

# 5. Inventory Reporting

Please follow the steps outlined in this section to learn more about FileWave's robust Inventory Reporting capabilities.

- [Location Tracking](#)
- [Custom Fields](#)
- [License Management](#)
- [Inventory Reports](#)

# Location Tracking

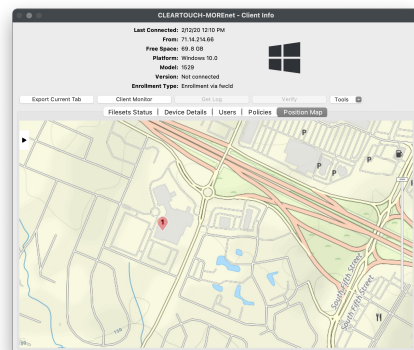
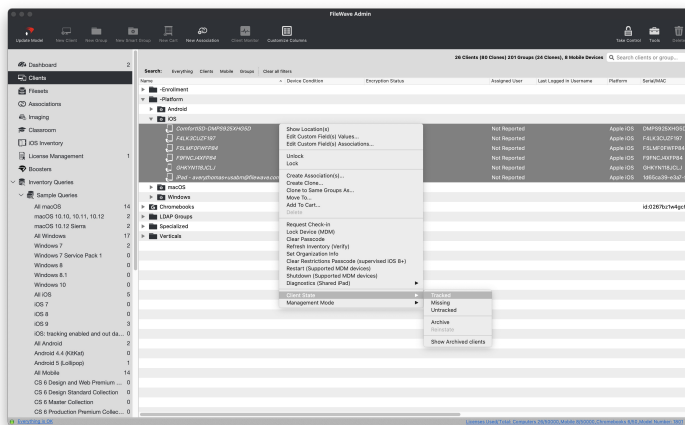
## Dude, where's my device?

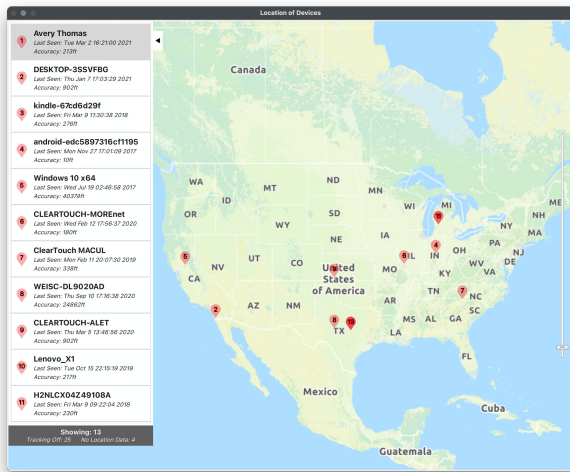
Ever needed to locate a device but don't even know where to start? Well that will not be a concern with anymore since FileWave offers Location Tracking for every supported platform. This section will outline the requirements and process of getting Location information from the various devices. FileWave will leverage the device's built-in Location Services to determine the most accurate Location information. This data may be based on the wireless access point, cellular, or GPS radios.

## Enable Location Tracking within the FileWave Admin

1. Open FileWave Admin and navigate to "Clients".
2. Select one or multiple devices, right-click, and go to "Client State".
3. Change the "Client State" to "Tracked".
4. "Update Model" to save the changes.
5. If Location Services are enabled at the OS level and enabled at the FileWave Client level, you should see a "Position Map" tab for each Client.

As of FileWave 15.0 you can also go to Settings in FileWave Central and set the default tracking state to Tracked if you would like that to be the default state.





## Show multiple devices on one Location map

1. Open FileWave Admin and navigate to "Clients".
2. Select one or multiple devices, right-click, and go to "Show Location(s)".

## Chromebook Location Tracking

Chromebook Location Tracking is facilitated by the FileWave Inventory Chrome extension. Please review the guide provided in this [section](#) to learn more about deploying the FileWave Inventory extension. The Location information sync interval is configured by the Chrome extension policy JSON and is set to get Location information every 15 minutes by default.

## iOS Location Tracking

iOS Location Tracking is facilitated by the IPA version of the FileWave App Portal. Please review the guide provided in this [section](#) to learn how to deploy the IPA FileWave App Portal. Once the IPA FileWave App Portal is installed and opened for the first time, the end-user should see a pop-up notification to Allow the use of Location Services. Once Allowed, the FileWave App Portal will collect and report Location Information every 15 minutes. The iOS MDM API does not allow for the automated approval of Location Services and the end-user has control of the Location Services at any given time. If an iOS device is lost or stolen, please enable Missing Mode via "right-click > Client State > Missing" and "Update Model". Missing Mode will Lock the device and collect Location Information as frequently as possible and is not dependent on the Location Services setting.

## macOS Location Tracking

macOS Location Tracking is facilitated by the native FileWave Client PKG. Please ensure that Location Tracking is enabled when generating your customized FileWave Client PKG. Once Location Tracking is enabled, the end-user will see a prompt to Allow the use of macOS Location Services. The macOS MDM API does not allow for the automated approval of Location Services and the end-user has control of the Location Services at any given time. By default, Location information will be collected and reported to FileWave every 15 minutes.

