



Cisco StadiumVision Local Control Areas Design and Implementation Guide

for Luxury Suites, Clubs, Bars, Restaurants and Back Offices

Version 2.3

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About This Guide

This section contains information about the purpose, audience and revision history of this document.

Document Purpose

The purpose of this document is to provide guidance on how to design and implement a StadiumVision local control area, which includes luxury suites, clubs, bars, restaurants, and back offices. This document includes hardware and software requirements, recommended physical layouts, best practice configuration settings, as well as deployment caveats and considerations. This document also provides the master reference data for the technical sales presentation that guides the Sales SE on what they can safely sell, deploy, and quote.

Document Audience

The audience is Cisco Technical Engineers responsible for designing and deploying a StadiumVision luxury suite. It is expected that readers of this document are familiar with the basic networking and digital signage terminology as well as the operation and configuration of Cisco IP phones. This document also assumes a general understanding of the sports and entertainment business and live event objectives and operations.

Related Documentation

See the StadiumVision solutions documentation library on the WebEx Connect Space. Contact your Cisco primary contact for access. If you are a Cisco internal StadiumVision employee, see the documentation library on Sharepoint:

<http://team.cisco.com/sites/stadiumvision/svfield/svdocs/default.aspx>

Document History

Table 1. Revision History

| Date | Revision | Author | Comments |
|--------|----------|--------------|--------------------------|
| 3/4/11 | 1 | Steven Smith | Updated for Release 2.3. |

What's New in this Release?

Refer to the [StadiumVision Release Note](#) for a description of new features available in this release.

Supported Software and Caveats

Refer to the [StadiumVision Release Note](#) for information about the supported software levels for Cisco Unified Call Manager and Cisco Unified Application Environment as well a list of caveats.

Chapter 1 Overview

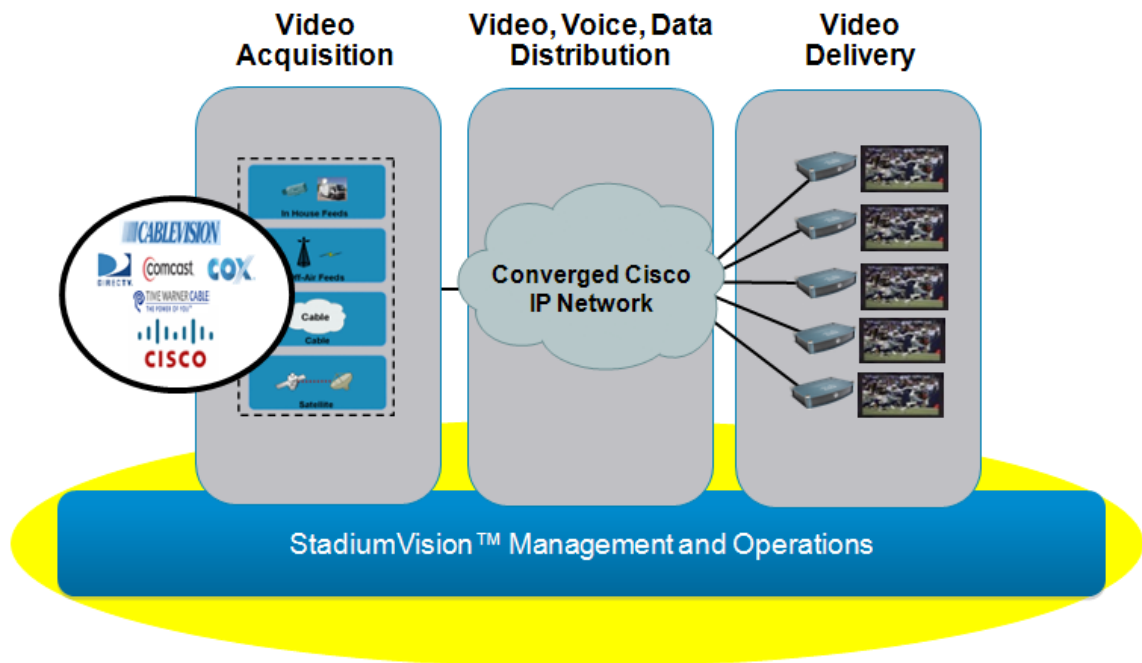
StadiumVision is a proven, end-to-end, high-definition IPTV solution that provides advanced video content management and delivery. It is a centrally-managed, video processing and distribution solution that enables the integration and automated delivery of customized and dynamic content from multiple sources to different areas of the stadium in Standard Definition (SD), High Definition (HD), or both.

StadiumVision is purpose-built for sports and entertainment venues, which have extensive video systems deployed throughout and is designed to enhance the viewing of live events and to provide in-house advertising. In addition, it leverages video systems in restaurants, clubs, and luxury suites to allow fans to view both in-house programming as well as external network channels.

StadiumVision comprises four major components, as shown in Figure 1:

- Video acquisition (or video head end)
- Converged voice, video, and data high-speed IP network
- Video delivery (and signage playback)
- Centralized management and operations

Figure 1. StadiumVision Major Components



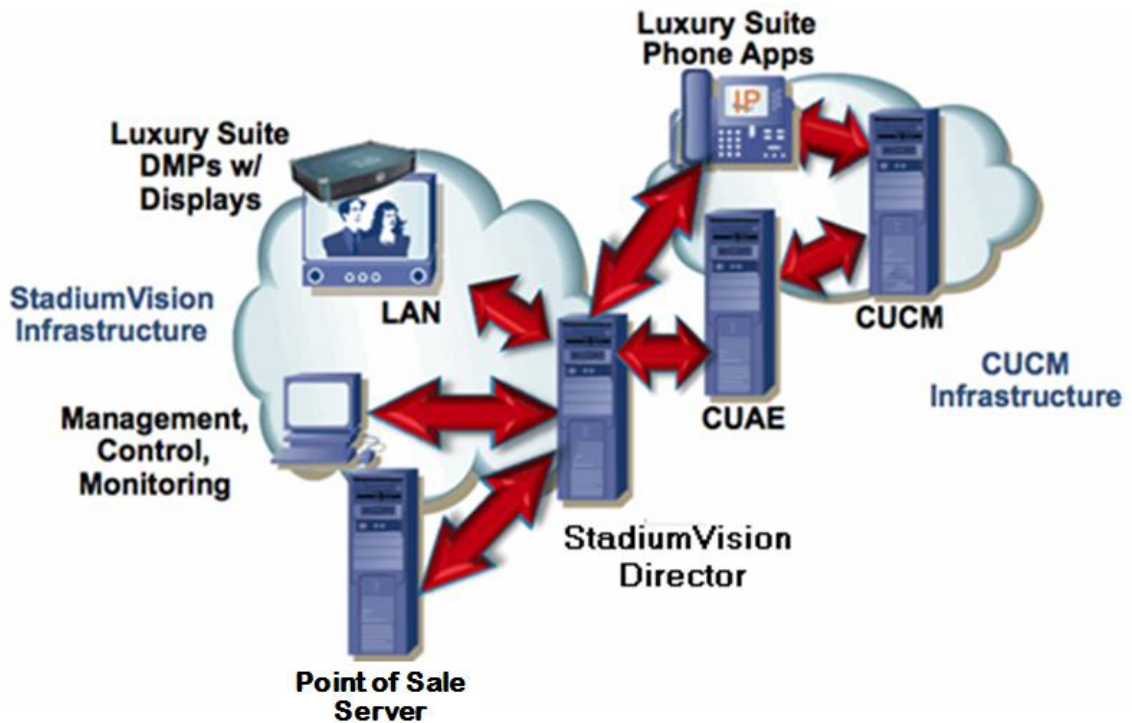
As part of the management and operations, StadiumVision offers a variety of options for local TV control. Each option provides users with the ability to control the on/off settings, the volume, and the channels displayed on the TV.

Local TV Control

Typically, TVs that are placed throughout the concourses and in “public” spaces are controlled centrally through StadiumVision Director. However, TVs that are placed elsewhere, such as luxury suites, restaurants, clubs and bars, back office, and press boxes, require the ability for local control.

Several components of the StadiumVision solution work together to provide local TV control, as shown in Figure 2.

Figure 2. Local TV Control (IP Phone Example)



Options for Local TV Control

As shown in Figure 3, StadiumVision provides several options for Local TV control, which includes controlling the state of the TV (on/off), the volume, and the channel displayed.

Figure 3. Local TV Control Options



The options include:

- A Cisco Unified IP Phone 7975
- A third-party touch panel, such as Crestron or AMX
- An infrared (IR) remote for the Cisco DMP

Only one option can be used to control a given StadiumVision TV. Typically, each option is used in specific areas of the venue.

- Cisco IP Phones are generally used for local control in luxury suites, in back offices, and in press boxes.
- Third-party touch screen devices are generally used in clubs, restaurants, and bars, though they can be used in large luxury suites (recommended for those with more than 9 TVs). They can be used to control over 100 TVs.
- The Cisco IR Remote is generally only used in situations where local control of a single TV is needed and the other options are not feasible.

Regardless of the type of device used, the local TV control device cannot change the template used or any content on the screen (such as the ticker, ads in the playlist, or full-screen message) other than the channel. For example, if the TV is showing an emergency message, the local TV control device has no effect on the content displayed.

Note: As an exception to the above, the local TV control can be used to navigate away from the Welcome message in a luxury suite.

Cisco IP Phone

If a Cisco IP Phone is used, it must be a Cisco Unified IP Phone 7975. This phone provides a touch screen interface and color display to interact with the user and is the only phone supported as a local TV control device for StadiumVision.

