



# Apple World Wide Developer Conference 2004 Report

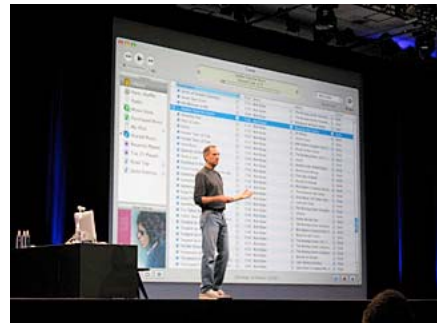
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## About the WWDC

The World Wide Developer Conference (WWDC) is an annual Apple sponsored event that brings the developer community together with Apple’s own software engineers. Apple generally introduces new or upcoming technologies at the event so that developers and enterprise customers can plan their product introductions or technology upgrades accordingly. Having followed these conferences closely in the past, I was extremely excited to have the chance to attend this year’s conference, thanks to Apple and the board.



## San Francisco

This year's conference is held at the Moscone Center in San Francisco, California. I was able to arrive a day early to conduct some site seeing. San Francisco is a large, bustling, and interesting city, though a bit weird in some ways. There are many sites to see, and the public transportation is excellent. A tour guide noted that they've done a lot to make the city less car friendly (torn down interstates damaged by the last big quake, limited parking, etc..) which has only enhanced the public transportation and walk-friendliness of the city. I found it very easy to navigate around, and have gotten a good deal of exercise from walking the hilly terrain.



I found the number iPod advertisements as well as the number of people walking by with the trademark white headphones to be quite impressive, as I am an avid iPod user.

## The Conference Hall

The Moscone Center looked like an Apple owned building the way that it was adorned with Apple advertisements inside and out. Even the brushed aluminum design of the bathroom entry ways seemed to mimic the fronts of the PowerMac G5 computers that Apple had on display throughout the conference center. Huge banners advertised the newest Operating system from Apple, Mac OS X 10.4, codenamed Tiger, with playful jabs at the oft-delayed Longhorn release from Microsoft. Apple's code base and development tools seem to give them an advantage when it comes to improving their software products, and they aren't afraid to brag about it.



## The Keynote

Our Apple reps were kind enough to obtain VIP seating arrangements for us at the conference Keynote. Our seats were perhaps a dozen rows back, just off center, affording us a great view of the show. Apple cofounder and CEO Steve Jobs and his guests put on a very good presentation, introducing the upcoming version of Mac OS X 10.4, aka "Tiger", and the most amazing line of LCD displays I've ever seen. The new 30" Cinema display absolutely dwarfs the previously "huge" 23" model, and all sizes sport a new design with a welcome tilt adjustable base.

The **Tiger** presentation highlighted some very interesting new features, both for the client and server versions, that will benefit our technology integration efforts in the district, and I couldn't wait to find out more. A QuickTime video of the entire keynote can be viewed on the web at <http://www.apple.com/quicktime/qtv/wwdc04/>. Information on Tiger client and Tiger Server can

be found at <http://www.apple.com/macosx/tiger/> and <http://www.apple.com/server/macosx/tiger/>, respectively.

## The Sessions

In choosing the sessions to attend, I tried to pick sessions that would apply to a district computer implementation. For the most part, these sessions corresponded to the conference's Enterprise track. I was especially interested in the session that addressed the server product and desktop management.

I've made a chart (below) of the sessions which I attended, and the description as given in the conference book. I've also included notes, though they are limited as some of the information given is not yet public, and all attendees of the conference are under a Non Disclosure Agreement (NDA).

