

# Default TCP and UDP Port Usage

FileWave software uses the below-listed TCP/IP ports. These are default settings and may be configured to listen on different ports if required. Consider [FileWave Server should not have IPv6 enabled](#) for the best experience.

## Port Testing

Please consider downloading the [FileWave Port Testing](#) macOS/Windows utility to confirm communication of Google Cloud Messaging, Apple Push Notifications and connectivity between device network(s) and Server/Boosters.

The following may be run from the server to confirm Apple, Microsoft, and FileWave services:

Server Command Line


```
sudo /usr/local/filewave/python/bin/python /usr/local/filewave/django/manage.pyc check_connections
```


## TeamViewer Ports

TeamViewer has an additional set of ports to consider:

<https://community.teamviewer.com/English/kb/articles/4139-ports-used-by-teamviewer>

## FileWave Server Ports

 MDM default port is now 20445 as shown throughout this KB. On older versions of FileWave, this was 20443. To confirm the defined port, check the Port setting in FileWave Central > Preferences > Mobile > MDM Server > Port

 The ports in this table are listed from the FileWave Server's perspective, so the "Server In/Out" column indicates the direction of traffic relative to the Server.

| Server Ports | Service     | Protocol | Server In/Out | Description  |
|--------------|-------------|----------|---------------|--|
| 80           | HTTP        | TCP      | Outgoing      | FileWave Software Updates (apple.com & microsoft.com) ***  |
| 443          | HTTPS       | TCP      | Outgoing      | FileWave License Server (fwks.filewave.com & logstash.filewave.com)<br>FileWave Software Updates (apple.com) ***<br>FileWave/TeamViewer Session Server (rcs.filewave.com)<br>FileWave/TeamViewer Push Notification Server (fwpn.filewave.com)<br>FileWave Kiosk ( *.filewave.cloud )<br>FileWave AutoPkg integration (le7bqzikha.execute-api.us-east-1.amazonaws.com)<br>FileWave Software Updates (apple.com & microsoft.com) *** |
| 443          | HTTPS       | TCP      | Incoming      | API endpoints - <a href="#">Anywhere API (v2 API)</a><br>Device to Server (Enrollment URL) - Google/Azure/Okta   |
| 20015        | Proprietary | TCP      | Incoming      | DO NOT OPEN<br>FileWave Client to Server; Legacy, but should be configured only.<br>SSL traffic will run on 20017.<br>(Removed in FileWave 15.4+)<br>Server no longer listens on this port.  |
| 20016        | SSL         | TCP      | Incoming      | FileWave Central to Server   |

|       |             |     |          |  |
|-------|-------------|-----|----------|--|
| 20017 | SSL         | TCP | Incoming | FileWave Client to Server: Secure<br>Set port 20015, not 20017, in Client Configuration  |
| 20019 | SSL         | TCP | Incoming | Booster to Server: Priority Traffic  |
| 20022 | SSL         | TCP | Incoming | FileWave Central to Server: NATS<br><br>FileWave Client to Server: NATS<br>IVS to Server: NATS   |
| 20023 | SSL         | TCP | Incoming | FileWave Booster to Server: NATS   |
| 20124 | SSL         | TCP | Incoming | FileWave Server JSON Websockets (JWT)<br>Websocket connections for NATS SERVER used between FW Anywhere and FW Server. (Added 14.10.0)   |
| 20441 | Proprietary | TCP | Incoming | FileWave Client to Server: Remote Client Monitor   |
| 20443 | HTTPS       | TCP | Incoming | FileWave Client to Server: Inventory   |
| 20445 | HTTPS       | TCP | Incoming | Apple Devices to Server: Inventory, Profiles, DDM, MDM<br>Android Devices to Server: Companion App<br>Chromebook to Server: Inventory<br>Booster to Server: Inventory/Discovery<br>API endpoints - <a href="#">Command Line API (v1)</a><br>App Portal to Server |
| 20446 | HTTPS       | TCP | Incoming | FileWave Central and FileWave Anywhere to Dashboard (Removed in FileWave 16.0+)<br>Server no longer listens on this port.  |

NATS includes: Remote Control Publishing, Remote Control Routing, device renaming, revoking device certificates, push notifications  
 \*\*\* Also used by FileWave Central to vendor Software Update Servers.



