

组网及说明

S5820与思科3925对接NTP典型组网配置，其中S5820为时钟源，思科3925为客户端

S5820版本信息如下：

H3C Comware Software, Version 7.1.045, Release 2418P06

Copyright (c) 2004-2015 Hangzhou H3C Tech. Co., Ltd. All rights reserved.

H3C S5820V2-48S uptime is 241 weeks, 2 days, 5 hours, 0 minutes

Last reboot reason : USER reboot

Boot image: flash:/s5820v2_5830v2-cmw710-boot-r2418p06.bin

Boot image version: 7.1.045, Release 2418P06

Compiled Aug 07 2015 15:40:53

System image: flash:/s5820v2_5830v2-cmw710-system-r2418p06.bin

System image version: 7.1.045, Release 2418P06

Compiled Aug 07 2015 15:40:53

思科3925版本信息如下：

sh version

Cisco IOS Software, C3900 Software (C3900-UNIVERSALK9-M), Version 15.1(4)M4, RELEASE SOFTWARE (fc1)

Technical Support: <http://www.cisco.com/techsupport>

Copyright (c) 1986-2012 by Cisco Systems, Inc.

Compiled Tue 20-Mar-12 21:28 by prod_rel_team

ROM: System Bootstrap, Version 15.0(1r)M13, RELEASE SOFTWARE (fc1)

tmis_a_product uptime is 1 year, 45 weeks, 2 days, 18 hours, 43 minutes

System returned to ROM by address error at PC 0x46BC960, address 0x4E008130 at 02:55:49 UTC

Sun Apr 29 2012

System restarted at 20:15:58 UTC Tue Jul 17 2018

System image file is "flash0:c3900-universalk9-mz.SPA.151-4.M4.bin"

Last reload type: Normal Reload

This product contains cryptographic features and is subject to United States and local country laws governing import, export, transfer and use. Delivery of Cisco cryptographic products does not imply third-party authority to import, export, distribute or use encryption. Importers, exporters, distributors and users are responsible for compliance with U.S. and local country laws. By using this product you agree to comply with applicable laws and regulations. If you are unable to comply with U.S. and local laws, return this product immediately.

A summary of U.S. laws governing Cisco cryptographic products may be found at:

<http://www.cisco.com/wwl/export/crypto/tool/stqrg.html>

If you require further assistance please contact us by sending email to export@cisco.com.

Cisco CISCO3925-CHASSIS (revision 1.0) with C3900-SPE100/K9 with 995328K/53248K bytes of memory.

Processor board ID FGL16171537

3 Gigabit Ethernet interfaces

4 Serial interfaces

1 terminal line

4 Channelized E1/PRI ports

DRAM configuration is 72 bits wide with parity enabled.

255K bytes of non-volatile configuration memory.

250880K bytes of ATA System CompactFlash 0 (Read/Write)

License Info:

License UDI:

```
-----  
Device# PID          SN  
-----  
*0    C3900-SPE100/K9  FOC16154QK4
```

Technology Package License Information for Module:'c3900'

```
-----  
Technology  Technology-package  Technology-package  
          Current    Type      Next reboot  
-----  
ipbase     ipbasek9    Permanent  ipbasek9  
security   None        None       None  
uc         None        None       None  
data       datak9      Permanent  datak9
```

Configuration register is 0x2102

配置步骤

S5820 NTP时钟源配置信息如下:

```
clock protocol none  
ntp-service enable  
ntp-service refclock-master 2
```

```
interface loopback 0  
ip address 10.190.0.13 255.255.255.255  
quit
```

思科3925 NTP配置如下:

```
ntp server 10.190.0.13 source GigabitEthernet0/0
```

S5820查看NTP显示信息:

```
dis ntp sessions  
source      reference  stra reach poll now offset delay disper  
*****  
[25]10.190.8.252 LOCL      1 255 64 51 -28825 0.9002 18.218  
[12345]LOCAL(0) LOCL      1 255 64 42 0.0000 0.0000 0.9155  
Notes: 1 source(master), 2 source(peer), 3 selected, 4 candidate, 5 configured.  
Total sessions: 2
```

```
dis ntp status  
Clock status: synchronized  
Clock stratum: 2  
System peer: LOCAL(0)  
Local mode: client  
Reference clock ID: 127.127.1.0  
Leap indicator: 00  
Clock jitter: 0.000000 s  
Stability: 0.000 pps  
Clock precision: 2^-21  
Root delay: 0.00000 ms  
Root dispersion: 10.98633 ms
```

Reference time: e27ced67.56daf74f Sat, May 30 2020 14:34:15.339
System poll interval: 64 s

思科3925查看NTP显示信息:

```
show ntp status
```

```
Clock is synchronized, stratum 3, reference is 10.190.0.13  
nominal freq is 250.0000 Hz, actual freq is 250.0039 Hz, precision is 2**16  
reference time is E27CEF76.DEED43EC (14:43:02.870 UTC Sat May 30 2020)  
clock offset is 0.1260 msec, root delay is 0.76 msec  
root dispersion is 25.42 msec, peer dispersion is 7.43 msec  
loopfilter state is 'CTRL' (Normal Controlled Loop), drift is -0.000015876 s/s  
system poll interval is 1024, last update was 443 sec ago.
```

```
show ntp associations
```

```
address      ref clock    st when poll reach delay offset disp  
*~10.190.0.13 127.127.1.0 2 458 512 377 0.761 0.126 7.432  
* sys.peer, # selected, + candidate, - outlyer, x falselticker, ~ configured
```

配置关键点

- 1、 确保时钟源和时钟客户端路由可达。
- 2、 时钟源及时钟客户端都需要开启NTP功能。
- 3、 时钟客户端指定时钟源为NTP服务器。
- 4、 时钟源所在的设备配置为时钟源。