



Cisco Conductor Session Resource Manager Configuration Guide

Please Read

Important

Please read this entire guide. If this guide provides installation or operation instructions, give particular attention to all safety statements included in this guide.

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About This Guide

Purpose

The Session Resource Manager (SRM) is the Videoscape Conductor component that provides sessions and resources that enable clients to gain access to Videoscape services, such as video. Video delivery system control applications typically provide some form of on-demand or switched content, and thus require some form of session and resource management functions.

The application scope for SRM is the set of typical video control plane applications, such as SDV, VOD, and cDVR Recorder Manager, that are required for video service delivery platforms. This scope also includes Protocol Adaptors (PA) because they are required in most SRM applications to communicate with back-office facilities.

This document describes how to configure the SRM.

Audience

This document is intended for system operators and headend engineers who deploy version 2.1 or later of the Cisco Conductor. Cisco field service engineers who help support Cisco Conductor will also find the contents of the document useful.

Installation

See the following publications for additional information about this Cisco Conductor release:

- *Getting Started Guide for Cisco Conductor* (OL-27702)
- *Installing COP Files for Cisco Conductor Services* (part number OL-27753)

Document Version

This is the first formal release of this document.

1

Configure the Couchbase Server for SRM

Introduction

The material in this chapter guides you through the steps needed to configure the Couchbase server for use with SRM.

In This Chapter

- Create Two New Data Buckets 2

Create Two New Data Buckets

In this procedure, you will create two new data buckets, *srmobjects* and *srmpersistdata*.

Refer to the following image as an example as you complete these steps.

The screenshot shows the 'Create Bucket' dialog box with the following settings:

- Bucket Name:** srmobjects
- Bucket Type:** Couchbase (selected), Memcached (unselected)
- Memory Size:**
 - Per Node RAM Quota: 2048 MB
 - Cluster quota (50.5 GB)
 - Other Buckets (4 GB)
 - This Bucket (6 GB)
 - Free (46.5 GB)
 - Total bucket size = 6144 MB (2048 MB x 3 nodes)
- Access Control:**
 - Standard port (TCP port 11211. Needs SASL auth.) (selected)
 - Enter password: [password field]
 - Dedicated port (supports ASCII protocol and is auth-less) (unselected)
 - Protocol Port: [empty field]
- Replicas:**
 - Enable (unchecked)
 - Index replicas (unchecked)
- Auto-Compaction:**
 - The Auto-Compaction daemon compacts databases and their respective view indexes when all the condition parameters are satisfied.
 - Override the default auto-compaction settings? (unchecked)

- 1 Log into the Couchbase UI.
Notes:
 - Username is **Administrator**.
 - Password is **Public123**.
- 2 Click **Create Bucket**.
- 3 In the **Bucket Name** field, type **srmobjects**.
- 4 Set the **Bucket Type** to **Couchbase**.
- 5 Set the **RAM Quota** to **2048 MB**.
- 6 Select **Dedicated port** and then enter **5123** in the **Protocol Port** section.
- 7 Uncheck **Enable Replication**, unless you are setting up a cluster.
- 8 Click **Create**.
- 9 Click **Create Bucket**.
- 10 In the **Bucket Name** field, type **srmpersistdata**.

- 11 Set the **Bucket Type** to **Couchbase**.
- 12 Set the **RAM Quota** to **2048 MB**.
- 13 Select **Standard port**.
- 14 Set the password to the name of the srmpersistdata bucket.
- 15 Uncheck **Enable Replication**, unless you are setting up a cluster.

2

Configure SRM

Introduction

The material in this chapter guides you through the steps required to configure the SRM.

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Configure SSM

- 1 Expand the menus on the left under **Platform** -> **SessionStateManager**.
- 2 Click **Configuration**.
- 3 Change the **DisplayMode** field to **Config** and click **Commit Changes** to save.
- 4 Click **Workflows** under **Platform** -> **SessionStateManager**.
- 5 In the **WorkflowName** column, type **EventStore**; then, click **Commit Changes** to save.
- 6 Change the **Display Mode** field to **Normal** and click **Commit Changes** to save.

Configure Couchbase

- 1 Go to the VSRM WebUI.
VSRM_IP
- 2 Click **Platform > Platform Adaptors > Db Adaptor Couchbase > Object Database Settings**.
- 3 Confirm that these fields on the Couchbase Object Database Settings window have entries:
 - **ObjectDatabaseWebIP** — The Couchbase server IP address
 - **ObjectDatabaseWebPort** — This port is used by the Couchbase client for communications with the server. Port 8091 is pre-populated.
 - **ObjectBucketName** — The couchbase bucket name, *srmobjects*, is pre-populated in this field.
 - **ObjectBucketUsername** — Leave this field blank.
 - **ObjectBucketPassword** — This is the password for the bucket name. It is pre-populated.
- 4 Click **Commit Changes**.

