

Managing Firmware

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- Managing the CMC Firmware, page 5
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Managing BIOS Firmware

The examples in this section show how to use the Cisco IMC XML API to retrieve and update BIOS firmware. Each example shows the XML API request followed by the response from Cisco IMC.

This section includes the following examples:

- Retrieving BIOS Running Firmware Version, on page 1
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- Activating the Installed BIOS Firmware, on page 3

Retrieving BIOS Running Firmware Version

```
description="BIOS currently running firmware version"
    deployment="boot-loader" type="blade-bios" version="server.3.0.1.2.081720142325"/>
    </outConfig>
    </configResolveDn>
```

Retrieving BIOS Backup Firmware Version

Request:

Retrieving BIOS Startup Firmware Version

Request:

```
<configResolveDn cookie="1418810756/8f046609-670a-1a67-800f-91fabb1b0ff4"
dn='sys/chassis-1/server-1/bios/fw-boot-def' inHierarchical="true"/>
Decomposed
```

Response:

```
<configResolveDn cookie="1418810756/8f046609-670a-1a67-800f-91fabblb0ff4"
response="yes" dn="sys/chassis-1/server-1/bios/fw-boot-def">
        <outConfig>
        <firmwareBootDefinition dn="sys/chassis-1/server-1/bios/fw-boot-def"
        type="blade-bios">
        <firmwareBootDefinition dn="sys/chassis-1/server-1/bios/fw-boot-def"
        type="blade-bios">
        <firmwareBootUnit rn="bootunit-combined" description="BIOS startup
        firmware version" adminState="triggered" image="running"
        resetOnActivate="no" type="combined" version="server.3.0.1.2.081720142325"/>
        </firmwareBootDefinition>
        </outConfig>
</configResolveDn>
```

Upgrading BIOS Firmware Using TFTP

The following example shows how to upgrade BIOS firmware using TFTP protocol. You can also upgrade the firmware using the following other protocols:

- FTP
- SFTP
- SCP
- HTTP

Request:

```
<configConfMo cookie='1418813107/6f2f499a-670a-1a67-8002-91fabb1b0ff4'
dn='sys/chassis-1/server-1/bios/fw-updatable'>
<inConfig>
   <firmwareUpdatable dn='sys/chassis-1/server-1/bios/fw-updatable'
   adminState='trigger' protocol='tftp' type='blade-bios'
   remoteServer='10.106.27.149' remotePath='sriparim/server-BIOS-3-0-1-2.cap'/>
```

```
</inConfig>
</configConfMo>
Response:
<configConfMo dn="sys/chassis-1/server-1/bios/fw-updatable"
cookie="1418813107/6f2f499a-670a-1a67-8002-91fabb1b0ff4" response="yes">
<outConfig>
<firmwareUpdatable dn="sys/chassis-1/server-1/bios/fw-updatable"
description="BIOS firmware version" adminState="triggered"
deployment="primary" operState="failed" version="server.3.0.1.2.081720142325"
protocol="none" remoteServer="" remotePath="" user="" pwd=""
progress=" Update In Progress " type="blade-bios" status="modified"/>
</outConfig>
</configConfMo>
```

Verifying the Progress of the Upgrade

Request:

Activating the Installed BIOS Firmware

```
C-
```

Important Host must be powered off while activating BIOS.

Request:

```
<configConfMo dn="sys/chassis-1/server-1/bios/fw-boot-def/bootunit-combined"
cookie="1418814643/d6338300-680a-1a68-8003-91fabb1b0ff4" response="yes">
<inConfig>
 <firmwareBootUnit dn='sys/chassis-1/server-1/bios/fw-boot-def/bootunit-combined'</pre>
  adminState='trigger' image='backup' resetOnActivate='yes' />
 </inConfig>
Response:
<configConfMo dn="sys/chassis-1/server-1/bios/fw-boot-def/bootunit-combined"
cookie="1418814643/d6338300-680a-1a68-8003-91fabb1b0ff4" response="yes">
 <outConfig>
  <firmwareBootUnit dn="sys/chassis-1/server-1/bios/fw-boot-def/bootunit-combined"</pre>
   description="BIOS startup firmware version" adminState="triggered"
   image="running" resetOnActivate="no" type="combined"
  version="server.3.0.1.2.081720142325" status="modified"/>
  </outConfig>
</configConfMo>
```

Managing the BMC Firmware

The examples in this section show how to use the Cisco IMC XML API to retrieve and update BMC firmware. Each example shows the XML API request followed by the response from Cisco IMC.