The phone uses Cisco Unified Applications Environment (CUAE), StadiumVision Director, and StadiumVision Director Video Management Services to provide instructions to the DMP for TV on/off, volume control, and channel selection.

If a DVD player, PC or other external source is connected to the TV, the Cisco IP Phone also allows the user to change the input to the locally attached video device through a pre-determined auxiliary input.

In luxury suites (and other areas where the phone acts as the primary control device for the TVs), it is recommended that the StadiumVision Services page be configured as the default page. In press boxes, back offices, and other locations where using the phone as a local TV control device may be secondary, it is recommended that the call services page remains the default and “speed dial” buttons be configured for easy access to TV Services and Commerce Services.

Note: Although additional Cisco IP Phones may be present, only one Cisco IP Phone can be associated with the DMPs in the suite and, therefore, only one can provide the local control. Any additional Cisco IP Phones act simply as phones and are provided for the user’s convenience.

Third-Party Touch Panels

Typically, third-party touch panels are used for local TV control in areas where Cisco IP Phones cannot be secured or in locations (bars, restaurants, clubs) where a significant number of displays need to be controlled with a single device.

The third-party device works with StadiumVision Director, StadiumVision Director Video Management Services, and StadiumVision Alternate Device Services to provide instructions to the DMP for TV on/off, volume control, and channel selection.

The third-party touch panel displays a menu of up to 10 favorite channels. In the event that the desired channel is not among the favorite channels, the third party touch panel allows users to select from a larger channel lineup. **Note:** The favorites feature for panels will be removed in a future release.

Currently supported third-party touch panels include Crestron (<http://www.crestron.com/>) or AMX (<http://www.amx.com/>). These devices communicate through StadiumVision Director to provide instructions to the DMP for TV on/off, volume control, and channel selection.

IR Remote

Unlike the Cisco IP phone and the third-party touch panel, the IR Remote (an optional accessory for the Cisco DMP) communicates directly with the DMP for on/off and volume control. It also communicates directly with the DMP for channel selection; however, the DMP pulls its defined channel lineup from StadiumVision Director.

If a DVD player, PC, or other external source is connected to the TV, the IR remote also allows the user to change the input to the locally attached video device.

Luxury Suite: A Unique Local Control Area

A luxury suite is a unique implementation of a local TV control area. Physically, a luxury suite generally consists of a “living room” space, kitchenette, a small bathroom, and an exterior balcony overlooking the venue. In the StadiumVision design, each luxury suite typically contains the following:

- Three (or more) flat panel TVs, each with an attached Cisco Digital Media Player (DMP). One of the TVs is often identified as the “welcome” TV to display a introductory welcome message. Each TV can display different content/channel.
- One (or more) Cisco IP Phones, each associated with a Cisco Unified CallManager. One of the Cisco IP Phones (with a touch screen) is designated as the controlling phone preferably situated to view all TV positions.

Figure 4 shows an example of a luxury suite.

Figure 4. Example Luxury Suite



Local TV Control in Luxury Suites

As mentioned previously, in StadiumVision a single, designated Cisco Unified IP Phone 7975 enables luxury suite owners and guests to control the power, volume, and channel selection for each of the TVs in the suite. The IP Phone can also be configured to provide access to commerce services, which allow users to place orders with the venue's catering and merchandise store, as shown in Figure 5.

Figure 5. Luxury Suite Local TV Control and Commerce Integration



Using StadiumVision Director Video Management Services on a Cisco IP Phone, owners and guests can control the power and volume of the TV and access a channel guide to select from the full channel lineup. Luxury suite owners and guests can also use the Cisco IP Phone to change the input on a particular video display to a locally attached DVD player or PC.

Using StadiumVision Director Commerce Services on the same Cisco IP Phone and integration with a third-party PoS application, owners and guests can also place orders with the venue's catering and merchandise departments. Luxury suite owners, guests, and suite attendants can easily navigate through menus, view images of the items on one of the HD TVs in the suite, and easily (and securely) place an order from the Cisco IP Phone touch screen. See the *Cisco StadiumVision Commerce Integration Design and Implementation Guide* for more information.

Note: Although there are other options for local TV control, the Cisco IP Phone is the preferred option for a luxury suite because it allows access to both video control services and commerce services from a single device.

Welcome Display in a Luxury Suite

In a luxury suite, one of the TVs is typically identified as the main or "welcome" display. This allows the venue to display static signage that welcomes the suite

visitors to venue and instructs them to use the IP Phone to control the room (as shown in Figure 6).

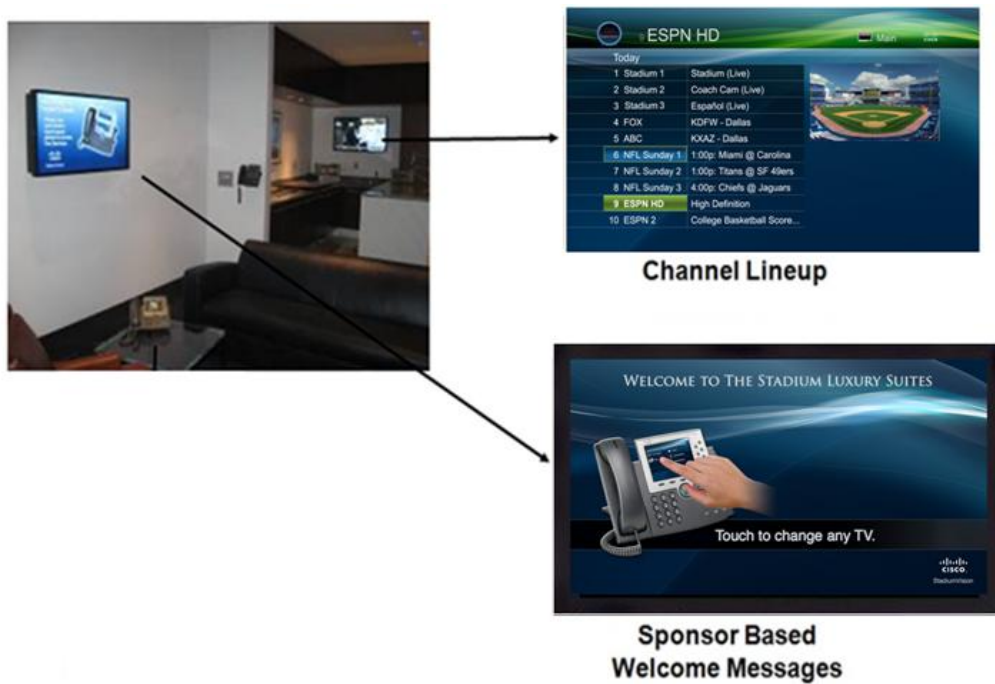
Figure 6. Luxury Suite Welcome Display



Customization in a Luxury Suite

Using the StadiumVision solution, the IP Phone display and content displayed on the TVs in the luxury suite can be customized for the specific venue, event, or luxury suite owner.

Figure 7. Luxury Suite Customization



For example:

- The “welcome” TV can display information unique to the suite owner or sponsor.
- Each TV in the suite can display select advertisements (using an L-wrapper template) as defined by the luxury suite owner.
- The Cisco IP Phone can display the logo of the venue sponsor, the team, or the suite owner.
- The channel lineup on the TV can display the team logo.

This customization not only enables a unique experience for the suite owner, but also enables additional revenue streams for the venue through sponsorship.

For more information about customizing a luxury suite, see the *Cisco StadiumVision Venue Customization and Transformation Best Practices*.

Required Applications and Services

There are several applications and services that play a role in enabling the local control. Some are part of the StadiumVision family of software, others are standard Cisco offerings.

- StadiumVision Director (Base License)

Generally speaking, StadiumVision Director enables centralized content and scheduling control and administration across the entire venue. It provides a set of applications to establish, coordinate, and manage interactivity between all areas of the venue. StadiumVision Director is also used to define the channel lineup for the venue.

With respect to local TV control, StadiumVision Director contains definitions for each of the DMPs (which are attached to TVs), Cisco IP Phones, and third-party touch panels. Leveraging those definitions, StadiumVision Director allows users to create local control areas by designating which DMPs are to be controlled by a given Cisco IP Phone or third-party touch panel.

Note: All designated local control areas, including clubs, bars, restaurants, back offices, and press boxes, are defined using the “Luxury Suites” tab in StadiumVision Director.

Regarding channel selection, StadiumVision Director also contains the definitions of each individual channel and the channel lineup.

- Each video stream received from the StadiumVision head end is associated with a locally-designated channel.
- The channel lineup includes a listing of the defined channels and is accessible by the local TV control devices.
- Using the master channel line up, you can create customized per-area channel guides for use in the local control areas.

- StadiumVision Director Luxury Suite Applications: Video Management Services

This is an optional set of StadiumVision Director licensed services that enables the Cisco Unified Communications IP Phone environment to interact with the TV to control power, volume, and channel selection.

- StadiumVision Director Alternate Device Services

This is optional set of StadiumVision Director licensed services that allows third-party touch panels to be used for local control in areas where IP Phones are not secure or where significant numbers of displays are to be controlled with a single device.

- Cisco Unified Communications Manager

CUCM is an enterprise-class IP telephony call-processing system that provides traditional telephony features, such as speed dials, as well as advanced capabilities.

- Cisco Unified Applications Environment

CUAE is part of the Cisco Unified Communications family of products and provides an intelligent interface to CUCM that enables communication between custom-developed applications (such as StadiumVision Director Video Management Services) and the Cisco Unified IP Phone. It is required if a Cisco

IP Phone is used for local TV control and interacts with the Video Management Services component of StadiumVision Director.

