9

Time Protocols

Contents

Overview

This chapter describes:

- SNTP Time Protocol Operation
- Timep Time Protocol Operation

Using time synchronization ensures a uniform time among inter operating devices. This helps you to manage and troubleshoot switch operation by attaching meaningful time data to event and error messages.

The switch offers TimeP and SNTP (Simple Network Time Protocol) and a **timesync** command for changing the time protocol selection (or turning off time protocol operation).

Notes

- Although you can create and save configurations for both time protocols without conflicts, the switch allows only one active time protocol at any time.
- In the factory-default configuration, the time synchronization option is set to TimeP, with the TimeP mode itself set to **Disabled**.

TimeP Time Synchronization

You can either manually assign the switch to use a TimeP server or use DHCP to assign the TimeP server. In either case, the switch can get its time synchronization updates from only one, designated Timep server. This option enhances security by specifying which time server to use.

SNTP Time Synchronization

SNTP provides two operating modes:

- **Broadcast Mode:** The switch acquires time updates by accepting the time value from the first SNTP time broadcast detected. (In this case, the SNTP server must be configured to broadcast time updates to the network broadcast address. Refer to the documentation provided with your SNTP server application.) Once the switch detects a partic-

ular server, it ignores time broadcasts from other SNTP servers unless the configurable **Poll Interval** expires three consecutive times without an update received from the first-detected server.

Note

To use Broadcast mode, the switch and the SNTP server must be in the same subnet.

- **Unicast Mode:** The switch requests a time update from the configured SNTP server. (You can configure one server using the menu interface, or up to three servers using the CLI **sntp server** command.) This option provides increased security over the Broadcast mode by specifying which time server to use instead of using the first one detected through a broadcast.

Overview: Selecting a Time Synchronization Protocol or Turning Off Time Protocol Operation

General Steps for Running a Time Protocol on the Switch

1. Select the time synchronization protocol: **SNTP** or **TimeP** (the default).
2. Enable the protocol. The choices are:
   - SNTP: **Broadcast** or **Unicast**
   - TimeP: **DHCP** or **Manual**
3. Configure the remaining parameters for the time protocol you selected.

   The switch retains the parameter settings for both time protocols even if you change from one protocol to the other. Thus, if you select a time protocol, the switch uses the parameters you last configured for the selected protocol.

Note that simply selecting a time synchronization protocol does not enable that protocol on the switch unless you also enable the protocol itself (step 2, above). For example, in the factory-default configuration, TimeP is the selected time synchronization method. However, because TimeP is disabled in the factory-default configuration, no time synchronization protocol is running.

Disabling Time Synchronization

You can use either of the following methods to disable time synchronization without changing the Timep or SNTP configuration:

- In the System Information screen of the Menu interface, set the **Time Synch Method** parameter to **None**, then press **[Enter]**, then **[S]** (for **S**ave).
- In the Global config level of the CLI, execute **no timesync**.

SNTP: Viewing, Selecting, and Configuring

SNTP Feature	Default	Menu	CLI	Web
view the SNTP time synchronization configuration	n/a	page 9-5	page 9-8	—
select SNTP as the time synchronization method	timep	page 9-6	page 9-9 ff.	—
disable time synchronization	timep	page 9-6	page 9-12	—
enable the SNTP mode (Broadcast, Unicast, or Disabled)	disabled			—
broadcast	n/a	page 9-6	page 9-9	—
unicast	n/a	page 9-6	page 9-10	—
none/disabled	n/a	page 9-6	page 9-13	—
configure an SNTP server address (for Unicast mode only)	none	page 9-6	page 9-10 ff.	—
change the SNTP server version (for Unicast mode only)	3	page 9-7	page 9-12	—
change the SNTP poll interval	720 seconds	page 9-7	page 9-12	—

Table 9-1.SNTP Parameters

SNTP Parameter	Operation
Time Sync Method	Used to select either SNTP, TIMEP, or None as the time synchronization method.
SNTP Mode	
Disabled	The Default. SNTP does not operate, even if specified by the Menu interface **Time Sync Method** parameter or the CLI **timesync** command.
Unicast	Directs the switch to poll a specific server for SNTP time synchronization. Requires at least one server address.
Broadcast	Directs the switch to acquire its time synchronization from data broadcast by any SNTP server to the network broadcast address. The switch uses the first server detected and ignores any others. However, if the Poll Interval expires three times without the switch detecting a time update from the original server, it the switch accepts a broadcast time update from the next server it detects.
Poll Interval (seconds)	In Unicast Mode: Specifies how often the switch polls the designated SNTP server for a time update. In Broadcast Mode: Specifies how often the switch polls the network broadcast address for a time update.
Server Address	Used only when the **SNTP Mode** is set to **Unicast**. Specifies the IP address of the SNTP server that the switch accesses for time synchronization updates. You can configure up to three servers; one using the menu or CLI, and two more using the CLI. See "SNTP Unicast Time Polling with Multiple SNTP Servers" on page 9-21.
Server Version	Default: 3; range: 1 - 7. Specifies the SNTP software version to use, and is assigned on a per-server basis. The version setting is backwards-compatible. For example, using version 3 means that the switch accepts versions 1 through 3.

