



# Managing Configuration Files in ROM Monitor

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This chapter provides information about managing configuration files in the router.

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## Information about Configuration Files

Cisco IOS XR software creates two types of configuration files—the administration configuration file and the default secure domain router (SDR) configuration files. These configuration files are stored in the following locations:

- There is only one administration configuration file, which is stored on the designated shelf controller (DSC) and contains system-wide configurations for items such as SDR name and node inventory.
- In addition, each SDR has its own SDR configuration to specify the parameters for routing, interfaces, SDR usernames, and other SDR-specific configurations. By default, the configuration file for each SDR is stored on the designated secure domain router shelf controller (DSDRSC) for the SDR.

For more information on SDRs, DSDRSCs and admin plane configuration, see the *Configuring Secure Domain Routers on Cisco IOS XR Software* module of the *Cisco IOS XR System Management Configuration Guide for the Cisco XR 12000 Series Router*.

The following sections describe ways to manage the use of configuration files from ROM Monitor:



### Caution

The default configuration should be sufficient for most situations. The options described in the following sections are for rare cases in which an alternative configuration is required. Use of these options can result in system errors or downtime. Consult Cisco technical support before using these options.

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## Specifying an Alternative Administration Configuration

The administration configuration stores system-wide configurations such as the SDR name and node inventory for the entire system. This is separate from the default-SDR configuration that stores routing and interface configurations.



### Caution

The default committed administration configuration should be sufficient for most situations. The option described in this section is for rare cases when an alternative admin configuration is required. Use of this method can result in system errors or downtime.

## Specifying a Temporary Alternative Administrative Configuration with the `-o` Boot Option

This mode of administrative configuration with the `-o boot` option is temporary in nature. After this boot option is set, this mode allows the router to boot from this alternative configuration, and the configuration specified in this configuration file becomes part of the running and persistent configuration.



### Note

When the router boots with the external configuration specified by the `-o` option, the system loses the default configuration. The default configuration is completely replaced with this alternative configuration.

To specify a temporary administration configuration file with the `-o boot` option, use the following procedure. With this method, the specified configuration file is used for a single router boot. If the DSC is reset again, the permanent configuration file is used.

### SUMMARY STEPS

1. Place the DSC and the standby DSC in ROM Monitor mode.
2. `confreg 0x0`
3. `confreg 0x102`
4. `set`
5. `boot image -o config-file-path`
6. `confreg 0x102`
7. `reset`

### DETAILED STEPS

	Command or Action	Purpose
Step 1	Place the DSC and the standby DSC in ROM Monitor mode.	

	Command or Action	Purpose
<b>Step 2</b>	<b>confreg 0x0</b>  <b>Example:</b> <pre>rommon 1&gt; confreg 0x0</pre>	Sets the configuration register of the standby DSC to 0x0 so that the standby DSC does not take control.  <b>Note</b> The configuration register is not an environment variable like TURBOBOOT. Do not enter an equal sign when entering the <b>confreg</b> command.
<b>Step 3</b>	<b>confreg 0x102</b>  <b>Example:</b> <pre>rommon 1 &gt; confreg 0x102</pre>	Sets the active RP configuration register to 0x102.
<b>Step 4</b>	<b>set</b>  <b>Example:</b> <pre>rommon 2 &gt; set</pre>	Displays the current environment variable settings.  <b>Note</b> The filename is set in the BOOT variable.
<b>Step 5</b>	<b>boot image -o config-file-path</b>  <b>Example:</b> <pre>rommon 3&gt; boot tftp://223.255.254.254/images/c12k-mini.vml -o /disk1:/cfgarchives/admingold.conf</pre>	Boots the router. Replace image with the filename listed in the boot variable, and replace <i>config-file-path</i> with the path and filename for the configuration file.  <b>Note</b> The pathname should be a valid UNIX pathname (a slash [/] must be included after the device: "disk1:/").
<b>Step 6</b>	<b>confreg 0x102</b>  <b>Example:</b> <pre>rommon 1&gt; confreg 0x102</pre>	Sets the configuration register of the standby DSC to 0x102.
<b>Step 7</b>	<b>reset</b>  <b>Example:</b> <pre>rommon 2 &gt; reset</pre>	Resets the standby DSC so that the new setting takes effect and the standby DSC becomes operational.

## Specifying a Permanent Alternative Administrative Configuration File with the IOX\_ADMIN\_CONFIG\_FILE= Variable

This mode of alternative administrative configuration with the IOX\_ADMIN\_CONFIG\_FILE= variable is permanent in nature. After this variable is set, this mode allows the router to always boot from this alternative configuration, and the system does not revert to the default committed configuration on the next system reload.

