



Cisco StadiumVision Director Obtaining Proof of Play

Release 2.3

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Document History

Table 1. Revision History

Date	Description
2/8/2011	Updated for Cisco StadiumVision Director Release 2.3.
1/4/2011	First release for Cisco StadiumVision Director Release 2.2.

Obtaining Proof of Play

You need administrator privileges in SV Director to use Proof of Play.

This document describes how to enable proof of play, create tags for proof of play content, generate reports, download CSV files, and troubleshoot proof of play processing.

Proof of play is the ability to generate a report of which advertisements were played during an event. Once a proof of play database has been set up, StadiumVision Director collects and collates proof of play data from the Cisco DMPs and displays it in a proof of play report on the Control Panel. You can export the data to a Comma Separated Value (CSV) information file and then use a spreadsheet application such as Microsoft Excel to generate reports from these CSV files.

StadiumVision gathers logs from all Cisco DMPs after the event. These logs contain, among other things, the content that was played during the event and when it was played for example, before the event, during the event, and after the event.

By default, proof of play data is archived for 14 days. Using the SV Director Management Dashboard, you can change this setting as well as the time of day at which the data is archived.

Proof of Play Data Compatibility with KORE

In StadiumVision release 2.2, the format of the proof of play data accommodates post processing by KORE Systems. To support KORE data processing, SV Director aggregates proof of play data across DMPs and generates reports that show information based on total playout per sponsor rather than individual playouts per DMP.

Enabling Proof of Play

Before proof of play data can be generated, you need to enable the global proof of play switch within StadiumVision Director and set the Syslog Collector IP Address for the DMP. By default, proof of play is enabled for each playlist. However, to generate the data, you must also enable proof of play for the associated event script. Refer to the following procedures:

[Enabling the Global Switch for Proof of Play](#)

[Enabling a DMP to Generate Proof of Play Messages](#)

[Enabling/Disabling Proof of Play for a Playlist](#)

[Enabling Proof of Play for an Event Script](#)

Logging in to SV Director

You need to be logged in to SV Director with administrator credentials to use the proof of play function.

To log in to SV Director:

1. Open a browser window and type <http://ipaddress:8080/StadiumVision/> where *ipaddress* is the IP Address of the SV Director Server.
2. Enter your SV Director administrator credentials:

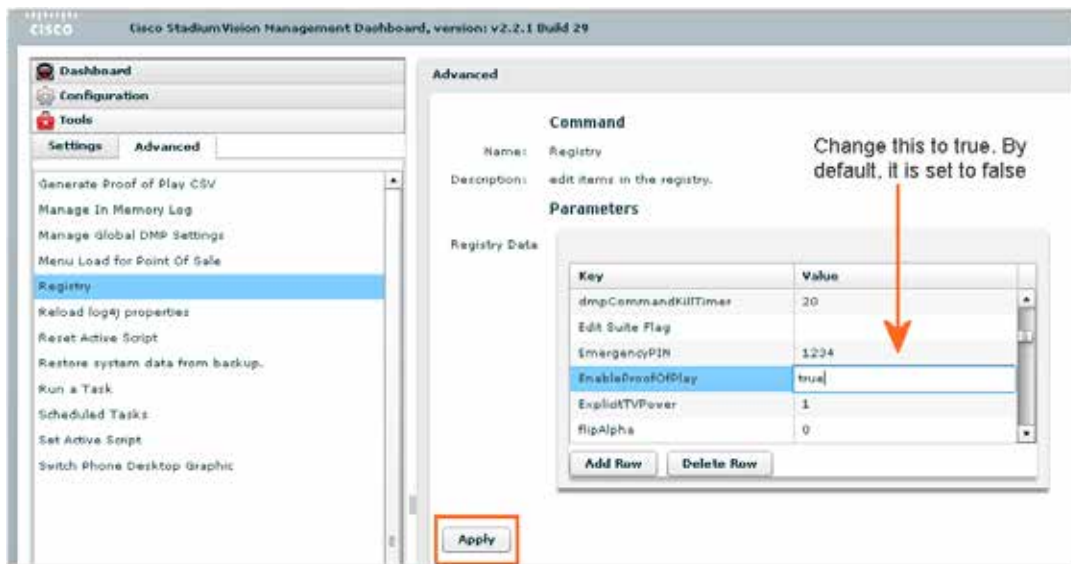
Username: admin

Password: admin

Enabling Global Proof of Play

1. Log in to SV Director and open the Management Dashboard.
2. Select **Tools > Advanced > Registry**.
3. Set the EnableProofOfPlay key to **true**. By default, it is set to **false**.
4. Click **Apply**.

Figure 1. Enabling the Global PoP Switch



5. Restart SV Director.

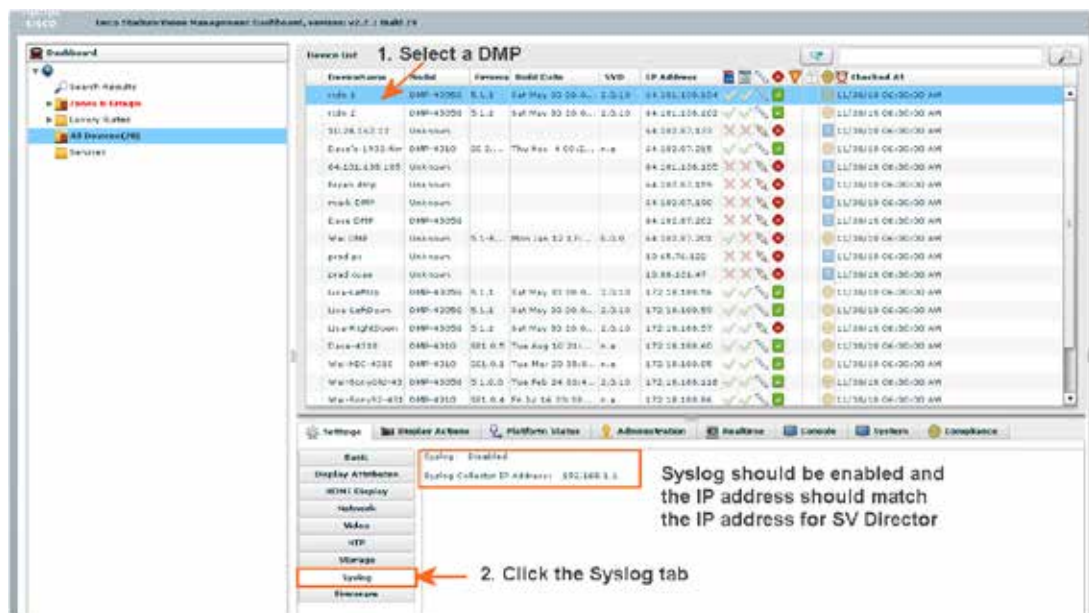
Enabling a DMP to Generate Proof of Play Messages

To use proof of play, you need to enable the Syslog for the DMP and also set the Syslog Collector IP Address. This address is typically the IP address of the SV Director. By default, Syslog is not enabled.

