

Appendix A

Network Setups

FIREHOUSE Software is network ready.



If you are updating previous versions of FIREHOUSE Software and FH executables are located at each workstation, make sure that all FH executables are updated.

Below are important network terms. It is not necessary to understand these terms to use FIREHOUSE Software.

Term	Definition
Configuration	The way in which a system or part of a system, such as a piece of software, is set up, based on a number of possible choices.
Connection Oriented Service	The transport of packets of information from one network node to a destination node following an established network connection.
Dial-Up Line	Communications line accessible via dial-up facilities, typically the public telephone network.
Distributed Database	A database stored on more than one computer.
Distributed Network	A collection of computers that share information without a permanent network connection.
Host	A computer attached to a network providing services to network users.
KBPS	Kilobits Per Second. A measure of data transfer speed. Note that one KBPS is 1,000 bits per second, whereas a KB (kilobyte) is 1,024 bytes.
LAN	Local Area Network. A system that links computers together to form a network, usually with a wiring-based cabling scheme. LANs connect personal computers and electronic office equipment, enabling users to communicate, share resources such as data storage and printers, and access remote hosts or other networks.
MODEM	MODulator/DEMulator. A serial communications device used in pairs. The sending modem modulates, or converts digital signals from a computer to analog tones that can be transmitted over telephone lines. The receiving modem demodulates, or converts waves back to a digital form again. Modems can be internal or external, and operate at various speeds depending on the communications protocols they support.

Term	Definition
Network	A system that sends and receives data and messages, typically over a cable. A network enables a group of computers to communicate with each other, share peripherals (such as hard disks and printers), and access remote hosts or other networks.
Peer-To-Peer Network	A network consisting of nodes (computers) which all have both client and server capabilities and on which communication and data sharing is carried on directly between nodes, rather than being arbitrated by an intermediary node. On a peer-to-peer network all nodes run the same peer-to-peer operating system, which gives them both client and server capabilities.
Server	A server is a computer on a local area network that is running software for controlling access to all or part of the network and its resources.
WAN	Wide Area Network. A group of computers networked together over a large geographical area. WANs may use a variety of technologies for both the hardware and software connectivity. Often a collection of Local Area Networks (LANs)
Workstation	Any individual personal computer.

What is a Network?

A network is a system that sends and receives data and messages, typically over a cable. A network enables a group of computers to communicate with each other, share peripherals (such as hard disks and printers), and access remote hosts or other networks. In this case, we are referring to a computer network, and we only are interested in connecting the workstations to provide access to FIREHOUSE Software over the entire network. There are other uses for a network, but FIREHOUSE Software is the focus of this discussion.

General Network Types

There are different levels of networking that are commonly used. Several examples are:

- Distributed Network
- Peer-To-Peer Network
- Client/Server Network
- Wide Area Network
- Internet Network

Each of the networks are described in more detail.

Distributed Network

This is the simplest form of a network, although some do not consider this to be a proper network. Affectionately termed “sneakernet”, a distributed network requires no connection between computers that are sharing data. To transfer information from one computer to another, the information needs to be copied to recordable media (3 ½” Diskette, ZIP™ disk, or any type of media that can be read by both computers) and moved from one computer to another. There are some serious limitations to this type of network. Transferring data is labor intensive, and if large amounts of data are required and a 3 ½” diskette is the only available media, many disks will be required. If the computers are far apart, a drive or at least long walk is necessary to network between the two computers.

Peer-to-Peer Network

A relatively simple form of local area network that links computers together as equals. Peer-to-peer networking is included with Windows for Workgroups, Windows 95, and Windows 98 operating systems. A peer-to-peer network appears to save money in the short-term by leaving out the dedicated server computer. A single workstation can be set aside to act as a central server that contains important data and programs. In practice, a peer to peer network can cost more in terms of lost data and staff frustration. Keep the following guidelines in mind to minimize potential problems:

- To restore the network after resetting a workstation acting a “server” role, all workstations on the network have to be restarted.
- Do not put more than half a dozen PCs on peer-to-peer network.
- If you are storing valuable data on the network, make sure you back it up reliably and regularly.
- Check your backups before a disaster, rather than afterwards.
- Maintain control over your most valuable information by keeping it in a single location.

Client/Server Network

A client/server network is not the same as a client/server application. Client/server networks are increasingly popular for departments with more than half a dozen computers. Requires a powerful central computer with specialized network server operating system software and client access licenses for each PC connected to the server. Provides key infrastructure services such as file and printer sharing. Most client/server networks can also include peer-to-peer networking if the workstation operating system supports it (for example, a Novell network with Windows 95 workstations). Not advisable to implement without other expensive infrastructure like a large-capacity tape backup system and battery backup for the electricity supply (known as a UPS).

