Booster Setup

Everything you need to set up your Booster Environment

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Booster System Requirements

Requirements

As of May 2023 v15.0.1 the below are supported for running Boosters, but for updated information always consult the specific release on the Downloads Page. The FileWave Booster can also be installed on a Virtual Machine.

- macOS 12, 13 (Intel and Apple Silicon)
- Windows 10 (Ent/Pro 21H1 and above), 11 (Ent/Pro 21H2 and above), Server 2019, Server 2022
- Linux CentOS 7.9 x86_64
- Debian 12.x

The general guidance on CPU / RAM / Network / Storage is:

- CPU: For physical hardware use at least the equivalent of an Intel Core i5 or Apple M1
- CPU: For virtual hardware, use at least 2 virtual processors
- RAM: Use a minimum of 8Gb of RAM with 16Gb recommended
- Network: At least 1Gb network connection
- Storage: 1Tb is a recommended minimum, but this will depend highly on OS updates and Filesets as well as if Windows Imaging is in use leveraging a Booster

> ⚠ Make sure you have enough space on your hard disk to store the cached Filesets for your FileWave Clients. A Booster could conceivably contain a full mirrored set of all Filesets on the main FileWave server.

Booster Installation

Description

Booster software is compatible with either macOS, Windows or Debian. All necessary installers or appliances can be found on the current download pages: FileWave Software Downloads

Installers

Debian

Linux has two options. FileWave provides (as with the FileWave Server) a pre-built Debian VM. Alternatively, it is possible to self-install the software on a Debian system.

macOS & Windows

Installers are available as PKG or MSI.

> ℹ️ As typically with MSI installers, options exist not only for install, but repair and deletion

Install Paths

Booster installs the software to one of the following locations:

- Windows: C:\Program Files\FileWave\fwBooster.exe
- macOS, Debian: /usr/local/sbin/fwBooster

Booster Configuration

Once installed, configuration is via the Booster Monitor application, available for both macOS and Windows from the same downloads page.

> ⚠️ Note that the standalone application, Booster Monitor, will only be able to connect to a Booster for initial configuration. Once a Booster is configured you must access Booster Monitor from FileWave Central in the Boosters section. This is because authentication is protected, and the FileWave Central application provides a secure connection. Launching Booster Monitor directly would not have that same authentication, and you will see an error about the Booster not running.

Installation

Debian

If using the pre-built Debian Appliance, simply add the VM to the VM infrastructure. Alternatively, follow the commands provided on the downloads page.

macOS & Windows

Run the relevant PKG or MSI installer, accepting any terms and agreements.

> ✅ Custom Installers may be created, pre-defining details, e.g. Server Address, Port and Booster Monitor Preferences password: Custom Installers

Configuration

Network Address

Configure a static IP for the Booster and consider adding a Domain Name within the DNS for this IP.

macOS and Windows can be configured using the Settings. However, Debian will require some command line configuration.

> ▼ Debian IP Setup
>
> #### Network Interface
>
> The current IP may be determined with the 'ip addr' command:

```
# ip addr
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host noprefixroute
       valid_lft forever preferred_lft forever
2: ens192: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000
    link/ether 00:0c:29:9d:4d:7e brd ff:ff:ff:ff:ff:ff
    altname enp11s0
    inet 192.168.1.98/24 brd 192.168.1.255 scope global dynamic ens192
       valid_lft 68853sec preferred_lft 68853sec
    inet6 fe80::20c:29ff:fe9d:4d7e/64 scope link
       valid_lft forever preferred_lft forever
```

The key part here is the name of the network interface. In the above example, this is 'ens192'.

Edit Network File

Make a backup of the current file:

```
cp /etc/network/interfaces /etc/network/interfaces-mybackup
```

Edit the original file:

```
sudo nano /etc/network/interfaces
```

Add the chosen IP and other necessary details for this interface. Given the details above, it may look something like the below once edited:

```
# This file describes the network interfaces available on your system
# and how to activate them. For more information, see interfaces(5).

source /etc/network/interfaces.d/*

# The loopback network interface
auto lo
iface lo inet loopback

# The primary network interface
iface ens192 inet static
address 192.168.1.22
netmask 255.255.255.0
gateway 192.168.1.255
dns-nameservers 8.8.4.4 8.8.8.8
```

Once complete, save and then restart the network service:

```
sudo systemctl restart networking
```

Re-running the 'ip addr' command should now show the new details.

