SAS 端口上的 PHY 状态已降级

https://kb-cn.netapp.com/on-prem/ontap/OHW/OHW-KBs/PHY_state_degraded_on_SAS_port
Updated: Thu, 19 Nov 2026 04:56:48 GMT

适用于

- ONTAP 9
- SAS 机架

问题

- 控制器端 SAS 端口上的 PHY 降级，显示速度低于预期

```
slot 0: SAS Host Adapter 0b (Broadcom SAS3616W rev. 2, SAS, <UP>)
```

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```
                Firmware rev:       12.00.00.00
                NVDATA rev:         12.03.01.03
                Base WWN:           5:XXXXXX:XXXXXXX:e6
                Temperature:        Not Available
                Phy State:          [0] Enabled, 12.0 Gb/s
                                    [1] Enabled, 12.0 Gb/s
                                    [2] Enabled, 12.0 Gb/s
                                    [3] Enabled, 6.0 Gb/s
                Mini-SAS HD Vendor:         MOLEX
                Mini-SAS HD Part Number:    112-00453+A0
                Mini-SAS HD Type:           Optical (850nm VCSEL) 15m end_1
                Mini-SAS HD Serial Number: 93XXXXXXXXXX29-A


        slot 4: SAS Host Adapter 4c (PMC-Sierra PM8072 rev. C, SAS, <UP>)
                MFG Part Number:    Microsemi Corp. 110-03801 rev. A0
                Part number:        111-03801+A0
                Serial number:      0BXXXXXXXF4
                Date Code:          20200921
                Firmware rev:       03.08.09.00
                Base WWN:           5:XXXXXX:XXXXXXX:08
                Temperature:        44 C
                Phy State:          [0] Enabled, 12.0 Gb/s
                                    [1] Enabled, 12.0 Gb/s
                                    [2] Enabled, 12.0 Gb/s
                                    [3] Enabled, 6.0 Gb/s
                Mini-SAS HD Vendor:         Amphenol
                Mini-SAS HD Part Number:    112-00453+A0
                Mini-SAS HD Type:           Optical (850nm VCSEL) 15m ID:00
                Mini-SAS HD Serial Number: APXXXXXXXXXX38
```

- SAS-EXPANDER-PHY-STATE 输出显示磁盘架 37 上的 PHY 11 已降级至 6.0 Gb/s。

```
Expander phy state on 0b.37 (NETAPP  :DS21212IOM12     SHXXXXXXXXXXXXX95):
                                Pwr         Invald Disprt Loss    Phy     CRC
   Phy
                           Pwr Ccl Rsv Rls DWord  Error  Sync    Reset
 Error  Change SATA
PHY/BAY STATE              ON  Cnt Cnt Cnt Count  Count  Count   Prob    Cnt
```

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```
   Cnt    Affiliation
------- ----------------- --- --- --- --- ------ ------ ------ ------
------ ------ ----------------
0/P0:0 12.0 Gb/s         --- --- --- --- 0      0      0      0      0
 1      ----------------
1/P0:1 12.0 Gb/s         --- --- --- --- 0      0      0      0      0
 1      ----------------
2/P0:2 12.0 Gb/s         --- --- --- --- 0      0      0      0      0
 1      ----------------
3/P0:3 12.0 Gb/s         --- --- --- --- 0      0      0      0      0
 1      ----------------
4/P1:0 Disabled
 5/P1:1 Disabled
 6/P1:2 Disabled
 7/P1:3 Disabled
 8/P2:0 12.0 Gb/s         --- --- --- --- 0      0      0      0      0
   13     ----------------
9/P2:1 12.0 Gb/s         --- --- --- --- 0      0      0      0      0
 13     ----------------
10/P2:2 12.0 Gb/s         --- --- --- --- 0      0      0      0      0
   13     ----------------
11/P2:3 6.0 Gb/s          --- --- --- --- 1      1      0      0      0
   13     ----------------
```

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