Configuring Network-Related Settings

This chapter includes the following sections:

Examples of Network Related Tasks

The examples in this section show how to use the Cisco IMC XML API to configure network related tasks. Each example shows the XML API request followed by the response from Cisco IMC.

This section includes the following examples:

Configuring BMC Static IPv6

Request

```
<configConfMo cookie="0956648424/5a81f826-1166-1611-8003-82f92a02b884"
 dn="sys/chassis-1/server-1/mgmt/if-1">
<inConfig>
    <mgmtIf dn="sys/chassis-1/server-1/mgmt/if-1" v6IPAddr="2100:200::125" />
</inConfig>
</configConfMo>
```

Response

```
<configConfMo cookie="0956648424/5a81f826-1166-1611-8003-82f92a02b884"
 response="yes" dn="sys/chassis-1/server-1/mgmt/if-1">
 <outConfig>
   <mgmtIf dn="sys/chassis-1/server-1/mgmt/if-1"
    description="CIMC Interface Network Settings"
    id="1" v4IPAddr="10.104.255.181" mac="F4:0F:1B:FA:48:3C"
    hostname="C3160-FCH1821JAV4" v6extEnabled="yes"
```

```
      v6IPAddr="2002:200::125" v6prefix="64" v6extGw="::"
      v6linkLocal="fe80::f60f:1bff:fefa:483c"
      subject="blade" status="modified"/>
   </outConfig>
</configConfMo>
```

Configuring Static IPv4

Request

```
<configConfMo cookie="0956722178/02141d24-2366-1623-8002-82f92a02b884"
   dn="sys/chassis-1/if-1">
<inConfig>
    <mgmtIf dn="sys/chassis-1/if-1" dhcpEnable="no"
    extMask="255.255.255.128" extGw="10.104.255.129"
    v4IPAddrBmc1="10.104.255.246" v4IPAddrCmc2="10.104.255.247"
    v4IPAddrCmc1="10.104.255.248" extIp="10.104.255.245" />
</inConfig>
</configConfMo>
```

Note There is no response because the IPv4 configuration terminates all the SSH/WebUI/XMLAPI sessions. You need to reconnect to the server with the new IPv4 address configuration.

Configuring DHCPv4

Request

```
<configConfMo cookie="0956737017/af85c151-2666-1626-8002-82f92a02b884"
   dn="sys/chassis-1/if-1">
<inConfig>
    <mgmtIf dn="sys/chassis-1/if-1"
    dhcpEnable="yes" extMask="255.255.255.128" extGw="10.104.255.129" />
</inConfig>
</configConfMo>
```

Note There is no response because the IPv4 configuration terminates all the SSH/WebUI/XMLAPI sessions. You need to reconnect to the server with the new IPv4 address configuration.

Configuring Static IPv6 and IPv4

Request

```
<configConfMoconfigConfMo cookie="0956739710/edb4ef0e-2766-1627-8003-82f92a02b884"
   dn="sys/chassis-1/if-1">
<inConfig>
    <mgmtIf dn="sys/chassis-1/if-1" dhcpEnable="no"
    extMask="255.255.255.128" extGw="10.104.255.129"
    v4IPAddrBmc1="10.104.255.246" v4IPAddrCmc2="10.104.255.247"
    v4IPAddrCmc1="10.104.255.248" extIp="10.104.255.245"
    v6dhcpEnable="no" v6prefix="64" v6extIp="2001:200::125"
    v6extGw="2000:200::125" v6extEnabled="yes" v6IPAddrBmc1="2002:200::125"
    v6IPAddrCmc1="2004:200::125" v6IPAddrCmc2="2005:200::125"/>
</inConfig>
</configConfMo>
```

Note There is no response because the IPv4 configuration terminates all the SSH/WebUI/XMLAPI sessions. You need to reconnect to the server with the new IPv4 address configuration.

Configuring Network Interface Card Mode

Request

```
<configConfMo cookie='0949273658/385bfaaf-5c5f-1f5c-8004-d37c77e2cff4'
 dn='sys/chassis-1/if-1'>
<inConfig>
  <mgmtIf nicMode="cisco_card" nicRedundancy="active-active"/>
</inConfig>
</configConfMo>
```

Note There is no response due to a valid change in the card mode. You can verify the NIC mode and NIC redundancy values (4 and 1 respectively) by using the command **nicMode="cisco_card" nicRedundancy="active-active"** from the CMC command line. CMC1, CMC2, Cisco IMC 1 and Cisco IMC 2 must reflect the same values (4 and 1).

