Network management software found that ifInDiscards node count statistics continue to increase on switches

Network Management(H3C Intelligent Management Center 周天 2021-06-16 Published

Not involving

Problem Description

The customer found on the network management software that the H3C switch had a problem of incr easing ifInDiscards node count statistics, but the actual check on the device did not find any packet lo ss, nor did it affect the business.

Process Analysis

The ifInDiscards node on the H3C switch only indicates the discard count of the upper-layer protocol packets that the device itself thinks should not be processed by it or the unreasonable packets sent to the CPU for processing. It has nothing to do with the forwarded service data packet, so its statistical v alue has no practical meaning and does not affect the normal operation of the device. The analysis of the ifInDiscards node is described as follows. .1.3.6.1.2.1.2.2.1.13

ifInDiscards OBJECT-TYPE

-- FROM IF-MIB, RFC1213-MIB SYNTAX Counter32

MAX-ACCESS read-only

STATUS current

STATUS current

DESCRIPTION "The number of inbound packets which were chosen to be discarded even though no errors had been detected to prevent their being deliverable to a higher-layer protocol. One possible reason for discarding such a packet could be to free up buffer space.

Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime."

::= { iso(1) org(3) dod(6) internet(1) mgmt(2) mib-2(1) interfaces(2) ifTable(2) ifEntry(1) 13 }

inDiscards contains two reasons for discarding packets:

1. Statistics of packet forwarding errors, including:

a. The port receives packets that do not belong to the port's vlan, MAC errors, and unrecognized pac kets

b. Packets received in the non-forwarding state of the port (including stp discarding, learning, and List ening; lacp unselect; rrpp STANDBY)

c. Packets discarded by Layer 3 forwarding (direct connection without arp enters black hole and disca rds, routing black hole discards)

d. ACL restricts forwarded packets (such as rate limit drop, bandwidth suppression drop, broadcast s uppression drop, ACL filtering)

e. The packet cannot find the outbound interface.

2. System special processing packet

a. The protocol packet is textually terminated and processed by the CPU (such as ospf packet, etc.)

b. TTL timeout packets, redirect packets and other local packets are not forwarded.

c. For internal protocol bandwidth restrictions, such as protocol packets such as stp, bandwidth guara ntees and restrictions are made within the system.

d. Multicast processing packets

It can be seen that inDiscards actually reflects all the statistics of abnormally forwarded packets. Som e packets are only marked as unable to be forwarded normally, but the packets are not actually disca rded.

Therefore, the inDiscards node cannot be used as a node for judging link problems.

Solution

It is recommended that customers read the following ifInErrors node when judging link quality problems or forwarding packet loss.

.1.3.6.1.2.1.2.2.1.14 ifInErrors OBJECT-TYPE -- FROM IF-MIB, RFC1213-MIB SYNTAX Counter32 MAX-ACCESS read-only STATUS current DESCRIPTION "For packet-oriented interfaces, the number of inbound packets that contained errors preventing them from being deliverable to a higher-layer protocol. For characteroriented or fixed-length interfaces, the number of inbound transmission units that contained errors preventing them from being deliverable to a higher-layer protocol. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime." ::= { iso(1) org(3) dod(6) internet(1) mgmt(2) mib-2(1) interfaces(2) ifTable(2) ifEntry(1) 14 }

If it is the outbound direction, it is recommended to read the ifOutErrors node.

.1.3.6.1.2.1.2.2.1.20 ifOutErrors OBJECT-TYPE -- FROM IF-MIB, RFC1213-MIB SYNTAX Counter32 MAX-ACCESS read-only STATUS current DESCRIPTION "For packet-oriented interfaces, the number of outbound packets that could not be transmitted because of errors. For character-oriented or fixed-length interfaces, the number of outbound transmission units that could not be transmitted because of errors. Discontinuities in the value of this counter can occur at re-initialization of the management system, and at other

times as indicated by the value of

ifCounterDiscontinuityTime."

::= { iso(1) org(3) dod(6) internet(1) mgmt(2) mib-2(1) interfaces(2) ifTable(2) ifEntry(1) 20 }