This section includes the following examples:

- Retrieving the BMC Firmware Running Version, on page 4
- Updating BMC Firmware, on page 4
- Activating the Firmware, on page 4

Retrieving the BMC Firmware Running Version

Request:

Updating BMC Firmware

The following example shows how to upgrade BMC firmware using the TFTP protocol. You can also upgrade the firmware using the following other protocols:

- FTP
- SFTP
- SCP
- HTTP

Request:

Response:

```
<outConfig>
<firmwareUpdatable dn="sys/chassis-l/slot-l/mgmt/fw-updatable"
  description="System IO Controller backup firmware version"
  adminState="triggered" deployment="backup" operState="updating"
  version="0.0(4.r202878)" protocol="none" remoteServer="" remotePath=""
  user="" pwd="" progress="5" type="sioc"/>
  </outConfig>
</configResolveDn>
```

Activating the Firmware

Request:

```
<configConfMo cookie='1421240125/e86a101e-9d0c-1c9d-8002-91fabb1b0ff4'
dn='sys/chassis-1/server-1/mgmt/fw-boot-def/bootunit-combined'>
```

```
<inConfig>
<firmwareBootUnit dn='sys/chassis-1/server-1/mgmt/fw-boot-def/bootunit-combined'
adminState='trigger' image='backup' resetOnActivate='yes' />
</inConfig>
</configConfMo>
Response:
</configConfMo dn="sys/chassis-1/server-1/mgmt/fw-boot-def/bootunit-combined"
cookie="1421240125/e86a101e-9d0c-1c9d-8002-91fabb1b0ff4" response="yes">
<outConfig?
<firmwareBootUnit dn="sys/chassis-1/server-1/mgmt/fw-boot-def/bootunit-combined"
description="Cisco IMC startup firmware version" adminState="triggered"
image="running" resetOnActivate="no" type="combined" version="2.0(6.4)"
status="modified"/>
</configConfMo>
```

Managing the CMC Firmware

The examples in this section show how to use the Cisco IMC XML API to retrieve and update CMC firmware. Each example shows the XML API request followed by the response from Cisco IMC.

This section includes the following examples:

- Updating CMC Firmware, on page 5
- Verifying the Progress of the Upgrade, on page 6
- Activating the Firmware, on page 6

Updating CMC Firmware

The following example shows how to upgrade CMC firmware using TFTP protocol. You can also upgrade the firmware using the following other protocols:

- FTP
- SFTP
- SCP
- HTTP

```
<configConfMo cookie='1420794510/983be121-350c-1c35-8004-91fabblb0ff4'
dn='sys/chassis-1/slot-1/mgmt/fw-updatable'>
<inConfig>
<firmwareUpdatable dn='sys/chassis-1/slot-1/mgmt/fw-updatable'
    adminState='trigger' protocol='tftp' type='sioc' remoteServer='10.106.27.149'
    remotePath='sriparim/chassis.img'/>
</inConfig>
</configConfMo>
Response:
<outConfig>
<firmwareUpdatable dn="sys/chassis-1/slot-1/mgmt/fw-updatable"
    description="System IO Controller backup firmware version"
    adminState="triggered" deployment="backup" operState="updating"</pre>
```

```
version="0.0(4.r202878)" protocol="none" remoteServer="" remotePath=""
user="" pwd="" progress="5" type="sioc"/>
```

```
</outConfig>
```

```
</configResolveDn>
```

I

Verifying the Progress of the Upgrade

Request:

Activating the Firmware

Request:

```
version="0.0(4.r204950)" status="modified"/>
</outConfig>
</configConfMo>
```

Managing SAS Expander Firmware

The examples in this section show how to use the Cisco IMC XML API to retrieve and update SAS expander firmware. Each example shows the XML API request followed by the response from Cisco IMC.

