Print Services

Sharing of network printers using native protocols for Mac, Windows, and Linux clients.

Features

Printer sharing for Mac, Windows, and Linux clients

- Shared access to PostScript and server-attached inkjet printers
- Cross-platform print services using native protocols (IPP, LPR, SMB/CIFS, and AppleTalk PAP)
- Unified management of print jobs for heterogeneous networks
- Common UNIX Printing System (CUPS) printing architecture
- Printer pooling and load balancing for high-volume print environments
- Queuing of specific cover sheet options
- Automatic discovery of print resources on Mac and Windows clients

Easy-to-use management tools

- Prioritization and scheduling of print jobs
- Sophisticated network printing software for managing high-volume print queues
- Single-queue management of multiple pooled printers
- Real-time overview of printing activity
- Extensive service logs for job tracking and accounting

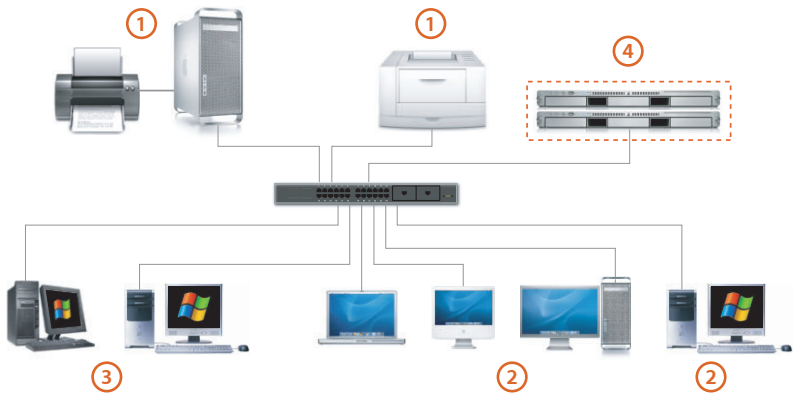
Directory-based management of quotas and access privileges

- Flexible print quotas for placing per-user and per-queue limits on printer use
- Workgroup Manager application for assigning printers to users, groups, and computers[1]
- LDAP directory support for controlling printer access from Mac OS X systems[1]

Mac OS X Server features easy-to-configure print services that help organizations share printing resources in heterogeneous computing environments. Using native protocols, Mac, Windows, and Linux client systems can access print queues for network-based PostScript printers as well as server-attached inkjet printers, reducing expenses and streamlining administration.

At the heart of Mac OS X Server print services is a comprehensive, standards-compliant open source printing architecture based on Common UNIX Printing System (CUPS). The CUPS printing architecture supports standard cross-platform print protocols, and it works with Apple's Open Directory architecture and innovative Workgroup Manager application to provide centralized, directory-based management of printer resources. Using Workgroup Manager, you can assign printers to any combination of users, groups, and computers and set print quotas on a per-user and per-queue basis. Flexible queue management and remote monitoring tools allow you to manage high-volume, cross-platform printing from a single interface.

Print Services at a Glance



1. Administrators can share PostScript printers and server-attached inkjet printers with users across the network.
2. Mac OS X and Windows clients can print over the Internet using IPP, the new standard in network printing.
3. Samba 3 integration enables native SMB/CIFS print services for Windows clients.
4. The Open Directory architecture allows administrators to store users' print quotas and printer access privileges in any LDAP directory server.

Server-Based Management of Printing

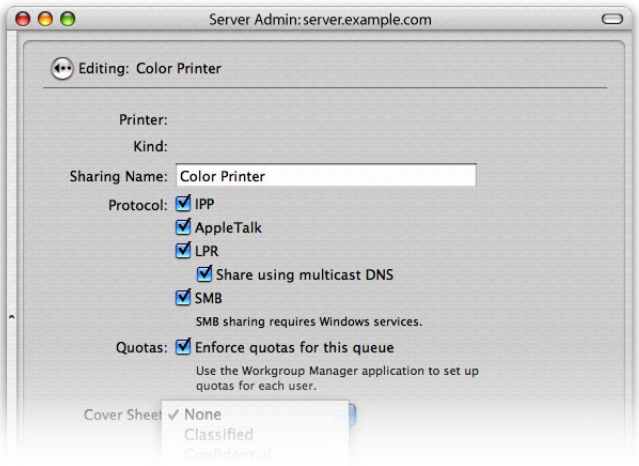
Mac OS X Server enables you to manage print queues for Mac, Windows, and Linux clients from a single, central interface. With server-based management, you can easily track the status of printers and all current jobs, manage print queues, and enforce print quotas. On the client side, users don't need to tie up their systems during printing. When they submit a job to a shared printer, it is sent to the print queue on the server, where it's held until the printer is available.