**Note**

When the router boots with the external configuration specified by the `IOX_ADMIN_CONFIG_FILE=` variable, the system loses the default configuration. The default configuration is completely replaced with this alternative configuration.

To permanently change the location of the default administration configuration file, specify the filename and directory path in the `IOX_ADMIN_CONFIG_FILE=` environment variable while in ROM Monitor mode. Specifying the environment variable forces the use of the specified file for all boots while this variable is set.

**SUMMARY STEPS**

1. Place the DSC and the standby DSC in ROM Monitor mode.
2. `confreg 0x0`
3. `confreg 0x102`
4. `set`
5. `IOX_ADMIN_CONFIG_FILE=drive:path/file`
6. `sync`
7. `boot`
8. `confreg 0x102`
9. `reset`

**DETAILED STEPS**

	Command or Action	Purpose
<b>Step 1</b>	Place the DSC and the standby DSC in ROM Monitor mode.	
<b>Step 2</b>	<b>confreg 0x0</b>  <b>Example:</b> <pre>rommon 1&gt; confreg 0x0</pre>	Sets the configuration register of the standby DSC to 0x0 so that the standby DSC does not take control.  <b>Note</b> The configuration register is not an environment variable like TURBOBOOT. Do not enter an equal sign when entering the <b>confreg</b> command.
<b>Step 3</b>	<b>confreg 0x102</b>  <b>Example:</b> <pre>rommon 1 &gt; confreg 0x102</pre>	Sets the DSC configuration register to 0x102.
<b>Step 4</b>	<b>set</b>  <b>Example:</b> <pre>rommon 2 &gt; set</pre>	Displays the current environment variable settings.  <b>Note</b> The filename is set in the <code>IOX_ADMIN_CONFIG_FILE</code> variable.

	Command or Action	Purpose
Step 5	<b>IOX_ADMIN_CONFIG_FILE=drive:path/file</b>  <b>Example:</b> <pre>rommon B1&gt; IOX_ADMIN_CONFIG_FILE=/disk2:/cfgarchives/ admingold.conf</pre>	Sets the IOX_ADMIN_CONFIG_FILE variable to specify the absolute path of a different administration configuration file.  <b>Note</b> The IOX_ADMIN_CONFIG_FILE variable is overridden by the <b>boot</b> command when it is entered with the <b>-o</b> option.
Step 6	<b>sync</b>  <b>Example:</b> <pre>rommon B1&gt; sync</pre>	Saves the changes.
Step 7	<b>boot</b>  <b>Example:</b> <pre>rommon B1&gt; boot</pre>	Boots the router.
Step 8	<b>confreg 0x102</b>  <b>Example:</b> <pre>rommon 1&gt; confreg 0x102</pre>	Sets the configuration register of the standby DSC to 0x102.
Step 9	<b>reset</b>  <b>Example:</b> <pre>rommon 2 &gt; reset</pre>	Resets the standby DSC so that the new setting takes effect and the standby DSC becomes operational.

## Specifying an Alternative SDR Configuration

You can specify an alternative configuration for an SDR from ROM Monitor mode, using the methods described in the following sections. These procedures are run from the DSDRSC for the SDR. The DSC is also the DSDRSC of the owner SDR. For all other non-owner SDRs, the DSDRSC is the RP or DRP assigned as the DSDRSC.



**Note** For more information on SDRs and DSDRSCs, see the *Configuring Secure Domain Routers on Cisco IOS XR Software* module of *Cisco IOS XR System Management Configuration Guide for the Cisco XR 12000 Series Router*.

**Caution**

The default committed SDR configuration should be sufficient for most situations. The option described in this section is for rare cases when an alternative SDR configuration is required. Use of this method can result in system errors or downtime.

## Specifying a Temporary SDR Configuration File with the -a Boot Option

This mode of SDR configuration with the **-a** boot option is temporary in nature. Once this boot option is set, this mode allows the router to boot from this alternative configuration and the configuration specified in this configuration file becomes part of the running and persistent configuration.

**Note**

When the router boots with the external configuration specified by the **-a** option, the system loses the default configuration. The default configuration is completely replaced with this alternative configuration.

To specify a temporary SDR configuration file with the **-a** boot option, use the following procedure. With this method, the specified configuration file is used for a single router boot. If the DSC is reset again, the permanent configuration file is used.

