



CHAPTER 1

Cisco StadiumVision Mobile Streamer Administration Guide

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About This Guide

This document describes how to configure, operate and monitor the Cisco StadiumVision Mobile Streamer 1.2 appliance.

Intended Audience

The document is intended for venue operators who are responsible for administering and operating the StadiumVision Mobile Streamer.

Related Documentation

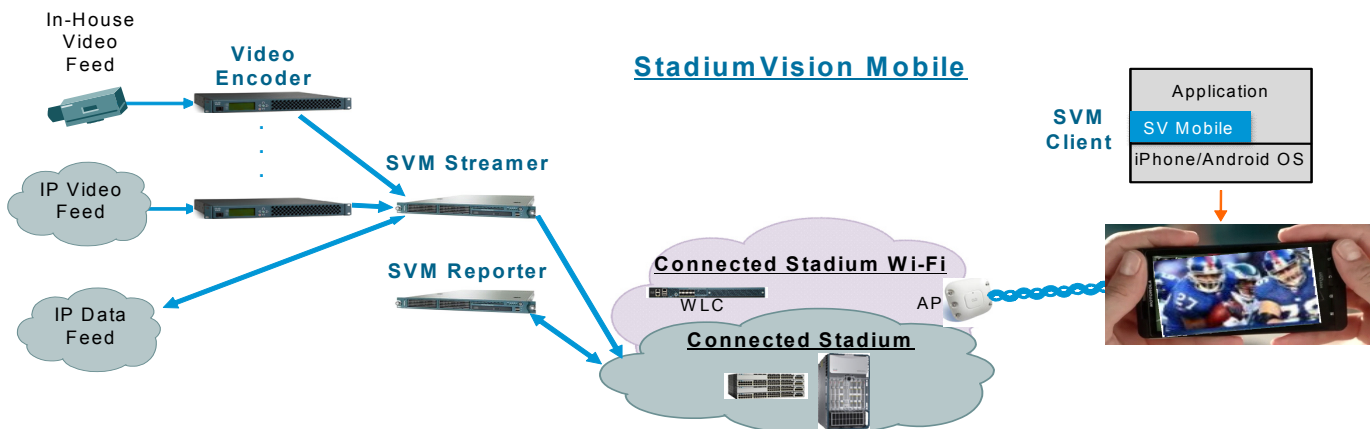
- *Cisco StadiumVision Mobile Streamer Software Installation and Upgrade Guide* - This guide contains instructions on how to install the StadiumVision Mobile Streamer software.
- *Cisco UCS C200 Installation and Service Guide* - This hardware guide contains information and instructions for installing and servicing the Cisco UCS C200 server. The UCS C200 is the server on which the StadiumVision Mobile Streamer and Reporter each run.
- *Cisco StadiumVision Mobile Design and Implementation Guide* – This guide provides additional information regarding the Streamer parameters described in this document (e.g., video encoding rate).
- *Cisco StadiumVision Mobile Reporter Administration Guide* – This guide describes how to install, configure and operate the StadiumVision Mobile Reporter server.
- *Cisco StadiumVision Mobile iOS and Android SDK Guide* – This guide describes how to use the library elements provided in the SDK (Software Development Kit) to create a venue application for mobile devices that accesses the Cisco StadiumVision Mobile feeds.

Cisco StadiumVision Mobile Overview

The Cisco StadiumVision Mobile (SVM) solution enables the reliable delivery of low-delay video and data streams to fans' Wi-Fi devices at venues. [Figure 1-1](#) illustrates a high-level view of the Cisco StadiumVision Mobile solution, which has the following attributes:

- Consists of Video Encoder, Streamer and Reporter products
- Requires integration of Cisco Client SDK in the mobile application
- Built upon Cisco Connected Stadium and Cisco Connected Stadium Wi-Fi solutions

Figure 1-1 Cisco StadiumVision Mobile Architecture



Mobile Streamer Overview

The Cisco StadiumVision Mobile Streamer is a critical component in the Cisco StadiumVision Mobile solution:

- Aggregates video streams and data session objects
- Associates sessions with a specific Content Owner/App Developer to limit video and data content consumption to authorized mobile apps
- Enhances stream transport robustness by adding repair packets
- Sends the enhanced streams to the Connected Stadium network for delivery to mobile devices
- A single Streamer can handle all SVM video and data content for a venue

Mobile Streamer Functionality Highlights

Functionality:

- Receives, prepares and sends up to 4 video streams for consumption by Cisco StadiumVision Mobile clients
- Video streams may be at similar or different video encoding rates
- Video streams may optionally include embedded audio streams
- Fetches, prepares and sends up to 4 data streams for consumption by Cisco StadiumVision Mobile clients
- Configurable bandwidth per data stream
- Allows for a configurable link robustness per stream
- Allows for a configurable delay at the client in presenting recovered streams (e.g., lower delay for live video streams, higher delay for IP video streams and automatic session announcement and transmission of all necessary session metadata)
- Limits session discovery and consumption to authorized mobile applications
- Real-time generation of session statistics, including warning and error indicators

Management:

- Authenticated interface to control access to Cisco StadiumVision Mobile Streamer
- Intuitive UI for easy session creation, activation and monitoring
- Extensive use of session defaults, without limiting operator fine-tuning

Key Terms and Concepts

Cisco Sample App: a standalone mobile application available to a Stadium Operator for testing and evaluating the Cisco StadiumVision Mobile solution.

Repair: in the context of Cisco StadiumVision Mobile, an application-layer mechanism that allows Cisco StadiumVision Mobile Clients to recover lost packets

Stadium Operator: the entity hosting and configuring the Cisco StadiumVision Mobile solution

SVM: StadiumVision Mobile

SVM Reporter: a standalone appliance used to collect of Cisco StadiumVision Mobile Client statistics

SVM Session: protocol and associated parameters which define the sender and receiver configuration for the streaming of content

SVM Session Announcement/Discovery: methods used by the Cisco StadiumVision Mobile Streamer and SVM Client to allow a mobile device to obtain the list of available sessions and associated session metadata

SVM Session triplet key: a specific combination of “Venue”, “Content Owner”, and “App Developer” used by the SVM Streamer and SVM Client to limit session discovery and content consumption to authorized applications. The triplet key components are defined as follows:

- **App Developer:** the text string associated with the Application Developer authorized by a Content Owner to consume the Content Owner’s content over the SVM solution
- **Content Owner:** a text string associated with an entity that wishes to distribute content over the SVM solution
- **Venue:** a text string associated with the venue where an Cisco StadiumVision Mobile Streamer is hosted.

SVM Streamer: a standalone appliance used to aggregate and send content to mobile applications with an embedded Cisco StadiumVision Mobile Client.

SVM System: an end-to-end solution for the delivery of video and data streams, consisting of specific products (Video Encoder, Cisco StadiumVision Mobile Streamer, Cisco StadiumVision Mobile Reporter), wireline and wireless infrastructure (Connected Stadium, Connected Stadium Wifi) and mobile apps with an embedded Cisco StadiumVision Mobile Client.

Content Access Control

An important feature of the Cisco StadiumVision Mobile solution is to limit the consumption of Cisco StadiumVision Mobile encoded video and data content to authorized mobile applications. Consider the following situation:

Content Owner A (e.g., sports team) wishes to use the Cisco StadiumVision Mobile solution to deliver live camera feeds to fans throughout a venue during the team’s home games. Content Owner B (e.g., entertainment company) plans to host events at the same venue at a different time and also wishes to deliver live feeds to their fans. The two Content Owners each want to limit content consumption to their chosen and therefore authorized, Application Developer. The reasons for needing to limit content consumption to authorized mobile apps are many. For example, the app may need to be purchased or it may be sponsored by an advertiser. As a result, Cisco StadiumVision Mobile video and data streams configured for Content Owner A’s mobile app must not be consumed by Content Owner B’s mobile app and vice-versa.

The Cisco StadiumVision Mobile Streamer includes a (Venue/Content Owner/App Developer) triplet in each announced video and data session. Only mobile apps with the identical triplet will be able to discover Cisco StadiumVision Mobile sessions and consume the associated content. The Streamer may be configured to support multiple “Content Owner” and “App Developer” combinations, though only a single triplet may be active at any one time.



Note

The Stadium Operator is responsible for correctly configuring the Streamer and working with Content Owners / App Developer to enable content consumption.

The manner in which video and data sessions are associated with a specific triplet is covered in the [“Session Configuration”](#) section.

Using the Cisco StadiumVision Mobile Streamer

The following sections provide instructions for using the Cisco StadiumVision Mobile Streamer.

Each of the referenced windows and the associated fields are described in detail in the [Accessing the Cisco StadiumVision Mobile Streamer UI](#) section.