Configuring port 20015 also automatically configures SSL port; 20017 [port entered +2]. 20015 is now deprecated and 20017 will be used where 20015 is set. Open port 20017 alone for Client communication.

## FileWave Kiosk Ports



The ports in this table are listed from the Kiosk on the Client's perspective, so the “In/Out” column indicates the direction of traffic relative to the macOS or Windows Kiosk running there.

| Kiosk Ports | Service | Protocol | In/Out | Description   |
|-------------|---------|----------|--------|---|
| 443         | HTTPS   | TCP      | Out    | Devices to *.filewave.cloud (To download the Kiosk App) |
| 20443       | HTTPS   | TCP      | Out    | Devices to FileWave Server                              |
| 20445       | HTTPS   | TCP      | Out    | Devices to FileWave Server                              |

## FileWave Client Ports

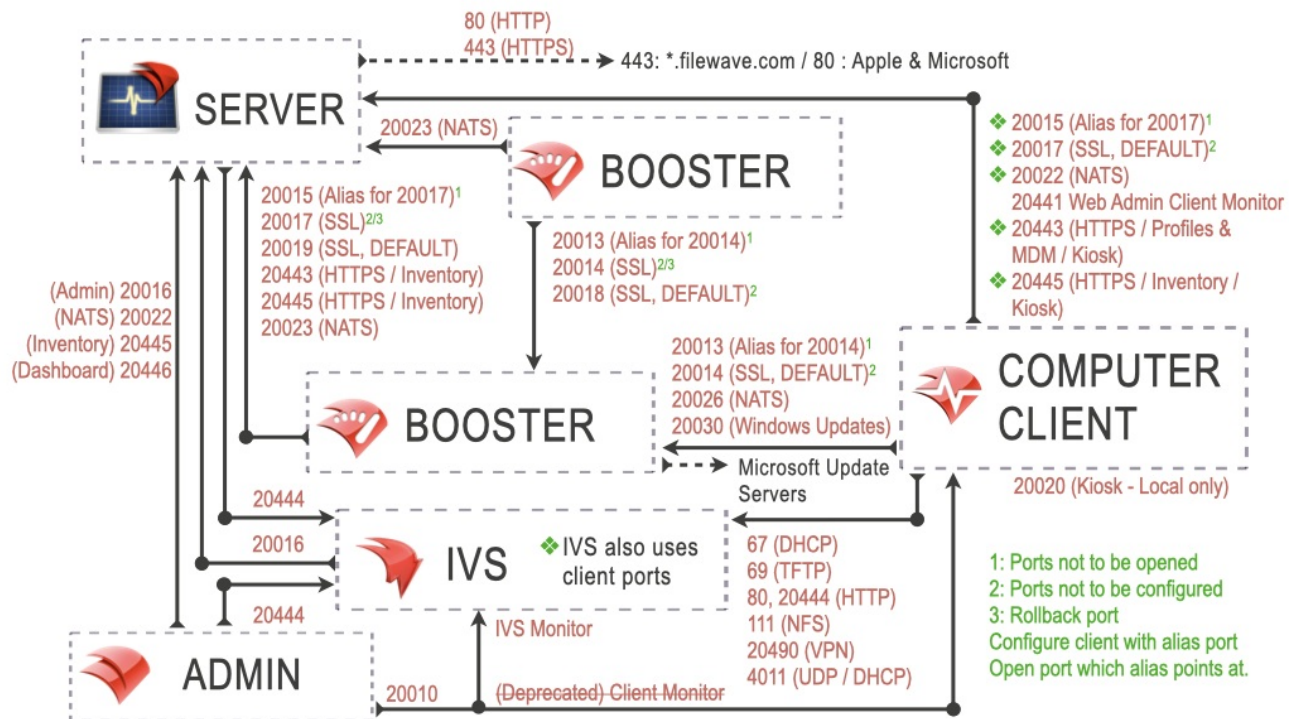


The ports in this table are listed from the FileWave Client's perspective, so the “In/Out” column indicates the direction of traffic relative to the macOS or Windows Client.

| Client Ports | Service     | Protocol | In/Out | Description  |
|--------------|-------------|----------|--------|--|
| 443          | HTTPS       | TCP      | Out    | FileWave Software Updates (apple.com & microsoft.com) ***                |
| 20010        | Proprietary | TCP      | In     | FileWave Central to Client: Client Monitor: macOS, Windows & Android APK |

\*\*\* Also used by FileWave Central to vendor Software Update Servers.