Generally speaking, the CUAE Server abstracts the complexity of telephony protocols, separates application logic from core call routing to protect CUCM and provides a standard way to manage all of an organization's unified communications phone applications. In the StadiumVision solution, CUAE works with CUCM to set up the phone environment and enable the phone to run the local TV control. For StadiumVision 2.3, CUAE 8.5 is also supported.

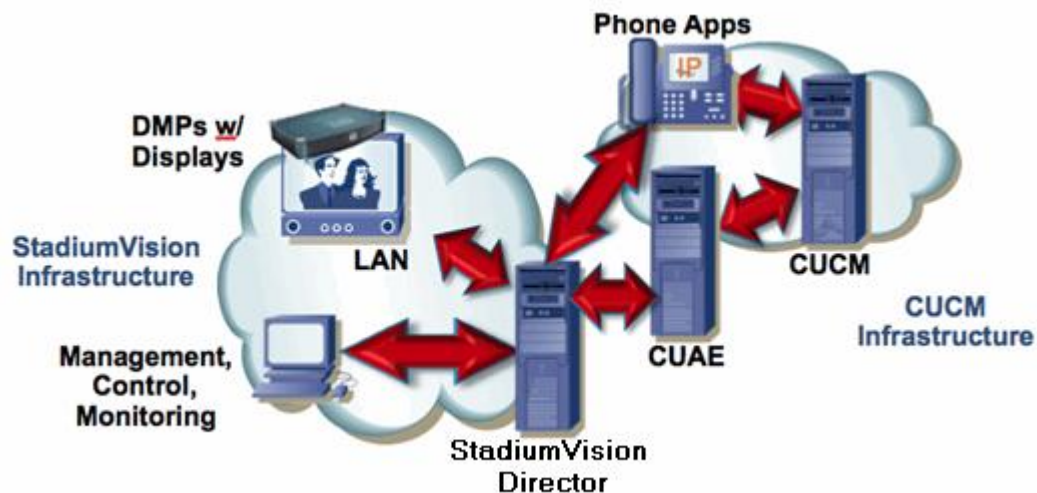
Process Flows

This section provides an overview of the flow of the local TV control processes.

Local TV Control via a Cisco IP Phone

At a functional level, several components interact to enable the communications required for local TV control from a Cisco IP Phone.

Figure 8. Local TV Control via a Cisco IP Phone



To enable the TV control process:

- The channel guide and associated icons are defined in StadiumVision Director.
- The underlying commands used by the DMP to change the channel, input, and volume are configured in StadiumVision Director.
- The images that make up the phone UI (except the icons) are stored in CUAE.
- The IP Phone is subscribed to the StadiumVision Services on CUCM.

When the user touches TV/Volume on the IP Phone (for example to change a channel):

1. The IP Phone sends a request for video control services to StadiumVision Director.
2. The StadiumVision Director sends HTTP requests to CUAE to obtain the XML (content and pointers) for the local TV control device.
3. The StadiumVision Director sends the XML information to the IP phone to update the touch-screen content.
4. The StadiumVision Director simultaneously sends HTTP commands to the DMP to effect the channel change (or other command). These commands instruct the DMP to “listen to” a different IP multicast address.
5. The DMP joins the new IP multicast group to pick up the new channel.
6. The DMP receives the video content from the IP network via IP Multicast, merges the new video stream into the correct template, and sends it to the TV via an HDMI, S-Video, or component video (YPrPb) connection.

Local TV Control via a Third-Party Touch Panel

At a functional level, several components interact to enable the communications required for local TV control from a third-party touch panel.

Figure 9. Local TV Control via a Third-Party Touch Panel



To enable the TV control process:

- The channel guide is defined in StadiumVision Director.
- The underlying commands used by the DMP to change the channel, input, and volume are configured in StadiumVision Director.

When the user touches TV/Volume on the third-party touch panel (for example to change a channel):

1. The touch panel sends a request for video control services to StadiumVision Director.
2. The StadiumVision Director server sends the XML information to the touch panel to update the touch panel content.
3. The StadiumVision Director server simultaneously sends HTTP commands to the DMP to effect the channel change (or other command). These commands instruct the DMP to “listen to” a different IP multicast address.
4. The DMP joins the new IP multicast group to pick up the new channel.
5. The DMP receives the video content from the IP network via IP Multicast, merges the new video stream into the correct template, and sends it to the TV via an HDMI, S-Video, or component video (YPrPb) connection.

Chapter 2 Planning

This chapter provides information about how to plan for local TV control in a StadiumVision venue.

Selecting the Appropriate Control Device

The device chosen for local TV control depends largely on the number of TVs to be controlled.

Table 6. Selecting the Appropriate Local TV Control Device

| Quantity of TVs | Example of Location | Recommended Device |
|-----------------|------------------------|-----------------------------|
| 1 | Press box, back office | IR remote or Cisco IP Phone |
| 1-9 | Luxury Suite | Cisco Unified IP Phone 7975 |
| >9 | Bar, club, restaurant | Third-party touch panel |

Note: Although the IP Phone can support up to 29 TVs, the initial TV selection panel can list up to 9 TVs. Therefore, the recommendation is to use the IP Phone in luxury suites with 9 or less TVs.

IR Remote

When using an IR remote for local TV control, keep the following in mind:

- Can control only a single TV.
- Requires line-of-sight access to the DMP.
- Requires StadiumVision Alternate Device Services license.

Cisco IP Phone

When using a Cisco IP Phone for local TV control, keep the following in mind:

- Recommended option for luxury suites. However, if the venue uses a competitor's VoIP solution (such as Avaya) in the luxury suites, use a third-party touch panel for local control.
- Can control up to 29 TVs, but recommendation is for up to 9.
- Only the Cisco Unified IP Phone 7975 can be used as a local TV control device.
- Requires CUCM and CUAE.
- Requires StadiumVision Video Management Services license.
- Although the designated area, such as a luxury suite, can contain multiple Cisco IP Phones, only one can be used for local TV control.

Only the Cisco Unified IP Phone 7975 option allows both the Video Management Services and Commerce Services (which enables ordering of food and merchandise) to be run on a single device. Therefore, it is the recommended option for luxury suites.

Third-party Touch Panel

When using a third-party touch panel for local TV control, keep the following in mind:

- Recommended option for bars, restaurants, clubs and large suites (with more than 9 TVs).
- Supported and tested vendors include Crestron and AMX.
- Touch panels come in many configurations including wired and wireless.
- Requires StadiumVision Alternate Device Services license.

Several models of Crestron and AMX devices can work with the StadiumVision solution. Work with the third-party device integrator to identify which is appropriate for your implementation.

Physical Placement

Ensure that the controlling device is easily accessible and in a location from which most, if not all, TVs can be viewed. The recommended placement depends on the type of area.

Luxury Suites

TVs are typically placed in the kitchenette, in the living room space, and on the exterior balcony. Depending on the size and physical configuration of the luxury suite, more or fewer TVs may be installed. When installing TVs, it is recommended they be placed such that all can be seen from a central location (for control purposes).

Ensure that the controlling Cisco IP Phone is easily accessible and in a location from which all TVs can be seen. Recommended placement is in or near the middle of the room, perhaps on a central or side table. If the intended user of the controlling Cisco IP Phone is an attendant, it may be better to place the phone on a wall.

Other Local Control Areas

For restaurants, the recommendation is to place the third-party control unit near the bar area. For other locations, such as a press booth or locker room, simply ensure that the controlling device is easily accessible by the anticipated user and in a location that allows optimal viewing of the TVs it is intended to control.

IR Remote

For IR remotes, placement of the remote is not a consideration. However, if the IR remote is used, it must have a clear 'line of sight' to the Cisco DMP. Because the Cisco DMPs are typically mounted on the back of the TVs in the StadiumVision solution, it is often difficult to obtain a clear line of sight to the DMP. Therefore, the IR remote is not generally recommended for local TV control.

Software Requirements

Each option for local control has different software requirements regarding interaction with licensed components of StadiumVision.

| Option | StadiumVision Director Control Panel | StadiumVision Director Video Management Services | StadiumVision Director Alternate Device Services | CUCM | CUAE |
|-------------------------|--------------------------------------|--|--|------|------|
| Cisco IP Phone | ✓ | ✓ ¹ | | ✓ | ✓ |
| Third-party touch panel | ✓ | | ✓ ² | | |
| IR Remote | ✓ | | ✓ | | |

For information about the supported/required software levels, see the *StadiumVision Release Note* for this release.

¹ Requires one license per IP Phone used for local TV control.

² Requires one license per third-party device used for local TV control.

