

Android

Android is an open-source mobile operating system developed by Google. It powers a wide range of smartphones, tablets, and other devices. With its customizable nature, Android offers users the flexibility to personalize their device, choose from a vast selection of apps on the Google Play Store, and customize settings to suit their preferences. Android provides seamless integration with Google services, including Gmail, Google Maps, Google Drive, and Google Assistant, enhancing productivity and convenience. It also supports features like multi-tasking, notifications, and various customization options. Android's versatility, extensive app ecosystem, and frequent updates make it a popular choice for users seeking a diverse and user-friendly mobile experience.

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Android EMM Zero-Touch Enrollment

What

Android Zero Touch Enrollment (ZTE) is a method for automatic device enrollment based on the device's participation in your organization's Zero-Touch Enrollment Portal.

ZTE Portal

The portal is located at : <https://partner.android.com/zerotouch>

But requires enrollment into the program before you can login.

When/Why

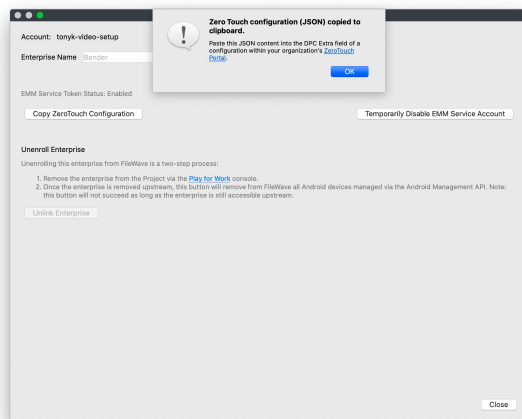
We'll want to use ZTE to ensure that devices are enrolled and are under Enterprise management. (Opt-in enrollments will almost always end up with some devices not being enrolled. and we would like to ensure our devices are all managed, preferably without us ever touching them). ZTE ensures that the device is enrolled when first setup.

How

Much of the setup for ZTE is done from outside of FileWave, but the Android ZTE portal must know about your FileWave MDM server, hence there is some configuration necessary.

You must have an Android ZTE Configuration created in your portal to configure your ZTE devices to point to FileWave. You'll find detailed information on setting up your ZTE portal and configuration here: <https://support.google.com/work/android/answer/7514005>

When you create the configuration, you'll fill out the names and such for your organization, but two pieces of information will be driven from your use of FileWave. First, you'll set the EMM DPC as Android Device Policy and second you will copy/paste in the FileWave JSON into the DPC extras field. You get this JSON text from the FileWave Admin in Preferences→ Google→ Configure Enterprise → Copy ZeroTouch Configuration. You'll see the FileWave Admin and Portal Configuration below:



FW Training Example

Configuration name

FW Training Example

EMM DPC

Android Device Policy

DPC extras

```
{
  "android.app.extra.PROVISIONING_ADMIN_EXTRAS_BUNDLE": {
    "com.google.android.apps.work.clouddpc.EXTRA_ENROLLMENT_TOKEN": "DOGJLPBC"
  },
  "android.app.extra.PROVISIONING_DEVICE_ADMIN_COMPONENT_NAME": "com.google.android.apps.work.clouddpc/receivers.CloudDeviceAdminReceiver",
  "android.app.extra.PROVISIONING_DEVICE_ADMIN_PACKAGE_DOWNLOAD_LOCATION": "https://play.google.com/managed/downloadManagingApp?identifier=setup",
  "android.app.extra.PROVISIONING_DEVICE_ADMIN_SIGNATURE_CHECKSUM":

```

CANCEL

ADD

Once the configuration is created, you simply need to assign devices in your portal to the configuration that you want them to use. Example shown below:

Zero Touch

FileWave

Configurations

Devices

Users

Resellers

Send feedback

Devices

Search for devices

Enter IMEI, MEID, or serial number

Choose an iden...

SEARCH

Devices (Total: 1)

IMEI or serial number	Configuration	Deregister
358275091324158	FileWave Config	Deregister

LOAD MORE

Once devices are in the portal, and a configuration is assigned to each, the devices will automatically enroll in your management when first setup.

Devices appear in your Zero Touch Portal through information imported from your Resellers. You must coordinate with your resellers to establish this workflow. Additionally, each device must have a configuration assigned after it is imported. At this time, there is no automatic association available in the ZTE Portal.

Related Content

- [Android Zero-Touch Portal](#)
- [Information on Android Zero Touch Enrollment](#)

Embed WiFi in EMM Enrollment QR

If you have a Google Policy Fileset with Network information in it. You can select it when you generate a QR code. This inserts the information onto the device for easy enrollment.

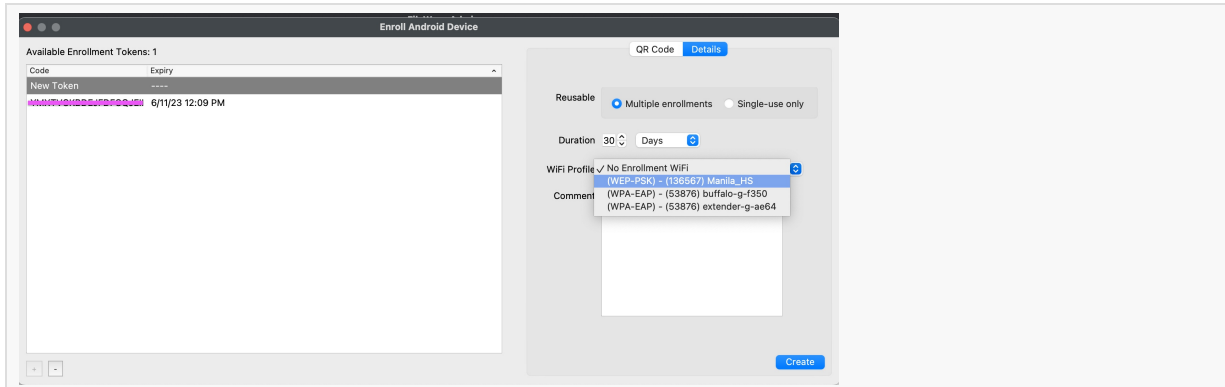


Figure 1.1 - WiFi selected in enrollment QR

Steps

1. Generate a Google Policy for Network ([Android EMM Policies and Permissions](#))
2. Generate a new Enrollment QR
 1. Assistant menu → Enroll Android Devices...
 2. Hit the [+] in the bottom left
 3. Choose a WiFi Policy from the drop down
3. Enroll a device as normal ([Quickstart Guide for Android EMM](#))

Most devices running Android 8+ come with a built-in QR reader app. Older devices will often need to connect to WiFi after the seven taps to then download QR app.

i The QR code that is generated contains the WiFi password in plain text.

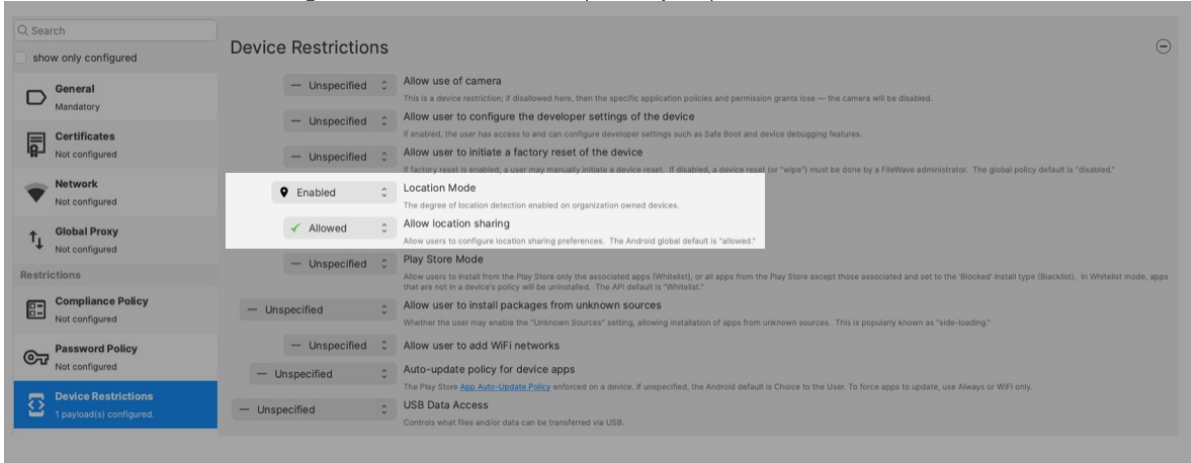
⚠ DO NOT leave the QR code just sitting around.

Android Policy

The policy created will enable location reporting once active on devices. From the FileWave Central Admin App, create a New Fileset, for Google > Android > Policy and name the policy, e.g. "Force Location On". Two payloads to be considered.

Device Restrictions (Required)

1. Highlight "Device Restrictions" and select "Configure..."
2. Alter Location Mode and Sharing to Enabled and Allowed respectively, as per the screenshot:

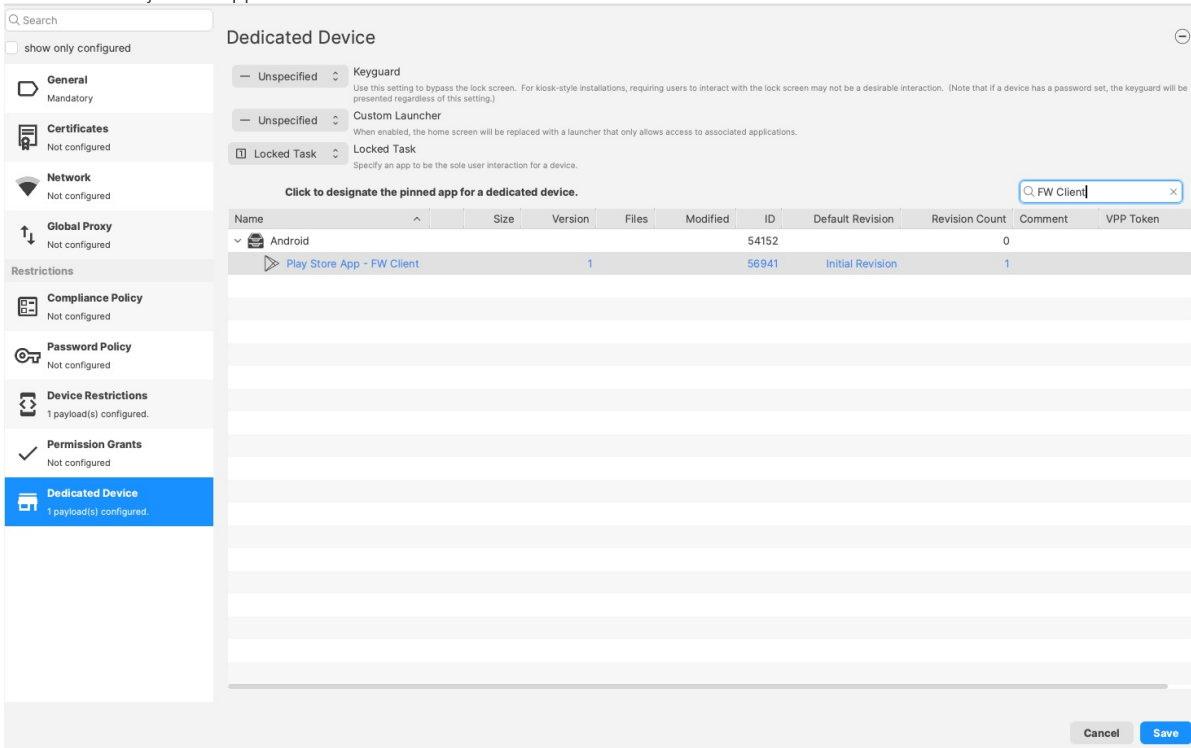


Dedicated Device (Optional)

FileWave Android App must have background running services to report location, notifications, etc. The Dedicated Device Policy is included to ensure the App is launched at least once; a requirement for the background services to be enabled.

i If it is known that the App has already been launched prior, this payload is not required.