## Windows Location Tracking

Windows Location Tracking is facilitated by the native FileWave Client MSI. Please ensure that Location Tracking is enabled when generating your customized FileWave Client MSI. The end-user will not have to Allow the use of Location Services on Windows, however the Location Services must be enabled at the OS level. By default, Location information will be collected and reported to FileWave every 15 minutes.

## Related Content

- [Location Tracking Setup](#)

# Custom Fields

## Extend Inventory even more? Check.

With FileWave you can even further extend your Inventory Reporting capabilities by creating Custom Fields for your devices. FileWave's Custom Fields can be manually entered per device, imported via CSV file, or scripted for the macOS and Windows clients. These Custom Fields can be leveraged in FileWave's scheduled Inventory Reports, Smart Groups, or accessed via API calls.

## Create a Custom Field

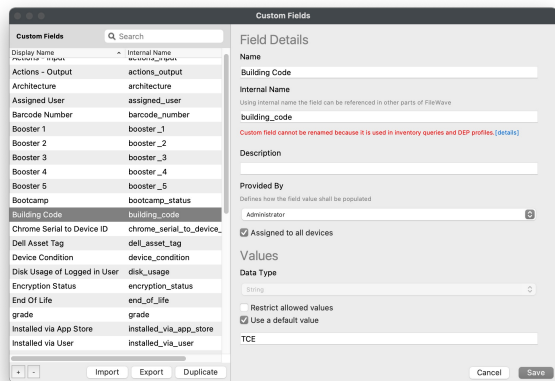
This section will outline how to create the most commonly used Custom Field types in FileWave.

All Custom Fields will first be created by opening FileWave Admin and navigating to "Assistants > Custom Fields > Edit Custom Fields".

### Static Custom Field

This section will cover creating a "static" Custom Field that can either be manually modified or imported via CSV. This example will create a "Building Code" Custom Field but other examples may include unique Asset Tag, Assigned Cart, or Department.

1.



- Open FileWave Admin and navigate to "Assistants > Custom Fields > Edit Custom Fields".
- Click the "[+]" button in the lower left-hand corner.
- Name the Custom Field accordingly and take note of the automatically generated "Internal Name".
  - Custom Fields will be shown in the "Device Details" and are alphabetically sorted, name accordingly.
  - The "Internal Name" will be used as the variable name throughout FileWave. (ex: %building\_code%).
- Optionally, enter a "Description" for the Custom Field so other team members know what the field is designed for.
- Change the "Provided By" drop-down menu to "Administrator".
  - "Administrator" mean you, the FileWave Administrator will provide the Custom Field input.
- Optionally, check the "Assigned to all devices" box.
  - This is the recommended option for Custom Fields that can apply to all devices, even if not utilized immediately.
  - If not "Assigned to all devices", please review the section below to learn how to manually assign Custom Fields to devices.
- Change the "Data Type" to "String".
  - "String" is the default and recommended for most situations.
- Optionally, check the "Restrict allowed values" box.
  - With the "Restrict allowed values" box checked, it will require you to input allowed values for the Custom Field.
  - This will change the input method from a "free type" field to a drop-down menu of allowed values.
- Check the "Use default value" box and enter in a placeholder value.
  - This is recommended to prevent blank Custom Fields, especially those used for Device Naming or other variable substitution.
- Click "Save".

### Script-based Custom Field

This section will cover creating a script-based Custom Field. A script-based Custom Field will run a script periodically on macOS and Windows clients and return the output of the script to the Custom Field. These can be used to supplement FileWave's native Inventory even more dynamically than a static Custom Fields. Examples may include device Encryption Status from FileVault or BitLocker, Antivirus threats detected, or Registry keys / .plist values.

1.



The screenshot shows the 'Custom Fields' window in FileWave Admin. On the left, a list of custom fields is displayed, with 'encryption\_status' highlighted. The right pane, titled 'Field Details', shows the configuration for this field. The 'Name' field is 'encryption\_status', and the 'Internal Name' is 'encryption\_status'. The 'Description' field is empty. The 'Provided By' dropdown is set to 'Client Script'. The 'Values' section shows 'Data Type' as 'String'. The 'Client Script' section shows a script that runs 'fdesetup status' and outputs the result.

Open FileWave Admin and navigate to "Assistants > Custom Fields > Edit Custom Fields".

2. Click the "[+]" button in the lower left-hand corner.
3. Name the Custom Field accordingly and take note of the automatically generated "Internal Name".
  - Custom Fields will be shown in the "Device Details" and are alphabetically sorted, name accordingly.
  - The "Internal Name" will be used as the variable name throughout FileWave. (ex: %encryption\_status%).
4. Optionally, enter a "Description" for the Custom Field so other team members know what the field is designed for.
5. Change the "Provided By" drop-down menu to "Client Script".
  - "Client Script" will run a script periodically and return the script's output to the Custom Field.
  - All scripts will be executed as either the "root" user on macOS or as the "SYSTEM" account on Windows.
6. Optionally, check the "Assigned to all devices" box.
  - This is the recommended option for Custom Fields that can apply to all devices, even if not utilized immediately.
  - If not "Assigned to all devices", please review the section below to learn how to manually assign Custom Fields to devices.
7. Change the "Data Type" to "String".
  - "String" is the default and recommended for most situations.
- 8.

