



Implementing a Notification Server

This appendix describes how to modify the example servlet to customize for your own application, and contains the following sections:

- [Event Notification Overview, page B-1](#)
- [Running the Example Servlet, page B-3](#)
- [Customizing the Example Servlet, page B-5](#)
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Event Notification Overview

Event notification allows an ISC API user to collect events of interest from the ISC system. The events of interest are triggered by changes to objects managed by ISC. An event is registered and a notification is sent any time a database object is created, modified, or deleted, when a scheduled task begins or ends its execution, or when a watchdog event signals a change in execution status for any ISC service.

The ISC properties that manage the notification server are:

- `notification.clientEnabled`—Used to turn notification forwarding on and off.
- `notification.clientHost`—The machine running the event notification receiving program.
- `notification.clientPort`—The listener port to open on the receiving machine. This property is defined in the Tomcat `web.xml` file.
- `notification.clientMethod`—The method, or program, to contact on the receiving machine.
- `notification.clientRegFile`—Contains the events of interest to be forwarded.

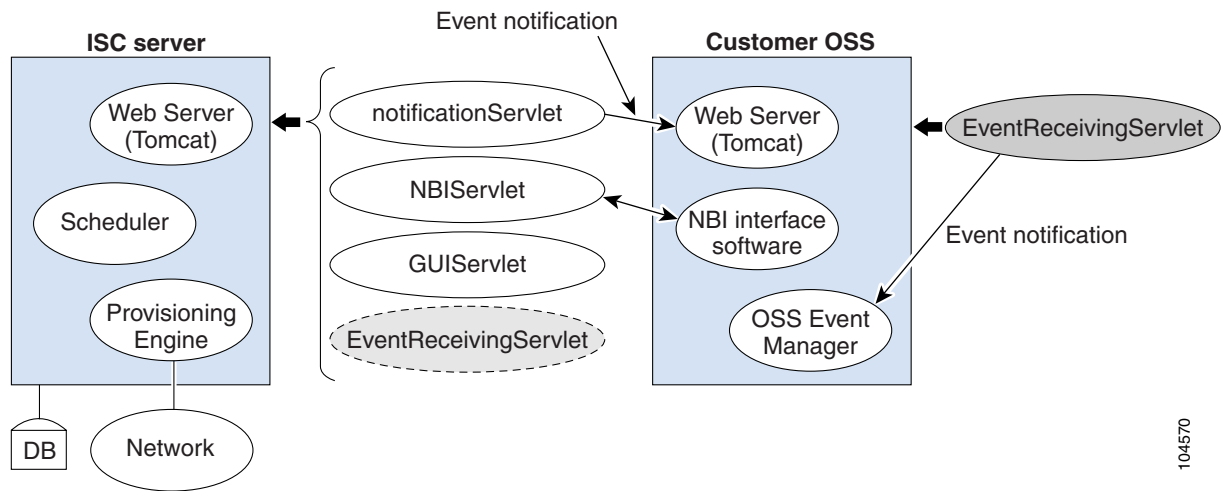


Note

`clientHost`, `clientMethod`, and `clientPort` are used to construct a URL.

Figure B-1 illustrates the notification mechanisms implemented by ISC.

Figure B-1 Event Notification Mechanisms



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The **EventReceivingServlet** can be customized and used for your own application.

The notification web.xml file (located in \$ISC_HOME/resources/webserver/tomcat/webapps/notification/WEB-INF) in ISC identifies two servlets:

- notificationServlet
- eventListener (EventReceivingServlet program)

Use this file as a template for implementing a notification servlet.

In the following web.xml file, the **notificationServlet** section and **eventListener** section are indicated in **bold**.

```
<?xml version="1.0" encoding="ISO-8859-1"?>

<!DOCTYPE web-app
PUBLIC "-//Sun Microsystems, Inc.//DTD Web Application 2.3//EN"
"http://java.sun.com/dtd/web-app_2_3.dtd">
<web-app>
  <servlet>
    <servlet-name>notificationServlet</servlet-name>
    <display-name>Notification Servlet</display-name>
    <servlet-class>com.cisco.vpnsc.nbi.notification.NotificationServlet</servlet-class>
    <init-param>
      <param-name>log</param-name>
      <param-value>2</param-value>
    </init-param>
    <load-on-startup>2</load-on-startup>
  </servlet>
  <servlet>
    <servlet-name>eventListener</servlet-name>
    <display-name>Event Listener</display-name>
    <servlet-class>com.cisco.vpnsc.nbi.client.EventReceivingServlet</servlet-class>
    <init-param>
      <param-name>log</param-name>
      <param-value>2</param-value>
    </init-param>
  </servlet>
</web-app>
```

```

        <load-on-startup>2</load-on-startup>
    </servlet>

    <servlet-mapping>
        <servlet-name>eventListener</servlet-name>
        <url-pattern>/notification/servlet/eventListener</url-pattern>
    </servlet-mapping>
</web-app>

