



# Clock Commands

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This module describes the commands used to set and display the internal clock settings in Cisco IOS XR software.

For more information about manually setting the router clock, see [Clock Commands](#).

For more information about configuring the router to synchronize to Network Time Protocol (NTP), see the *Implementing NTP on Cisco IOS XR Software* module in *System Management Configuration Guide for Cisco NCS 6000 Series Routers*.

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# clock read-calendar

To manually copy the hardware clock (calendar) settings into the software clock, use the **clock read-calendar** command in XR EXEC mode/System Admin EXEC mode.

**clock read-calendar**

**Syntax Description** This command has no keywords or arguments.

**Command Default** Read calendar is disabled.

**Command Modes** XR EXEC mode  
System Admin EXEC mode

Command History	Release	Modification
	Release 3.9.0	No modification.
	Release 5.0.0	This command was introduced.

**Usage Guidelines** The *calendar clock* is a hardware system clock that runs continuously, even if the router is powered off or rebooted. The hardware system clock is separate from the software clock settings, which are erased when the router is power cycled or rebooted.

Use the **clock read-calendar** command to manually copy the hardware clock setting into the software clock.

Task ID	Task ID	Operations
	host-services	execute

In the following example, the hardware clock settings are copied to the software clock with the **clock read-calendar** command. The **show clock** command is then entered to display the new software clock settings.

```
sysadmin-vm:0_RP0# clock read-calendar
sysadmin-vm:0_RP0# show clock
Thu Jul 18 14:56:51.888 UTC
Thu Jul 18 14:56:52 UTC 2013
```

## Related Topics

[clock set](#), on page 3  
[clock update-calendar](#), on page 9  
[show clock](#), on page 18  
[update-calendar](#)

# clock set

To change the software clock settings, use the **clock set** command in XR EXEC mode or System Admin EXEC mode.

**clock set** *hh:mm:ss {day month | month day} year*

In the System Admin EXEC mode, the syntax is:

**clock set** *timedate-time*

<b>Syntax Description</b>	<i>hh:mm:ss</i> Current time in hours (24-hour format), minutes, and seconds. Colons are required between values.	
	<i>day</i>	Current day (by date) in the month.
	<i>month</i>	Current month (by name).
	<i>year</i>	Current year (no abbreviation). Enter a valid four-digit year.
<b>Command Default</b>	Clock is not set.	
<b>Command Modes</b>	XR EXEC mode System Admin EXEC mode	
<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Release 5.0.0	This command was introduced.
<b>Usage Guidelines</b>	<p>To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command, contact your AAA administrator for assistance.</p> <p>Generally, if the system is synchronized by a valid outside timing mechanism, such as a Network Time Protocol (NTP) clock source, or if you have a networking device with calendar capability, you need not set the software clock. Use the <b>clock set</b> command if no other time sources are available. The time specified in this command is relative to the configured time zone.</p>	
<b>Task ID</b>	<b>Task ID</b>	<b>Operations</b>
	host-services	execute

## Setting the Software Clock

This example shows how to set the software clock using the **clock set** command with the *day month* arguments first.

```
RP/0/RP0/CPU0:router# clock set 14:12:00 10 feb 2005
```

```
14:12:00.114 JST Fri Feb 10 2009
```

This example shows how to set the software clock using the **clock set** command with the *month day* arguments first.

```
RP/0/RP0/CPU0:router# clock set 14:38:00 feb 10 2005
```

```
14:38:00.069 PST Tue Feb 10 2009
```

### Displaying the Clock Settings

This example shows how to display the settings of the software clock:

```
RP/0/RP0/CPU0:router# show clock
```

```
14:38:11.292 PST Tue Feb 10 2009
```

This example shows how to use the **clock set** command:

```
RP/0/RP0/CPU0:router#clock set 23:32:22 january 1 2014
```

```
Mon Mar 10 20:40:27.082 UTC
```

```
23:32:22.016 UTC Wed Jan 01 2014
```

```
RP/0/RP0/CPU0:router#
```

```
RP/0/RP0/CPU0:router#show clock
```

```
Wed Jan 1 23:43:20.884 UTC
```

```
23:43:21.896 UTC Wed Jan 01 2014
```

```
RP/0/RP0/CPU0:router#
```

### Related Topics

[clock timezone](#), on page 5

[show clock](#), on page 18

# clock timezone

To set the time zone for display, use the **clock timezone** command in System Admin Config mode or XR Config mode. To remove the time zone setting, use the **no** form of this command.

```
clock timezone zone region
no clock timezone
```

Syntax Description	zone	Name of the time zone to be displayed when standard time is in effect.
	region	Sets the offset according to the region specified.
Command Default	UTC	
Command Modes	System Admin Config mode XR Config mode	
Command History	Release	Modification
	Release 3.9.0	No modification.
	Release 5.0.0	This command was introduced.

