Port Forwarding Overview

Port forwarding enables programs or devices running on your LAN to communicate with the internet as if they were directly connected. This is most commonly used for remotely accessing DVR/NVR Controller, IP Cameras, Web Server or online gaming (via game console or computer).

Port forwarding works by “forwarding” a specific TCP or UDP port from the NL1901ACV to the computer or device you are using.

Prerequisites

Prior to setting the port forwarding function you must know which ports need to be opened. If you are not sure, contact the application vendor or developer.

Next, you need to have Public (internet routable) IP address on your WAN interface. In order to verify that navigate to Device Info > WAN page and note the IPv4 address. Then google for “what is my IP”. If they match, you have a Public (internet routable) IP address and the instructions on this guide should work for you. If not, please call your Internet Service Provider and request for Public (internet routable) IP address before following this guide.

Finally, since this router comes with a feature of automatic switchover to mobile data in the event of any failure on your broadband connectivity, any prior configuration may refuse to work if the device is on mobile data. The reason is similar, with mobile data you may not have a Public (internet routable) IP address.
Add a Port Forwarding Rule

Open NL1901ACV Web interface

Connect a computer and the NL1901ACV using an Ethernet cable. (A yellow Ethernet cable was provided with your NL1901ACV).

1. Open a web browser (such as Google Chrome or Mozilla Firefox), type following address into the address bar and press Enter:
   
   http://192.168.20.1

2. Enter the following credentials in the User Name and Password fields:
   User Name: admin
   Password: The serial number found on the label on the back of the device

3. Click the Login button.

Note – If no authentication prompt is displayed or you see a request time out message, refer to the What if I cannot access Web User Interface guide from FAQs section.
Set up a Virtual Server

1. From the Advanced Setup menu, open the NAT sub-menu and then select Virtual Servers.

2. The NAT – Virtual Servers Setup screen will open:

3. Click the Add button to add a port forwarding rule.

4. The NAT – Virtual Servers screen will open:
5 Select the correct Interface in the Use Interface field as a misconfiguration will end up failing to forward anything.

The correct interface can be checked from Device Info > WAN.
If you have multiple entries, choose one with an available IPv4 address.

6 The Service Name drop down list has a predefined list of port forwarding for many services and games. If you can find your desired service listed, select the item in the drop-down list and check Select a Service.

A sample configuration for “Age of Empires” is shown, above.

**Important** – If you found an appropriate service in the Service Name drop down list, then you can skip steps 7, 11 and 12, below.

7 If you could not find one, you may create your own defined port forwarding rule, select the Custom Service button and enter a unique name for the port forwarding rule.

A sample configuration for allowing Remote desktop and custom application access toward a single private IP is as follows:

8 Tick Enable LAN Loopback.

9 In either case you must enter the Private IP address of the computer or device you wish to port forward to in the Server IP Address field.

This will be a local IP address in the subnet 192.168.20.xx (by default); where xx can be equal to 2 to 254.

10 Open the Status drop down list and select Enable.

11 Enter the port number or port range into the External Port Start and External Port End fields.
If you only want to open one port, then enter the same number in **Start** and **End** port fields, but if you want to open range of ports, then enter the start number in **Port Start** field and end number in **Port End** field.

**Note that the Internal Port Start and Internal Port End fields will automatically populate with the same port numbers.**

12. Select the **Protocol** to be used for the port forwarding rule: **TCP**, **UDP** or **TCP/UDP both**

13. Click the **Apply/Save** button.

14. The port forwarding rule will now be added to the list.

This example created in this user guide description is displayed in the bottom row, below.

15. Click on **Save/Apply** button to save the changes.

Port forwarding is now configured.

You may also **Enable/Disable, Add/Remove** any rule and apply the changes from this window.

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**Please note**

We recommend that you set a Static IP address on the end device, instead of obtaining one automatically, to make sure that the request is forwarded to the appropriate machine every individual time.

You can only forward a port to one location (IP address). In some cases, this may cause issues when multiple LAN devices (computers, game consoles, or VOIP ATAs) attempt to use online gaming at the same time or make multiple VOIP service connections. In these cases, you will need to use an alternate port for any subsequent connections after the first device. Please consult your VOIP provider or game manufacturer for assistance with this.

Similarly, remote access and the webserver must have unique port numbers. For example, you cannot host a web server accessible through port 80 of your public IP and enable remote http administration of the NL1901ACV through port 80, you must provide both with unique port numbers.

Note also that ports 22456 to 32456 are reserved for RTP protocol in VOIP services. Do not use any of these ports for any other service.