The screenshot shows the 'Custom Fields' window in FileWave Admin. On the left, a list of custom fields is displayed, with 'encryption\_status' highlighted. The right pane, titled 'Field Details', shows the configuration for this field. The 'Name' field is 'encryption\_status', and the 'Internal Name' is 'encryption\_status'. The 'Description' field is empty. The 'Provided By' dropdown is set to 'Client Script'. The 'Values' section shows 'Data Type' as 'String'. The 'Client Script' section shows a script that runs 'fdesetup status' and outputs the result.

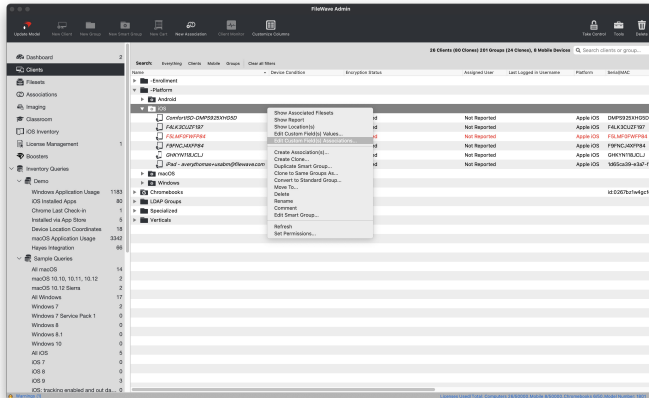
Optionally, check the "Restrict allowed values" box.

- With the "Restrict allowed values" box checked, it will require you to input allowed values for the Custom Field.
  - This will change the input method from a "free type" field to a drop-down menu of allowed values.
  - This is not recommended for script-based Custom Fields unless you can guarantee the output of the script will be consistent.
9. Check the "Use default value" box and enter in a placeholder value.
    - This is recommended to prevent blank Custom Fields, especially those used for Device Naming or other variable substitution.
  10. Verify the correct scripting language and enter script for "macOS".
  11. Verify the correct scripting language and enter script for "Windows".
  12. Optionally, check the "Use output only when scripts exits with code 0" box. \* This will depend on the script you are running, however most scripts "exit 0" after a successful execution. \* You may be able to force "exit 0" by including it in your script.
  13. Optionally, check the "Replace line feed characters with space" box. \* This is recommended as it will automatically convert multi-line output to single-line output.
  14. Click "Save".

# Manually assign Custom Fields to devices

If you did not check the box "Assigned to all devices" when creating your Custom Field, you will need to manually assign the Custom Field to devices or device groups. In this example, we will assign the "Manufacture Date" Custom Field to the "iOS" Smart Group. Please note that new devices added to the "iOS" Smart Group will not automatically be assigned to the Custom Field and you may have to repeat this process to include new devices.

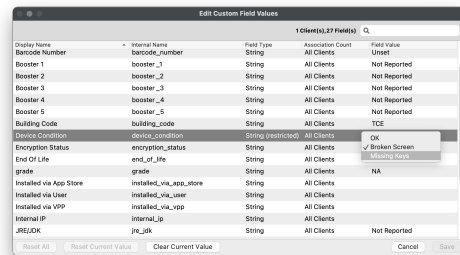
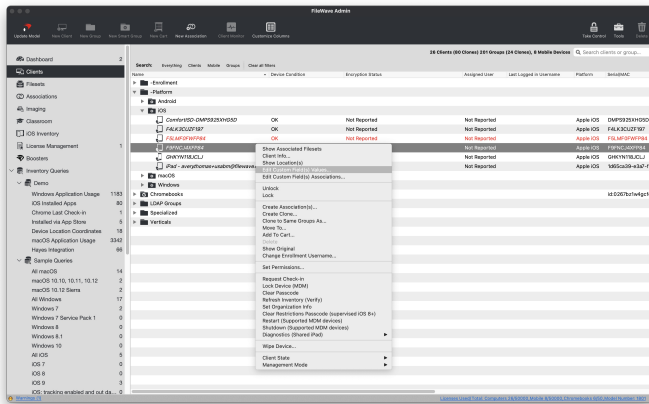
1. Open FileWave Admin and navigate to "Clients".
2. Right-click on an individual device, multiple devices, or device group.
3. Select "Edit Custom Field(s) Associations" from the right-click menu.
4. Check the boxes for any Custom Fields you'd like to assign to the devices.
5. Click "Save".
6. You should now see the Custom Field listed in the device's "Device Details".



# Manually edit Custom Field values

If your Custom Fields is not being populated dynamically via CSV or script, you may have to manually edit the Custom Field value. This example will demonstrate changing a device's "Device Condition" Custom Field from a list of "Restricted" values.

