7. Disk Imaging

FileWave supports direct imaging of macOS 10.12 and older systems using the FileWave Lightning application. This method works over Thunderbolt, USB, and Firewire connections.

Network imaging is supported over Ethernet using the FileWave Imaging Virtual Server (IVS), which provides PXE services for Windows computers and NetBoot services for macOS computers. The IVS is a Linux virtual appliance that you can import into VMware, or Hyper-V, or VirtualBox. For more information see Network Imaging Setup.

Please note that disk imaging, neither with FileWave Lightning nor the IVS, are supported on macOS 10.13 High Sierra or higher. With the introduction of High Sierra, Apple announced here that it no longer supports monolithic disk imaging. As an Apple partner and as a best practice in general, FileWave fully supports the technologies and best practices recommended by Apple and not those that they explicitly caution against and do not support. The announcement that FileWave no longer supports Mac disk imaging with High Sierra and beyond can be found here. As a result FileWave also no longer officially supports disk imaging with Lightning nor NetBoot for macOS 10.13 and higher Macs. The main reasons for this are

1. The introduction of APFS
2. The way firmware updates are applied
3. The requirement of certain firmware updates for APFS to work

Many Apple firmware updates in High Sierra and beyond are only available as part of an OS install or OS update and are no longer available as standalone patches. In many cases the updates are required for the iteration of APFS included with a particular macOS version. Without those firmware updates macOS is not able to read the APFS boot volume. These firmware updates are downloaded on the fly from Apple by the macOS installer or macOS update installer based on the serial number of the Mac. For example, restoring a disk image captured from a macOS 10.13.6 APFS reference system onto a Mac currently on an older version of High Sierra, such as 10.13.3, can result in a non-bootable Mac. This is because the the 10.13.3 Mac does not have the requisite firmware updates to support the filesystem in the 10.13.6 disk image. The only way to get those firmware updates is to update the OS to 10.13.6 at least once.

The default method for "reimaging" High Sierra 10.13.4 and higher systems is to reset them using startosinstall with the *--eraseinstall* option. Since startosinstall uses the native macOS and macOS update installers, which includes Apple firmware updates, the client machine is virtually guaranteed to boot after the reset. More information on this can can found in this Apple support article. The *--eraseinstall* parameter requires that the drive already be APFS.