Mac   iPad   iPhone   Watch   TV   Music   Support

TCP and UDP ports used by Apple software products

Learn about TCP and UDP ports used by Apple products such as macOS, macOS Server, Apple Remote Desktop, and iCloud. Many of these are well-known, industry-standard ports.

Network administrators can use this information to make sure that Mac computers and other Apple devices can connect to services such as the App Store and Apple's software-update servers.

Ports used by Apple products

This is a quick-reference guide showing common examples, not a comprehensive list of ports. This guide is updated periodically with information available at the time of publication.

Some software might use different ports and services, so it can be helpful to use port-watching software when deciding how to set up firewalls or similar access-control schemes.

Some services might use more than one of these ports. For example, a VPN service can use up to four different ports. When you find a product in this list, search (Command-F) in your browser for that name, then repeat your search (Command-G) to locate all occurrences of that product.

Some firewalls allow selective configuration of UDP or TCP ports with the same number, so it's important to know the type of port you're configuring. For example, NFS can use TCP 2049, UDP 2049, or both. If your firewall doesn't allow you to specify the type of port, configuring one type of port probably configures the other.

Port	TCP or UDP	Service or protocol name[1]	RFC[2]	Service name[3]	Used by
7	TCP/UDP	echo	792	echo	—
20	TCP	File Transport Protocol (FTP)	959	ftp-data	—
21	TCP	FTP control	959	ftp	—
22	TCP	Secure Shell (SSH), SSH File Transfer Protocol (SFTP), and Secure copy (scp)	4253	ssh	Xcode Server (hosted and remote Git+SSH; remote SVN+SSH)
23	TCP	Telnet	854	telnet	—
25	TCP	Simple Mail Transfer Protocol (SMTP)	5321	smtp	Mail (sending email); iCloud Mail (sending email)

53	TCP/UDP	Domain Name System (DNS)	1034	domain	—
67	UDP	Bootstrap Protocol Server (BootP, bootps)	951	bootps	NetBoot via DHCP
68	UDP	Bootstrap Protocol Client (bootpc)	951	bootpc	NetBoot via DHCP
69	UDP	Trivial File Transfer Protocol (TFTP)	1350	tftp	—
79	TCP	Finger	1288	finger	—
80	TCP	Hypertext Transfer Protocol (HTTP)	2616	http	World Wide Web, FaceTime, iMessage, iCloud, QuickTime Installer, Maps, iTunes U, Apple Music, iTunes Store, Podcasts, Internet Radio, Software Update (OS X Lion or earlier), Mac App Store, RAID Admin, Backup, Calendar, WebDAV, Final Cut Server, AirPlay, macOS Internet Recovery, Profile Manager, Xcode Server (Xcode app, hosted and remote Git HTTP, remote SVN HTTP)
88	TCP	Kerberos	4120	kerberos	Kerberos, including Screen Sharing authentication
106	TCP	Password Server (unregistered use)	—	3com-tsmux	macOS Server Password Server
110	TCP	Post Office Protocol (POP3), Authenticated Post Office Protocol (APOP)	1939	pop3	Mail (receiving email)
111	TCP/UDP	Remote Procedure Call (RPC)	1057, 1831	sunrpc	Portmap (sunrpc)
113	TCP	Identification Protocol	1413	ident	—
119	TCP	Network News Transfer Protocol (NNTP)	3977	nntp	Apps that read newsgroups.
123	UDP	Network Time Protocol (NTP)	1305	ntp	Date & Time preferences, network time server synchronization, Apple TV network time server sync
137	UDP	Windows Internet Naming Service (WINS)	—	netbios-ns	—
138	UDP	NETBIOS Datagram Service	—	netbios-dgm	Windows Datagram Service, Windows Network Neighborhood