Add a name with this IP on the DNS.

Booster Setup

Install the Booster Monitor on a chosen macOS or Windows device. On launching the Booster Monitor, use the above created network address. The initial view is akin to the FileWave Client Monitor, but with Booster specific details:
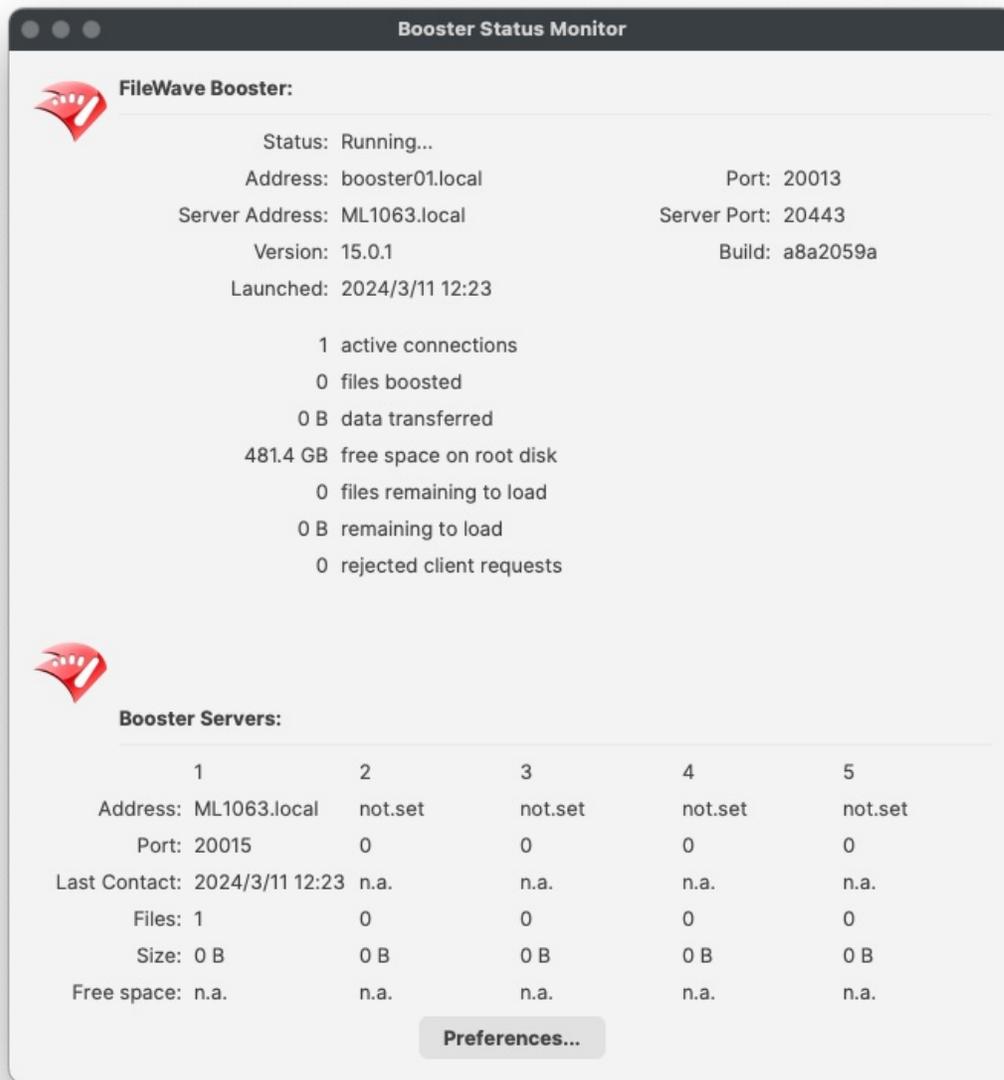
Select Preferences, enter the created password (or default password as provided from the downloads page)

> ⛔ Consider changing this password at the earliest possible moment

> ℹ️ This password is only used to access the Preferences from the Booster Monitor.