<p><b>Keynote Address</b></p> <p><i>--The presentation by Apple CEO Steve Jobs was very well done. iChat with multiple video chat capabilities could be great for collaboration, coupled with iChat server (authenticates using the existing user information). He also introduced Spotlight, a feature that allows instantaneous searching of the data and meta data on drives.</i></p>	<p><b>000- Mac OS X State of the Union</b></p> <p><i>-- Looks like it's got great legs- they're really leveraging the strong foundation they've built. Open source throughout, better integration into existing networks, integrated searching, and many more features and improvements.</i></p>	<p><b>600- Enterprise IT State of the Union</b></p> <p>Apple continues to capture the attention of IT organizations as it increases its product offerings for the enterprise, providing flexible solutions that deliver on the promise of open standards. In this session, learn from Apple executives and other industry experts how Apple-based solutions deliver unparalleled ROI for customers looking to build the ultimate standards-based network infrastructure in a mixed client world. This session is highly recommended for enterprise developers, system administrators, technology architects, and executives.</p> <p><i>-- They highlighted their advances in enterprise situations with increased scalability, compatibility, and integration, mentioned a number of new features that help large enterprise clients network workstations efficiently.</i></p>
<p><b>624- Safari in the Enterprise</b></p> <p>Learn how leading enterprise vendors such as SAP, Oracle and PeopleSoft develop and deploy client solutions on Mac OS X using Safari and other thin-client technologies. Macintosh system administrators responsible for SAP, Oracle and PeopleSoft, and in-house developers for thin clients should attend.</p> <p><i>-- Santa Cruz requires that all products be demoed on a Macintosh- Great Idea!! (follow up on this)</i></p>	<p><b>645- Mac OS X Server Update</b></p> <p>Mac OS X Server, Apple's industrial-strength operating system, is well known as a powerful and robust server platform thanks to its excellent support of industry standards and use of popular open source software projects. Find out all about the major new features coming in the next major release of Mac OS X Server.</p> <p><i>-- ACLs (Access Control Lists) is big- need to explore compatibility with existing stuff. Will help with our shared workgroups and student hand in folders. Windows NT upgrade, integration with granular NT permissions may have implication on the Active Directory integration.</i></p>	<p><b>616- Inside Mac OS X Server</b></p> <p>Dig into the groundbreaking new features planned for Mac OS X Server, including the architecture and APIs available for developers. Each major feature covered will highlight the developer opportunities and integration points for your application or service.</p> <p><i>-- Software update server (is a proxy) and iChat server could be helpful- Weblog server could be great for journals, writing classes.</i></p> <p><i>Will now support home directory syncing for mobile accounts, which should give us a powerful solution for mobile mac laptops.</i></p>

<p><b>303- Developing for Automator</b></p> <p>Mac OS X "Tiger" includes Automator, a powerful new application that lets users automate repetitive tasks without having to write scripts.</p> <p><i>-- Showed how to add services in AppleScript to your app -- didn't show too much about Automator.</i></p> <p><i>Automator looks like it could be a great way to deliver educational solutions using the existing software- I need to look at the SDK and documentation.</i></p>	<p><b>611- File System Access Control Lists</b></p> <p>File System Access Control Lists (ACLs) allow fine-grained management and administration of file systems and workflows. In this session you will learn about Apple's File System ACL model, Open Directory integration for more scalable group management, and available developer API.</p> <p><i>--Very good- will improve our ability to share things in workgroups.</i></p> <p><i>Need to talk to the Finder team to make the interaction/error messages better- especially with the write only drop boxes. We also need to have the ability to set up interesting shared folders easily through workgroup manager. -- Server team?</i></p>	<p><b>304- Introduction to Xcode</b></p> <p>In this session, you'll get an overview of the latest release of the Xcode development tools and learn all about the new features and updates. This session will include a walkthrough of the IDE, detailing features for editing, building, and debugging your projects, as well as other aspects of the development cycle. We will also talk about the future of Xcode tools. This is an introductory to intermediate-level session.</p> <p><i>-- Apple is leveraging the user interface elements (smartlists, instant search (spotlight)) to help developers deal with their large projects. I decided that it doesn't apply much to a non-developer programmer, but is encouraging for the platform</i></p>
<p><b>FF001- Mac OS X Server Feedback Forum</b></p> <p><i>-- Note: view the SLAP.conf file if you have problems going to a KDC master-downgrade to standalone, resolve the DNS issues, and then upgrade.</i></p> <p><i>I was able to let the OS X team know about the problems with the print services quota feedback problem, and requested that there be some simplified, granulated control of the print server admin to allow teachers/lab aides to reset print queues and other simple tasks without complete access/control to the rest of the server.</i></p> <p><i>They were VERY enthusiastic, and really seemed to appreciate the feedback and suggestions. A very impressive session.</i></p>	<p><b>423- Mac OS X Spoken Interface</b></p> <p>The Universal Access capabilities of Mac OS X are being enhanced with a spoken interface that provides a new way through speech, audible cues, and keyboard navigation to access the Macintosh. In this session, we'll provide details on these spoken interface extensions as well as a thorough overview of the Accessibility API. This session is a must for developers who are interested in making their applications Section 508 compliant.</p> <p><i>--- Integrated into the entire process. Can be used for keyboard access to EVERYTHING</i></p> <p><i>New voice-over cursor: Great for visually handicapped persons, as well as giving better keyboard to all users.</i></p>	<p><b>727- QuickTime in the Enterprise</b></p> <p>From training systems and corporate communications to distance learning-- come to this session to hear from the experts who have implemented systems in major universities and corporate environments. Case studies will cover the opportunities, challenges, and successes, and should provide a wealth of information for your future work.</p> <p><i>-- Got great information about how a couple of large-scale universities are using QuickTime and QuickTime streaming server to share media over their intranets. On university redid the cable system over their network, will use QuickTime Streaming server for educational content, plus an interesting way of delivering text (closed captioning) content.</i></p>

