



Configuration Replace and Configuration Rollback

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The Configuration Replace and Configuration Rollback feature provides the capability to replace the current running configuration with any saved Cisco IOS XE configuration file. This functionality can be used to revert to a previous configuration state, effectively rolling back any configuration changes that were made since that configuration file was saved.

Finding Feature Information

For the latest feature information and caveats, see the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the [“Feature Information for Configuration Replace and Configuration Rollback”](#) section on page 16.

Use Cisco Feature Navigator to find information about platform support and Cisco IOS XE software image support. To access Cisco Feature Navigator, go to <http://www.cisco.com/go/cfn>. An account on Cisco.com is not required.

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- [Feature Information for Configuration Replace and Configuration Rollback, page 16](#)

Information About Configuration Replace and Configuration Rollback

To use the Configuration Replace and Configuration Rollback feature, you should understand the following concepts:

- [Configuration Archive, page 2](#)
- [Configuration Replace, page 2](#)
- [Configuration Rollback, page 3](#)
- [Benefits of Configuration Replace and Configuration Rollback, page 4](#)

Configuration Archive

The Cisco IOS XE configuration archive is intended to provide a mechanism to store, organize, and manage an archive of Cisco IOS XE configuration files to enhance the configuration rollback capability provided by the **configure replace** command. Before this feature was introduced, you could save copies of the running configuration using the **copy running-config destination-url** command, storing the replacement file either locally or remotely. However, this method lacked any automated file management. On the other hand, the Configuration Replace and Configuration Rollback feature provides the capability to automatically save copies of the running configuration to the Cisco IOS XE configuration archive. These archived files serve as checkpoint configuration references and can be used by the **configure replace** command to revert to previous configuration states.

The **archive config** command allows you to save Cisco IOS XE configurations in the configuration archive using a standard location and filename prefix that is automatically appended with an incremental version number (and optional timestamp) as each consecutive file is saved. This functionality provides a means for consistent identification of saved Cisco IOS XE configuration files. You can specify how many versions of the running configuration are kept in the archive. After the maximum number of files are saved in the archive, the oldest file is automatically deleted when the next, most recent file is saved. The **show archive** command displays information for all configuration files saved in the Cisco IOS XE configuration archive.

The Cisco IOS XE configuration archive, in which the configuration files are stored and available for use with the **configure replace** command, can be located on the following file systems:

- harddisk:
- bootflash:
- usb0:
- usb1:

Configuration Replace

The **configure replace** command provides the capability to replace the current running configuration with any saved Cisco IOS XE configuration file. This functionality can be used to revert to a previous configuration state, effectively rolling back any configuration changes that were made since the previous configuration state was saved.

When using the **configure replace** command, you must specify a saved Cisco IOS XE configuration as the replacement configuration file for the current running configuration. The replacement file must be a complete configuration generated by a Cisco IOS XE device (for example, a configuration generated by the **copy running-config destination-url** command), or, if generated externally, the replacement file must comply with the format of files generated by Cisco IOS XE devices. When the **configure replace** command is entered, the current running configuration is compared with the specified replacement configuration and a set of diffs is generated. The algorithm used to compare the two files is the same as that employed by the **show archive config differences** command. The resulting diffs are then applied by the Cisco IOS XE parser to achieve the replacement configuration state. Only the diffs are applied, avoiding potential service disruption from reapplying configuration commands that already exist in the current running configuration. This algorithm effectively handles configuration changes to order-dependent commands (such as access lists) through a multiple pass process. Under normal circumstances, no more than three passes are needed to complete a configuration replace operation, and a limit of five passes is performed to preclude any looping behavior.

The Cisco IOS XE **copy source-url running-config** command is often used to copy a stored Cisco IOS XE configuration file to the running configuration. When using the **copy source-url running-config** command as an alternative to the **configure replace target-url** command, the following major differences should be noted:

- The **copy source-url running-config** command is a merge operation and preserves all the commands from both the source file and the current running configuration. This command does not remove commands from the current running configuration that are not present in the source file. In contrast, the **configure replace target-url** command removes commands from the current running configuration that are not present in the replacement file and adds commands to the current running configuration that need to be added.
- The **copy source-url running-config** command applies every command in the source file, whether or not the command is already present in the current running configuration. This algorithm is inefficient and, in some cases, can result in service outages. In contrast, the **configure replace target-url** command only applies the commands that need to be applied—no existing commands in the current running configuration are reapplied.
- A partial configuration file may be used as the source file for the **copy source-url running-config** command, whereas a complete Cisco IOS XE configuration file must be used as the replacement file for the **configure replace target-url** command.