The Booster Monitor may then be used to configure the Booster. At a very basic level, the Server Address and port should be added.

FileWave Booster Preferences

Booster Prefs

Booster Name: `booster01`

Booster Location: `The booster's location`

Booster Port: `20013`

Password: `••••••••`

Confirmation: `••••••••`

FileWave Server Address: `ML1063.local`

Inventory port: `20443`

Number of Threads:

Maximum Client Connections: `500`

Debug Level: `10`

Delete Unused Filesets: ☑

Fileset Validation Interval: `24` hours

Client Download Speed Limit: ☐ `100` KB/s

Booster Server Prefs

	IP or DNS Address	Port	
Server 1:	ML1063.local	20015	
Server 2:	not.set	0	
Server 3:	not.set	0	
Server 4:	not.set	0	
Server 5:	not.set	0	

Cancel   **Save**

Approving Boosters

Once a Booster is setup on the network with the relevant FileWave Server details, it should then check-in with the server and be visible in the Booster section of the FileWave Central admin application software.

ℹ As of FileWave 13.1.0, additional security and certificates were introduced, requiring the approval process.

The approval process generates a certificate for the Booster. There are four ways to generate a certificate for a booster.

1. Select booster(s) in the Booster view → right-click → Create Certificate/Enroll Booster
2. Select booster(s) in the Booster view → Create Certificate/Enroll Booster (in the button bar)
3. Select booster(s) in the Booster Details → right-click → Create Certificate/Enroll Booster
4. Select booster(s) in the Booster Details → Create Certificate/Enroll Booster (in the button bar)

Booster Deletion

If a Booster were deleted from FileWave, this will revoke the certificate. If still running, on a subsequent check-in, the approval process should need to be re-actioned.

Booster Monitor and Configuration Settings

Booster Monitor
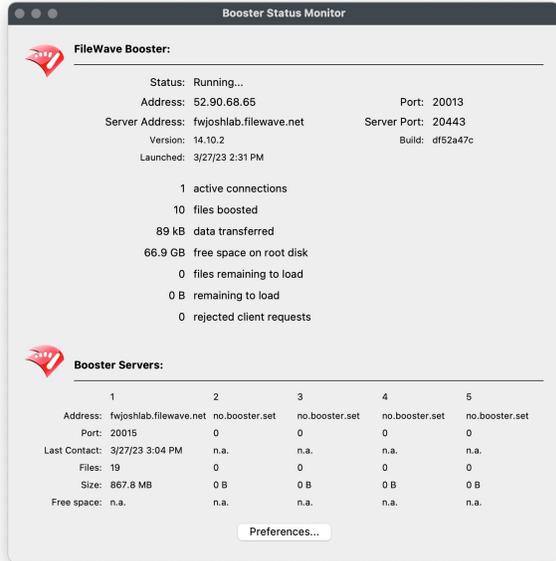
When you first launch Booster Monitor, it will attempt to connect to the Booster at the default address of 127.0.0.1 with the assumption that you are running the monitor on the system you installed it on. You can change that address to any valid IP address or FQDN of a Booster you have installed. If you try to connect to a Booster from FileWave Central on the list of Boosters, and it won't connect you should check what IP it lists there for the Booster. For some network setups, the FW server may see the Booster coming from a different address than what your clients connect to it on.

> ⚠️ Note that the standalone application, Booster Monitor, will only be able to connect to a Booster for initial configuration. Once a Booster is configured you must access Booster Monitor from FileWave Central in the Boosters section. This is because authentication is protected, and the FileWave Central application provides a secure connection. Launching Booster Monitor directly would not have that same authentication, and you will see an error about the Booster not running.