Summary Local TV Control Design Guidelines

Table 2. Deployment Rules

| Function | Rules |
|--|---|
| Local TV control | <p>General</p> <ul style="list-style-type: none"> Place the control device in a central location where most or all TVs can be viewed <p>Cisco IP Phone</p> <ul style="list-style-type: none"> Model 7975 only Can control up to 29 TVs; recommended for controlling up to 9 TVs (DMPs) CUCM and CUAE required Phone graphics loaded into CUAE Video Control Services enabled on phone <p>Third-party Touch Panel</p> <ul style="list-style-type: none"> Crestron and AMX supported Can control 100s of TVs (DMPs) Designate separate DMP for overhead audio in clubs and restaurants <p>IR Remote</p> <ul style="list-style-type: none"> For use in controlling a single DMP Requires line of sight access |
| Central Control and Administration (Software Required) | <p><i>StadiumVision Director Control Panel Base License</i></p> <ul style="list-style-type: none"> Order single license for a single sever, order two licenses for redundant servers Provides base services for operation and optional expansion licenses First 10 Display Licenses included; first 10 Video Mgmt Licenses included <p><i>StadiumVision Director 10 Video Mgmt Licenses</i></p> <ul style="list-style-type: none"> One license required per Suite (or other area where the IP Phone is used to for local TV control) Order in multiples of 10 Maximum count 500 <p><i>StadiumVision Director 10 Alt Device Licenses</i></p> <ul style="list-style-type: none"> One license required per Touch Panel or other input device Order in multiples of 10 Maximum count 500 |
| Central Control and Administration (Configuration Required) | <p>StadiumVision Director must contain definitions for each locally controlled area (luxury suite):</p> <ul style="list-style-type: none"> Each DMP Each Cisco IP Phone to be used for local control Each third-party touch panel to be used for local control <p>StadiumVision Director must contain definitions for the channels:</p> <ul style="list-style-type: none"> Each local channel (corresponding to a video stream from the head end) Channel lineup for IP phone/IR remote and for third-party touch panel <p>Favorite channels (up to 10) for use with the third-party touch panels</p> |

| | |
|-----------------------------------|--|
| Application Integration | <p>If Cisco IP Phone is used:</p> <ul style="list-style-type: none"> • Cisco Unified Communications Manager • CUAE, redundant configuration recommended • StadiumVision Director - Video Management Services <p>If third-party touch panel is used:</p> <ul style="list-style-type: none"> • StadiumVision Director - Alternate Device Services • See your Crestron or AMX integration partner for information on integrating the third-party touch panels. |
| Video Endpoint | <ul style="list-style-type: none"> • Cisco DMP 4305 or 4310, but not both in the same local control area • Content is controlled by the DMP • Volume can be controlled on the DMP or on the TV (via the DMP) • On/off is controlled at the TV via commands sent from the DMP |
| Video Endpoints in a Luxury Suite | <ul style="list-style-type: none"> • Quantity: up to 9 recommended; 29 supported • Placement: typically kitchenette, living room, balcony |

Recommendations for the appropriate Crestron or AMX device should come from the integration partner. Cisco has co-developed software with each company and tested their implementation of the API. Cisco offers no support to third-party developers, and it is not an open API.

Chapter 3 Implementation

This chapter provides information about how to implement local TV control in a StadiumVision venue.

Prerequisites

The following should be done prior to implementing local TV control and are not discussed in this guide.

| Requirement | For More Information, See |
|--|---|
| Connected Stadium infrastructure in place | <i>Connected Stadium Design Guide</i> |
| StadiumVision head end installed/configured | <i>StadiumVision Head End Design and Implementation Guide</i> |
| Video feeds mapped to IPMc streams from head end | <i>StadiumVision Head End Design and Implementation Guide</i> |
| DMPs and attached TVs installed | <i>StadiumVision Video Endpoint Design and Implementation Guide</i> |
| DMPs configured in StadiumVision Director | <i>StadiumVision Video Endpoint Design and Implementation Guide</i> |
| IPMc streams mapped to local channels in StadiumVision Director | <i>StadiumVision Content and Event Management Design and Implementation Guide</i> |
| Channel guide defined in StadiumVision Director | <i>StadiumVision Content and Event Management Design and Implementation Guide</i> |
| Templates, event scripts, and additional content defined in StadiumVision Director | <i>StadiumVision Content and Event Management Design and Implementation Guide</i> |
| Cisco Unified Communications Manager and Cisco Unified Application Environment installed/configured (if IP Phone used) | Related Cisco Unified Communications documentation |

Implementation Caveats

Keep the following in mind as you design and implement local TV control.

- Any designated area requiring local TV control (restaurant, club, bar, back office, locker room, press box) must be configured as a “Luxury Suite” within StadiumVision Director.
- The local control device for a designated area, regardless of whether it is a Cisco IP Phone or a third-party touch panel, is configured using the “IP Phone” tab of the “Luxury Suite” page.
- The StadiumVision service includes pre-defined softkeys. An alternative set of softkeys is available. See “Chapter 5 Alternative Softkey Mapping” for more information.

Implementation Summary

This section provides a high-level overview of what must be configured in support of local TV control.

Graphic Specifications

The graphics (or images) used in the deployment of a luxury suite are stored in different locations and have different specifications.

| Graphic | Location | Specifications |
|---|------------------------|--|
| IP Phone Desktop background | CUCM | Supplied with StadiumVision Director IP Phone 7975: 320x216x16 IP Communicator: 320x212x12 |
| Welcome Message example | StadiumVision Director | Supplied with StadiumVision Director DMP 4310: 1920x1080 DMP 4305: 1366x768 |
| Channel icons used in channel lineup on the IP Phone | StadiumVision Director | Must be supplied locally with network approval. IP Phone: 24x24, PNG 3 rd party: 40x40, PNG |
| Team logo used in channel lineup on the TV | StadiumVision Director | Must be supplied locally. DMP 4310: 300x180, PNG or JPEG DMP 4305: 218x128, JPEG |
| IP Phone Services background Bullets and service icons used on IP Phone services pages | CUAE | Supplied with StadiumVision Director |

Information about how to load these files on the various devices is provided in subsequent sections.

Note on Changing the Phone Background

Stadium Vision Director includes the ability to deploy IP Phone Backgrounds. However, this method of deployment is not recommended for the following reasons:

- It requires that all phones are associated to a user in CUCM.
- It requires that the Settings button on the IP Phones be enabled (security risk).
- It requires that the IP Phone be in a speciUic state at the time of launch or it will not work.
- It uses simulated key presses to execute the background change, which is invasive as each press is visible on the phone as it is being executed (screen changes, etc).
- Each time it is executed, it stores a copy of the image on the phone, even if the same image was already pushed. We are unaware of the limit or behavior once the limit is exhausted.

- It uses an IP Phone object “Background” which is undocumented and not TAC supported. This object can become obsolete at any time without notification. It is based on IP Phone firmware which changes frequently.

For these reasons it is suitable only for a one-time initial bulk deployment and should not be used beyond that.

As an alternative, you can use a third-party application called VoIP Integration Background Deployer. The process for using this application is documented in the “IP Phone Background Deployment” application note located on Sharepoint.

Enabling IP Phones for Local TV Control

After the Cisco IP Phone, CUCM, and CUAE have been installed and are operational, to enable the Cisco IP Phone to act as local control for a designated area (such as a luxury suite) do the following:

| Step | For instructions, see |
|--|---|
| <p>On CUAE:</p> <ul style="list-style-type: none"> • Install the StadiumVision Luxury Suite Control application • Load the StadiumVision IP Phone graphics | <p>CUAE Configuration</p> |
| <p>On CUCM:</p> <ul style="list-style-type: none"> • Configure StadiumVision services for the IP Phone • Configure the default IP Phone page: <ul style="list-style-type: none"> – For luxury suites, set the default page of the IP Phone to the StadiumVision services page – For administrative areas, the default page of the IP Phone should be the call services page. • Load the StadiumVision background graphic. • Configure any speed dials. | <p>CUCM Configuration</p> |
| <p>On StadiumVision Director:</p> <ul style="list-style-type: none"> • Identify the CUCM and CUAE servers • Configure the IP Phone password(s) • Define the IP Phone as a control device and specify whether it is used in a luxury suite environment (both TV control and commerce integration services are enabled) or in an administrative office (only TV control services are enabled) • Associate the DMPs with local control area (Luxury Suite) and label the DMPs to assist in TV identification by the user • Associate the IP Phone with local control area (Luxury Suite) • Change the IP Phone background to the provided StadiumVision graphic (or venue-specific graphic) • Change the timeout values on the IP phone | <p>StadiumVision Director Configuration</p> |

Enabling Third-Party Touch Panels for Local TV Control

Work with the Crestron or AMX integration partner to ensure that the touch-panel is operational (connected to the network). To enable the third-party touch panel to act as local control for a designated area (such as a restaurant or club), do the following:

| Step | For instructions, see |
|---|--|
| In StadiumVision Director: <ul style="list-style-type: none">• Define the third-party remote as a local control device• Associate the DMPs with the local control area (Luxury Suite)• Associate the third-party remote with the local control area (Luxury Suite)• Define the channel favorites (legacy feature) | StadiumVision Director Configuration |

CUAE Configuration

The services that enable local TV control through the Cisco IP Phone are contained in a single application (called Luxury Suite Control) that must be loaded into CUAE.

Once the application is loaded into CUAE, you must select the desired service type when defining the local TV control device in StadiumVision Director, see the [Defining Local TV Control Devices in StadiumVision Director](#) section in this document.