**Note**

When the **configure replace** command is used, the running configuration file is locked by default for the duration of the configuration replace operation. This locking mechanism prevents other users from changing the running configuration while the replacement operation is taking place, which might otherwise cause the replacement operation to terminate unsuccessfully. You can disable the locking of the running configuration by using the **no lock** keyword when issuing the **configure replace** command.

The running configuration lock is automatically cleared at the end of the configuration replace operation. You can display any locks that may be currently applied to the running configuration using the **show configuration lock** command.

Configuration Rollback

The concept of rollback comes from the transactional processing model common to database operations. In a database transaction, you might make a set of changes to a given database table. You then must choose whether to commit the changes (apply the changes permanently) or to roll back the changes

(discard the changes and revert to the previous state of the table). In this context, rollback means that a journal file containing a log of the changes is discarded, and no changes are applied. The result of the rollback operation is to revert to the previous state, before any changes were applied.

The **configure replace** command allows you to revert to a previous configuration state, effectively rolling back changes that were made since the previous configuration state was saved. Instead of basing the rollback operation on a specific set of changes that were applied, the Cisco IOS XE configuration rollback capability uses the concept of reverting to a specific configuration state based on a saved Cisco IOS XE configuration file. This concept is similar to the database idea of saving a checkpoint (a saved version of the database) to preserve a specific state.

If the configuration rollback capability is desired, you must save the Cisco IOS XE running configuration before making any configuration changes. Then, after entering configuration changes, you can use that saved configuration file to roll back the changes (using the **configure replace** *target-url* command). Furthermore, since you can specify any saved Cisco IOS XE configuration file as the replacement configuration, you are not limited to a fixed number of rollbacks, as is the case in some rollback models based on a journal file.

Configuration Rollback Confirmed Change

The Configuration Rollback Confirmed Change feature enables an added criteria of a confirmation to configuration changes. This functionality enables a rollback to occur if a confirmation of the requested changes is not received in a configured time frame. Command failures can also be configured to trigger a configuration rollback.

The following steps outline how this process is achieved:

1. When entering configuration mode, this new option allows you to request confirmation (a confirmation time limit must be supplied) of the configuration changes.
2. After exiting configuration mode, you must enter the confirmation command. If no confirmation is entered within the requested time limit, the configuration will revert to its previous state.

Benefits of Configuration Replace and Configuration Rollback

- Allows you to revert to a previous configuration state, effectively rolling back configuration changes.
- Allows you to replace the current running configuration file with the startup configuration file without having to reload the router or manually undo CLI changes to the running configuration file, therefore reducing system downtime.
- Allows you to revert to any saved Cisco IOS XE configuration state.
- Simplifies configuration changes by allowing you to apply a complete configuration file to the router, where only the commands that need to be added or removed are affected.
- When using the **configure replace** command as an alternative to the **copy source-url running-config** command, increases efficiency and prevents risk of service outages by not reapplying existing commands in the current running configuration.

How to Use Configuration Replace and Configuration Rollback

This section contains the following procedures:

- [Creating a Configuration Archive, page 5](#) (optional)
- [Performing a Configuration Replace or Configuration Rollback Operation, page 7](#) (required)
- [Monitoring and Troubleshooting the Configuration Replace and Configuration Rollback Feature, page 9](#) (optional)

Creating a Configuration Archive

No prerequisite configuration is needed to use the **configure replace** command. Using the **configure replace** command in conjunction with the Cisco IOS XE configuration archive and the **archive config** command is optional but offers significant benefit for configuration rollback scenarios. Before using the **archive config** command, the configuration archive must be configured. Perform this task to configure the characteristics of the configuration archive.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **archive**
4. **path** *url*
5. **maximum** *number*
6. **time-period** *minutes*
7. **end**
8. **archive config**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	archive Example: Router(config)# archive	Enters archive configuration mode.