To enable proof of play for a DMP:

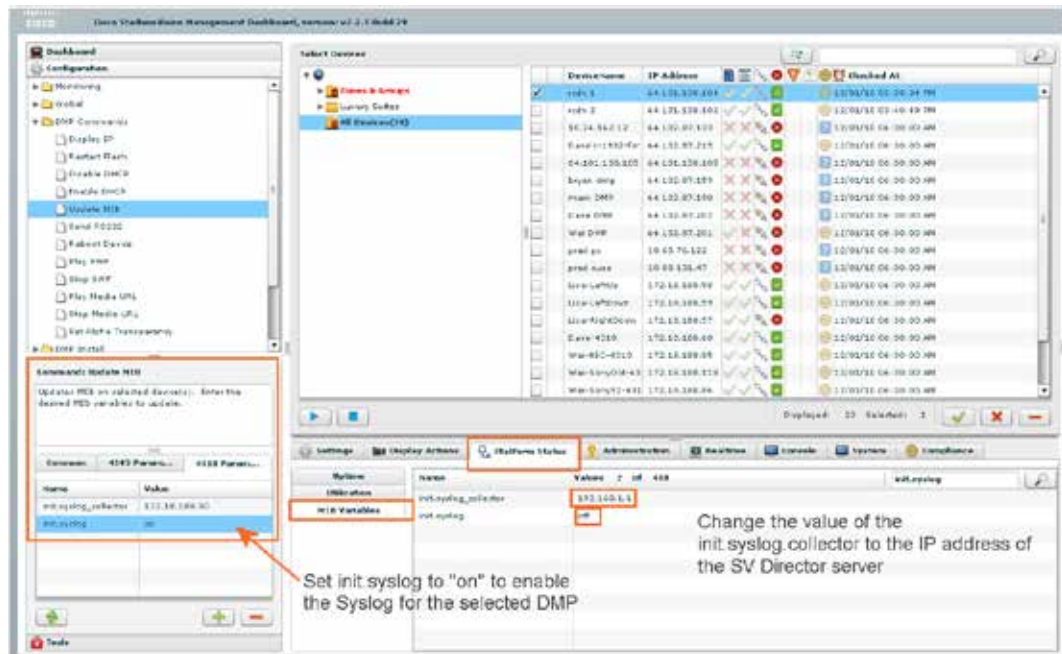
1. Open the Management Dashboard and select the DMP(s) from the Device List. To select multiple DMPs, enable the checkbox next to the device name.
2. To view the Syslog settings for a selected DMP, go to the bottom of the screen and click **Syslog** on the **Device Settings** tab.

Figure 2. Checking Syslog Settings for the DMP



3. Select **Configuration > DMP Commands > Update MIB**.
4. In the Update MIB command parameters box, add the following Name:Pair values:
init.syslog: on
init.syslog_collector: *<IP address of SV Director server>*
5. Click the Play button to send the command to the selected DMP(s).

Figure 3. Enabling PoP for a DMP



6. Click Syslog on the **Device Settings** tab to verify the new settings.

Enabling/Disabling Proof of Play for a Playlist

Proof of play for each playlist is enabled by default. However, proof of play data will not be generated unless you enable proof of play for the script.

To disable proof of play for playlist:

1. Open the Control Panel.
2. Click the **Content** tab.
3. Select a playlist. The playlist settings display in the Playlist Items window.
4. Enable the **No** button for Enable Proof of Play.
5. Click **Update**.

Figure 4. Enabling PoP for a Playlist



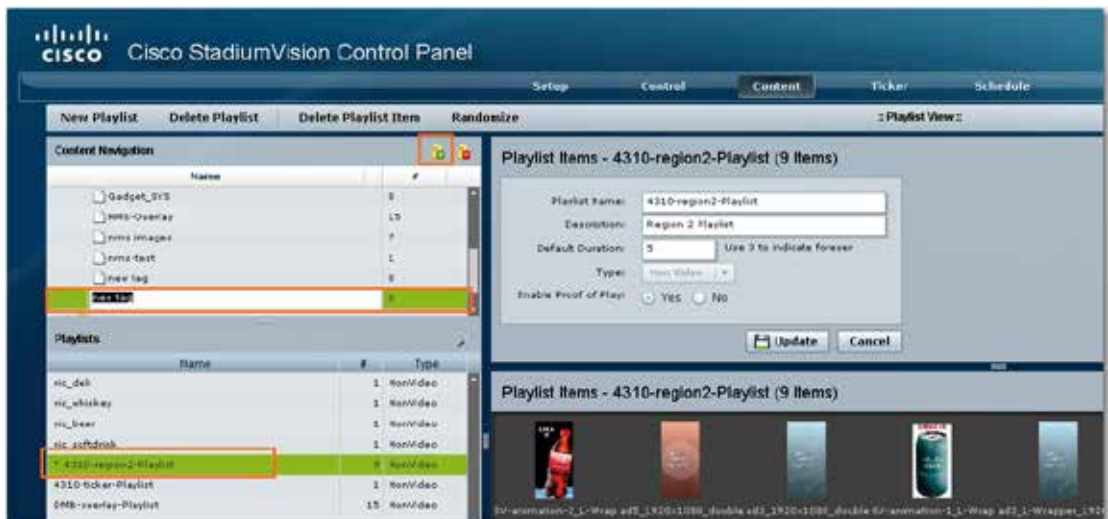
Creating a Tag for a Proof of Play Record

You can create a tag that is assigned to the proof of play record. This allows you to tag the records with a label that identifies the advertiser or sponsor.

To create a tag for a proof of play record:

1. On the Control Panel **Content** tab, expand the All Content folder under Content Navigation.
2. Open the By Tag folder.
3. Click the Add New Tag icon (folder with green plus sign). A New Tag entry displays under the By Tag folder.

Figure 5. Adding a New PoP Tag



4. Type the desired tag name, for example, the name of the advertising agency. The tag name must use the following naming convention in order to be picked up by proof of play:

`<tag name>_PoP`

Note: Do not use following invalid characters such as / ? < > \ : * | " in the tag name.

Note: The "_PoP" after the tag name is not included in the proof of play report; only the `<tag name>` is displayed in the report.

5. From the Playlist items window, click and drag the content you want to assign onto the tag you just created in the Content Navigation window. You can assign multiple playlists to the same tag.

The number of playlists assigned to each tag displays under the # column in the Content Navigation window next to the tag name. To find out which playlists are assigned to a tag, double-click on the tag name.