## FileWave Client



## FileWave Booster Ports

✓ The ports in this table are listed from the Booster's perspective, so the "In/Out" column indicates the direction of traffic relative to the Booster.

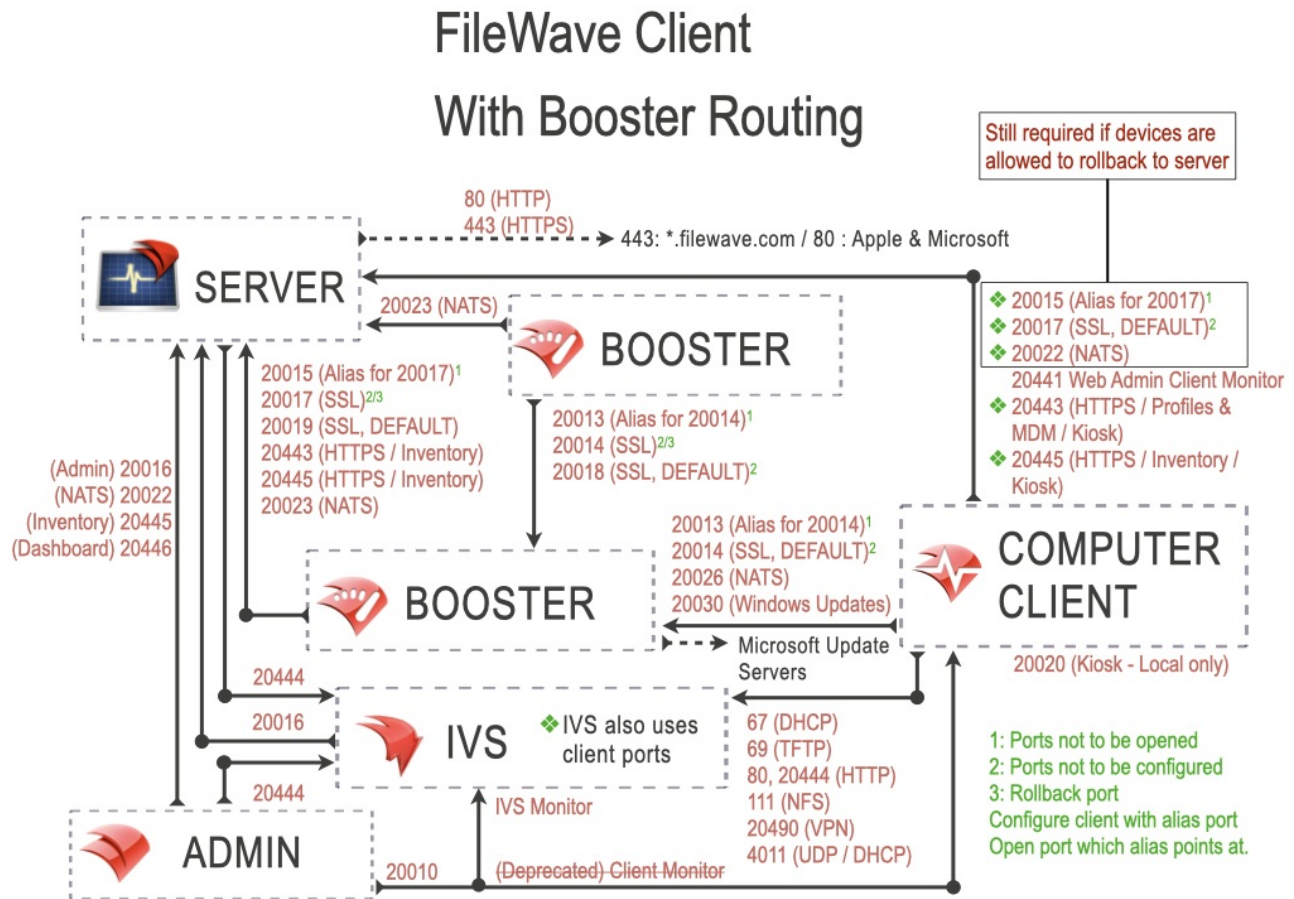
| Booster Ports | Service     | Protocol | In/Out   | Description  |
|---------------|-------------|----------|----------|--|
| 443           | HTTPS       | TCP      | Out      | FileWave Software Updates (microsoft.com) ***  |
| 20013         | Proprietary | TCP      | Incoming | DO NOT OPEN<br>FileWave Client to Booster;<br>legacy, but should be<br>configured only.<br>SSL traffic will run on<br>20014.<br>Booster no longer listens on<br>this port. |
| 20014         | SSL         | TCP      | Incoming | FileWave Client to Booster:<br>Secure (Booster Priority<br>fallback)<br>Set port 20013, not 20014,<br>in Booster Configuration   |
| 20018         | SSL         | TCP      | Incoming | Booster to Booster: Priority<br>Traffic  |
| 20026         | SSL         | TCP      | Incoming | FileWave Client to Booster<br>connections using NATS<br>Server   |
| 20030         | SSL         | TCP      | Incoming | FileWave Client to Booster<br>for Windows OS updates   |