1. Highlight "Dedicated Device" and select "Configure..."
2. Set "Locked Task" as "Locked Task"
3. Select the "Play Store App - FW Client" Fileset from the list.



Assignment

On saving the Policy, choose to assign the Policy to devices either as an Association or Deployment and Update Model.

From assignment, opening the Device Info for a relevant device should now show an additional tab called "Position Map". However, until the Policy is active and the device has subsequently returned the initial coordinates, no map will yet be shown.


✓ If Device Info is already open, Position Map may remain this way until the Device Info window is closed and re-opened.

The Status of the Policy may be observed from the Fileset Status view:

Last Connected: 2024/11/13 09:27

Platform: Android 10

Enrollment Type: Enrollment via EMM_API



Export Current Tab

Tools ▾

Filesets StatusDevice DetailsInstalled PolicyPosition Map

Show All ▾

1 Association(s)


Fileset	Fileset ID	Revision	Revision ID	Status
Google Policy - Force Location On	56942	<default> (Initial Revision)	56942	Active

The map will then display the device location once reported.

Last Connected: 2024/11/13 09:27

Platform: Android 10


Enrollment Type: Enrollment via EMM_API



Export Current Tab

Tools ▾

Filesets StatusDevice DetailsInstalled PolicyPosition Map



Geofencing

What

In FileWave 14.1+ you are able to make policies for FileWave endpoint devices to specify when they are in or out of a particular geographical area.



Remember: A FileWave policy is a filesset for specifying things in/for a filewave endpoint. This is not the same as a configuration profile, or an Android Policy

When/Why



In 14.1.* this feature is supported on Android EMM devices only, but other platforms are under development and we hope to support them in the future.

Using a geo-fence can be useful if you want to make the devices unusable by an individual that removes a device from a specific location, or just notify them they have gone too far away from "home".

An example would be a tablet used in a store for customers to browse an online library...if the device leaves the store location, you might like to disable functionality and tell the person to return the device.



The reason that this is a FileWave client policy and not something run on the FileWave server is that the client will know soonest that it is has left the location, and might not have connectivity to send info to the server. Also think about the type of devices typically managed - these are usually WiFi only devices. If a user was to take a device, and leave an area (and also WiFi range), how would your FileWave server be able to reach that device, tell it it is out-of-bounds, and make action on it? It can't, there is no channel for communication at this point. So, a client policy is much more effective because the client can take action without needing communication to the FileWave services, or the internet at all.

How

Requirements

Before we can setup a geofencing policy, we need to be actively receiving location data from end points. We can verify this by looking at a device in the native admin or web admin ([Individual Device View](#)).

If you need help getting location tracking to work, check out this KB: [Location Tracking](#) for more details.

Here is a tl;dr summary:

- iOS needs the Enterprise IPA App
- Android EMM might need [Force Location for EMM Android Devices](#)
- Windows, iOS*, MacOS all need Location services to be on



*iOS Lost Mode, triggered by setting the device to "Missing" in FileWave will force location services on, but it also disables the device, where tracking from the IPA does not impact device behavior but does have a pre-requisite of location services enabled and the app approved by the customer.

Creating the Geofencing Policy



In case you were wondering, the standard for GPS is in meters, so please keep that in mind when specifying this policy.

To set a geo-fence, I first need to know the longitude and latitude of my location, then how far out from that center point I want my boundary.

An easy way to do this is to:

1. Go to a maps site like <http://maps.google.com/> and enter the address of the location I want.
2. Right-click in the center and copy the Latitude and Longitude.
3. Then right-click and select "measure distance"
4. Move the first dot to the middle of your location (if needed)
5. Then place a second dot with a standard click at the farthest location of your geofence
6. Take note of the distance in meters



Figure 1.1 - Obtain coordinate and radius from a map

Now, we need to specify that data into the FileWave Policy

1. Filesets > New Desktop Fileset > Policy
2. Under General: give it a name (like: "Site A Geofence")
3. Under the Geofencing payload, enter the latitude, longitude, and radius you obtained from the map
4. For Description, enter a location. Ideally the location you would want a device returned to, as this description will be used in the message on the device. A bad example would be something too generic like in Figure 1.3
5. Event Action: you can select one of two things
 1. Send Location Notification: This is the more subtle approach, a user actively on the device might see this, but continue on their way. If they are unlocking the device they would also see this message, but it could be dismissed
 2. Disable All Applications: This is the more stern approach, a user actively on the device would not be able to use it anymore, tapping the notification would tell them why that is happening (Figure 1.3)

Search

☐ show only configured

General
Mandatory

Restrictions

Blocker Script
Not configured

Geofencing
1 payload(s) configured.

Geofencing

Latitude: 39.9144
The latitude of the geofence center, specified in [Decimal Degrees](#). A latitudinal value ranges from -90.0 to +90.0.

Longitude: -86.0380
The longitude of the geofence center, specified in [Decimal Degrees](#). A longitudinal value ranges from -180.0 to +180.0.

Radius (m): 41 (m)
Note that consumer device location reporting has inherent and pragmatic accuracy and precision limits — most consumer devices return results with no guaranteed accuracy more precise than roughly 5m in ideal conditions (e.g., open sky).

Description: FileWave USA Office
A description of the geofence area. If a device leaves the area, the FW Client app will use this message to help inform a user to where the device should be moved.

Event Actions:

Leaving Action
When leaving the Geofence, the device should:

Send Local Notification

Figure 1.2 - Geofencing Policy

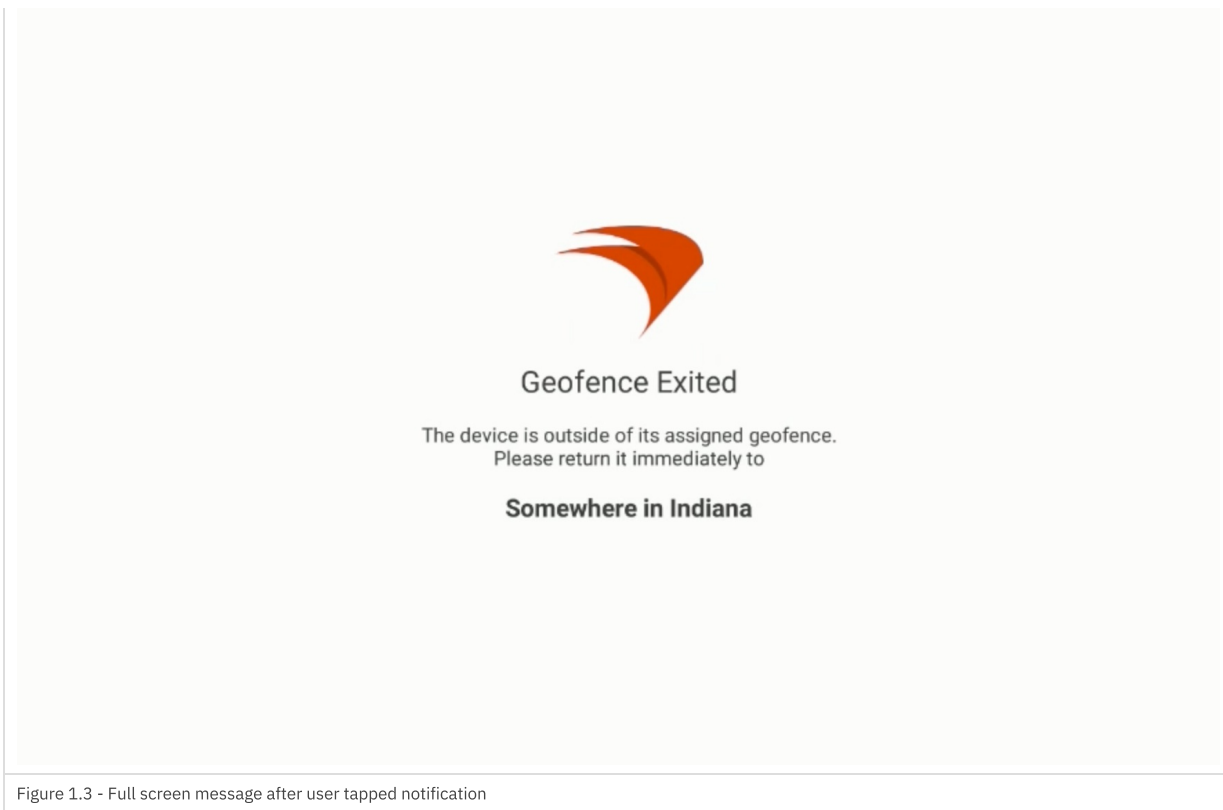


Figure 1.3 - Full screen message after user tapped notification

Finally, we need to assign policy out

To do that, you simply associate the Fileset as you would any other Fileset (aka payload), to:

- a smart group
- a group
- a specific device

Then update the model and you are done.

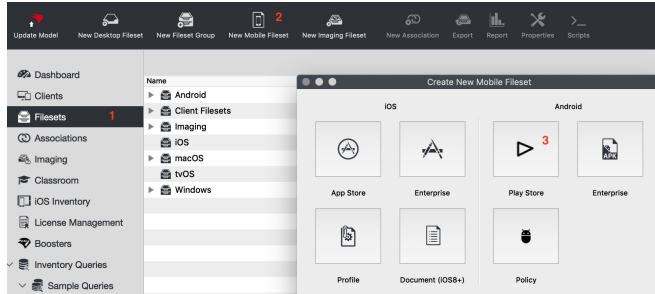
 At present there is no inventory data sent back to the FileWave server to indicate there was a geo-fence breach or that the device was returned to the location, but this is under development and we hope to add this in a future release.

Deploying Google Play Apps

Follow this guide to deploy Google Play apps to you EMM (Enterprise Mobility Management) enrolled Android devices.

⚠ At this time, Google Android Management does not support the deployment of paid Play Store Apps.

Creating the Fileset



1. From the Filesets view
2. Select "New Mobile Fileset"
3. Select "Play Store"
4. Search for the app you want to deploy (figure 1.2)
5. Click on the app and then press "Select" (figure 1.3)
FileWave will make the fileset in the background and leave the window open so you can keep searching for additional apps
6. Now associate the app to devices.