139	TCP	Server Message Block (SMB)	—	netbios-ssn	Microsoft Windows file and print services, such as Windows Sharing in macOS
143	TCP	Internet Message Access Protocol (IMAP)	3501	imap	Mail (receiving email)
161	UDP	Simple Network Management Protocol (SNMP)	1157	snmp	—
192	UDP	OSU Network Monitoring System	—	osu-nms	AirPort Base Station PPP status or discovery (certain configurations), AirPort Admin Utility, AirPort Express Assistant
311	TCP	Secure server administration	—	asip-webadmin	Server app, Server Admin, Workgroup Manager, Server Monitor, Xsan Admin
312	TCP	Xsan administration	—	vslmp	Xsan Admin (OS X Mountain Lion v10.8 and later)
389	TCP	Lightweight Directory Access Protocol (LDAP)	4511	ldap	Apps that look up addresses, such as Mail and Address Book
427	TCP/UDP	Service Location Protocol (SLP)	2608	svrloc	Network Browser
443	TCP	Secure Sockets Layer (SSL or HTTPS)	2818	https	TLS websites, iTunes Store, Software Update (OS X Mountain Lion and later), Spotlight Suggestions, Mac App Store, Maps, FaceTime, Game Center, iCloud authentication and DAV Services (Contacts, Calendars, Bookmarks), iCloud backup and apps (Calendars, Contacts, Find My iPhone, Find My Friends, Mail, iMessage, Documents & Photo Stream, iCloud Key Value Store (KVS), iPhoto Journals, AirPlay, macOS Internet Recovery, Profile Manager, Back to My Mac, Dictation, Siri (iOS), Xcode Server (hosted and remote Git HTTPS, remote SVN HTTPS, Apple Developer registration), Push notifications (if necessary)
445	TCP	Microsoft SMB Domain Server	—	microsoft-ds	—
464	TCP/UDP	kpasswd	3244	kpasswd	—
465	TCP	Message Submission		smtp (legacy)	Mail (sending mail)

Port	TCP/UDP	Service name		RFC	Service name	Used by/Notes
		for Mail (Authenticated SMTP)				
500	UDP	ISAKMP/IKE	2408	isakmp	macOS Server VPN service, Back to My Mac
500	UDP	Wi-Fi Calling	5996	IKEv2	Wi-Fi Calling
514	TCP	shell	—	shell	—
514	UDP	Syslog	—	syslog	—
515	TCP	Line Printer (LPR), Line Printer Daemon (LPD)	—	printer	Printing to a network printer, Printer Sharing in macOS
532	TCP	netnews	—	netnews	—
548	TCP	Apple Filing Protocol (AFP) over TCP	—	afpovertcp	AppleShare, Personal File Sharing, Apple File Service
554	TCP/UDP	Real Time Streaming Protocol (RTSP)	2326	rtsp	AirPlay, QuickTime Streaming Server (QTSS), streaming media players
587	TCP	Message Submission for Mail (Authenticated SMTP)	4409	submission	Mail (sending mail), iCloud Mail (SMTP authentication)
600–1023	TCP/UDP	Mac OS X RPC-based services	—	ipcserver	NetInfo
623	UDP	Lights-Out-Monitoring	—	asf-rmcp	Lights Out Monitoring (LOM) feature of Intel-based Xserve computers, Server Monitor
625	TCP	Open Directory Proxy (ODProxy) (unregistered use)	—	dec_dlm	Open Directory, Server app, Workgroup Manager; Directory Services in OS X Lion or earlier This port is registered to DEC DLM
626	TCP	AppleShare Imap Admin (ASIA)	—	asia	IMAP administration (Mac OS X Server v10.2.8 or earlier)
626	UDP	serialnumberd (unregistered use)	—	asia	Server serial number registration (Xsan, Mac OS X Server v10.3 – v10.6)
631	TCP	Internet Printing Protocol (IPP)	2910	ipp	macOS Printer Sharing, printing to many common printers
636	TCP	Secure LDAP	—	ldaps	—
660	TCP	Server administration	—	mac-srvr-admin	Server administration tools for Mac OS X Server v10.4 or earlier, including AppleShare IP
687	TCP	Server administration	—	asipregistry	Server administration tools for Mac OS X Server v10.6 or earlier,