NATS includes: Remote Control Publishing, Remote Control Routing, device renaming, revoking device certificates, push notifications

\*\*\* Also used by FileWave Central to vendor Software Update Servers.

Configuring port 20013 also automatically configures SSL ports; 20014 [port entered +1] and 20018 [port entered + 5].  
 ⚠ 20013 is now deprecated and 20014 will be used where 20013 is set. Open port 20014 alone for Client to Booster communication. Open ports 20014 and 20018 for Booster to Booster communication.

📘 Booster should be able to connect with Microsoft OS Updates URL, if using FileWave to manage Windows Software Updates.

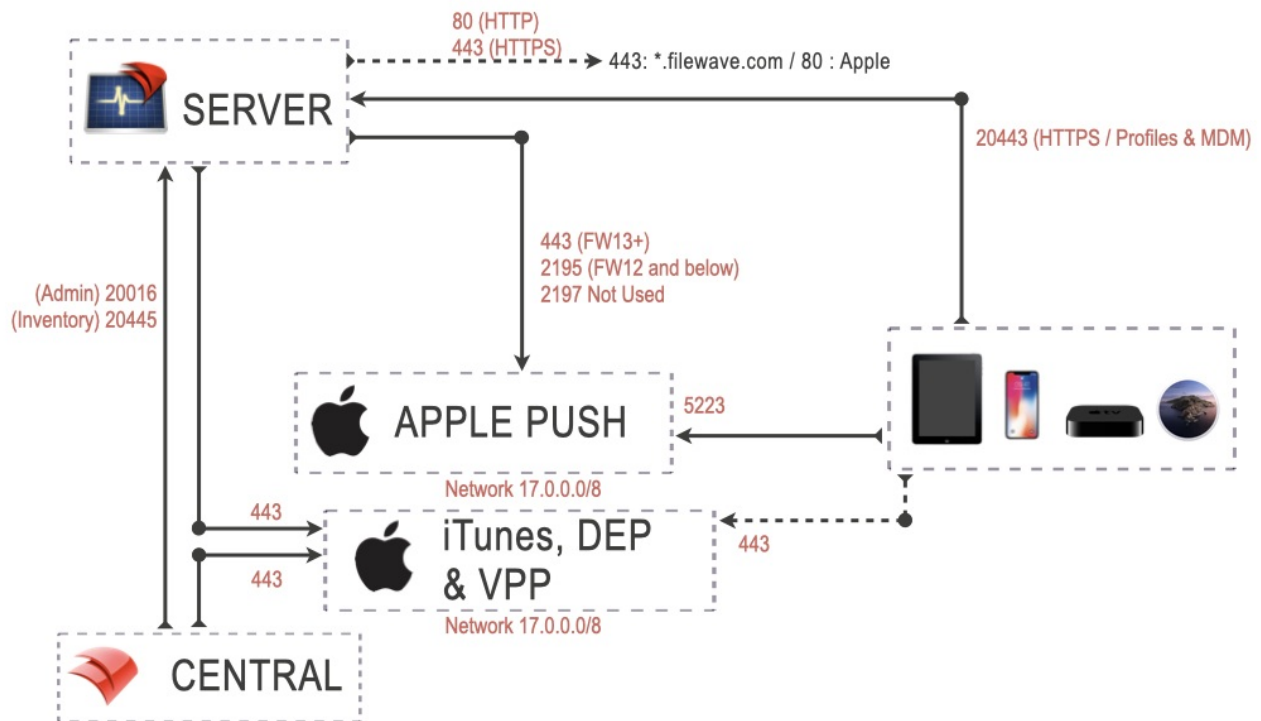


## Apple MDM Ports

✓ The ports in this table are listed from the FileWave Server's perspective, so the "Server In/Out" column indicates the direction of traffic relative to the Server and these ports are specifically those needed to manage Apple devices. Apple devices will also need to reach the Apple servers on 17.0.0.0/8.

| Apple MDM Ports | Service | Protocol | Server In/Out | Description   |
|-----------------|---------|----------|---------------|---|
| 443             | HTTPS   | TCP      | Outgoing      | FileWave Server to Apple's servers (17.0.0.0/8)<br>FileWave Admin to iTunes, DEP & VPP (17.0.0.0/8)<br>Device to iTunes, DEP & VPP (17.0.0.0/8) |
| 443             | HTTPS   | TCP      | Incoming      | VPP v2 <u>Notifications</u> from Apple  |
| 5223            | APNS    | TCP      | Outgoing      | FileWave Server to Apple's servers (17.0.0.0/8)   |
| 20443           | HTTPS   | TCP      | Incoming      | Device to Server: Profiles & MDM  |
| 20445           | HTTPS   | TCP      | Incoming      | FileWave Central to Server  |