Menu: Viewing and Configuring SNTP

To View, Enable, and Modify SNTP Time Protocol:

1. From the Main Menu, select:

   2. Switch Configuration...

   1. System Information

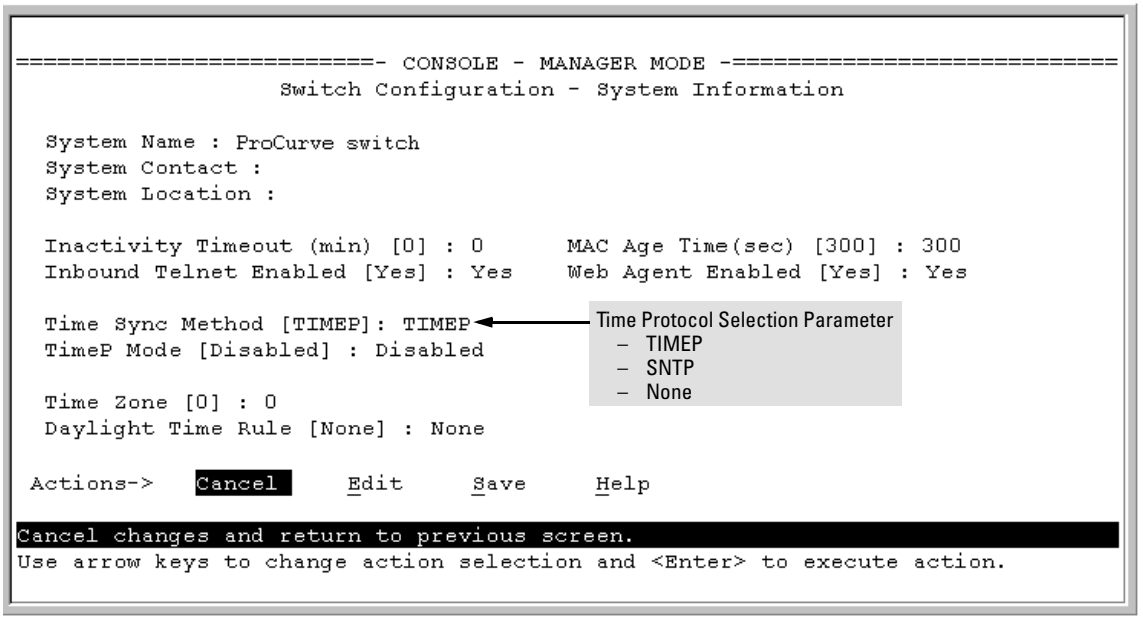
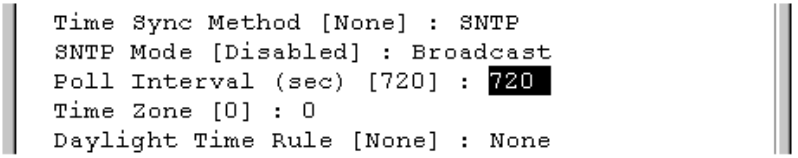


Figure 9-1. The System Information Screen (Default Values)

2. Press **[E]** (for **Edit**). The cursor moves to the **System Name** field.
3. Use ↓ to move the cursor to the **Time Sync Method** field.
4. Use the Space bar to select **SNTP**, then press ↓ once to display and move to the **SNTP Mode** field.
5. Do one of the following:
   - Use the Space bar to select the **Broadcast** mode, then press ↓ to move the cursor to the **Poll Interval** field, and go to step 6. (For Broadcast mode details, see "SNTP Operating Modes" on page 9-2.)



   - Use the Space bar to select the **Unicast** mode, then do the following:
     i. Press → to move the cursor to the **Server Address** field.

ii. Enter the IP address of the SNTP server you want the switch to use for time synchronization.

Note: This step replaces any previously configured server IP address. If you
will be using backup SNTP servers (requires use of the CLI), then see
"SNTP Unicast Time Polling with Multiple SNTP Servers" on page 9-21.

iii. Press ↓ to move the cursor to the **Server Version** field. Enter the value that matches the SNTP server version running on the device you specified in the preceding step (step ii). If you are unsure which version to use, HP recommends leaving this value at the default setting of **3** and testing SNTP operation to determine whether any change is necessary.

