



StadiumVision



Cisco StadiumVision Zones, Groups, and Locations Implementation Guide

All Releases

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Corporate Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
<http://www.cisco.com>
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 526-4100

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Document History

Table 1. Revision History

Date	Description
4/24/2013	Minor revisions for support of later releases.
3/14/2011	First release for Cisco StadiumVision Director Release 2.3.

NOTE: This document provides illustrations for Cisco StadiumVision Director Release 2.3, but is also applicable to later releases of the Cisco StadiumVision Director software with some differences in the user interface for those releases.

Introduction to Zones and Groups

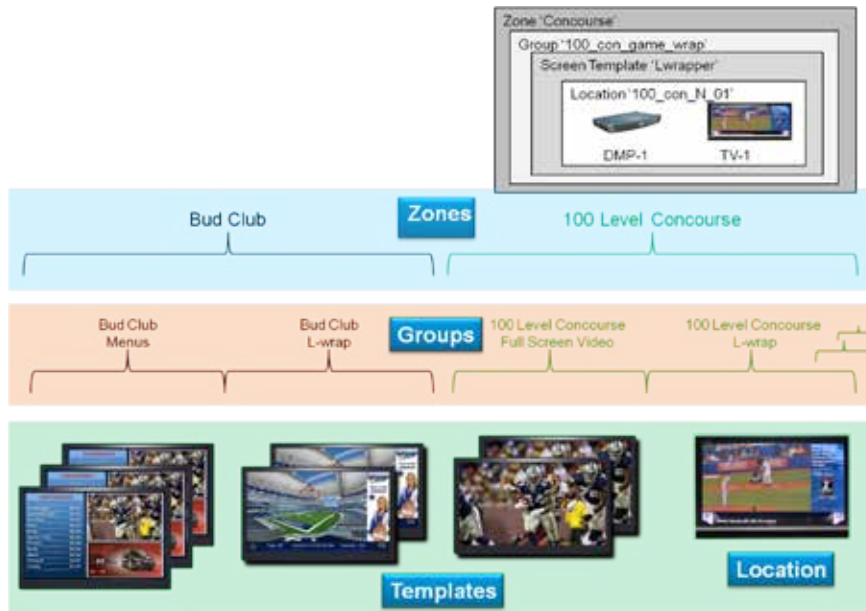
The Cisco StadiumVision solution supports reliable delivery of content to thousands of endpoints, providing venues the flexibility to place numerous TVs throughout the concourses, in the bars and restaurants, in the luxury suites, in the locker rooms and back offices, in the concession areas, and even in the restrooms. Digital content, in the form of still or animated graphics and video ad insertions, can be targeted and delivered - with accompanying event video in HD or separately - to any display or group of displays throughout the venue.

Managing the thousands of endpoints in a stadium can be a challenge if you don't have some sort of structure in place to keep track of where the endpoints are located and which content they are playing. For example, say you have two TV screens and you want to show full screen video on one screen and full screen signage on another. It's easy to configure this if you have only two TVs. But when you have hundreds or thousands of TVs that you want to show different video signage, different sponsored content, different TV channels, and different menus, you need a way to automate the configuration and manage the end point locations.

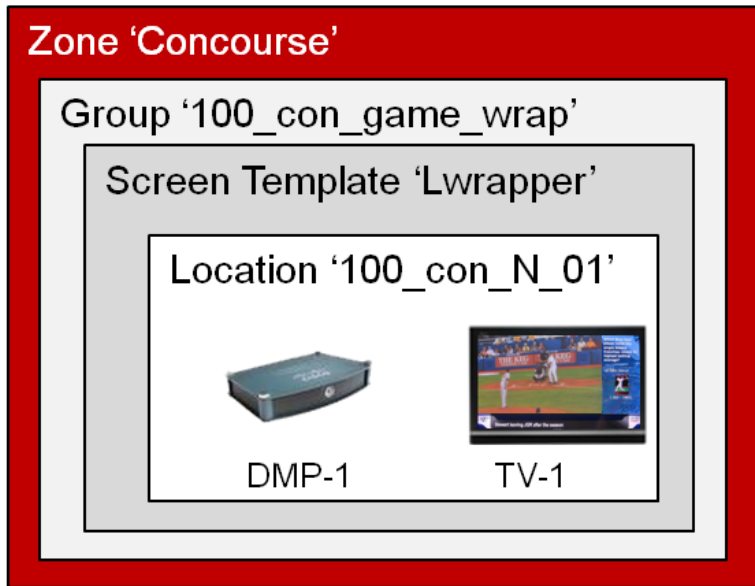
StadiumVision Hierarchy

To provide a logical way of organizing the hundreds to thousands of endpoints in a venue, StadiumVision implements a hierarchy of *Zones*, *Groups*, *Templates*, and *Locations*. (Refer to [Figure 1.](#)) These concepts will be described in detail in the remainder of this section.

Figure 1. Zones, Groups, Templates, and Locations Hierarchy

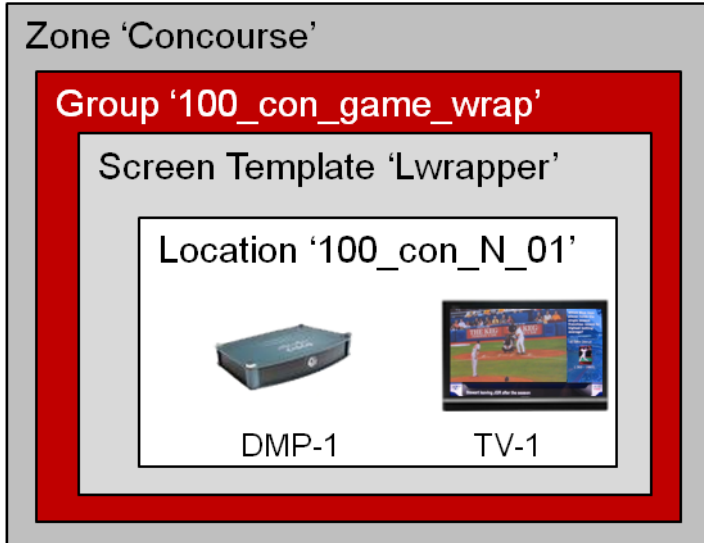


Zones



A *Zone* is typically a physical area in the stadium. Examples of zones include concourses, clubs, and team stores. The figure illustrates the nested hierarchy with a zone named 'Concourse' at the top level.

Groups



Groups are the second level in the hierarchy. You can think of groups as “children” of a zone. Consider the case where you have TVs in a concourse area and you want them to show a game feed with sponsored advertising. Rather than configure each individual TV to show this content, you can put them in a ‘group’ and configure all the TVs with a single action. You can then associate them to a zone to identify the area of the stadium where they are located.

There are two important distinctions between groups and zones:

1. Groups are subsets of zones.
2. Every TV location in a group shows the exact same content.

In the diagram shown in above, a group named '100_con_game_wrap' is created and assigned to the 'Concourse' zone. The group name identifies the TVs as being in Concourse 100 and displaying a game feed with an L-wrap.