## Apple MDM

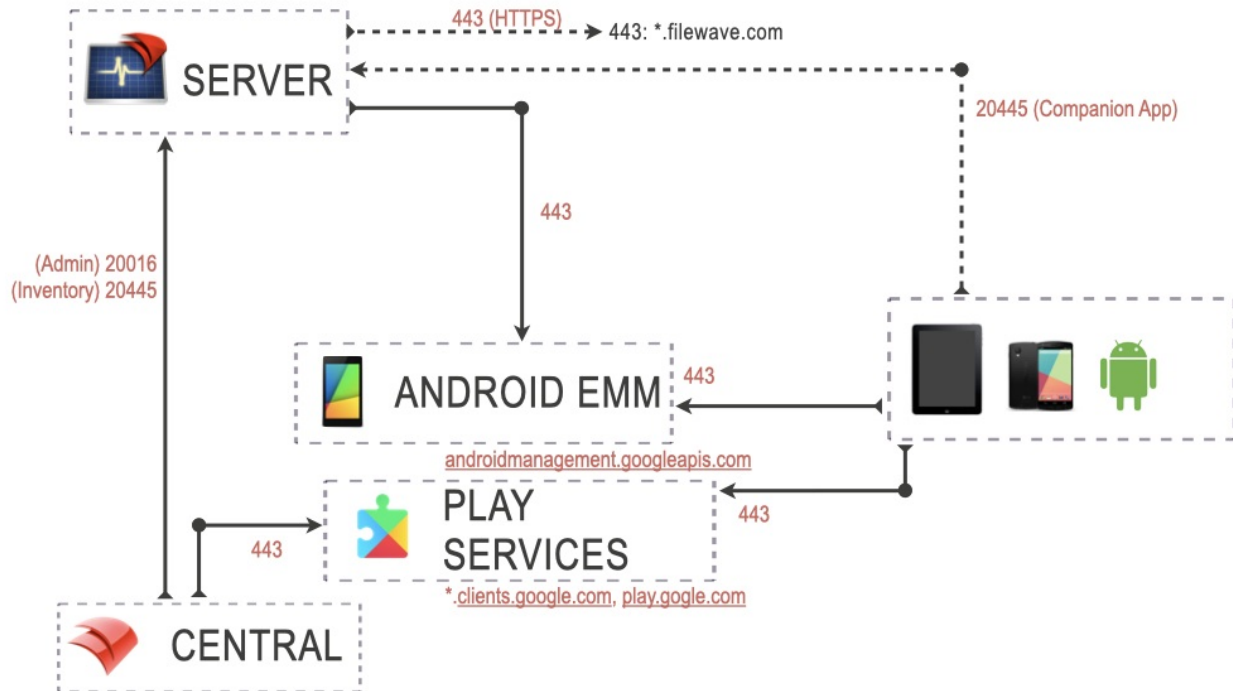


## Android EMM Ports

✔ The ports in this table are listed from the FileWave Server's perspective, so the "Server In/Out" column indicates the direction of traffic relative to the Server and these ports are specifically those needed to manage Android devices. Android devices will also need to reach the Google's servers.

| Android EMM Ports | Service | Protocol | Server In/Out | Description   |
|-------------------|---------|----------|---------------|---|
| 443               | HTTPS   | TCP      | Outgoing      | Server to EMM commands (androidmanagement.googleapis.com)<br>Device to Activation servers (*.clients.google.com)<br>Device to Play Store (play.google.com)<br>EMM commands (androidmanagement.googleapis.com)<br>FileWave Central to Play Store (play.google.com) |
| 20016             | SSL     | TCP      | Incoming      | FileWave Central to Server  |
| 20445             | HTTPS   | TCP      | Incoming      | FileWave Central to Server: Inventory<br>Companion App to Server: Location Tracking   |

