Plan FileWave Windows Imaging and IVS Requirements

FileWave Windows Imaging deploys base Windows images over the network through an Imaging Virtual Server (IVS). Review server placement, PXE routing, appliance capacity, and hardware driver availability before choosing device models or starting a rollout.

Requirements

FileWave Windows Imaging uses the downloadable FileWave Imaging Appliance as its PXE server. It works with self-managed and Hosted FileWave Servers. Hosted customers need FileWave Technical Support for server-side setup because they do not have direct access to the Hosted Server; see FileWave Hosted Servers and IVS Setup.

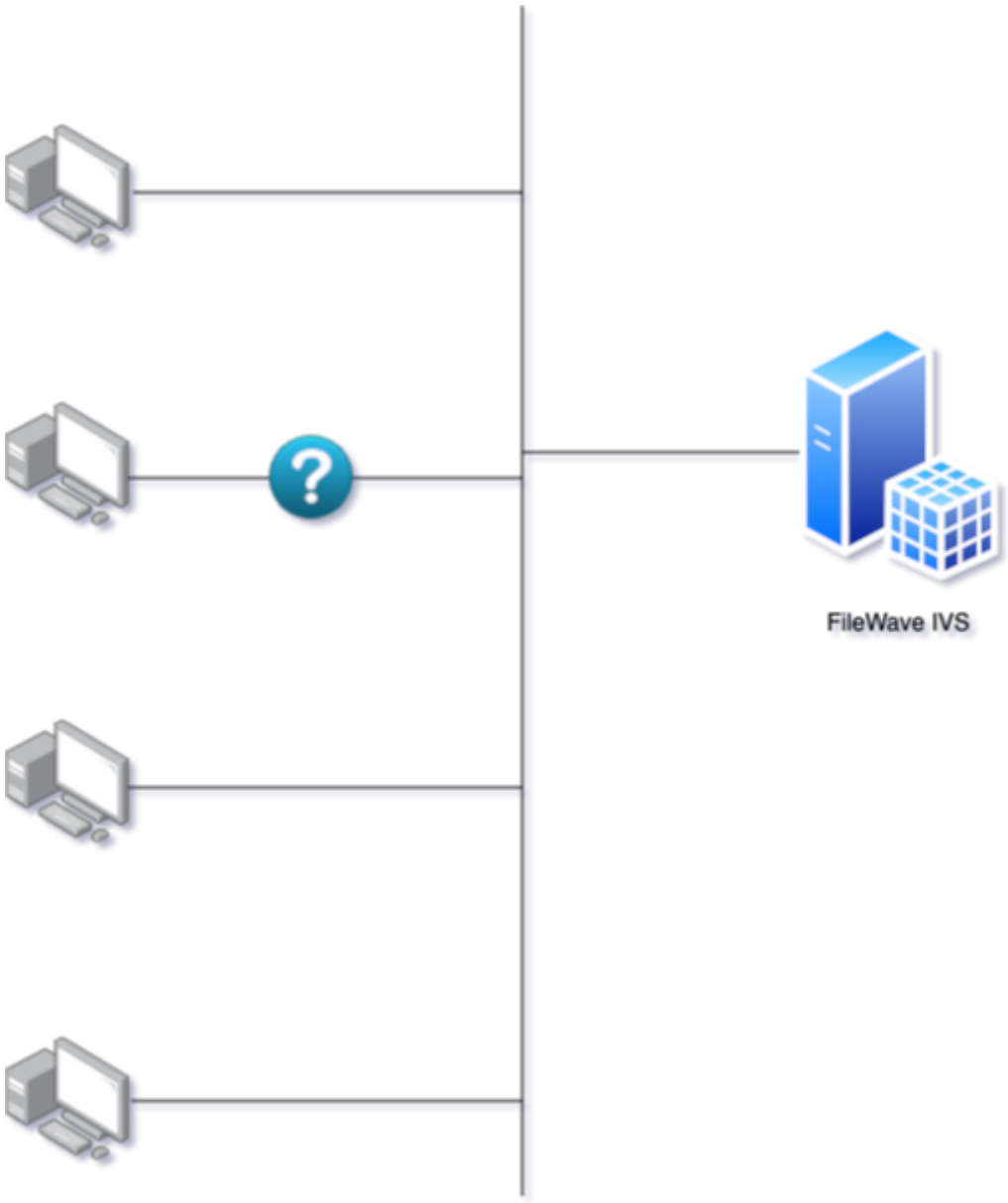
This appliance can be run in:

