Podcast Producer

A complete, end-to-end solution for encoding, publishing, and distributing high-quality podcasts.

Features

Integrated end-to-end solution
- Broad support for devices, codecs, and distribution formats
- Template-based workflows to simplify standardized processing
- Customizable workflows using third-party utilities and command-line tools

Live media capture made easy
- Local and remote recording
- Support for most audio and video capture devices
- Local screen recording
- Direct file submissions

Automatic encoding
- QuickTime for broad support of audio and video codecs, including H.264 and MPEG-4
- Fast encoding with Xgrid distributed processing engine
- Built-in scalability using Xgrid and Xsan cluster technologies
- Quartz Composer for image manipulation and effects

Flexible publishing and distribution
- Support for publishing to wikis, blogs, iTunes, iTunes U, and QuickTime Streaming Server
- Optimized playback on Mac, PC, iPhone, iPod, Apple TV, and DVD players
- Automatic notifications and archiving

Management and security
- Access controls for authorized recording and publishing
- Open Directory integration for user authentication
- 24/7 processing using standard server technologies
- Administration tools for small, medium, and large deployments

Technology Brief
Mac OS X Server: Podcast Producer

Podcast Producer takes the complexity out of capturing and publishing professional-quality podcasts. Instead of using a slew of ad hoc applications and utilities, you can rely on a single solution that integrates seamlessly from start to finish. With Mac OS X v10.5 and Mac OS X Server v10.5, you have all the software you need for end-to-end podcast production.

Podcasts are ideal for distributing university lectures, training a sales force, delivering product demos, or simply keeping employees, students, and customers up to date. With Podcast Producer, your organization can produce more podcasts with less work—and maintain a high degree of standardization among them. This workflow-based solution automates the details, such as encoding content into specific file formats or adding standard title frames and opening videos. So the podcasts from your group will always have a consistent look and feel, and you'll never have to worry about missing an important step.

After Podcast Producer has done its work, your viewers can play your productions anywhere: on a Mac, PC, iPod, iPhone, or Apple TV. Podcast Producer can even send your audience an automatic email when a new podcast is available for viewing.

Podcast Producer at a Glance
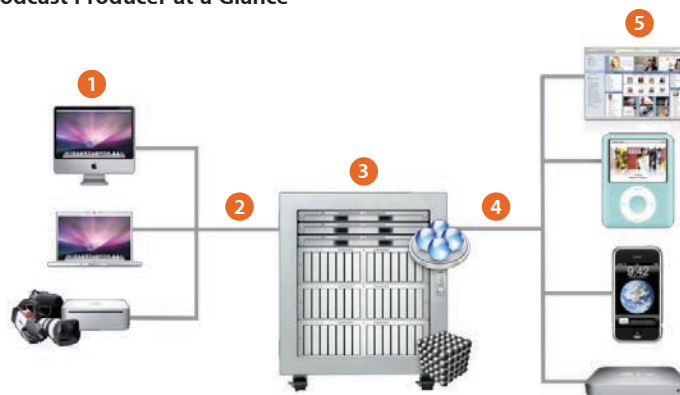
1. Use Podcast Capture in Mac OS X to record audio or video and to select a podcasting workflow.

2. Podcast Capture uploads the content and workflow information to Podcast Producer in Mac OS X Server.

3. Podcast Producer submits the recording to an Xgrid for processing as described by the workflow.

4. Podcast Producer publishes the podcast and can send notification and access instructions to target viewers.

5. Viewers use iTunes or Safari to access the podcast and view it on their Mac, PC, iPhone, iPod, or Apple TV.

Xgrid distributed computing

Apple's Xgrid technology makes it easy to turn an ad hoc group of Mac systems into a low-cost supercomputer. Designed from the ground up for large-scale clusters, Xgrid is an ideal distributed computing platform for processor-intense media-encoding tasks.

Workflow actions
• Archive file
• Apply Quartz Composer watermark
• Join QuickTime movies
• Convert Quartz Composer to QuickTime
• Encode for QuickTime streaming
• Split and trim QuickTime movie
• Encode for iPod and Apple TV
• Send email notification
• Extract from QuickTime file
• Annotate to movie
• Pre- and post-QuickTime processing
• Submit to iTunes
• Publish to blog
• Submit to iTunes U
• Publish to group wiki
• Merge files
• Add title

Workflow-Based Production

At the heart of Podcast Producer is a powerful workflow engine that automates encoding, processing, and publishing. A workflow is a script—a set of actions that defines how to handle the recorded video or audio. Podcast Producer leverages the power of Xgrid, Apple's distributed computing technology, to execute these scripts as job templates on your server or on multiple systems on your network.

Podcast Producer comes with built-in workflows that make it easy to attend to all the important details of professional podcast production. Add polish with opening sequences and cool transitions. Protect your brand with copyright information and watermarks. And with automatic archiving, you'll never lose track of your productions.