```

The ISC installation contains an example servlet which can be activated to demonstrate the collection of notification events. The event notification receiving servlet (eventListener) calls a program `com.cisco.vpnsc.nbi.client.EventReceivingServlet`. This program is included in the ISC installation (`$ISC_HOME/resources/nbi/client/EventReceivingServlet.java`) and shows a simple piece of code which receives an event and prints it to a log file.

**Note**

For more information on example clients, see [Appendix C, “Scripts”](#).

Running the Example Servlet

ISC includes an example event-notification client servlet. This servlet can be activated on a standard ISC installation.

The example effectively creates a loopback scenerario whereby an ISC event generates a SOAP/XML message that is sent back to the ISC server's HTTP port. Upon arriving at the port (8030 is the default), the Tomcat server loads and executes the `EventReceivingServlet` client code.

You can observe the outbound event message and the inbound notification message by inspecting `$ISC_HOME/tmp/httpd_out.0` and `$ISC_HOME/notification.0` respectively. If the event notification succeeds, you will see the SOAP/XML event notification at the bottom of the `notification.0` file.

To run a demonstration of the example servlet:

-
- Step 1** Add an event to the `clientReg.txt` file. This file is located `$ISC_HOME/resources/nbi/notification/clientReg.txt`
- Step 2** Enable dynamic loading of servlets on the ISC server with the following actions:
- A) edit `$ISC_HOME/resources/webserver/tomcat/conf/web.xml`
 - B) Make sure the mapping for the invoker servlet-mapping is uncommented. The following is the XML text for the invoker servlet-mapping:
- ```

<!-- The mapping for the invoker servlet -->
<servlet-mapping>
 <servlet-name>invoker</servlet-name>
 <url-pattern>/servlet/*</url-pattern>
</servlet-mapping>

```
- For this example, add `com.cisco.vpnsc.repository.devices.CiscoRouter.>` to specify events involving a `CiscoRouter`.
- Step 3** Change the property `notification.clientEnabled` to true. This file is located in `$ISC_HOME/etc/vpnsc.properties`.
- From the GUI:

Go to **Administration->Control Center**.

Choose your host and click **Config**.

Locate the notification server and select the **clientEnabled** property. Set to **true** and click **Set Property**.

**Step 4** Restart ISC.

**Step 5** Add a CiscoRouter device.

From the GUI:

Go to **Service Inventory > Inventory and Connection Manager > Devices**.

Click **Create** and select **Cisco IOS Device**.

Enter a host name.

Click **Save**.

**Step 6** Go to `$ISC_HOME/tmp` and cat the file `httpd_out.0`. The XML at the end should look like the following example:

```
<?xml version="1.0" encoding="UTF-8"?>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:ns0="http://www.cisco.com/cim-cx/2.0" xmlns:ns1="urn:CIM">
 <soapenv:Header>
 <ns0:message />
 </soapenv:Header>
 <soapenv:Body>
 <ns1:deliverEvent>
 <returns xsi:type="ns1:CIMReturnList" soapenc:arrayType="ns1:CIMReturn[]">
 <record>
 <objectPath xsi:type="ns1:CIMObjectPath">
 <className xsi:type="xsd:string">InstIndication</className>
 <properties xsi:type="ns1:CIMPropertyList"
soapenc:arrayType="ns1:CIMProperty[]">
 <item xsi:type="ns1:CIMProperty">
 <name xsi:type="xsd:string">IndicationType</name>
 <value xsi:type="xsd:string">create</value>
 </item>
 <item xsi:type="ns1:CIMProperty">
 <name xsi:type="xsd:string">IndicationTime</name>
 <value xsi:type="xsd:string">2003-12-03 13:15:26</value>
 </item>
 <item xsi:type="ns1:CIMProperty">
 <name xsi:type="xsd:string">InstClassName</name>
 <value xsi:type="xsd:string">CiscoRouter</value>
 </item>
 <item xsi:type="ns1:CIMProperty">
 <name xsi:type="xsd:string">InstName</name>
 <value xsi:type="xsd:string">xyz</value>
 </item>
 <item xsi:type="ns1:CIMProperty">
 <name xsi:type="xsd:string">LocatorId</name>
 <value xsi:type="xsd:string">40</value>
 </item>
 </properties>
 </objectPath>
 </record>
 </returns>
 </ns1:deliverEvent>
 </soapenv:Body>
```

```
</soapenv:Envelope>
```