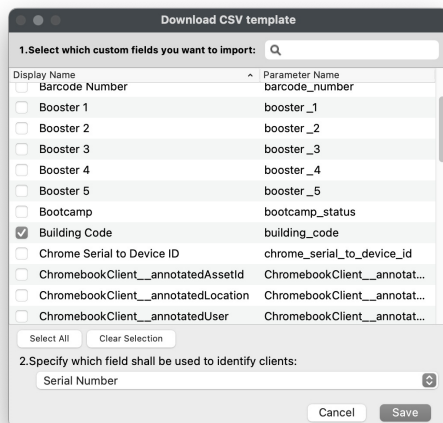
1. Open FileWave Admin and navigate to "Clients".
2. Right-click on an individual device, multiple devices, or device group.
3. Select "Edit Custom Field(s) Values" from the right-click menu.
4. Slow double-click the "Field Value" column or select option from drop-down menu for any Custom Fields you'd like to modify.
5. Click "Save".
6. You should now see the Custom Field modification in the device's "Device Details".



# Import Custom Fields via CSV

If you need to make updates or the initial import of a Custom Field en masse, you may consider using a CSV template to speed things up. You can import an individual or multiple Custom Field(s) from one CSV file.

1.



- Open FileWave Admin and navigate to "Assistants > Custom Fields > Import CSV".
- Click "Download Template".
- Select all of the Custom Fields you'd like to import via CSV.
- Select the unique identifier from the drop-down menu.
  - "Serial Number" is recommended for iOS, macOS, and Chromebooks.
  - "Client Name" is recommended for Windows as it will reflect the Windows hostname.
- Click "Save" to download the CSV template.
- Open the CSV template in your editor of choice (ex: Excel).
- Leave the "header" line intact, remove the comments, and add your values.
  - The CSV template will default to using semicolons ";" as the delimiter.
  - You can change to a comma "," delimiter by replacing all ";" with ",".
  - If using Excel, split each value into a column with no delimiter and "Save as > CSV".
- Click "Browse" from the "Import custom fields CSV" window and select your CSV template.
- Verify the changes and that all entries are visible.
- Click "Import".
- You should now see the Custom Field modification in the device's "Device Details".



# License Management

## Compliance, Usage, and Tracking

When it comes to all of these software packages it can be a headache to know exactly how many licenses you own, how many are being used, and who the and being used by. This is where FileWave steps in to make this tracking process much more streamlined. This section will cover the two types of license types that can be tracked in FileWave leveraging our native Inventory or Apple's Volume Purchase Program.

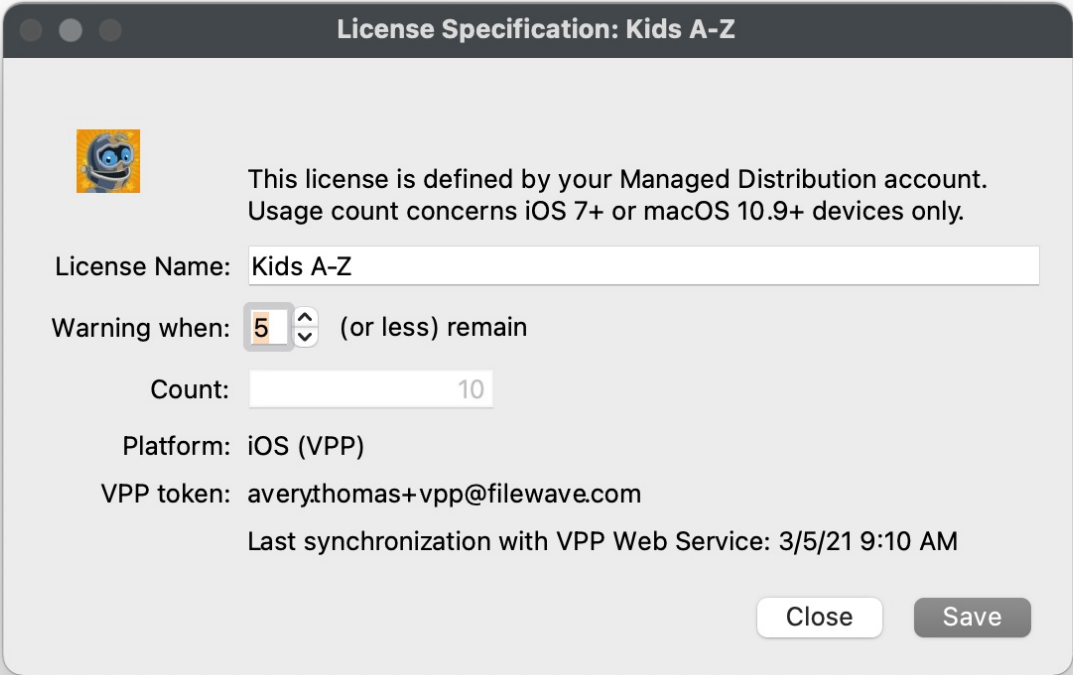
## VPP License Tracking

FileWave syncs with VPP every 5 minutes to bring in your latest purchases from Apple School Manager or Apple Business Manager and will display the licenses that you own, licenses that are in use, licenses compliance, and which VPP Token the licenses are derived from.


## Setting a Compliance Warning

FileWave can automatically notify you via email when a VPP license quantity is running low via [Scheduled Reports](#). This section will cover how to determine the License Warning threshold.

1. Open FileWave Admin and navigate to "License Management".
2. Select a VPP License.
3. Click "Edit License" from the black menubar.
4. Change the "Warning when:" field to set your License Warning threshold.
5. Click "Save".
6. If the amount of licenses available go below your threshold, you will see a new License Compliance status "Warning License Watermark".