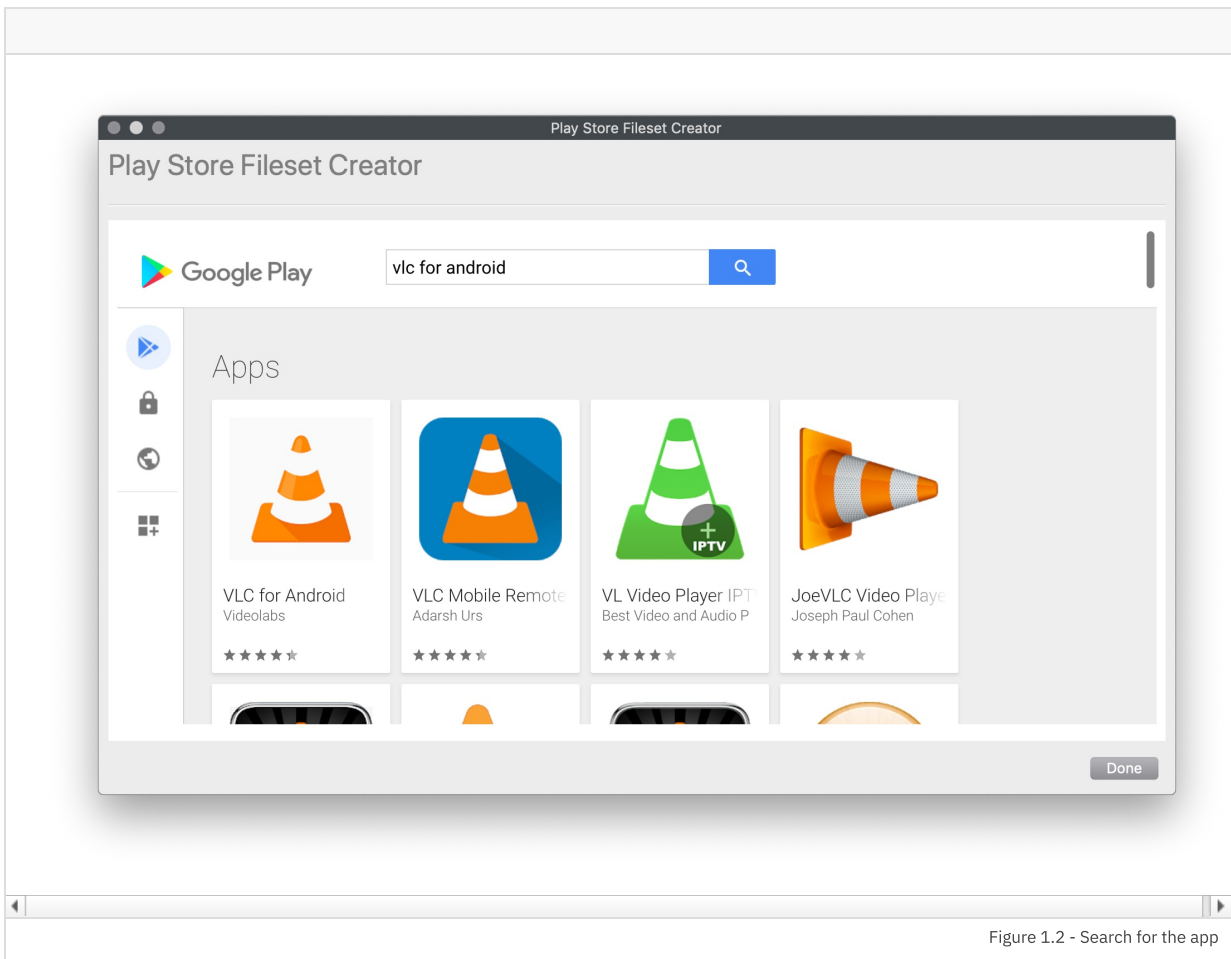


Figure 1.2 - Search for the app

✓ See: [Using Associations with Filesets](#) for steps on creating associations

✓ If you have a Fileset Group selected before clicking the "New Mobile Fileset" button, any filesets you create will be placed into that Fileset Group by default.

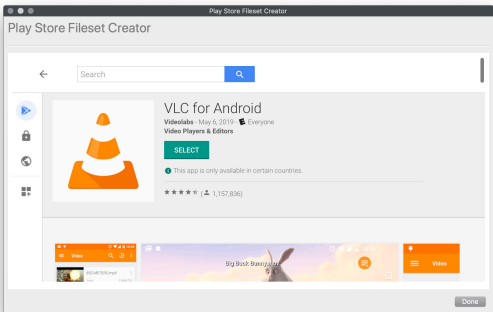


Figure 1.3 - Select the app

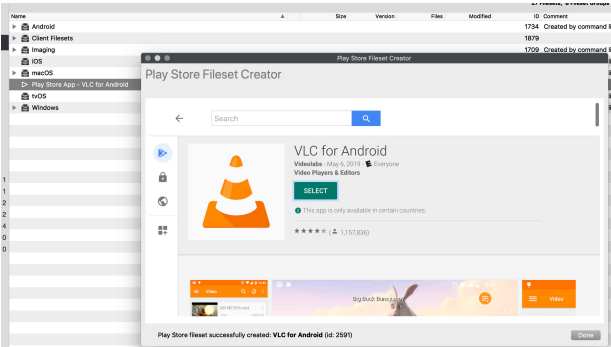


Figure 1.4 - App added

Deploying Google Play Web Apps

Sometimes called a web clips, these are items that look like apps, but open to webpages.

Creating the Fileset

 You need to have the Google Chrome app installed or allowed for web apps to work.

1. From the Filesets view
2. Select "New Mobile Fileset"
3. Select "Play Store"
4. On the left, select the globe (Web app)

5.
.Hit
the
plus
in
the

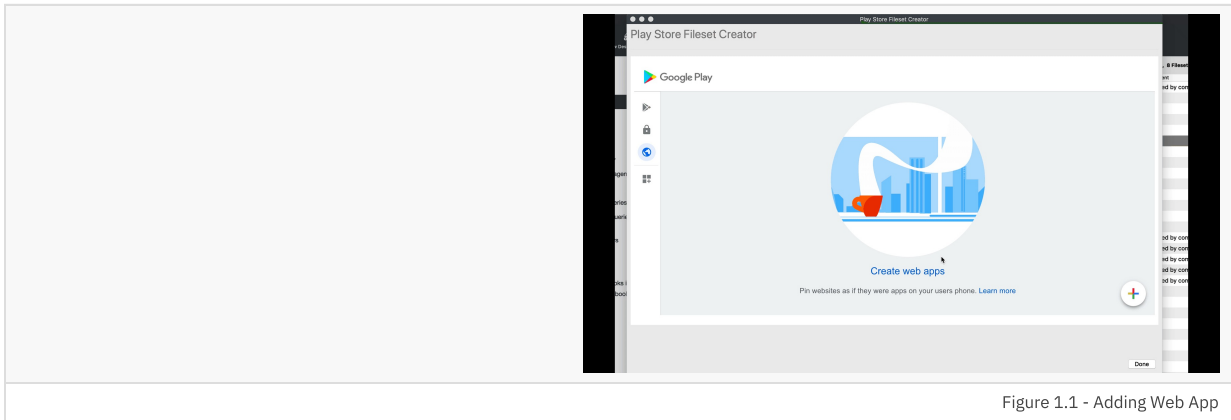


Figure 1.1 - Adding Web App


bottom right

- Enter Name
- Enter URL
- Choose Display (Full Screen, Standalone, Minimal UI)
- (option) upload Icon

7. Click "Create" on the bottom right (Wait for the App to process and then show)
8. Click on the app
9. Scroll down then press "Select"

FileWave will make the fileset in the background and leave the window open so you can keep searching for additional apps

10. Now associate the app to devices.

 See: [Using Associations with Filesets](#) for steps on creating associations

Android EMM Policies and Permissions

Android EMM (Enterprise Mobile Management) allows you to create permissions and send policies.

Permissions Types

Permission settings may be configured on multiple levels. They are applied in this priority (low number wins).

1. Application specific permission grant (list below dropdown in Permissions tab in applications fileset properties)
2. Specific permission for all applications (configured in Policy Fileset)
3. Application default (Play Store App Fileset → Permissions tab)
4. Global default (Android Default Policy Editor)

1. Within Each App

After you have created a [Google Play Apps](#) Fileset:

1. Double click the Play Store App fileset
2. Permissions tab (Figure 1.1)
 1. App Default Permission - The default action devices will take when an app requests a permissions
 2. Application specific permission grant - The setting for a specific permission within this app
3. Choices
 1. Use Default - Defer to another setting
 2. Prompt - App prompts the user to approve
 3. Grant - Allowed, user can not change
 4. Deny - Not Allowed, user can no change

2. Policy Fileset - Permissions

You can create a policy fileset and associate that to a device to specify permission grants/denies.

See below for steps.

3. Global Policy

Specify the default application permission choice. (Figure 1.2)

Found under FileWave Admin → Preferences → Google → Configure Default Policy

- Unspecified
- Prompt
- Grant
- Deny

After you change the default policy, you must update the model to apply the change.

Policies

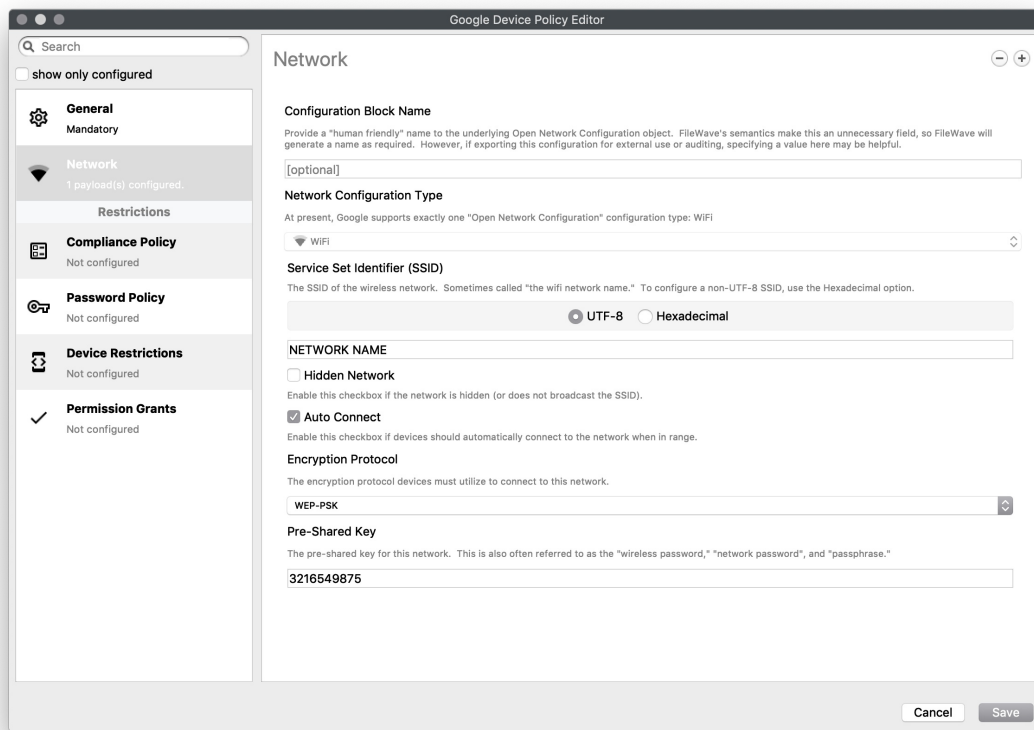
You can create a Policy for (Figure 2.1)

- Network
- Compliance
- Password
- Device Restrictions
- Permission Grants

Network

Settings to join a WiFi network

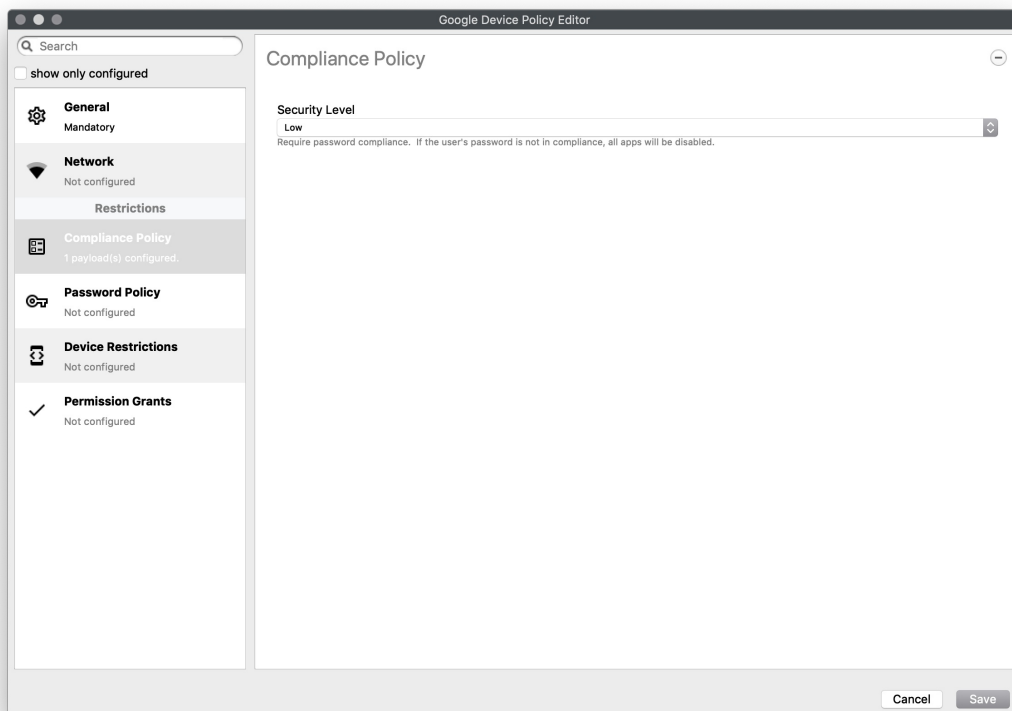
 As of 15.4, additional options have been added for DomainSuffixMatch and UseSystemCA for EAP network configuration.