This section includes the following examples:

- Retrieving SAS Expander Firmware Details, on page 7
- Retrieving Running SAS Expander Firmware Version, on page 7
- Retrieving SAS Expander Firmware Backup Version, on page 7
- Retrieving SAS Expander Boot Definition Firmware Version, on page 8
- Upgrading SAS Expander Firmware on SAS Expander 1, on page 8
- Verifying the Status of SAS Expander Firmware Upgrade, on page 9
- Activating the Firmware, on page 9

Retrieving SAS Expander Firmware Details

Request:

```
<configResolveClass cookie="1428566069/191135cc-4613-1346-8003-e87877e2cff4"
inHierarchical="true" classId="storageExpander"/>
Response:
<configResolveClass cookie="1428566069/191135cc-4613-1346-8003-e87877e2cff4"
response="yes" classId="storageExpander">
 <outConfigs>
    <storageExpander id="1" description="Storage controller - SAS Expander"
     dn="sys/chassis-1/expander-sas-1">
       <firmwareRunning rn="fw-system"
       description="SAS Expander currently running firmware version"
      deployment="system" type="expander-sas" version="04.08.01_B052"/>
<firmwareUpdatable rn="fw-updatable" description="SAS Expander backup firmware version"</pre>
        adminState="triggered" deployment="backup" operState="ready"
        version="04.08.01_B052" protocol="none" remoteServer="" remotePath=""
user="" pwd="" progress="Success" type="expander-sas"/>
       <firmwareBootDefinition rn="fw-boot-def" type="expander-sas">
       <firmwareBootUnit rn="bootunit-combined"
        description="SAS Expander startup firmware version" adminState="triggered"
image="running" resetOnActivate="no" type="combined" version="04.08.01_B052"/>
       </firmwareBootDefinition>
    </storageExpander>
    <storageExpander id="2" description="Storage controller - SAS Expander"
       dn="sys/chassis-1/expander-sas-2">
      <firmwareRunning rn="fw-system"
       description="SAS Expander currently running firmware
       version" deployment="system" type="expander-sas" version="04.08.01_B052"/>
      <firmwareUpdatable rn="fw-updatable"
       description="SAS Expander backup firmware version" adminState="triggered"
      deployment="backup" operState="ready" version="04.08.01_B052" protocol="none"
remoteServer="" remotePath="" user="" pwd="" progress="Success" type="expander-sas"/>
      <firmwareBootDefinition rn="fw-boot-def" type="expander-sas">
      <firmwareBootUnit rn="bootunit-combined"
       description="SAS Expander startup firmware version" adminState="triggered"
       image="running" resetOnActivate="no" type="combined" version="04.08.01 B052"/>
       </firmwareBootDefinition>
    </storageExpander>
  </outConfigs>
</configResolveClass>
```

Retrieving Running SAS Expander Firmware Version

Request:

```
</configResolveDn>
```

Retrieving SAS Expander Firmware Backup Version

```
<configResolveDn cookie="1428566846/738bfd6c-4613-1346-8004-e87877e2cff4"
dn='sys/chassis-1/expander-sas-1/fw-updatable' inHierarchical="true"/>
```

Response:

```
<configResolveDn cookie="1428566846/738bfd6c-4613-1346-8004-e87877e2cff4"
response="yes" dn="sys/chassis-1/expander-sas-1/fw-updatable">
        <outConfig>
        <firmwareUpdatable dn="sys/chassis-1/expander-sas-1/fw-updatable">
        description="SAS Expander backup firmware version" adminState="triggered"
        deployment="backup" operState="ready" version="04.08.01_B052" protocol="none"
        remoteServer="" remotePath="" user="" pwd="" progress="Success"
        // config>
        </outConfig>
        </outConfig>
```

