



**InRouter 600**

# **APPLICATION GUIDE FOR VRRP LINK BACKUP**

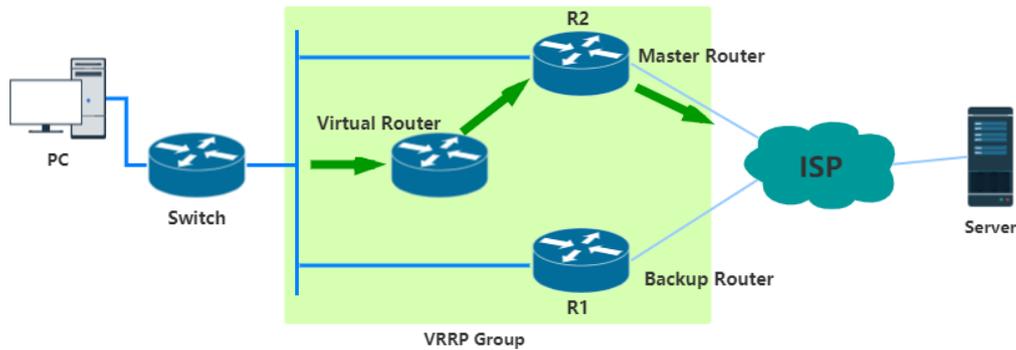
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# Contents

|                          |   |
|--------------------------|---|
| 1. Abstract .....        | 1 |
| 2. Configuration .....   | 1 |
| 3. Test and Verify ..... | 2 |

# 1. Abstract

This application guide shows how to configure IR600 to provide VRRP link backup.



In an enterprise network, normally PC needs to use Gateway to access external network. However, if the Gateway fails, the external communication of the whole subnet will be cut off. VRRP is a good way to solve this problem.

By using VRRP, multiple devices can be made as one virtual device. Then by configuring a virtual IP address as the Gateway, we can realize the backup of Gateway. As the above figure shows, normally we use the master router (R2) to transfer packets. When R2 failed, backup router (R1) will take over the work of R2. However, for the switch, R1 and R2 have a same IP address (virtual IP). In that case, the reliability and continuity of communication are improved.

## 2. Configuration

### 2.1 Click **Service** → **VRRP**, enable **VRRP-I**

### VRRP

|                        |                                     |
|------------------------|-------------------------------------|
| Enable VRRP-I          | <input checked="" type="checkbox"/> |
| Group ID               | 1                                   |
| Priority               | 20 (254:highest)                    |
| Advertisement Interval | 60 Seconds                          |
| Virtual IP             |                                     |
| Authentication Type    | Password Authentication             |
| Monitor                | None                                |
| Enable VRRP-II         | <input type="checkbox"/>            |

Apply Cancel

## 2.2 Select **Group ID** (1-20)

In one VRRP group, the backup devices must have the **same** Group ID with the master device.

## 2.3 Select **Priority**

The device has higher priority with a larger number. The device with the largest number in a same group is considered as the master device. When the master device is failed, the backup device with a higher priority in the same group will be chosen.

## 2.4 Fill in the **Virtual IP**

For the master device, virtual IP should be set as the true LAN IP address. For backup devices, virtual IP should be set as the LAN IP of the master device.

## 2.5 Choose **Authentication Type**

IR600 only supports **password Authentication**, which means only the device with right password can be used as a backup device. If the authentication is not needed, just keep the default value as **None**.

## 2.6 Enable **VRRP-II** (optional)

One device can be used in different VRRP groups. If needed, please repeat above steps **(2.2 - 2.5)**.

## 2.7 Remember to click **Apply**

# 3. Test and Verify

For VRRP backup testing, we need at least two IR600 devices. One is for master device and the other is for backup device. Before doing the test, please make sure that all the devices are set into the same **Group ID** and different **Priority**.

## 3.1 Click **Tools** → **Traceroute**

Traceroute can show the way the packets access to the destination address. You can try an arbitrarily public IP address for tracing.

The public IP address 61.139.2.69 is used for testing. When the master device is connected, the following figure shows the tracing details.

**Traceroute**

Host

Maximum Hops

Timeout  Seconds

Protocol

Expert Options

---

```

1 * * *
2 117.175.169.1 (117.175.169.1) 5.040 ms 48.740 ms 4.400 ms
3 221.182.42.125 (221.182.42.125) 4.800 ms 4.640 ms 221.182.42.129 (221.182.42.129) 4.880 ms
4 223.87.26.33 (223.87.26.33) 3.320 ms 223.87.26.29 (223.87.26.29) 4.700 ms 5.300 ms
5 * 223.87.26.49 (223.87.26.49) 3.520 ms 223.87.26.45 (223.87.26.45) 5.860 ms
6 221.183.19.41 (221.183.19.41) 5.560 ms 221.183.19.45 (221.183.19.45) 2.800 ms 2.780 ms
7 * * *
8 * 221.183.66.74 (221.183.66.74) 5.000 ms *
9 202.97.95.65 (202.97.95.65) 7.000 ms 202.97.95.49 (202.97.95.49) 7.860 ms 6.800 ms
10 110.188.6.50 (110.188.6.50) 15.820 ms 110.188.6.30 (110.188.6.30) 8.460 ms 171.208.196.14 (171.208.196.14) 8.840 ms
11 61.139.113.54 (61.139.113.54) 5.000 ms 61.139.113.58 (61.139.113.58) 7.640 ms 8.100 ms
12 ns.sc.cninfo.net (61.139.2.69) 6.740 ms 7.760 ms 7.640 ms

```

Then remove the cable of the master device. The new tracing details is shown in the following figure.

**Traceroute**

Host

Maximum Hops

Timeout  Seconds

Protocol

Expert Options

---

```

1 * * *
2 117.175.169.1 (117.175.169.1) 4.460 ms 4.180 ms 5.080 ms
3 221.182.42.129 (221.182.42.129) 6.920 ms 5.320 ms 221.182.42.125 (221.182.42.125) 4.340 ms
4 223.87.26.29 (223.87.26.29) 4.780 ms 223.87.26.33 (223.87.26.33) 5.500 ms *
5 * 223.87.26.45 (223.87.26.45) 6.280 ms 223.87.26.49 (223.87.26.49) 5.160 ms
6 221.183.19.45 (221.183.19.45) 18.560 ms 221.183.19.41 (221.183.19.41) 3.060 ms 5.300 ms
7 * * *
8 * * *
9 202.97.95.65 (202.97.95.65) 7.080 ms 202.97.95.49 (202.97.95.49) 6.580 ms 6.320 ms
10 110.188.6.2 (110.188.6.2) 13.360 ms 171.208.199.78 (171.208.199.78) 6.320 ms 61.139.121.86 (61.139.121.86) 7.620 ms
11 61.139.113.54 (61.139.113.54) 7.460 ms 61.139.113.58 (61.139.113.58) 8.020 ms 8.580 ms
12 ns.sc.cninfo.net (61.139.2.69) 6.780 ms 7.120 ms 7.100 ms

```

Here we can see, from the 8<sup>th</sup> line, although the Gate address has been changed, both the tracings reach 61.139.2.69 successfully. In this case, the backup device is enabled.

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