Experience Cases of Handling the Problem of Slow Service Download Rate in a Switch

Switches 龚训杰 2020-12-11 Published

Network Topology

NULL

Problem Description

A terminal connected to a switch occasionally has a slow service download rate fault, and the faulty terminal appears randomly .

Process Analysis

Connect the terminal directly to the router to test that the download is normal. At this time, it is suspected that the switch is faulty. Keep the first test environment unchanged, and close the interconnection lines between the routers to test normally.

Check the router and switch layer three entries at the same time when the fault recurs, and find the switch layer three routing table entries:

==========display ip routing-table statistics==========

Total prefixes: 953 Active prefixes: 512

Proto	Routes	Active	Added	Deleted
DIRECT	16	16	44	28
STATIC	1	1	12	11
RIP	0	0	0	0
OSPF	938	495	4735	3797
IS-IS	0	0	0	0
LISP	0	0	0	0
BGP	0	0	0	0
Total	**955**	**512**	4791	3836

The total number of routing tables is more than 900, but only 512 are actually actively forwarded. It is suspected that the device has over-spec forwarding. At this time, check the device diagnosis and log, and find that the device has an over-spec forwarding alarm.

%Aug 13 21:21:43:146 2020 NYA0101_03_SA02 RM/4/RM_ROUTE_REACH_LIMIT: Max active IPv4 routes 512 reached the limit in URT of default-vrf.

%Aug 13 22:48:07:730 2020 NYA0101_03_SA02 RM/4/RM_ROUTE_REACH_LIMIT: Max active IPv4 routes 512 reached the limit in URT of default-vrf.

==========debug ipv4-drv show config slot 1==========

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- IPv4 Config Slot 1 Mdc 1

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- ARP MAC SIZE: 512
- ARP SIZE: 256
- ArpCanNotSetToHW: NO
- IPV4 ROUTE SIZE: 500
- ECMP SIZE: 8
- ND SIZE: 256
- IPV6 ROUTE SIZE: 125
- IPV6 LongPrefRT: 0

Solution

Replace the switch with higher performance on the third layer.

At the same time finish route-aggregation on the router to optimize the number of routing entries.