**Usage Guidelines** This table lists common time zone acronyms used for the *zone* argument.

Table 1: Common Time Zone Acronyms

Acronym	Time Zone Name and UTC Offset
<b>Europe</b>	
GMT	Greenwich Mean Time, as UTC.
BST	British Summer Time, as UTC plus 1 hour.
IST	Irish Summer Time, as UTC plus 1 hour.
WET	Western Europe Time, as UTC.
WEST	Western Europe Summer Time, as UTC plus 1 hour.
CET	Central Europe Time, as UTC plus 1 hour.
CEST	Central Europe Summer Time, as UTC plus 2 hours.
EET	Eastern Europe Time, as UTC plus 2 hours.

Acronym	Time Zone Name and UTC Offset
EEST	Eastern Europe Summer Time, as UTC plus 3 hours.
MSK	Moscow Time, as UTC plus 3 hours.
MSD	Moscow Summer Time, as UTC plus 4 hours.
<b>United States and Canada</b>	
AST	Atlantic Standard Time, as UTC minus 4 hours.
ADT	Atlantic Daylight Time, as UTC minus 3 hours.
ET	Eastern Time, either as EST or EDT, depending on place and time of year.
EST	Eastern Standard Time, as UTC minus 5 hours.
EDT	Eastern Daylight Saving Time, as UTC minus 4 hours.
CT	Central Time, either as CST or CDT, depending on place and time of year.
CST	Central Standard Time, as UTC minus 6 hours.
CDT	Central Daylight Saving Time, as UTC minus 5 hours.
MT	Mountain Time, either as MST or MDT, depending on place and time of year.
MST	Mountain Standard Time, as UTC minus 7 hours.
MDT	Mountain Daylight Saving Time, as UTC minus 6 hours.
PT	Pacific Time, either as PST or PDT, depending on place and time of year.
PST	Pacific Standard Time, as UTC minus 8 hours.
PDT	Pacific Daylight Saving Time, as UTC minus 7 hours.
AKST	Alaska Standard Time, as UTC minus 9 hours.
AKDT	Alaska Standard Daylight Saving Time, as UTC minus 8 hours.
HST	Hawaiian Standard Time, as UTC minus 10 hours.
<b>Australia</b>	
WST	Western Standard Time, as UTC plus 8 hours.
CST	Central Standard Time, as UTC plus 9.5 hours.
EST	Eastern Standard/Summer Time, as UTC plus 10 hours (plus 11 hours during summer time).

This table lists an alternative method for referring to time zones, in which single letters are used to refer to the time zone difference from UTC. Using this method, the letter Z is used to indicate the zero meridian, equivalent to UTC, and the letter J (Juliet) is used to refer to the local time zone. Using this method, the International Date Line is between time zones M and Y.

**Table 2: Single-Letter Time Zone Designators**

<b>Letter Designator</b>	<b>Word Designator</b>	<b>Difference from UTC</b>
Y	Yankee	UTC minus 12 hours.
X	Xray	UTC minus 11 hours.
W	Whiskey	UTC minus 10 hours.
V	Victor	UTC minus 9 hours.
U	Uniform	UTC minus 8 hours.
T	Tango	UTC minus 7 hours.
S	Sierra	UTC minus 6 hours.
R	Romeo	UTC minus 5 hours.
Q	Quebec	UTC minus 4 hours.
P	Papa	UTC minus 3 hours.
O	Oscar	UTC minus 2 hours.
N	November	UTC minus 1 hour.
Z	Zulu	Same as UTC.
A	Alpha	UTC plus 1 hour.
B	Bravo	UTC plus 2 hours.
C	Charlie	UTC plus 3 hours.
D	Delta	UTC plus 4 hours.
E	Echo	UTC plus 5 hours.
F	Foxtrot	UTC plus 6 hours.
G	Golf	UTC plus 7 hours.
H	Hotel	UTC plus 8 hours.
I	India	UTC plus 9 hours.
K	Kilo	UTC plus 10 hours.
L	Lima	UTC plus 11 hours.

Letter Designator	Word Designator	Difference from UTC
M	Mike	UTC plus 12 hours.