	Command or Action	Purpose
Step 4	<p>path <i>url</i></p> <p>Example: Router(config-archive)# path bootflash:myconfig</p>	<p>Specifies the location and filename prefix for the files in the Cisco IOS XE configuration archive.</p> <ul style="list-style-type: none"> The <i>url</i> argument is a URL (accessible by the Cisco IOS XE file system) used for saving archive files of the running configuration file in the Cisco IOS XE configuration archive. You can set up an archive on any file system that your platform supports (see the “Configuration Archive” section on page 2). <p>Note If a directory is specified in the path instead of file, the directory name must be followed by a forward slash as follows: <code>path flash:/directory/</code>. The forward slash is not necessary after a file name, only when specifying a directory.</p>
Step 5	<p>maximum <i>number</i></p> <p>Example: Router(config-archive)# maximum 14</p>	<p>(Optional) Sets the maximum number of archive files of the running configuration to be saved in the Cisco IOS XE configuration archive.</p> <ul style="list-style-type: none"> The <i>number</i> argument is the maximum number of archive files of the running configuration to be saved in the Cisco IOS XE configuration archive. Valid values are from 1 to 14. The default is 10. <p>Note Before using this command, you must configure the path command to specify the location and filename prefix for the files in the Cisco IOS XE configuration archive.</p>
Step 6	<p>time-period <i>minutes</i></p> <p>Example: Router(config-archive)# time-period 10</p>	<p>(Optional) Sets the time increment for automatically saving an archive file of the current running configuration in the Cisco IOS XE configuration archive.</p> <ul style="list-style-type: none"> The <i>minutes</i> argument specifies how often, in minutes, to automatically save an archive file of the current running configuration in the Cisco IOS XE configuration archive. <p>Note Before using this command, you must configure the path command to specify the location and filename prefix for the files in the Cisco IOS XE configuration archive.</p>
Step 7	<p>end</p> <p>Example: Router(config-archive)# end</p>	<p>Exits to privileged EXEC mode.</p>
Step 8	<p>archive config</p> <p>Example: Router# archive config</p>	<p>Saves the current running configuration file to the configuration archive.</p> <p>Note The path command must be configured before using this command.</p>

Performing a Configuration Replace or Configuration Rollback Operation

Perform this task to replace the current running configuration file with a saved Cisco IOS XE configuration file.

**Note**

You must create a configuration archive before performing this procedure. See [Creating a Configuration Archive, page 5](#) for detailed steps. The following procedure details how to return to that archived configuration in the event of a problem with the current running configuration.

SUMMARY STEPS

1. **enable**
2. **configure replace** *target-url* [**nolock**] [**list**] [**force**] [**ignorecase**] [**revert trigger** [**error**] [**timer** *minutes*] | **time** *minutes*]
3. **configure revert** {**now** | **timer** {*minutes* | **idle** *minutes*}}
4. **configure confirm**
5. **exit**

DETAILED STEPS

	Command or Action	Purpose
Step 1	<pre>enable</pre> <p>Example: Router> enable</p>	<p>Enables privileged EXEC mode.</p> <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	<pre>configure replace target-url [nolock] [list] [force] [ignorecase] [revert trigger [error] [timer minutes] time minutes]</pre> <p>Example: Router# configure replace bootflash:myconfig-1 list time 30</p>	<p>Replaces the current running configuration file with a saved Cisco IOS XE configuration file.</p> <ul style="list-style-type: none"> • The <i>target-url</i> argument is a URL (accessible by the Cisco IOS XE file system) of the saved Cisco IOS XE configuration file that is to replace the current running configuration, such as the configuration file created using the archive config command. • The list keyword displays a list of the command lines applied by the Cisco IOS XE software parser during each pass of the configuration replace operation. The total number of passes performed is also displayed. • The force keyword replaces the current running configuration file with the specified saved Cisco IOS XE configuration file without prompting you for confirmation. • The time minutes keyword and argument specify the time (in minutes) within which you must enter the configure confirm command to confirm replacement of the current running configuration file. If the configure confirm command is not entered within the specified time limit, the configuration replace operation is automatically reversed (in other words, the current running configuration file is restored to the configuration state that existed prior to entering the configure replace command). • The nolock keyword disables the locking of the running configuration file that prevents other users from changing the running configuration during a configuration replace operation. • The revert trigger keywords set the following triggers for reverting to the original configuration: <ul style="list-style-type: none"> – error—Reverts to the original configuration upon error. – timer minutes—Reverts to the original configuration if specified time elapses. • The ignorecase keyword allows the configuration to ignore the case of the confirmation command.

