

H3C S3600 CPU高故障处理实例

一、 组网:

无。

二、 问题描述:

之前设备正常运行,但是最近发现S3600上CPU总是出现很高的情况,如下:

----- display cpu -----

Unit 1

Board 0 CPU busy status:

95% in last 5 seconds

61% in last 1 minute

39% in last 5 minutes

三、 过程分析:

这种问题一般都是因为上CPU的报文过多导致。可以从收集的诊断信息中查看一下哪个端口上来的报文较多,目前新版本的诊断信息里都会打印一个display Driver NI的信息,通过这个信息可以看到一些报文上CPU的情况,例如:

----- display Driver NI -----

Display NI packet queue:

Que Inpos Outpos packet-num remain-num que-length full-error

XmitQueue0	589	588	1	1499	1500	0
XmitQueue1	0	0	0	1500	1500	0
XmitQueue2	1243	1243	0	1500	1500	0
XmitQueue3	232	232	0	1500	1500	122770
XmitQueue4	753	724	29	1471	1500	0
XmitQueue5	0	0	0	1500	1500	0
XmitQueue6	0	0	0	1500	1500	0
XmitQueue7	1189	1189	0	1500	1500	0

NI memory malloc-free:

All_malloc 1003087443

All_Free 1003087409

Drv_Malloc 688206663

Drv_Free 356650491

Plat_Malloc 314880780

Plat_Free 646436918

dma_malloc 486507

dma_free 486507

rx_malloc 690780143

rx_free 689826534

total tx 325448106

total tx ok 325934613

tx error 0

All_malloc should equal to All_Free, dma_malloc==dma_free, rx_malloc==rx_free

NI HandShake packet send 0 receive 0 fault times 0

type total count head tail drop

IUC 2000 0 0 0 0

IPC 1000 0 0 0 0

DDP 64 0 0 0 0

Display IUC packet counter:

unit	send	sendOK	receive	receiveok
unit 1	0	0	0	0
unit 2	0	0	0	0
unit 3	0	0	0	0
unit 4	0	0	0	0
unit 5	0	0	0	0
unit 6	0	0	0	0
unit 7	0	0	0	0
unit 8	0	0	0	0

the average CPU packet rx-rate(pkt/sec) during last 5 seconds:

CosQ-0 CosQ-1 CosQ-2 CosQ-3 CosQ-4 CosQ-5 CosQ-6 CosQ-7 All

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-----
 2  16  96  290  0  3  0  0  408
CPU packet rx-rate over threshold 355395 times, recent 10 times recorded:
--Record 1-- Feb 22 2009 14:17:41
CPU usage: 99%,  RX-RATE: CPU-408, CosQ3-290, Pri-3, by Protocol/ by Port:
TELNET-282,  Other-8
(0,11)-282
--Record 2-- Feb 22 2009 14:17:36
CPU usage: 85%,  RX-RATE: CPU-315, CosQ3-211, Pri-3, by Protocol/ by Port:
TELNET-207,  Other-3
(0,11)-207
--Record 3-- Feb 22 2009 14:16:56
CPU usage: 99%,  RX-RATE: CPU-276, CosQ3-166, Pri-3, by Protocol/ by Port:
TELNET-165,  Other-1
(0,11)-165
--Record 4-- Feb 22 2009 14:16:51
CPU usage: 99%,  RX-RATE: CPU-285, CosQ3-187, Pri-3, by Protocol/ by Port:
TELNET-185,  Other-1
(0,11)-185
--Record 5-- Feb 22 2009 14:16:46
CPU usage: 99%,  RX-RATE: CPU-360, CosQ3-262, Pri-3, by Protocol/ by Port:
TELNET-262,
(0,11)-262
--Record 6-- Feb 22 2009 14:16:41
CPU usage: 61%,  RX-RATE: CPU-225, CosQ3-120, Pri-3, by Protocol/ by Port:
TELNET-118,  Other-1
(0,11)-118
--Record 7-- Feb 22 2009 14:16:31
CPU usage: 38%,  RX-RATE: CPU-200, CosQ2-169, Pri-0, by Protocol/ by Port:
BC-169,
(0,12)-168
--Record 8-- Feb 22 2009 14:15:51
CPU usage: 38%,  RX-RATE: CPU-157, CosQ2-114, Pri-0, by Protocol/ by Port:
BC-112,  Other-1
(0,12)-112
--Record 9-- Feb 22 2009 14:15:31
CPU usage: 40%,  RX-RATE: CPU-150, CosQ2-102, Pri-0, by Protocol/ by Port:
BC-102,
(0,12)-100
--Record 10-- Feb 22 2009 14:14:31
CPU usage: 38%,  RX-RATE: CPU-141, CosQ2-118, Pri-0, by Protocol/ by Port:
BC-117,
(0,12)-117

```

从这个信息里边，我们可以重点看下面这个：

```

CPU usage: 99%,  RX-RATE: CPU-408, CosQ3-290, Pri-3, by Protocol/ by Port:
TELNET-282,  Other-8
(0,11)-282

```

这里记录了CPU高时，上CPU比较多的报文端口

(0,11) -282 -----表示e1/0/12口有282个报文上CPU。

下面是对这个信息的解释。

(x, y) - z

x 内部芯片号，对于s3600恒为0

y 内部芯片端口号

0 ~ 23 对应于e1/0/1 to e1/0/24（非3Com品牌），左边24个FE端口

24 ~ 27 对应于4个GE口，g1/1/1 to g1/1/4

32 ~ 55 对应于e1/0/25 to e1/0/48（非3Com品牌的52口设备），右边24个FE端口

z 统计时的报文数量

这样我们就可以根据这个信息，判断出导致CPU高的原因了。对于堆叠的情况，要通过console口收集各个unit单元的诊断信息。通过这个信息可以配合抓对应端口的报文和debug 上CPU的报文来确定报文的内容以及来源。

四、 解决方法：

根据诊断信息的内容或抓包的内容来找到上CPU报文的来源，并做相应的处理。