**Task ID****Task ID      Operations**


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host-services   read,  
                     write

---

This example shows how to set the time zone to IST Asia/Calcutta:

```
sysadmin-vm:0_RP0# config
sysadmin-vm:0_RP0(config)# clock timezone IST Asia/Calcutta
```

**Related Topics**

[clock set](#), on page 3

[show clock](#), on page 18



# clock update-calendar

To copy the software clock settings to the hardware clock (calendar), use the **clock update-calendar** command in XR EXEC mode System Admin EXEC mode.

**clock update-calendar**

<b>Syntax Description</b>	This command has no keywords or arguments.
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<b>Command Default</b>	No default behavior or values
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<b>Command Modes</b>	XR EXEC mode System Admin EXEC mode
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Command History	Release	Modification
	Release 5.0.0	This command was introduced.
	Release 3.9.0	No modification.

<b>Usage Guidelines</b>	To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command, contact your AAA administrator for assistance.
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The hardware clock (calendar) runs continuously, even if the router is powered off or rebooted. If the software clock and calendar are not synchronized and the software clock is more accurate, use this command to update the hardware calendar clock to the correct date and time.

Task ID	Task ID	Operations
	host-services	execute

The following example shows how to copy the current time from the software clock to the hardware clock:

```
RP/0/RP0/CPU0:router# clock update-calendar
```

## Related Topics

[clock read-calendar](#), on page 2

# confdConfig cli timezone local

To specify the timezone that must be used when displaying the time in the CLI, use the **confdConfig cli timezone local** command in System Admin Config mode.

**confdConfig cli timezone local**

<b>Syntax Description</b>	<i>timezone</i> Specifies the timezone that must be used when displaying the time in the CLI. If <b>local</b> is specified then the timezone that is configured on the device is used.				
<b>Command Default</b>	The default value is <b>local</b> .				
<b>Command Modes</b>	System Admin Config				
<b>Command History</b>	<table> <tr> <th>Release</th><th>Modification</th></tr> <tr> <td>Release 6.3.1</td><td>By default, the sysadmin <b>confdConfig</b> configuration is visible in the sysadmin running configuration.</td></tr> </table>	Release	Modification	Release 6.3.1	By default, the sysadmin <b>confdConfig</b> configuration is visible in the sysadmin running configuration.
Release	Modification				
Release 6.3.1	By default, the sysadmin <b>confdConfig</b> configuration is visible in the sysadmin running configuration.				
<b>Usage Guidelines</b>	<p>This command is available in Cisco IOS XR 64 bit OS.</p> <p>This example shows you how to configure the timezone:</p> <pre> sysadmin-vm:0_RP0# <b>config</b> Thu May 23 23:19:47.567 UTC+00:00 Entering configuration mode terminal sysadmin-vm:0_RP0(config)# <b>confdconfig cli timezone local</b> Thu May 23 23:19:47.567 UTC+00:00 </pre>				

# confdConfig cli utcOffset

To specify the UTC offset measured in minutes, use the **confdConfig cli utcOffset** command in System Admin Config mode.

**confdConfig cli utcOffset** *integer*

Syntax Description	<i>integer</i> Specifies the UTC offset measured in minutes.				
Command Default	The default value is <b>0</b> .				
Command Modes	System Admin Config				
Command History	<table> <tr> <th>Release</th><th>Modification</th></tr> <tr> <td>Release 6.3.1</td><td>By default, the sysadmin <b>confdConfig</b> configuration is visible in the sysadmin running configuration.</td></tr> </table>	Release	Modification	Release 6.3.1	By default, the sysadmin <b>confdConfig</b> configuration is visible in the sysadmin running configuration.
Release	Modification				
Release 6.3.1	By default, the sysadmin <b>confdConfig</b> configuration is visible in the sysadmin running configuration.				

**Usage Guidelines** This command is available in Cisco IOS XR 64 bit OS.

This example shows you how to configure the UTC offset:

```

sysadmin-vm:0_RP0# config
Thu May 23 23:19:47.567 UTC+00:00
Entering configuration mode terminal
sysadmin-vm:0_RP0(config)# confdconfig cli utcOffset 0
Thu May 23 23:19:47.567 UTC+00:00

```

# confdConfig cli idleTimeout

To specify the maximum idle time before terminating a CLI session, use the **confdConfig cli idleTimeout** command in System Admin Config mode.

**confdConfig cli idleTimeout** *time*

<b>Syntax Description</b>	<i>time</i> Specifies the idle timeout value. It must be in this format: (nYnMnDnHnMnS).
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<b>Command Default</b>	The default value is <b>PT10M</b> , which is 10 minutes. <b>PT0M</b> means no timeout.
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<b>Command Modes</b>	System Admin Config
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Command History	Release	Modification
	Release 6.3.1	By default, the sysadmin <b>confdConfig</b> configuration is visible in the sysadmin running configuration.