Figure 6. Assigning Playlist Content to a PoP Tag

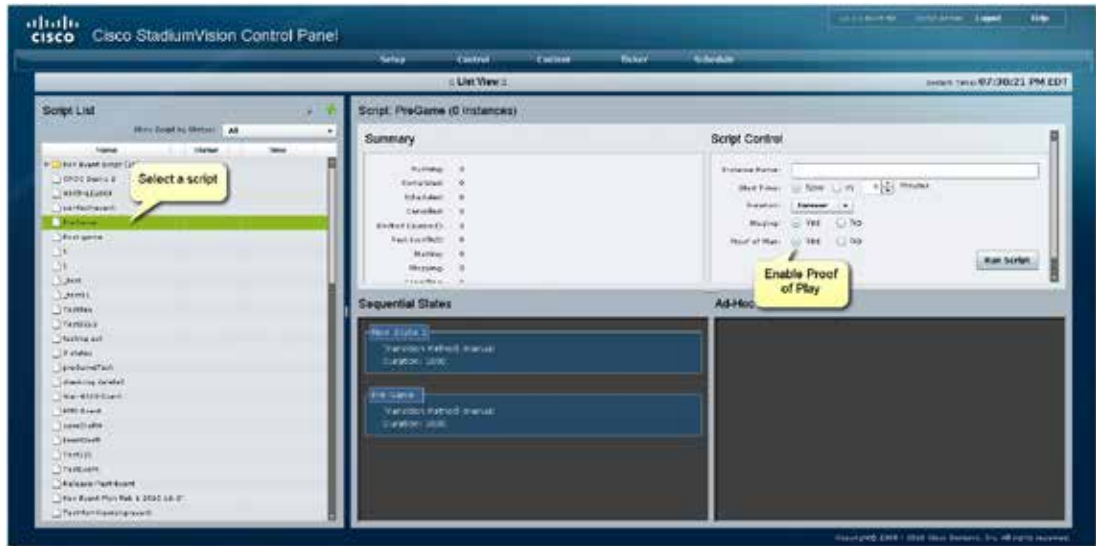


Enabling Proof of Play for an Event Script

To limit the amount of data gathered by SV Director, proof of play is enabled by default for each playlist, but not for event scripts. To generate proof of play data, you must enable it at both levels.

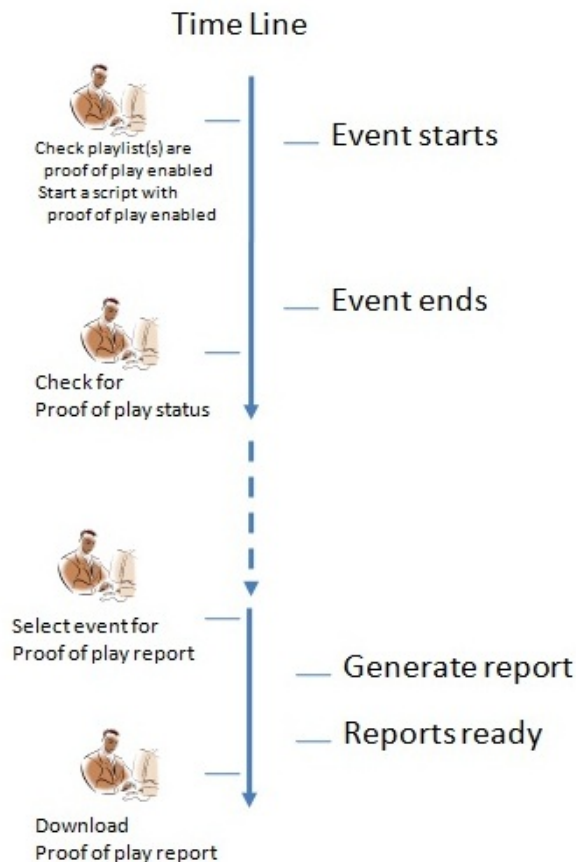
1. Open the Control Panel and select the **Control** tab.
2. Select an event script.
3. Enable the Proof of Play **Yes** button for the event script.
4. Click **Run Script**.

Figure 7. Enabling PoP for an Event Script



Considerations for Generating a Proof of Play Report

The following diagram shows the workflow for generating a proof of play report.



Before you generate a proof of play report, consider the following:

- If the name of the content contains a space, proof of play will not recognize it.
- Proof of play records are not available until the script completes.
- While the proof of play report is processing, there is a delay between the end of an event and the availability of the reports in the Proof of Play screen. Click the refresh button before generating and viewing a proof of play report to be sure the latest report status is displayed.
- Depending upon the amount of data you have in the script, it may take from 10 seconds to several minutes to generate the report.
- The last event state is traditionally used to turn off the displays in the venue. Because of this, the last state does not offer proof of play data.
- Content placed in the first event state may not appear in proof of play records.
- For zero-duration non-video items in a playlist, the proof of play record will show the airtime when the item started to play and the Duration as 0 (zero).
- StadiumVision Director is unable to generate proof of play for an event if proof of play is turned on for a Dynamic Menu Board playlist. Therefore, before generating a proof of play report, be sure to turn off proof of play for all Dynamic Menu Board playlists.
- Proof of play reports are not generated for playlists that contain less than three items. If proof of play is required, create playlists that contain three or more items.
- Custom screen templates do not support proof of play.
- For proof of play, you can have only one region with an ad playlist.

Best Practices for Naming and Tagging Content to Generate Proof of Play Reports

Use of a consistent naming strategy makes it easier to generate and manage reports. For example, prefixing region 2 content file names with “R2” (e.g., “R2_filename.jpg”) allows you to generate reports on region 2 content since filters can be applied to look for “R2” at the head of the string. Other types of content should have unique identifiers like “FS” for full screen content and so on.

Additionally, associating proof of play tags to content provides excellent metrics for reporting and filtering. Tag names are free form so they can reflect an advertiser account number, campaign identifier, or other reporting metric. These tags will appear in the KORE CSV file.

Naming of groups and zones is equally important as they will be directly reflected in the report. A zone name of “Concourses” with group names of “Main Hall” and “Section 101” make for easier reading within the report. This also makes it possible to generate a useful proof of play report without detailed knowledge of how the system is configured.

Using the Proof of Play Screen

The **Setup > Proof of Play** screen in the Control Panel displays the status of the collection of data required to demonstrate proof of play. Each entry in the window represents an event.

The Proof of Play screen displays the event name, the start and end time of the event, whether the event has finished, and whether the raw data was converted to a CSV file. The status column shows the status of each entry. A green dot displays in the status column when the report is ready to be generated.

You can download the proof of play data for a specific event by selecting download under the CSV column. The CSV file will be downloaded to the CSV repository on the SV Director server.

Figure 8. Proof of Play Screen

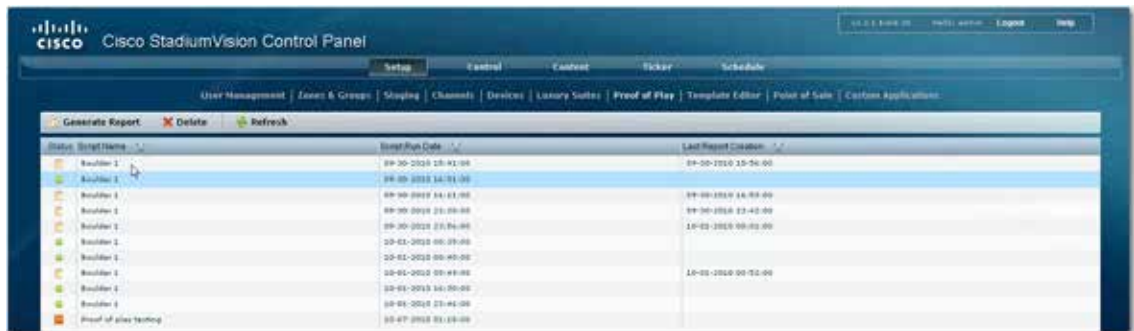


Table 6 describes the column headings for the Proof of Play screen.

