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Technical bulletin

Tips for Troubleshooting Mac OS X Connectivity

This document provides you with troubleshooting tips for Brisque®, Brisque Serve and Timna™ regarding the following Mac OS® X connectivity issues:

- Zones Do Not Appear in the Chooser
- File Server Does Not Appear in the Chooser
- Guest Access Is Unavailable
- Volumes Are Unavailable in the Chooser
- "Server not responding" Message Appears
- Forcing an AppleTalk Connection
- Cannot Connect Using TCP/IP
- Client Stops Responding When Logging In to the Server
- Verifying IP Connections with Ping Utilities

Zones Do Not Appear in the Chooser

Zones are created by AppleTalk® routers and divide network devices into logical groupings. When a computer tries to get on the network (either at system startup, or when the AppleTalk port is switched from one port to another), it:

- Tries to obtain an AppleTalk address dynamically
- Checks for routers on the network
- Verifies its address against information it receives from the router
- Requests information for the network from routers, such as zone names
- Registers its own services, such as its Macintosh® name for file sharing

If, in a zoned network, zones do not appear in the Chooser, check the following:

- Is the correct port selected in the AppleTalk control panel?
- Are the network cables connected properly?
- Can other devices on the network "see" zones?
  If not, the router may be down, or there may be a general network problem. Report the problem to the network administrator.
- Can you swap networking hardware with another device that is working and "see" zones?
  If so, check the networking hardware.

Otherwise, suspect that the software is at fault, and try the following:

- Reset the PRAM and re-select the correct port in the AppleTalk control panel.
- Restart with Mac OS-only extensions, delete AppleTalk preferences, and restart again.
- Test the IP connections on the port to verify that the network itself is available.

- Run Disk First Aid or another disk utility.
- If necessary, reinstall Open Transport, or a clean system folder.

File Server Does Not Appear in the Chooser

If the file server does not appear in the Chooser:

- Verify the file server name and zone name.
- See if anyone else can see the file server in the Chooser (to rule out network problems).
- Verify that the Web and file server are running.
- Verify that the port is selected in the AppleTalk control panel on both server and client.

Guest Access Is Unavailable

The user “guest” does not have file service enabled at the Web and file server. The server administrator must allow guests to log into the file server.

Volumes Are Unavailable in the Chooser

When the volumes that appear in the File Server’s volume list in the Chooser are unavailable, this indicates that the user does not have any “read” privileges to the share point. For users to mount the volume, the server administrator must allow users to at least “read” at the share point level.

“Server not responding” Message Appears

AppleShare IP servers that have AFP over TCP enabled, will attempt an IP connection whenever the client and the server are configured for TCP/IP. Occasionally, although both client and server are configured for IP, there is no IP connectivity between them. (This might happen is there is no IP router between the client’s network and the server's network.)

In such cases, try to force an AppleTalk connection instead of allowing the software to attempt an IP connection. See *Forcing an AppleTalk Connection* for details.

Forcing an AppleTalk Connection

AppleShare® client software 3.7 and later will attempt to make an IP connection to the AppleShare IP server whenever this feature has been enabled at the server, and the client is also configured for TCP/IP. To prevent this, and force an AppleTalk connection, do the following:

1. Open the Chooser.
2. If on a zoned network, select the **AT** zone of file server.
3. Click the **AppleShare Client** icon.
4. Hold the OPTION key and select the file server’s name in the Chooser.

Try this whenever you see a “server not responding” message.

Cannot Connect Using TCP/IP

If the client's connection is made via AppleTalk instead of TCP/IP (this should be done behind the scenes if everything is set up correctly), check the following:

- Check the appropriate control panel and verify that the client is configured for TCP/IP.
- Verify that the server is an **ASIP** server with **AFP over TCP/IP** selected. Personal file sharing does not support AFP over TCP/IP, nor do earlier versions of the AppleShare Server Software (pre-ASIP 5.x), and possibly other types of file servers. In these cases, you can only connect using AppleTalk.
- Attempt the connection using the **Server IP Address** button in the AppleShare client software. If this button is missing, update client software to version 3.7.4 or later.
- Test IP connectivity between the client and server.

Client Stops Responding When Logging In to the Server

This problem is currently under investigation at Apple®. The client stops responding when attempting to log in to the server just at the point where the server volumes are expected to mount. Forcibly quitting the Chooser sometimes allows the client to continue. Many have reported that this issue does not affect the administrator user, only other registered users.

To work around the problem:

- Clear the **Remember Recent** option in System Preferences. (Changing values to 0 is not sufficient; the option must be turned off.)

Verifying IP Connection with Ping Utilities

When clients report issues on accessing IP services, it is good practice to verify IP connectivity both at the client and at the server. Even if the client connected successfully in the past, many factors can cause unsuccessful attempts, such as:

- TCP/IP settings accidentally changed
- The routers are not functioning
- DNS services are not running
- Duplicate IP addresses appear on the network
- The DHCP or BootP address server is not functioning, or is not accessible
- Some system files or TCP/IP preference files may have become unusable

Ping Utilities

Testing IP connectivity is often done using utilities that send "ping packets". Ping packets are small packets that are sent from one host to another, which request a response from the recipient. Many ping utilities are available for free download on the Internet, such as MacTCP Watcher. A ping utility is invaluable when troubleshooting IP connections, and the following suggestions assume that some ping utility is available.

If no ping utility is available, use whatever IP applications are at hand. Remember that the device that you are attempting to contact has to support the service that the client software is trying to reach. For example, you may be able to use a Web browser to test a connection with another computer that has Personal Web Sharing enabled, but you cannot use it to test a connection to your router.

The following two methods describe how to determine why a client connects with a host.

Pinging the Host Using Its Domain Name

Ping the host using its domain name. If pinging succeeds, no issues exist with the client or the IP connection between client and host. The next step would be to check the applications at client and host, and look for problems there (Web server, file server, mail client, and so on).

If pinging fails, this could indicate an issue with the routers or DNS servers, and not necessarily with the workstation itself. Proceed to the next method.

Pinging a Device on the Local Subnet Using Its IP Address

Ping a device on the local subnet using its IP address. Pinging a device on your same subnet using its IP address does not require routers or DNS servers to be successful; it verifies that each machine is able to communicate using TCP/IP, at least on its own subnet.

Notes:

- Be sure that the workstation you are attempting to ping has its IP stack (that is, protocol set) initialized. Most Macintosh computers do not initialize the IP stack until an application that uses IP is launched. On the computer that you are pinging, launch an IP application, such as a Web browser or a ping utility, to initialize the stack before attempting the ping.
- You can determine what other devices are on the same subnet by checking the physical connections (are they connected to the same hub, or same bus?) or by checking their IP addresses (are the network portions of the IP addresses identical, you have to consider the IP address and the subnet mask to determine this).
- If pinging a device on the same subnet is successful, you have verified that the computer's IP connections are working. However, there still may be some issues with external network devices, such as routers or DNS servers. Proceed to the next step.
- If pinging a device on the same subnet fails, you must carefully check the local software and hardware configurations:
    - See if any other device on the same subnet can ping other devices. This will let you know if the local network is functioning, and if the IP addresses have been set up correctly.
    - If server addressing is being used, check whether you can test with a manual address to determine if there is a communication problem between the client and address server.
    - Check TCP/IP configurations carefully; compare them to a computer that is working properly:
        - Verify the link being used, IP address, subnet mask, and router information
        - Check whether **802.3** is selected (Advanced mode)
    - Check the network connections to ensure they are not loose.
    - Swap out non-working hardware with a working machine to test AppleTalk on the same link, if possible.

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