SRM Conductor Client Configuration

- 1 Log on the VSRM WebUI.
VSRM_IP
- 2 Click **Platform > Platform Adaptors > Bus Adaptor Conductor Client > Network Config**. The ConductorClient.Network Config window opens.
- 3 Configure these fields on the ConductorClient.Network Config window.
 - **SpecificIpAddress** – Leave this field blank.
 - **ServerIp** – Set this to the Connection Manager (CM) IP address.
 - **ServerPort** – Do not change this from the default setting of **5222**.
 - **ConductorUserName** – Set this to the value of the Conductor XMPP Server IP username on the CMC.
 - **Password** – Set this to the value of the Conductor XMPP Server IP password on the CMC.
 - **Domain** – Set this to the value used in the Conductor XMPP Server Domain on the CMC.
 - **ServiceDomain** – Use the hostname that is pre-pended by "svc" for the SDNS type in cluster.xml.
 - **Resource** – Do not change the default value of Conductor.
 - **OpMode** – Do not change the default value of Server.
- 4 Click **Commit Changes**.
- 5 After committing the changes, you need to reset the SRM. Follow these instructions to reset the SRM.
 - a On the VSRM WebUI, click **Reset**.
 - b Change the **ServerState** from **Active** to **Reset**.
 - c Click **Commit Changes**.

- 6 Follow these instructions to verify the connection between the VSRM and the CMC.
 - a Log on the VSRM WebUI.
SRM_IP
 - b Click **Platform > PlatformAdaptors > BusAdaptorConductorClient.Statistics**.
 - c Verify that the **Connections** field is set to **1**.

ConductorClient.Statistics	
Connections	1
ConnectionErrors	0
MsgTx	0
MsgTxErrors	0
MsgRx	0
MsgRxErrors	0
VirtualMsgQueryTx	0
VirtualMsgQueryTxErrors	0
VirtualMsgQueryRx	0
VirtualMsgQueryRxErrors	0
VirtualMsgResponseTx	0
VirtualMsgResponseTxErrors	0
VirtualMsgResponseRx	0
VirtualMsgResponseRxErrors	0
IqQueryTx	0
IqQueryTxErrors	0
IqQueryRx	0
IqQueryRxErrors	0
IqResponseTx	0
IqResponseTxErrors	0
IqResponseRx	0
IqResponseRxErrors	0
PubSubTx	1
PubSubTxErrors	0
<input type="button" value="Reload"/>	

Configure the Workflow

- 1 Open the `/opt/cisco/vsrm/Workflows/EventStore.xml` file with a text editor.
- 2 Under **EventHandlers**, add the XML elements that you want handled by SessionStateManager.
 - The XML element name should be the stanza name that you want handled.
 - The value should be set to the corresponding workflow to be called. If there is no workflow, then the element should not have a value.

Example: The following workflow is configured with three registered events: *SessionCreate*, *SessionDelete*, and *SessionUpdate*. *SessionCreate* will run the *SsrKeys* workflow.

```
<WorkflowConfig>
<EventHandlers>
<SessionCreate>SsrKeys</SessionCreate>
<SessionDelete></SessionDelete>
<SessionUpdate></SessionUpdate>
</EventHandlers>
</WorkflowConfig>
```

- 3 Use the **Reset** menu in the VSRM GUI to restart the VSRM.
- 4 Verify that the events show up in the Workflow Event Table.

Note: Platform -> SessionStateManager -> Workflow Event Table

Conductor VSRM Workflow Configuration

The Conductor VSRM Workflows are configured by an XML file located in /opt/cisco/vsrm/workflows. The XML filename is <WorkflowName>.xml.

VSRM Comcast Recorder Manager Workflow

The configuration file is called ComcastNdvrRecorderManager.xml.

Sample file contents follow:

```
<WorkflowConfig>
    <ResponseBusAddress></ResponseBusAddress>
    <VirtualServiceJid></VirtualServiceJid>
    <VirtualServicePassword></VirtualServicePassword>
    <ResourceManagerAddress></ResourceManagerAddress>
    <SchedulerAddress></SchedulerAddress>
    <VnsAddress></VnsAddress>
    <EventHandlers>
        <ComcastNdvrRequest>ComcastNdvrRequest</ComcastNdvrRequest>
        <ComcastNdvrSelect>ComcastNdvrSelect</ComcastNdvrSelect>
        <ComcastNdvrConfirm>ComcastNdvrConfirm</ComcastNdvrConfirm>

        <ComcastNdvrSetLocatorResponse>ComcastNdvrSetLocatorResponse</ComcastNdvrSet
LocatorResponse>

        <ComcastNdvrSetStatusResponse>ComcastNdvrSetStatusResponse</ComcastNdvrSetSt
atusResponse>

        <ComcastNdvrQueryDevInfoResponse>ComcastNdvrQueryDevInfoResponse</ComcastNdvr
QueryDevInfoResponse>
        <ComcastNdvrUpdate>ComcastNdvrUpdate</ComcastNdvrUpdate>
        <ComcastNdvrDelete>ComcastNdvrDelete</ComcastNdvrDelete>
        <ComcastNdvrRelease>ComcastNdvrRelease</ComcastNdvrRelease>

        <ComcastNdvrReportStatus>ComcastNdvrReportStatus</ComcastNdvrReportStatus>
        <ComcastNdvrTimeout></ComcastNdvrTimeout>
    </EventHandlers>
</WorkflowConfig>
```

Settable Parameters

The following list represents the settable parameters in the file.