The definition above does not attempt to distinguish between relatively straight forward file sharing networks to advanced multi-tiered architecture networks that have highly specialized hardware and software requirements.

Expect to pay more for software and systems that make the network useful, such as email, PC faxing, Internet access, and shared applications like accounting systems and other databases.

Note that client/server database applications (for example, FH Enterprise) are typically not installed on the network file server computer. Standard database applications like FIREHOUSE Software can be installed on the network file server computer.

Wide Area Network (WAN)

Linking together two or more LANs on different sites, usually by means of leased (permanently connected) telephone lines. Previously restricted to those big enough to have offices scattered around the country or the world. Now fast on its way to becoming a requirement, if only to link your LAN to the Internet.

Internet Network

The Internet is a very large and very public linkup between numerous LANs and WANs. Technically, linking to it is just like making your own WAN, except for two problems:

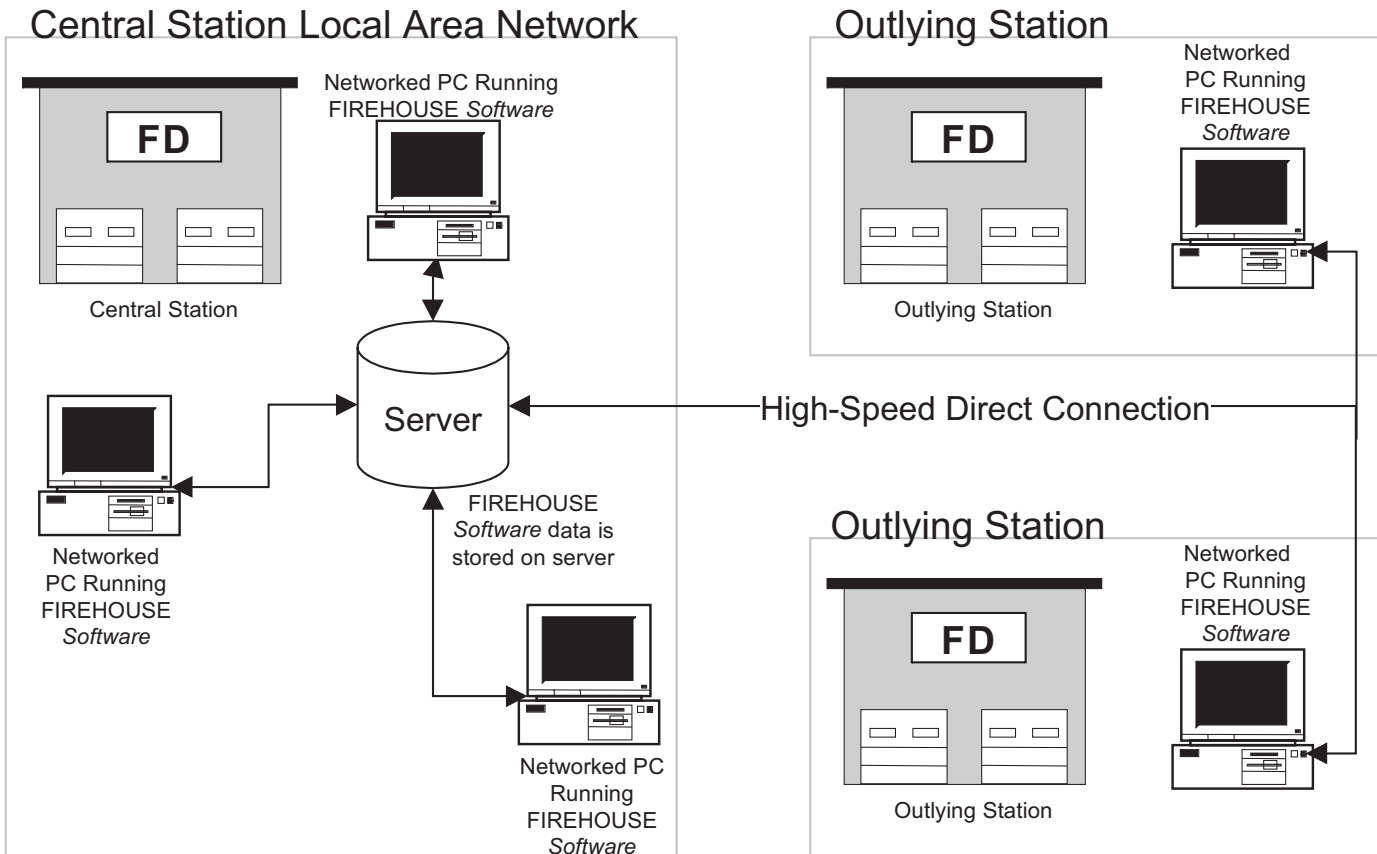
- You need tight security if your network allows access from the Internet.
- You will have to pay an Internet Service Provider a monthly fee to use them as a gateway to the rest of the Internet.