- [Accessing the Cisco StadiumVision Mobile Streamer UI, page 1-5](#)
- [Performing the Initial Setup, page 1-7](#)
- [Defaults Screen, page 1-7](#)
- [Stopping or Deleting a Session, page 1-12](#)
- [Viewing Session Content Owners, page 1-13](#)
- [Session Configuration, page 1-17](#)

Accessing the Cisco StadiumVision Mobile Streamer UI

To access the Cisco StadiumVision Mobile Streamer, enter the following URL in a web browser:

- `http://[StreamerAddress]/server`
- Specify the login ID and password
admin / cisco!123

Cisco StadiumVision Mobile Streamer UI reference

- The Cisco StadiumVision Mobile UI includes four screens to view, configure and analyze Cisco StadiumVision Mobile sessions
- Session Summary: create, start, stop, delete and view active/inactive sessions
- Session Configuration: edit individual session parameters for a specific session
- Defaults: edit global default parameter values inherited when creating new sessions
- Session Statistics: view periodic, real-time updates of essential session statistics

[Figure 1-2](#) shows the Cisco StadiumVision Mobile Streamer window with one active stream.

Figure 1-2 Streaming Sessions Summary Window

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1	Streaming Sessions button	2	Stream configuration
3	Start and Stop session buttons		

Performing the Initial Setup

Use the following steps to set up the initial configuration of the streamer. You can also use these steps to:

- Add or modify a content owner/app developer pairing



Note The content owner/app developer pairing must match the values hard coded into the specific SDK for the app developer contracted for a particular venue.

- Modify the default settings for future sessions

Step	Description	Action
1	Define the venue name	Specify the venue name in the Defaults window
2	Add a content owner and app developer	Click Add New in the Defaults window
3	Review and modify session defaults	Modify defaults as needed in the defaults window
4	Save changes	Click the OK button
5	Save the configuration	Click the Save configuration file button in the Streaming Sessions window

Defaults Screen

The Defaults screen is used to view/modify the **Venue** name and **Content Owner/App Developer** pairs (all three together are called the triplet key). [Figure 1-3](#) shows a screenshot of the Defaults screen.

The Defaults screen is also used to view/ modify the default settings to be applied when creating a session. Changing the default settings applies only to sessions to be created, and does not affect previously created sessions. Note that all sessions must be stopped before default setting changes may be applied.

The Venue, Content Owner, Application Developer (also referred to as a triplet key) settings are critical to enabling content consumption on mobile devices. The Streamer settings must match those used by the App Developer for content to be discovered and consumed by a mobile app. App Developers must be notified of a change in Venue name so that their app may be updated. Conversely, if the App Developer has already deployed the app, app developers must also be notified if the associated App Developer / Content Owner setting on the Streamer is modified.

Figure 1-3 Defaults Window

StadiumVision Mobile Streamer Welcome admin [Change Password](#)

Streaming Sessions **Defaults**

Venue is required
Content Owner is required
App Developer is required

Venue: Cisco [Change Venue Name](#)

Content Owner/App Developer: Cisco / sesg [Add New](#) [Delete](#) [Edit App Developer](#)

Session Defaults [Save](#) [Cancel](#)

Session Ports

Input Stream Port (video only):

Output Source Stream Port:

Output Repair Stream Port:

Protection

Video	Data
Protection Window (ms): <input type="text" value="400"/> [50-2000]	Protection Window (ms): <input type="text" value="1000"/> [50-2000]
Protection Amount (%): <input type="text" value="67"/> [20-100]	Protection Amount (%): <input type="text" value="50"/> [20-100]
Recovery Duration (ms): <input type="text" value="100"/> [0-1000]	Recovery Duration (ms): <input type="text" value="250"/> [0-1000]

Statistics Upload

Client Stats Sample Interval (s): [1-1000]

Client Stats Upload Interval (s): [1-1000]

Client Stats URL:

Streamer Stats Upload Interval (s): [1-1000]

Wifi Config

Multicast Buffers: [30-50]

Beacon Interval (ms): [1-250]

Max Available Bandwidth (Mbps): *

Max Data Bandwidth (Mbps): [1.0 Mbps max]

Available Video Bandwidth (Mbps): *

* Read only parameters

1	Venue Name	2	Change Venue Name button
3	Content Owner/App Developer drop-down menu	4	Add New/Delete/Edit App Developer buttons
5	Session Port configuration fields	6	Protection configuration fields
7	Statistics Upload configuration fields	8	Wifi configuration fields