Adding Luxury Suite Control in CUAE

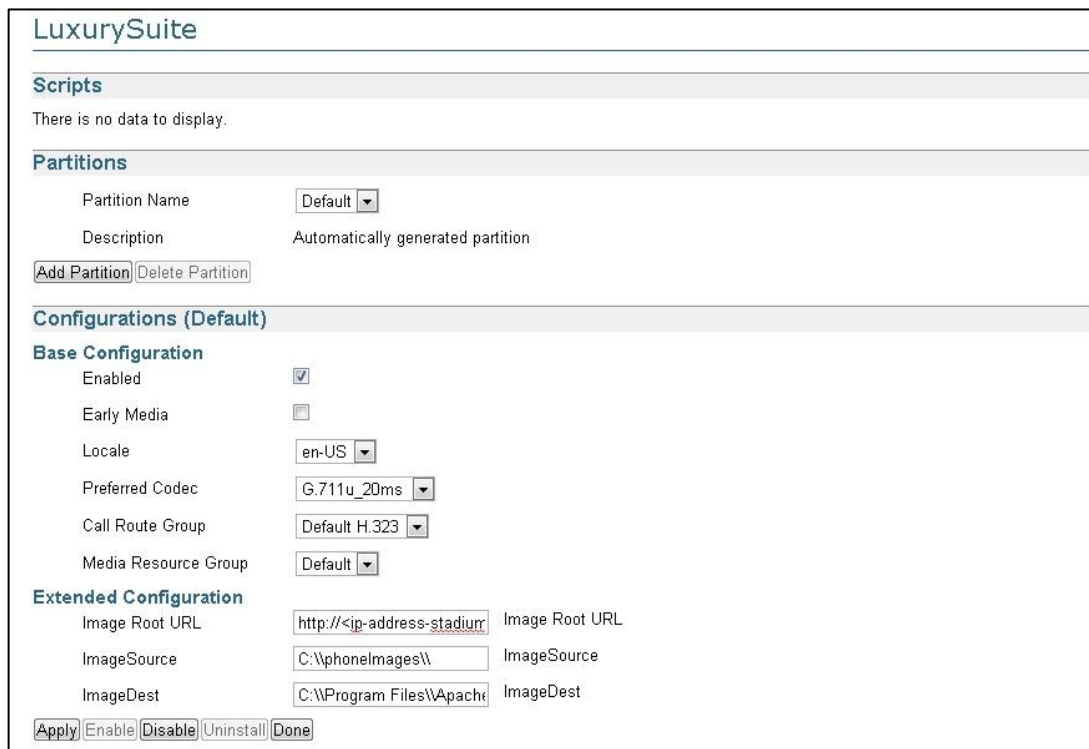
To enable a Cisco IP Phone to be used for local TV control, you must load the Luxury Suite Control application and the associated graphics into CUAE.

To load the Luxury Suite Control application into CUAE:

1. Download the Luxury Suite Control application to your desktop. The application is provided as part of StadiumVision Director and is located in on the StadiumVision Director server at:
`http://<SV_director_ip_addr>:8080/download/LuxurySuite.mca.`
2. Login to CUAE through management console.
3. Under Components, select **Applications**.
4. Click **Browse**.
5. Select the installation file (.mca), and click **Open**.



6. Click **Upload File** and wait for few seconds. The application will then appear in the list.
7. Click the application link (**Luxury Suite Control**).



8. Enter the following:

Image Root URL:

`http://<SVDirector IP Addr>.8080/StadiumVision/images/phone/`

ImageSource: `c:\\phoneImages\\`

ImageDest: `c:\\ProgramFiles\\Apache Group\\htdocs\\phoneImages\\`

Note: Ensure that the ImageSource and ImageDest both end with “\\”.

Adding the Services Graphics to CUAE

StadiumVision Director includes phone images that must be stored on the CUAE server.

1. Log into the server that is running CUAE (using a remote access application).
2. Copy the graphics file from the StadiumVision Director server **to the CUAE Server** (not to your desktop as in the previous section). The file provided as part of StadiumVision Director and is located on the StadiumVision Director server at: `http://<SV_director_ip_addr>:8082/download/cuaephoneimages-<version-build>.zip`.
3. Unzip the file and extract the directory called `cuaephoneimages`.
4. Move this directory to `c:\phonelimages`
5. Create the following directory
`c:\Program Files\Apache Group\htdocs\phonelimages`

Note: For information about customizing the services images to include a logo, see the *StadiumVision Venue Customization and Transformation Best Practices*.

CUCM Configuration

In CUCM:

- A phone service must be added to enable the phone to access the StadiumVision Director services.
- The StadiumVision phone background graphic must be stored on CUCM,
- (Optional) You can configure speed dials (for services such as housekeeping) in CUCM.

Configuring CUCM to Provide StadiumVision Services

If the Cisco IP Phone is used for local TV control, the phone must have access to the appropriate services within CUCM.

To configure CUCM to provide StadiumVision services to the Cisco IP Phone:

- Configure the StadiumVision Services
- Subscribe the phones to the appropriate services

Adding the StadiumVision Services

1. On the Cisco Unified CM Administration page, select **Device > Device Settings > Phone Services**.



2. In the Find and List IP Phone Services window, click the **Add New** icon. The IP Phone Services Configuration window displays.

3. Enter the following:
Service Name: StadiumVision Services
Service Description: StadiumVision Services

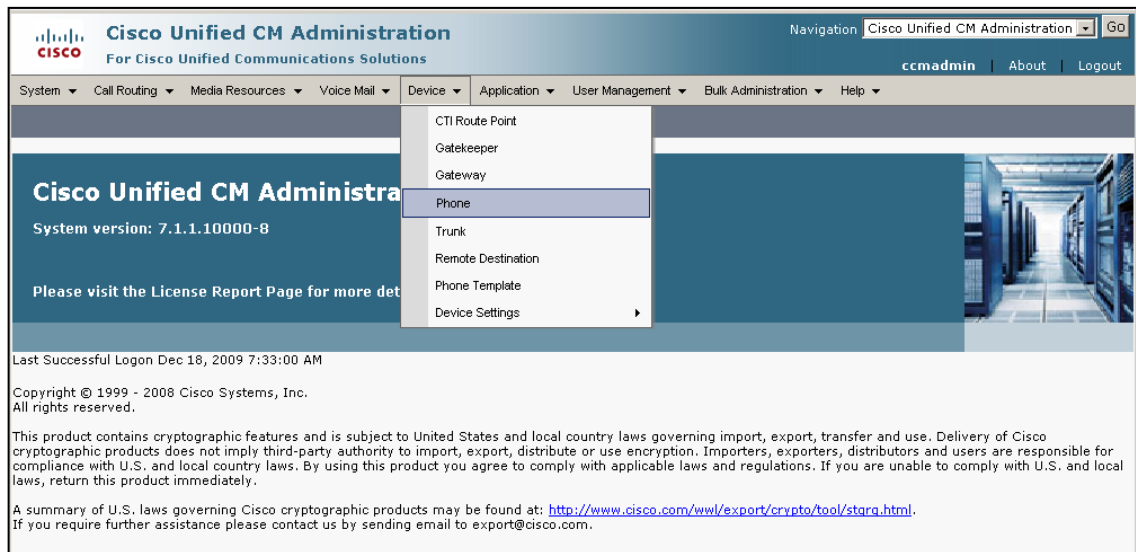
Service URL:

<http://<SV Director IP addr>:8080/StadiumVision/jsp/Sports?vc=no&device=#DEVICENAME#>

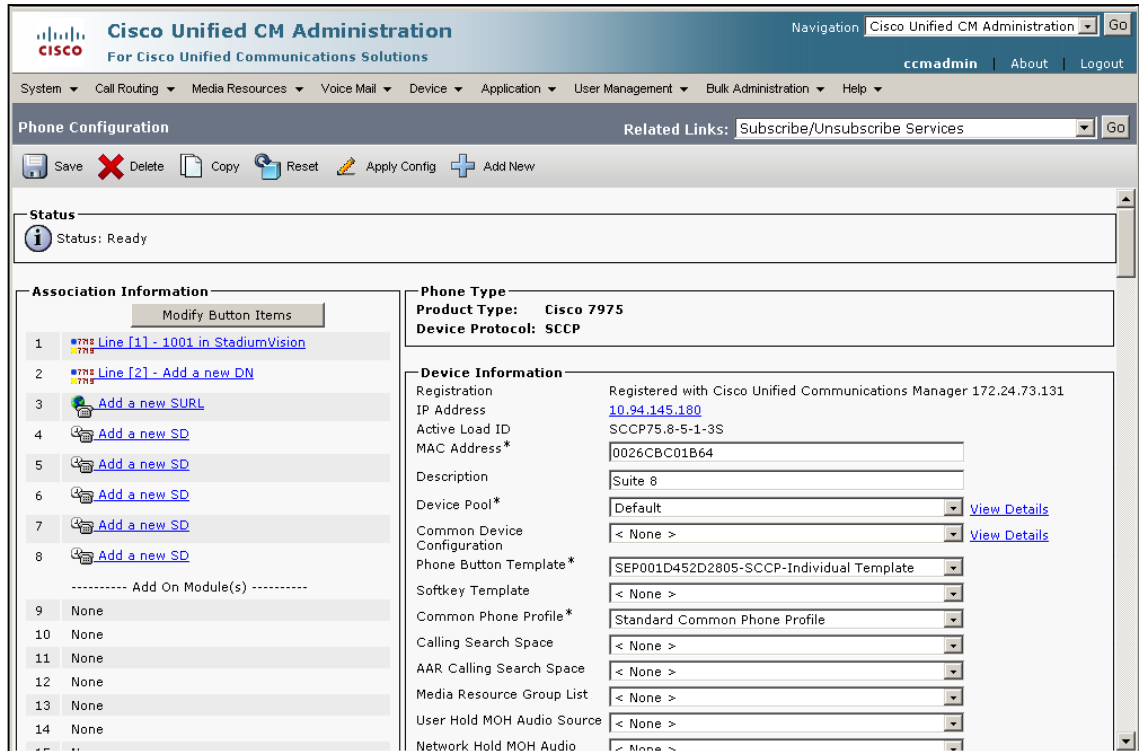
4. Select Enable checkbox. Do not select the Enterprise Subscription checkbox.
5. Click **Save**. The page redisplay.
6. Click **Save and Close**.
7. Click **Save** on the IP Phone Services Configuration page.