	Command or Action	Purpose
Step 3	<p>configure revert {now timer {<i>minutes</i> idle <i>minutes</i>}}</p> <p>Example: Router# configure revert now</p>	<p>(Optional) To cancel the timed rollback and trigger the rollback immediately, or to reset parameters for the timed rollback, use the configure revert command in privileged EXEC mode.</p> <ul style="list-style-type: none"> • now—Triggers the rollback immediately. • timer—Resets the configuration revert timer. <ul style="list-style-type: none"> – Use the <i>minutes</i> argument with the timer keyword to specify a new revert time in minutes. – Use the idle keyword along with a time in minutes to set the maximum allowable time period of no activity before reverting to the saved configuration.
Step 4	<p>configure confirm</p> <p>Example: Router# configure confirm</p>	<p>(Optional) Confirms replacement of the current running configuration file with a saved Cisco IOS XE configuration file.</p> <p>Note Use this command only if the time seconds keyword and argument of the configure replace command are specified.</p>
Step 5	<p>exit</p> <p>Example: Router# exit</p>	Exits to user EXEC mode.

Monitoring and Troubleshooting the Configuration Replace and Configuration Rollback Feature

Perform this task to monitor and troubleshoot the Configuration Replace and Configuration Rollback feature.

SUMMARY STEPS

1. **enable**
2. **show archive**
3. **debug archive versioning**
4. **debug archive config timestamp**
5. **exit**

DETAILED STEPS

Step 1 **enable**

Use this command to enable privileged EXEC mode. Enter your password if prompted. For example:

```
Router> enable
Router#
```

Step 2 **show archive**

Use this command to display information about the files saved in the Cisco IOS XE configuration archive. For example:

```
Router# show archive
```

```
There are currently 1 archive configurations saved.
The next archive file will be named bootflash:myconfig-2
Archive # Name
0
1      bootflash:myconfig-1 <- Most Recent
2
3
4
5
6
7
8
9
10
11
12
13
14
```

The following is sample output from the **show archive** command after several archive files of the running configuration have been saved. In this example, the maximum number of archive files to be saved is set to three.

```
Router# show archive
```

```
There are currently 3 archive configurations saved.
The next archive file will be named bootflash:myconfig-8
Archive # Name
0
1      :Deleted
2      :Deleted
3      :Deleted
4      :Deleted
5      bootflash:myconfig-5
6      bootflash:myconfig-6
7      bootflash:myconfig-7 <- Most Recent
8
9
10
11
12
13
14
```

Step 3 debug archive versioning

Use this command to enable debugging of the Cisco IOS XE configuration archive activities to help monitor and troubleshoot configuration replace and rollback. For example:

```
Router# debug archive versioning
```

```
Jan 9 06:46:28.419:backup_running_config
Jan 9 06:46:28.419:Current = 7
Jan 9 06:46:28.443:Writing backup file bootflash:myconfig-7
Jan 9 06:46:29.547: backup worked
```

Step 4 debug archive config timestamp

Use this command to enable debugging of the processing time for each integral step of a configuration replace operation and the size of the configuration files being handled. For example:

```
Router# debug archive config timestamp
Router# configure replace bootflash:myconfig force

Timing Debug Statistics for IOS Config Replace operation:
  Time to read file slot0:sample_2.cfg = 0 msec (0 sec)
  Number of lines read:55
  Size of file          :1054

Starting Pass 1
  Time to read file system:running-config = 0 msec (0 sec)
  Number of lines read:93
  Size of file          :2539
  Time taken for positive rollback pass = 320 msec (0 sec)
  Time taken for negative rollback pass = 0 msec (0 sec)
  Time taken for negative incremental diffs pass = 59 msec (0 sec)
  Time taken by PI to apply changes = 0 msec (0 sec)
  Time taken for Pass 1 = 380 msec (0 sec)

Starting Pass 2
  Time to read file system:running-config = 0 msec (0 sec)
  Number of lines read:55
  Size of file          :1054
  Time taken for positive rollback pass = 0 msec (0 sec)
  Time taken for negative rollback pass = 0 msec (0 sec)
  Time taken for Pass 2 = 0 msec (0 sec)

Total number of passes:1
Rollback Done
```

Step 5 **exit**

Use this command to exit to user EXEC mode. For example:

```
Router# exit
Router>
```

Configuration Examples for Configuration Replace and Configuration Rollback

This section provides the following configuration examples:

- [Creating a Configuration Archive: Example, page 12](#)
- [Replacing the Current Running Configuration with a Saved Cisco IOS XE Configuration File: Example, page 12](#)
- [Reverting to the Startup Configuration File: Example, page 13](#)
- [Performing a Configuration Replace Operation with the configure confirm Command: Example, page 13](#)
- [Performing a Configuration Rollback Operation: Example, page 13](#)