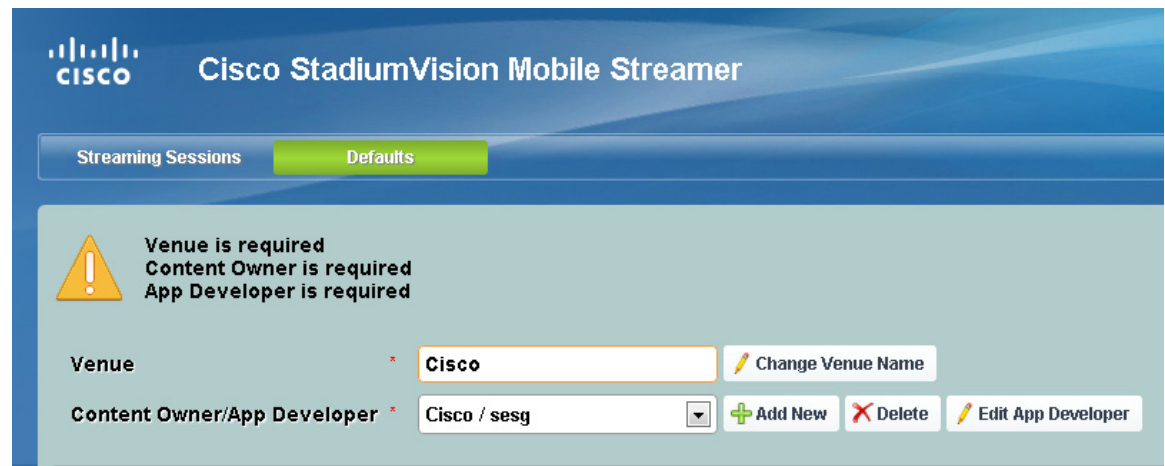
Venue, Content Owner, and Application Developer Settings

The triplet key (Venue, Content Owner, and Application Developer) are configured in the Defaults screen. [Figure 1-4](#) shows a screenshot of the triplet key settings fields.

Table 1-1 triplet Field Descriptions

Field	Description
Venue	The name of the venue. Only one Venue name per Streamer is permitted at any one time.
Content Owner/App Developer	The content owner/application developer pairing. There can be multiple Content Owner/App Developer pairings for a given venue. Only sessions for one Content Owner/App Developer can be active at a time.

Figure 1-4 triplet Settings



Task	Instructions
Modify the Venue Name	Click the Change Venue Name button and enter the new venue name
Create a new Content Owner/Application developer pairing	Click the Add New button
Delete the owner/application developer pairing	Click the Delete button
Change the Application Developer associated with a content owner	Click the Edit App Developer button
Modify a Content Owner	First delete the Content Owner/App Developer pair, and then click Add New to create a new pair.

Selecting the **Add New** button displays a dialog box that allows you to enter new Content Owner and App Developer names. [Figure 1-5](#) shows a screenshot of the Creating the New Content Owner dialog box.

Selecting the Edit App Developer button displays a dialog box that allows you to modify the App Developer name. [Figure 1-6](#) shows a screenshot of the Edit App Developer dialog box.

**Note**

The Content Owner cannot be edited. The Content Owner / App Developer pair should be deleted if the Content Owner is modified.

Figure 1-5 *Creating the New Content Owner*

Figure 1-6 *Editing the App Developer*

Mobile Streamer Session Default Field Descriptions

[Table 1-2](#) lists the streamer session default fields and a description of each field.

Table 1-2 *Streamer Session Defaults Field Descriptions*

Field	Description
Session Ports	
Input stream port (video only)	The UDP port on which the source video stream is received.
Output Source Stream Port	The UDP port on which the source stream is sent.
Output Repair Stream Port	The UDP port on which the source repair stream is sent.

Table 1-2 Streamer Session Defaults Field Descriptions (continued)


Field	Description
Protection	
Protection Window	<p>The window of time in milliseconds over which source stream packets and repair packets are associated.</p> <p>For video sessions, a smaller window (e.g., 250 ms) reduces the end-to-end delay at the expense of greater exposure to burst loss. Typical range for video sessions is 250-400 ms.</p> <p>For data sessions, the value must be large enough to allow the transmission of all data object source and repair packets. Typical range for data sessions is 1,000-2,000 ms, depending object size and data rate. The valid range is 50-2000ms.</p>
Protection Amount	The amount of repair data in percentage to be sent for each Protection Window. A greater Protection Amount value provides increased robustness to packet loss at the expense of increased Wi-Fi bandwidth. Video and data sessions have their own default values. The valid range is 0-100%.
Recovery Duration	The period of time over which lost packets in a Protection Window are recovered. A greater Recovery Duration reduces the mobile's peak CPU load in recovery dropped packets at the expense of increased delay before the object is recovered and eventually displayed. Video and data sessions have their own default values.
Statistics Upload	
Client Stats Sample Interval(s)	The time interval, in seconds, at which the client SDK samples it's internal counters.
Client Stats Upload Interval(s)	The interval, in seconds, at which the client SDK uploads statistics to the Reporter.
Client Stats URL	The StadiumVision Mobile Reporter URL to which clients will periodically upload their statistics.
Streamer Stats Upload Interval (s)	The time interval, in seconds, at which the Streamer uploads statistics to the Reporter.
Wifi Config	
 Note	The settings in the Wifi Config should be set to reflect the actual configuration in the wifi network. The Streamer uses these values to shape traffic so bursts that could cause AP buffer overruns are eliminated.
Multicast Buffers	Set this to match the multicast buffer setting on the wifi access points (AP).