**License Specification: Kids A-Z**

 This license is defined by your Managed Distribution account. Usage count concerns iOS 7+ or macOS 10.9+ devices only.

License Name: Kids A-Z

Warning when:  (or less) remain

Count:

Platform: iOS (VPP)

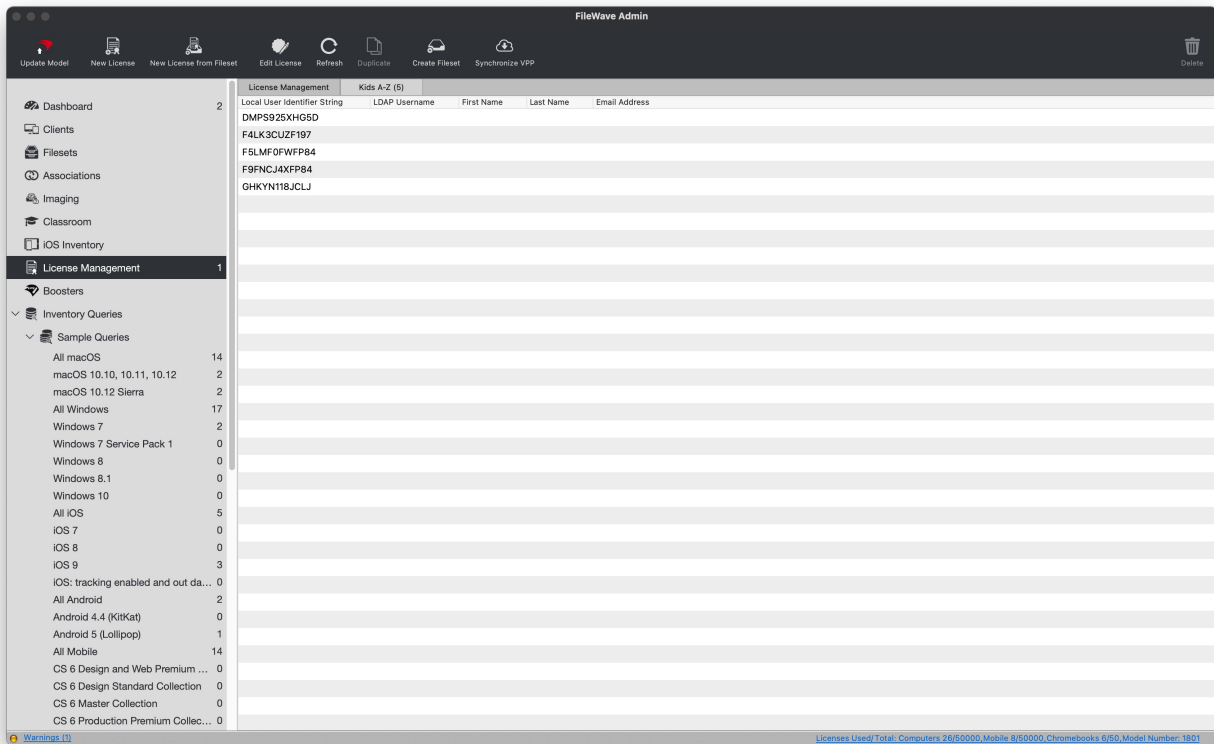
VPP token: averythomas+vpp@filewave.com

Last synchronization with VPP Web Service: 3/5/21 9:10 AM

## Viewing where licenses are consumed

Viewing where the VPP licenses are being consumed is very easy. Licenses are consumed when a VPP Fileset is deployed to a device, whether it be a Kiosk or Standard association. VPP "Managed Distribution" licenses can be revoked and redistributed. In this view, you will see the device's Serial Number if using VPP "Device Assignment" or the end-user's VPP User account if using VPP "User Assignment".

1. Open FileWave Admin and navigate to "License Management".
2. Double-click a VPP License.



## Non-VPP License Tracking

FileWave can also track the Licensing information for any other type of Application or Font deployed to Windows, macOS, Android, and Chrome by defining a new license definition or tracking the deployment of an existing Fileset. These licenses can also be automated emailed to set list of user via [Scheduled Reports](#).

## Creating a new License definition

This method is useful for tracking applications or fonts that were not deployed via FileWave.

1. Open FileWave Admin and navigate to "License Management".
2. Click "New License" from the black menubar.
3. Name the License, select Application or Font, determine your Warning threshold, and which platforms you'd like to track.
4. Click the "[+]" to add new criteria to define the license.
  1. This is in the context of either Application or Font.
5. Enter in the "Qualifier" (ex: Firefox).
6. Click the "Purchase Orders" button.
7. Click the "[+]" to add a new Purchase Order entry.
8. Enter a "PO Number" and "License Count".
9. Optionally, fill out the rest of the Purchase Order fields.
10. Click "Save".
11. You should now see your new License definition.