Sharing inkjet printers
Mac OS X Server enables sharing of USB inkjet printers attached to the server—ideal for classroom or small business environments. Print queues and access privileges can be managed as for PostScript printers; color information is maintained for the highest-possible output quality.

Managing print queues

Server Admin, the integrated service management tool built into Mac OS X Server, lets you configure print queues across your organization—from any Mac OS X system on the network.[2] You'll see at-a-glance information about each printer, including printer status, the number of jobs in the queue, and the protocols enabled. Select a queue to change protocols, assign a cover page, enforce print quotas, or specify Bonjour discoverability.

Broad printer support
Mac OS X Server comes with hundreds of built-in raster drivers and PostScript Printer Description (PPD) files that are vendor supplied, making it possible to plug in a printer and automatically configure the driver. With just a few easy steps, you're ready to go. The most popular printers from Brother, Canon, Epson, HP, Lexmark, and Xerox are supported. In addition, Mac OS X Server includes GIMP-Print, an open source project that contains hundreds of print drivers and guarantees easy printer setup even for devices whose raster drivers are not built into Mac OS X Server.



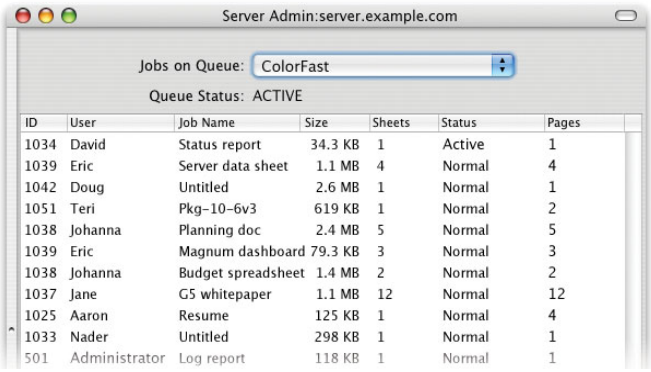
Mac OS X Server supports the creation of multiple print queues for a single printer. For example, a printer could have one name for Mac clients and a different name—following the Windows naming convention—for Windows clients. In addition, the CUPS printing architecture in Mac OS X Server supports a special queue called a printer class, also known as a printer pool. A printer class has more than one printer assigned to it—ideal for high-volume or high-availability printing environments. Print jobs are sent to the next available printer in the class, so you can have as many jobs printing simultaneously as you have printers assigned to the class. If a printer is unavailable for any reason, the other printers in the class continue to print waiting jobs. Printer class queues are configured in Printer Setup Utility and, like any other queue, are managed using Server Admin.

Maintaining printers

Server-based management of printers allows you to perform routine maintenance without interrupting print services. Printer error conditions are reported on the server rather than on individual client computers—so you don't have to rely on the user to report a problem, add paper, or refill toner. You can put the queue on hold while still accepting new jobs. When the problem is fixed and the queue is restarted, all jobs automatically resume printing.

Monitoring printer use

Mac OS X Server can help you allocate printer resources more efficiently. Server Admin provides extensive logs of use patterns for job tracking and accounting purposes.You can track all the print jobs that have gone through your server or just the jobs in a specific queue for a specific user. Click the Jobs button in the Print pane to display the current print jobs in priority order. For each job, you'll see its status, the name of the user who submitted it, and the number of pages and sheets in the job. You can change the order of jobs, as well as stop or delete jobs in the queue.



ID	User	Job Name	Size	Sheets	Status	Pages
1034	David	Status report	34.3 KB	1	Active	1
1039	Eric	Server data sheet	1.1 MB	4	Normal	4
1042	Doug	Untitled	2.6 MB	1	Normal	1
1051	Teri	Pkg–10–6v3	619 KB	1	Normal	2
1038	Johanna	Planning doc	2.4 MB	5	Normal	5
1039	Eric	Magnum dashboard	79.3 KB	3	Normal	3
1038	Johanna	Budget spreadsheet	1.4 MB	2	Normal	2
1037	Jane	G5 whitepaper	1.1 MB	12	Normal	12
1025	Aaron	Resume	125 KB	1	Normal	4
1033	Nader	Untitled	298 KB	1	Normal	1
501	Administrator	Log report	118 KB	1	Normal	1