Subscribing Phones to StadiumVision Services

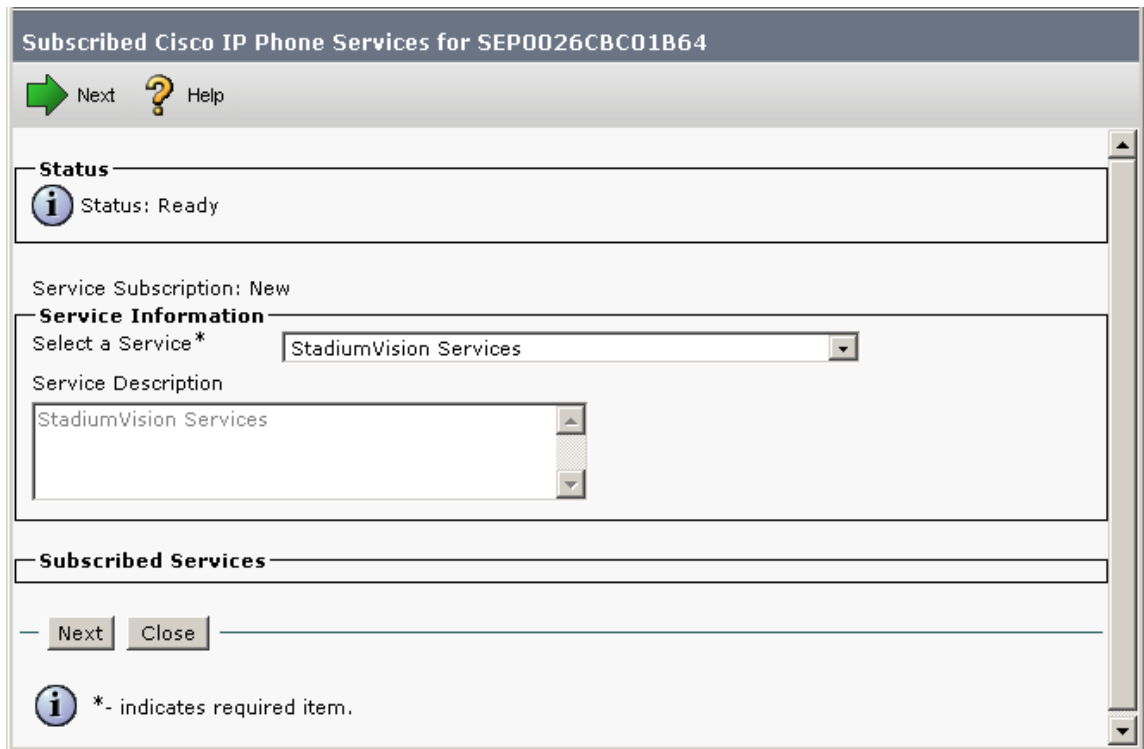
1. On the Cisco Unified CM Administration page, select **Device > Phone**.



2. To display a list of devices, click **Find**. The window redisplay.
3. Click the Device Name of the phone. The Phone Configuration window is displayed.



4. In the Related Links pull-down (upper right), select **Subscribe/Unsubscribe Services** and click **Go**. The Subscribed Cisco IP Phone Services window displays.
5. In the Select a Service field, choose **StadiumVision Services** and click **Close**.



6. To cause the StadiumVision services page to display by default on the phone, scroll down to the section titled “External Data Locations Information.”
 - If the phone will be located in a luxury suite, it is recommended that the StadiumVision services page be the default page on the phone. In this case, modify the information on this page as described below.
 - If the phone will be located in a back office or other administrative situation, it is recommended that the standard CUCM call plane be the default. In this case, do not modify any of the information on this page.

| External Data Locations Information (Leave blank to use default) | |
|--|----------------------|
| Information | <input type="text"/> |
| Directory | <input type="text"/> |
| Messages | <input type="text"/> |
| Services | <input type="text"/> |
| Authentication Server | <input type="text"/> |
| Proxy Server | <input type="text"/> |
| Idle | <input type="text"/> |
| Idle Timer (seconds) | <input type="text"/> |

In the Idle field, enter:

`http://<SV Director IP addr>:8080/StadiumVision/jsp/Sports?vc=no`

In the Idle Timer (seconds) field, enter **10**.

7. Click **Save**.
8. Reset the phones individually or as a group.

Loading the StadiumVision IP Phone Desktop Graphic

To enhance the StadiumVision user experience, the phone desktop graphic (or background) should be changed to the graphic that is provided in StadiumVision Director.



The recommended desktop graphics and a List.xml file are included in a zip file located on the StadiumVision Director server at:

http://<SV_director_ip_addr>:8080/download/cucmitems-<version-build>.zip

First, the graphic must be made available to the phone, which requires that the graphic be stored on the CUCM server.

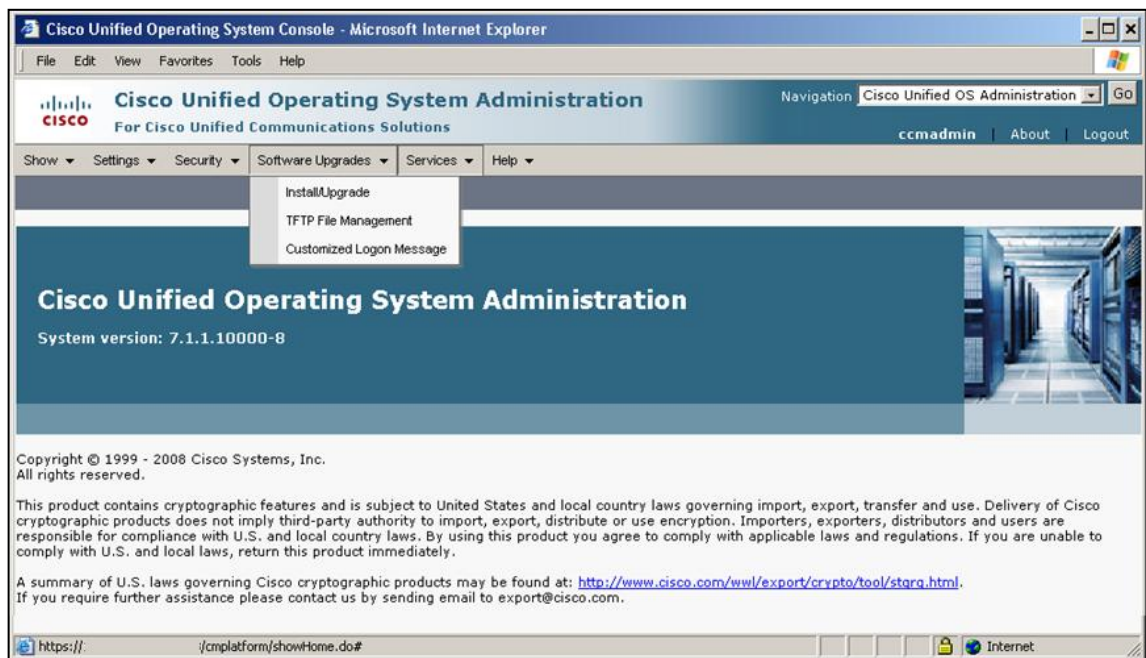
1. Download the cucmitems-<version-build>.zip file to your PC.
2. Unzip the file and review the contents, as necessary. The file contains two directories. Each directory contains a number of files including the background image, a thumbnail version (80x53) of the image, and a List.xml file.

If you opt to create a separate PNG file, be sure to create a thumbnail version (80x53) and update the List.xml file. The format of the provided List.xml file is:

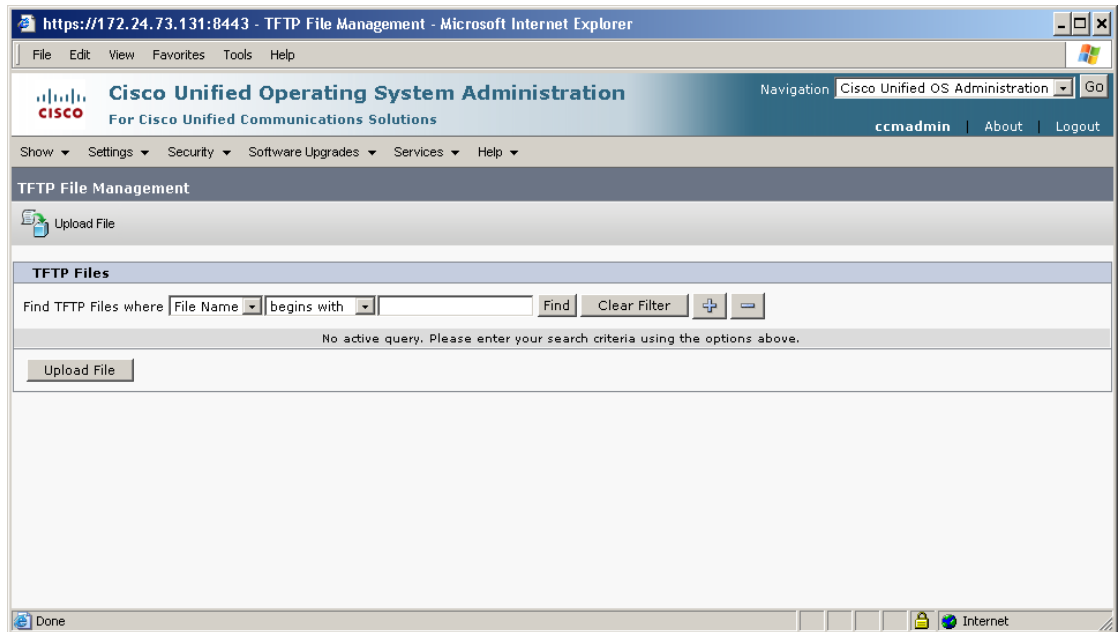
```
<CiscoIPPhoneImageList>
<ImageItem Image="TFTP:Desktops/320x216x16/SV2_BG80x53.png" URL="TFTP:Desktops/320x216x16/SV2-Phone-background-010.png"/>
</CiscoIPPhoneImageList>
```

For more information, see the [CUCM IP Phone administration documentation](#). You can include up to eight (8) background images in the List.xml file. Make note of the order in which the images are listed, as you will need to know this when changing the image using StadiumVision Director. See the section on [Changing the IP Phone Background](#).

