

Firewall Configuration Guide

Wisemo Remote control can be used for connections locally on an LAN and over the internet by using Wisemo myCloud.

This document describes firewall configuration for LAN connections (see the paragraph [Firewall Configuration for LAN Connections](#)) and for myCloud based connections over the internet..

Wisemo myCloud Overview

The Wisemo Guest and Host applications require access to the Wisemo myCloud infrastructure to establish and route remote control connections over the internet via myCloud.

Wisemo myCloud is designed to assure easy connectivity without any special firewall configurations being necessary. **The Wisemo Guests and Hosts only make outbound connection which are normally not blocked by firewalls.**

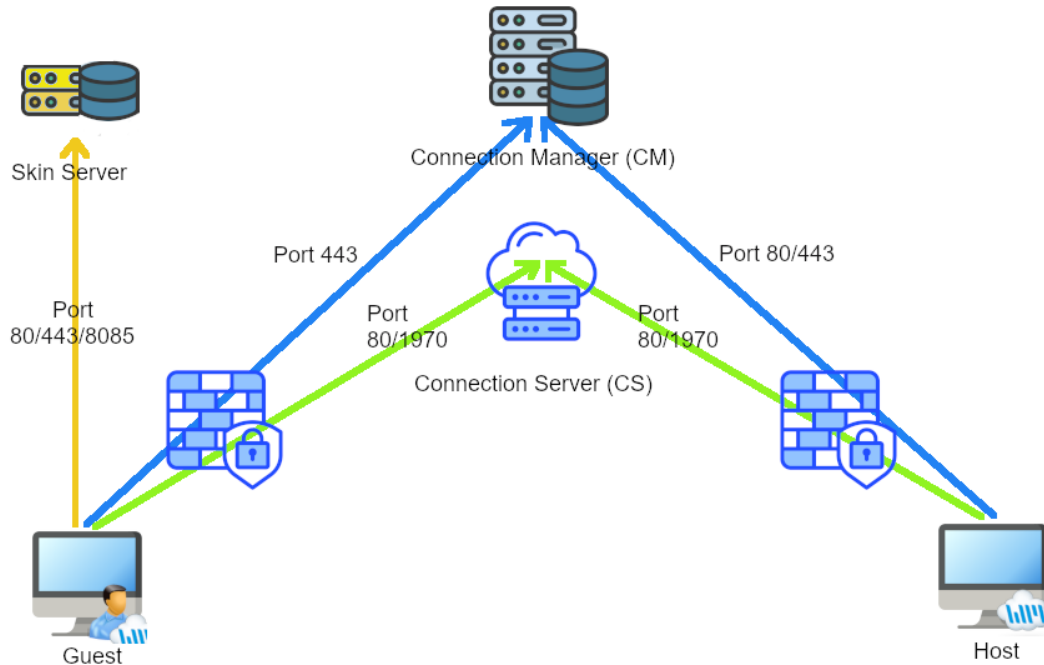
However, in environments with strict security policies, such as corporate networks, firewalls may block all unknown outbound traffic. In such cases, you must configure the firewall to permit Wisemo myCloud connections.

The myCloud infrastructure comprises of two key internet based server components:

1. **Connection Manager:** Handles authentication and assigns a Connection Server for each Guest-Host connection.
2. **Connection Servers:** Facilitate end-to-end encrypted connections while ensuring only authenticated connections are established. These servers are distributed globally for efficient routing.

plus, the auxiliary Skin Server:

3. **Skin Server:** The Skin server is a repository of device images that is used with mobile device remote control to show the remote control screen inside an image of the actual Host device.



Firewall Configuration for WiseMo myCloud Connections

If firewall configuration is required, the next step is to determine whether the WiseMo ports need to be configured for specific IP addresses or if allowing the outbound ports generally will suffice.

Allow outbound connections for port 80, 443 and 1970

The simplest configuration of the firewall would be to generally allow outbound connections on port 80, 443 and 1970 for all apps or specifically for the WiseMo Guest and Host apps.