### SUMMARY STEPS

1. Place the DSDRSC and the standby DSDRSC in ROM Monitor mode.
2. **confreg 0x0**
3. **confreg 0x102**
4. **set**
5. **boot image -a config-file-path**
6. **confreg 0x102**
7. **reset**

### DETAILED STEPS

	Command or Action	Purpose
<b>Step 1</b>	Place the DSDRSC and the standby DSDRSC in ROM Monitor mode.	
<b>Step 2</b>	<b>confreg 0x0</b>  <b>Example:</b> <pre>rommon 1&gt; confreg 0x0</pre>	Sets the configuration register of the standby DSDRSC to 0x0 so that the standby DSDRSC does not take control.  <b>Note</b> The configuration register is not an environment variable like TURBOBOOT. Do not enter an equal sign when entering the <b>confreg</b> command.
<b>Step 3</b>	<b>confreg 0x102</b>  <b>Example:</b> <pre>rommon 1 &gt; confreg 0x102</pre>	Sets the DSDRSC configuration register to 0x102.

	Command or Action	Purpose
<b>Step 4</b>	<b>set</b>  <b>Example:</b> <pre>rommon 2 &gt; set</pre>	Displays the current environment variable settings.  <b>Note</b> The filename is set in the BOOT variable.
<b>Step 5</b>	<b>boot image -a config-file-path</b>  <b>Example:</b> <pre>rommon 3&gt; boot tftp://223.255.254.254/images/c12k-mini.vm -a /disk1:/cfgarchives/SDRgold.conf</pre>	Enter the <b>boot</b> command. Replace <i>image</i> with the filename listed in the boot variable, and replace <i>config-file-path</i> with the path and filename for the configuration file.  <b>Note</b> The pathname should be a valid UNIX pathname (a slash [/] must be included after the device: "disk1:").
<b>Step 6</b>	<b>confreg 0x102</b>  <b>Example:</b> <pre>rommon 1&gt; confreg 0x102</pre>	Sets the configuration register of the standby DSDRSC to 0x102.
<b>Step 7</b>	<b>reset</b>  <b>Example:</b> <pre>rommon 2 &gt; reset</pre>	Resets the standby DSDRSC so that the new setting takes effect and the standby DSDRSC becomes operational.

## Specifying a Permanent SDR Configuration File with the IOX\_CONFIG\_FILE= Variable

This mode of alternative SDR configuration with the IOX\_CONFIG\_FILE= variable is permanent in nature. Once this variable is set, this mode allows the router to always boot from this alternative configuration. The system does not revert to the default committed configuration on the next system reload.



**Note** When the router boots with the external configuration specified by the IOX\_CONFIG\_FILE= variable, the system loses the default configuration. The default configuration is completely replaced with this alternative configuration.

To permanently change the location of the default configuration file for an SDR, specify the filename and directory path in the IOX\_CONFIG\_FILE= environment variable while in ROM Monitor mode. Specifying the environment variable forces the use of the specified file for all boots while this variable is set.

**SUMMARY STEPS**

1. Place the DSDRSC and the standby DSDRSC in ROM Monitor mode.
2. `confreg 0x0`
3. `confreg 0x102`
4. `set`
5. `IOX_CONFIG_FILE=drive:path/file`
6. `sync`
7. `boot`
8. `confreg 0x102`
9. `reset`

**DETAILED STEPS**

	<b>Command or Action</b>	<b>Purpose</b>
<b>Step 1</b>	Place the DSDRSC and the standby DSDRSC in ROM Monitor mode.	
<b>Step 2</b>	<b>confreg 0x0</b>  <b>Example:</b> <pre>rommon 1&gt; confreg 0x0</pre>	Sets the configuration register of the standby DSDRSC to 0x0 so that the standby DSDRSC does not take control.  <b>Note</b> The configuration register is not an environment variable like TURBOBOOT. Do not enter an equal sign when entering the <b>confreg</b> command.
<b>Step 3</b>	<b>confreg 0x102</b>  <b>Example:</b> <pre>rommon 1 &gt; confreg 0x102</pre>	Sets the DSDRSC configuration register to 0x102.
<b>Step 4</b>	<b>set</b>  <b>Example:</b> <pre>rommon 2 &gt; set</pre>	Displays the current environment variable settings.  <b>Note</b> The filename is set in the <code>IOX_CONFIG_FILE</code> variable.
<b>Step 5</b>	<b>IOX_CONFIG_FILE=drive:path/file</b>  <b>Example:</b> <pre>rommon B1&gt; IOX_CONFIG_FILE=/disk2:/cfgarchives/admingold.conf</pre>	Sets the <code>IOX_CONFIG_FILE</code> variable to specify the absolute path of a different SDR configuration file.  <b>Note</b> The <code>IOX_CONFIG_FILE=</code> variable is overridden by the <b>boot</b> command when it is entered with the <b>-a</b> option.
<b>Step 6</b>	<b>sync</b>  <b>Example:</b> <pre>rommon B1&gt; sync</pre>	Saves the changes.