Note: Using the menu to enter the IP address for an SNTP server when the switch already has one or more SNTP servers configured causes the switch to delete the primary SNTP server from the server list and to select a new primary SNTP server from the IP address(es) in the updated list. For more on this topic, see "SNTP Unicast Time Polling with Multiple SNTP Servers" on page 9-21.

iv. Press → to move the cursor to the **Poll Interval** field, then go to step 6.

```
Time Sync Method [None] : SNTP
SNTP Mode [Disabled] : Unicast     Server Address : 10.28.227.15
Poll Interval (sec) [720] : 720    Server Version [3] : 3
Time Zone [0] : 0
Daylight Time Rule [None] : None
```

6. In the **Poll Interval** field, enter the time in seconds that you want for a Poll Interval. (For Poll Interval operation, see table 9-1, "SNTP Parameters", on page 9-5.)
7. Press **[Enter]** to return to the Actions line, then **[S]** (for **Save**) to enter the new time protocol configuration in both the startup-config and running-config files.

CLI: Viewing and Configuring SNTP

CLI Commands Described in this Section

This section describes how to use the CLI to view, enable, and configure SNTP parameters.

Viewing the Current SNTP Configuration

This command lists both the time synchronization method (**TimeP**, **SNTP**, or **None**) and the SNTP configuration, even if SNTP is not the selected time protocol.

Syntax: show sntp

For example, if you configured the switch with SNTP as the time synchronization method, then enabled SNTP in broadcast mode with the default poll interval, **show sntp** lists the following:

```
ProCurve# show sntp
  SNTP Configuration
    Time Sync Mode: Sntp
    SNTP Mode : Broadcast
    Poll Interval (sec) [720] : 720
```

Figure 9-2. Example of SNTP Configuration When SNTP Is the Selected Time Synchronization Method

In the factory-default configuration (where TimeP is the selected time synchronization method), **show sntp** still lists the SNTP configuration even though it is not currently in use. For example:

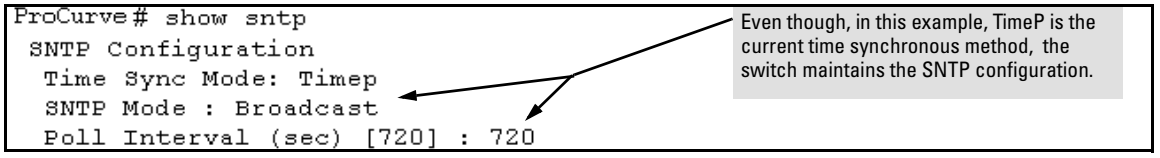


Figure 9-3. Example of SNTP Configuration When SNTP Is Not the Selected Time Synchronization Method

Configuring (Enabling or Disabling) the SNTP Mode

Enabling the SNTP mode means to configure it for either broadcast or unicast mode. Remember that to run SNTP as the switch's time synchronization protocol, you must also select SNTP as the time synchronization method by using the CLI **timesync** command (or the Menu interface **Time Sync Method** parameter).

Syntax: timesync sntp

Selects SNTP as the time protocol.

sntp < broadcast | unicast >

Enables the SNTP mode (below and page 9-10).

sntp server < *ip-addr* >

Required only for unicast mode (page 9-10).

sntp poll-interval < 30 . . 720>

Enabling the SNTP mode also enables the SNTP poll interval (default: 720 seconds; page 9-12).

Enabling SNTP in Broadcast Mode. Because the switch provides an SNTP polling interval (default: 720 seconds), you need only these two commands for minimal SNTP broadcast configuration:

Syntax: timesync sntp

Selects SNTP as the time synchronization method.

sntp broadcast

Configures **Broadcast** *as the SNTP mode.*

For example, suppose:

- Time synchronization is in the factory-default configuration (TimeP is the currently selected time synchronization method).
- You want to:
  1. View the current time synchronization.

2. Select SNTP as the time synchronization mode.
3. Enable SNTP for Broadcast mode.
4. View the SNTP configuration again to verify the configuration.

The commands and output would appear as follows:

```
ProCurve(config)# show sntp                    (1)
 SNTP Configuration
  Time Sync Mode: Timep
  SNTP Mode : disabled
  Poll Interval (sec) [720] : 720
ProCurve(config)# timesync sntp                (2)
ProCurve(config)# sntp broadcast               (3)
ProCurve(config)# show sntp                    (4)
 SNTP Configuration
  Time Sync Mode: Sntp
  SNTP Mode : Broadcast
  Poll Interval (sec) [720] : 720
```

(1) **show sntp** displays the SNTP configuration and also shows that TimeP is the currently active time synchronization mode.

(4) **show sntp** again displays the SNTP configuration and shows that SNTP is now the currently active time synchronization mode and is configured for broadcast operation.