On Windows the default full path and name of the Guest app is by default:

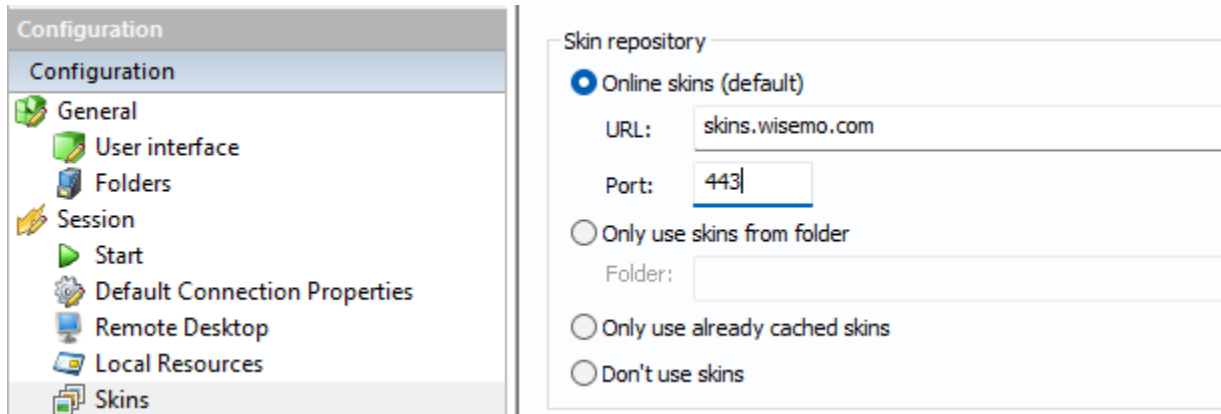
`C:\Program Files (x86)\WiseMo\WiseMo RSM\Remote Desktop Guest\WsmGuest.exe`

and for the Host app it is:

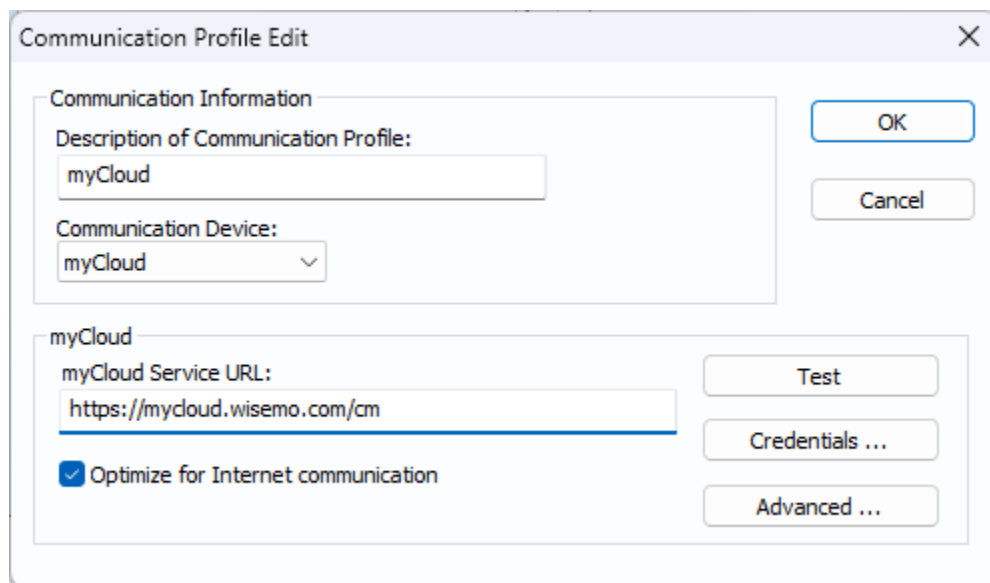
`C:\Program Files (x86)\WiseMo\WiseMo RSM\Remote Desktop Host\WsmHostSvc.exe`

Optimizing the necessary ports

Newer Guests¹ only need access to port 443 and 1970. The Skin repository configuration in the Windows Guest might be configured to use port 80² but it can be changed to port 443, “Configuration > Session > Skins”:



On Windows, the Host can be configured to use https (port 443) instead of http (port 80) in “Configuration > Communication Profiles > myCloud”: Replace “http” with “https” in the “myCloud Service URL”.



It's also possible to use port 1970 (to use the same port as for Connection Server connections) by specifying:

`http://mycloud.wisemo.com:1970/cm`

in the “myCloud Service URL”.

These changes can also be made on other operating systems by editing the host.xml configuration file.

¹ Version 20 and newer.

² Version 20 build 2025016 and newer uses port 443 by default.

Allow outbound connections for specific IP addresses on port 80, 443 and 1970

This is the more advanced firewall configuration case because it requires that you know the IP addresses of the WiseMo myCloud services.