					including AppleShare IP
749	TCP/UDP	Kerberos 5 admin/changepw	—	kerberos-adm	—
985	TCP	NetInfo Static Port	—	—	—
993	TCP	Mail IMAP SSL	—	imaps	iCloud Mail (SSL IMAP)
995	TCP/UDP	Mail POP SSL	—	pop3s	—
1085	TCP/UDP	WebObjects	—	webobjects	—
1099, 8043	TCP	Remote RMI and IIOP Access to JBOSS	—	rmiregistry	—
1220	TCP	QT Server Admin	—	qt-serveradmin	Administration of QuickTime Streaming Server
1640	TCP	Certificate Enrollment Server	—	cert-responder	Profile Manager in macOS Server 5.2 and earlier
1649	TCP	IP Failover	—	kermit	—
1701	UDP	L2TP	—	l2f	macOS Server VPN service
1723	TCP	PPTP	—	pptp	macOS Server VPN service
1900	UDP	SSDP	—	ssdp	Bonjour, Back to My Mac
2049	TCP/UDP	Network File System (NFS) (version 3 and 4)	3530	nfsd	—
2195	TCP	Apple Push Notification Service (APNS)	—	—	Push notifications
2196	TCP	Apple Push Notification Service (APNS)	—	—	Feedback service
2336	TCP	Mobile account sync	—	appleugcontrol	Home directory synchronization
3004	TCP	iSync	—	csoftragent	—
3031	TCP/UDP	Remote AppleEvents	—	eppc	Program Linking, Remote Apple Events
3283	TCP/UDP	Net Assistant	—	net-assistant	Apple Remote Desktop 2.0 or later (Reporting feature), Classroom app (command channel)
3284	TCP/UDP	Net Assistant	—	net-assistant	Classroom app (document sharing)
3306	TCP	MySQL	—	mysql	—
3478–3497	UDP	—	—	nat-stun-port - ipether232port	FaceTime, Game Center

3632	TCP	Distributed compiler	—	distcc	—
3659	TCP/UDP	Simple Authentication and Security Layer (SASL)	—	apple-sasl	macOS Server Password Server
3689	TCP	Digital Audio Access Protocol (DAAP)	—	daap	iTunes Music Sharing, AirPlay
3690	TCP/UDP	Subversion	—	svn	Xcode Server (anonymous remote SVN)
4111	TCP	XGrid	—	xgrid	—
4398	UDP	—	—	—	Game Center
4488	TCP	Apple Wide Area Connectivity Service		awacs-ice	Back To My Mac
4500	UDP	IPsec NAT Traversal	4306	ipsec-msft	macOS Server VPN service, Back to My Mac. Configuring Back to My Mac on an AirPort Base Station or AirPort Time Capsule in NAT mode impedes connectivity to a macOS Server VPN service behind that NAT.
4500	UDP	Wi-Fi Calling	5996	IKEv2	Wi-Fi Calling
5003	TCP	FileMaker - name binding and transport	—	fmpro-internal	—
5009	TCP	(unregistered use)	—	winfs	AirPort Utility, AirPort Express Assistant
5100	TCP	—	—	socalia	macOS camera and scanner sharing
5222	TCP	XMPP (Jabber)	3920	jabber-client	Jabber messages
5223	TCP	Apple Push Notification Service (APNS)	—	—	iCloud DAV Services (Contacts, Calendars, Bookmarks), Push notifications, FaceTime, iMessage, Game Center, Photo Stream, Back to My Mac
5297	TCP	—	—	—	Messages (local traffic)
5350	UDP	NAT Port Mapping Protocol Announcements	—	—	Bonjour, Back to My Mac
5351	UDP	NAT Port Mapping Protocol	—	nat-pmp	Bonjour, Back to My Mac
5353	UDP	Multicast DNS (MDNS)	3927	mdns	Bonjour, AirPlay, Home Sharing, Printer Discovery, Back to My Mac