- VMware Fusion® for Mac
- VMware Player® or Workstation® for Windows
- VMware ESXi®
- VirtualBox®
- Hyper-V®

Allocate at least 8 GB of RAM and 100 GB of disk space to the appliance. Add capacity for the images you plan to store; a typical image is about 20 GB. CPU demand is minimal.

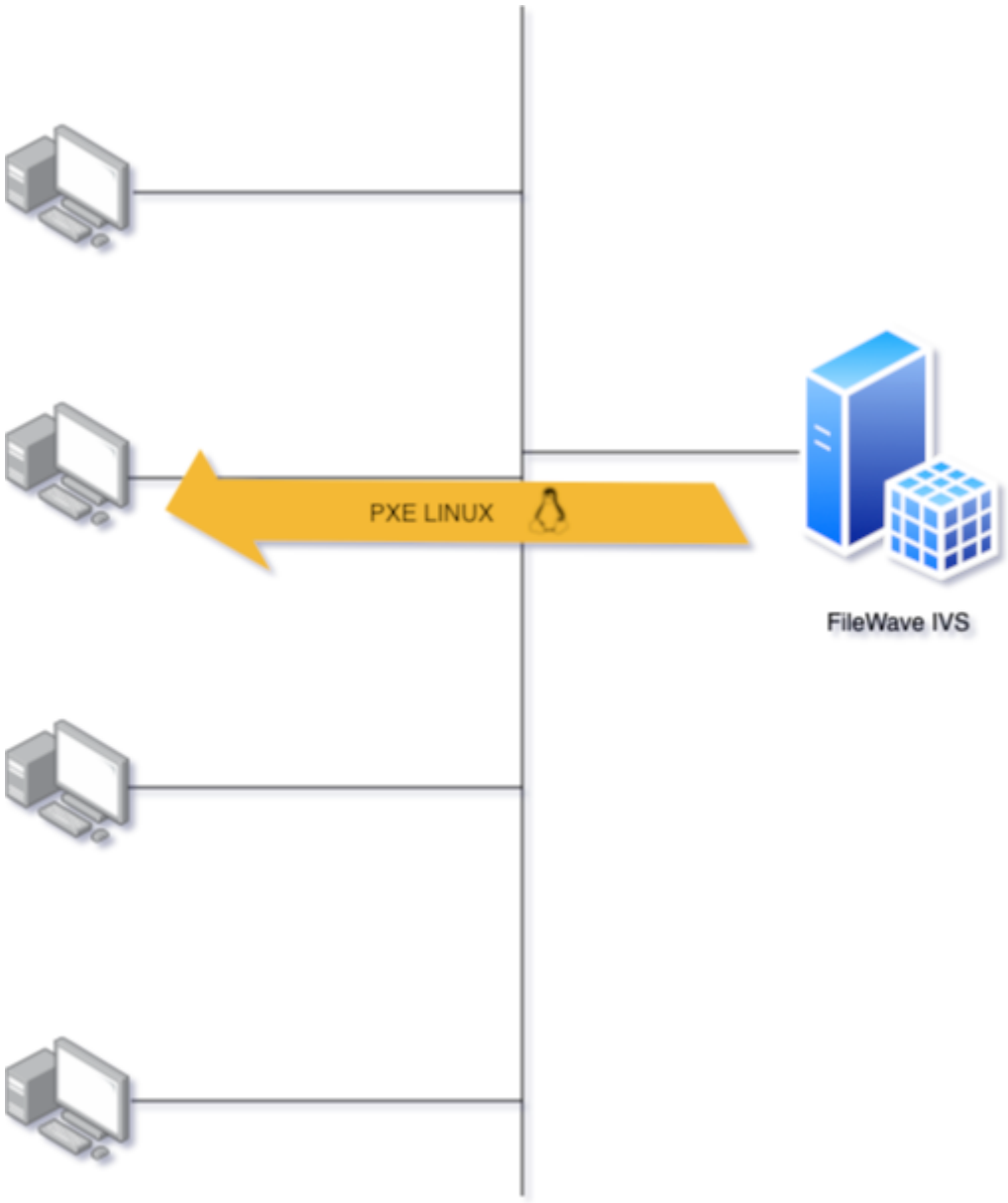
Imaging steps

1. For a Hosted deployment, complete the additional steps in FileWave Hosted Servers and IVS Setup with Technical Support.
2. Configure the target device for wired PXE network boot.
3. The target device broadcasts DHCP and PXE requests while looking for an IVS. Review the required IVS network ports. These broadcasts normally stay within the local subnet. If the IVS and target devices share a subnet, clients can discover the IVS directly. For other subnets, place an IVS on each imaging subnet or configure router IP helpers. Use a wired connection for PXE network boot.
    1. Put an IVS on every subnet that you may need to re-image devices on.
    2. Configure IP helpers on the routers for every subnet that you may need to re-image devices on.

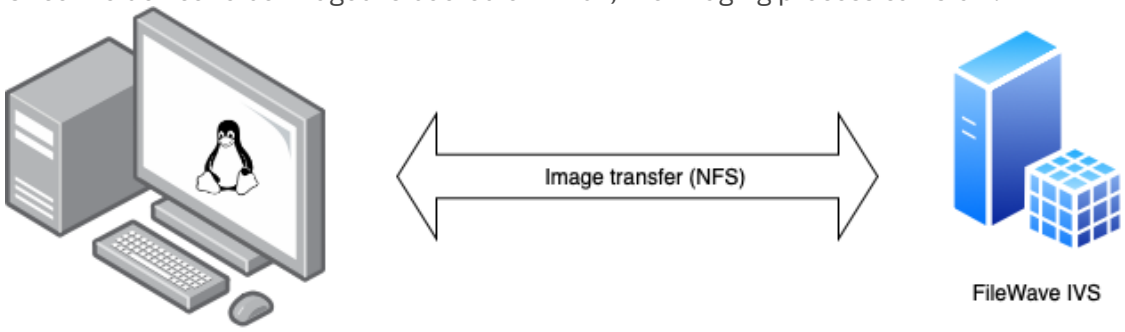


More details about Network Booting can be found here.

4. If there is an association in FileWave between the MAC address of the Windows device to be imaged and an Imaging Fileset, the FileWave Imaging Virtual Server (IVS) will respond to the request and initiate the PXE boot process.
5. The IVS will then transfer a customized, very lightweight Linux operating system on which the device will boot:



6. Once the device to be imaged is booted on Linux, the imaging process can start:



The whole process is managed by a python script responsible for:

1. Creating a VPN tunnel to the IVS server
2. Mounting NFS share to IVS server via the VPN tunnel
3. Communicating with IVS to get and report information
4. Preparing local hard disk (partitions), writing disk image, and preparing Windows environment

Hardware driver requirements

The lightweight Linux boot image contains the components needed for imaging. Network adapter and disk controller support still depends on drivers supplied by the hardware vendor and available to Linux.

The IVS boot image must contain drivers for every model you image. If the vendor has not made a compatible Linux driver available, the IVS cannot use that component.

> ⚠ Without proper drivers, Imaging may not work correctly or even may not work at all.

Most of the drivers are added to the kernel (See: https://www.kernel.org) or separately, this is why we regularly update our customized Linux. But it may happen that some vendors will not provide Linux drivers, which will prevent the FileWave IVS from working. Using a USB Ethernet dongle may be a work-around for a missing integrated NIC driver (assuming the driver for the dongle is available). Unfortunately, missing drivers for the disk controller can't easily be worked around.

Recommendations

Pilot the complete imaging workflow on at least one device of every hardware model before a wider rollout. FileWave may be able to update the kernel or add a driver when compatible Linux components are available; contact Technical Support or Professional Services for help.

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