Table 6. Proof of Play Screen Headings

Column Header	Description
Status	Script is currently running (orange box), script is completed and PoP data is ready to be generated (green circle), PoP report is being generated (yellow icon). PoP is complete (yellow icon).
Script Name	Name of the Event Script as specified in StadiumVision Director. This is the same for all entries in the CSV.
Script Run Date	Date and time the event script was started on the local server. This is the same for all entries in a single CSV.
Last Report Creation	Date the report was last generated.

Generating a Proof of Play Report

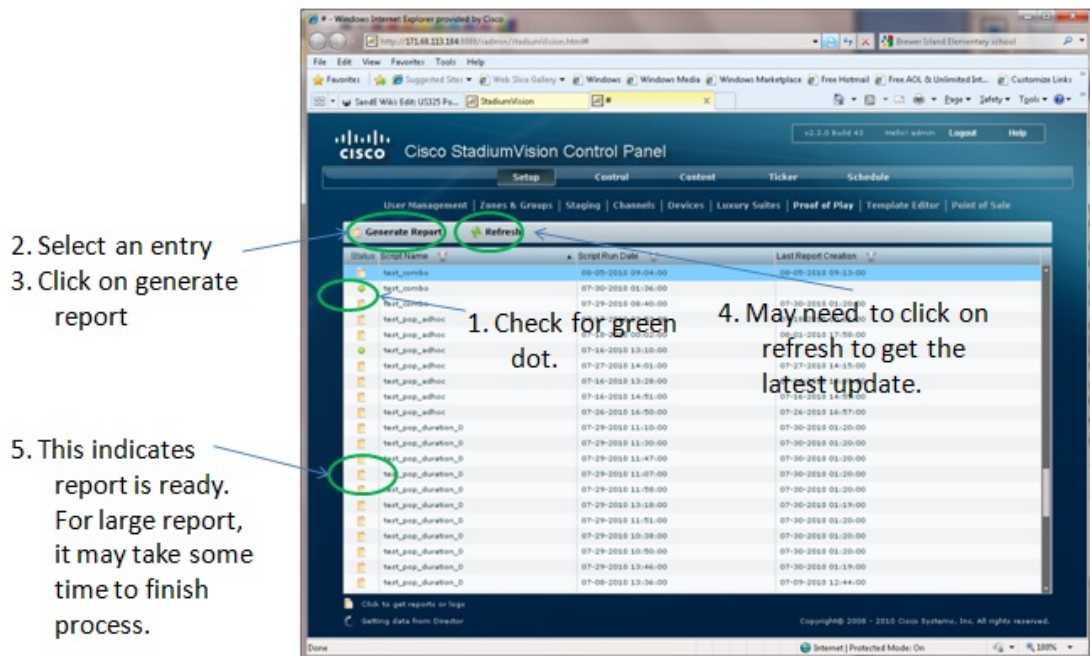
1. Select **Setup > Proof of Play**.
2. Select an event script row from the Proof of Play screen.
3. Click **Generate Report**.

The date and time of the report generation will display in the Last Report Creation column. Also, the Generate Report icon will display in the Status column while the CSV file is being generated.

For long events (several hours), it may take a few moments to finish compiling the report. Click on refresh button to get the latest update.

Note: It is recommended that you generate the proof of play report within six weeks of the event.

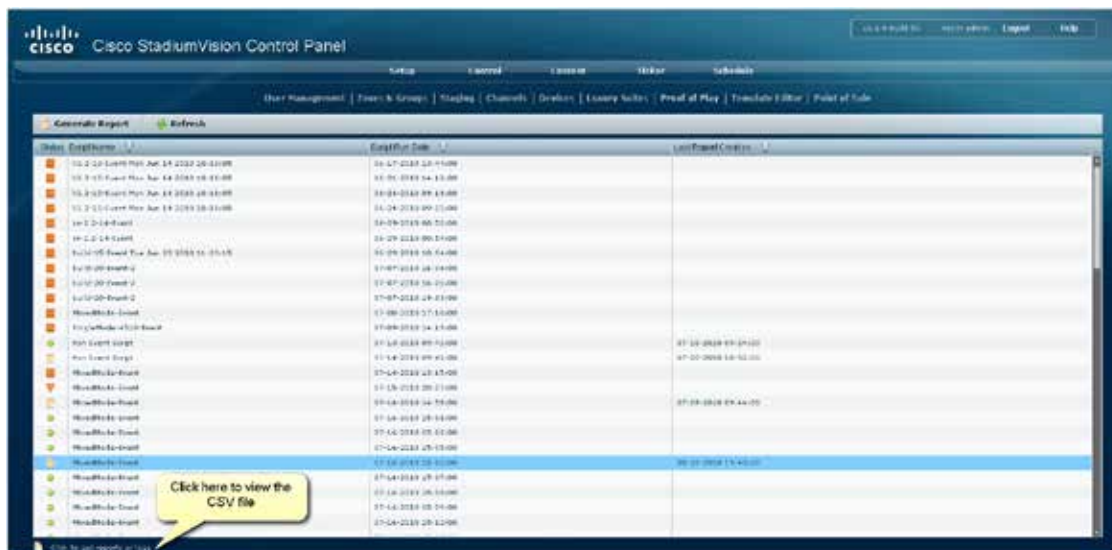
Figure 9. Generating a Proof of Play Report



Viewing the Proof of Play Report

When the proof of play report has finished processing (green status icon), click the icon at the bottom of the screen to view the report or logs.

Figure 10. Viewing a Proof of Play Report



Downloading the Generated Proof of Play Report to a CSV File

Once the proof of play report has been generated, you can download the report to a CSV file. Two formats are supported:

- Generic: More detailed report
- KORE: A summary report.

Note: It is recommended that you download the generated proof of play report to a CSV file within 14 days of the event.

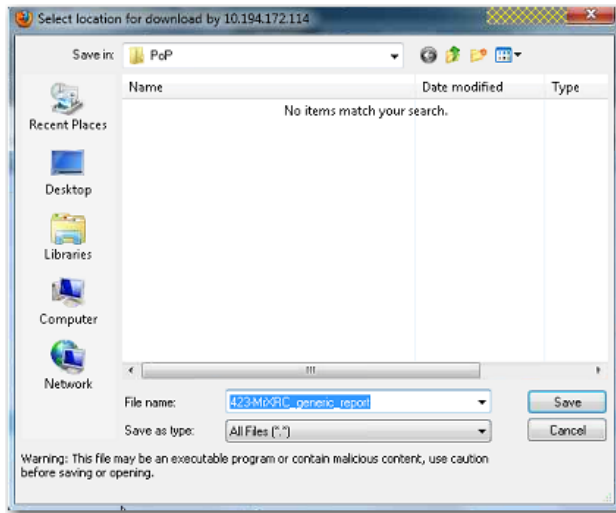
To download a generated proof of play report to a CSV file:

1. [Generate a proof of play report.](#)
2. On the **Setup > Proof of Play** screen, double-click on the script for which you want to download the generated proof of play data. The following dialog box displays:



3. Select the type of report(s) you want to generate and click **Get**. A dialog box displays for you to select where you want to save the CSV file(s).