# Android EMM



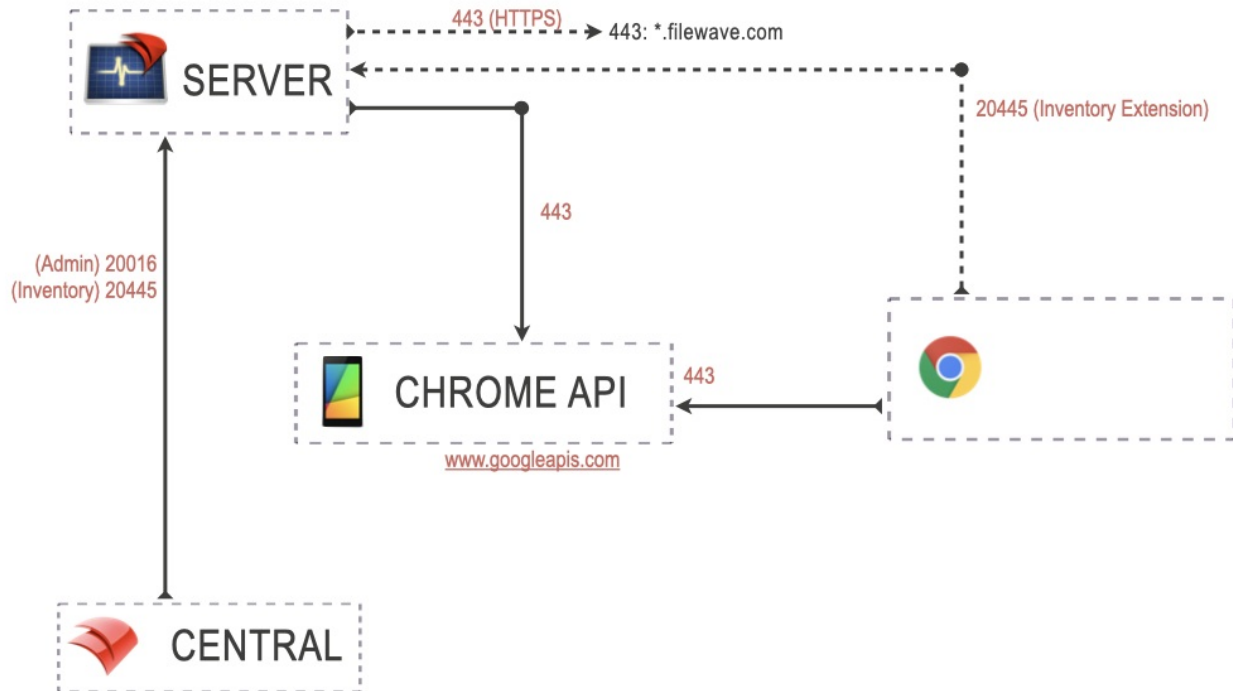
## Chromebook Ports



The ports in this table are listed from the FileWave Server's perspective, so the "Server In/Out" column indicates the direction of traffic relative to the Server and these ports are specifically those needed to manage Google Chromebook devices. Chromebook devices will also need to reach the Google's servers.

| Chromebook Ports | Service | Protocol | Server In/Out | Description  |
|------------------|---------|----------|---------------|--|
| 443              | HTTPS   | TCP      | Outgoing      | Server to Chrome API<br>Chromebook to Chrome API<br>( <a href="http://www.googleapis.com">www.googleapis.com</a> ) |