For both custom and general use, advanced workflow tools offering additional capabilities—such as encoding options, custom publishing locations, reporting, statistics, video processing, and closed captioning—are available from third parties.

Sample workflows

The 13 workflows included with Mac OS X Server allow you to choose among standard combinations of editing, encoding, publishing, and administrative actions. Following are a few of the workflows, from the simplest to the more complex:

• **Podcast & Blog (don't archive).** Encodes the recording to video and audio iPod format, publishes the result to the group's blog, and sends an announcement email.
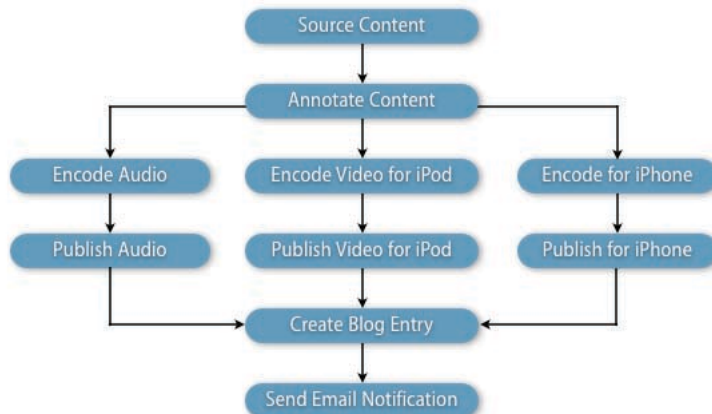
• **Stream & Blog.** Archives the recording, and publishes a stream to computers and 3GPP-compatible telephones via QuickTime Streaming Server on the group's blog.

• **Podcast, Blog & iTunes (watermark).** Archives the recording, watermarks it, encodes the result to video and audio iPod format, publishes the result to the group's blog, notifies the iTunes Podcast Repository of the new episode, and sends an announcement email.

• **PodcastU (advanced editing with filter).** Archives the recording; applies a Quartz Composer filter and a watermark; adds a title, an intro video, and an exit video; encodes the result to video and audio iPod format; publishes the result to the group's blog; notifies the iTunes Podcast Repository of the new episode; and sends an announcement email.

Security and authentication
Podcast Producer integrates with Open Directory for user authentication. Without requiring any additional configuration, this authentication ensures a secure environment for recording and publishing content. Users can choose only the cameras and workflows they are authorized to use.

Setting Up a Podcast Producer Server

Before users on your network can begin to capture and publish podcasts, you will need to use the Server Admin application in Mac OS X Server v10.5 to set up a shared file system and the Podcast Producer server.

Server Admin gives you control over every aspect of your productions. Since Podcast Producer is built on the Xgrid distributed processing architecture, you start by defining the Xgrid you want to bind to. Then in Podcast Producer, you can customize settings for your productions; for example, to specify approval and notification email addresses or to choose transitions and keyframes.

The Workflows pane lets you add custom or third-party workflow actions, such as the insertion of a bug with your corporate or school logo. And thanks to Open Directory integration, it's easy to control access to workflows and cameras, so only authorized users can record and publish podcasts.
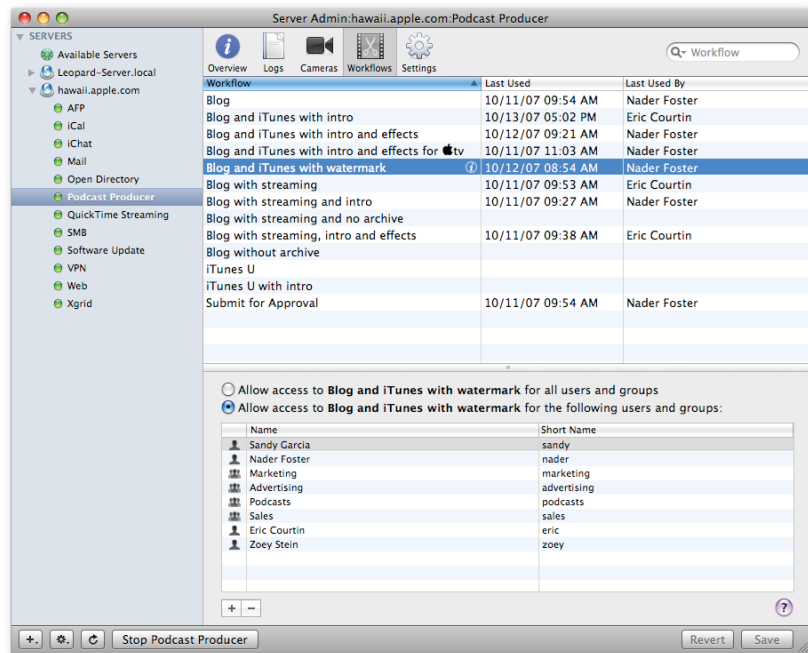
Quartz Composer
With Apple's Quartz Composer technology, you can add stunning filters, transitions, and effects to your podcasts. This visual programming environment for graphics processing and rendering taps into the wealth of Mac OS X technologies, including Quartz, Core Image, Core Video, OpenGL, QuickTime, MIDI, RSS, and XML.