Figure 9-4. Example of Enabling SNTP Operation in Broadcast Mode

Enabling SNTP in Unicast Mode. Like broadcast mode, configuring SNTP for unicast mode enables SNTP. However, for Unicast operation, you must also specify the IP address of at least one SNTP server. The switch allows up to three unicast servers. You can use the Menu interface or the CLI to configure one server or to replace an existing Unicast server with another. To add a second or third server, you must use the CLI. For more on SNTP operation with multiple servers, see "SNTP Unicast Time Polling with Multiple SNTP Servers" on page 9-21.

Syntax: timesync sntp

Selects SNTP as the time synchronization method.

sntp unicast

Configures the SNTP mode for Unicast operation.

sntp server <ip-addr> [version]

Specifies the SNTP server. The default server version is **3.**

no sntp server < *ip-addr* >

Deletes the specified SNTP server.

Note Deleting an SNTP server when only one is configured disables SNTP unicast operation.

For example, to select SNTP and configure it with unicast mode and an SNTP server at 10.28.227.141 with the default server version (3) and default poll interval (720 seconds):

```
ProCurve(config)# timesync sntp
```
Selects SNTP.

```
ProCurve(config)# sntp unicast
```
Activates SNTP in Unicast mode.

```
ProCurve(config)# sntp server 10.28.227.141
```
Specifies the SNTP server and accepts the current SNTP server version (default: 3).

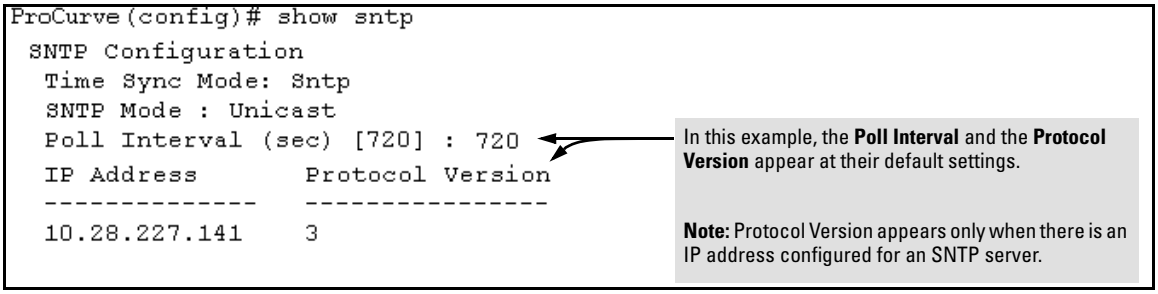


Figure 9-5. Example of Configuring SNTP for Unicast Operation

If the SNTP server you specify uses SNTP version 4 or later, use the **sntp server** command to specify the correct version number. For example, suppose you learned that SNTP version 4 was in use on the server you specified above (IP address 10.28.227.141). You would use the following commands to delete the server IP address and then re-enter it with the correct version number for that server:

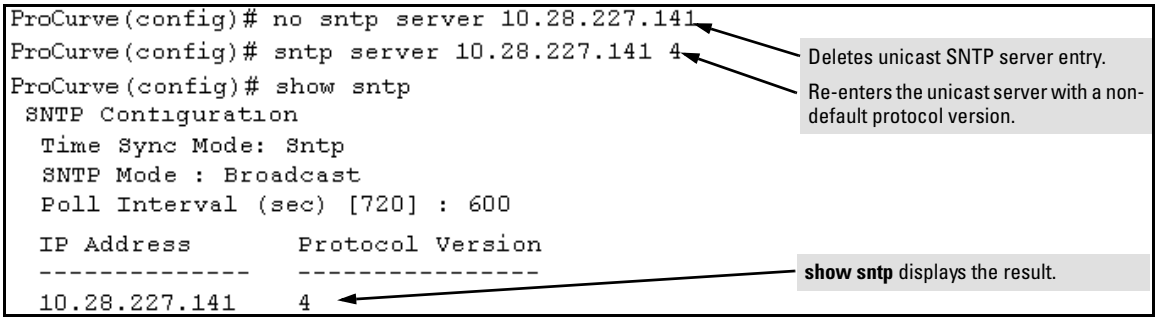


Figure 9-6. Example of Specifying the SNTP Protocol Version Number

Changing the SNTP Poll Interval.

Syntax: sntp poll-interval < 30 . . 720 >

Specifies how long the switch waits between time polling intervals. The default is 720 seconds and the range is 30 to 720 seconds. (This parameter is separate from the poll interval parameter used for Timep operation.)

For example, to change the poll interval to 300 seconds:

```
ProCurve(config)# sntp poll-interval 300
```

Disabling Time Synchronization Without Changing the SNTP Configuration. The recommended method for disabling time synchronization is to use the **timesync** command to avoid changing the switch's SNTP configuration.