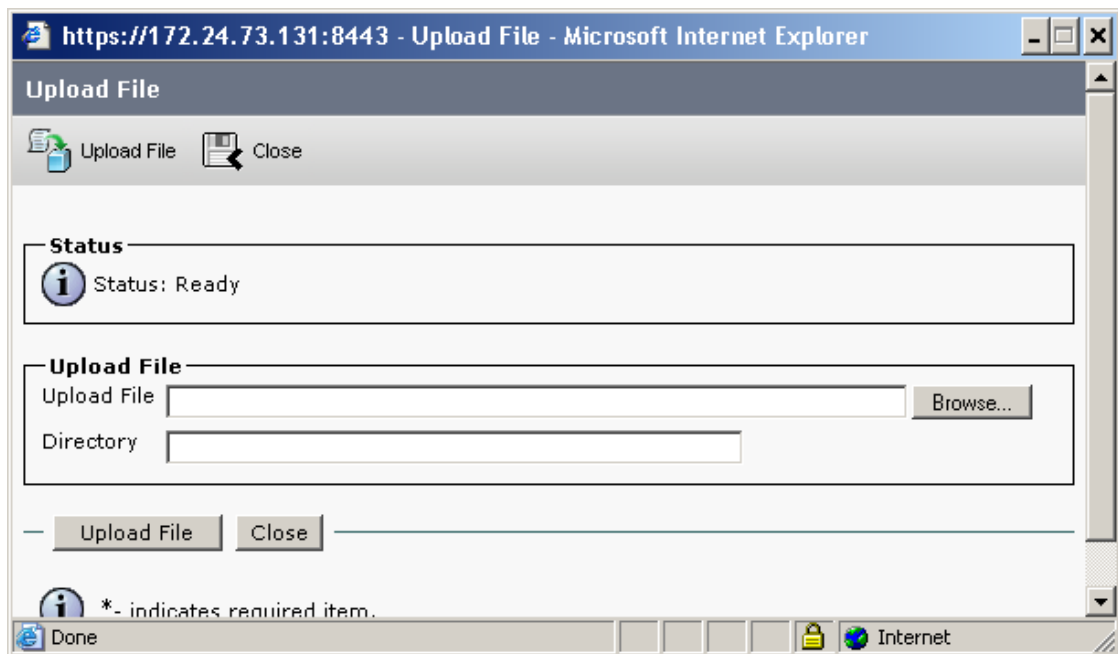
3. On the Cisco Unified Operating System Administration window, select **Software Updates > TFTP File Management**.



4. On the TFTP File Management page, click the **Upload File** icon.



5. Browse to select the desired files and upload them to a directory named /Desktops/320x216x16 (or /Desktops/320x212x12 for IP Communicator).



6. Use the StadiumVision Director to specify which background the phone should use. (See the section on [Changing the IP Phone Background.](#))

As an alternative, you can manually change the desktop graphic on a phone.

On the phone, go to **Settings > User Preferences > Background Images**. (It may take a few minutes for all of the images to load.) Press the number that corresponds to the desired graphic. Select **Save**, then **Exit**.

Note: For information about customizing the background image to include a logo, see the *StadiumVision Venue Customization and Transformation Best Practices*.

7. To cache the new List.xml file, restart the TFTP server:
 - a. On the Cisco Unified Serviceability page, select **Tools > Control Center – Feature Services**.
 - b. Select CM Server running the TFTP service, and click **Go**.
 - c. Click the radio button next to Cisco TFTP, scroll down and click **Restart**.

Configuring Luxury Suite Speed Dials

Within luxury suites, it is suggested that the venue configure speed dials for the convenience of the guests. Up to three (3) speed dials can be configured on a phone that is also used for local TV control. Recommended speed dials include housekeeping and security.

Configuring speed dials in the StadiumVision solution is a two step process:

- Configure the speed dials within CUCM.
- Identify the CUCM server to StadiumVision Director and provide the CUCM user ID and password (see the section on Configuring CUCM and CUAE Integration).

The first three speed dials that you configure in CUCM are displayed on the StadiumVision service plane, as shown below.



To configure the speed dials within CUCM:

1. Select **Device > Phone**.
2. Locate and select the appropriate phone.
3. In the Association Information section (on the left), select **Add a new SD** beside the desired button.

4. Enter the phone number and a label (such as Housekeeping or Security).
5. Click **Save**.

StadiumVision Director Configuration

Following are the high-level steps for configuring local TV control in StadiumVision Director:

1. [Identify the CUAE and CUCM servers to StadiumVision Director.](#)
2. [Set the IP Phone passwords.](#)
3. [Configure the local control devices.](#)
4. [Define the local control areas.](#)
5. [Associate the DMPs with the area and define labels for the associated TVs.](#)
6. [Associate the local control device with the area.](#)
7. [Configure a welcome message for the area.](#)
8. [Define the channel lineup.](#) Remember to store the icons for the TV channels used on the IP Phone in StadiumVision Director. (See the *StadiumVision Director Content Manager Guide*.)
9. [Change the IP Phone background to a graphic stored in CUCM](#) (optional).
10. [Define labels for the external inputs on each TV](#) (optional).

Note: This section assumes the DMPs have already been defined within StadiumVision Director. If this is not the case, see the *StadiumVision Video Endpoint Design and Implementation Guide*.

To configure local TV control, log into StadiumVision Director as an Administrator. You will need to access the Control Panel and the Management Dashboard. Both are accessible from the StadiumVision Director main page:
http://SV_Director_IP_addr:8080/StadiumVision/.

Figure 10. Cisco StadiumVision Director Main Page

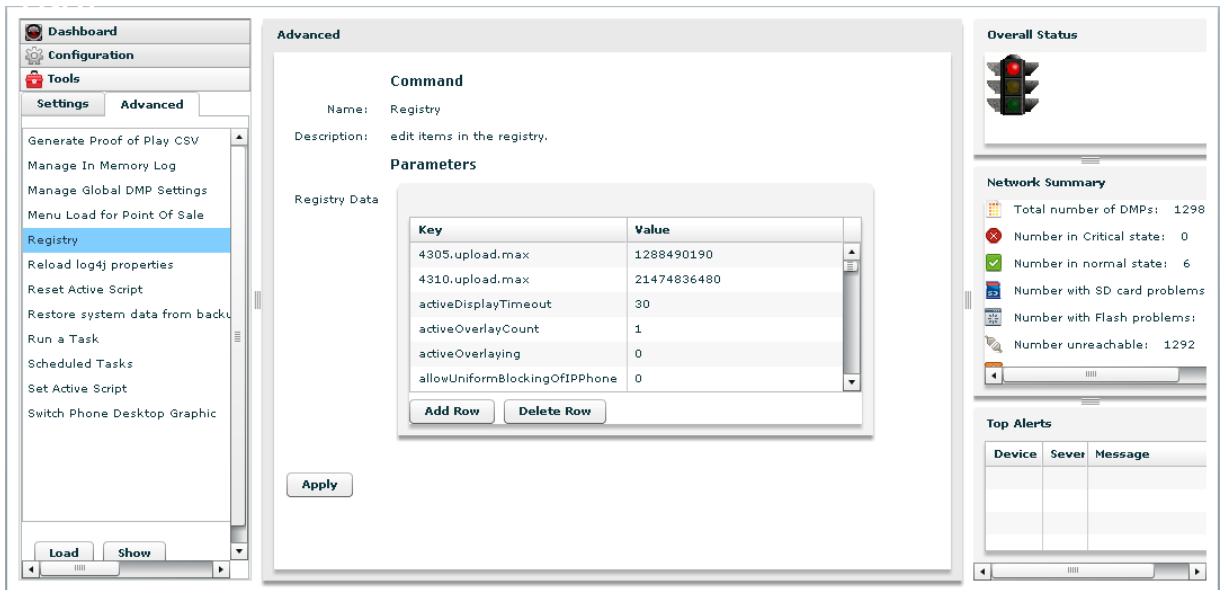


- To access the Cisco StadiumVision Control Panel, click **Control Panel**.
- To access the Advanced Tools page, click **Management Dashboard**, click **Tools** in the left column, and click the **Advanced** tab.

Configuring CUCM and CUAE Integration

To enable communications between CUCM, CUAE, and StadiumVision Director in support of luxury suite speed dials:

1. On the Advanced Tools page of the Management Dashboard, click **Registry**.



2. Click **Load** to ensure that you are viewing the current settings.

3. Scroll through the Registry Data list to locate:

- CUCMHost
- CUCMPass
- CUCMUser
- cuaehost

Click the Value field for each and enter the appropriate information.