Creating a Configuration Archive: Example

The following example shows how to perform the initial configuration of the Cisco IOS XE configuration archive. In this example, `bootflash:myconfig` is specified as the location and filename prefix for the files in the configuration archive and a value of 10 is set as the maximum number of archive files to be saved.

```
configure terminal
!
archive
 path bootflash:myconfig
 maximum 10
end
```

Replacing the Current Running Configuration with a Saved Cisco IOS XE Configuration File: Example

The following example shows how to replace the current running configuration with a saved Cisco IOS XE configuration file named `bootflash:myconfig`. The **configure replace** command interactively prompts you to confirm the operation.

```
Router# configure replace bootflash:myconfig
```

```
This will apply all necessary additions and deletions
to replace the current running configuration with the
contents of the specified configuration file, which is
assumed to be a complete configuration, not a partial
configuration. Enter Y if you are sure you want to proceed. ? [no]: Y
```

```
Total number of passes: 1
Rollback Done
```

In the following example, the **list** keyword is specified in order to display the command lines that were applied during the configuration replace operation:

```
Router# configure replace bootflash:myconfig list
```

```
This will apply all necessary additions and deletions
to replace the current running configuration with the
contents of the specified configuration file, which is
assumed to be a complete configuration, not a partial
configuration. Enter Y if you are sure you want to proceed. ? [no]: Y
```

```
!Pass 1
```

```
!List of Commands:
no snmp-server community public ro
snmp-server community mystring ro
end
```

```
Total number of passes: 1
Rollback Done
```

Reverting to the Startup Configuration File: Example

The following example shows how to revert to the Cisco IOS XE startup configuration file using the **configure replace** command. This example also shows the use of the optional **force** keyword to override the interactive user prompt.

```
Router# configure replace nvram:startup-config force

Total number of passes: 1
Rollback Done
```

Performing a Configuration Replace Operation with the **configure confirm** Command: Example

The following example shows the use of the **configure replace** command with the **time seconds** keyword and argument. You must enter the **configure confirm** command within the specified time limit to confirm replacement of the current running configuration file. If the **configure confirm** command is not entered within the specified time limit, the configuration replace operation is automatically reversed (in other words, the current running configuration file is restored back to the configuration state that existed prior to entering the **configure replace** command).

```
Router# configure replace nvram:startup-config time 120
```

```
This will apply all necessary additions and deletions
to replace the current running configuration with the
contents of the specified configuration file, which is
assumed to be a complete configuration, not a partial
configuration. Enter Y if you are sure you want to proceed. ? [no]: Y
```

```
Total number of passes: 1
Rollback Done
```

```
Router# configure confirm
```

Performing a Configuration Rollback Operation: Example

The following example shows how to make changes to the current running configuration and then roll back the changes. As part of the configuration rollback operation, you must save the current running configuration before making changes to the file. In this example, the **archive config** command is used to save the current running configuration. The generated output of the **configure replace** command indicates that only one pass was performed to complete the rollback operation.



Note

Before using the **archive config** command, you must configure the **path** command to specify the location and filename prefix for the files in the Cisco IOS XE configuration archive.

You first save the current running configuration in the configuration archive as follows:

```
archive config
```

You then enter configuration changes as shown in the following example:

```
configure terminal
!
user netops2 password rain
```

```
user netops3 password snow
exit
```

After having made changes to the running configuration file, assume you now want to roll back these changes and revert to the configuration that existed before the changes were made. The **show archive** command is used to verify the version of the configuration to be used as a replacement file. The **configure replace** command is then used to revert to the replacement configuration file as shown in the following example:

```
Router# show archive

There are currently 1 archive configurations saved.
The next archive file will be named bootflash:myconfig-2
Archive # Name
0
1      bootflash:myconfig-1 <- Most Recent
2
3
4
5
6
7
8
9
10

Router# configure replace bootflash:myconfig-1

Total number of passes: 1
Rollback Done
```

Additional References

The following sections provide references related to the Configuration Replace and Configuration Rollback feature.