**License Specification: Firefox**

License Name:

Expressions based on:

Count:

Warning when:  (or less) remain

Platform Type: ☒ macOS  
☒ Windows  
☒ Android  
☒ Chrome

**Expressions** **Purchase Orders**

of these expressions must be true

☐ Not

**License Specification: Firefox**

License Name:

Expressions based on:

Count:

Warning when:  (or less) remain

Platform Type: ☒ macOS  
☒ Windows  
☒ Android  
☒ Chrome

**Expressions** **Purchase Orders**

PO Number	License Count	Purchase Date	Expiration Date	Owner Name	Owner E-Mail	Comments
12345	5	2/10/22	2/10/22			

## Track Fileset Usage

This method is very similar to the one above but will leverage FileWave's "Fileset Status" to even better track deployments made via FileWave.


1. Open FileWave Admin and navigate to "License Management".
2. Click "New License from Fileset" from the black menubar.
3. Name the License, determine your Warning threshold, and select the Fileset you want to track.
4. Click the "[+]" to add a new Purchase Order entry.
5. Enter a "PO Number" and "License Count".
6. Optionally, fill out the rest of the Purchase Order fields.
7. Click "Save".
8. You should now see your new License definition.

License Specification: VLC

License Name:

Count:

Warning when:  (or less) remain

Fileset Name:  [Windows - VLC](#)

Purchase Orders

PO Number	License Count	Purchase Date	Expiration Date
123	100		<input type="text" value="3/5/25"/>

+

-

Close

Save

## Viewing where licenses are consumed

1. Open FileWave Admin and navigate to "License Management".
2. Double-click on a License.



Update Model

New License

New License from Fileset

Edit License

Refresh

Duplicate

Create Fileset

Synchronize VPP

Delete

Dashboard2

Clients

Filesets

Associations

Imaging

Classroom

IOS Inventory

License Management1

Boosters

Inventory Queries

- Sample Queries
  - All macOS14
    - macOS 10.10, 10.11, 10.122
    - macOS 10.12 Sierra2
  - All Windows17
    - Windows 72
    - Windows 7 Service Pack 10
    - Windows 80
    - Windows 8.10
    - Windows 100
  - All iOS5
    - IOS 70
    - IOS 80
    - IOS 93
    - IOS: tracking enabled and out da...0
  - All Android2
    - Android 4.4 (KitKat)0
    - Android 5 (Lollipop)1
  - All Mobile14
    - CS 6 Design and Web Premium ...0
    - CS 6 Design Standard Collection0
    - CS 6 Master Collection0
    - CS 6 Production Premium Collec...0

License Management

Firefox (7)

Device ID	Client Name	Client ID	FileWave Model Number	IP Address	Last Connected	FileWave Client Locked	Free Disk Space	OS Name
0da8b7d808d78194784d2ce66c2abe84396d9...	DEPLOY	96308	1155	192.168.86...	5/1/19 11:02 AM		28.2 GB	Windows 10.0
1383ebb5286f2280f78f6dace2375f38ca67ce5	PLANE	119063	1518	192.168.1.104	12/11/19 12:57 PM	false	24.9 GB	Windows 10.0
1898e2aef6801b0b807fa186baccet1e98de92ff	WEISC-DL9020AD	140497	1689	10.15.84.185	9/10/20 12:19 PM	false	161.5 GB	Windows 10.0
5d53a768411ee048d982b1754ef579d79efa3fe	Windows7VM	27266	356	192.168.1.117	5/21/18 3:34 PM		28.8 GB	Windows 7
8a122a98b7c5459ad3043cbb629df94c859f0eac	Grandma	21544	1697	192.168.1.210	10/9/20 4:31 PM	false	237.1 GB	Windows 7
ba77912a31082f0da0c4d7d3e74ab8981b8a3826	Mojave VM	95909	1141	47.219.170....	10/30/19 3:58 PM		15.6 GB	OSX 10.15.1
fa9b9223903e20f05a52972d91e6a9def1f86bf65	MBP13	193472	1792	23.155.48.1...	12/27/20 9:48 AM	false	136.1 GB	macOS 10.15 Cat

Licenses Used/Total: Computers 26/50000, Mobile 3/50000, Chromebooks 0/50, Model Number: 1801

# Inventory Reports

## Your information. Your way.

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FileWave allows you to get as much or as little information that you need to report by leveraging Inventory Queries and if you have other people outside of FileWave wanting the same reports, we've got you covered with Schedule Reporting to automatically send emails on your behalf.