<b>Usage Guidelines</b>	This command is available in Cisco IOS XR 64 bit OS.
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This example shows you how to configure the idle timeout of 25 minutes:

```
sysadmin-vm:0_RP0# config
Thu May 23 23:19:47.567 UTC+00:00
Entering configuration mode terminal
sysadmin-vm:0_RP0(config)# confdconfig cli idleTimeout 25m
Thu May 23 23:19:47.567 UTC+00:00
```

# confdConfig cli timestamp

To enable or disable the display of timestamps, use the **confdConfig cli timestamp** command in System Admin Config mode.

**confdConfig cli timestamp** {*enabled* | *disabled*}

<b>Syntax Description</b>	<p><i>enabled</i> Enables the display of timestamps.</p> <p><i>disabled</i> Disables the display of timestamps.</p>				
<b>Command Default</b>	The default value is <b>enabled</b> .				
<b>Command Modes</b>	System Admin Config				
<b>Command History</b>	<table> <tr> <th>Release</th><th>Modification</th></tr> <tr> <td>Release 6.3.1</td><td>By default, the sysadmin <b>confdConfig</b> configuration is visible in the sysadmin running configuration.</td></tr> </table>	Release	Modification	Release 6.3.1	By default, the sysadmin <b>confdConfig</b> configuration is visible in the sysadmin running configuration.
Release	Modification				
Release 6.3.1	By default, the sysadmin <b>confdConfig</b> configuration is visible in the sysadmin running configuration.				
<b>Usage Guidelines</b>	<p>This command is available in Cisco IOS XR 64 bit OS.</p> <p>This example shows you how to enable the display of timestamp:</p> <pre> sysadmin-vm:0_RP0# <b>config</b> Thu May 23 23:19:47.567 UTC+00:00 Entering configuration mode terminal sysadmin-vm:0_RP0(config)# <b>confdconfig cli timestamp enabled</b> Thu May 23 23:19:47.567 UTC+00:00 </pre>				

# locale country

To set the default country of use, use the **locale country** command in

XR Config

mode. To remove the country setting, use the **no** form of this command.

**locale country** *country*

**no locale country**

<b>Syntax Description</b>	<i>country</i> Country, where <i>country</i> is a two-character country code. Case is not important.
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<b>Command Default</b>	No default behavior or values
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<b>Command Modes</b>	XR Config
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<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Release 5.0.0	This command was introduced.
	Release 3.9.0	No modification.

<b>Usage Guidelines</b>	To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command, contact your AAA administrator for assistance.
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<b>Note</b>	This command is not fully supported at this time.
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To display a complete listing of the available country codes, use the online help ( ? ) function:

```
RP/0/RP0/CPU0:router(config)# locale country ?
```

```

AD      Andorra
AE      United Arab Emirates
AF      Afghanistan
AG      Antigua and Barbuda
AI      Anguilla
AL      Albania
AM      Armenia
AN      Netherlands Antilles
AO      Angola
AQ      Antarctica
AR      Argentina
AS      American Samoa
AT      Austria
AU      Australia
AW      Aruba
AZ      Azerbaijan
BA      Bosnia and Herzegovina
BB      Barbados
```

```
BD    Bangladesh
BE    Belgium
--More--
```

Task ID	Task ID	Operations
	host-services	read, write

The following example shows how to set the country of use to Australia:

```
RP/0/RP0/CPU0:router(config)# locale country au
```

Related Topics

[locale language](#), on page 16

# locale language

To set the default language of use, use the **locale language** command in

XR Config

mode. To remove the language setting, use the **no** form of this command.

**locale language** *language*  
**no locale language**

<b>Syntax Description</b>	<i>language</i> Two-character code that specifies the language. Case is not important.
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<b>Command Default</b>	No default behavior or values
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<b>Command Modes</b>	XR Config
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<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Release 5.0.0	This command was introduced.
	Release 3.9.0	No modification.

<b>Usage Guidelines</b>	To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command, contact your AAA administrator for assistance.
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<b>Note</b>	This command is not fully supported at this time.
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To display a complete listing of the available language codes, use the online help (?) function:

```
RP/0/RP0/CPU0:router(config)# locale language ?

aa      Afar
ab      Abkhazian
af      Afrikaans
am      Amharic
ar      Arabic
as      Assamese
ay      Aymara
--More--
```

<b>Task ID</b>	<b>Task ID</b>	<b>Operations</b>
	host-services	read, write



The following example shows how to set the language of use to English:

```
RP/0/RP0/CPU0:router(config)# locale language en
```

### Related Topics

[locale country](#), on page 14

# show clock

To display the system clock, use the **show clock** command in

XR EXEC

mode.