---

## Customizing the Example Servlet

Use the following procedure to implement a custom notification receiving servlet

- 
- Step 1** Copy the web.xml file, located in \$ISC\_HOME/resources/webserver/tomcat/webapps/notification/WEB-INF, to your own Tomcat structure.
- Step 2** Remove the notification servlet xml section. This section is specific to ISC.
- Step 3** Change the eventListener program from **com.cisco.vpnsc.nbi.client.EventReceivingServlet** to your own program.
- Step 4** Specify the events to receive by editing the contents of the file \$ISC\_HOME/resources/nbi/notification/clientReg.txt. The default contents of this file are:
- ```
com.cisco.vpnsc.repository.task.PersistentTask.>
com.cisco.vpnsc.repository.devices.PIX.>
```
- This means that events involving **PIX** devices or **PersistentTask** will be forwarded to the EventListener servlet.
- For example, add **com.cisco.vpnsc.repository.devices.CiscoRouter.>** to specify events involving a CiscoRouter.
- See the “[Events for Collection](#)” section on page B-5 for a complete list of events that can be collected and forwarded.
- Step 5** Change the property **notification.clientEnabled** to true. This file is located in \$ISC_HOME/etc/vpnsc.properties.
- From the GUI:
- Go to **Administration >Control Center**.
- Choose your host and click **Config**.
- Locate the notification server and select the **clientEnabled** property. Set to **true** and click **Set Property**.
- Step 6** Restart ISC.
-

Events for Collection

The following events can be collected for the ISC notifications server:

- 'com.cisco.vpnsc.repository.task.Argument'
- 'com.cisco.vpnsc.repository.task.Action'
- 'com.cisco.vpnsc.repository.task.ActionDependency'
- 'com.cisco.vpnsc.repository.task.ActionTarget'

- 'com.cisco.vpnsc.repository.task.PersistentTask'
- 'com.cisco.vpnsc.repository.task.RuntimeAction'
- 'com.cisco.vpnsc.repository.task.RuntimeTask'
- 'com.cisco.vpnsc.repository.task.ScheduledTask'
- 'com.cisco.vpnsc.repository.devices.Device'
- 'com.cisco.vpnsc.repository.devices.CiscoDevice'
- 'com.cisco.vpnsc.repository.devices.CiscoRouter'
- 'com.cisco.vpnsc.repository.devices.PIX'
- 'com.cisco.vpnsc.repository.devices.TerminalServer'
- 'com.cisco.vpnsc.repository.devices.CatOs'
- 'com.cisco.vpnsc.repository.devices.NonCiscoDevice'
- 'com.cisco.vpnsc.repository.devices.IE2100'
- 'com.cisco.vpnsc.repository.devices.GenericDeviceInterface'
- 'com.cisco.vpnsc.repository.devices.CiscoDeviceInterface'
- 'com.cisco.vpnsc.repository.devices.NonCiscoDeviceInterface'
- 'com.cisco.vpnsc.repository.devices.QOSDeviceInterface'
- 'com.cisco.vpnsc.repository.devices.PIXDeviceInterface'
- 'com.cisco.vpnsc.repository.devices.DeviceGroup'
- 'com.cisco.vpnsc.repository.devices.RepDev_DevGp_Mpng'
- 'com.cisco.vpnsc.repository.devices.CollectionZone'
- 'com.cisco.vpnsc.repository.devices.VPNSCHost'
- 'com.cisco.vpnsc.repository.devices.VPNSCHostProperties'
- 'com.cisco.vpnsc.repository.devices.VirtualCircuit'
- 'com.cisco.vpnsc.repository.devices.AtmVC'
- 'com.cisco.vpnsc.repository.device.FrameRelayVC'
- 'com.cisco.vpnsc.repository.devices.VlanVC'
- 'com.cisco.vpnsc.repository.devices.PEDevice'
- 'com.cisco.vpnsc.repository.devices.CPEDevice'
- 'com.cisco.vpnsc.repository.common.Customer'
- 'com.cisco.vpnsc.repository.common.Site'
- 'com.cisco.vpnsc.repository.common.LogicalDevice'
- 'com.cisco.vpnsc.repository.common.Cpe'
- 'com.cisco.vpnsc.repository.common.CustomerNetworkPrefix'
- 'com.cisco.vpnsc.repository.common.VPN'
- 'com.cisco.vpnsc.repository.common.Interface'
- 'com.cisco.vpnsc.repository.common.Vc'
- 'com.cisco.vpnsc.repository.common.PE'
- 'com.cisco.vpnsc.repository.common.Provider'