Other examples of groups in a stadium include TVs in clubs that you want to show the same menu, or the same video content and sponsored advertising, or the same game feed. For example, you can create separate groups for TVs that you want to show the same content in the club. The following illustration shows three groups in the Club A zone – each showing different content: Club_A_Lwrap_Group, Club_A_Menu_Group, Club_A_Game_Group.

Club_A_L-Wrap Group



Club_A_Menu Group



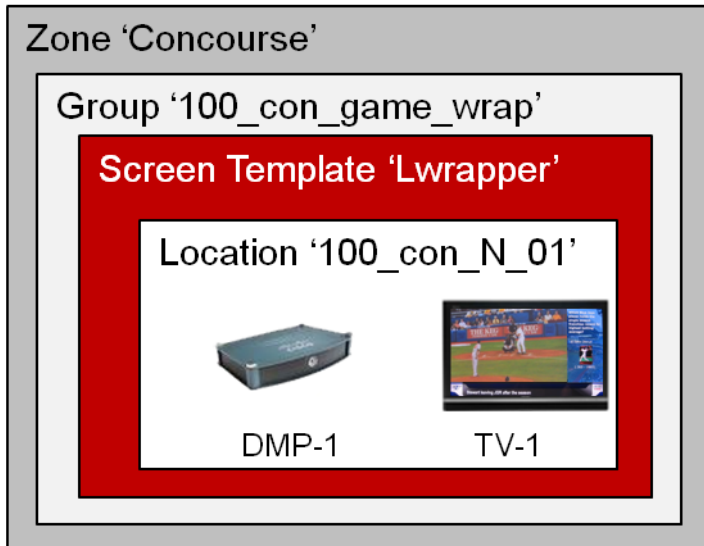
Club_A_Game_Group





You can perform actions on zones just like you can on groups. If you put actions on the group and zone level for a particular device, the group actions will take precedence since they are more specific than the actions assigned to a zone.

Templates



Although *templates* are not part of the StadiumVision device hierarchy, they define how a particular TV screen is divided into regions to show different arrangements of video, signage, and advertising on the screen.

As shown in [Figure 2](#), there are three basic templates: Full screen video, full screen signage (graphic), and an L-wrap. The “L-wrap” template divides the screen into three sections where you have video in the top left of the screen, advertising along the side and a ticker showing scores and news feed for example across the bottom.

Figure 2. Three Basic Templates



Every device in the same group displays the same template.

Locations



Locations are at the lowest level of the StadiumVision hierarchy. They define a specific place in the stadium where a TV and DMP reside. Locations help you keep track of exactly where a TV and DMP is physically located in the stadium. For example, if someone tells you that a TV in a restroom at the concourse 100 level is not working, you can refer to the Location information to quickly find the TV and fix it.

The diagram above shows a location named '100_con_N_01' which indicates that the TV-1 and DMP-1 are located on the North concourse 100 level.



A location consists of the physical location and display type, as well as the DMP associated with the location and display. This allows you to have all your location / display information permanently tied together and have the DMP and networking information abstracted in the event of a device upgrade or networking topology changes.

Configuring Zones and Groups

The procedures in this section can be performed **ONLY** by the Administrator (admin role) in Cisco StadiumVision Director.

The **Setup > Zones & Groups** tab in the Cisco StadiumVision Director Control Panel provides a visual representation of the hierarchy of zones, groups and locations in the stadium. The interface enables you to easily create and manager zones, groups, and locations.

Using the **Zones & Groups** screen you can easily:

- Add, remove, and edit groups and zones.
- Add and remove multiple locations to / from groups and zones.
- View and manage zone, group, and location associations.
- View and search on the Location Name, IP Address, MAC Address, TV Details and TV Description, and number of groups to which the Location is assigned.
- Traverse the zones/groups and locations hierarchy. For example, you can view information top ↓down (from zones to groups to locations) and bottom ↑ up (from locations to groups to zones).
- Move multiple locations between groups (“re-grouping”) and move multiple groups between zones (“re-zoning”).
- View overlaps such as groups that share the same location or zones that share the same group.
- Find the group and zone to which a TV Location belongs.

Accessing the Zones & Groups Screen

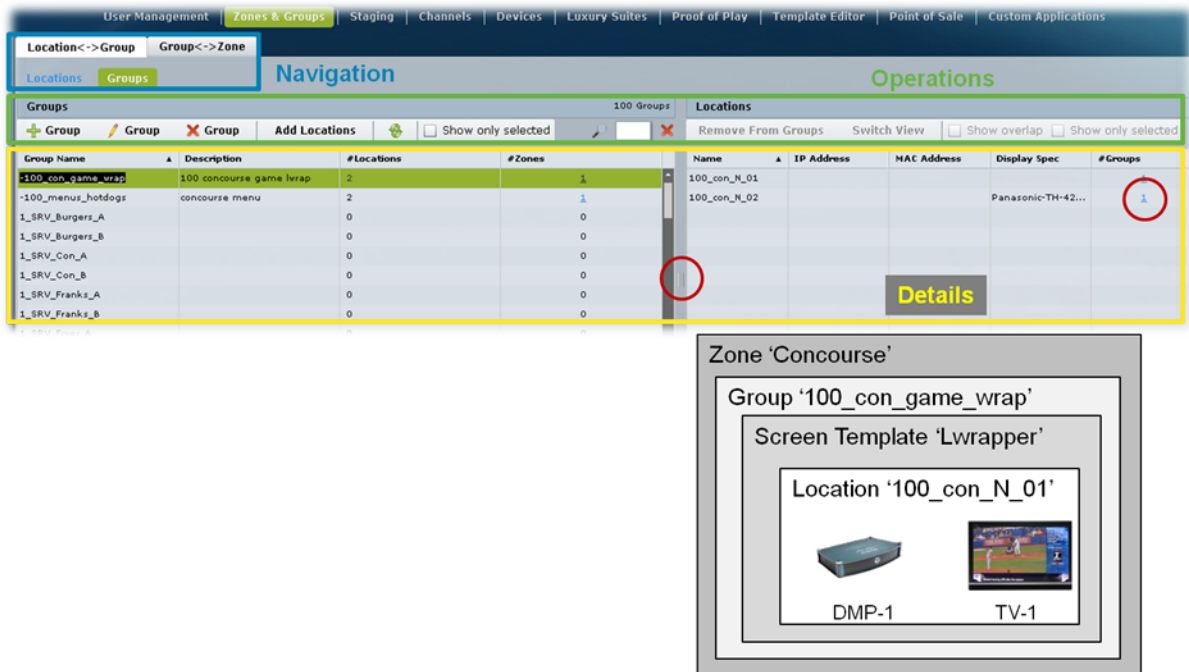
The Zones & Groups screen is accessible from the StadiumVision Director Control Panel.

