

what is nfs filesystem

Network File System (NFS) is a distributed file system protocol that allows clients to access files and directories on a remote server as if they were local^[1]. It enables users to view, update, and store files on a remote system as though they were working locally^[2].

NFS is based on a client-server model^[2]. It was originally developed by Sun Microsystems in 1984 to support shared data access on local area networks (LANs)^[3]. NFS implementations are available for most modern operating systems, including Windows, Linux, and UNIX^[4] ^[5].

Key Functionality and Benefits:

- **File Sharing:** NFS allows multiple clients to use the same files, ensuring everyone on the network uses the same, up-to-date data^[3].
- **Remote Access:** Users can access and manipulate files on remote computers as if they were stored locally^[6] ^[1].
- **Reduced Storage Costs:** Computers can share applications, which eliminates the need for local disk space^[3].
- **Centralized Data Management:** NFS reduces system administration overhead through data centralization^[3].
- **Heterogeneous Environment Support:** NFS supports mixed technology environments from multiple vendors, using interoperable components^[3].
- **Security:** It reduces security concerns associated with removable disks and drives by centralizing data^[3].

How NFS Works:

1. **Mounting:** A client mounts an NFS server's directory onto a local mount point, establishing a connection between the client and server^[1].
2. **File Access:** Once mounted, the client can access files and directories on the server as if they were local^[1].
3. **File Operations:** Clients can perform operations such as reading, writing, creating, deleting, and modifying files^[1].

The process of setting up an NFS service involves verifying that the NFS daemon (rpc.mountd or mountd) is installed and working, creating or choosing a shared directory on the server (the NFS mount point), and configuring permissions on the NFS server to enable authorized users to access the file system^[4].

1. <https://www.extrahop.com/resources/protocols/nfs>
2. <https://www.f5.com/glossary/network-file-system-nfs>
3. <https://www.weka.io/learn/glossary/file-storage/what-is-network-file-system/>
4. <https://www.techtarget.com/searchenterprisedesktop/definition/Network-File-System>
5. <https://learn.microsoft.com/en-us/windows-server/storage/nfs/nfs-overview>
6. https://www.ibm.com/docs/pt/ssw_aix_71/network/nfs_intro.html