Compliance Policy

Set compliance level of associated devices.

- None - Do not enforce any compliance. When other settings are sent they can be ignored and the device will operate
- Low (Default) - Require password compliance. If not compliant, no other apps will open
- High - same as low, but additionally disables any device running below Android 7.

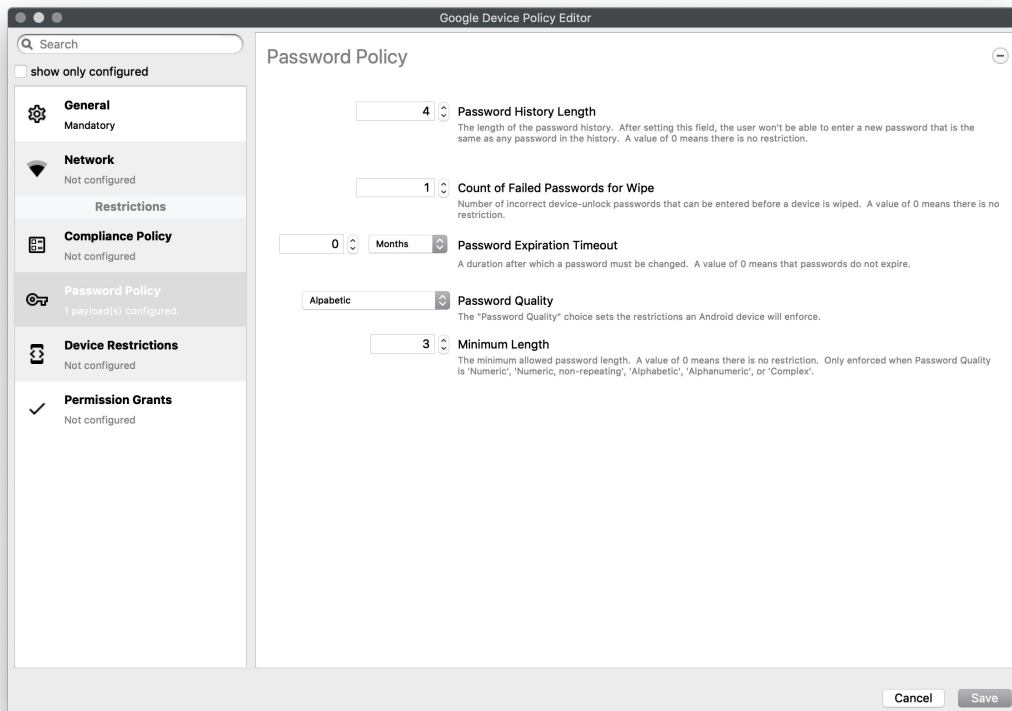


Password Policy

Set password constraints

- Password History Length - The length of the password history. After setting this field, the user won't be able to enter a new

- password that is the same as any password in the history. A value of 0 means there is no restriction
- Count of Failed Passwords for Wipe - Number of incorrect device-unlock passwords that can be entered before a device is wiped. A value of 0 means there is no restriction.
- Password Expiration Timeout - A duration after which a password must be changed. A value of 0 means that passwords do not expire.
- Password Quality - The restrictions an Android device will enforce
 - Weak Biometric - The device must be secured with a low-security biometric recognition technology, at minimum. This includes technologies that can recognize the identity of an individual that are roughly equivalent to a 3-digit PIN (false detection is less than 1 in 1,000)
 - Password Required - A password is required, but there are no restrictions on what the password must contain.
 - Numeric - Must contain numeric characters
 - Minimum Length
 - Numeric , Non repeating - Must contain numeric characters with no repeating (4444) or ordered (1234, 4321, 2468) sequences.
 - Minimum Length
 - Alphabetic - The password must contain alphabetic (or symbol) characters.
 - Minimum Length
 - Alphanumeric - The password must contain both numeric and alphabetic (or symbol) characters
 - Minimum Length
 - Complex - The password must contain at least a letter, a numerical digit and a special symbol. Other password constraints, for example, passwordMinimumLetters are enforced.
 - Minimum length
 - Minimum count of letters
 - Minimum count of uppercase letters
 - Minimum count of non-alphanumerics
 - Minimum count of numerals
 - Minimum count of special symbols



Device Restrictions

Restrict access to device functionality

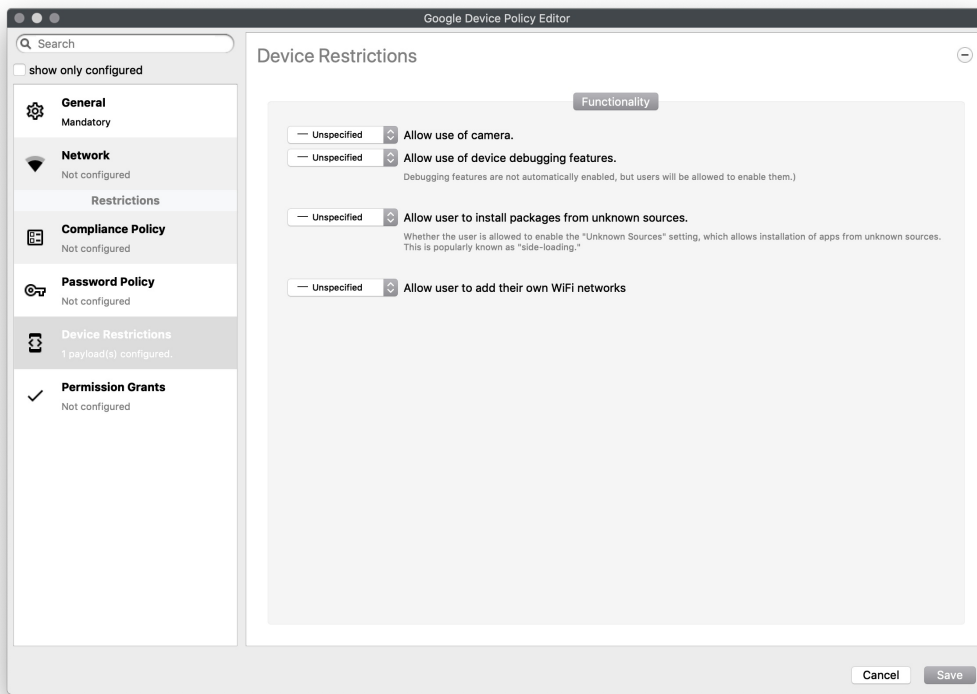
You can choose Unspecified, Allowed, Disallowed for:

- Use of camera
- Debugging
- Install packages from unknown sources
- Allow user to add own WiFi networks

As of 15.4, a new restriction for USB Data Access has been included to allow or disallow file or data transfer for Android devices.



Key Name: "usbDataAccess", Values: Unspecified / (Don't Save), Allowed / ALLOW_USB_DATA_TRANSFER, Disallow File Transfer / DISALLOW_USB_FILE_TRANSFER, Disallow Data Transfer / DISALLOW_USB_DATA_TRANSFER.

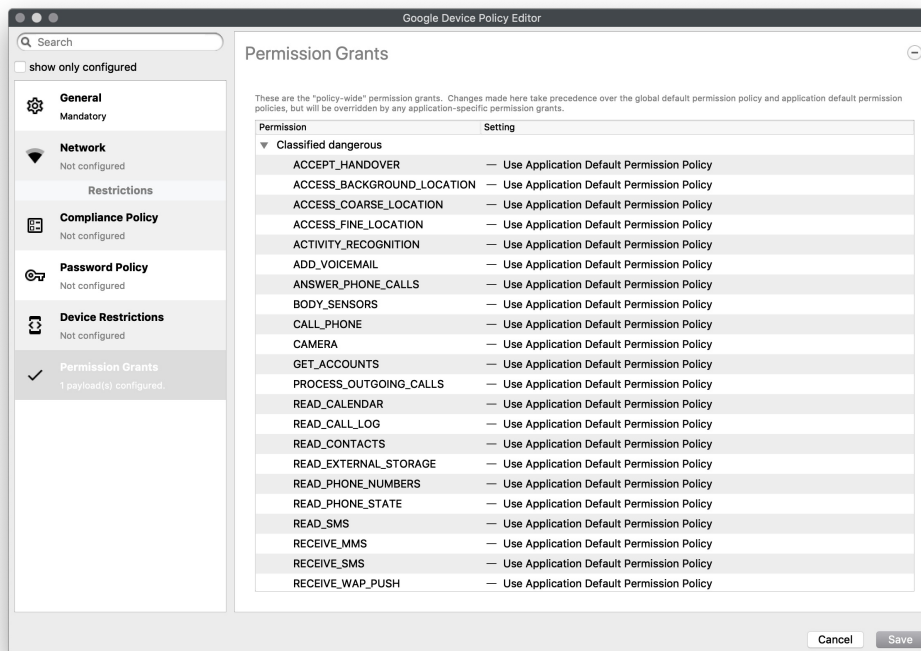


Permission Grants

A detailed list of permission settings for settings that have been classified

- Dangerous
- Normal
- No Classification

And includes everything from allowing answering of calls, camera, NFC, vibrate, to battery status, and system alerts



Toggle to show all Permission options... Expand source

```
ACCEPT_HANDOVER
ACCESS_BACKGROUND_LOCATION
ACCESS_COARSE_LOCATION
ACCESS_FINE_LOCATION
ACTIVITY_RECOGNITION
```

ADD_VOICEMAIL
ANSWER_PHONE_CALLS
BODY_SENSORS
CALL_PHONE
CAMERA
GET_ACCOUNTS
PROCESS_OUTGOING_CALLS
READ_CALENDAR
READ_CALL_LOG
READ_CONTACTS
READ_EXTERNAL_STORAGE
READ_PHONE_NUMBERS
READ_PHONE_STATE
READ_SMS
RECEIVE_MMS
RECEIVE_SMS
RECEIVE_WAP_PUSH
RECORD_AUDIO
SEND_SMS
USE_SIP
WRITE_CALENDAR
WRITE_CALL_LOG
WRITE_CONTACTS
WRITE_EXTERNAL_STORAGE
ACCESS_LOCATION_EXTRA_COMMANDS
ACCESS_NETWORK_STATE
ACCESS_NOTIFICATION_POLICY
ACCESS_WIFI_STATE
BLUETOOTH
BLUETOOTH_ADMIN
BROADCAST_STICKY
CALL_COMPANION_APP
CHANGE_NETWORK_STATE
CHANGE_WIFI_MULTICAST_STATE
CHANGE_WIFI_STATE
DISABLE_KEYGUARD
EXPAND_STATUS_BAR
FOREGROUND_SERVICE
GET_AND_REQUEST_SCREEN_LOCK_COMPLEXITY
GET_PACKAGE_SIZE
INSTALL_SHORTCUT
INTERNET
KILL_BACKGROUND_PROCESSES
MANAGE_OWN_CALLS
MODIFY_AUDIO_SETTINGS
NFC
NFC_TRANSACTION_EVENT
READ_SYNC_SETTINGS
READ_SYNC_STATS
RECEIVE_BOOT_COMPLETED
REORDER_TASKS
REQUEST_COMPANION_RUN_IN_BACKGROUND
REQUEST_COMPANION_USE_DATA_IN_BACKGROUND
REQUEST_DELETE_PACKAGES
REQUEST_IGNORE_BATTERY_OPTIMIZATIONS
SET_ALARM
SET_WALLPAPER
SET_WALLPAPER_HINTS
TRANSMIT_IR
USE_BIOMETRIC
USE_FINGERPRINT
VIBRATE
WAKE_LOCK
WRITE_SYNC_SETTINGS
ACCESS_MEDIA_LOCATION
BATTERY_STATS
BIND_REMOTEVIEWS
BIND_SMS_APP_SERVICE
CHANGE_CONFIGURATION
GET_ACCOUNTS_PRIVILEGED

