

组网及说明

S5820与思科3750对接NTP典型组网配置，其中S5820为时钟源，思科3750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3750信息如下：

Cisco IOS Software, C3750 Software (C3750-IPSERVICESK9-M), Version 12.2(52)SE, RELEASE S
OFTWARE (fc3)
Copyright (c) 1986-2009 by Cisco Systems, Inc.
Compiled Fri 25-Sep-09 08:32 by sasyamal
Image text-base: 0x01000000, data-base: 0x02E00000

ROM: Bootstrap program is C3750 boot loader
BOOTLDR: C3750 Boot Loader (C3750-HBOOT-M) Version 12.2(44)SE5, RELEASE SOFTWARE (f
c1)

JCW_C3750_A uptime is 1 year, 18 weeks, 1 day, 9 hours, 34 minutes
System returned to ROM by address error at PC 0x1765528, address 0x0
System restarted at 05:21:37 GX Thu Jan 24 2019
System image file is "flash:/c3750-ipservicesk9-mz.122-52.SE.bin"

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 WS-C3750G-48TS (PowerPC405) processor (revision H0) with 131072K bytes of memory.
Processor board ID FOC1446Y0A6
Last reset from address error
7 Virtual Ethernet interfaces
52 Gigabit Ethernet interfaces
The password-recovery mechanism is enabled.

512K bytes of flash-simulated non-volatile configuration memory.
Base ethernet MAC Address : F0:25:72:81:E7:80
Motherboard assembly number : 73-10218-10
Power supply part number : 341-0107-01
Motherboard serial number : FOC14434ZZ4

Power supply serial number : AZS143207C1
Model revision number : H0
Motherboard revision number : A0
Model number : WS-C3750G-48TS-E
System serial number : FOC1446Y0A6
Top Assembly Part Number : 800-27483-05
Top Assembly Revision Number : D0
Version ID : V07
CLEI Code Number : CMMAN00ARA
Hardware Board Revision Number : 0x09

Switch Ports Model	SW Version	SW Image
* 1 52 WS-C3750G-48TS	12.2(52)SE	C3750-IPSERVICESK9-M

Configuration register is 0xF

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3750 NTP配置如下:

```
ntp server 10.190.0.13 source Loopback0
```

S5820查看NTP显示信息:

```
dis ntp sessions  
source reference stratum 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3750查看NTP显示信息:

```
sh ntp status  
Clock is synchronized, stratum 3, reference is 10.190.0.13  
nominal freq is 119.2092 Hz, actual freq is 119.2110 Hz, precision is 2**18  
reference time is E27CEE35.8C7EDE85 (14:37:41.548 GX Sat May 30 2020)  
clock offset is 0.5777 msec, root delay is 1.36 msec
```

root dispersion is 12.39 msec, peer dispersion is 0.70 msec

sh ntp associations

```
address    ref clock  st when poll reach delay offset disp
*~10.190.0.13  127.127.1.0  2 544 1024 377 1.4 0.58 0.7
* master (syncd), # master (unsyncd), + selected, - candidate, ~ 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。