

组网及说明

S7503E-M与思科2960对接NTP典型组网配置，其中S7503E-M为时钟源，思科2960为客户端
S7503E-M版本信息如下：

H3C Comware Software, Version 7.1.070, Release 7557P03
Copyright (c) 2004-2017 New H3C Technologies Co., Ltd. All rights reserved.
H3C S7503E-M uptime is 24 weeks, 6 days, 7 hours, 39 minutes
Last reboot reason : Cold reboot

Boot image: flash:/S7500E-CMW710-BOOT-R7557P03.bin
Boot image version: 7.1.070, Release 7557P03
Compiled Nov 07 2017 16:00:00
System image: flash:/S7500E-CMW710-SYSTEM-R7557P03.bin
System image version: 7.1.070, Release 7557P03
Compiled Nov 07 2017 16:00:00

思科2960版本信息如下：

Cisco IOS Software, C2960 Software (C2960-LANBASEK9-M), Version 12.2(50)SE5, RELEASE SOFTWARE (fc1)
Technical Support: <http://www.cisco.com/techsupport>
Copyright (c) 1986-2010 by Cisco Systems, Inc.
Compiled Tue 28-Sep-10 13:44 by prod_rel_team
Image text-base: 0x00003000, data-base: 0x01400000

ROM: Bootstrap program is C2960 boot loader
BOOTLDR: C2960 Boot Loader (C2960-HBOOT-M) Version 12.2(44)SE5, RELEASE SOFTWARE (fc1)

anquanpingtai-ha-v4-1 uptime is 2 years, 45 weeks, 15 hours, 9 minutes
System returned to ROM by power-on
System restarted at 23:37:34 UTC Wed Jul 19 2017
System image file is "flash:c2960-lanbasek9-mz.122-50.SE5/c2960-lanbasek9-mz.122-50.SE5.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-C2960G-48TC-L (PowerPC405) processor (revision H0) with 65536K bytes of memory.
Processor board ID FOC1520W692
Last reset from power-on
6 Virtual Ethernet interfaces
48 Gigabit Ethernet interfaces
The password-recovery mechanism is enabled.

64K bytes of flash-simulated non-volatile configuration memory.
Base ethernet MAC Address : 20:37:06:04:0C:00

Motherboard assembly number : 73-10300-12
Power supply part number : 341-0098-02
Motherboard serial number : FOC15200C86
Power supply serial number : DCA151090Q4
Model revision number : H0
Motherboard revision number : A0
Model number : WS-C2960G-48TC-L
System serial number : FOC1520W692
Top Assembly Part Number : 800-27071-06
Top Assembly Revision Number : D0
Version ID : V06
CLEI Code Number : COMB800BRA
Hardware Board Revision Number : 0x01

Switch Ports Model	SW Version	SW Image
* 1 48 WS-C2960G-48TC-L	12.2(50)SE5	C2960-LANBASEK9-M

配置步骤

S7503E-M NTP时钟源配置信息如下:

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

```
interface Vlan-interface100  
description YunWeiGuanLi  
ip address 10.190.8.1 255.255.255.192  
quit
```

思科2960 NTP配置如下:

```
ntp server 10.190.8.1 source Vlan400
```

S7503E-M查看NTP显示信息:

```
dis ntp sessions  
source reference strata 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2960查看NTP显示信息:

```
sh ntp status
```

Clock is synchronized, stratum 3, reference is 10.190.8.1
nominal freq is 119.2092 Hz, actual freq is 119.2098 Hz, precision is 2**18
reference time is E27CECF0.B7440A60 (14:32:16.715 UTC Sat May 30 2020)
clock offset is 0.0861 msec, root delay is 1.63 msec
root dispersion is 11.38 msec, peer dispersion is 0.26 msec

sh ntp associations

address	ref clock	st	when	poll	reach	delay	offset	disp
*~10.190.8.1	127.127.1.0	2	354	512	377	1.6	0.09	0.3

* master (sync'd), # master (unsync'd), + 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。