Syntax: no timesync

Halts time synchronization without changing the switch's SNTP configuration

For example, suppose SNTP is running as the switch's time synchronization protocol, with **Broadcast** as the SNTP mode and the factory-default polling interval. You would halt time synchronization with this command:

```
ProCurve(config)# no timesync
```

If you then viewed the SNTP configuration, you would see the following:

```
ProCurve(config)# show sntp
 SNTP Configuration
  Time Sync Mode: Disabled
  SNTP Mode : Broadcast
  Poll Interval (sec) [720] : 720
```

Figure 9-7. Example of SNTP with Time Sychronization Disabled

Disabling the SNTP Mode. If you want to prevent SNTP from being used even if selected by **timesync** (or the Menu interface's **Time Sync Method** parameter), configure the SNTP mode as disabled.

Syntax: no sntp

Disables SNTP by changing the SNTP mode configuration to **Disabled**.

For example, if the switch is running SNTP in Unicast mode with an SNTP server at 10.28.227.141 and a server version of 3 (the default), **no sntp** changes the SNTP configuration as shown below, and disables time synchronization on the switch.

```
ProCurve(config)# no sntp

ProCurve(config)# show sntp
 SNTP Configuration
  Time Sync Mode: Sntp
  SNTP Mode : disabled
  Poll Interval (sec) [720] : 720
  IP Address       Protocol Version
  --------------   ----------------
  10.28.227.141    3
```

Even though the **Time Sync Mode** is set to **Sntp**, time synchronization is disabled because **no sntp** has disabled the **SNTP Mode** parameter.

Figure 9-8. Example of Disabling Time Synchronization by Disabling the SNTP Mode

TimeP: Viewing, Selecting, and Configuring

TimeP Feature	Default	Menu	CLI	Web
view the Timep time synchronization configuration	n/a	page 9-15	page 9-17	—
select Timep as the time synchronization method	TIMEP	page 9-13	pages 9-18 ff.	—
disable time synchronization	timep	page 9-15	page 9-20	—
enable the Timep mode	Disabled			—
DHCP	—	page 9-15	page 9-18	—
manual	—	page 9-16	page 9-19	—
none/disabled	—	page 9-15	page 9-21	—
change the SNTP poll interval	720 seconds	page 9-16	page 9-20	—

Table 9-2.Timep Parameters

SNTP Parameter	Operation
Time Sync Method	Used to select either TIMEP (the default), SNTP, or None as the time synchronization method.
Timep Mode	
Disabled	The Default. Timep does not operate, even if specified by the Menu interface **Time Sync Method** parameter or the CLI **timesync** command.
DHCP	When Timep is selected as the time synchronization method, the switch attempts to acquire a Timep server IP address via DHCP. If the switch receives a server address, it polls the server for updates according to the Timep poll interval. If the switch does not receive a Timep server IP address, it cannot perform time synchronization updates.
Manual	When Timep is selected as the time synchronization method, the switch attempts to poll the specified server for updates according to the Timep poll interval. If the switch fails to receive updates from the server, time synchronization updates do not occur.
Server Address	Used only when the **TimeP Mode** is set to **Manual**. Specifies the IP address of the TimeP server that the switch accesses for time synchronization updates. You can configure one server.
Poll Interval (minutes)	Default: 720 minutes. Specifies the interval the switch waits between attempts to poll the TimeP server for updates.

Menu: Viewing and Configuring TimeP

To View, Enable, and Modify the TimeP Protocol:

1. From the Main Menu, select:

   2. Switch Configuration...

   1. System Information

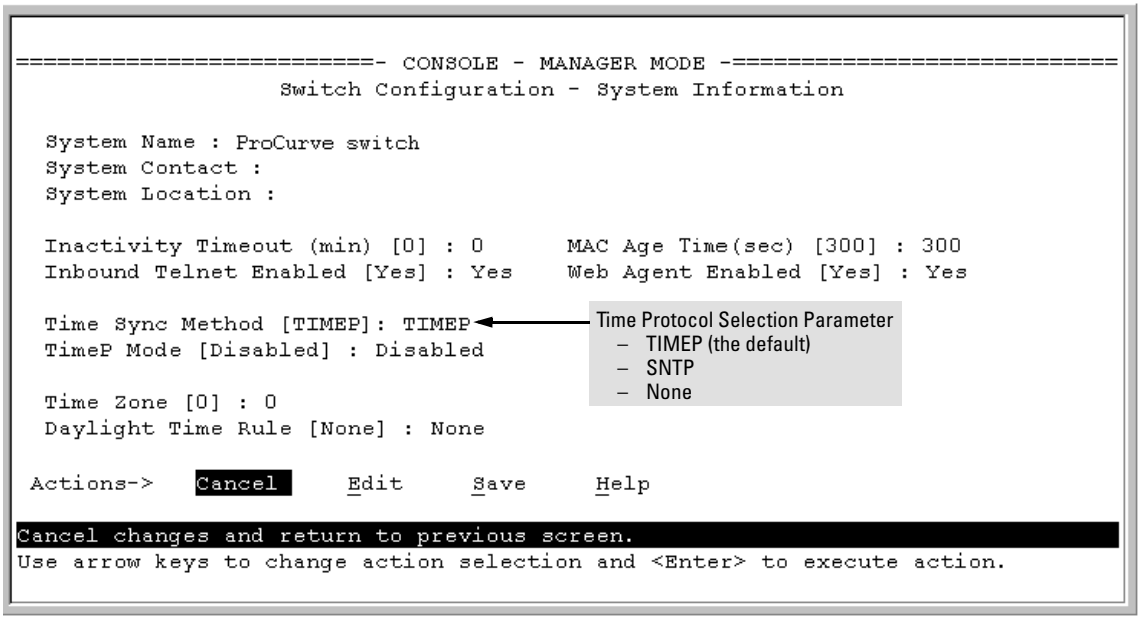


Figure 9-9. The System Information Screen (Default Values)

2. Press **[E]** (for **Edit**). The cursor moves to the **System Name** field.
3. Use ↓ to move the cursor to the **Time Sync Method** field.
4. If **TIMEP** is not already selected, use the Space bar to select **TIMEP**, then press ↓ once to display and move to the **TimeP Mode** field.
5. Do one of the following:
   - Use the Space bar to select the **DHCP** mode, then press ↓ to move the cursor to the **Poll Interval** field, and go to step 6.

```
Time Sync Method [None] : TIMEP
TimeP Mode [Disabled] : DHCP
Poll Interval (min) [720] : 720
Time Zone [0] : 0
Daylight Time Rule [None] : None
```

- Use the Space bar to select the **Manual** mode.
  i. Press → to move the cursor to the **Server Address** field.
  ii. Enter the IP address of the TimeP server you want the switch to use for time synchronization.

  Note: This step replaces any previously configured TimeP server IP address.
  iii. Press → to move the cursor to the **Poll Interval** field, then go to step 6.

```
Time Sync Method [None] : TIMEP
TimeP Mode [Disabled] : Manual     Server Address : 10.28.227.141
Poll Interval (min) [720] : 720
Time Zone [0] : 0
Daylight Time Rule [None] : None
```

6. In the **Poll Interval** field, enter the time in minutes that you want for a TimeP Poll Interval.

Press **[Enter]** to return to the Actions line, then **[S]** (for **Save**) to enter the new time protocol configuration in both the startup-config and running-config files.

CLI: Viewing and Configuring TimeP

CLI Commands Described in this Section

show timep	page 9-17
[no] timesync	page 9-18 ff., 9-20
ip timep	
dhcp	page 9-18
manual	page 9-19
server <*ip-addr*>	page 9-19
interval	page 9-20
no ip timep	page 9-21

This section describes how to use the CLI to view, enable, and configure TimeP parameters.

Viewing the Current TimeP Configuration

This command lists both the time synchronization method (TimeP, SNTP, or None) and the TimeP configuration, even if SNTP is not the selected time protocol.

Syntax: show timep

For example, if you configure the switch with TimeP as the time synchronization method, then enable TimeP in DHCP mode with the default poll interval, **show timep** lists the following:

```
ProCurve(config)# show timep
 Timep Configuration
  Time Sync Mode: Timep
  TimeP Mode : DHCP    Poll Interval (min) : 720
```

Figure 9-10. Example of TimeP Configuration When TimeP Is the Selected Time Synchronization Method

If SNTP is the selected time synchronization method), **show timep** still lists the TimeP configuration even though it is not currently in use:

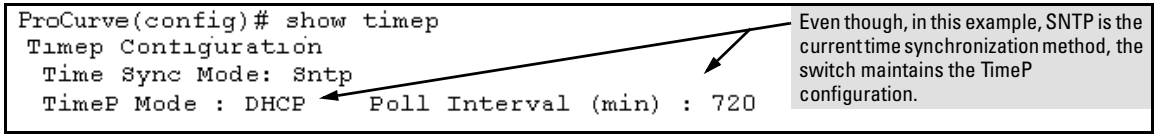


Figure 9-11. Example of SNTP Configuration When SNTP Is Not the Selected Time Synchronization Method

Configuring (Enabling or Disabling) the TimeP Mode

Enabling the TimeP mode means to configure it for either broadcast or unicast mode. Remember that to run TimeP as the switch's time synchronization protocol, you must also select TimeP as the time synchronization method by using the CLI timesync command (or the Menu interface **Time Sync Method** parameter).

Syntax: timesync timep
Selects TimeP as the time protocol.

ip timep < dhcp | manual >
Enables the selected TimeP mode.

no ip timep
Disables the TimeP mode.

no timesync
Disables the time protocol.

Enabling TimeP in DHCP Mode. Because the switch provides a TimeP polling interval (default: 720 minutes), you need only these two commands for a minimal TimeP DHCP configuration:

Syntax: timesync timep
Selects TimeP as the time synchronization method.

ip timep dhcp
Configures DHCP as the TimeP mode.