## Create an Inventory Query

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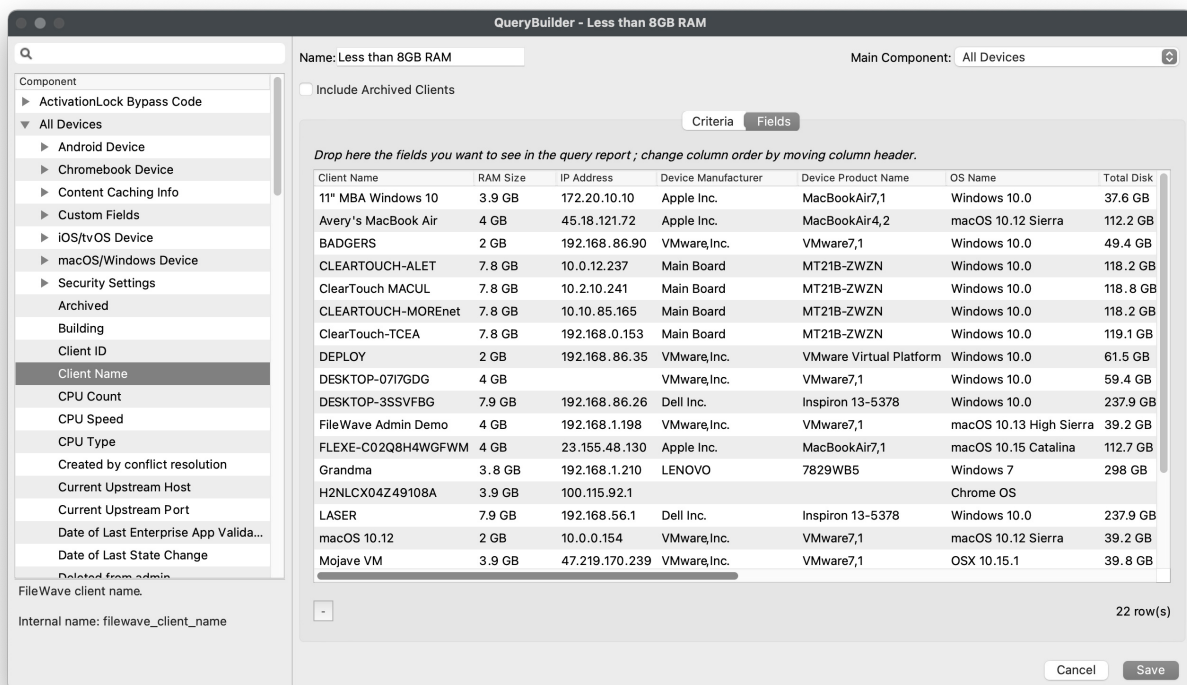
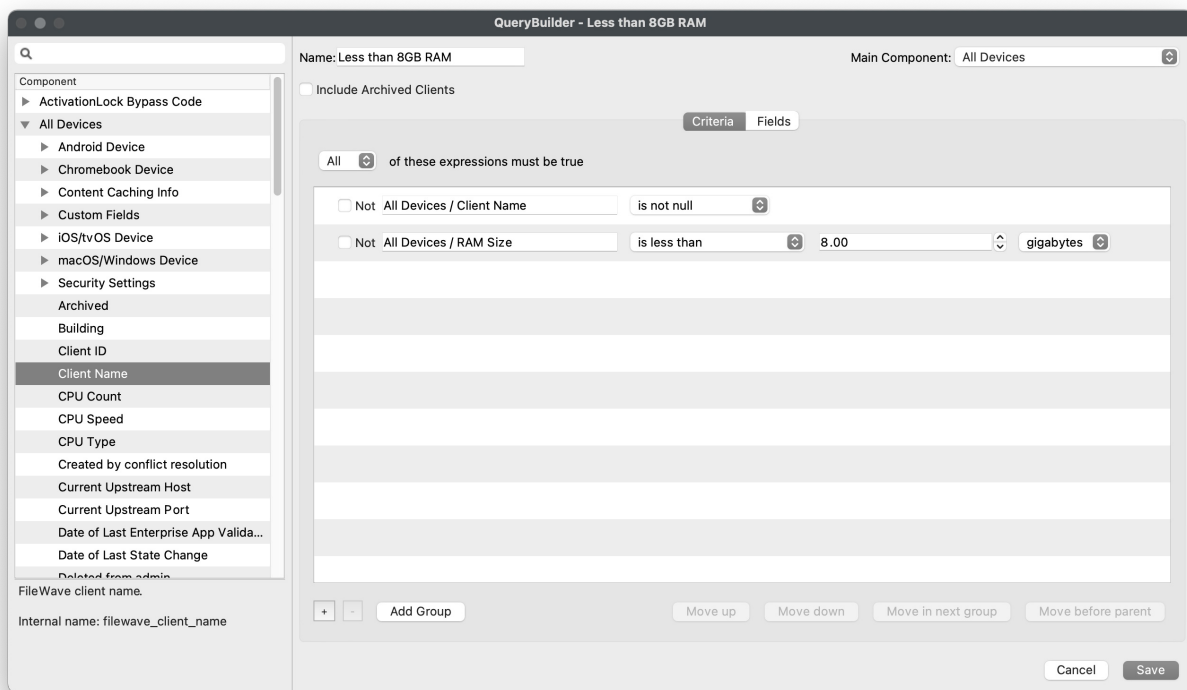
Creating an Inventory Query is the first step to tracking all your device information, scheduling reports, or leveraging the Query to create a Smart Group. This section will include an example of how to create an Inventory Query to find all devices with less than 8GB of RAM, regardless of their OS platform, and show some other helpful information that could be used in the context of a end-of-year device refresh. This section will also cover a more simple Inventory Query showing all iOS and Chrome devices with a specific Building Code (Custom Field).

### New Query

1. Open FileWave Admin and navigate to "Inventory Queries".
2. Click "New Query" from the black menubar.
3. Name the Query and begin dragging Inventory data points to "Criteria" pane.