Table 1-2 Streamer Session Defaults Field Descriptions (continued)

Field	Description
Beacon Interval (ms)	Set this to match the beacon interval configured in the wifi network. This value is also known as the Delivery Traffic Indication Message (DTIM).
Max Available Bandwidth (Mbps)	This value is calculated by the Streamer based on the configured values for Multicast Buffers and Beacon Interval. It indicates to total Wifi bandwidth available for Streamer sessions.
Max Data Bandwidth (Mbps)	Use this field to reserve a set amount of bandwidth for data sessions.
Available Video Bandwidth (Mbps)	This value is calculated by the Streamer by subtracting the Max Data BW from Max Available BW, and indicates the amount of bandwidth available for video sessions.

Viewing Session Statistics

To view the statistics gathered for each session, click Statistics beside the desired button in the streaming session window under Active sessions. Statistics can be viewed only for active sessions. [Figure 1-10](#) shows an example of a Session Statistics screen.

Creating New Sessions

Follow these steps to view all currently configured sessions – both active and inactive.

Step	Description	Action
1	Create a video or data session.	Click Create a New Session in the Streaming Sessions window
2	Configure the session	Click Create Session and specify the parameters in the Streaming Sessions window
3	Start the session	Click Start next to the desired inactive session in the Streaming Sessions window

Stopping or Deleting a Session

Before you delete a session, you must stop the session. Use the following procedure to stop or delete a session:

Step	Description	Action
1	Stop a session	Click Stop next to the desired Active session in the Streaming Sessions window
2	Delete a session	Click Delete next to the desired inactive session in the Streaming Sessions window

Viewing Session Content Owners

To view the session content owners, use the following procedure:

Step	Description	Action
1	View the sessions for a content owner	Go to the Steaming Sessions window
2	View the sessions for a different content owner	Select the desired content owner in the content owner drop-down menu in the Streaming Sessions window

Viewing and Modifying Session Configuration Information

To view or modify the session configuration, use the following procedure. [Figure 1-7](#) shows an example of the session configuration window.

Step	Description	Action
1	View the configuration of any session	Click on the session name in the Streaming Sessions window
2	Modify the configuration of an inactive session	Select the desired content owner in the content owner drop-down menu in the Streaming Sessions window

Figure 1-7 Session Configuration Window

StadiumVision Mobile Streamer

Welcome admin [Change Password](#) [Log](#)

Streaming Sessions Defaults

d6

Session Type Data Content Owner: Cisco [Save](#) [Cancel](#)

Input

Input Name: Polling Interval (s):

Input URL:

Output

Announcement Title: Session Number:

Destination Group: Session Bandwidth (kbps):

Advanced

Source Stream Port: Repair Stream Port:

Protection Window (ms): [50-2000] Protection Amount (%): [20-100]

Recovery Duration (ms): [0-1000]

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1	Session type drop-down menu	2	Input session configuration fields
3	Output session configuration fields	4	Advanced session configuration fields

Switching Between Screens

When first accessing the Cisco StadiumVision Mobile Streamer, the Session Summary screen is displayed. Accessing other Streamer screens from the Session Summary screen and returning to this screen is shown below.

Use the following instructions to view sessions, to start, or stop a session.

Task	Instructions
View the sessions for a content owner	Go to the Streaming Sessions window
View the sessions for a different content owner	Select the desired content owner in the content owner drop-down menu in the Streaming Sessions window

Task	Instructions
Save the configuration	Click the Save configuration file button in the Streaming Sessions window
Start the session	Click Start next to the desired inactive session in the Streaming Sessions window
Stop a session	Click Stop next to the desired Active session in the Streaming Sessions window

Creating a New Session

The **Create a New Session** dialog box is displayed upon selecting the **Create a new session** button. [Figure 1-8](#) shows a screenshot of the Streaming Session screen. The operator must enter all new session parameters to successfully create a new session. All other session attributes are inherited from the Defaults screen.

