



Network License Server Technical and Administrative Overview

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Using a Network License Server is the preferred authorization method when deploying Freedom Scientific software on multiple client computers in a networked environment. In this model, the client computers contact the Network License Server to obtain licensing authorization. The Network License Server enforces and manages licensing for these clients. It keeps track of all licenses and handles requests from network clients who want to run the software applications, granting authorization to the requesters to allow them to run the application, and denying requests when all licenses are in use. It is an integral component of the network licensing scheme.

The Network License Server model includes the following components:

- Network License Server – The license manager that controls and manages licenses issued to client computers
- Authorization Codes – Unique codes issued for each purchased software product, which when installed and activated, provide details as to the enabled features and number of seats authorized for your installation
- Client Activator – The software utility used to activate and update product authorization codes
- License Server Administrator Console – The administration tool used to view license utilization by product
- Client Software – The licensed software installed on client computers and obtains licenses from the Network License Server

This document provides an overview of system and network requirements when using the Network License Server model. Full administrative details are available in the [Sentinel License Manager System Administrator's Guide](#).

Server Requirements

The Network License Server software has a minimal footprint and can be installed on any Windows 32-bit or 64-bit server or desktop operating system. Given its limited overhead and processing requirements, the Network License Server software does not require a dedicated server; it can be co-resident with other network applications.

The default installation path and space requirements for the Network License Server software are as follows:

Description	Default Path	Size
Installation Support Files	Program Files\Freedom Scientific Installation Information Program Files (x86)\InstallShield Installation Information	6 MB

Description	Default Path	Size
Client Activator	Program Files\Freedom Scientific Program Files (x86)\Freedom Scientific	20 MB
SentinelLM Server	Program Files (x86)\Rainbow Technologies	2 MB
Visual Studio 2015 Libraries	Standard Windows shared library default folders (varies by operating system version)	50 MB
License Files	\Program Files (x86)\Rainbow Technologies\SentinelLM 7.2.0.6 Server\English\lservc	1 KB per license

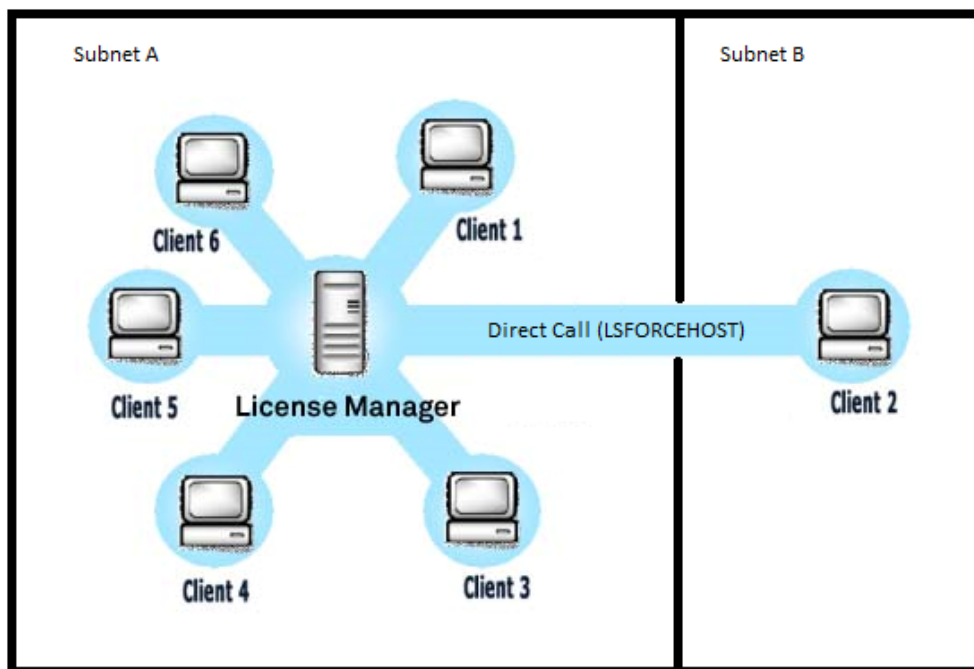
Server Maintenance

There is no specific maintenance plan required for regular server maintenance. Standard disaster recovery should be practiced, and in particular, ensure that the folders where the license files are installed are backed up for ease of recovery.

Networking Requirements

The Network License Server must be installed and run on a server or computer that is visible by the client computers that have installed the licensed software application. When the licensed application runs on a client, a request is sent to the Network License Server for obtaining an authorization. The Network License Server processes the request and returns the status to the client.

To obtain an authorization, the licensed software application requests a license by broadcasting for a license server within a subnet; therefore, the server must be visible and on the same network as the client computers. If a client computer is not on the Network License Server's subnet, it must be configured with the server's name or IP address such that the client can locate the Network License Server through a *direct call*.



The protocols and ports used by the Network License Server are listed below, and must be opened through any firewalls that reside between the client computers and the server.

Network Protocol: UDP

Communication Protocol: IPv4

Network Port: 5093 (not configurable)

Network Overhead

The overall network load used by the Network License Server and its constituent clients is very low, and equates to about 1,000 bytes per client per minute. The table below illustrates the bandwidth requirements for various sized deployments:

Number of Clients	Total Packets per Minute	Bandwidth Consumed
25	25	38K bytes
50	50	76K bytes
100	100	152K bytes