1. From your browser, log into Cisco StadiumVision Director and go to the Control Panel.
2. From the **Control Panel**, click **Setup**.
3. Click **Zones & Groups**. The Zones & Groups screen displays.

Zones & Groups Screen Layout

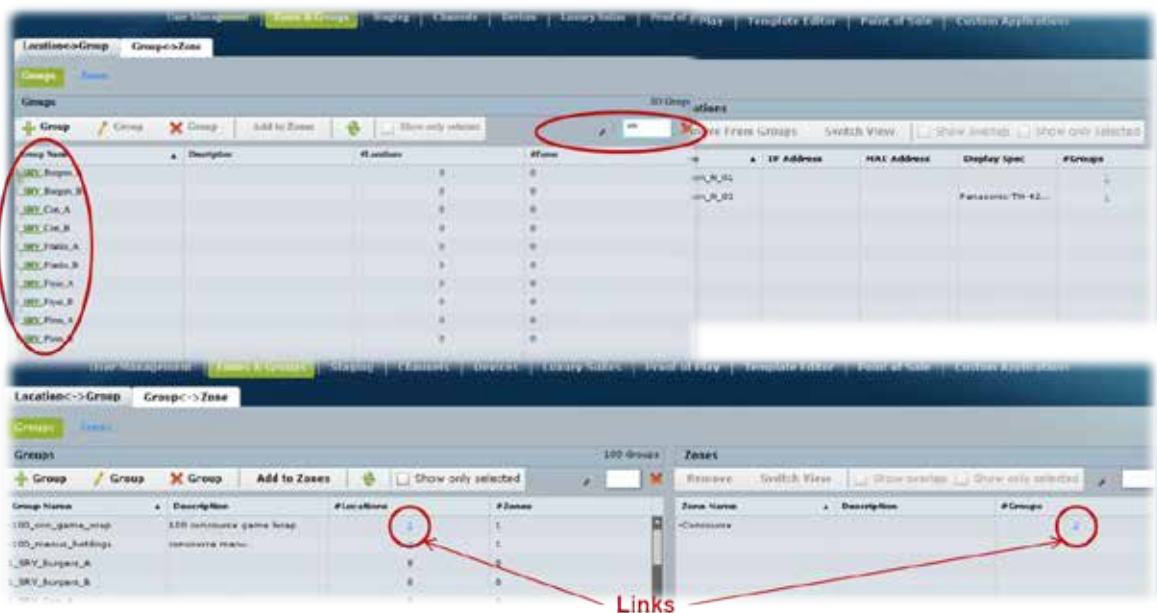
The Zones & Groups screen has a consistent layout where the navigation tabs are at the top of the screen, the operations controls are below the navigation tabs, and the details area is in the middle of the screen. (Refer to [Figure 6.](#))

Figure 3. Zones and Groups Screen



The Zones & Groups screen has a dividing bar so that you can display more information on the screen at once without having to jump back and forth between separate screens. Any items with a blue underline are a hyperlink. (Refer to [Figure 7.](#))

Figure 4. Zones & Groups Screen Layout



Search and Show Selected Functions

Each panel in the Zones & Groups screen includes a search feature to help you find, filter and narrow the information displayed on the screen. You can search on the Location/Zone/Group Name, IP Address, MAC Address, TV Details and TV Description. Simply type the search criteria (text strings or numbers) in the search box and click the magnifying glass. For example, if you type 'bar' in the search box on the Locations screen, all the locations with the word 'bar' in their name will display. (Refer to [Figure 8.](#))

Figure 5. Search and Show Functions

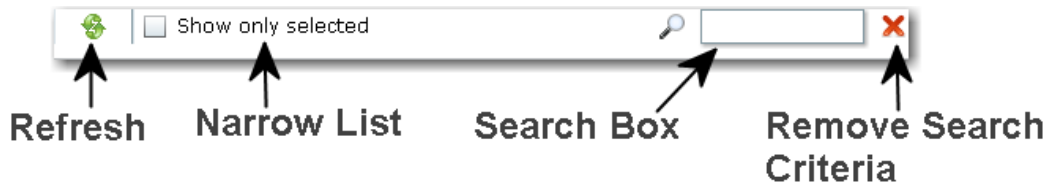
The screenshot shows the 'Locations' tab selected. A search box contains the text 'Bar' with a magnifying glass icon to its left and a red 'X' to its right. Below the search box is a table with 7 columns: Name, IP Address, MAC Address, Display Spec, Description, and #Groups. The table contains three rows of data.

Name	IP Address	MAC Address	Display Spec	Description	#Groups
100-Club-A- Bar -Center	64.101.138.105	00:0a:00:00:0a:0a	Panasonic-TH-32PX60	Center Bar TV	1
100-Club-A- Bar -Left	10.24.162.12	00:0b:00:00:0b:0b	Panasonic-TH-42PX60	Left Bar TV	3
100-Club-A- Bar -Right	64.102.87.133	00:0c:00:00:0c:0c	Panasonic-TH-42PX60	Right Bar TV	1

You can narrow the list and display only selected entries using the CTRL-click and SHIFT-click keyboard functions. Simply select the entries and then enable the checkbox next to 'Show only selected'.

You can also sort a list by clicking on the column headings.

To clear the search criteria and display all items on the screen, click the red X. To refresh the list, click the refresh icon.



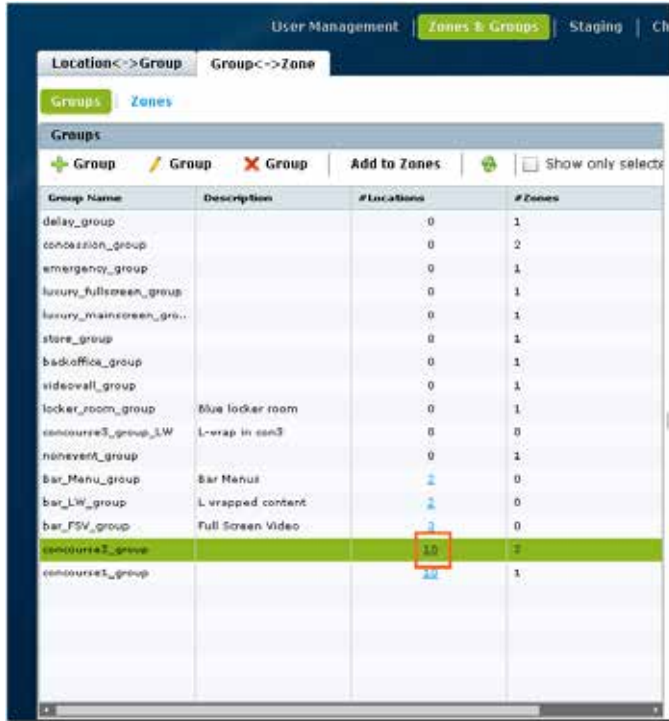
Switching the View

There are a number of ways to switch the view on the Zones & Groups screen. Click the **Switch View** option to flip the right and left panels on the screen. Depending on the information you are looking for or the operation you are performing, this can make it easier to transcend the hierarchy and find the different relationships between a location, a group, and a zone.