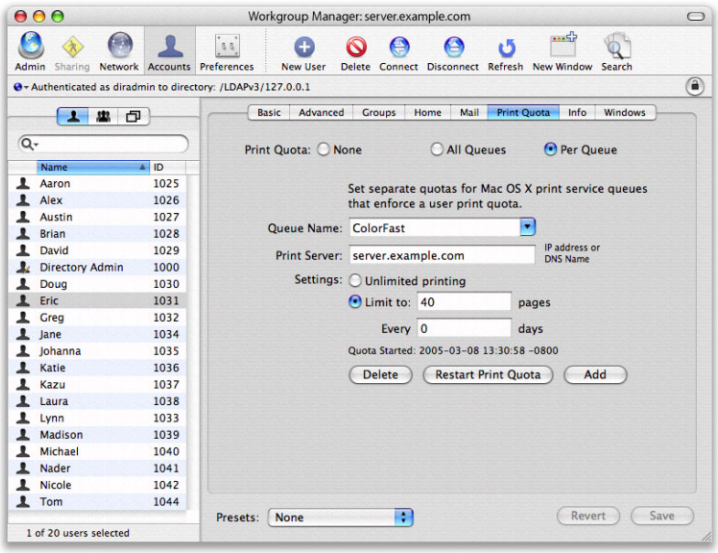
Directory-Based Control of Printing Resources

Automatic discovery of print services
When you add shared printers to the directory service, they're listed in Printer Setup Utility in Mac OS X—so it's easy for users to find them. In addition, Mac OS X clients can discover available print resources automatically using Apple's Bonjour technology[1]; built-in Samba support enables automatic discovery for Windows clients.

Mac OS X Server includes powerful management tools and directory services for centralized control of network printers. With the Workgroup Manager application, it's easy to set print quotas and define access policies for users, groups, and computers. Settings and policies are stored in any LDAP server using Open Directory, Apple's open standards–based directory architecture.

Setting quotas for Mac and Windows users

Using Workgroup Manager, you can set print quotas for individual users, for each print queue, or a combination of the two—for Mac, Windows, and Linux users. For example, you can limit an individual to ten pages per week on your expensive color laser printer, while permitting unlimited printing on a black-and-white laser printer.

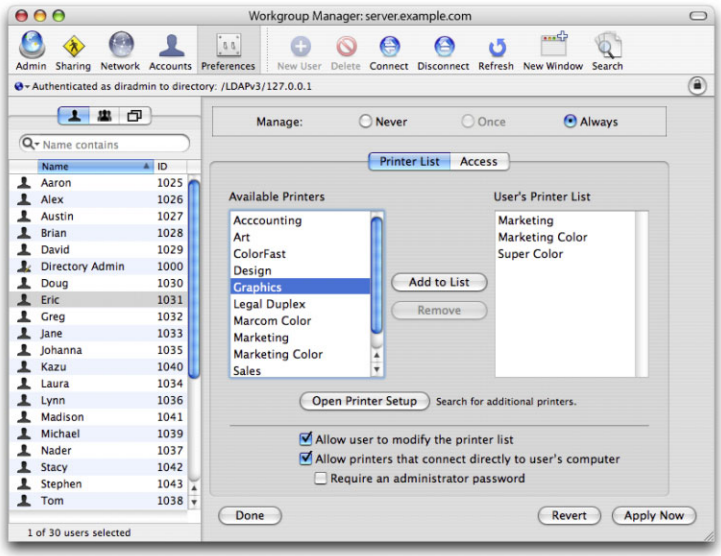


Name	ID
Aaron	1025
Alex	1026
Austin	1027
Brian	1028
David	1029
Directory Admin	1000
Doug	1030
Eric	1031
Greg	1032
Jane	1034
Johanna	1035
Katie	1036
Kazu	1037
Laura	1038
Lynn	1033
Madison	1039
Michael	1040
Nader	1041
Nicole	1042
Tom	1044

Assigning printers and access privileges for Mac systems

The inherent manageability of Mac OS X systems makes it easy for administrators to facilitate or restrict user access to network-based printers. Mac OS X Server automates discovery and configuration of print resources for Mac clients, so users can easily find available printers—without entering printer IP addresses or configuring PPDs or drivers.

Using the Preferences function in Workgroup Manager, you can define which printers or print queues are available to which users, groups, and computers.[2] For example, you can associate multiple computers with a nearby printer, making it easy for users to find their printouts; or you can associate individual users with a particular printer, regardless of the computer they are using. When users log in to any Mac on the network, they'll see printers that are assigned to them on a user or group basis, as well as printers that are associated with the computer. If necessary, you can control the user's ability to add printers, restricting the use of Bonjour-discovered printers; and you can require an administrator password for use of a printer that's connected directly to a computer.



Apple Server Solutions

Cross-platform print services are among the powerful workgroup solutions built into Apple's UNIX-based Mac OS X Server operating system. Combining the latest open source technologies with Mac ease of use, Mac OS X Server unleashes the power of Xserve G5, Apple's rack-optimized server hardware. With phenomenal performance, massive storage capacity, high-bandwidth I/O, and integrated remote management tools, Xserve G5 running Mac OS X Server is an unparalleled server solution for businesses, schools, and research centers.

For More Information

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

[1]Requires Mac OS X v10.2 or later client systems. [2]Remote server administration requires Mac OS X v10.3 or later.

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