5432	TCP	PostgreSQL	—	postgresql	Can be enabled manually in OS X Lion Server (previously enabled by default for ARD 2.0 Database)
5897–5898	UDP	(unregistered use)	—	—	xrdiags
5900	TCP	Virtual Network Computing (VNC) (unregistered use)	—	vnc-server	Apple Remote Desktop 2.0 or later (Observe/Control feature) Screen Sharing (Mac OS X 10.5 or later)
5988	TCP	WBEM HTTP	—	wbem-http	Apple Remote Desktop 2.x See also dmtf.org/standards/wbem.
6970–9999	UDP	—	—	—	QuickTime Streaming Server
7070	TCP	RTSP (unregistered use), Automatic Router Configuration Protocol (ARCP)	—	arcp	QuickTime Streaming Server (RTSP)
7070	UDP	RTSP alternate	—	arcp	QuickTime Streaming Server
8000–8999	TCP	—	—	irdmi	Web service, iTunes Radio streams
8005	TCP	Tomcat remote shutdown	—	—	—
8008	TCP	iCal service	—	http-alt	Mac OS X Server v10.5 or later
8080	TCP	Alternate port for Apache web service	—	http-alt	Also JBOSS HTTP in Mac OS X Server 10.4 or earlier
8085–8087	TCP	Wiki service	—	—	Mac OS X Server v10.5 or later
8088	TCP	Software Update service	—	radan-http	Mac OS X Server v10.4 or later
8089	TCP	Web email rules	—	—	Mac OS X Server v10.6 or later
8096	TCP	Web Password Reset	—	—	Mac OS X Server v10.6.3 or later
8170	TCP	HTTPS (web service/site)	—	—	Podcast Capture/podcast CLI
8171	TCP	HTTP (web service/site)	—	—	Podcast Capture/podcast CLI
8175	TCP	Pcast Tunnel	—	—	pcastagentd (such as for control operations and camera)
8443	TCP	iCal service (SSL)	—	pcsync-https	Mac OS X Server v10.5 or later (JBOSS HTTPS in Mac OS X Server 10.4 or earlier)
8800	TCP	Address Book service	—	sunwebadmin	Mac OS X Server v10.6 or later

8843	TCP	Address Book service (SSL)	—	—	Mac OS X Server v10.6 or later
8821, 8826	TCP	Stored	—	—	Final Cut Server
8891	TCP	ldsd	—	—	Final Cut Server (data transfers)
9006	TCP	Tomcat standalone	—	—	Mac OS X Server v10.6 or earlier
9100	TCP	Printing	—	—	Printing to certain network printers
9418	TCP/UDP	git pack transfer	—	git	Xcode Server (remote git)
10548	TCP	Apple Document Sharing Service	—	serverdocs	macOS Server iOS file sharing
11211	—	memcached (unregistered use)	—	—	Calendar Server
16080	TCP	—	—	—	Web service with performance cache
16384–16403	UDP	Real-Time Transport Protocol (RTP), Real-Time Control Protocol (RTCP)	—	connected, —	Messages (Audio RTP, RTCP; Video RTP, RTCP)
16384–16387	UDP	Real-Time Transport Protocol (RTP), Real-Time Control Protocol (RTCP)	—	connected, —	FaceTime, Game Center
16393–16402	UDP	Real-Time Transport Protocol (RTP), Real-Time Control Protocol (RTCP)	—	—	FaceTime, Game Center
16403–16472	UDP	Real-Time Transport Protocol (RTP), Real-Time Control Protocol (RTCP)	—	—	Game Center
24000–24999	TCP	—	—	med-ltp	Web service with performance cache
42000–42999	TCP	—	—	—	iTunes Radio streams
49152–65535	TCP	Xsan	—	—	Xsan Filesystem Access
49152–65535	UDP	—	—	—	Back to My Mac
50003	—	FileMaker server service	—	—	—
50006	—	FileMaker helper	—	—	—

		service			

1. The service registered with the **Internet Assigned Numbers Authority**, except where noted as "unregistered use."

2. The number of a Request for Comment (RFC) document that defines the service or protocol. RFC documents are maintained by **RFC Editor**.

3. In the output of Terminal commands, the port number might be replaced by this Service Name, which is the label listed in /etc/services.

FaceTime is not available in all countries or regions.

Learn more

The **application firewall** in macOS is not a port-based firewall. It controls access by app, instead of by port.

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