Retrieving SAS Expander Boot Definition Firmware Version

Request:

</firmwareBootDefinition> </outConfig>

```
</configResolveDn>
```

Upgrading SAS Expander Firmware on SAS Expander 1

The following example shows how to upgrade SAS expander firmware using TFTP protocol. You can also upgrade the firmware using the following other protocols:

- FTP
- SFTP
- SCP
- HTTP

Request:

```
<firmwareUpdatable dn="sys/chassis-1/expander-sas-1/fw-updatable"
description="SAS Expander backup firmware version" adminState="triggered"
deployment="backup" operState="updating" version="04.08.01_B052"
protocol="none" remoteServer="" remotePath="" user="" pwd=""" progress="0"
type="expander-sas" status="modified"/>
</outConfig>
</configConfMo>
```

Verifying the Status of SAS Expander Firmware Upgrade

Request:

```
<configResolveDn cookie="1428566846/738bfd6c-4613-1346-8004-e87877e2cff4"
dn='sys/chassis-1/expander-sas-1/fw-updatable' inHierarchical="true"/>
Response:
<configResolveDn cookie="1428567858/e6b2ac69-4613-1346-8005-e87877e2cff4"
response="yes" dn="sys/chassis-1/expander-sas-1/fw-updatable">
<configResolveDn="sys/chassis-1/expander-sas-1/fw-updatable"
<configResolveDn="sys/chassis-1/expander-sas-1/fw-updatable"
description="SAS Expander backup firmware version" adminState="triggered"
deployment="backup" operState="ready" version="04.08.01_B052" protocol="none"
remoteServer="" remotePath="" user="" pwd="" progress="Success"
</configResolveDn>
</configs</configResolveDn>
```

Activating the Firmware

Request:

</configConfMo>

Managing the Network Adapter Firmware

The examples in this section show how to use the Cisco IMC XML API to retrieve and update the network adapter firmware. Each example shows the XML API request followed by the response from Cisco IMC.

This section includes the following examples:

- Retrieving the Adapter Firmware Running Version, on page 10
- Retrieving the Adapter Firmware Backup Version, on page 10
- Retrieving the Adapter Firmware Boot Loader Version, on page 10
- Updating the Adapter Firmware, on page 10
- Viewing the Progress of the Update, on page 11
- Activating the Firmware, on page 11

Retrieving the Adapter Firmware Running Version

Request:

```
<configResolveDn cookie='1431644026/649b1615-1316-1613-8003-d27f77e2cff4'
inHierarchical='false' dn='sys/chassis-1/slot-1/shared-io-module/mgmt/fw-system' />
Response:
<configResolveDn cookie="1431644026/649b1615-1316-1613-8003-d27f77e2cff4"
response="yes" dn="sys/chassis-1/slot-1/shared-io-module/mgmt/fw-system">
<configResolveDn cookie="1431644026/649b1615-1316-1613-8003-d27f77e2cff4"
response="yes" dn="sys/chassis-1/slot-1/shared-io-module/mgmt/fw-system"
<configresolveDn="Cisco VIC adapter currently running firmware version" deployment="system"
type="adaptor" version="4.0(300.22)"/>
</configResolveDn>
```

Retrieving the Adapter Firmware Backup Version

Request:

```
<configResolveDn cookie='1431644026/649b1615-1316-1613-8003-d27f77e2cff4'
inHierarchical='false' dn='sys/chassis-1/slot-2/shared-io-module/mgmt/fw-updatable' />
```

Response:

```
<configResolveDn cookie="1431644026/649b1615-1316-1613-8003-d27f77e2cff4"
response="yes" dn="sys/chassis-1/slot-2/shared-io-module/mgmt/fw-updatable">
<outConfig>
<firmwareUpdatable dn="sys/chassis-1/slot-2/shared-io-module/mgmt/fw-updatable"
    description="Cisco VIC adapter backup firmware version" adminState="triggered"
    deployment="backup" version="4.0(300.20)" protocol="none" remoteServer=""
    remotePath="" user="" pwd="" progress="Stage: No operation (0%), Status: Idle,
    Error: No error" type="adaptor"/>
    </outConfig>
</configResolveDn>
```