### Less than 8GB of RAM

1. Drag-n-drop "All Devices > Client Name" into the "Criteria" pane.
2. Set "All Devices > Client Name" qualifier to "is not null".
  - This is to ensure we get all devices into the Query by starting broad and getting more restrictive.
3. Drag-n-drop "All Devices > RAM Size" into the "Criteria" pane.
4. Set "All Devices > RAM Size" qualifier to "is less than" : "8.00 gigabytes".
5. Click the "Fields" tab.
6. Begin dragging-n-dropping all Fields you'd like to return in the Inventory Report.
  - Client Name
  - RAM Size
  - IP Address
  - Device Manufacture
  - Device Product Name
  - OS Name
  - Total Disk Space
  - CPU Type / Speed / Count
7. Click "Save".
8. You should now see your new Inventory Report.



## Building Code

1. Drag-n-drop "All Devices > Client Name" into the "Criteria" pane.
2. Set "All Devices > Client Name" qualifier to "is not null".
  - This is to ensure we get all devices into the Query by starting broad and getting more restrictive.
3. Drag-n-drop "All Devices > Custom Fields > Building Code" into the "Criteria" pane.
4. Set "All Devices > Custom Fields > Building Code" qualifier to "is" : "TCE".
5. Add a new inventory sub-group via the "Add Group" button.
6. Drag-n-drop "Operating System > OS Type" into the new sub-group.
7. Set "Operating System > OS Type" qualifier to "is" : "iOS".
8. Drag-n-drop "Operating System > OS Type" into the new sub-group.
9. Set "Operating System > OS Type" qualifier to "is" : "Chrome".
10. Change the sub-group's logic to "One or more of these expressions must be true". \* Devices must be either iOS or Chrome since no device can be both at one give time.
11. Click the "Fields" tab.
12. Begin dragging-n-dropping all Fields you'd like to return in the Inventory Report. \* Device Name \* OS Type \* Building Code

13. Click "Save".
14. You should now see your new Inventory Report.

QueryBuilder - Building Code

Q

Component

▶ ActivationLock Bypass Code

▼ All Devices

▶ Android Device

▶ Chromebook Device

▶ Content Caching Info

▶ Custom Fields

▶ iOS/tvOS Device

▶ macOS/Windows Device

▶ Security Settings

Archived

Building

Client ID

Client Name

CPU Count

CPU Speed

CPU Type

Created by conflict resol...

Current Upstream Host

Current Upstream Port

Date of Last Enterprise A...

Date of Last State Change

Deleted from admin

A programmatic type for the operating system (ie.Windows,iOS).

Internal name: type

Name: Building Code

Main Component: All Devices

☐ Include Archived Clients

Criteria

Fields

All ▾ of these expressions must be true

☐ Not All Devices / Client Name is not null ▾

☐ Not Custom Fields / Building Code is ▾ TCE

▼ One ▾ or more of these expressions must be true

☐ Not Operating System / OS Type is ▾ iOS ▾

☐ Not Operating System / OS Type is ▾ Chrome ▾

+

-

Add Group

Move up

Move down

Move in next group

Move before parent

Cancel

Save

[illegible]

# Scheduled Reporting

Now that you have several Inventory Queries created, let's schedule the automatic email of those Inventory Reports. Before being able to schedule reports, you must first configure the "Email" FileWave Admin Preferences.

## Inventory Query Scheduled Reporting

1. Open FileWave Admin and navigate to "Assistants > Scheduled Reports".
2. Click the "[+]" button to add a new schedule report.
3. Change the "Report type" to "Query".
4. Enter the target email addresses with each new address on a new line.
5. Fill out the Mail Subject and Body.
6. Optionally, select a different "Owner" of the report for logging purposes.
7. Schedule your automated report.
8. Select the Query using the "select a query" link.
9. Click "OK" to save the changes.

Edit Report

Report type: Query

This report is the result of a query.

The report will be sent to the following email addresses:

averythomas@filewave.com  
jerryc@filewave.com

Mail subject: Less than 8GB RAM

Email content/body: Hi Avery and Jerry,  
  
Here is the report you requested with all the devices that have less than 8GB of RAM within our environment.

Owner: ☒ User fwadmin  
☐ LDAP User 

Test

Schedule

☐ Every day at 12:00 AM  
☐ skip weekends

☒ Every week on Monday at 9:00 AM

☐ Every month on the first Monday at 12:00 AM

Query: [Less than 8GB RAM](#)

Cancel

OK

# License Scheduled Reporting

FileWave can also send a report containing a list of all licenses that display within "License Management" via Scheduled Reports.

1. Open FileWave Admin and navigate to "Assistants > Scheduled Reports".
2. Click the "[+]" button to add a new schedule report.
3. Verify the "Report type" is set to "License".
4. Enter the target email addresses with each new address on a new line.
5. Fill out the Mail Subject and Body.
6. Optionally, select a different "Owner" of the report for logging purposes.
7. Schedule your automated report.
8. Click "OK" to save the changes.

Edit Report

Report type: Licensess

This report shows the list of desktop and iOS licenses.

The report will be sent to the following email addresses:averythomas@filewave.com

Mail subject: FileWave Licenses

Email content/body:Hi Avery,  
  
Here are the license usage tracked by FileWave.

Owner: ☒ User fwadmin  
☐ LDAP User 

Test

Schedule

☐ Every dayat 12:00 AM

☐ skip weekends

☒ Every week onMondayat 10:00 AM

☐ Every month on thefirstMondayat 12:00 AM

Cancel

OK