Examples of Virtual Interface Tasks

The examples in this section show how to use the Cisco IMC XML API to retrieve and perform virtual interface tasks. Each example shows the XML API request followed by the response from Cisco IMC.

This section includes the following examples:

Retrieving Virtual Interface Configuration

Request

```
<configResolveDn cookie='0956568556/dd519b64-ff65-15ff-8003-82f92a02b884'
 inHierarchical='false' dn='sys/chassis-1/if-1'/>
```
Response

```
<configResolveDn cookie="0956568556/dd519b64-ff65-15ff-8003-82f92a02b884"
 response="yes" dn="sys/chassis-1/if-1">
 <outConfig>
   <mgmtIf dn="sys/chassis-1/if-1"
```

```
                description="Virtual Management Interface Network Settings"
                id="1" extEnabled="yes" extIp="" v4IPAddrCmc1="0.0.0.0"
                v4IPAddrCmc2="0.0.0.0" v4IPAddrBmc1="0.0.0.0" v4IPAddrBmc2="0.0.0.0"
                extMask="255.255.255.128" extGw="10.104.255.129" ifType="virtual"
                mac="84:B8:02:2A:F9:82" vHostname="" dhcpEnable="yes" dnsUsingDhcp="no"
                ddnsEnable="yes" ddnsDomain="" dnsPreferred="171.68.226.120"
                dnsAlternate="0.0.0.0" nicMode="dedicated" vicSlot="1" nicRedundancy="none"
                vlanEnable="no" vlanId="1" vlanPriority="2" portProfile=""
                v6extEnabled="yes" v6extIp="::" v6extGw="::" v6prefix="64"
                v6linkLocal="fe80::86b8:2ff:fe2a:f982" v6SlaacIp="::"
                v6dhcpEnable="yes" v6dnsUsingDhcp="no" v6dnsPreferred="::"
                v6dnsAlternate="::" v6IPAddrCmc1="::" v6IPAddrCmc2="::"
                v6IPAddrBmc1="::" v6IPAddrBmc2="::" subject="virtual"/>
        </outConfig>
</configResolveDn>
```

Enabling IPv6 Using DHCPv6

Request

```
<configConfMo cookie="1435897051/c7da4b34-f119-19f1-8002-838077e2cff4"
 dn="sys/chassis-1/if-1">
<inConfig>
        <mgmtIf dn="sys/chassis-1/if-1" v6extEnabled="yes"  v6dhcpEnable="yes"/>
</inConfig>
</configConfMo>
```
Response

```
<configConfMo cookie="1435897051/c7da4b34-f119-19f1-8002-838077e2cff4"
 response="yes" dn="sys/chassis-1/if-1" >
  <outConfig>
    <mgmtIf dn="sys/chassis-1/if-1"
     description="Virtual Management Interface Network Settings"
     id="1" extEnabled="yes" extIp="10.106.145.166" v4IPAddrCmc1="0.0.0.0"
     v4IPAddrCmc2="0.0.0.0" v4IPAddrBmc1="0.0.0.0" v4IPAddrBmc2="0.0.0.0"
     extMask="255.255.255.0" extGw="10.106.145.1" ifType="virtual"
     mac="F4:CF:E2:77:80:83" vHostname="C3260-FCH18207WF3"
     dhcpEnable="yes" dnsUsingDhcp="yes" ddnsEnable="yes"
     ddnsDomain="" dnsPreferred="171.70.168.183" dnsAlternate="0.0.0.0"
     nicMode="dedicated" vicSlot="2" nicRedundancy="none" vlanEnable="no"
     vlanId="1" vlanPriority="0" portProfile="" v6extEnabled="no"
     v6extIp="::" v6extGw="::" v6prefix="64" v6linkLocal="::" v6SlaacIp="::"
     v6dhcpEnable="no" v6dnsUsingDhcp="no" v6dnsPreferred="::"
     v6dnsAlternate="::" v6IPAddrCmc1="::" v6IPAddrCmc2="::"
     v6IPAddrBmc1="::" v6IPAddrBmc2="::" subject="virtual" status="modified"/>
  </outConfig>
</configConfMo>
```

✎

Note   The **v6extEnabled** is a common attribute and it is applied to the network interfaces of all the components. So, in the above response this attribute is shown as **No**. However, if you perform Get operation or use CLI to verify this attribute, the IPv6 is shown as **Enabled**.