GET_TASKS
GLOBAL_SEARCH
INSTANT_APP_FOREGROUND_SERVICE
PACKAGE_USAGE_STATS
PERSISTENT_ACTIVITY
READ_MEDIA_AUDIO
READ_MEDIA_IMAGES
READ_MEDIA_VIDEO
SMS_FINANCIAL_TRANSACTIONS
SYSTEM_ALERT_WINDOW
USE_FULL_SCREEN_INTENT

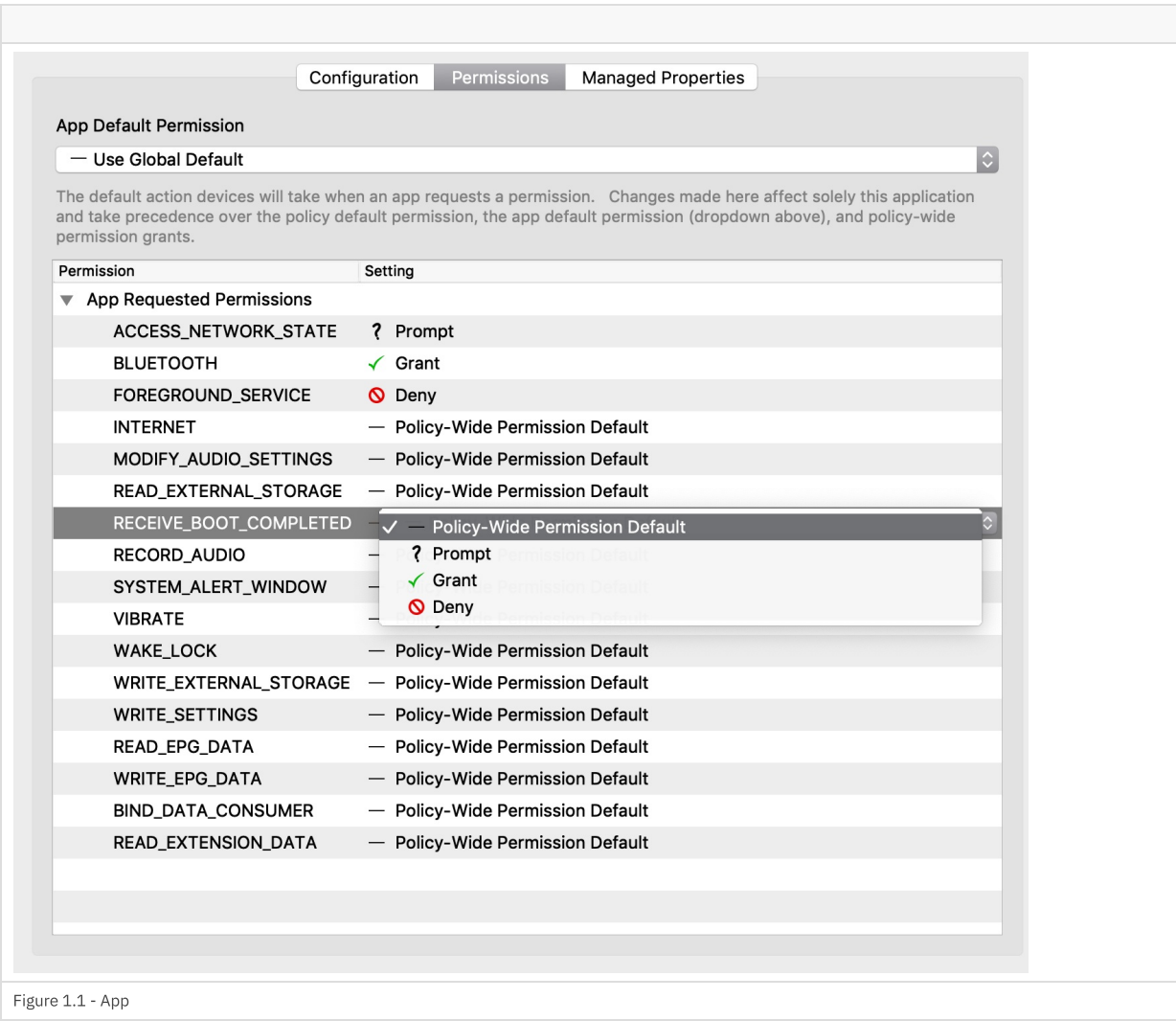


Figure 1.1 - App

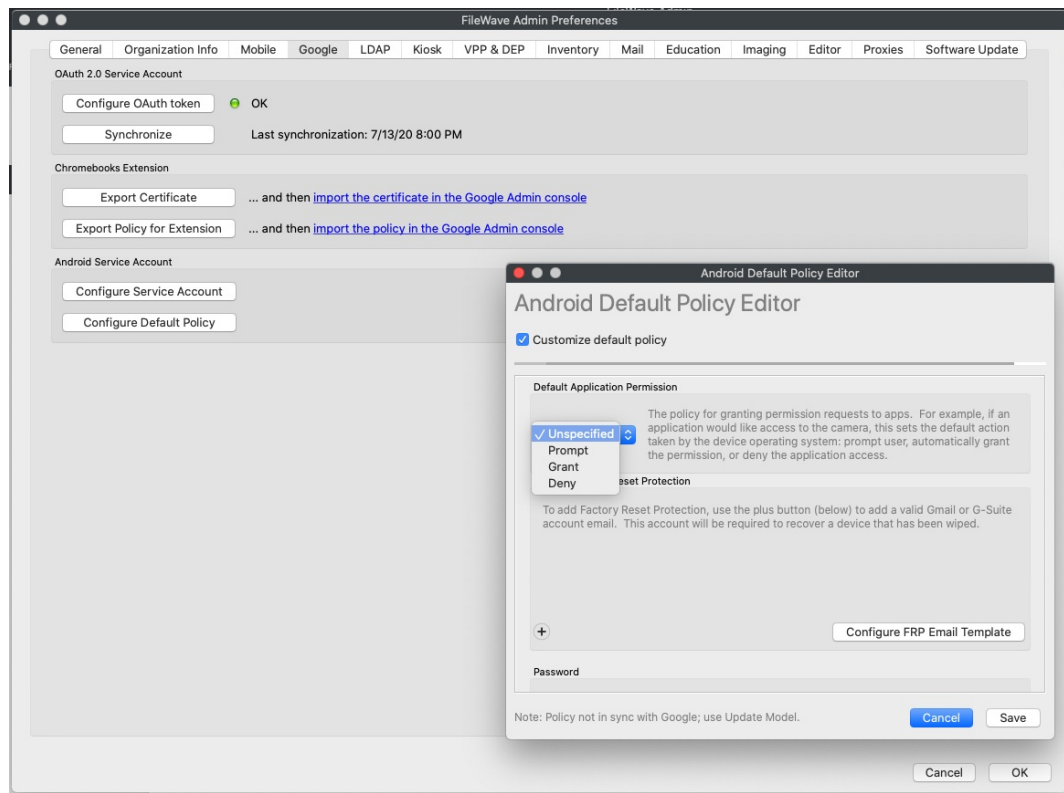


Figure 1.2 - Global

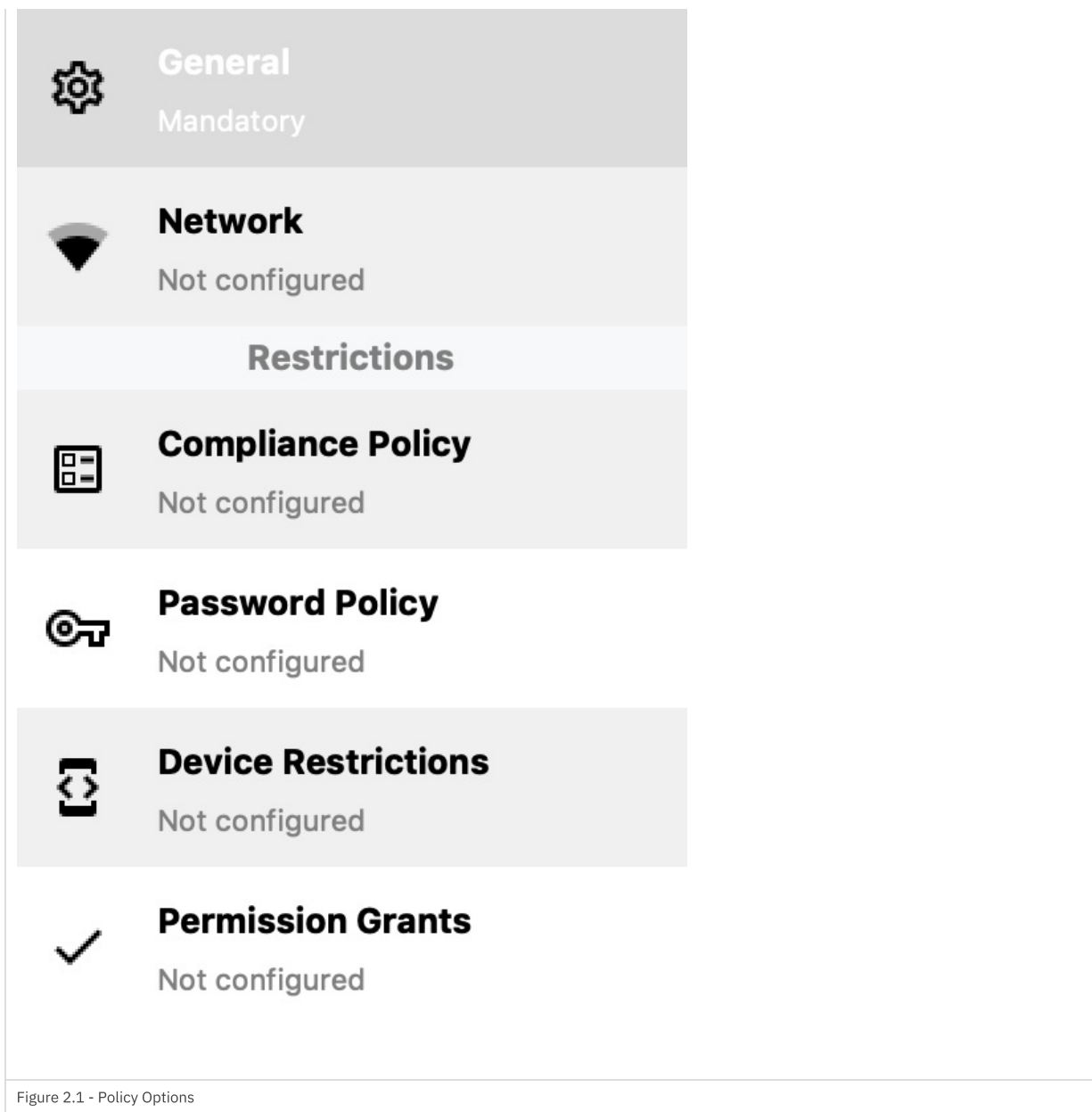
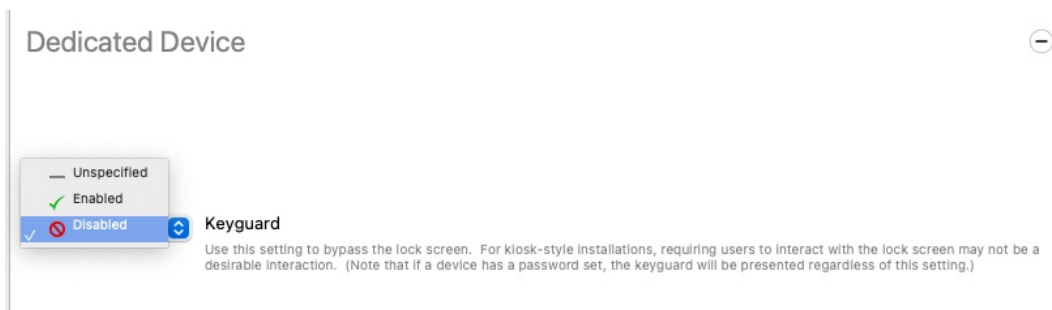


Figure 2.1 - Policy Options

DEDICATED DEVICE

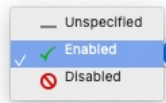
Keyguard

This feature enables you to lock and unlock your screen. Disabled option will bypass the lock screen.