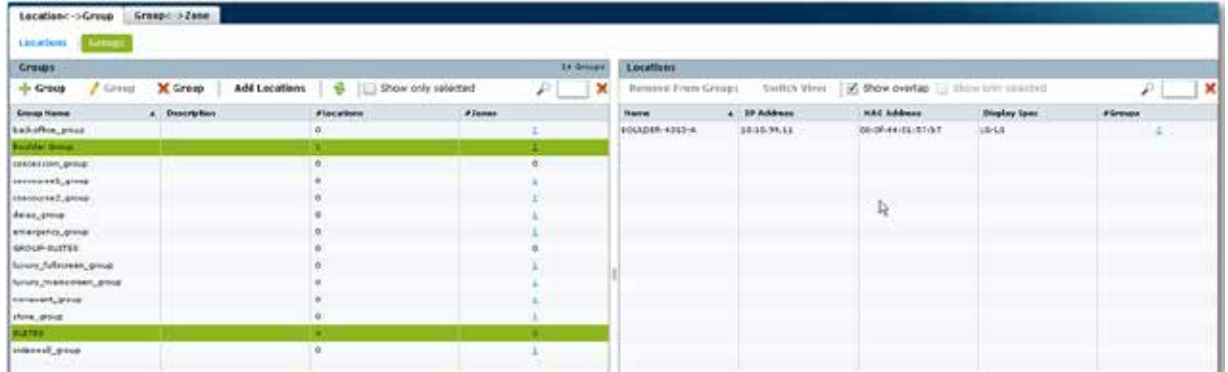
Another way to switch the view on the screen is to click the number links in the #Groups, #Locations, #Zones columns. For example, you can select a Location Name and then click the numbered link under #Location to show all the locations for a selected Group. Only the numbers with an underline are active links.

Figure 6. Switching the View on the Zones & Groups Page



Showing Overlaps

You can easily see whether a zone, group, or location contains the same DMPs by selecting multiple entries and clicking the Show Overlap checkbox. This is useful to identify and resolve conflicts that occur when actions are being assigned to DMPs that are in the same location, group, or zone. For example, in the following screen, there is an overlap between the Boulder_Group and SUITES:



Naming Conventions for Zones and Groups

With thousands of displays and hundreds of zones and groups, naming is especially important. Choose a logical naming scheme. For example, name similar groups and zones with the same prefix so that you can sort them alphabetically in the Control Panel. Also, assign names to zones and groups that remind you of the area where the display is located and the screen template or advertising playlist you will be using for that display.

A good way to keep your zones and groups organized is to use a text organizational structure and then assign prefixes to form like groups and zones. This makes it easy to find devices in similar geographical or logical groupings. For example, when naming zones, consider adding the prefix '100' to all clubs on the 100 level. This makes it easy to find and manage these clubs in Cisco StadiumVision Director as they are sorted alphabetically. Likewise, when naming groups for the 100 level clubs, consider adding a suffix to identify where or what content will be displayed in the group. For example:

100_Club_A_zone

100_Club_A_menus_group

100_Club_A_bar_group

100_Club_B_zone

100_Club_B_menus_group

100_Club_B_bar_group

If you have a very large club with hundreds of DMPs, you may want to have a zone called "Club A Menus" and then have individual groups with each group showing a different menu.



All zone and group names must be unique. Group, zone, and location names cannot have spaces.

Identifying Screen Templates in Group Names

You can add abbreviations to the group name to identify which screen template is being played by a given group. This allows you can see at a glance (through Cisco StadiumVision Director) what type of content is supposed to play on each group of TVs in the suite or other location in the stadium. Figure 10 shows abbreviations for identifying the different types of screen templates.

Figure 7. Example of Abbreviations for Identifying Templates in Groups



Here are some examples of group names that identify the screen template:

100_Club_A_zone

- 100_Club_A_menus_group_CN
- 100_Club_A_bar_group_AW

100_Club_B_zone


- 100_Club_B_menus_group_CN
- 100_Club_B_bar_group_AW

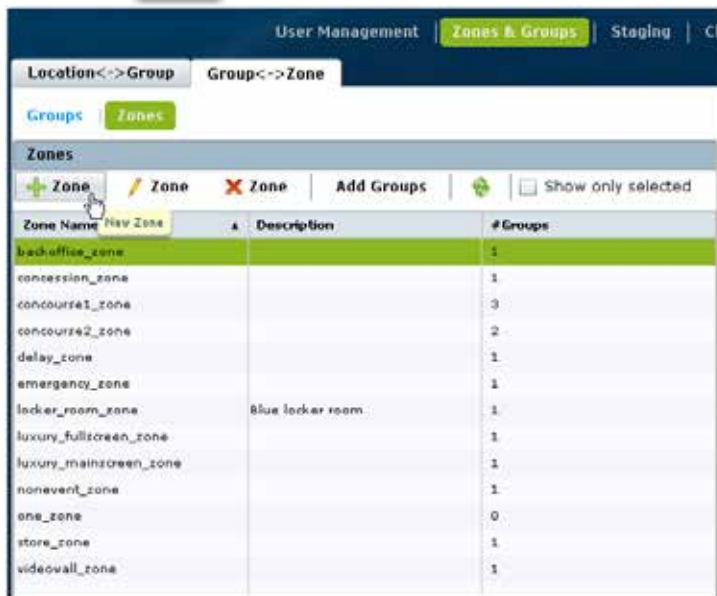
Adding and Associating Zones, Groups and Locations

With Cisco StadiumVision Director, you can create a zone and group hierarchy and event script before you have added a single device. The Locations and templates can be associated later. This can be useful as usually you will know where devices will be before they are actually installed, allowing you to organize your TV Locations in parallel with installation.

Adding a Zone



1. Open the **Group<->Zones** tab and click the **Zones** button.
2. Click 

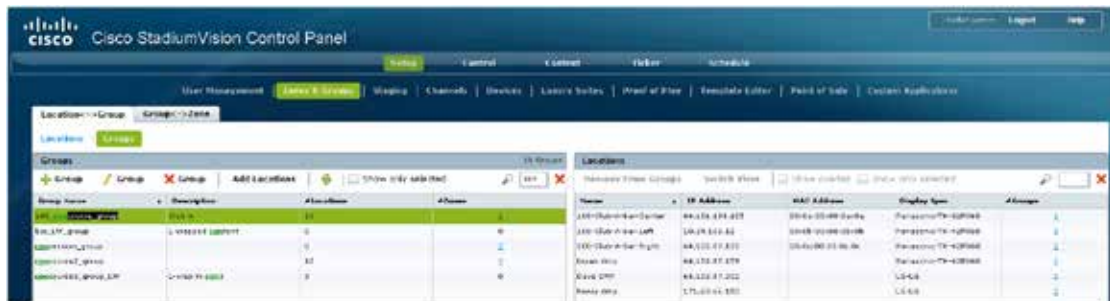


3. In the Add New Zone dialog box, type a name and description for the new zone and click **Ok**. You can leave the description blank and go back and edit it later.