Related Documents

Related Topic	Document Title
Configuration Locking	Exclusive Configuration Change Access and Access Session Locking
Commands for managing configuration files	Cisco IOS Configuration Fundamentals Command Reference
Information about managing configuration files	Managing Configuration Files
Using the Contextual Configuration Diff Utility feature	Contextual Configuration Diff Utility

Standards

Standards	Title
No new or modified standards are supported by this feature, and support for existing standards has not been modified by this feature.	—

MIBs

MIBs	MIBs Link
No new or modified MIBs are supported by this feature, and support for existing MIBs has not been modified by this feature.	To locate and download MIBs for selected platforms, Cisco IOS XE releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

RFCs

RFCs	Title
No new or modified RFCs are supported by this feature, and support for existing RFCs has not been modified by this feature.	—

Technical Assistance

Description	Link
<p>The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies.</p> <p>To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds.</p> <p>Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.</p>	http://www.cisco.com/techsupport

Feature Information for Configuration Replace and Configuration Rollback

Table 1 lists the features in this module and provides links to specific configuration information.

Use Cisco Feature Navigator to find information about platform support and software image support. Cisco Feature Navigator enables you to determine which Cisco IOS XE software images support a specific software release, feature set, or platform. To access Cisco Feature Navigator, go to <http://www.cisco.com/go/cfn>. An account on Cisco.com is not required.



Note

Table 1 lists only the Cisco IOS XE software release that introduced support for a given feature in a given Cisco IOS XE software release. Unless noted otherwise, subsequent releases of that Cisco IOS XE software release also support that feature.

Table 1 Feature Information for Configuration Replace and Configuration Rollback

Feature Name	Releases	Feature Information
Configuration Replace and Configuration Rollback	Cisco IOS XE Release 2.1	<p>The Configuration Replace and Configuration Rollback feature provides the capability to replace the current running configuration with any saved Cisco IOS XE configuration file. This functionality can be used to revert to a previous configuration state, rolling back any configuration changes that were made since that configuration file was saved.</p> <p>In Cisco IOS XE Release 2.1, this feature was introduced on Cisco ASR 1000 Series Routers.</p> <p>The following sections provide feature information:</p> <ul style="list-style-type: none"> • Configuration Archive, page 2 • Configuration Replace, page 2 • Configuration Rollback, page 3 • Benefits of Configuration Replace and Configuration Rollback, page 4 • Creating a Configuration Archive, page 5 • Performing a Configuration Replace or Configuration Rollback Operation, page 7 • Monitoring and Troubleshooting the Configuration Replace and Configuration Rollback Feature, page 9 <p>The following commands were modified by this feature: archive config, configure confirm, configure replace, debug archive config timestamp, debug archive versioning, maximum, path (archive configuration), show archive, show configuration lock, time-period.</p>

Table 1 Feature Information for Configuration Replace and Configuration Rollback (continued)

Feature Name	Releases	Feature Information
Configuration Versioning	Cisco IOS XE Release 2.1	<p>The Configuration Versioning feature allows you to maintain and manage backup copies of the Cisco IOS XE running configuration on or off the device. The Configuration Replace feature uses the Configuration Versioning feature to provide a rollback to a saved copy of the running configuration.</p> <p>In Cisco IOS XE Release 2.1, this feature was introduced on Cisco ASR 1000 Series Routers.</p>
Exclusive Configuration Change Access	Cisco IOS XE Release 2.1	<p>The Exclusive Configuration Change Access feature (also called the “Configuration Lock” feature) allows you to have exclusive change access to the Cisco IOS XE running configuration, preventing multiple users from making concurrent configuration changes.</p> <p>The following command was modified by this feature and applies to the Configuration Replace and Configuration Rollback feature: show configuration lock.</p> <p>Refer to the separate module, Exclusive Configuration Change Access and Access Session Locking, for details</p>
Configuration Rollback Confirmed Change	Cisco IOS XE Release 2.1	<p>The Configuration Rollback Confirmed Change feature allows configuration changes to be performed with an optional requirement that they be confirmed.</p> <p>If this confirmation is not received, the configuration is returned to the state prior to the changes being applied.</p> <p>This mechanism provides a safeguard against inadvertent loss of connectivity between a network device and the user or management application due to configuration changes.</p> <p>In Cisco IOS XE Release 2.1, this feature was introduced on Cisco ASR 1000 Series Routers.</p> <p>The following sections provide information about this feature:</p> <ul style="list-style-type: none"> • Configuration Rollback Confirmed Change, page 4 • Performing a Configuration Replace or Configuration Rollback Operation, page 7 <p>The following commands were modified by this feature: configure confirm, configure replace, configure revert, configure terminal</p>

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