Connection Manager

The Connection Manager is behind multiple load balancers and you will therefore need to add the load balancer's IP addresses for Port 80 and 443 (the above comments about Guest and Host port numbers also apply here).

Connection Server

A Connection Server for a connection is assigned based on geographical proximity to the Guest and Host modules and based on the load on Connection Servers in the area. Therefore, the IP address of the Connection Server might differ from one connection to the next. A connection through a connection server is first attempted on port 1970 and then on port 80.

If only allowing connections on port 80 (http), it is recommended to configure myCloud accordingly (Settings > Connection > Preferred connection protocol):

Preferred connection protocol:

Skin server

The skin server uses by default port 443 but is also accessible via port 80 and 8085.

IP addresses

The IP addresses the WiseMo myCloud services use are quite stable but especially Connection Servers might occasionally be added and in rare cases even removed. If a new Connection Server is added, it is necessary to add that to the allowed list because your remote control connection risk being assigned this new Connection Server and if it is not added, the connection will be rejected by your firewall.

The WiseMo myCloud IP addresses in use at any given time and their guaranteed validity period. Can be retrieved with DNS lookup as follows:

Purpose	Ports	DNS lookup name	Validity days
Connection Manager	80 or 443	mycloudall.wisemo.com	30
Connection Servers	80, 443 or 1970	csall.wisemo.com	7
Skin server	80, 443 or 8085	skinsall.wisemo.com	30

To for example lookup the IP addresses in use by all Connection Servers, open a command prompt on Windows and write:

```
nslookup csall.wisemo.com
```

On Linux, macOS, Android or other UNIX variants, open a terminal window and write:

```
host csall.wisemo.com
```

And the list of IP addresses returned will remain valid for at least 7 days after you ran the command. If possible, you should look for a firewall feature that does that lookup automatically, as you will otherwise need to set up a procedure to repeat the lookup and possible firewall reconfiguration every 30 days (7 days for the connection server list).

Note that the commands above will sometimes also tell you the IP addresses of DNS servers used to retrieve the list, those are not part of the list.

If you set up your own private connection server somewhere, those will not be included in the IP lists returned by the above DNS lookups.

Firewall Configuration for LAN Connections

When connecting directly to a Host IP address or DNS name, the LAN firewall configuration is much simpler. A firewall on the same computer/device (local firewall) rarely blocks for outbound connections and it is hence only necessary to configure the firewall to allow inbound connections. The Guest only makes outbound connections so in the simple case, it's only necessary to configure the Host for inbound connections.

Open for inbound connections to the Host application

During the installation of the Host application (and Guest for that matter), the setup program automatically uses Windows functions to adjust the local firewall, enabling inbound connections for all ports on UDP and TCP for the Host application (and Guest, respectively). If you are not using Windows, similar configuration may have to be done manually in the firewall.

Opening for specific ports

By default, the Guest and Host applications use port 80 and 1970 to establish LAN connections. The security can be tightened by only allowing incoming connections on these ports.

The Guest and Host can be configured to use different port and the firewall must hence be configured accordingly.

Open for outbound connections from the Guest application

In environments with strict security, it might also be necessary to configure outbound connection for the Guest application. Connections should be allowed for port 80 and 1970 for UDP and TCP.

If you don't make connections over UDP and http, you do not need to open the firewall up for UDP and port 80.

Using skins when remote controlling mobile devices

The Skin server is a repository of device images that is used with mobile device remote control to show the remote control screen inside an image of the actual Host device. To configure for skin server usage, please refer to the relevant paragraphs in [Firewall Configuration for WiseMo myCloud Connections](#).

Using myCloud licensing

If you license the WiseMo Guest and Host through a myCloud subscription, the Guests and Hosts need access to the Connection Manager just like when using myCloud. In such case, please refer to the relevant paragraphs about Connection Manager configuration in [Firewall Configuration for WiseMo myCloud Connections](#).

Using myCloud Device Access Control service

If you configure the WiseMo Host to use our centralized myCloud Device Access Control service, Guests and Hosts need access to the Connection Manager just like when using myCloud. In such case, please refer to the relevant paragraphs about Connection Manager configuration in [Firewall Configuration for WiseMo myCloud Connections](#).

Crossing external firewalls

In some cases, a connection might cross external firewalls for example in a VPN environment. In such case you must open for port 80 and 1970 either directly or by setting up a firewall port forward from a port number of your choice to port 1970 on each Host behind each firewall.