Capturing a Podcast

Creating a podcast starts with the new Podcast Capture application in Mac OS X v10.5 Leopard. This innovative tool makes it easy for users in your organization to capture high-quality audio and video from local and remote devices. Podcast Capture can run headlessly, whether on a Mac mini or an Xserve in the data center—and can record audio and video from a wide range of devices, including USB microphones, built-in iSight cameras and microphones, and digital video cameras connected via FireWire.

Supported video formats:
• MPEG-4
• H.263
• H.264
• DV NTSC and PAL

Supported audio formats:
• AAC (MPEG-4 Audio)
• AMR Narrowband
• Qualcomm PureVoice (QCELP)

After authentication, Podcast Producer displays an intuitive interface for selecting the type of podcast you want to record. Choose audio only, video with audio, or screen capture with audio—perfect for recording presentations and software demos. Then choose your recording device(s) from the pop-up menu of cameras and microphones.
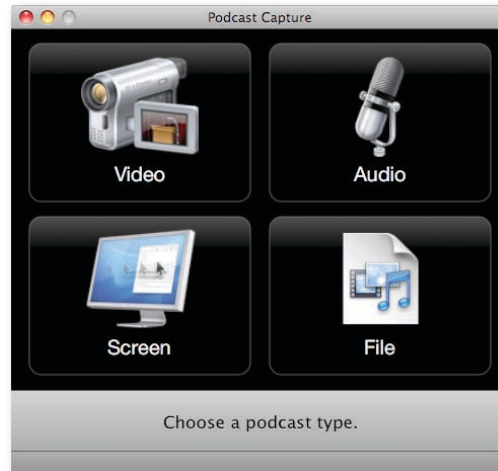
Use the Start button to start recording, or click Start Over for another take. When you're done recording, click Publish to select a workflow. Podcast Capture uploads the recording directly to the Podcast Producer server for processing. If you already have the content you want to publish, you can simply select an existing QuickTime media file and click Publish. For maximum efficiency, you can even start capturing a new video during upload.

Encoding and Publishing

Built on robust Xgrid technology, Podcast Producer makes fast work of encoding and processing chores—whether on a single dedicated server system or distributed across multiple systems. Podcast Capture uploads recorded media and workflow information, and Podcast Producer executes the tasks defined in the workflow.

Leveraging QuickTime technology, Podcast Producer encodes media content into most Internet-standard formats. This capability enables you to publish your content to wikis, blogs, iTunes, iTunes U, and QuickTime Streaming Server.

Podcast Producer integrates with the wiki in Mac OS X Server, so you can post the new podcast to your group's blog, complete with RSS subscription functionality. Using QuickTime Streaming Server, you can even deliver podcasts to multimedia-enabled cell phones over high-speed wireless networks. When your new podcast is available, Podcast Producer can send an announcement email to everyone on your list, with clear instructions on where to find the podcast and how to play it back—on a Mac, PC, iPod, iPhone, or Apple TV.

Extending Podcast Producer
With Episode Podcast from Telestream, you can submit and re-encode into H.264 media from popular formats such as Windows Media, Flash 8, and VC-1. For more information, see www.episodepodcast.com.

Large-Scale Podcast Productions

Whether you're just starting out with podcasting or you're already a mass producer, Podcast Producer scales to meet your production requirements. For high-volume production or for production of long or high-definition video content, Podcast Producer leverages Xgrid technology to distribute encoding tasks across multiple Mac or Xserve systems. Maximizing your organization's computing resources, Xgrid assigns jobs automatically to computers with available cycles, provided the other systems are also running Podcast Producer and a shared file system such as Xsan or NFS. As your podcast production requirements increase, simply add more computers to your Xgrid cluster—Xgrid immediately configures them and begins to send them encoding tasks.

Podcast Producer System Requirements

Podcast Producer requires a Mac with an Intel processor, 1GB of RAM, an additional 512MB of RAM per processor core, and a Quartz Extreme–enabled video chipset (found on most Intel processor–based Mac systems). For optimal performance, an Xsan clustered file system is recommended.

Apple Server Solutions

Podcast Producer is a robust media production application built into Mac OS X Server, Apple's UNIX server operating system. Combining the latest open source technologies with Mac ease of use, Mac OS X Server unleashes the power of Xserve, Apple's rack-optimized server hardware. With phenomenal performance, massive storage capacity, high-bandwidth I/O, and integrated remote management tools, Xserve running Mac OS X Server is the ideal solution for education, small businesses, and enterprises alike.

For More Information

For more information about Mac OS X Server and other Apple server solutions, visit www.apple.com/server.