Figure 1-8 Streamer Session Creation

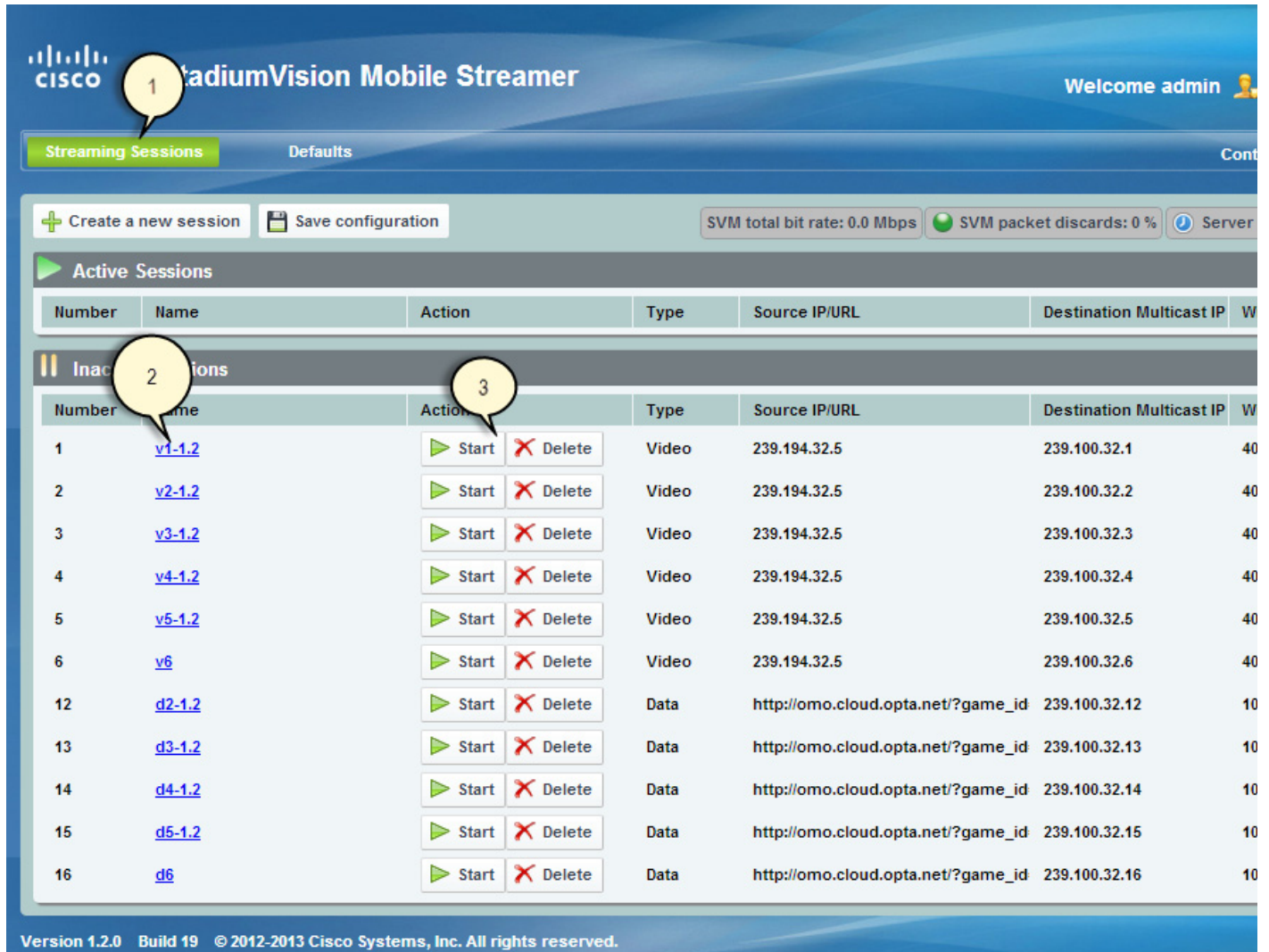


Table 1-3 Streaming Session Field Descriptions

Field	Description
Number	Number associated with this session. Must be unique per Content Owner.
Name	Name associated with this session. Must be unique per Content Owner.
Type	Indicates whether a Video (default) or Data session. Affects defaults to be applied to the created session.