Disabling IPv6

Request

```
<configConfMo cookie="1435897793/485b3ad8-f119-19f1-8003-838077e2cff4"
 dn="sys/chassis-1/if-1">
<inConfig>
        <mgmtIf dn="sys/chassis-1/if-1" v6extEnabled="no"/>
</inConfig>
</configConfMo>
```

Response

```
<configConfMocookie="1435897793/485b3ad8-f119-19f1-8003-838077e2cff4"
response="yes"  dn="sys/chassis-1/if-1" >
  <outConfig>
    <mgmtIf dn="sys/chassis-1/if-1"
      description="Virtual Management Interface Network Settings" id="1"
      extEnabled="yes" extIp="10.106.145.166" v4IPAddrCmc1="0.0.0.0"
      v4IPAddrCmc2="0.0.0.0" v4IPAddrBmc1="0.0.0.0" v4IPAddrBmc2="0.0.0.0"
      extMask="255.255.255.0" extGw="10.106.145.1" ifType="virtual"
      mac="F4:CF:E2:77:80:83" vHostname="C3260-FCH18207WF3" dhcpEnable="yes"
      dnsUsingDhcp="yes" ddnsEnable="yes" ddnsDomain=""
      dnsPreferred="171.70.168.183" dnsAlternate="0.0.0.0"
      nicMode="dedicated" vicSlot="2" nicRedundancy="none"
      vlanEnable="no" vlanId="1" vlanPriority="0" portProfile=""
      v6extEnabled="no" v6extIp="2010:201::283"
      v6extGw="fe80::5e50:15ff:fef0:b042" v6prefix="119"
      v6linkLocal="fe80::f6cf:e2ff:fe77:8083"
      v6SlaacIp="2010:201::f6cf:e2ff:fe77:8083" v6dhcpEnable="yes"
      v6dnsUsingDhcp="no" v6dnsPreferred="::" v6dnsAlternate="::"
      v6IPAddrCmc1="::" v6IPAddrCmc2="::" v6IPAddrBmc1="::"
      v6IPAddrBmc2="::" subject="virtual" status="modified"/>
  </outConfig>
</configConfMo>
```

Note The **v6extEnabled** is a common attribute and it is applied to the network interfaces of all the components. So, in the above response this attribute is shown as **Yes**. However, if you perform Get operation or use CLI to verify this attribute, the IPv6 is shown as **Disabled**.

Enabling Static IPv6 on Virtual Interface

Request

```
<configConfMo cookie="1435898185/7cbeb77f-f119-19f1-8004-838077e2cff4"
 dn="sys/chassis-1/if-1">
<inConfig>
    <mgmtIf dn="sys/chassis-1/if-1" v6extEnabled="yes"
    v6prefix="64" v6dnsUsingDhcp="no" v6dhcpEnable="no"
    v6extIp="2010:201::97" v6extGw="2010:201::1"/>
</inConfig>
</configConfMo>
```

Response

```
<configConfMo cookie="1435898185/7cbeb77f-f119-19f1-8004-838077e2cff4"
 response="yes" dn="sys/chassis-1/if-1"
errorCode="2999" invocationResult="unidentified-fail"
errorDescr="Invalid request - component bmc1 - Missing or invalid IPv6 address provided"/>
```

Note When you configure static IPv6, provide static IPv6 addresses for all the CMC-X, BMC-X and virtual interface.