Your connection to the internet will vary from ISDN or ADSL to T4 or T3 lines. For internet connections to email and browse the World Wide Web, a dial-up modem connection is generally sufficient.

FIREHOUSE Software On a Network

The following information does not apply to FH Enterprise. FH Enterprise uses a client/server database, making many of the connection speed consideration discussed below less important.

FIREHOUSE Software can be configured to operate on any of the mentioned types of networks above, but some of the network types require third-party tools to operate effectively. As long as all workstations can access the data over the network, records entered at one workstation are immediately available at the other workstations. The diagram below illustrates a three station fire department network used to connect five FH workstations. Records entered at outlying stations are entered directly into the central server database, and are accessible from any of the five workstations as soon as they are saved.

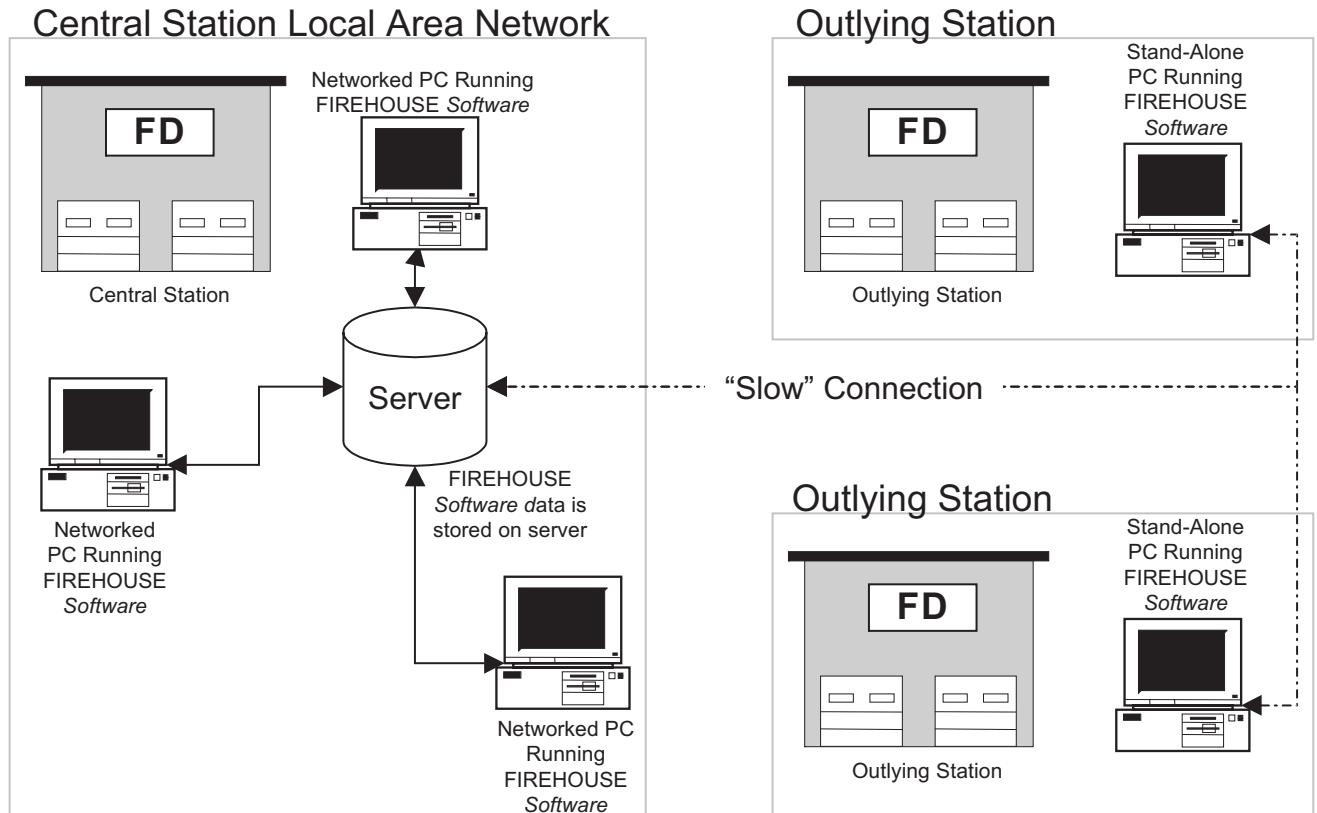


This network configuration requires a high speed connection between the central station and the two outlying stations.