Table 1-3 Streaming Session Field Descriptions (continued)

Field	Description
Source	For video sessions, indicates the IP multicast address of the video feed from the encoder. Note that port number is configured on the Defaults screen. For data sessions, indicates the URL of the data source (e.g., RSS feed)
Destination	The IP multicast address for the session to be transmitted by the Streamer. Must be unique per Content Owner. Note that the port number is configured on the Defaults screen.

Session Configuration

Clicking on a session name on the Session Summary screen displays the associated Session Configuration screen. Displayed fields are dependent on the session type (video or data). All modifications made on this screen are for the selected session only. [Figure 1-9](#) shows the session configuration window.

**Note**

To make any changes to the session configuration, you must first stop the session. Otherwise, this window is view-only.

Figure 1-9 Session Configuration Screen

The screenshot displays the Cisco StadiumVision Mobile Streamer administration interface. At the top, it shows the Cisco logo and the product name. The user is logged in as 'admin' and can perform actions like 'Change Password' and 'Log Out'. The main area is titled 'Streaming Sessions' and includes a 'Content Owner' dropdown set to 'Cisco'. There are buttons for 'Create a new session' and 'Save configuration file'. A status bar shows 'SVM total bit rate: 0.0 Mbps', 'SVM packet discards: 0', and 'Server uptime: 2 days 16 hrs 14 mins 03 secs'.

The 'New Session' form has the following fields:

- Number:
- Name:
- Type: Video (dropdown)
- Source IP:
- Destination IP:
- Buttons: + Create Session, X Cancel

The 'Inactive Sessions' table contains the following data:

Number	Name	Action	Type	Source IP	Destination IP	Window(ms)	Protection Amount(%)
2	DEV:LiveE	▶ Start ✖ Delete	Video	239.100.0.2	239.100.6.2	250	67
4	DEV:ESPN	▶ Start ✖ Delete	Video	239.100.0.4	239.100.6.4	400	67
5	DEV:NFL_Network	▶ Start ✖ Delete	Video	239.100.0.5	239.100.6.5	400	67
15	DEV:mikecap tablet	▶ Start ✖ Delete	Video	239.100.0.14	239.100.6.15	250	100
20	DEV:NFL_20	▶ Start ✖ Delete	Video	239.100.0.5	239.100.6.20	400	67
21	DEV:NFL_21	▶ Start ✖ Delete	Video	239.100.0.5	239.100.6.21	400	67
22	DEV:NFL_22	▶ Start ✖ Delete	Video	239.100.0.5	239.100.6.22	400	67
23	DEV:NFL_23	▶ Start ✖ Delete	Video	239.100.0.5	239.100.6.23	400	67
33	DEV:binbop	▶ Start ✖ Delete	Video	239.100.0.113	239.100.6.33	400	67
99	DEV:CNN_NFL	▶ Start ✖ Delete	Data	http://ss.cnn.com/rss/si_nfl.rss	239.100.7.99	500	50
101	DEV:skc_data	▶ Start ✖ Delete	Data	http://omo.cloud.opta.net?game_id=429979	239.100.7.101	1000	50
102	DEV:mikedata	▶ Start ✖ Delete	Data	http://127.0.0.1	239.100.7.102	1000	50

Video Session Configuration

Table 1-4 Video Session Field Descriptions

Field	Description
Input	
Input Name	Name of input data source. It may reflect the encoder name or the actual video source (e.g., EndZone, ESPN).
Input Group	The IP multicast address on which the input video stream is received.
Input Port	The UDP port on which the input video stream is received.
Output	
Announcement Title	The name of the session. Must be unique per Content Owner. Choose a descriptive name as this is the name that will be shown on the client.

Table 1-4 Video Session Field Descriptions (continued)

Field	Description
Destination Group	The IP Multicast address of the session to be transmitted by the streamer.
Session Number	The number associated with this session. Must be unique per Content Owner.
Advanced	
Session Bandwidth	The maximum data rate per second to be allocated for sending the session.

Advanced Session Configuration

Refer to the “[Mobile Streamer Session Default Field Descriptions](#)” section on page 1-10, as the Advanced Session fields are identical to those listed in this section.

Data Session Configuration

Data sessions are generally assumed to complement the video streaming experience. The transmission of data session packets is consequently controlled to minimize Wi-Fi multicast congestion and ease client reception/recovery of data objects. Two parameters play a critical role in controlling the data session transmission:

The **Session Bandwidth** for each data session determines the rate at which source and repair stream packets are sent for the data session. A Session Bandwidth value of 100 kbps is typical and helps to minimize burst transmissions which could otherwise impact video sessions.