The new zone you just created will be added to the list of zones.

Adding a Group



1. Open the **Location<->Group** tab and click the **Groups** button.
2. Click **+ Group** the New Group dialog box displays.
3. In the New Group dialog box, type a name and description for the group and click **OK**. Group names cannot have spaces.



The new group will appear in the Group Name list:

Group Name	Description	#Locations	#Zones
backoffice_group		0	1
bar_FSV_group	Full Screen Video	1	0
bar_LW_group	L wrapped content	1	0
Bar_Menu_group	Bar Menus	1	0
concession_group		0	2
concourse1_group		10	1
concourse2_group		10	2
concourse3_group_LW	L-wrap in con3	0	0
delay_group		0	1
emergency_group		0	1
locker_room_group	Blue locker room	0	1
luxury_fullscreen_group		0	1
luxury_mainscreen_group		0	1
nonevent_group		0	1
store_group		0	1
videowall_group		0	1

Adding a Location to a Group

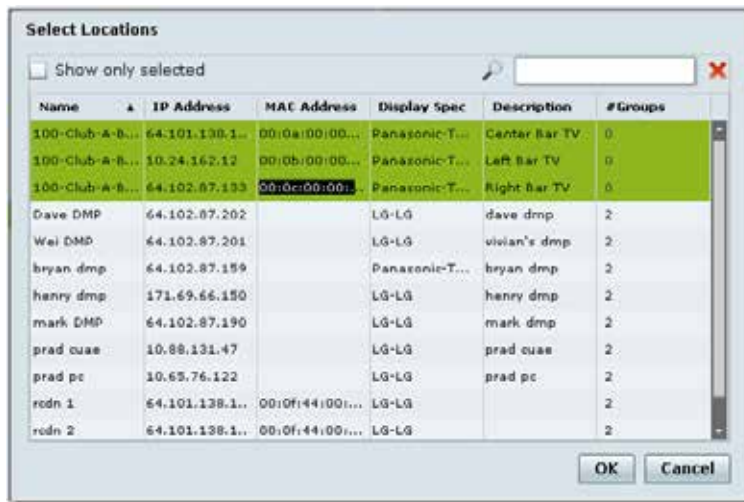
Name	IP Address	MAC Address	Display Spec	Description	# Groups
100-Club-A-Bar-Center	64.101.138.105	00:0a:00:00:0a:0a		Center Bar TV	1
100-Club-A-Bar-Left	10.24.162.12	00:0b:00:00:0b:0b	Panasonic TH-42PM60	Left Bar TV	1
100-Club-A-Bar-Right	64.102.87.133	00:0c:00:00:0c:0c		Right Bar TV	1

Before you can add Locations to groups and zones, the device location must first be added on the **Setup > Devices** tab in the Control Panel. See the *StadiumVision Video Endpoints Design and Installation Guide* for details.

1. Open the **Location<->Group** tab and click the **Locations** button.
2. Select the groups to which you want to add locations and click **Add Locations**. The Select Groups screen displays showing the available groups.



3. In the Select Groups screen, select group(s) you want to add to the locations and click **OK**. The groups must not already be assigned to a location (#Groups = 0). To narrow the list of groups, use the search function. You can add a block of groups or select multiple groups from the list using the CTRL-click and SHIFT-click keyboard functions.

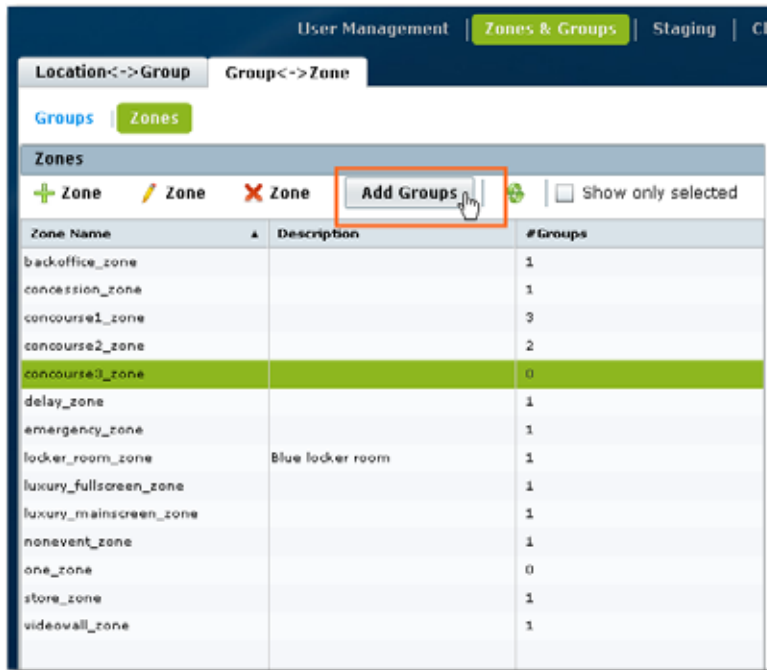


The groups are added to the selected location(s). Details about the groups display on the right Locations panel.