For example, suppose:

- Time synchronization is configured for SNTP.
- You want to:
  1. View the current time synchronization.
  2. Select TimeP as the time synchronization mode.
  3. Enable TimeP for DHCP mode.
  4. View the TimeP configuration.

The commands and output would appear as follows:

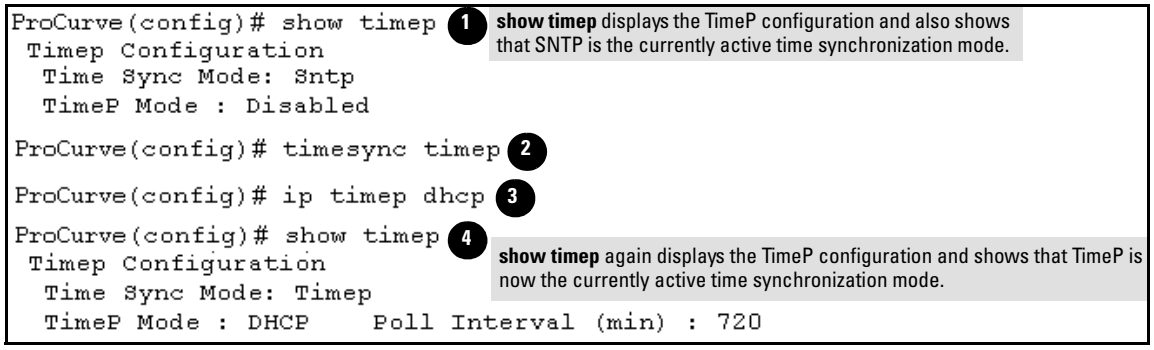


Figure 9-12. Example of Enabling TimeP Operation in DHCP Mode

Enabling Timep in Manual Mode. Like DHCP mode, configuring TimeP for **Manual** mode enables TimeP. However, for manual operation, you must also specify the IP address of the TimeP server. (The switch allows only one TimeP server.) To enable the TimeP protocol:

Syntax: timesync timep

Selects Timep.

ip timep manual <ip-addr>

Activates TimeP in Manual mode with a specified TimeP server.

no ip timep

Disables TimeP.

Note

To change from one TimeP server to another, you must (1) use the **no ip timep** command to disable TimeP mode, and then reconfigure TimeP in Manual mode with the new server IP address.

For example, to select TimeP and configure it for manual operation using a TimeP server address of 10.28.227.141 and the default poll interval (720 minutes, assuming the TimeP poll interval is already set to the default):

```
ProCurve(config)# timesync timep
```

Selects TimeP.

```
ProCurve(config)# ip timep manual 10.28.227.141
```

Activates TimeP in Manual mode.

```
ProCurve(config)# timesync timep
ProCurve(config)# ip timep manual 10.28.227.141

ProCurve(config)# Show timep
 Timep Configuration
  Time Sync Mode: Timep
  TimeP Mode : Manual          Server Address : 10.28.227.141
  Poll Interval (min) : 720
```

Figure 9-13. Example of Configuring Timep for Manual Operation

Changing the TimeP Poll Interval. This command lets you specify how long the switch waits between time polling intervals. The default is 720 minutes and the range is 1 to 9999 minutes. (This parameter is separate from the poll interval parameter used for SNTP operation.)

Syntax: ip timep dhcp interval < 1 . . 9999 >
ip timep manual interval < 1 . . 9999 >

For example, to change the poll interval to 60 minutes:

```
ProCurve(config)# ip timep interval 60
```

Disabling Time Synchronization Without Changing the TimeP Configuration. The recommended method for disabling time synchronization is to use the **timesync** command. This halts time synchronization without changing your TimeP configuration.

Syntax: `no timesync`

For example, suppose TimeP is running as the switch's time synchronization protocol, with **DHCP** as the TimeP mode, and the factory-default polling interval. You would halt time synchronization with this command:

```
ProCurve(config)# no timesync
```

If you then viewed the TimeP configuration, you would see the following:

```
ProCurve(config)# show timep
 Timep Configuration
  Time Sync Mode: Disabled
  TimeP Mode : DHCP    Poll Interval (min) : 720
```

Figure 9-14. Example of TimeP with Time Sychronization Disabled

Disabling the TimeP Mode. Disabling the TimeP mode means to configure it as disabled. (Disabling TimeP prevents the switch from using it as the time synchronization protocol, even if it is the selected **Time Sync Method** option.)

Syntax: no ip timep

Disables TimeP by changing the TimeP mode configuration to **Disabled**.

For example, if the switch is running TimeP in DHCP mode, **no ip timep** changes the TimeP configuration as shown below, and disables time synchronization on the switch.

```
ProCurve(config)# no ip timep

ProCurve(config)# show timep
 Timep Configuration
  Time Sync Mode: Timep
  TimeP Mode : Disabled
```

Even though the Time Sync Mode is set to Timep, time synchronization is disabled because no ip timep has disabled the TimeP Mode parameter.