Custom Launcher

When enabled, it will set your device to kiosk mode. All the applications available on device screen were deployed through FileWave.

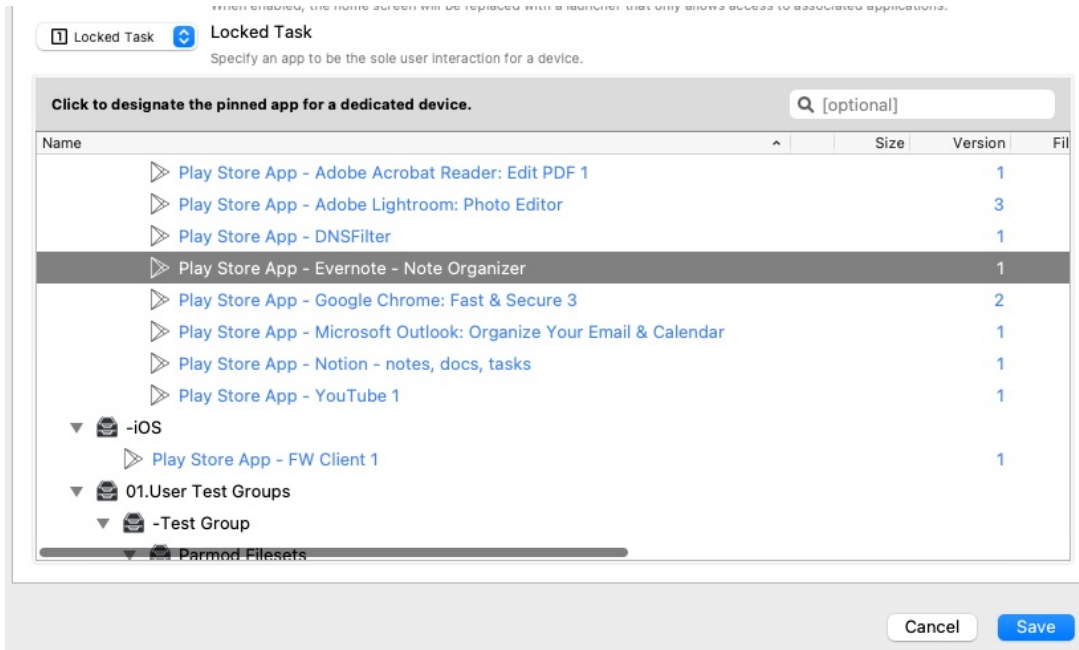


Custom Launcher

When enabled, the home screen will be replaced with a launcher that only allows access to associated applications.

Locked Task

This option will lock the device to open only a single app. The App must be downloaded and installed via FileWave.



Android apps are not installing immediately

What

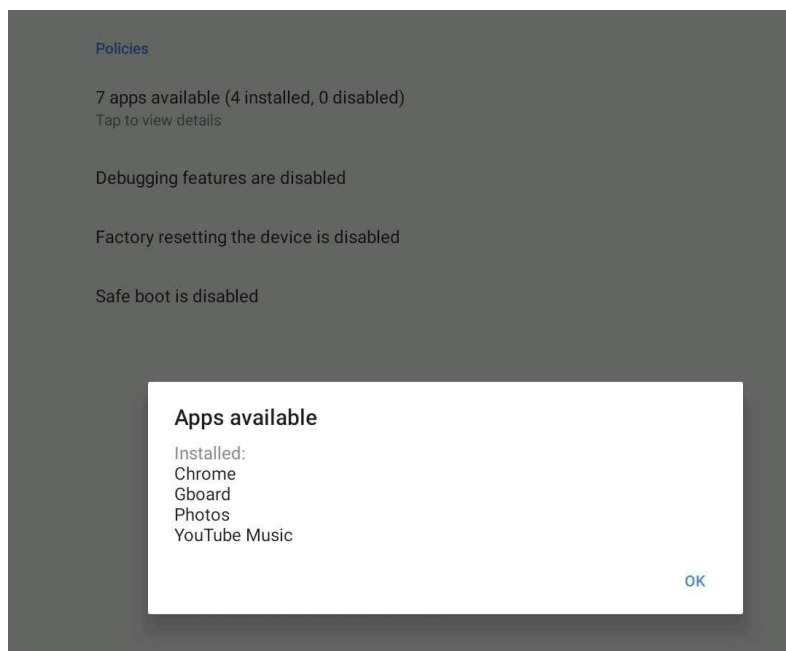
As an administrator, you use FileWave to send a policy to an Android device. This policy will be enforced on the device. However, the precise timing of when to implement the policy changes, and particularly installing and updating applications, is determined by the device itself.

When/Why

Google prioritizes battery life and user experience for Android users. As a result, Android Play Store filesets that have been associated with a device may take up to 24 hours to install or update, per Android user experience priorities.

How

You can check the [Android Device Policy](#) on the device. The Policies section will reflect the status of apps specified by the policy.



Instructions to speed up the process

There are two ways to accelerate this process, but both require some level of cooperation from the user:

1. Once a Fileset has been associated with a device, within a short period of time, the app should appear as available in the user's Play Store on the device. The user can select to install the app immediately.
2. The user may put their device into a passive state, by:
3. Turning on wifi and connecting to the internet
4. Charging their device
5. Clear out any running applications and stop using the device for a period of time

Alternatively, wait for a period of time (up to 24 hours) and the policy will eventually be applied and apps will be installed.

Future

Google has added a new feature called "high priority updates". This can be specified at a per-app level and indicates that the device should install or update an app immediately, but this is not yet in FileWave as of 15.2.1.

Related Content

- <https://support.google.com/work/android/answer/9350374>

Android Lost Mode

What

Android Lost Mode is a security feature in FileWave's Enterprise Mobility Management (EMM) system as of FileWave 15.5.0. It allows administrators to remotely lock an enrolled Android device when it's reported as missing. When activated, the device displays a custom message and becomes inaccessible without the correct passcode, safeguarding sensitive data stored on the device.



When/Why

You should use Android Lost Mode in the following situations:

- **Lost Devices:** If an Android device is misplaced, enabling Lost Mode prevents unauthorized access to the device's data.
- **Stolen Devices:** In case of theft, activating Lost Mode secures the device and can aid in its recovery by displaying contact information or a custom message.
- **Data Protection Compliance:** To adhere to organizational security policies and data protection regulations by ensuring sensitive information remains secure until the device is recovered or wiped.

Activating Lost Mode helps maintain data security and reduces the risk of data breaches from lost or stolen devices.

How

Device Eligibility

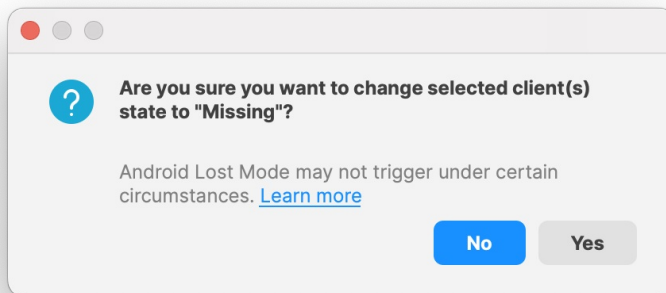
Before activating Lost Mode, ensure that the device meets the following criteria:

- **Non-BYOD Device on Android 11 or Higher:** The device must be a corporate-owned device (not Bring Your Own Device) running Android 11 or later.
- **Not Already in Lost Mode:** The device should not currently be in Lost Mode.

- No Recent Password Reset: The device must not have had a password reset in the last 12 hours.
- No Recent Manual Exit from Lost Mode: The device must not have been manually exited from Lost Mode in the last 12 hours.

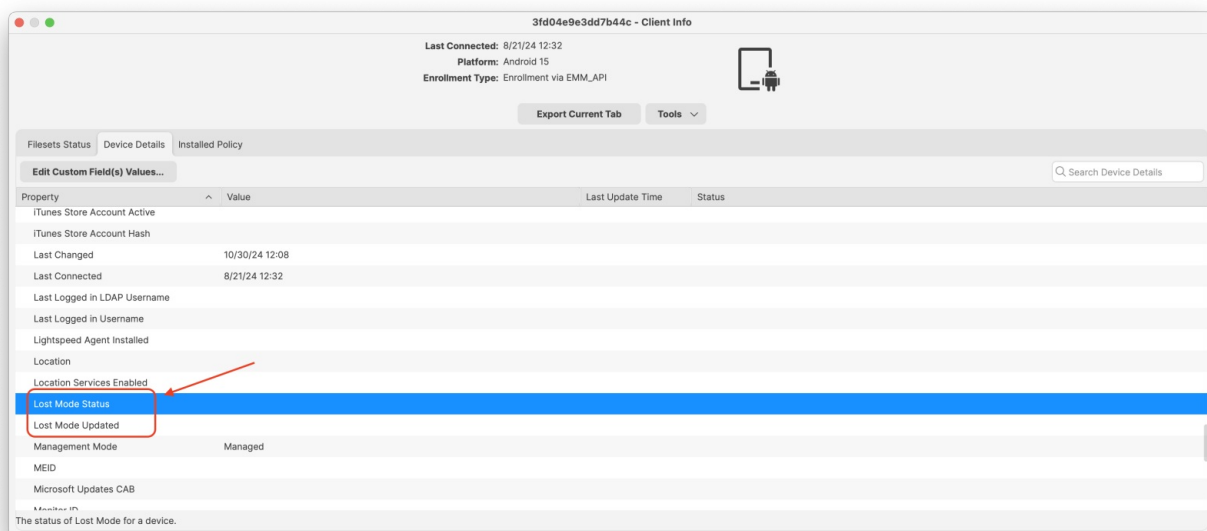
Activating Android Lost Mode via FileWave

EMM devices which are in “Missing” device Client State will now use Android Lost Mode mechanism. In Central you can right click the device and pick Client State -> Missing.

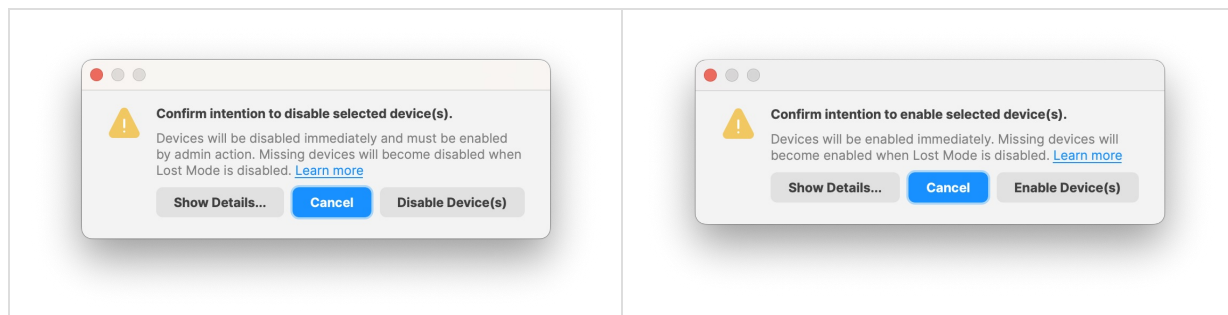


As Android Lost mode allows the end user to exit lost mode by entering device passcode, FileWave will then report in inventory the current state and the expected state. It is also possible to “Play Lost Mode Alert” on lost devices by right clicking the device once it is in Lost Mode.

Status report found in Device Details.