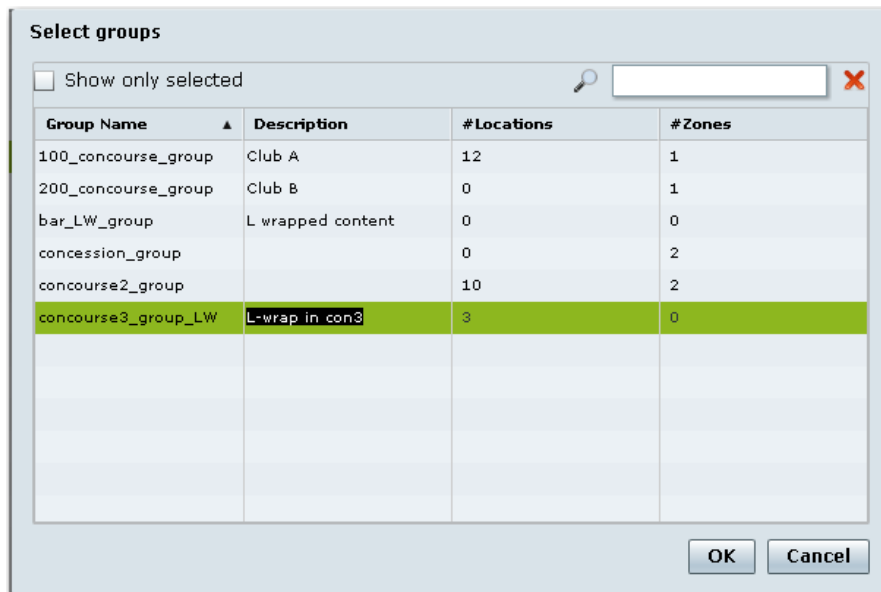


Adding a Group to a Zone

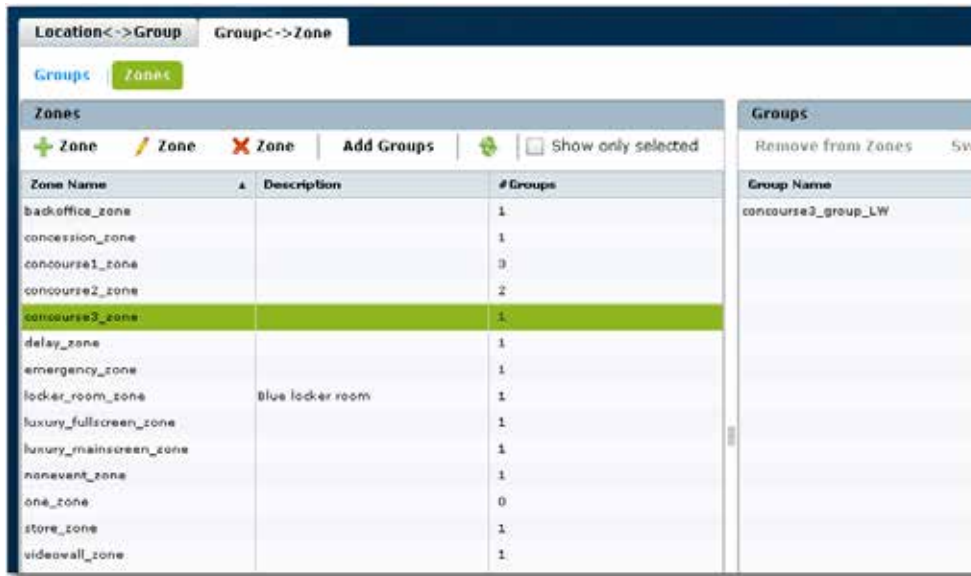
1. Open the **Group<->Zone** tab and click the **Zones** button.
2. Select the zone(s) that you want to add the groups to from the Zones name list.
3. Click **Add Groups**.



4. In the Select Groups screen, select the groups that you want to add to the zone(s) and click **OK**.



The groups(s) you added to the zones will display in the Groups panel at the right.



Removing Groups and Zones

1. Select the group or zone you want to remove. You can remove multiple groups and zones at one time. Use the CTRL-click and SHIFT-click keyboard functions to select the multiple groups and zones.
2. Click **Remove from Zones** or **Remove Zones**.



3. In the confirmation dialog box, click **Yes** to remove the groups from the zones.

Assigning Groups to Emergency, Delay, and Non-Event Zones

You'll notice there are three default zones in the Zones sources list: emergency_zone, delay_zone, and nonevent_zone. You need to assign a group to each of these zones. These zones cannot be renamed. If you want to assign all DMPs to one of these zones, you can create a new group, add all DMPs to that group, and then add that group to the zone.

Note: Any DMPs which do not have an action in the emergency/delay state will have proof of play disrupted in the emergency/delay state.

emergency_zone: All TVs assigned to this zone will display the configured Emergency message when the Emergency ad hoc state is invoked by the event operator.

delay_zone: All TVs assigned to this zone will display the configured Delay channel when the Delay ad hoc state is invoked by the event operator. The Delay channel is defined on the Control Panel. Refer to the *Defining Channels and Channel Guides* document.

nonevent_zone: All TVs assigned to this zone will display the default TV channel when there is no active event state.

Managing Zones, Groups, and Locations

Once you have added zones, groups, and locations in Cisco StadiumVision Director, you can use the Zones & Groups screen to display, manage, and edit information the selected zone, group, or location as described in this section.

Understanding Group and Zone Associations

For any action to be applied to a group, the group must be part of a zone. Some zones will only have a single group, but you need to define both. You can name them the same and simply append 'Zone' to the zone name and a 'Group' to the group name for clarity.

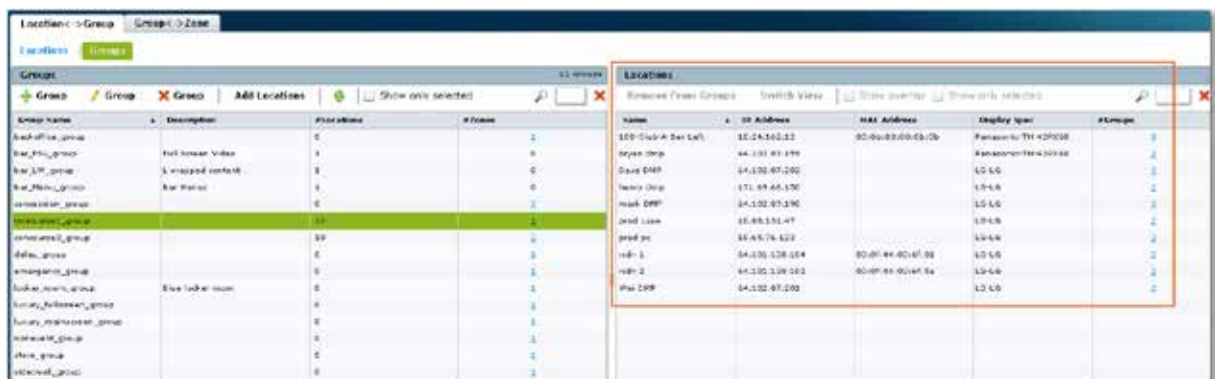
When you assign multiple groups to a zone, all the DMPs in those groups become part of that zone.

Viewing Zone, Group, and Location Associations



Click the **Zones**, **Groups**, and **Locations** buttons on the **Zones & Groups** tabs to display the zones, groups, and location lists in the left column of the Zones & Groups screen. To view information about an item in the list, simply select it. The associated information will display in the right column on the screen. The numbers in each column indicate the number of zones, groups, and locations are associated with the selected item. Numbers that are underlined in blue are hot links that you can click to display more details about the selected item. The details display in the opposite side of the screen.

In the example shown below, there are 10 locations for the `concourse1_group`. When you click the number '10' link, the screen displays the DMP Name, IP Address, MAC Address, TV Display Spec, and the number of groups for each of the 10 locations for the `concourse1_group`. The information displays in the Locations panel on the right.