- **ResponseBusAddress** — Reply to address for RecorderManager events. Should be empty for standalone mode; otherwise, this should be the virtual service name for the Recorder Manager (ie: conductor://com/cisco/srm/recordermanager).
- **VirtualServiceJid** — This is the JID for the instance of recorder manager. This should be empty for the standalone mode.
- **VirtualServicePassword** — This is the password for the instance of recorder manager.
- **ResourceManagerAddress** — This is the JID for resource manager.
- **SchedulerAddress** — This is the JID for the scheduler protocol adaptor.
- **VnsAddress** — This is the JID for the VNS protocol adaptor.

VSRM EventStore Workflow

The configuration file is called EventStore.xml.

Sample file contents follow:

```
<WorkflowConfig>
  <EventHandlers>
    <SessionCreate>SsrKeys</SessionCreate>
  </EventHandlers>
</WorkflowConfig>
```

Define Settable Parameters

Event Handlers are handlers for EventStore messages. All messages that need to be stored in session records must to be defined here.

- To define a message for storage, add it as an XML element with no value under EventHandlers.
- To define a message to be handled by a workflow, add it as an XML element under EventHandlers with the value set to the Workflow name.

Configure the DNS

Either make sure that the service XMPP domain (such as, **`svc.sdvlab.cisco.com`**) is resolvable via DNS, or add an entry in the `/etc/hosts` file on the VSRM.

Configure the VSRM

- 1 Navigate to the service that you are going to virtualize.
Example: Platform.SessionStatweMgr.Configuration
- 2 Be sure that the **VirtualServiceJid** field matches the **InstanceJID** from step 8 in Configure the CMC.
- 3 Be sure that the **VirtualServicePassword** field matches the **Password** from step 10 in Configure the CMC.
- 4 Reset the VSRM server.
- 5 To verify that the service virtualization is working correctly, on the CMC, browse to **MessageInfrastructure -> Service Instance Management** and verify that the component shows up as *in service*.

VSRM Management and Operation

Conductor Management GUI

To manage the VSRM, access the CMC GUI. Browse to the appropriate page under the **VSRM Management** section, under the **Services** menu.



Dashboard

The Dashboard page provides an overview and status of all VSRMs on the system.

VSRM Dashboard

Get Current Filter

	<input type="checkbox"/> Site N...	IP Address	Summary Status	Current Mode	Startup Mode	SW Version
1	<input type="checkbox"/> Sims	10.90.146.197	OK	Online	Auto	3.0.0

- **Site Name** — The name of the VSRM.
- **IP Address** — The primary management IP address of the VSRM.
- **Summary Status** — The status of the highest level alarm on the system.
- **Current Mode** — Current mode of the VSRM. Valid values are **Online** or **Offline**.
- **Startup Mode** — Startup mode of the VSRM.
- **SW Version** — Current software version running on the VSRM.

Apps/Protocol Adaptors

This page lists the applications and protocol adaptors running on the VSRM.

Apps/Protocol Adaptors

Get Current Filter								
	<input type="checkbox"/>	componentName ▲	adminState	status	vsrmIp	vsrmName	componentType	componentCategory
1	<input type="checkbox"/>	EmWeb	InService	✓ Ok	10.90.146.197	Sims	EmWeb	ProtocolAdaptor
2	<input type="checkbox"/>	RecorderSim	InService	✓ Ok	10.90.146.197	Sims	RecorderSim	Applications
3	<input type="checkbox"/>	SchedulerSimulator	InService	✓ Ok	10.90.146.197	Sims	SchedulerSimulator	Applications
4	<input type="checkbox"/>	VnsSim	InService	✓ Ok	10.90.146.197	Sims	VnsSim	Applications

- **componentName** — The name of the component.
- **adminState** — The administrative state of the application or protocol adaptor. Valid values are **InService** or **OutOfService**.
- **status** — The status of the alarm on the component.
- **vsrmIp** — The IP Address of the VSRM on which the component is running.
- **componentType** — The type of the application or protocol adaptor.
- **componentCategory** — The category of the application or protocol adaptor.

Managed Devices

This page lists all the managed devices running on the VSRM platform. Field descriptions are similar to the fields described in the previous section, **Apps/Protocol Adaptors**.

Software Components

This page lists all the software components running on the VSRM platform. Field descriptions are similar to the fields described in **Apps/Protocol Adaptors**.

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Customer Information

If You Have Questions

If you have technical questions, call Cisco Services for assistance. Follow the menu options to speak with a service engineer.

Access your company's extranet site to view or order additional technical publications. For accessing instructions, contact the representative who handles your account. Check your extranet site often as the information is updated frequently.



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