

SNTP Configuration

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Chapter 1 Overview

1.1 Stipulation

1.1.1 Format Stipulation in the Command Line

| Syntax | Meaning |
|-------------------|--|
| Bold | Stands for the keyword in the command line, which stays unchanged and must be entered without any modification. It is presented as a bold in the command line. |
| <i>{italic}</i> | Stands for the parameter in the command line, which must be replaced by the actual value. It must be presented by the italic in the brace. |
| < <i>italic</i> > | Stands for the parameter in the command line, which must be replaced by the actual value. It must be presented by the italic in the point bracket. |
| [] | Stands for the optional parameter, which is in the square bracket. |
| { x y ... } | Means that you can choose one option from two or more options. |
| [x y ...] | Means that you can choose one option or none from two or more options. |
| { x y ... } * | Means that you has to choose at least one option from two or more options, or even choose all options. |
| [x y ...] * | Means that you can choose multiple options or none from two or more options. |
| &<1-n> | Means that the parameter before the "&" symbol can be entered <i>n</i> times. |
| # | Means that the line starting with the "#" symbol is an explanation line. |

Chapter 2 SNTP Configuration

2.1 Overview

Simple Network Time Protocol (SNTP) is currently an important method to realize time synchronization on the Internet.

SNTP adopts the client-server mode. The server obtains its own time by receiving the GPS signals or takes its own atomic clock as its time standard, while the client, by regularly accessing the time service provided by the server, gets the correct time information and regulates its own clock to synchronize with the time on the Internet. The UDP protocol and port 123 are used for the communication between the client and the server.

2.2 SNTP Configuration Task List

SNTP settings can be divided into two parts: one part is for the local switch to take as the SNTP server, and the other is for the local switch to take as the SNTP client.

The local switch takes as the SNTP server:

- Setting the Grade of the SNTP Server
- Enabling the SNTP Server
- Setting SNTP Authentication
- Setting the Source Address of SNTP

The local router takes as the SNTP server:

- Setting the IP Address of the SNTP Server
- Setting the Interval of Browsing the SNTP Server
- Setting the Source Address of SNTP
- Setting SNTP Authentication

2.3 SNTP Configuration

2.3.1 Setting the Grade of the SNTP Server

Configuration mode: Global

| Command | Purpose |
|------------------------------|------------------------------------|
| sntp master [Stratum] | Sets the grade of the SNTP server. |

2.3.2 Enabling the SNTP Server

Configuration mode: Global

| Command | Purpose |
|--------------------|--|
| sntp master | The SNTP server is enabled by default. |

2.3.3 Setting the IP Address of the SNTP Server

Configuration mode: Global

| Command | Purpose |
|---|---|
| sntp server <A.B.C.D> [version <i>num</i> key <i>keyid</i>] | Sets the IP address, version and local key ID of the SNTP server. |

2.3.4 Setting the Interval of Browsing the SNTP Server

Configuration mode: Global

| Command | Purpose |
|--|--|
| sntp query-interval < minutes > | Sets the interval for the SNTP client to browse the SNTP server. |

2.3.5 Disabling the SNTP Server

Configuration mode: Global

| Command | Purpose |
|-----------------------|-------------------------|
| no sntp master | Closes the SNTP server. |

2.3.6 Setting the Source Address of SNTP

Configuration mode: Global

| Command | Purpose |
|--------------------|---------------------------------------|
| Sntp source | Sets the source address used by SNTP. |

2.3.7 Enabling SNTP Authentication

Configuration mode: Global

| Command | Purpose |
|--------------------------|------------------------------|
| Sntp authenticate | Enables SNTP authentication. |

2.3.8 Setting the SNTP Authentication Key

Configuration mode: Global

| Command | Purpose |
|--|--|
| Sntp authentication-key <i>number md5 type password</i> | Sets the key ID and password of SNTP authentication. |

2.3.9 Setting the Trusted Key of the Local SNTP

Configuration mode: Global

| Command | Purpose |
|---------------------------------------|----------------------------------|
| sntp trusted-key <i>number</i> | Sets the trusted key ID of SNTP. |

2.3.10 Setting the SNTP Peer

Configuration mode: Global

| Command | Purpose |
|---------------------------------|----------------------------------|
| Sntp peer <i>address</i> | Sets the SNTP peer and its mode. |