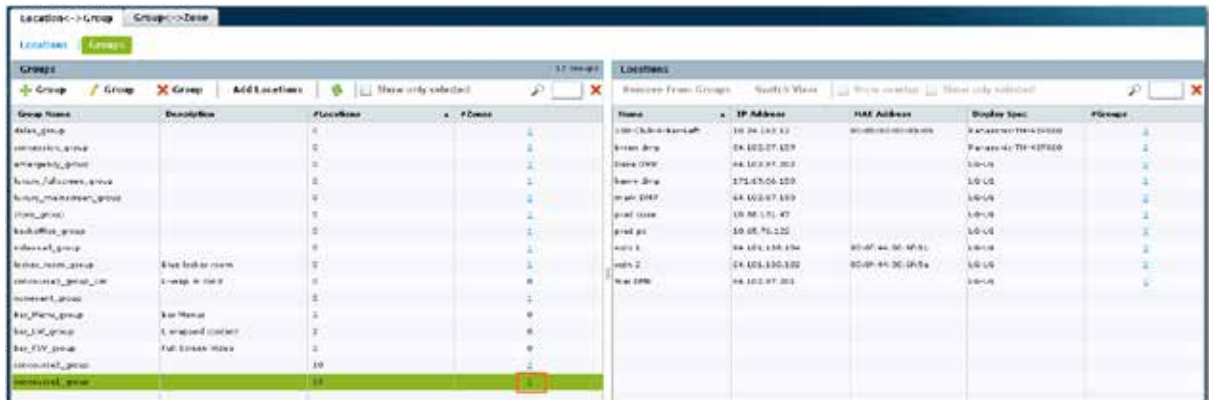


Finding the Group and Zone to which a TV Belongs

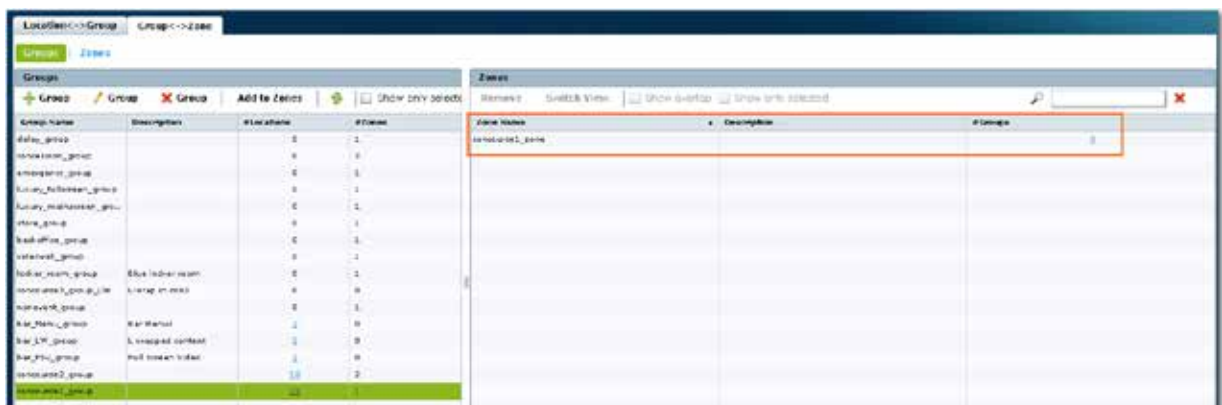
1. Select the **Location <-> Group** tab and click the **Locations** button.
2. Select a location name. In this example, rcdn-1 is selected. The number of groups to which this location belongs shows under the #Groups column (in this example, there are 2 groups). The names of the groups to which this location belongs displays in the Groups panel at the right.



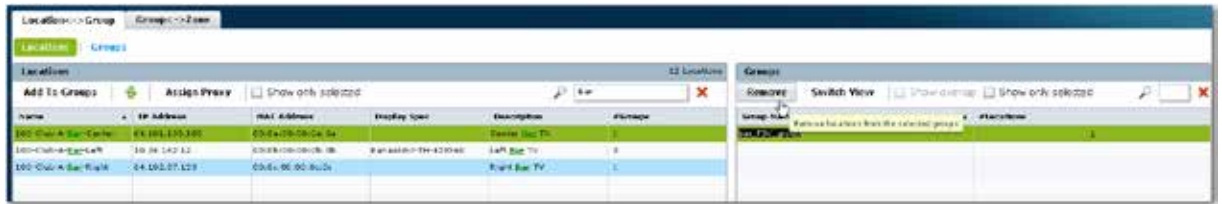
3. Select a group from the Groups panel and click **Switch View**. The number of zones for the selected group displays under #Zones (in this example, there is 1 zone):



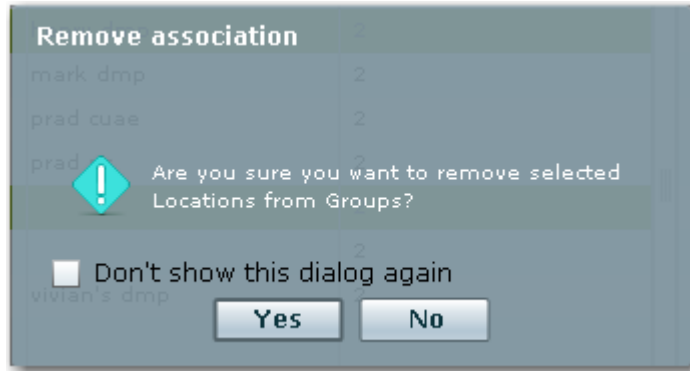
4. With the Group name selected, click on the number link in the #Zones column to show the zones to which the selected group belongs (in this example, concourse1_group belongs to 1 zone).



1. Open the **Location<->Group** tab and click the **Locations** button.
2. Select the locations from the left column and the groups from the right column and click **Remove**.



A confirmation dialog displays for your to confirm or cancel the operation.



3. Click **Yes** to remove the locations from the selected groups. Once removed, they will no longer show in the groups list for those locations.

Regrouping and Rezoning Locations

Once you have added and added and assigned locations to groups, you can regroup them by removing all the locations from the selected groups and then re-assigning the locations to other groups as described here.

1. Select the **Location<->Group** tab and click the **Locations** button.
2. Select the locations that you want to re-group. The Groups panel on the right will display the groups assigned to the selected DMPs.



3. Select the groups from the Groups panel. You can use the shift click keyboard function to select a block of groups. The selected groups and locations are highlighted in green on both the Locations and the Groups panels.
4. Click **Remove** to remove all the locations from the selected groups. A warning dialog displays for you to confirm or cancel the operation.



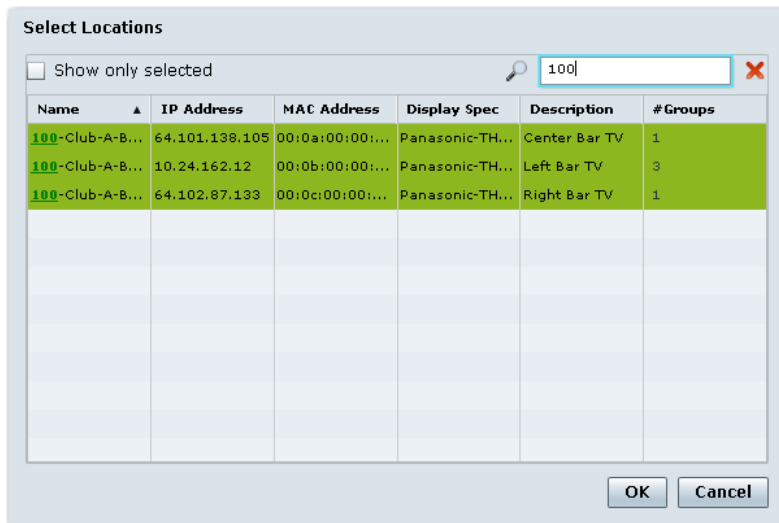
5. Click **Yes**. The selected groups will be removed from the Groups panel.
6. Select the **Location<Group>** tab and click **Groups**. Optional: click the switch view button so you can see the groups on the left and the locations on the right.
7. Select a group. You can use the search function to quickly find the group you are looking for.