The default password will be "filewave" or if you used the https://custom.filewave.com website, it may be "f1lewav3" or whatever you set it to.

Once you have connected with your Booster, you will see its Status Monitor window. The status window lets you see the current settings and cache of the Booster.

You can set the Booster preferences to choose how the Booster can be reached, how it works with other Boosters, the main FileWave Server, and how it handles network traffic.

Booster Prefs
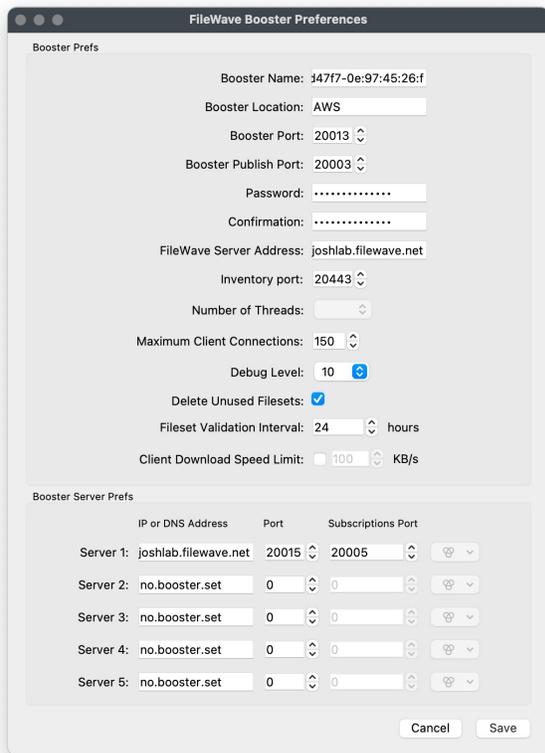
- Booster Name – This is an identifier for you to distinguish a Booster in the FileWave Admin GUI. It does not have to be the hostname of the Booster, but would be a good practice to follow.
- Booster Location – This is a text field to help someone know the physical location of the Booster (it shows in the Booster view of FileWave
- Booster Port – By default, this is 20013; but you can change it to any valid TCP port that won't interfere with active connections on your network. This port should also be open in the network firewall for external connections and you need to make your booster listen on this port.
- Booster Publish Port – This is no longer used but was for the Observe client before 14.8.0.
- Password / Confirmation – the default password is "filewave" or "f1lewav3" or a custom password depending on how you installed.
- FileWave Server Address – This should be the FileWave Server that the booster talks to.
- Inventory port – This should be the 20443 which is the port inventories are sent to.
- Number of Threads – This is not used in this interface anymore and can not be changed.
- Maximum Client Connections – This is the number of connections the Booster can accept. For macOS and Windows-based Boosters, the limit is 400, but Linux can support up to 2000 connections. After a Booster runs out of connections then clients will be sent to the next Booster in their list. If no additional Boosters are in the list of Boosters, then the client will fall back to the FileWave Server.
- Debug Level – you can change this value if you are troubleshooting an issue with FileWave Support. The higher the level, the more log files generated.
- Delete Unused Filesets – this setting will cause the Booster to delete any Filesets that have been deleted at the main FileWave Server. If you leave this setting unchecked, then the Booster will keep every Fileset it has cached. This can come in handy as an ad-hoc backup of all your Filesets for recovery purposes. We recommend keeping this checked so your Booster does not run out of space from old Fileset / Payload files.
- Fileset Validation interval – this value determines how often the Booster checks to make sure it has every Fileset that the clients have requested and that the versions of the Filesets are correct and up-to-date.
- Client Download Speed Limit – you can use this setting to throttle the bandwidth that the Booster will utilize with a given client. A word of caution though, if the Booster is feeding an IVS, you probably don't want to limit the download speed between the Booster and the IVS, as images can be quite large and take a lot of time to copy when unrestricted.