- 'com.cisco.vpnsc.repository.common.Region'
- 'com.cisco.vpnsc.repository.mpls.VRF'
- 'com.cisco.vpnsc.repository.common.GenericSR'
- 'com.cisco.vpnsc.repository.mlshare.AccessDomain'
- 'com.cisco.vpnsc.repository.common.AttributeValue'
- 'com.cisco.vpnsc.repository.common.ConfigletClob'
- 'com.cisco.vpnsc.repository.common.Configlet'
- 'com.cisco.vpnsc.repository.common.Policy'
- 'com.cisco.vpnsc.repository.common.SRAssociatedTemplate'
- 'com.cisco.vpnsc.repository.common.RepCableIpAddress'
- 'com.cisco.vpnsc.repository.common.RepSRReport'
- 'com.cisco.vpnsc.repository.common.SRHistoryReport'
- 'com.cisco.vpnsc.repository.common.StagedConfiglet'
- 'com.cisco.vpnsc.repository.common.StagedSR'
- 'com.cisco.vpnsc.repository.common.GenericSRToVpn'
- 'com.cisco.vpnsc.repository.mlshare.PhysicalLink'
- 'com.cisco.vpnsc.repository.mlshare.Ring'
- 'com.cisco.vpnsc.repository.mlshare.PhysicalLinkSeq'
- 'com.cisco.vpnsc.repository.mlshare.NamedPhysicalCircuit'
- 'com.cisco.vpnsc.repository.mlshare.MLSharePolicy'
- 'com.cisco.vpnsc.repository.mlshare.MIConnPolicy'
- 'com.cisco.vpnsc.repository.mlshare.LogicalLink'
- 'com.cisco.vpnsc.repository.mlshare.LogicalLinkSet'
- 'com.cisco.vpnsc.repository.mlshare.EndPoint'
- 'com.cisco.vpnsc.repository.mlshare.DevEndPoint'
- 'com.cisco.vpnsc.repository.mlshare.RepNotEditable'
- 'com.cisco.vpnsc.repository.mlshare.LinkTemplate'
- 'com.cisco.vpnsc.repository.mlshare.ReservedVlanPool'
- 'com.cisco.vpnsc.repository.mlshare.RingMembership'
- 'com.cisco.vpnsc.repository.mlshare.RingSeq'
- 'com.cisco.vpnsc.repository.mpls.MplsSR'
- 'com.cisco.vpnsc.repository.mpls.CERC'
- 'com.cisco.vpnsc.repository.mpls.CERCMembership'
- 'com.cisco.vpnsc.repository.mpls.VRFRole'
- 'com.cisco.vpnsc.repository.mpls.MplsVpnLink'
- 'com.cisco.vpnsc.repository.mpls.MplsLogicalLink'
- 'com.cisco.vpnsc.repository.mpls.MplsPolicyAttributeMap'
- 'com.cisco.vpnsc.repository.mpls.MplsPolicy'