**show clock [detail]**

<b>Syntax Description</b>	<b>detail</b> (Optional) Indicates the time zone, time source, and current summer time setting (if any).
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<b>Command Default</b>	No default behavior or values
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<b>Command Modes</b>	XR EXEC
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<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Release 5.0.0	This command was introduced.

<b>Usage Guidelines</b>	To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command, contact your AAA administrator for assistance.
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The system clock keeps an “authoritative” flag that indicates whether the time is authoritative (believed to be accurate). If the system clock has been set by a timing source, such as system calendar or Network Time Protocol (NTP), the flag is set. If the time is not authoritative, it is used only for display. Until the clock is authoritative and the “authoritative” flag is set, the flag prevents peers from synchronizing to the clock when the peers have invalid times.

The leading symbols that precede the **show clock** command display are shown in this table

**Table 3: show clock Display Leading Symbol Descriptions**

Symbol	Description
*	Time is not authoritative.
(blank)	Time is authoritative.
.	Time is authoritative, but NTP is not synchronized.

<b>Task ID</b>	<b>Task ID</b>	<b>Operations</b>
	basic-services	read

The following sample output shows the current clock settings:

```
RP/0/RP0/CPU0:router# show clock
```

```
16:18:28.927 PST Tue Feb 10 2009
```

The following sample output shows the current clock detail, including the time zone and time source:

```
RP/0/RP0/CPU0:router# show clock detail
```

```
16:18:07.164 PST Tue Feb 10 2009
```

```
Timezone: PST8PST Timesource: User configured
```

### Related Topics

[clock set](#), on page 3

# show clock sync

To show the time difference between the clocks on route processors (RPs) and other line cards (LCs), use the **show clock sync** command in EXEC command mode.

**show clock sync**

## Command Default

Displays the clock time for each RP or LC in a secure domain router (SDR), relative to the clock time on the RP where the command is entered.

## Command Modes

EXEC

Release	Modification
Release 3.2	This command was introduced.
Release 3.3.0	No modification.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	No modification.
Release 3.7.0	No modification.
Release 3.8.0	No modification.
Release 3.9.0	No modification.

## Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command, contact your AAA administrator for assistance.

In a router running Cisco IOS XR software the time clock in the primary RP is synchronized with the other RPs, DRPs, and LCs in the system. This synchronization ensures that the standby RP has an accurate time setting if it assumes the primary role and that the events in logs between different RPs and LCs can be easily correlated during debugging.

The **show clock sync** command verifies that the cards in the router are synchronized with the primary RP. When this command is run, the primary RP queries the clocks on each card in the system and displays the time difference between each card and the primary RP. If the time setting on the card is different from the time on the primary RP, the display shows if the clock on the card is being adjusted to synchronize with the primary RP.



**Note** The **show clock sync** command shows the relative time difference between the RP where it is run and the cards in that SDR. If the command is run on the primary RP for the owner SDR, then the results show the relative time settings for the cards assigned to the owner SDR. If the command is run on the DSDRSC for a non-owner SDR, then the results are for the cards in that SDR. The **show clock sync** command can also be run on the standby RP, but the times displayed are relative to that RP.

## Task ID

## Task ID      Operations

ip-services    read

basic-services   read

The following example illustrates sample output from the **show clock sync** command:

```
RP/0/0/CPU0:router# show clock sync
```

Slot	Card	RoundTrip Delay	Time Offset	Local Time
0	RP Card	0 ms	0.000 s	16:00:05.798 UTC Sun Apr 09 2006
1	RP Card	1 ms	0.001+s	+16:00:05.798 UTC Sun Apr 09 2006
2	Line Card	2 ms	0.000 s	-16:00:05.798 UTC Sun Apr 09 2006
3	Line Card	15 ms	0.004+s	-16:00:05.802 UTC Sun Apr 09 2006
4	Line Card	1 ms	0.001+s	-16:00:05.798 UTC Sun Apr 09 2006
5	Line Card	2 ms	0.002+s	+16:00:05.799 UTC Sun Apr 09 2006

**Table 4: show clock sync Field Descriptions**

Field	Description
Slot	Physical slot number of the card.
Card	Type of card on the specified slot.
RoundTrip Delay	Time (in milliseconds) required for the test message to travel between the RP and LC and back.
Time Offset	Time difference (in seconds) between cards shown in the display.
Local Time	Displays the system clock setting. This is the same as the output displayed with the <b>show clock</b> command. The positive (+) or negative (-) sign is added if the card is being adjusted to run faster or slower.

 show clock sync