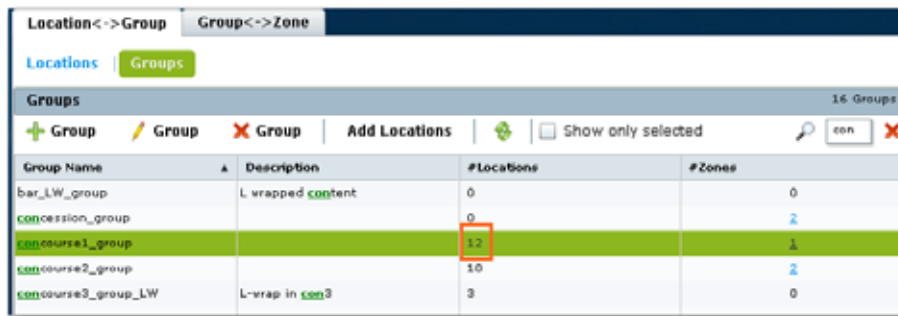
8. Select the locations you want to add to the selected group from the Locations panel.
9. Click **Add Locations**.



10. Select the locations you want to add from the Select Locations screen and click **OK**.



The locations are added to the list of locations for the selected group(s). The #Locations column indicates how many locations are now in the selected group.

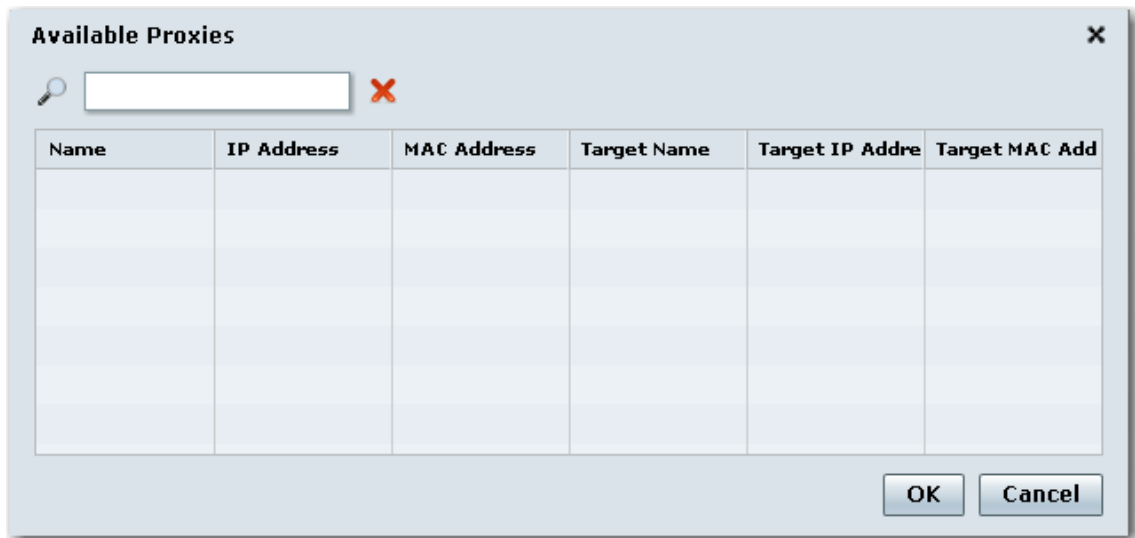


Assigning a Proxy DMP to a Location

A location can be setup as a proxy of another location in the venue so that you can view what is going to be displayed on a TV. This helps you to verify that the proper content is assigned for a particular group and location. Only DMPs with type 'Location With Network' can participate in proxy activities. This is configured through the **Setup > Devices > Locations & DMPs** panel. Refer to the *StadiumVision Video Endpoints Design and Implementation Guide* for instructions.



To assign a proxy DMP to a location:

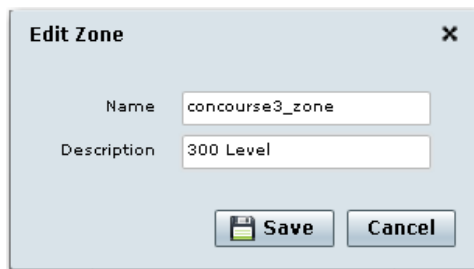
1. Open the **Location<->Group** tab and click the **Location** button.
2. Select a location from the list.
3. Click **Assign Proxy**. A screen showing the list of available proxy locations displays.
4. Select a location from the list and click **OK**.



Editing the Name and Description

Once you have added a zone or group, you can edit the name and description at any time as follows:

1. Open the **Location<->Group** tab and click the **Zones** or **Groups** button.
1. Select the group or zone name you want to edit.
2. Click the zone or group edit button:  
3. In the Edit dialog box, edit the name and/or description and click **Save**. The new name and description will display in the zone or group list.



Best Practices for Zones and Groups

When deploying zones and groups, consider the following:

Rules for Groups and Zones

- The more groups and zones you have, the more complicated the deployment becomes.
- To simplify the deployment, keep the number of unique advertising areas, exit directions, and welcome screens to a minimum.
- While it is possible for a zone to have different screen templates throughout the course of an event, the more screen templates you use, the more complex the deployment and administration becomes. To simplify the system management, limit the number of screen templates for a given zone.
- A DMP can be in different zones during each event state.
- A DMP that is in multiple zones and groups cannot have more than one action assigned to it for a given event state.
- A DMP can be in only one group at a given state. However, a DMP can switch groups when in a different event state.
- The maximum number of groups that is supported for a zone is 20; however, typically you'll have three or four groups for a given zone.
- The maximum number of zones supported in a venue is 100; however, 20 zones is typical for a given venue.
- The background for an RSS ticker can change per group/zone.
- All zone and group names must be unique.

Limits for Deploying Zones and Groups

[Table 2](#) defines the limits for deploying zones and groups.

Table 2. Limits for Deploying Groups and Zones

Specification	Limit
Max number of zones	100
Max number of groups	500
Max number of groups per zones to be supported	20
Max number of event states	50
Max number of templates you can have in different groups and zones for a single event state	50
Max number of luxury suites	500
Max number of DMPs	5000
Number of items per playlist	1200

