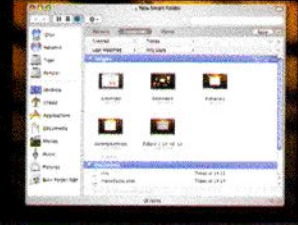
**1. Automator**  
Automator's there for the nasty things in life. Drag and drop items from Automator's library of actions into order and get your Mac apps to work together to solve your problems, ending all that mindless repetition.



**2. Dashboard**  
Get access to a potentially endless series of handy tools at the touch of a button. Translate languages, make notes, look up a word in the dictionary, then press the button again and they're gone.



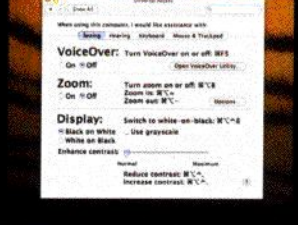
**3. iChat 3**  
iChat has been upgraded with H.264 - the latest crystal-clear videoconferencing technology for Tiger. But now it can also send messages to Jabber users and you can use more than one AIM account.



**4. Smart Folders**  
In just about every Tiger program, you'll have Smart Folders that can show items according to rules - just like in iTunes. Finder Smart Folders can store your searches and update instantly whenever you open them.



**5. Spotlight**  
Spotlight provides instant access to your files. Click on the magnifying glass, type in your search and the files will appear as you type!



**6. VoiceOver**  
VoiceOver finally makes the Mac accessible to the visually impaired. Every single aspect of the Mac's interface can be read out and almost every application will work with VoiceOver out of the box.

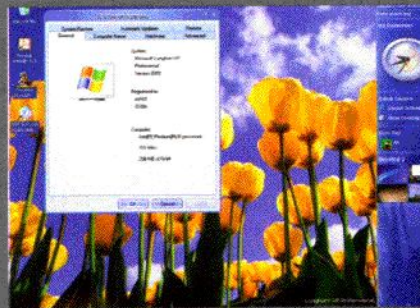
# Tiger

versus

# Longhorn



**How does Tiger stand up against Microsoft's next generation of Windows, codenamed Longhorn?**



More data than ever will sync using .Mac in Tiger, and there's plenty more on the way once third party developers get busy

All the versions of OS X released so far have had catty codenames. Cheetah, Puma, Jaguar, Panther. Now Tiger. Maybe it'll be Ocelot or Snow Leopard next. 8/10 (cos we like cats)

**Where did that name come from?**

Microsoft gives all its Windows projects codenames, too. How does it pick them? Sheep? No, nothing that cuddly. It uses the names of ski resorts. Yes, ski resorts. Longhorn is the ski resort that comes after Whistler (Windows XP) and before Blackcomb (due out in 2010) on route 99. 2/10

Tiger is the first OS X release since the majority of the Apple world moved away from OS 9. With Longhorn still years away from release, many people would like Tiger to be the big fightback against Microsoft that convinces everyone using Windows to switch to Macs. In a year, it could well be. 7/10

**Why all the fuss?**

Longhorn should have a load of features that will help it catch up with OS X (circa 2003) and maybe even surpass it in some areas. It will eventually have a suspiciously Spotlight-like thing called WinFS, a database system that replaces the file system (although maybe not till 2010). An entirely new graphics system called Aero that seems a lot like Aqua/Quartz/Core Video is planned. But for six years of effort, it seems an awful lot of fuss for not very much. 3/10

What hype? For once, Steve has actually been subdued about an Apple product. 8/10

**Is the hype justified?**

If it has any of the features Microsoft have promised, maybe XP came out at the end of 2001 so Microsoft will have had six years or more to make Longhorn good. But so far, it looks like Longhorn is just going to be a facelift for Windows, rather than a complete overhaul. 3/10

Apple has promised Tiger will appear in the first half of 2005 9/10

**When is it due?**

Even Microsoft doesn't seem certain of making 2007. 5/10

Needs slightly beefier hardware than Panther. However, to get the full benefit of Core Image and Core Video, a decent graphics card is necessary. 5/10

**Will it run on older machines?**

Microsoft says Longhorn will run on new machines. However, it means machines that will be new in 2007. The current minimum requirements (4GHz CPU, 1Gb RAM, graphics cards with at least 128Mb of RAM) look more like supercomputers. 1/10

Most of Tiger's features aren't so much innovations as improvements to existing features in Panther or elsewhere. However, Core Image and Video and .Mac syncing are very cool. 6/10

**Who's innovating here?**

There are lots of things scheduled for Longhorn that would be truly innovative if properly implemented. However, some of them have been scheduled for Windows since 1995 so who knows if they'll actually make it into Longhorn. 5/10

Apple continues to refine the look of OS X with Tiger, and there are new interface additions that make even Panther look a little underpolished in places. 10/10

**Is it lickable?**

Early reports of the new interface for Longhorn suggest it will be surprisingly lickable. But you'll probably recognise the flavour and think it not quite as good as the original... 7/10

Tiger will continue to support the existing Windows printing and file sharing abilities of Panther. There are no signs of any big additions. 6/10

**Will they talk to each other?**

Microsoft usually makes no effort to get Windows to talk to Macs. And it often makes changes to its own file sharing system that make others unable to talk to Windows computers. 1/10

Did you really expect the Mac OS not to run away with this one? It's innovative, stable and due to arrive any day now. 59/80

**Overall score**

Microsoft really should be able to deliver better and more original features faster than its snail's pace development. 27/80

developing for Tiger, to a degree almost never seen before at a company that once had almost terminal 'Not Invented Here' disease.

Virtually all the really exciting things are under the surface and are for developers to incorporate into their applications. .Mac syncing will be fantastic once everyone updates their applications to take advantage of it. VoiceOver will require only minimal changes to most applications to make them – and the whole Mac – accessible to the visually impaired once again. Automator will be capable of incredible things, once developers start bundling up some of their AppleScripts into easy to use packages. Core Image and Core Video will revolutionise a whole range of apps, including Photoshop and games, once developers start using them. Dashboard will be a must-have once third-parties develop additional gadgets for it. And Spotlight will be invaluable once plug-ins for proprietary file types are made available.

## The definitive verdict

So while Tiger may not grab you with the same intensity as Jaguar or Panther did when they first came out, it will be a first-rate platform for others to build on. Soon, any applications worth having will be Tiger-only and the real reason to upgrade will become clear. We would heartily recommend buying Tiger, maybe not immediately, but soon enough after release that any incompatible software will have been updated: the speed improvements and additional features should be justification enough. Jaguar users should certainly be the first in line, since they will get significant speed improvements with Tiger. But Panther users should also be in the queue.

Within six months of Tiger's release, we're pretty confident that it will have an overwhelming set of features from third-party software developers that will make Panther seem antiquated in comparison. And rest assured that *iCreate* will be first to provide you with all the advice you'll need to get the most out of Tiger and the software designed to work with it. ■