See "Physical File Locations" in Appendix A on page 7 for important information about where the FH executable and files should be located.

The configuration illustrated above requires a maximum of five FIREHOUSE Software licenses (six if FIREHOUSE Software runs automated tasks directly on the server), but could be used with as few as a single user license if only one person needs access to the system at a time.

Some departments will not have the luxury of connecting outlying stations with high speed connections. FH can be configured to allow departments to enter data locally, and periodically send their data to other stations. Illustrated below is a low speed connection like a phone line.



Departments can have information flow to the central data location, so the central database includes all records entered in FIREHOUSE Software, and outlying stations only have records they enter.



If you have slow speed connections but want to enter all data to a central server, FH Enterprise is an alternative approach that uses a client/server database that allows departments to connect outlying workstations to a central database with adequate response times. Contact your regional sales representative for details.

Physical File Locations

FIREHOUSE Software can be configured to run with program files located in your choice of locations. Since FIREHOUSE Software is a 32 bit application,

you must install the application locally even if FH components are run off the network.

FH file locations are specified via the **Tools** menu, **Workstation Options**. The **Workstation Options** form is displayed, and directory locations are specified from the *Local Data & Files* section. The basic FIREHOUSE Software program files are installed in C:\Program Files\FIREHOUSE Software directory by default. Additional subfolders in the directory are described below. Your local FH system can use the default folders, or you can point to folders on a network and delete the subfolders on the local workstation.

Database... The \DEMODATA directory contains all sample data for evaluating FH. When FH is activated a \DATA directory is created. All workstations on a network should be directed to a single database to share entered data.

Lookup... Optionally specify the lookup code table location. The lookup code tables are stored in the *Database* directory by default. Allow FH to manage this location unless you have specific reasons for doing otherwise. Check *Use an alternate location for lookup tables...* and then **Lookup** to select a lookup code table separate from the *Database* directory.

CAMEO® Data... Optionally specify where your CAMEO® data is stored. FH will use CAMEO data (not compatible with the CAMEOfm version) in chemical inventory records added for occupancy records.

System... The \System directory contains workstation specific information, including FH workspace modifications, and system defaults and validation.

Queries... The \Queries directory contains the queries used in browse lists and reports. All workstations on a network should be directed to a single query directory to use the same queries.

Reports... The \Reports directory contains the files for report forms. All workstations on a network should be directed to a single reports directory to use the same reports.

Help... The \Help directory contains the files for FH Help File and other documents that can be viewed online. All workstations on a network can be directed to a single help directory.

Enable local caching of system and lookup tables

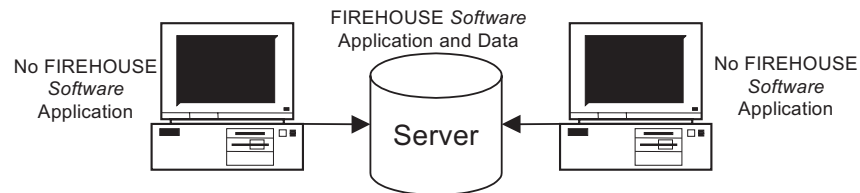
When this option is enabled a copy of the network tables for the system and lookup directories will be copied and placed on the local drive in the \Cache folder. FH will automatically update local copies of these tables on start up.

Location Advantages

You can run the FIREHOUSE Software application locally or over a network. Each option is discussed below.

No Local Applications or Data

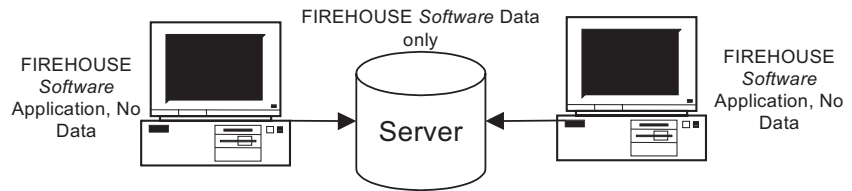
This is the simplest in terms of program updates and file maintenance, but could result in slow response times at the workstation. All FIREHOUSE Software program and data files are stored in a centrally accessible location, and workstations set up a shortcut to the central executable. Since FH is a 32-bit application, you must still perform an install on the local workstation even if you set up a shortcut that points to the executable located on the server.