Figure 11. Selecting a Location to Store the Proof of Play Report



4. Specify the location on your local drive where you want to save the CSV file and click **Save**.

The CSV files will be downloaded to the selected location. If you enabled both the Generic and the KORE checkboxes, the Generic file will be downloaded first and then the following dialog will display for you to download the KORE file.



5. Click **OK** and select the location where you want to download the KORE CSV file. Click **Save**.
6. Go to your local drive, navigate to the location where you saved the reports, and open the files. The files will open in Excel.

Data Generated for the Generic CSV File

The Generic CSV file displays one record for each playlist played on the DMP. Therefore, if you have a playlist that played across 20 DMPs, the CSV file will show an entry for each DMP.

Table 7. Example of a Generic Proof of Play CSV File

Event ID	Event Date	Device	Device Model	Device Type	Device Location	Device Name	Device IP	Device MAC	Device Vendor	Device OS	Device Version	Device Platform	Device Architecture	Device Configuration	Device Status	Device Action	Device Content	Device Location	Device Playlist	Device Queue	Device ID
1	20181007T20:00:00Z	Proof of p	Boulder-DL-wrmp	Boulder-DL-wrmp	Boulder-DL-wrmp	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
2	20181007T20:00:00Z	Proof of p	Boulder-DL-wrmp	Boulder-DL-wrmp	Boulder-DL-wrmp	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
3	20181007T20:00:00Z	Proof of p	Boulder-DL-wrmp	Boulder-DL-wrmp	Boulder-DL-wrmp	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
4	20181007T20:00:00Z	Proof of p	Boulder-DL-wrmp	Boulder-DL-wrmp	Boulder-DL-wrmp	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
5	20181007T20:00:00Z	Proof of p	Boulder-DL-wrmp	Boulder-DL-wrmp	Boulder-DL-wrmp	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15

Figure 12. Generic CSV File Data

Data	Description
Event Date	Date of event.
Script Name	Name of the script that generated the PoP report.
MAC Address	MAC address for the DMP that played the content.
Zone	Zone which the DMP is a member of.
Action	Commands to the DMP attached display (reserved).
Playlist Name	Name of playlist for the content.
Content Tags_PoP	Content tags assigned to the content.
Receive Time	Interpolated airtime timestamp by using received time (obsolete)
Playlist Number	Item number in the playlist.
Cluster ID	Identifies the cluster of DMPs that are showing the same screen (internal use only)
State Start	Time the event state was initiated.
Device Name	Name of the DMP.
Group	Group that the DMP is a member of.
State Name	Event script state when the ad played.
Content	File name of the content.
Playlist Name	Name of the playlist.
Time Played	Length of time the ad played out.
Content Tags_PoP	Content tag assigned to the content.
Airtime	Actual time that the ad played out.
Region	Region info in each record of individual content play-out TemplateName plus RegionName.
Seq Number	Sequence number beginning at event start increment by ad play.
Spot ID	For internal use only.

Data Generated for the KORE CSV File

For KORE data processing, SV Director aggregates proof of play data across DMPs and generates reports that show information based on total playout per sponsor rather than individual playouts per DMP. Therefore, if you have a playlist that played across 20 DMPs, the CSV file will show only one entry. The Device Count column displays the number of DMPs that played the advertisement.

Figure 13. Example of a KORE PoP Report

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	
1	Content	Event Date	State Start	Script Name	Device Count	Co	Group	Zone	State Name	Action	Playlist Name	Time Played	Content Tags	Airtime	Receive Time	Region	Playlist Number	Seq Num
2	Verizon_1	20101007C	20101007C	Proof of p	1	Boulder	G	Boulder Z	L-wrap		4310 I-wrs	15	Saatchi	#####		2	0	
3	Budweise	20101007C	20101007C	Proof of p	1	Boulder	G	Boulder Z	L-wrap		4310 I-wrs	15	Saatchi	#####		2	1	
4	Budweise	20101007C	20101007C	Proof of p	1	Boulder	G	Boulder Z	L-wrap		4310 I-wrs	15	Saatchi	#####		2	1	
5	ad5_dualr	20101007C	20101007C	Proof of p	1	Boulder	G	Boulder Z	L-wrap		4310 I-wrs	15	Saatchi	#####		2	2	

Table 8. KORE CSV File Data

Data	Description
Content	File name of the content.
State Start	Timestamp for when the event state started.
Device Count	Number of DMPs on which the content was played.
Zone	Zone which the DMP is a member of.
Action	Commands to the DMP attached display (reserved).
Time Played	How long the content played.
Airtime	Actual time that the ad played out.
Region	Region of the screen template where the content played.
SeqNum	Sequence number beginning at event start increment by ad play.
Event Date	Date of event.
Script Name	Name of event script that played.
Group	Group which the DMP is a member of.
State Name	Name of the event state that was active when the content was displayed.
Playlist Name	Name of the content playlist.
Content Tags_PoP	Tags assigned to the content.
Receive	Interpolated airtime timestamp by using received time (obsolete).
PlaylistNum	Item number in the playlist.

Processing KORE CSV Files

The KORE CSV file is the result of post processing the main proof of play file and condensing it by collapsing multiple entries with the same time played stamp into a single record or row. Once the data set is in this format, it is much more manageable (around 5-10 MB for the average event) and can be further manipulated in Microsoft Excel.

The advantage of using desktop software like Microsoft Excel is that it provides the ability to share, modify and distribute the information to others depending on their needs. By leveraging the inherent functionality of the Pivot Table feature in Excel, many views into the KORE CSV data can be accomplished. For example you can set filters to view:

- Only the game states that represent the time period of interest.
- When and where content played by content file name and any included tags.
- The total number of plays for a piece of content throughout the venue.
- The total number of plays for a piece of content by specific Group or Zone association.
- The cumulative time a piece of content was displayed throughout the venue.

- The cumulative time a piece of content was displayed by a specific Group or Zone association.

Generating Pivot Table Reports

To extract some meaningful information from the proof of play data, you can create a PivotTable[®] report in Microsoft[®] Excel. A PivotTable is an interactive table that automatically extracts, organizes, and summarizes your data. You can control how MS Excel summarizes the data—for example, by sum, average, or count—without entering a single formula. In a PivotTable report, you can quickly:

- Add or remove categories of data
- Rearrange the data
- View a subset of the data
- Show the details you want

The following links provide examples of proof of play files that were created using the PivotTable[®] report functionality in Microsoft[®] Excel. These examples are referenced in the following sections of this guide.

- `example_pivot.xlsx` – http://dl.dropbox.com/u/15928784/example_pivot.xlsx
- `example_min_pivot.xlsx` – http://dl.dropbox.com/u/15928784/example_min_pivot.xlsx

When you open the `example_pivot.xlsx` file, there are four tabs:

- **Example Data Set** tab: Default view which shows the entire proof of play data set.
- **Total Plays in Venue** tab: Displays a basic play count of each ad listed by content filename and any associated content tags, detailed by group and zone.
- **Summarized Play Time** tab: Adds a “Played ...” column to each group and zone. This column takes the number of plays and multiplies it by the length of time the content played to establish a total amount of time the content aired per group and zone.
- **Content Time Stamps** tab: Lists all the timestamps of proof of play per content filename.