| 20016            | SSL     | TCP      | Incoming      | FileWave Central to Server   |
| 20445            | HTTPS   | TCP      | Incoming      | FileWave Central to Server<br>Chromebook Inventory<br>Extension to Server  |

# Chromebook



## Windows MDM Ports



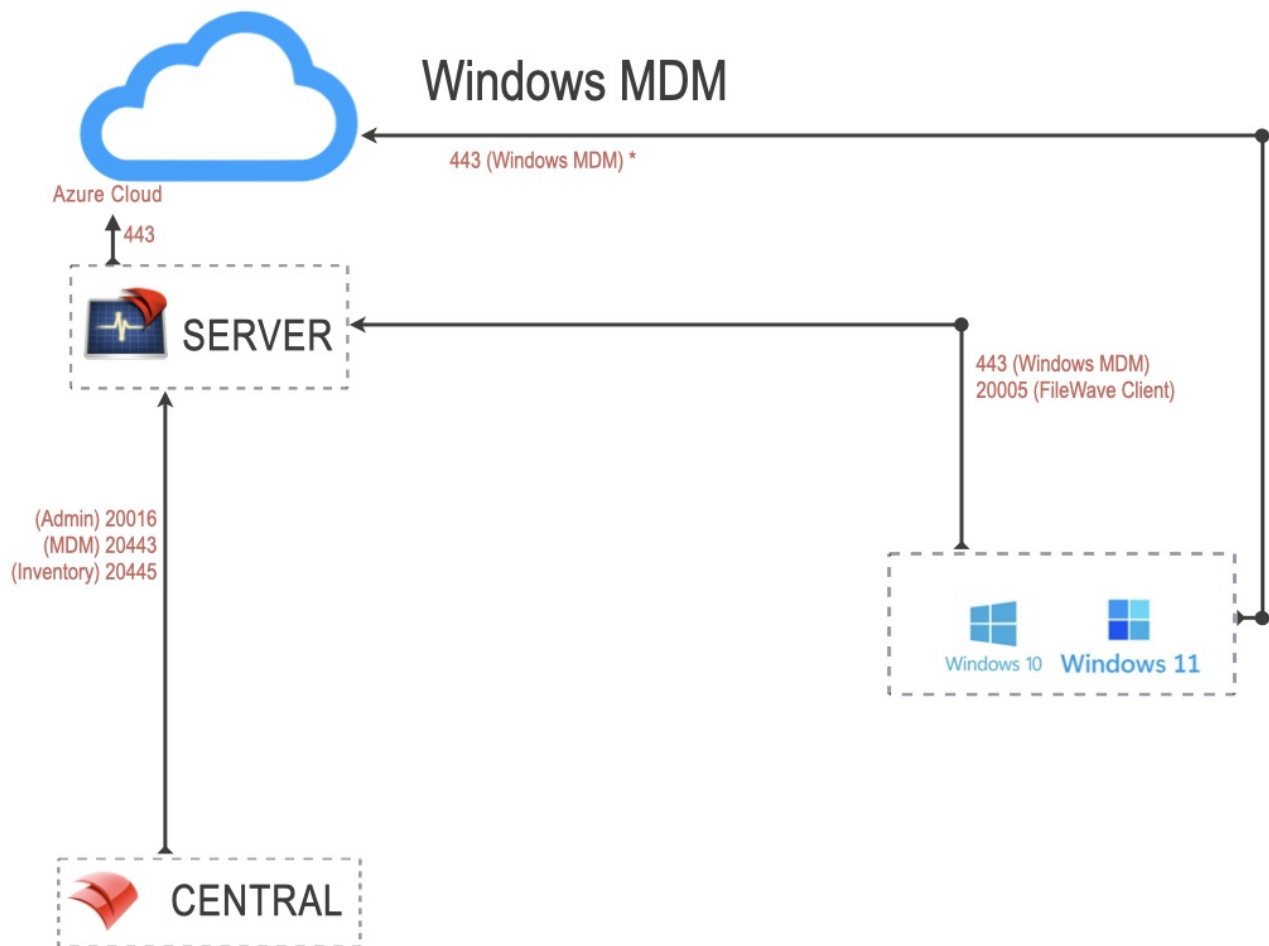
The ports in this table are listed from the FileWave Server's perspective, so the "Server In/Out" column indicates the direction of traffic relative to the Server and these ports are specifically those needed to manage Windows MDM devices. Windows devices will also need to reach the Microsoft's servers.