- 'com.cisco.vpnsc.repository.mpls.MplsPolicyInterface'
- 'com.cisco.vpnsc.repository.mpls.MplsPolicyRoutingProtocol'
- 'com.cisco.vpnsc.repository.mpls.MplsPolicyOSPFRouting'
- 'com.cisco.vpnsc.repository.mpls.MplsPolicyBGPFRouting'
- 'com.cisco.vpnsc.repository.mpls.MplsPolicyEIGRPRouting'
- 'com.cisco.vpnsc.repository.mpls.MplsPolicyIGRPRouting'
- 'com.cisco.vpnsc.repository.l2vpn.AC'
- 'com.cisco.vpnsc.repository.mpls.MplsPolicyISISRouting'
- 'com.cisco.vpnsc.repository.mpls.MplsPolicyRIPRouting'
- 'com.cisco.vpnsc.repository.mpls.MplsPolicyStaticRouting'
- 'com.cisco.vpnsc.repository.mpls.MplsPolicyNoneRouting'
- 'com.cisco.vpnsc.repository.mpls.MplsPolicyRedistributedRoutingProtocol'
- 'com.cisco.vpnsc.repository.mpls.MplsPolicyCercMembership'
- 'com.cisco.vpnsc.repository.mpls.RepStaticRoutes'
- 'com.cisco.vpnsc.repository.mpls.LinkAttrs'
- 'com.cisco.vpnsc.repository.mpls.LinkAttrsAttrMap'
- 'com.cisco.vpnsc.repository.mpls.LinkAttrsRedistributedRoutingProtocol'
- 'com.cisco.vpnsc.repository.mpls.LinkAttrsRoutingProtocol'
- 'com.cisco.vpnsc.repository.mpls.LinkAttrsOSPFRouting'
- 'com.cisco.vpnsc.repository.mpls.LinkAttrsBGPFRouting'
- 'com.cisco.vpnsc.repository.mpls.LinkAttrsEIGRPRouting'
- 'com.cisco.vpnsc.repository.mpls.LinkAttrsIGRPRouting'
- 'com.cisco.vpnsc.repository.mpls.LinkAttrsISISRouting'
- 'com.cisco.vpnsc.repository.mpls.LinkAttrsRIPRouting'
- 'com.cisco.vpnsc.repository.mpls.LinkAttrsStaticRouting'
- 'com.cisco.vpnsc.repository.mpls.LinkAttrsNoneRouting'
- 'com.cisco.vpnsc.repository.mpls.RoutingProtocolAccessor'
- 'com.cisco.vpnsc.repository.mpls.LinkRoutingProtocolAccessor'
- 'com.cisco.vpnsc.repository.mpls.RepCableIpAddr'
- 'com.cisco.vpnsc.repository.mpls.RepOldTemplate'
- 'com.cisco.vpnsc.repository.mpls.MplsUniEth'
- 'com.cisco.vpnsc.repository.mpls.LinkMulticastIPAddr'
- 'com.cisco.vpnsc.repository.l2vpn.L2VpnPolicyAttributeMap'
- 'com.cisco.vpnsc.repository.l2vpn.L2VpnPolicy'
- 'com.cisco.vpnsc.repository.l2vpn.L2VpnPolicyInterface'
- 'com.cisco.vpnsc.repository.l2vpn.EndToEndWireAttributeMap'
- 'com.cisco.vpnsc.repository.l2vpn.ACAttributeMap'
- 'com.cisco.vpnsc.repository.l2vpn.EndToEndWire'

- 'com.cisco.vpnsc.repository.l2vpn.EndToEndWireAttrs'
- 'com.cisco.vpnsc.repository.l2vpn.ACAAttrs'
- 'com.cisco.vpnsc.repository.l2vpn.L2VpnSR'
- 'com.cisco.vpnsc.repository.l2vpn.L2VpnLogicalLink'
- 'com.cisco.vpnsc.repository.l2vpn.UniInterface'
- 'com.cisco.vpnsc.repository.l2vpn.UniProtocolTunnel'
- 'com.cisco.vpnsc.repository.l2vpn.UniMacAccessList'
- 'com.cisco.vpnsc.repository.qos.QoSPolicy'
- 'com.cisco.vpnsc.repository.l2vpn.UniSecureMacAddress'
- 'com.cisco.vpnsc.repository.protocol.Protocol'
- 'com.cisco.vpnsc.repository.protocol.ProtocolBundle'
- 'com.cisco.vpnsc.repository.protocol.RepPro_Bdl_Mpng'
- 'com.cisco.vpnsc.repository.qos.QoSSR'
- 'com.cisco.vpnsc.repository.qos.QoSLink'
- 'com.cisco.vpnsc.repository.qos.LinkProfile'
- 'com.cisco.vpnsc.repository.qos.EoMplsLinkProfile'
- 'com.cisco.vpnsc.repository.qos.FrShaper'
- 'com.cisco.vpnsc.repository.qos.CbShaper'
- 'com.cisco.vpnsc.repository.qos.AtmShaper'
- 'com.cisco.vpnsc.repository.qos.LinkEfficiency'
- 'com.cisco.vpnsc.nbi.vpnsc.PLHelper'
- 'com.cisco.vpnsc.repository.qos.InterfaceBasedCAR'
- 'com.cisco.vpnsc.repository.qos.ServiceClass'
- 'com.cisco.vpnsc.repository.qos.TrafficClassification'
- 'com.cisco.vpnsc.repository.qos.Avoidance'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.DataBlock'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.AgeDataBlock'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.RdAllocDataBlock'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.RdAvailDataBlock'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.RdAgeDataBlock'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.RtAllocDataBlock'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.RtAvailDataBlock'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.RtAgeDataBlock'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.SooAllocDataBlock'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.SooAvailDataBlock'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.SooAgeDataBlock'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.RdNameSeed'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.RtNameSeed'

- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.SooNameSeed'
- 'com.cisco.vpnsc.repository.resourcePool.externallyManaged.PoolType'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.IPDataBlock'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.RdDataBlock'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.RtDataBlock'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.SooDataBlock'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.VcIdDataBlock'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.VlanDataBlock'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.IPAllocDataBlock'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.IPAvailDataBlock'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.IPAgeDataBlock'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.MCASTDataBlock'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.MCASTAllocDataBlock'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.MCASTAvailDataBlock'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.MCASTAgeDataBlock'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.VlanAllocDataBlock'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.VlanAvailDataBlock'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.VcIdAllocDataBlock'
- 'com.cisco.vpnsc.repository.resourcePool.vpnscManaged.VcIdAvailDataBlock'
- 'com.cisco.vpnsc.repository.collection.Data'
- 'com.cisco.vpnsc.repository.collection.DevOwner'
- 'com.cisco.vpnsc.repository.sla.SAAProbe'
- 'com.cisco.vpnsc.repository.sla.SAADNSProbe'
- 'com.cisco.vpnsc.repository.sla.SAAEchoProbe'
- 'com.cisco.vpnsc.repository.sla.SAAHTTPProbe'
- 'com.cisco.vpnsc.repository.sla.SAAJitterProbe'
- 'com.cisco.vpnsc.repository.sla.SAATCPCConnectProbe'
- 'com.cisco.vpnsc.repository.sla.SAAUDPEchoProbe'
- 'com.cisco.vpnsc.repository.sla.SAADHCPPProbe'
- 'com.cisco.vpnsc.repository.sla.SAAFTPProbe'
- 'com.cisco.vpnsc.repository.vpls.MacAddress'
- 'com.cisco.vpnsc.repository.vpls.VplsServiceAttributeMap'
- 'com.cisco.vpnsc.repository.vpls.VplsPolicyInterface'
- 'com.cisco.vpnsc.repository.vpls.VplsUniProtocolTunnel'
- 'com.cisco.vpnsc.repository.vpls.VplsUniInterface'
- 'com.cisco.vpnsc.repository.vpls.VplsPolicy'
- 'com.cisco.vpnsc.repository.vpls.VplsLinkAttributeMap'
- 'com.cisco.vpnsc.repository.vpls.VplsServiceAttributes'

- 'com.cisco.vpnsc.repository.vpls.VplsLink'
- 'com.cisco.vpnsc.repository.vpls.VplsSR'
- 'com.cisco.vpnsc.repository.common.HubGroup'
- 'com.cisco.vpnsc.repository.vpls.VplsLogicalLink'
- 'com.cisco.vpnsc.repository.common.MultipointHub'
- 'com.cisco.vpnsc.repository.deploymentflow.Service'
- 'com.cisco.vpnsc.repository.deploymentflow.DfProcess'
- 'com.cisco.vpnsc.repository.deploymentflow.Step'
- 'com.cisco.vpnsc.repository.deploymentflow.StepArg'
- 'com.cisco.vpnsc.repository.deploymentflow.NotifyUserId'
- 'com.cisco.vpnsc.repository.deploymentflow.GlobalData'
- 'com.cisco.vpnsc.repository.deploymentflow.StepData'
- 'com.cisco.vpnsc.repository.deploymentflow.DFProfileEntry'
- 'com.cisco.vpnsc.repository.ual.UALog'
- 'com.cisco.vpnsc.repository.ual.UALPolicy'
- 'com.cisco.vpnsc.repository.ual.ObjectLogEntry'
- 'com.cisco.vpnsc.repository.license.SoftwareLicense'
- 'com.cisco.insmbu.templatemgr.repository.TemplateGroup'
- 'com.cisco.insmbu.templatemgr.repository.Template'
- 'com.cisco.insmbu.templatemgr.repository.DataFile'
- 'com.cisco.insmbu.templatemgr.repository.Keyword'
- 'com.cisco.insmbu.templatemgr.repository.TemplateAssociationOnRole'
- 'com.cisco.insmbu.templatemgr.repository.BusinessClassAssociation'
- 'com.cisco.vpnsc.repository.nbi.ServiceOrder'
- 'com.cisco.vpnsc.repository.nbi.SOSRAssociation'