Retrieving the Adapter Firmware Boot Loader Version

Request:

```
<configResolveDn cookie='1431644026/649b1615-1316-1613-8003-d27f77e2cff4'
inHierarchical='false' dn='sys/chassis-1/slot-1/shared-io-module/mgmt/fw-boot-loader'/>
```

Response:

```
<configResolveDn cookie="1431644026/649b1615-1316-1613-8003-d27f77e2cff4"
response="yes" dn="sys/chassis-1/slot-1/shared-io-module/mgmt/fw-boot-loader">
<outConfig>
<firmwareRunning dn="sys/chassis-1/slot-1/shared-io-module/mgmt/fw-boot-loader"
description="Cisco VIC adapter currently running boot loader firmware version"
deployment="boot-loader" type="adaptor" version="4.0(300.22)"/>
</outConfig>
</configResolveDn>
```

Updating the Adapter Firmware

The following example shows how to upgrade the adapter firmware using the SCP protocol. You can also upgrade the firmware using the following other protocols:

- FTP
- SFTP
- TFTP
- HTTP

Request:

```
<configConfMo cookie="0955187490/0b79d656-bd64-14bd-8002-82f92a02b884"
dn="sys/chassis-1/slot-1/shared-io-module/mgmt/fw-updatable"
<inConfig>
<firmwareUpdatable dn="sys/chassis-1/slot-1/shared-io-module/mgmt/fw-updatable"
adminState="trigger" protocol="scp" user="sriparim" pwd="password"
remoteServer="10.197.125.101" remotePath="/scp/kjhadhsaim/cruz-latest.bin"
type="adaptor"/>
</inConfig>
</configConfMo>
Response:
```

```
<configConfMo dn="sys/chassis-1/slot-1/shared-io-module/mgmt/fw-updatable"
cookie="0955187490/0b79d656-bd64-14bd-8002-82f92a02b884" response="yes">
<outConfig>
<firmwareUpdatable dn="sys/chassis-1/slot-1/shared-io-module/mgmt/fw-updatable"
description="Cisco VIC adapter backup firmware version" adminState="triggered"
deployment="backup" version="4.0(300.27)" protocol="none" remoteServer="" remotePath=""
user="" pwd="" progress="Stage: Transferring (15%), Status: Update in progress,
Error: No error" type="adaptor" status="modified"/>
</outConfig>
</outConfig>
</outConfig>
```

Viewing the Progress of the Update

Request:

```
<configResolveDn cookie='0955187490/0b79d656-bd64-14bd-8002-82f92a02b884'
inHierarchical='false' dn='sys/chassis-1/slot-1/shared-io-module/mgmt/fw-updatable' />
Response:
```

Response:

```
<configResolveDn cookie="0955187490/0b79d656-bd64-14bd-8002-82f92a02b884"
response="yes" dn="sys/chassis-1/slot-1/shared-io-module/mgmt/fw-updatable">
<outConfig>
<firmwareUpdatable dn="sys/chassis-1/slot-1/shared-io-module/mgmt/fw-updatable">
description="Cisco VIC adapter backup firmware version" adminState="triggered"
deployment="backup" protocol="none" remoteServer="" remotePath="" user="" pwd=""
progress="Stage: Writing (71%), Status: Update in progress, Error: No error"
type="adaptor"/>
</outConfig>
</configResolveDn>
```

Activating the Firmware

```
<outConfig>
<firmwareBootUnit
    dn="sys/chassis-1/slot-1/shared-io-module/mgmt/fw-boot-def/bootunit-combined"
    description="Cisco VIC adapter startup firmware version" adminState="triggered"
    image="running" resetOnActivate="no" type="combined"
    version="4.0(300.42)" status="modified"/>
    </outConfig>
</configConfMo>
```

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