Disabled Devices and Lost Mode



When selecting an Android device there is an option to Enable / Disable selected device(s). When an Android device is set to "Disabled" only applications and features under Google services on the device will be usable. Main applications such as the "Phone",

"Google Play Store" and "Settings" apps.

When "Enabled", Google Play services resume and all apps are usable again. If the device was in Lost Mode while disabled, it will resume being disabled even once Lost Mode ends.

Important Considerations

- **Passcode Requirement:** Ensure that devices are configured to require a passcode for maximum security effectiveness.
- **User Communication:** Inform users about the Lost Mode feature and how they can exit it by entering their passcode.
- **Policy Compliance:** Activating Lost Mode aligns with security policies and helps protect organizational data.

Related Content

- [Android](#)
- [Google Support Lost Mode](#)

Android EMM Global Default Policy Change (14.9+)

What

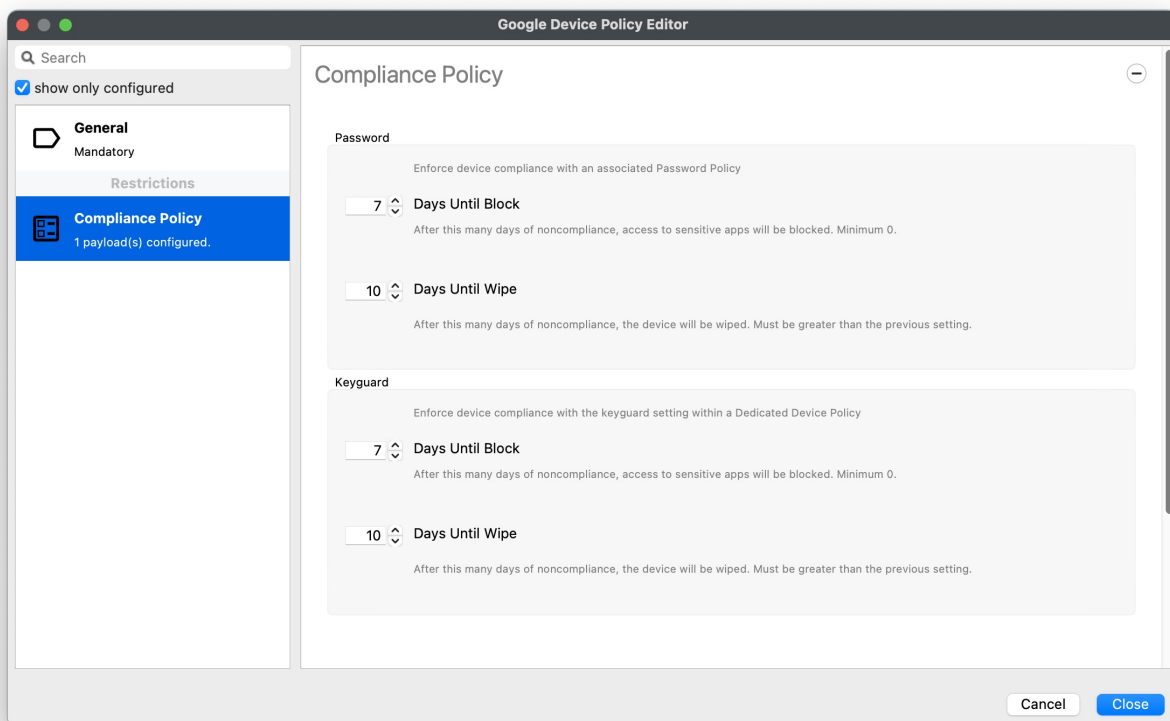
Prior to version 14.9 of FileWave, Password and Keyguard policies were included automatically in an Android Default Custom Policy. An Android Default Custom Policy sets certain device parameters for ALL managed Android EMM devices. In Version 14.9, this behavior is changed because inclusion of Keyguard/Password elements in the default policy can cause issues with BYOD enrollment, so those elements are now removed from all default policies.

When/Why

Default Policies are used to set global settings for enrolled Android devices. If you don't use them, or are just starting now to use them, this article has no impact on your environment. If you used them prior though, and Keyguard and Password Policies are important to your environment, you **MUST** make the changes outlined below.

How

Because those two settings are removed from the default policy, you'll likely want to make the following change **BEFORE** upgrade to ensure a seamless policy shift (afterward is OK too, but devices won't have the policies in the meantime). Basically, it is a simple change...instead of including those policy configs in the global policy, we'll just put them in a normal (fileset) policy and apply that by smart group instead. The best option would be to apply that policy via a smart group to all non-BYOD Android devices. Then, as soon as your server is upgraded, all devices that need the "new" policies will have them. Example fileset policy and smart group definition shown below:



QueryBuilder - Non-BYOD Android

Component

ActivationLock Bypass Code

All Devices

Android Device

Current Carrier Network

Device State

EMM Name

Encryption is Enabled

FileWave Client Version

FileWave Model Number

GCM/FCM Registration ID

IMEI

Is User-Owned

MEID

Chromebook Device

Content Caching Info

True if this device is "BYOD", false if it is company-owned.

Internal name: byod

Name: Non-BYOD Android

Main Component: All Devices

Include Archived Clients

Criteria

Fields

Clients

All of these expressions must be true

Not

Android Device / Is User-Owned

equals

true

+ -

Add Group

Move up

Move down

Move in next group

Move before parent

Cancel

Save

Android devices with multiple policies

What

Android Policies can be used to manage settings on Android devices. For a list of some of the things that can be managed take a look at [Android EMM Policies and Permissions](#).

When/Why

When more than one policy is applied, how will you know which settings are in effect? In reality, Android only supports 1 policy at a time so what is the logic used when combining them?

How

This is the crucial ordering. `merge_policy_fragment()` follows the principle of "most restrictive" policy wins, but what is more correct in those gray areas of competing information? For example, which fragment wins if there are two conflicting WiFi configurations? In that case, the last one, as ordered by distance first (in DESC order), and ties won by the most recently created association.

1. This ordering is the reverse of other sections of the FW code because here, "last one wins". So, closer distance overwrites farther distance.
2. Being precise, we (FileWave) do not order beyond (distance, assoc_id) in other parts of the code. We do here, however.

For even more clarity about what is installed, you can look at Device Details for a device in FileWave Central. Go to the Installed Policy tab and see the policy as it was sent to the device. This view will let you know exactly what was sent.

Last Connected: 2023/12/21 13:22

Platform: Android 10

Enrollment Type: Enrollment via EMM_API

Export Current Tab

Tools ▾

Filesets Status Device Details Installed Policy

```
{
  "advancedSecurityOverrides": {
    "developerSettings": "DEVELOPER_SETTINGS_DISABLED"
  },
  "applications": [
    {
      "installType": "FORCE_INSTALLED",
      "packageName": "com.teamviewer.quicksupport.addon.lenovo_tb_x705f"
    },
    {
      "installType": "FORCE_INSTALLED",
      "packageName": "com.teamviewer.quicksupport.market"
    },
    {
      "installType": "FORCE_INSTALLED",
      "packageName": "com.google.android.apps.photos"
    },
    {
      "defaultPermissionPolicy": "GRANT",
      "delegatedScopes": [
        "CERT_INSTALL",
        "MANAGED_CONFIGURATIONS",
        "PACKAGE_ACCESS",
        "PERMISSION_GRANT"
      ],
      "installType": "REQUIRED_FOR_SETUP",
      "managedConfiguration": {
        "client_state": "3",
        "fcm_push_fragment": "https://demoh.filewave.ch:20445/push-notifications/internal/tokens/emm/",
        "fw_token": "",
        "registration_url": "https://demoh.filewave.ch:20445/android/emm/check_in/register/",
        "server_cert": "-----BEGIN CERTIFICATE-----\nMIIGRTCCBS2gAwIBAgIMdkbuGCaGXA7jyoueMA0G0
      },
      "packageName": "com.filewave.emmclient"
    }
  ],
  "factoryResetDisabled": true,
  "networkEscapeHatchEnabled": true,
  "setupActions": {
    "description": {
      "defaultMessage": "Install the FileWave Client"
    },
    "launchApp": {
      "packageName": "com.filewave.emmclient"
    },
    "title": {
      "defaultMessage": "FileWave Client Installation"
    }
  },
  "wifiConfigDisabled": false
}
```

Related Content

- [Android EMM Policies and Permissions](#)

Android System Apps

During provisioning of devices, Android, by default, disables the built-in System Apps. This of course, may be undesirable.

FileWave 15.3+ includes an additional custom setting to alter this behaviour.

 Configuring the below will impact all Android devices during enrolment, where DPC Extras are supported.

DPC Extras

Device Provision Controller Extras are optional key/value pairs providing additional enrolment features and are only supported by some enrolment methods, as indicated by Google's article:

[Android Provisioning Methods](#)

Workaround

The following file should be edited:


```
/usr/local/filewave/django/filewave/settings_custom.py
```

Add an additional entry as shown:

```
EMM_PROVISIONING_DEFAULT_APPS_ENABLED = True
```

Once saved, restart the FileWave Server service:

```
fwcontrol server restart
```

 Hosted customers should contact support to enable this feature if desired.

Troubleshooting

Troubleshooting of Android management issues.

Android EMM Known Issues

Functionality

Issue	Notes	Reference
Enrollment of more than 500 devices is blocked by Google's API	https://bayton.org/blog/2024/03/amapi-permissible-usage/ discusses this issue introduced in Q4/2024 by Google. The AMAPI API has a hard limit now of 500 devices by default. There is a form: https://goo.gle/android-enterprise-response that can request that Google raise this limit for your account.	
Can not import or create placeholders	FileWave hopes to implement in future release	
Devices do not show in smart groups		
No paid app distribution (AKA group license purchases)	Paid apps not currently implemented in Google API	
Wiping device, but not removing from FW does not get previous associations	FileWave hopes to implement in future release	GOOG-216
Compliance policy breaks model update Error at model update: <div><pre>[ERROR] 2019-06-07 15:50:56,075 (exception): Internal Server Error: /android/emm/process_pending_emm_calls/
Traceback (most recent call last): [...].googleApiClient.errors.HttppError: <HttpError 400 when requesting https://androidmanagement.googleapis.com/v1/enterprises/LC01d4gn82/policies/default?alt=json returned "complianceRules are deprecated. Use policyEnforcementRules instead."</pre></div>	Google API was suddenly changed. Code fix already in future release. If you were on 13.1.0 when EMM was enabled in your license, then you will need a fix before or after upgrading to 13.1.1. To request a patch use the Feedback Portal : Question (must be apart of the EMM program to use)	
Default Apps removed after enrolment	Google standard behaviour is to remove default, installed apps on enrolment. Workaround available in 15.3+ GUI option to follow in a future update.	GOOG-965

Minor (Aesthetics) Issues

Issue	Notes	Reference
You cannot put the FileWave Client APK on an EMM enrolled device		
Closing and reopening the Android signup window before completion will display the wrong Google Org Name	FileWave hopes to implement in future release	GOOG-187
No Command History in device details	FileWave hopes to implement in future release	
The Serial Number I see in FileWave does not match the Serial Number I see on the device.	Some devices (Predominately Samsung) have two serial numbers, to see these on the device: Settings > Google > Device Policy > ⋮ (vertical ellipse) > Device Details. Scroll to the bottom to see the serials.	

Google Play Store Errors

Android EMM Google Play store errors

If you see a 403 error (Figure 1.1):

Server error; FileWave was unable to negotiate a Play Store instance with Google.
Please try reopening this Play Store window.
Server said (403): Caller is not authorized to manage enterprise.