Applying Filters to PivotTables

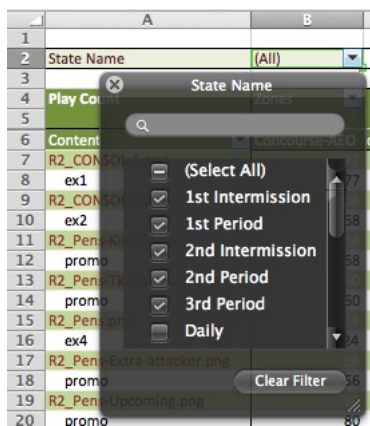
You can adjust the proof of play reporting view by applying filters to the PivotTable as described here. For more details on working with PivotTables, see Appendix A.

Time Stamp Filtering

Since proof of play reporting starts when the event script begins – usually before the event – and ends well after the event, you may need to make some adjustments to the data to retrieve an accurate accounting of plays during the actual event versus the timeframe the event script was running. You can do this by setting a filter in the PivotTable so that the proof of play report displays only proof of play data for content that displayed during the actual event. In the *example_pivot.xlsx* file, you can set this filter in cell B2.

In Figure 14, the filter is has been adjusted to remove play information outside the duration of the game. Unchecking the “Daily” part of the event script activities causes matching proof of play entries to drop from the report.

Figure 14. Time Stamp Filtering

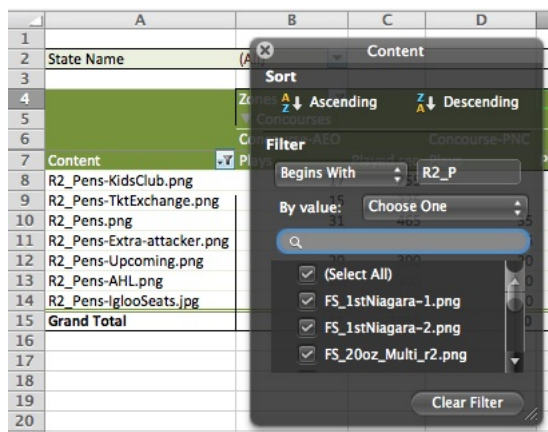


Content Filtering

In the *example_pivot.xlsx* file, cell A7 contains a content filter to trim the entire list of content filenames to just the “what” items you are interested in. Individual content items can be selected for the report, or a standing pattern matching filter can be established for the report.

In this example, the content filenames that start with “R2” detail the region 2 advertising content. By setting up a “Begins With” filter in the “By label:” filter space with a value of “R2_P”, the report will list only region 2 content. In this example, the region 2 content is the team’s self-promotion advertisements.

Figure 15. Content Filtering



Group and Zone Filtering

In the *example_pivot.xlsx* file, cell B4 contains the Group and Zone filter. This filter can have two different standing sets of matches to truly refine the “where” of the reporting. They can be used singularly or in combination to refine the detail of the report.

Choose Zone from the “Select field” pull down menu to set a filter that displays only the zones of interest in the report. If you check only “Concourses”, all other zones in the data set will not be listed in the report.

Choose Group from the “Select field” pull down menu to set a separate filter that displays a subset of the concourse groups of interest in the report. The Groups filter is used in conjunction with the Zones filter.

Figure 16. Group and Zone Filtering

Concourse	Plays	Played sec	Concourse-PNC	Plays	Played sec	Concourses Plays	Concourses Played sec
R2_CONSOL-1.png	20	300	20	300	40	600	
R2_CONSOL-2.png	17	255	18	270	35	525	
R2_Pens-KidsClub.png	17	255			17	255	
R2_Pens-TktExchange.png	15	225			15	225	
R2_Pens.png	31	465	35	525	66	990	
R2_Pens-Extra-attacker.png	14	210	15	225	29	435	
R2_Pens-Upcoming.png	20	300	20	300	40	600	
R2_Pens-AHL.png	20	300	20	300	40	600	
R2-Pen-GameDayAuctions.jpg	16	240	16	240	32	480	
R2_Pens-IglooSeats.jpg	20	300	20	300	40	600	
Grand Total	190	2850	164	2460	354	5310	

Proof of Play Behavior for In-Progress Events

Proof of play will not process an in-progress event. If you select an in-progress event, the **Generate Report** tab will be grayed out (unavailable).

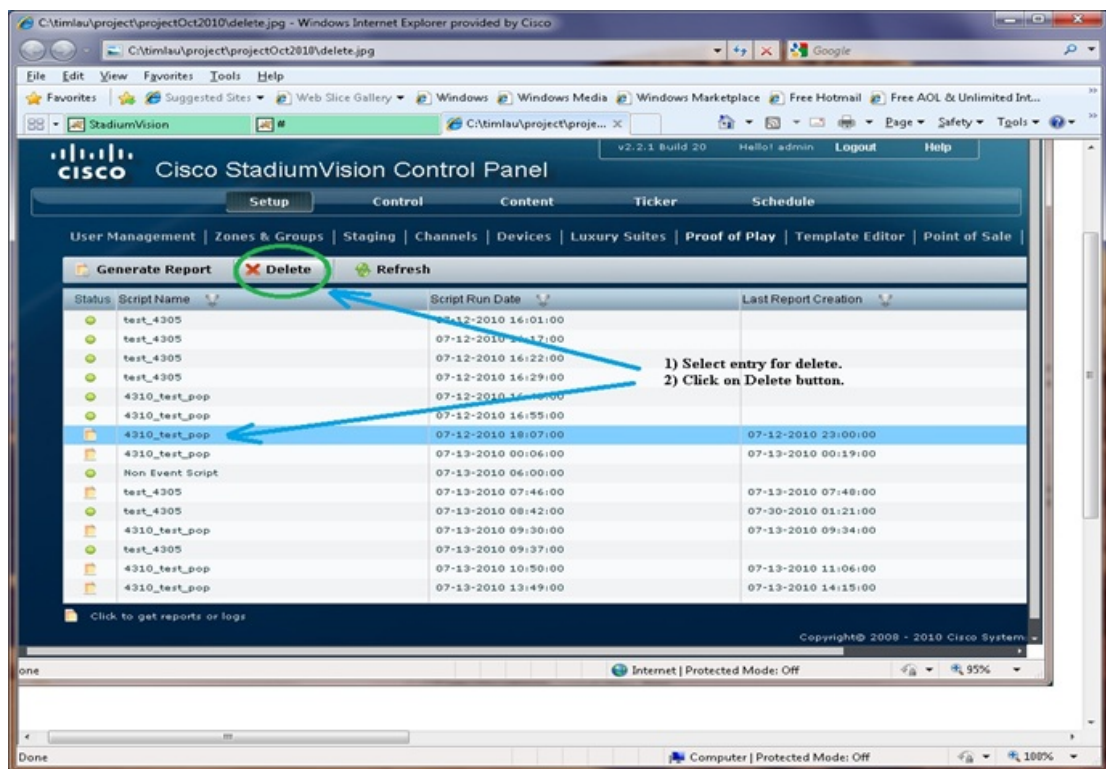
Removing a Proof of Play Entry

To save disk space on the server, you can periodically remove old proof of play entries that are no longer needed. This operation is IRREVERSIBLE and must be executed with caution. The operation will fail if you attempt to remove a proof of play entry while an event script is running or while a CSV report is processing.