Figure 9-15. Example of Disabling Time Synchronization by Disabling the TimeP Mode Parameter

SNTP Unicast Time Polling with Multiple SNTP Servers

When running SNTP unicast time polling as the time synchronization method, the switch requests a time update from the server you configured with either the Server Address parameter in the menu interface, or the primary server in a list of up to three SNTP servers configured using the CLI. If the switch does not receive a response from the primary server after three consecutive polling intervals, the switch tries the next server (if any) in the list. If the switch tries

all servers in the list without success, it sends an error message to the Event Log and reschedules to try the address list again after the configured **Poll Interval** time has expired.

Address Prioritization

If you use the CLI to configure multiple SNTP servers, the switch prioritizes them according to the decimal values of their IP addresses. That is, the switch compares the decimal value of the octets in the addresses and orders them accordingly, with the lowest decimal value assigned as the primary address, the second-lowest decimal value assigned as the next address, and the third-lowest decimal value as the last address. If the first octet is the same between two of the addresses, the second octet is compared, and so on. For example:

SNTP Server IP Address	Server Ranking According to Decimal Value of IP Address
10.28.227.141	Primary
10.28.227.153	Secondary
10.29.227.100	Tertiary

Adding and Deleting SNTP Server Addresses

Adding Addresses. As mentioned earlier, you can configure one SNTP server address using either the Menu interface or the CLI. To configure a second and third address, you must use the CLI. For example, suppose you have already configured the primary address in the above table (10.28.227.141). To configure the remaining two addresses, you would do the following:

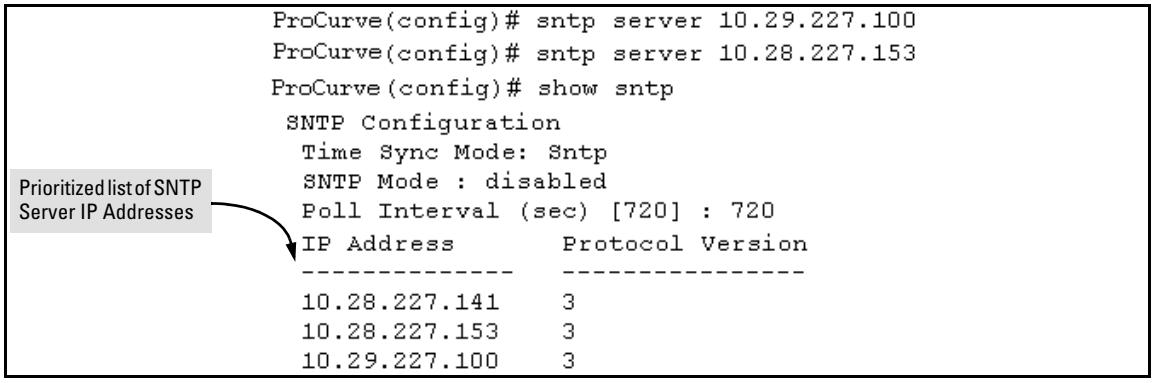


Figure 9-16. Example of SNTP Server Address Prioritization

Note

If there are already three SNTP server addresses configured on the switch, and you want to use the CLI to replace one of the existing addresses with a new one, you must delete the unwanted address before you configure the new one.

Deleting Addresses. To delete an address, you must use the CLI. If there are multiple addresses and you delete one of them, the switch re-orders the address priority. (See "Address Prioritization" on page 9-22.)

Syntax: **no sntp server <*ip-addr*>**

For example, to delete the primary address in the above example (and automatically convert the secondary address to primary):

```
ProCurve(config)# no sntp server 10.28.227.141
```

Menu Interface Operation with Multiple SNTP Server Addresses Configured

When you use the Menu interface to configure an SNTP server IP address, the new address writes over the current primary address, if one is configured. If there are multiple addresses configured, the switch re-orders the addresses according to the criteria described under "Address Prioritization" on page 9-22. For example, suppose the switch already has the following three SNTP server IP addresses configured.

- 10.28.227.141 (primary)
- 10.28.227.153 (secondary)
- 10.29.227.100 (tertiary)

If you use the Menu interface to add 10.28.227.160, the new prioritized list will be:

New Address List	Address Status
10.28.227.153	New Primary (The former primary, 10.28.227.141 was deleted when you used the menu to add 10.28.227.160.)
10.28.227.160	New Secondary
10.29.227.100	Same Tertiary (This address still has the highest decimal value.)

SNTP Messages in the Event Log

If an SNTP time change of more than three seconds occurs, the switch's event log records the change. SNTP time changes of less than three seconds do not appear in the Event Log.