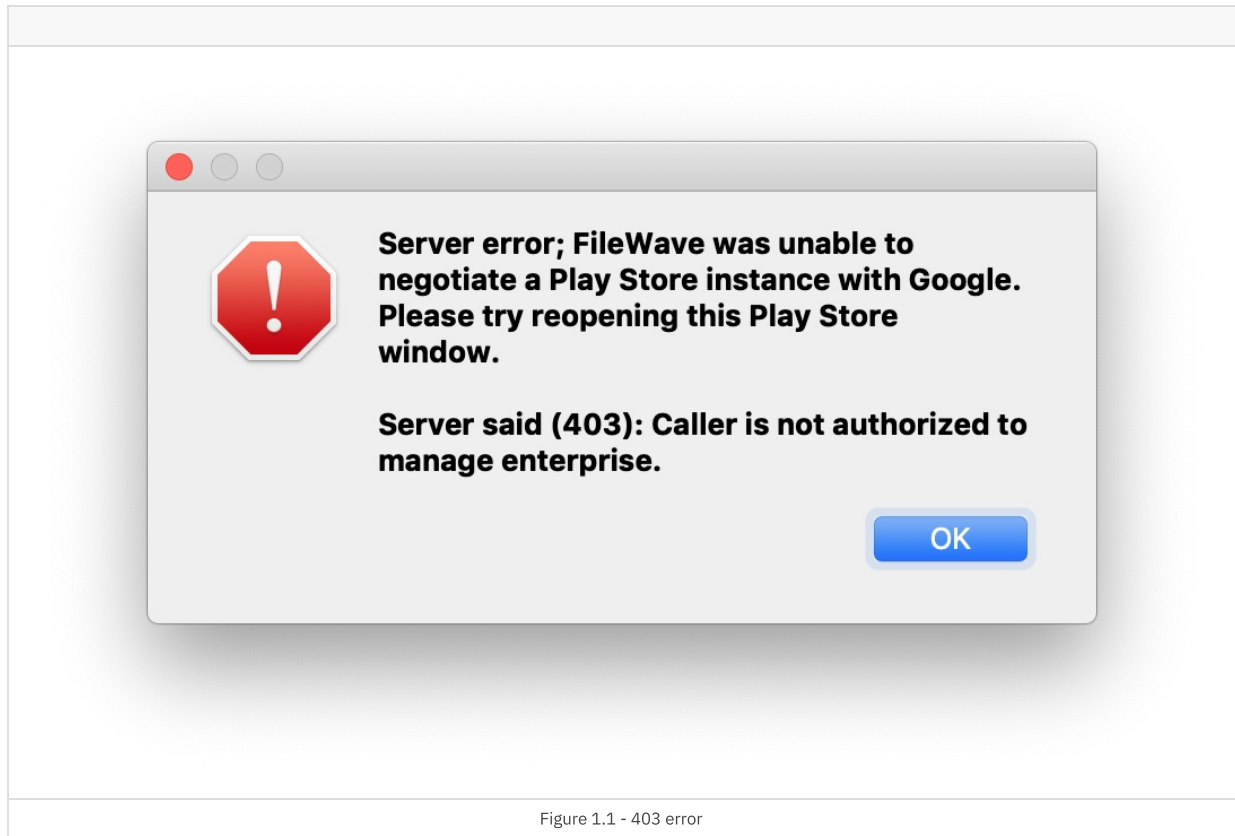


Figure 1.1 - 403 error

Check your admin permissions by [Managing FileWave Administrators](#). If you keep seeing the error after checking permissions wait a while before opening the Google Window again. Opening it too much will disable your EMM connection and you might start seeing the 500 error below.

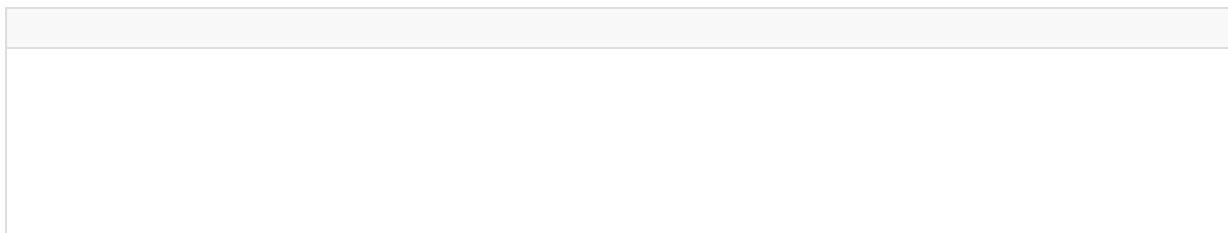
If you see a 500 error (Figure 1.2):

Server error; FileWave was unable to negotiate a Play Store instance with Google.
Please try reopening this Play Store window.

Server said (500): Problem with Android EMM enterprise; Please check your FileWave Dashboard.

Then your EMM may be disabled, check the dashboard for errors and then check your enterprise status Admin → Preferences → Google → Configure Service Account.

Then select "Re-Enable Enterprise" (Figure 1.3):



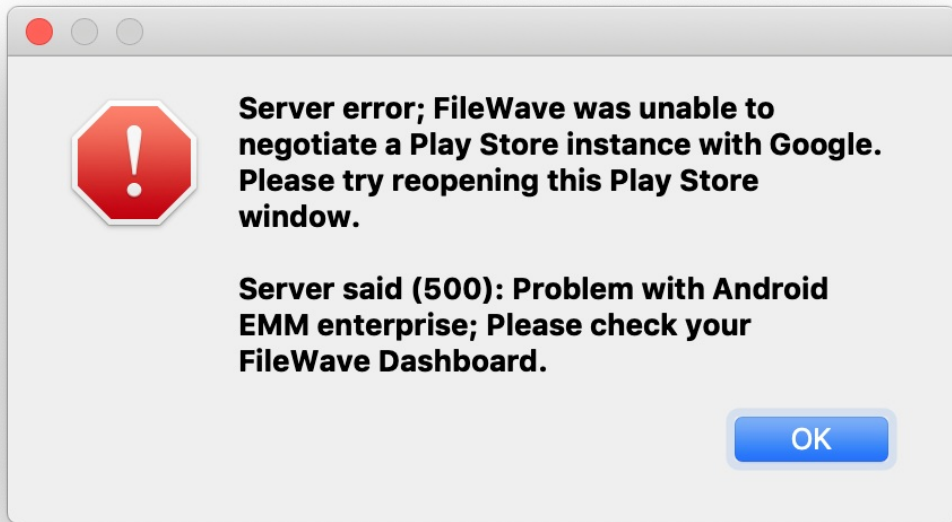


Figure 1.2 - 500 error

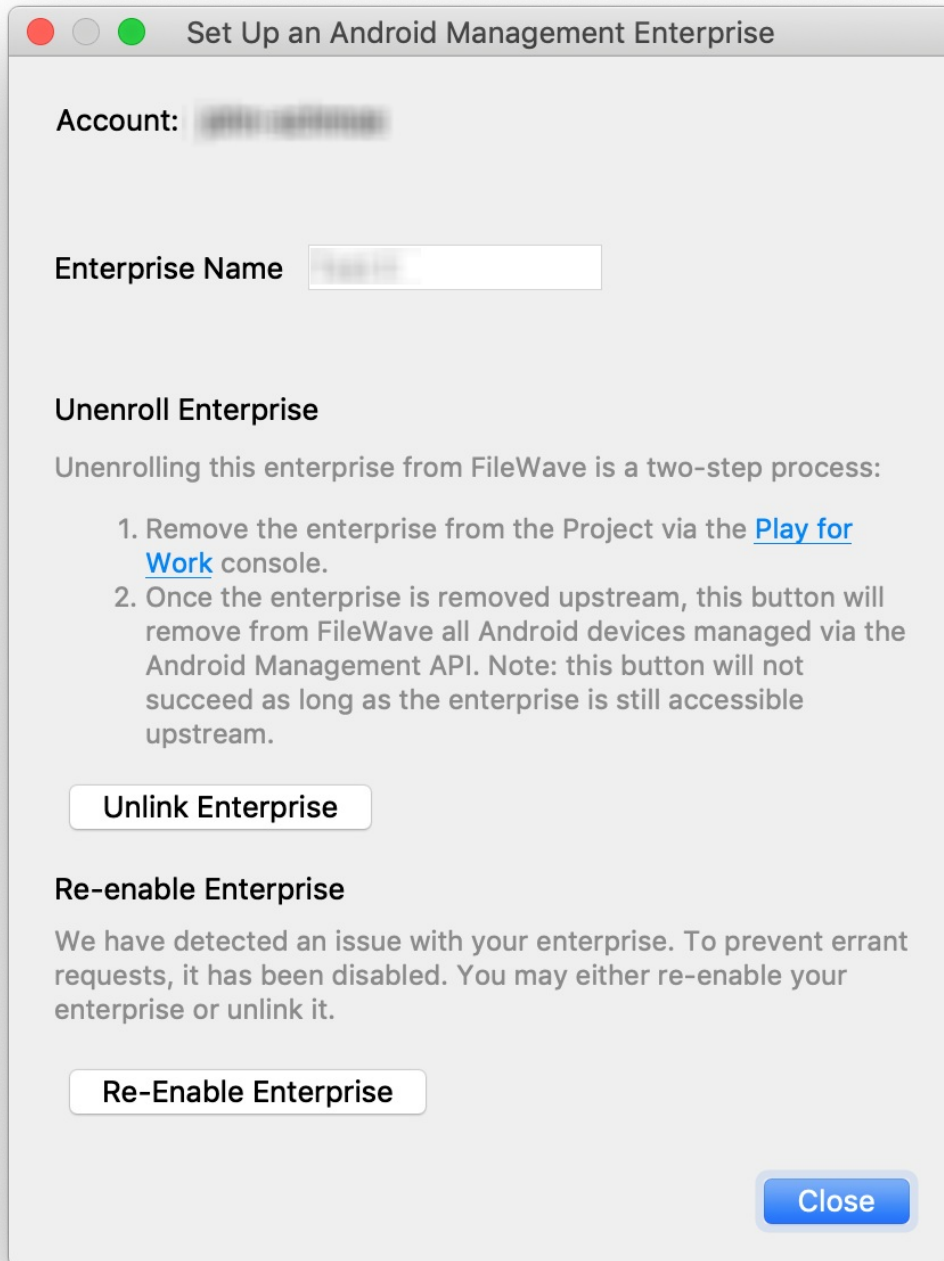



Figure 1.3 - Store has been disabled

Troubleshooting

Android 500 device limit on enrollment

 This article will be updated as we find out more information. Last updated: December 19, 2024

What

Google's [Permissible Usage](#) page has updated from no explicit maximum number of devices per project (it was a soft 1000 prior, referenced below) to now topping out at 500 devices. In addition, the [Android Enterprise features list \(requirements\)](#) has additionally been updated from the prior 1000 devices to reflect the updated quota.

When/Why

In the past this quota was not automatically enforced, and the number of devices in the documented limit for an unverified AMAPI solution was 1000 although not ever seen to be enforced. FileWave is a validated partner however as you can see:

<https://androidenterprisepartners.withgoogle.com/provider/#!/5163783169245184> It was discovered on December 16, 2024 that there is a 500 device limit being enforced suddenly.

The AMAPI API now enforces this quota, which wasn't the case before. The addition of two new events returned to project administrators via a `UsageLogEvent`, which is a collection of various events logged on devices from the use of ADB to power on/off, external media mounting, and so on, suggest the API itself has the limits baked right in:

```
"MAX_DEVICES_REGISTRATION_QUOTA_WARNING",  
"MAX_DEVICES_REGISTRATION_QUOTA_EXHAUSTED"
```

How

Despite the addition of these new, actively enforced quotas, it remains possible to request a higher limit on a case by case basis. Google now provide a form to - amongst other things - "respond to a quota limit":

Updated Dec 18, 2024: You can create a support case with [Customer Technical Support](#) and then we will ask Google to adjust the limit. FileWave is investigating what the longer term solution is for this with Google. Google is aware that FileWave is a validated partner (<https://androidenterprisepartners.withgoogle.com/provider/#!/5163783169245184>) so this issue appears on the surface to be an error on Google's part that they are enforcing a lower limit, but we are investigating.

Related Content

- <https://bayton.org/blog/2024/03/amapi-permissible-usage/>
- <https://goo.gle/android-enterprise-response>
- <https://androidenterprisepartners.withgoogle.com/provider/#!/5163783169245184>