To remove a proof of play entry from the Proof of Play screen:

1. Select the proof of play entry you want to remove.
2. Click **Delete**.

Figure 17. Deleting a Proof of Play Entry



Appendix A: Advanced PoP Procedures

This appendix provides advanced procedures for working with PivotTables and troubleshooting the proof of play module.

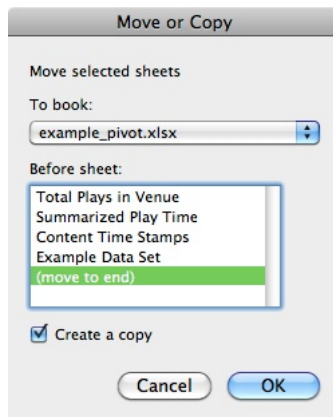
Working with PivotTables

This section provides instructions for displaying proof of play data in a PivotTable. By default the PivotTable displays data in seconds. To change the display to minutes, see [Changing the Default Data Display to Minutes \(Advanced\)](#).

Displaying Proof of Play Data in Seconds (Default)

1. Copy data from the new report (*abc123_kore_report.csv*) to the example file containing the PivotTables (*example_pivot.xlsx*):
 - a. Open the example PivotTable file *example_pivot.xlsx*
 - b. Open the new data file *abc123_kore_report.csv*
 - c. Right-click on the *abc123_kore_report.csv* tab in the same window and choose “Move or Copy...”. The dialog box in Figure 18 displays.

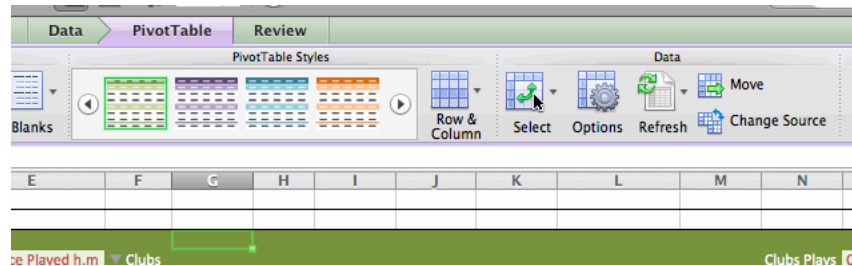
Figure 18. Creating a Copy Flag



- d. From the **To book:** pull down menu, select *example_pivot.xlsx*.
 - e. Enable the **Create a copy** checkbox and click **OK**.
2. Find the last cell data in the *abc123_kore_report.csv* tab in the *example_pivot.xlsx* file:

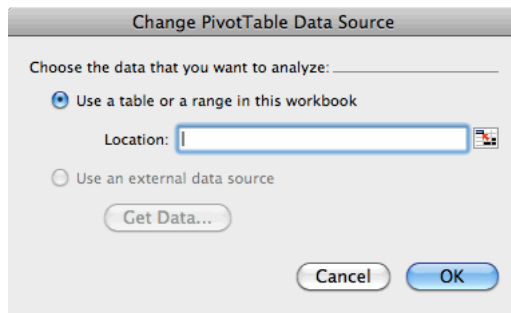
- a. In the example `_pivot.xlsx` window with the “`abc123_kore_report.csv`” tab being shown, scroll down to the last row of data. The column will be “Q”. (CTL+q is the shortcut).
 - b. Locate the last row that contains data and make note of it. In this example, it is 28263.
3. Reset the PivotTable data range to the new sheet:
 - a. In the *example _pivot.xlsx* window click the desired tab: **Total Plays in Venue, Summarized Play Time, or Content Time Stamps.**
 - b. Select the rows that you want to include in the PivotTable. This updates the MS Excel tool bar.
 - c. Select **Insert > PivotTable** from the tool bar. The **Data > PivotTable** toolset displays in the ribbon menu. Refer to Figure 19.

Figure 19. PivotTable Toolset



- d. Click on the “Change Source” tool in the ribbon. The dialog box shown in Figure 20 displays. Note that the information displayed in the dialog box will be incorrect as it will reference the **Example Data Set** tab.

Figure 20. Change PivotTable Data Source Dialog Box



- e. Enter the Location for the data set. Follow this string format with the tab that contains the data set and the row value obtained in step 2b:


```
'abc123_kore_report.csv' !$A$1:$Q$28263
```
 - f. Click **OK**.
4. Repeat Step 3 to update the other sheets within the PivotTable file.

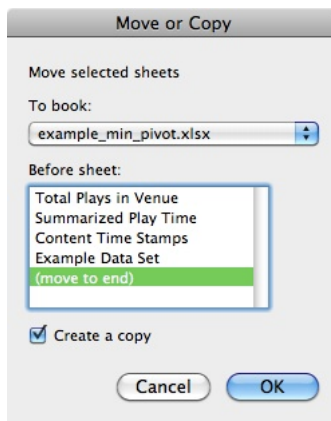
5. Save the modified template *example_pivot.xlsx* file as a .xlsx formatted file with a new name so as not to overwrite the example.
6. You can delete the sample **Example Data Set** tab to reduce the file size. Simply right click on the tab and choose **Delete**.

Changing the Default Data Display to Minutes (Advanced)

To change the default data display from seconds to minutes, you need to add a column to the data set as described here.

1. Copy data from the new report (*abc123_kore_report.csv*) to the example file containing the PivotTables (*example_min_pivot.xlsx*).
 - a. Open the example PivotTable file *example_min_pivot.xlsx*.
 - b. Open the new data file *abc123_kore_report.csv*.
 - c. Right-click on the *abc123_kore_report.csv* tab in same window and select **Move or Copy...** The dialog box shown in Figure 21 displays.

Figure 21. Changing the default data display from seconds to minutes



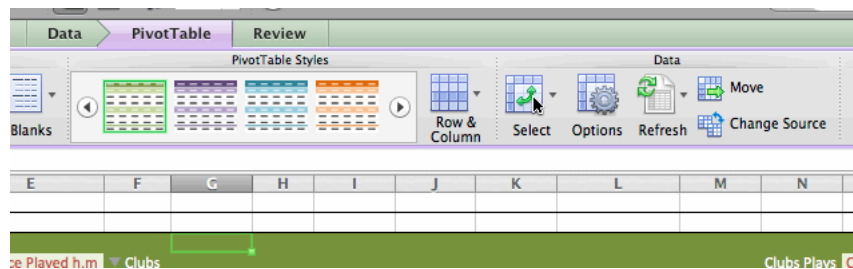
2. From the **To book:** drop down box, select *example_min_pivot.xlsx*.
3. Enable the **Create a copy** checkbox and click **OK**.
4. Locate the last cell data in the *abc123_kore_report.csv* tab in the *example_min_pivot.xlsx* file:
 - a. In the *example_min_pivot.xlsx* window with the “*abc123_kore_report.csv*” tab displayed, scroll down to the last row of data. The column will be “Q”. (CTL+q is the shortcut),
 - b. Locate the last row that contains data make note of the value. In this example, the value is 28263.
5. Add a new minutes column to the data set:
 - a. In the *example_min_pivot.xlsx* window with the “*abc123_kore_report.csv*” tab displayed, add “Min Played” to cell R1.