<p><b>618- Distributed Computing Made Easy with Xgrid</b></p> <p>Xgrid makes it easy to use a group of distributed Macs as your own personal supercomputer for performing CPU-intensive calculations. This session will cover how scientists, animators, and developers can use Xgrid to distribute their applications. We will describe the different protocols, developer APIs, and services provided by Xgrid, as well as provide guidelines for integrating it with MPI and other clustering solutions. If you are developing software that can easily be split into multiple parallel tasks, you won't want to miss this session.</p> <p><i>-- They introduced some HPC users who easily created performance clusters to tackle computation intensive projects cheaply. I wonder how this can effect K-12 Education- perhaps iMovie/Final Cut Express will take advantage of this, and allow us to use all of our idle computing resources for distributed tasks.</i></p>	<p><b>647- Desktop Management Technologies</b></p> <p>In this session you'll learn about Apple's evolving desktop management strategy in increasingly complex and rapidly changing environments. You'll learn about the changes and updates to the tools that Apple provide to make managing user environments easier and more powerful than ever.</p> <p><i>Remote Desktop has been totally revamped, and has been made much more efficient with the elimination of modal windows- now tasks can be done concurrently. Many nice features. I got to talk to the team members and make some requests.</i></p> <p><i>Workgroup manager seems to have fixed some of the settings problems, plus there are a few very helpful features that I can't discuss at this time. Very interesting.</i></p>	<p><b>415- Introducing the .Mac SDK</b></p> <p>.Mac provides an entire suite of software applications and services designed to revolutionize the way people use the Internet -- and their Macs. Since .Mac is based on open standards such as WebDAV, IMAP, HTTP, and SSL, integrating the latest innovations of .Mac into your products is trivial. You'll get expert guidance on how to integrate features into your software that make it easy for your users to protect what's on their Mac, share their precious memories with others, keep all their important information in sync, and access their files from anywhere. Integration with .Mac can provide the elegant and powerful features your users desire.</p> <p><i>-- Great bandwidth, add info for apps, open standards based. Built in DNS zones for .mac members Rendezvous is hooked into the dns for all computers regardless of location (physical) Perhaps educational software developers will leverage .mac? Licensing issues?</i></p>
<p><b>305- Using AppleScript Studio</b></p> <p>Come get an in-depth look at advanced AppleScript Studio features as we present practical applications of this sophisticated development technology. Discover how AppleScript Studio enables . rapid development of full-featured Mac OS X applications. This is an intermediate-level session.</p> <p><i>-- Demonstrated using Xcode to edit Applescript studio apps</i></p> <p><i>- Now supports data sources much better- replacement for RealBasic for our simple custom apps?? Will need to try converting some of my applications over- they may have a much smaller footprint now.</i></p>	<p><b>627- Inside Directory Services</b></p> <p>Learn about the new directions and refinements planned for Apple's Open Directory architecture, LDAP directory services, Network Authentication Service Discovery, Network Service Location, the Open Directory API, and migration from NetInfo to Open Directory.</p> <p><i>--Tiger- Enhancements to all of the plug ins. Support for ACLs. Network Browsing.</i></p> <p><i>-LDAPv3- trusted (authenticated) binding. Lock access. Command line tool to support mass deployment.</i></p> <p><i>-Lots of improvements, and open source integrations. Kerberos will be not only supported, but also integral.</i></p>	<p><b>625- Integrating Mac OS X with Heterogeneous Networks</b></p> <p>Learn how easy it is to integrate your Mac OS X clients and servers into a heterogeneous network. In this session, you will find out what it takes to integrate with UNIX and Windows networks; how to assume the duties of file and print server in an Active Directory domain; how to setup users' home directories on a Windows network served from an xServe; and other system administration responsibilities. This is an ideal session for the system administrator of a heterogeneous network.</p> <p><i>-- Bind to AD, authenticate, and contacts use the id command to tell if connected to a directory service. Either have an xServe authenticated to AD, then bind Mac OS X clients to the xServe, or change the schema on the AD box to allow Workgroup Manager to edit it.</i></p> <p><i>Showed using Open Directory as a PDC, recommended for under 400 Windows PCs</i></p> <p><i>Nortel Contivity will work with the VPN client in 10.3.4 if L2TP is installed.</i></p>