| Windows MDM Ports | Service | Protocol | Server In/Out | Description  |
|-------------------|---------|----------|---------------|--|
| 443               | HTTPS   | TCP      | Incoming      | Device to Server (Enrollment URL)  |
| 443               | HTTPS   | TCP      | Outgoing      | Server to Windows MDM (*.azure.com)<br>Device to Windows MDM (*.azure.com) |



**NOTE:** The FileWave client will also be installed and all previously listed FileWave client ports are required.





## FileWave IVS Ports



The ports in this table are listed from the FileWave Server's perspective, so the "Server In/Out" column indicates the direction of traffic relative to the Server and these ports are specifically those needed to use an IVS for Windows Imaging. Make note that the ports labeled as Incoming in the Server In/Out column are incoming to the FileWave Server as noted in the Description column.

| IVS (Imaging) Ports | Service     | Protocol | Server In/Out | Description  |
|---------------------|-------------|----------|---------------|--|
| 67                  | DHCP        | UDP      |               | Client to IVS#   |
| 69                  | TFTP        | UDP      |               | Client to IVS#   |
| 80                  | HTTP        | TCP      |               | Client to IVS  |
| 111                 | NFS         | TCP/UDP  |               | Client to IVS‡   |
| 4011                | DHCP        | UDP      |               | Client to IVS: UEFI PXE#   |
| 2049                | NFS         | TCP/UDP  |               | Client to IVS‡ (Removed in FileWave 15.5+)                                     |
| 20015               | Proprietary | TCP      | Incoming      | IVS to Server (Removed in FileWave 15.4+)                                      |
| 20016               | SSL         | TCP      | Incoming      | IVS to Server  |
| 20017               | SSL         | TCP      | Incoming      | IVS to Server: Secure  |
| 20022               | SSL         | TCP      | Incoming      | Imaging Server to FileWave Server NATS   |
| 20443               | HTTPS       | TCP      | Incoming      | IVS to Server: Inventory   |
| 20444               | HTTPS       | TCP      | Incoming      | Server to IVS<br>Client to IVS<br>FileWave Anywhere interface (Appliance only) |



|       |       |         |          |                           |
|-------|-------|---------|----------|---------------------------|
|       |       |         |          |                           |
| 20490 | VPN   | TCP/UDP |          | Client to IVS‡            |
| 20445 | HTTPS | TCP     | Incoming | IVS to Server:: Inventory |

‡ TCP/IP & UDP  
## UDP only

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