Booster Server Prefs

These settings are where you build your distribution "tree" by assigning where this Booster connects. This specifies the order in which connection attempts will be made. The best way to set this up is to follow these guidelines:

- Set Server 1 to be the next Booster upstream from your Booster. This may be the main FileWave Server or another Booster upstream from this one.
- Set the other servers to be Boosters in the same general area or location as this Booster or ones that are upstream from each other (e.g., #2 would be upstream from #1). Do not set these to the other Boosters in a DNS "round-robin" configuration - that would leave these Boosters all asking each other for Filesets none of them may have.
- If you have not entered the FileWave Server as server 1, set the last value in the table to the main server. This guarantees that if all the other Boosters never respond, the main FileWave Server will be contacted.
- The Port should be 20015 if the entry is a FW server, and 20013 if it is a Booster. This is true even though you will note that a different port is really used. FileWave will automatically change the port to the SSL port so use these values as stated here.
- The Subscriptions Port is not used anymore but as long as it is there you can put 20003 if Server1 is a Booster and 20005 if it is a FileWave server until we remove this, but it is not used anymore.

Configuring Clients to use Boosters for Server Messages

To activate the server message routing functionality introduced with FileWave 11, you must enable it using either the option on the Booster page of Superprefs or Client Preferences. More detail on this feature is here: What are "Server Messages" and why do I want them?
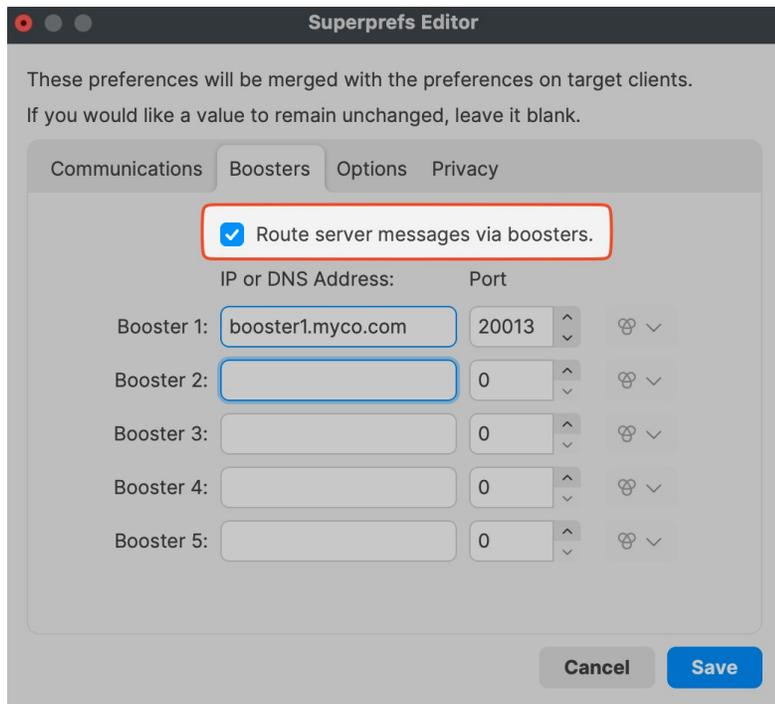
Boosters View
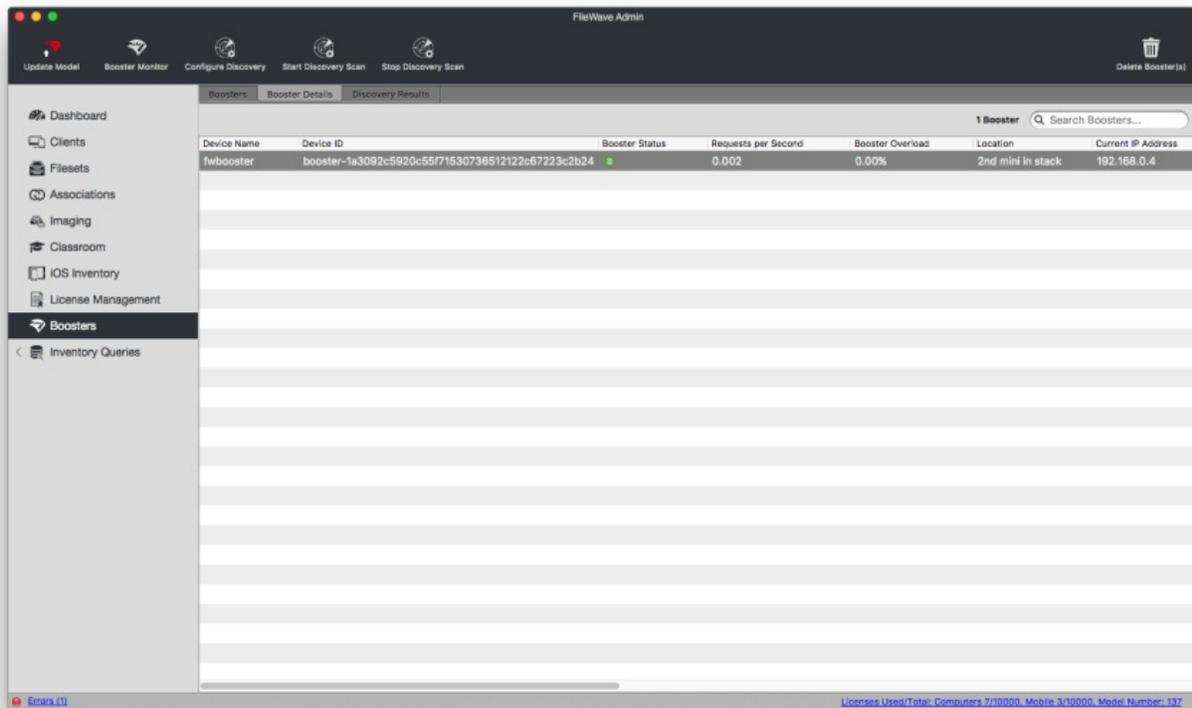
On the above screenshot you can see new options in the Boosters tab in Boosters view:

"Device Name" column contains the name of the Booster. This is configured in Booster's preferences.
"Booster Status" column indicates green/orange/red icon based on last check-in time:

- green = OK (check-in within the last 5 minutes and everything is fine)
- orange = Warning / Requires Attention
  - Check-in between the last 5 and 10 minutes

- Booster is Outdated. See: <u>Booster Auto-Upgrade</u> for upgrading
- Certificate Not Installed. See for <u>Booster installation</u> certificate approval)
- red = Danger (check-in more than 10 minutes ago and booster is offline)

"Next Scan Start Time" column indicates the start time of the next scan
"Requests per Second" column indicates the number of Booster requests per second within the last 15 minutes. Additionally, Booster statistics are sent by the Booster every 15 minutes at fixed times e.g. 0:00, 0:15, 0:30, 0:45.
"Booster Overload" column indicates if there are any clients' requests that couldn't be served by Booster. This doesn't necessarily mean the Booster is failing; it simply implies that the client has been told to retry later.
"Location" column contains location configured in Booster's preferences.

View Modes

The Boosters view offers two primary view modes: the Cards view (which requires OpenGL on the administrator machine running FileWave Admin) and the Details view. These modes operate independently. Double-clicking on a Booster in either view opens the Booster Monitor for that particular Booster.
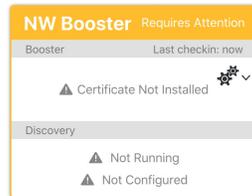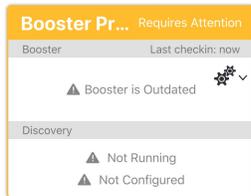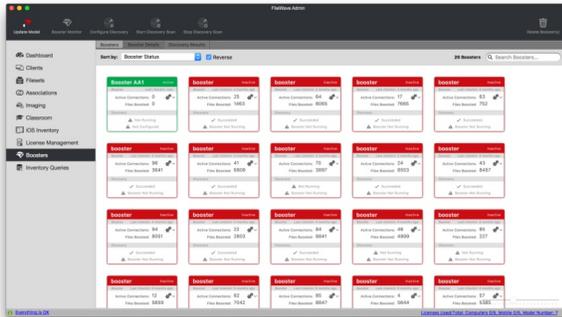
In the Cards view, each Booster is displayed as a card, with just an overview of its status. Besides using the contextual menu, on the top-right corner of each card there are two gears that when clicked open the same menu.
When the Booster Details tab is clicked on, the Boosters tab switches to the Details view. In this mode, a list with many columns is displayed instead:

Update Model Booster Monitor Configure Discovery Start Discovery Scan Stop Discovery Scan Delete Booster(s)

Boosters Booster Details Discovery Results

26 Boosters   Search Boosters...

Device Name	Device ID	Booster Status	▼ Requests per Second	Booster Overload	Location	Current IP Address	Bo
Booster AA1	booster-1a9f07db3a74f730e0226c8fdc13bc346596bfb4	●	0	0,00%	Building B6	192.168.1.125	20
booster	booster-49f1c497-9e02-40d3-8aa4-64536d70743e	●		0,00%		77.163.40.97	20
booster	booster-04fc59c5-b8cd-42b0-9c5d-6e2d7a359367	●		0,00%		188.80.226.38	20
booster	booster-5dca1ae7-d761-448d-b850-509831f9c882	●		0,00%		22.177.218.236	20
booster	booster-2765bb22-5ffd-4965-aa00-57e2be8d8e6b	●		0,00%		78.245.159.233	20
booster	booster-17fec049-c27d-4b5f-b739-60f66e1b18a9	●		0,00%		34.0.138.176	20
booster	booster-9314dfa8-3e77-4de2-bf8c-684c932d4997	●		0,00%		216.164.86.83	20
booster	booster-c64e2c94-d5a3-4bb0-af8e-e0db0a8992c0	●		0,00%		39.229.214.96	20
booster	booster-58484590-a380-4c5a-978a-19ce60b10361	●		0,00%		55.234.133.241	20
booster	booster-4dc04c85-e7b5-495a-9bee-a9104e4ce0fd	●		0,00%		164.17.209.162	20
booster	booster-2f1db81b-e0a9-4b65-bc09-06c91828b6a9	●		0,00%		80.173.246.209	20
booster	booster-181b7d15-62ba-45c5-b54b-2abf9825f0ab	●		0,00%		172.168.170.177	20
booster	booster-54e7830d-f2c6-4578-a6e5-93acda077a89	●		0,00%		44.139.66.204	20
booster	booster-e2391572-2a5d-4c66-b387-d6ee470c2e45	●		0,00%		139.124.163.170	20
booster	booster-21e5ead3-8940-4022-876c-bd91fb68c8e6	●		0,00%		31.86.121.70	20
booster	booster-ef8fe08e-2b69-4fb5-b799-3db20ea64396	●		0,00%		64.100.138.72	20
booster	booster-c523d40b-2e6f-45b3-8e59-df451ccc514c	●		0,00%		213.21.32.140	20
booster	booster-d2d7d11a-9b04-41d2-8db7-5511cd7a9e54	●		0,00%		227.187.169.214	20
booster	booster-970e737b-c640-497d-add6-9b08c2187a32	●		0,00%		131.214.114.217	20
booster	booster-91ebc4c8-518b-4a7a-bc34-caaad33d03b9	●		0,00%		58.122.170.235	20
booster	booster-f9e6ee62-3dc4-4165-a91a-01d0f8b6ea7d	●		0,00%		38.209.70.25	20
booster	booster-906d1116-1d55-4ac2-8ab6-d9073a6f008f	●		0,00%		155.171.251.80	20
booster	booster-ebb0f001-5432-4069-85f1-0f87b8d6a074	●		0,00%		236.169.160.4	20
booster	booster-f81ac67f-59fc-46af-99f8-fa110069b8d1	●		0,00%		123.21.12.81	20
booster	booster-d693cbcf-62f9-4033-a904-bd67ecc8d425	●		0,00%		161.110.50.62	20

Device Details - Booster Client Preferences Reporting

What

Want to ensure that your clients are connected to your boosters? Maybe even ensure your FileWave Clients are configured with the proper FileWave tickle time interval, is the "Route server messages via boosters" checked, or the current upstream is reporting to the correct server? FileWave can report these data values with custom fields.