## Session Summary

The sessions were very professionally thought out and conducted. Apple product managers and engineers presented at most of the sessions, so the level of knowledge and expertise was extraordinary. A lot of information and ideas were presented at each session, but Apple kindly made all session materials and demo applications available on the Apple Developer Connection web page at the end of the day. I've made a collection of all of the interesting session materials that I'll be looking at for some time. Projectors were very clear and viewable, and the sound systems were superb. An excellent job!

While the sessions provided much useful information and guidance about current products, it provided even more important information on the upcoming Tiger release. Many of the new features presented can be directly applicable to our educational setting. Having this advanced knowledge will be invaluable in planning our implementation strategies. I'm very excited about what's coming!

At the end of each session was a Question and Answer period, in which the presenters, and often-other members of the software team, were available to answer questions from the audience.

## Collaboration and Access

I found the question and answer periods of the sessions to be almost as valuable as the sessions themselves. It was instructive to hear the concerns of the other enterprise customers and developers, especially when they were similar to the concerns we face in our district.

Even more valuable was the chance to get up the mike and address our particular concerns *directly to the team responsible for creating the software!* Their answers were constructive, and they really seemed to be listening and willing to make changes and additions to the software. I'm hoping that this sort of input will result in products that will better meet our needs in the future. I cannot stress enough how professionally and personally gratifying this sort of access was.

In addition, I was able to meet and discuss common issues with educational IT leaders from around the state, as well as some from around the world. I'm hoping that these contacts will allow us to share information and ideas, and allow us to better serve our institutions' needs in the future. I was able to glean some interesting product uses and strategies that I'm anxious to explore further.

## Conference Summary

I cannot overstate how amazing and professionally rewarding the Apple World Wide Developer Conference has been. The advanced knowledge and professional connections that I gained will be very useful in helping me to do my job. What sets this conference apart from others is the direct access to the software engineering teams whom create the products that we rely upon.

I would strongly recommend that the school district expand our presence at the conference next year, both on the instructional side and the IT side of operations.

In addition, I'd like to recommend to Apple that they create a special Education Enterprise community/lab at the conference, with perhaps a few special meetings or perhaps birds of a

feather session between customers and developers. Speaking of developers, a stronger showing of educational software developers would be encouraging.

I would like to thank the folks at Apple Education for making this conference possible, as well as my administrators in Instructional Technology. It has been a privilege and an honor to be able to represent the district at this wonderful event. It has been the most professionally challenging and rewarding conferences of my career.

## **Suggestions and Recommendations**

### **For The District**

- Increase our presence at the conference, including people from the technical, administrative, and instructional areas. This would allow us to better cover the relevant sessions, and later discuss and implement new ideas.
- Plan on integrating Tiger Client and Tiger Server by the beginning of the school year following the release of the software.
- Pursue an aggressive upgrade procedure of the above for existing installations.
- Explore ways taking fullest advantages of the new features in the Mac OS X 10.4 release (iChat, iChat Server, Blog server, Active Directory Integration, Automator, ACL's, etc...)
- Upgrade to Remote Desktop district wide as soon as feasible, and train/equip the help desk and technicians in controlling desktops remotely for end user assistance.
- Install a VNC server on our Window XP desktops to allow control of both platforms from one standard.

### **For Apple**

- Create an education mini-thread for the conference, as part of the enterprise thread.
- Schedule an education round-robin meeting or meeting area (as was done for other areas) for all education related participants, developers, and Apple engineers. Perhaps a birds-of-a-feather session would help also.
- Make it easy for educational IT administrators to attend a “mini-conference” that includes the above and the “big-picture” sessions and keynotes.
- Encourage/evangelize educational software companies to attend the conference. Although some companies are very much “on the ball”, others really need to learn how to properly write/port software for/to the Mac. Promote/encourage their participation in the educational mini-thread suggested above. It'd be great for them to collaborate with their customer's technical folks.

**The End....**