- b. Add “=SUM(K2/60)” to cell R2

	R2	S	T	U	V
1	Min Played				
2	0.25				
3	0.25				
4	0.25				
5	0.25				
6	0.25				

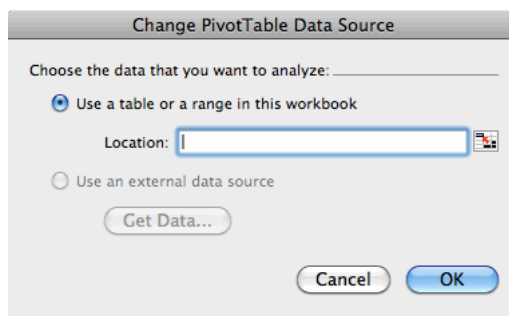
- c. Duplicate R2 to every R cell until the last cell row of the sheet, 28263 in this example. (CTL+c on R2, click on R3, scroll to 28263, Shift-click on R28263, then a CTL+v).
6. Reset the PivotTable data range to the new sheet:
- In the *example_min_pivot.xlsx* window click the desired tab: **Total Plays in Venue**, **Summarized Play Time**, or **Content Time Stamps**.
 - Select the rows that you want to include in the PivotTable. This updates the MS Excel tool bar.
 - Select **Insert > PivotTable** from the tool bar. The **Data > PivotTable** toolset displays in the ribbon menu.

Figure 22. PivotTable Tool Set



- Click on the **Change Source** tool in the ribbon. The following dialog box displays. Note that the information in the dialog box will be incorrect as it will reference the **Example Data Set** tab.

Figure 23. Change PivotTable Data Source Dialog Box



- Edit the Location field to point to the location of the data set. Follow this string format with the tab that contains the data set and the row value obtained in step 3 being different:

'abc123_kore_report.csv' !\$A\$1:\$R\$28263

- f. Click **OK**.
7. Repeat step 4 to update the other data sheets.
8. Save the modified template *example_min_pivot.xlsx* file as a .xlsx formatted file with a new name so as not to overwrite the example.
9. If desired, delete the sample **Example Data Set** tab to reduce the file size. Simply, right click on the tab and choose **Delete**.

Troubleshooting the Proof of Play Module

Important! This section contains information for Cisco Technical Support engineers and may contain internal knowledge that is not suitable for releasing to the customer.

Internal Registry Values

Table 9. Internal Registry Values

Registry Entry	Value/Description
EnableProofOfPlay	Enables the proof of play module. Requires restart tomcat for changes to take effect.
PofPDaysToKeep	Number of days that the raw syslog keeps in the database. Default is 14 days.
pop.tool	Link to the external CSV report processing tool.
pop.maxQSize	The maximum incoming syslog messages kept in the queue before overflowing to the file, svlog.dmp.syslog.log. Default = 1,000,000.
pop.monitorQSize	The number of incoming syslog messages that are received before the proof of play monitor checks the queue size. This is for debug purposes only. Default =10,000.
pop.sqlQueryLimit	The maximum number of SQL query entries that can be received simultaneously for query mysql. The query mysql should be done in batches to reduce heap memory usage. Default =10,000.

Troubleshooting Report Status Not Green

If the proof of play report status is not green after an event completes, it is critical that you resolve the situation quickly before the script or contents get changed.

1. Find the script cookie:
 - a. On the Control Panel, click the **Setup > Proof of Play** tab.
 - b. Mouse over the event script row to display the name of the script cookie.
2. Get proof of play object information:

<http://yourServerIP:8080/StadiumVision/config/views/popInfo>

This will return XML as follows:

```
<popInfos>
<popInfo>
  <id>7</id>
  <popStateInfos />
  <startTime class="sql-timestamp">2010-07-05 09:58:31.0</startTime>
  <endTime class="sql-timestamp">2010-07-05 10:02:11.0</endTime>
  <scriptName>4310_test_pop</scriptName>
  <scriptCookie>430-MMg83</scriptCookie>
  <scriptId>430</scriptId>
  <finished>true</finished>
  <processed>true</processed>
  <scriptSnapshot>true</scriptSnapshot>
  <statesLog>true</statesLog>
  <rawData>true</rawData>
</popInfo>
</popInfos>
```

3. Find the object with the same script cookie and look at the "finished", "scriptSnapshot", "stateLog", and "rawData" entries. If any one of these fields are not set to true, the status will not be green.

Updating the Report Status Green Settings

1. To set the "scriptSnapshot" and "stateLog" to true, go to the following URL:

```
http://yourServerIP:8080/StadiumVision/pofp/snapshot/<script cookie>
```

2. To set the "rawData" to true, go to the following URL.

```
http://yourServerIP:8080/StadiumVision/pofp/rawdata/<script cookie>
```

The status indicator should turn green after the operation is finished.

Locating the Proof of Play Files on the SV Director Server

All proof of play data files are stored in the `/var/sv/pofp/data/"script cookie"` directory.

```
genData.csv
koreData.csv <== KORE report
process.log
rawData.csv
snapshot.XML
states.XML
```

There is also a nightly data dump from the raw data database table. The dump files are stored in the `/var/sv/pofp/dbDump` directory.

Backing Up Proof of Play Data

The proof of play data in the /var/sv/pofp/data directory gets backed up as part of the nightly backup.

The dbDump files in the /var/sv/pofp/dbDump directory will be removed from the disk after 60 days.

Cleaning Up Proof of Play Data

At the end of season, clean up all proof of play data as follows.

1. Clean up proof of play data on the disk.

You can remove directories and internal data from previous SV Director releases (prior to R2.2). This data is stored in the directory as "/var/sv/pofp/YYYYMMDD". However, DO NOT remove the "/var/sv/pofp/bin" directory. This is where the CSV report tool is located for Release 2.2.x.

Table 10. Cleaning up data on the disk (release 2.2 and beyond)

Directory	Description
/var/sv/pofp/data	This is the actual data for each game. You may want to keep a backup copy.
/var/sv/pofp/dbDump	This is a daily database dump from the database and does not need to be saved. However, DO NOT delete the directory itself.

2. Clean up proof of play data in the database.

There are no links between the iapps_pofp and the iapps_1 databases. Therefore, once these databases are backed up, you can remove entries in the following tables.

Table 11. Cleaning up data in the database

Database	Tables	Description
iapps_pofp	pofp_data pofp_script pofp_state	The pofp_data table does not have any foreign key constraints. The pofp_state table entries should be removed before removing entries in the pofp_script table.
iapps_1	x_popstateinfo x_popinfo	Remove all entries in these tables.