Configuring DNS servers

Request

```
<configConfMo cookie="0956619238/87045c2f-0b66-160b-8003-82f92a02b884"
 dn="sys/chassis-1/if-1">
<inConfig>
```

```
   <mgmtIf dn="sys/chassis-1/if-1" v6extEnabled="yes"
    v6dnsPreferred="2005:420:54ff:74::204:6120" v6dnsAlternate="2005:201::200"/>
  </inConfig>
</configConfMo>
```

Response

```
<configConfMo cookie="0956619238/87045c2f-0b66-160b-8003-82f92a02b884"
 response="yes" dn="sys/chassis-1/if-1">
  <outConfig>
    <mgmtIf dn="sys/chassis-1/if-1"
      description="Virtual Management Interface Network Settings"
      id="1" extEnabled="yes" extIp="" v4IPAddrCmc1="0.0.0.0"
      v4IPAddrCmc2="0.0.0.0" v4IPAddrBmc1="0.0.0.0"
      v4IPAddrBmc2="0.0.0.0" extMask="255.255.255.128"
      extGw="10.104.255.129" ifType="virtual" mac="84:B8:02:2A:F9:82"
      vHostname="" dhcpEnable="yes" dnsUsingDhcp="no" ddnsEnable="yes"
      ddnsDomain="" dnsPreferred="171.68.226.120" dnsAlternate="0.0.0.0"
      nicMode="dedicated" vicSlot="1" nicRedundancy="none"
      vlanEnable="no" vlanId="1" vlanPriority="2" portProfile=""
      v6extEnabled="yes" v6extIp="::" v6extGw="::" v6prefix="64"
      v6linkLocal="fe80::86b8:2ff:fe2a:f982" v6SlaacIp="::"
      v6dhcpEnable="yes" v6dnsUsingDhcp="no"
      v6dnsPreferred="2010:420:54ff:74::204:6120" v6dnsAlternate="2010:201::200"
      v6IPAddrCmc1="::" v6IPAddrCmc2="::" v6IPAddrBmc1="::"
      v6IPAddrBmc2="::" subject="virtual" status="modified"/>
  </outConfig>
</configConfMo>
```

Configuring Static IPv6

The following example shows to configure static IPv6 on UCS-C3260 M4 server with 2 SIOC and a server node.

Request

```
<configConfMo cookie="0956641159/6f8470a7-0f66-160f-8002-82f92a02b884"
 dn="sys/chassis-1/if-1">
<inConfig>
    <mgmtIf dn="sys/chassis-1/if-1"  v6dhcpEnable="no"
    v6prefix="64" v6extIp="2001:200::125"
    v6extGw="2000:200::125" v6extEnabled="yes"
     v6IPAddrBmc1="2002:200::125" v6IPAddrCmc1="2004:200::125"
    v6IPAddrCmc2="2005:200::125"/>
</inConfig>
</configConfMo
```

Response

```
<configConfMo cookie="0956641159/6f8470a7-0f66-160f-8002-82f92a02b884"
 response="yes" dn="sys/chassis-1/if-1" >
  <outConfig>
    <mgmtIf dn="sys/chassis-1/if-1"
      description="Virtual Management Interface Network Settings"
      id="1" extEnabled="yes" extIp="" v4IPAddrCmc1="0.0.0.0"
      v4IPAddrCmc2="0.0.0.0" v4IPAddrBmc1="0.0.0.0"
      v4IPAddrBmc2="0.0.0.0" extMask="" extGw="" ifType="virtual"
      mac="84:B8:02:2A:F9:82" vHostname="" dhcpEnable="yes" dnsUsingDhcp="no"
      ddnsEnable="yes" ddnsDomain="" dnsPreferred="171.68.226.120"
      dnsAlternate="0.0.0.0" nicMode="dedicated" vicSlot="1"
      nicRedundancy="none" vlanEnable="no" vlanId="1" vlanPriority="2"
      portProfile="" v6extEnabled="yes" v6extIp="::" v6extGw="::"
      v6prefix="64" v6linkLocal="fe80::86b8:2ff:fe2a:f982" v6SlaacIp="::"
      v6dhcpEnable="yes" v6dnsUsingDhcp="no" v6dnsPreferred="2005:420:54ff:74::204:6120"
      v6dnsAlternate="2005:201::200" v6IPAddrCmc1="::"
      v6IPAddrCmc2="::" v6IPAddrBmc1="::" v6IPAddrBmc2="::"
      subject="virtual" status="modified"/>
  </outConfig>
</configConfMo>
```