When/Why

After you have set up boosters, you may want to wonder if these clients are connecting to them. With custom fields, we can report and gather inventory data from the device details to confirm that clients are indeed communicating with the FileWave server and your newly configured boosters. In addition, providing other details that can be vital to ensure proper check-in times, routing messaging, upstream server, and even memory usage.

How

Below are the custom fields that may be imported into FileWave Central (native admin). Navigate to Assistants > Custom Fields > Edit Custom Fields... > Import and select the custom fields file to import.

Once imported, you will see listed Client Config fields ready to be assigned to your devices.
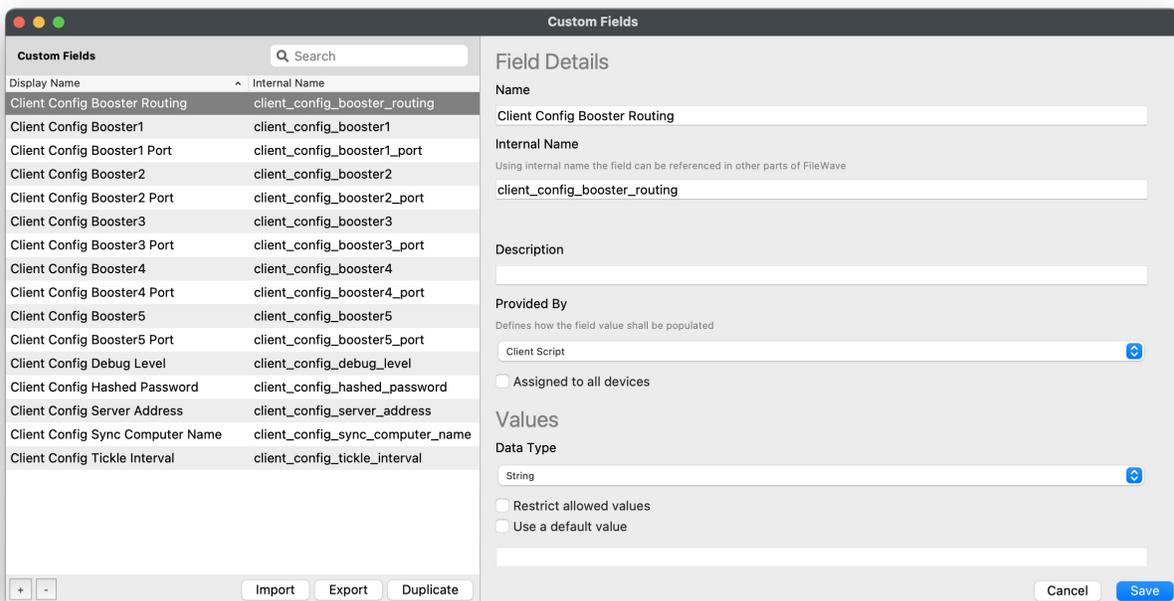
After importing, highlight the Client Configuration field you would like to assign to your devices. Recommend assigning to all devices to confirm that clients are connecting to your Boosters and interval times are set properly. Once you have selected all the Client Configuration fields desired, click on Save.

Give the devices time to check in and acquire the new custom fields to report their data values.

As the device checks in, you may view these custom field values in FileWave Client Info > Device Details. Scroll down through the list for Client Config Booster1, Booster2, etc. to view the data values reported by the client. Below is an example inventory query to view your device booster configurations: routing messages enabled, booster 1, booster 2, and/or booster 3 upstream connections along with the Tickle Interval.

Note that now that you have these fields you can create queries that show which devices are connected to which Boosters and if any clients are going to the Server when you thought they shouldn't be. This should be an easy way to show your configuration.

Digging Deeper

These custom fields report the .plist data from the FileWave Client directly so the values will be accurate unless a device has not submitted inventory. Check when it last connected to see if it has and use Verify to ask a device to check in now.