The **Protection Window** for each data session is important in signaling to a Cisco StadiumVision Mobile Client the duration to wait before recovering a data session object. If the Protection Period is too small the Cisco StadiumVision Mobile Client may not receive enough packets before attempting to recover the object. Too large a value and the mobile can unnecessarily delay when an object is recovered and presented to the application. A value of 1-2 seconds is reasonable, but as shown on the next page, the Stats Summary must be checked to confirm correct operation.

The product of the Session Bandwidth and Protection Window effectively specifies the maximum amount of source and repair data that may be sent for each object within a data session. It is therefore important to know the approximate size of objects to be sent over the network. The Stats Summary provides a quick view on the data session packet statistics.

Objects fetched for data sessions (e.g., out of town scores) are generally expected to be small, e.g., 20-200 KB, and are further reduced when compressed by the Streamer for a typical delivered size of 2-50 KB.

Configuring the Session Bandwidth and Protection Window requires some trial and error since data objects typically vary in size and the compression achieved for each object can also vary. As noted on the previous page, the Stats Summary provides guidance on the size of the delivered object and appropriate configuration settings. Here is an example to illustrate this point:

Assume a data session packet size of 1,500 bytes = 12,000 bits

Assume a Session Bandwidth of 120 kbps. Packets would then be sent every 100 ms

Assume a total of 30 source and repair packets for every data object (from example below)

A three second protection window would be required to extend the StadiumVision Mobile client's reception window to match the Streamer transmission window.

Table 1-5 Data Session Configuration Fields

Field	Description
Input	
Input Name	Name of input data source. It may reflect the encoder name or the actual video source (e.g., EndZone, ESPN).
Input URL	Input data source URL. This could be an RSS feed, for example: http://rss.cnn.com/rss/cnn_topstories.rss
Polling Interval (s)	The interval, in seconds, at which the Streamer polls the input URL.
Output	
Announcement Title	The name of the session. Must be unique per Content Owner.
Destination Group	The IP Multicast address of the session to be transmitted by the streamer.
Session Number	The number associated with this session. Must be unique per Content Owner.
Session Bandwidth (kbps)	The maximum data rate per second to be allocated for sending the session.
Advanced	
Refer to the “Mobile Streamer Session Default Field Descriptions” section on page 1-10, as the Advanced Session fields are identical to those listed in this section.	

Troubleshooting

Warning and Error Stats

- Session statistics should be periodically monitored to confirm general health of an active session. [Figure 1-10](#) shows an example of a session statistics window.
- The orange warning and red error icons identify counters that should be zero under normal circumstances. If they are not then action should be taken.
- Confirm that the input and output packet rate is consistent with the Video Encoder and Streamer configurations. For example, an increase in the number of received packets should be consistent with the Video Encoder setting, e.g., 60 packets/second for a 500 kbps video stream.
- Check the 'SVM total bit rate' at the top of the Session screen and make sure it does not exceed the 'Max Available Bandwidth' calculated value on the defaults screen.
- Check the 'SVM packet discards' at the top of the Session screen. Anything other than 0% is a sign of a problem.
- For Encoder or client related issues, refer to the *Cisco StadiumVision Design and Implementation Guide*.

Figure 1-10 Session Statistics Window

Parameter	Value	Description
Session Uptime	82,586	Time since session started
Protection Windows	206,462	Protection Window count since session started
Video Drops	1	Number of Protection Windows with no source video content
Large Blocks	535	Number of blocks with more than 64 packets
Block Overflow	0	Number of blocks with more than 128 packets
Received Packets	5,425,858	Number of Received Packets
Malformed Video Packets	0	Number of video stream packets received without proper TS packet header
Malformed Packets Received	0	Number of received packets with unexpected length
Source Packets Sent	5,425,849	Source Packets Sent
Repair Packets Sent	3,754,927	Number of Repair Packets sent
Data Objects Received	0	Number of received data objects
Data Objects Sent	0	Number of transmitted data objects
Data Objects Discarded	0	Number of discarded data objects

Error indicator. The operator is advised to take action to minimize or eliminate conditions which can cause non-zero values.

Warning indicator. The operator is advised to take action to minimize or eliminate conditions which can lead to a non-zero value.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

Subscribe to the *What's New in Cisco Product Documentation* as an RSS feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service. Cisco currently supports RSS Version 2.0.

This document is to be used in conjunction with the documents listed in the “[Session Configuration](#)” section.

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