	Command or Action	Purpose
<b>Step 7</b>	<b>boot</b>  <b>Example:</b> rommon B1> boot	Boots the router.
<b>Step 8</b>	<b>confreg 0x102</b>  <b>Example:</b> rommon 1> confreg 0x102	Sets the configuration register of the standby DSDRSC to 0x102.
<b>Step 9</b>	<b>reset</b>  <b>Example:</b> rommon 2 > reset	Resets the standby DSDRSC so that the new setting takes effect and the standby DSDRSC becomes operational.

## Specifying an Alternate Storage Location for Configuration Files

To change the default location where the configuration files for an SDR are saved (committed), specify the location and directory path in the `IOX_CONFIG_MEDIUM=` environment variable while in ROM Monitor mode. Specifying the environment variable forces the use of the specified location while this variable is set.

### SUMMARY STEPS

1. Place the DSDRSC and the standby DSDRSC in ROM Monitor mode.
2. **confreg 0x0**
3. **confreg 0x102**
4. **set**
5. **IOX\_CONFIG\_MEDIUM=/location:/path/**
6. **sync**
7. **boot**
8. **confreg 0x102**
9. **reset**

### DETAILED STEPS

	Command or Action	Purpose
<b>Step 1</b>	Place the DSDRSC and the standby DSDRSC in ROM Monitor mode.	

	Command or Action	Purpose
<b>Step 2</b>	<b>confreg 0x0</b>  <b>Example:</b> <pre>rommon 1&gt; confreg 0x0</pre>	Sets the configuration register of the standby DSDRSC to 0x0 so that the standby DSDRSC does not take control.  <b>Note</b> The configuration register is not an environment variable like TURBOBOOT. Do not enter an equal sign when entering the <b>confreg</b> command.
<b>Step 3</b>	<b>confreg 0x102</b>  <b>Example:</b> <pre>rommon 1 &gt; confreg 0x102</pre>	Sets the DSDRSC configuration register to 0x102.
<b>Step 4</b>	<b>set</b>  <b>Example:</b> <pre>rommon 2 &gt; set</pre>	Displays the current environment variable settings.  <b>Note</b> The filename is set in the IOX_CONFIG_MEDIUM variable.
<b>Step 5</b>	<b>IOX_CONFIG_MEDIUM=/location:/path/</b>  <b>Example:</b> <pre>rommon B1&gt; IOX_CONFIG_MEDIUM=/disk1:/cfgarchives/admingold.conf</pre>	Sets the IOX_CONFIG_MEDIUM variable to specify a different location.  <ul style="list-style-type: none"> <li>For the Cisco XR 12000 Series Router, replace location with disk0, disk1, or compactflash. Replace path with the path to the directory in which you want to store the configuration files.</li> </ul> <b>Note</b> By default, the directory /disk0:/usr is available for storing alternative configurations and other user files. We recommend that you do not use a directory path starting with /disk0:/config because that path is used to store system files.
<b>Step 6</b>	<b>sync</b>  <b>Example:</b> <pre>rommon B1&gt; sync</pre>	Saves the changes.
<b>Step 7</b>	<b>boot</b>  <b>Example:</b> <pre>rommon B1&gt; boot</pre>	Boots the router.

	Command or Action	Purpose
<b>Step 8</b>	<b>confreg 0x102</b>  <b>Example:</b> <pre>rommon 1&gt; confreg 0x102</pre>	Sets the configuration register of the standby DSDRSC to 0x102.
<b>Step 9</b>	<b>reset</b>  <b>Example:</b> <pre>rommon 2 &gt; reset</pre>	Resets the standby DSDRSC so that the new setting takes effect and the standby DSDRSC becomes operational.

## Additional References

The following sections provide references related to the ROM Monitor.

### Related Documents

Related Topic	Document Title
SDRs, DSDRSCs, and admin plane configuration	<i>Configuring Secure Domain Routers on Cisco IOS XR Software</i> module of <i>Cisco IOS XR System Management Configuration Guide for the Cisco XR 12000 Series Router</i>

### 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>	<a href="http://www.cisco.com/support">http://www.cisco.com/support</a>