The configuration above is possible, but not recommended for peer-to-peer networks like Windows 95 and Windows for Workgroup networks. Windows NT and Novell networks will typically work well in this configuration if the connections are sufficiently large to handle the increased network traffic.

Applications Local, Data Central

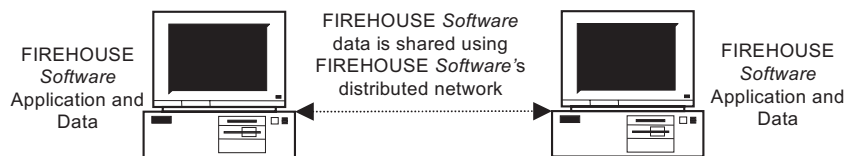
The FIREHOUSE Software application is installed at each workstation, and the Workstation Options points to data located on a central server. This approach improves response times compared to the other method, but requires that each individual workstation be updated if program updates are distributed.



If data were accidentally entered into a local data directory at a particular workstation the data could be accessed at this workstation only. When you use this approach, we recommend that you remove the local data directories to eliminate the possibility of accidentally entering data locally.

Applications Local, Data Local

The FIREHOUSE Software application is installed at each workstation and the data is also located locally. This approach is for departments that do not have high speed connections (or any connections) between stations that run FIREHOUSE Software.



To share FIREHOUSE Software data between workstations, you need to use the Import/Export feature. You can use diskettes to transfer the data or a dial-up connection.

Import/Export is detailed in the Advanced Feature Reference Station Management chapter.

How to Share FIREHOUSE Software Data

FIREHOUSE Software is used by fire departments of all sizes. Most departments are interested in having a central database that contains a complete record of all the department's activities regardless of the number of stations that are part of the department. This central record is stored in FIREHOUSE Software's Data directory (evaluations do not include the Data directory). For multiple license systems, departments need to consider how the central database receives the data. For departments that can afford a full T1 connection over their entire network, or a similar connection with high-bandwidth, FIREHOUSE Software will operate as if it is on a local area network. This means each workstation points directly to the central database so when a record is entered, it goes directly to the central database. Many departments will not have this luxury. Their connections are slower. Tying an outlying FIREHOUSE Software workstation to the central database using the

slower connection results in inadequate response times. Opening the program and entering records takes too long.

We have a built-in distributed networking function. Multi-station setups will maintain separate databases, but the separate databases can update one another periodically. Since the databases are local, the program responds rapidly. Updated data from outlying stations to the central station is periodically sent over the WAN connection to keep the server updated.



We recommend that departments considering using the built-in distributed network consider FH Enterprise as an alternative. FH Enterprise allows multiple stations to connect to a central database with fast response times. Contact your sales representative for additional details.

You can connect outlying stations directly to the central server or operate locally at outlying stations and use FIREHOUSE Software's distributed network system.


Criteria For Choosing

Important considerations include response time, data integrity, and your current department procedures for entering data in FIREHOUSE Software.

Response Time

The specific determination that a connection is "too slow" to use for connecting an outlying FIREHOUSE Software workstation to a central database is subjective. A person accustomed to a slow computer might not mind waiting for FIREHOUSE Software to open when it is connected to a central database via a 28.8 K modem, while others are not willing to accept any waiting. FIREHOUSE Software response times over a WAN will vary from installation to installation depending on local variables like connect quality (for example, having a 56 K modem does not assure you that you can connect at 56 K), how the workstations are connected, and the configuration of the workstation. We recommend that you establish some benchmarks for the times it would take to perform frequently performed tasks in FIREHOUSE Software over the connection before deciding whether to connect or use built in networking.

Some possible benchmarks:

- Elapsed time from double-clicking the FIREHOUSE Software icon to displaying the Login form.
- Elapsed time from clicking  to the display of the NFIRS incident report browse list.

Data Integrity

Your data is a valuable resource. If you have personnel who do not appreciate this, your data could be at risk. The separate data directories you have at one time increases the opportunity for a mix up. The goal should be to maintain as few separate data directories as possible.

Department Procedures

Another important consideration is the current internal procedures for entering data in FIREHOUSE Software. When all data goes to the central server, everyone on the system has access to information after it is entered and saved. If you operate locally at an outlying station and export to the server, the data will be accessible only to members with access to the data at the outlying station, and only after exporting to the central server can central server members view the information.

Hardware Requirements

Certain configurations benefit from an additional workstation and FIREHOUSE Software license exclusively for running automated tasks.