Notes:

- The registry entries are listed alphabetically, so the password (CUCMPass) is listed before the user ID (CUCMUser). Typically, people think of user ID followed by password, so ensure that you enter the correct values for each. The CUCMUser that is used needs to be a member of the Standard TabSync User Group.
- The CUCMHost value defaults to 'localhost'. To properly use speed dials, this must be changed to the correct CUCM address. To disable the use of speed dials, set the CUCMHost registry entry to blank.
- Append :8000 to the CUAE IP address when setting the cuaehost value.

4. Click **Apply**.

You must restart StadiumVision Director after saving the change to the value of the CUCMHost registry entry.

For more information about the Registry, see the *StadiumVision Director Management Dashboard User Guide*.

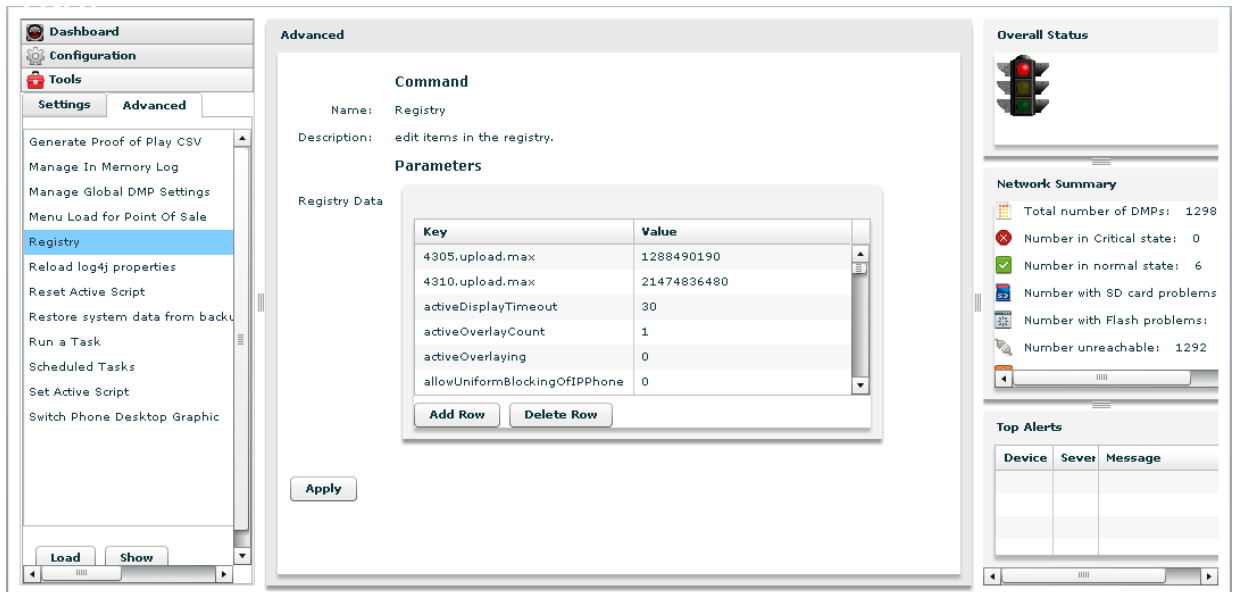
Setting IP Phone Passwords

Changing the phone desktop image requires that the phone's user ID and password be stored in StadiumVision Director. There are two ways to set the password in StadiumVision Director.

If phones each have unique userid and passwords, enter the Admin Id and Admin Password on the Admin>Device>IP Phone page.

If all phones have the same password, store the username and password in the registry as follows:

1. On the Advanced Tools page, click **Registry**.



2. Click **Load** to ensure that you are viewing the current settings.
3. Scroll through the Registry Data list to **phoneDefaultPassword** and **phoneDefaultUsername**.
4. Click the Value field beside each parameter and enter the appropriate values.
5. Click **Apply**.

For more information about the Registry, see the *StadiumVision Director Management Dashboard User Guide*.

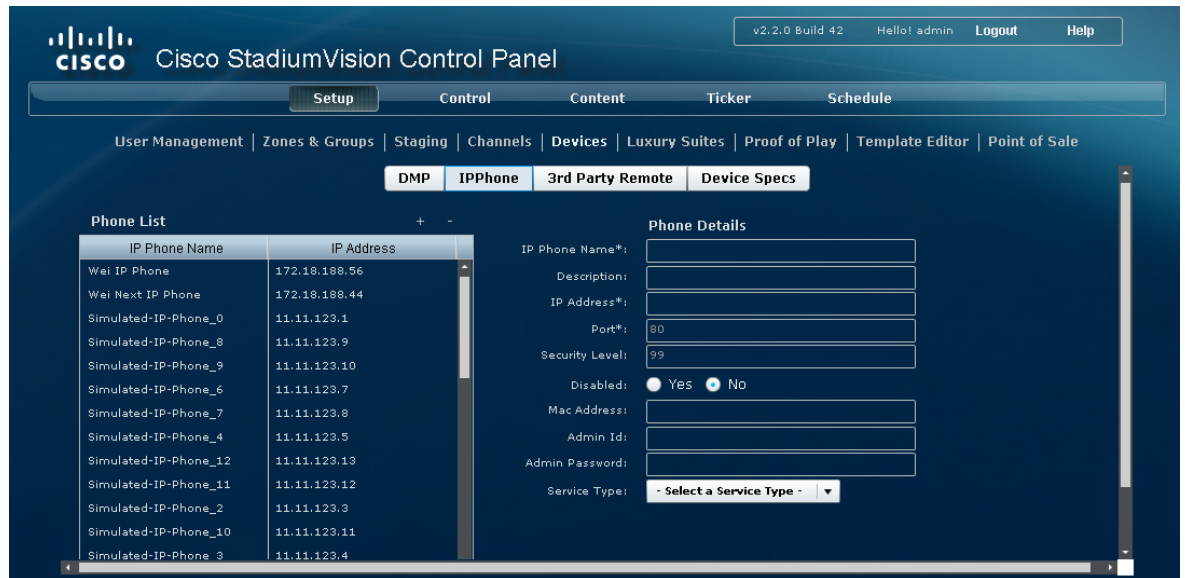
Defining Local TV Control Devices in StadiumVision Director

Before they can be associated with any designated area or any DMPs, all Cisco IP Phones and third-party control panels must be identified in StadiumVision Director.

Defining Cisco IP Phones

To define a Cisco IP Phone in StadiumVision Director:

1. On the Cisco StadiumVision Control Panel, click **Setup**.
2. On the Setup page, click **Devices > IP Phone**.



3. To add a phone, click on the + (plus sign) at the upper right of the list.
4. Under Phone Details, specify the following:

IP Phone Name: Name you wish to use to identify the phone within StadiumVision Director.

IP Address: IP address of the phone.

Service Type: There are two types of services available for the Cisco IP Phone (which must be loaded into CUAE as part of the Luxury Suite Control application).

- Luxury Suite service includes support for both StadiumVision Director Video Management Services and Commerce Services.
- AdminOffice service includes support for only the StadiumVision Director Video Management Services. This is designed for use within administrative offices (and other locations where a Cisco IP Phone will be used for local TV control and there is no need for commerce integration).

Do not change the port value.

Other fields are optional.

The Admin ID and Password are specific to this phone. You need only specify these if this phone has credentials that are unique. Otherwise, the global phone credentials are specified in the registry using the Management Dashboard. See [Setting IP Phone Passwords](#).

5. Click **Save**.

Changing the Service Type or Disabling Service on Multiple IP Phones

You can change the service type or disable StadiumVision services on multiple IP phones,

1. To select more than one IP Phone, press the Ctrl key while selecting each IP Phone. To select a consecutive group of IP Phones, press the Shift key and select the first and last desired IP Phone in the group.
2. Select the desired action: select the value for Disable or for Service Type.
3. Click **Save**.

Defining Third-Party Touch Panels

To define a third-party touch panel in StadiumVision Director:

1. On the Cisco StadiumVision Control Panel, click **Setup**.
2. On the Setup page, click **Devices > 3rd Party Remote**.
3. To add a phone, click on the + (plus sign) at the upper right of the list.

The screenshot shows the Cisco StadiumVision Control Panel interface. The top navigation bar includes 'Setup', 'Control', 'Content', 'Ticker', and 'Schedule'. Below this, there are links for 'User Management', 'Zones & Groups', 'Staging', 'Channels', 'Devices', 'Luxury Suites', 'Proof of Play', 'Template Editor', and 'Point of Sale'. The 'Devices' section is active, and the '3rd Party Remote' tab is selected. The 'Remote List' table contains two entries: 'WeiPC' with IP address '64.102.87.218' and 'yyy Phone' with IP address '10.1.7.109'. The 'Remote Details' form on the right has the following fields: '3rd Part Remote Name*' (empty), 'Description' (empty), 'IP Address*' (empty), 'Port*' (7777), 'Admin Id' (Admin), 'Admin Password' (default), 'Security Level' (99), 'Disabled' (radio buttons for Yes and No, with No selected), and 'Mac Address' (empty).

4. Under Remote Details, enter the 3rd Party Remote Name and IP Address. Other fields are optional.
5. Click **Save**.

Changing the Service Type or Disabling Service on Multiple 3rd Party Devices

You can change the service type or disable StadiumVision services on multiple third party devices,

1. To select more than one third party device, press the Ctrl key while selecting each device. To select a consecutive group of third party devices, press the Shift key and select the first and last desired device in the group.
2. Select the value for Disable.

3. Click **Save**.

Defining Luxury Suites in StadiumVision Director

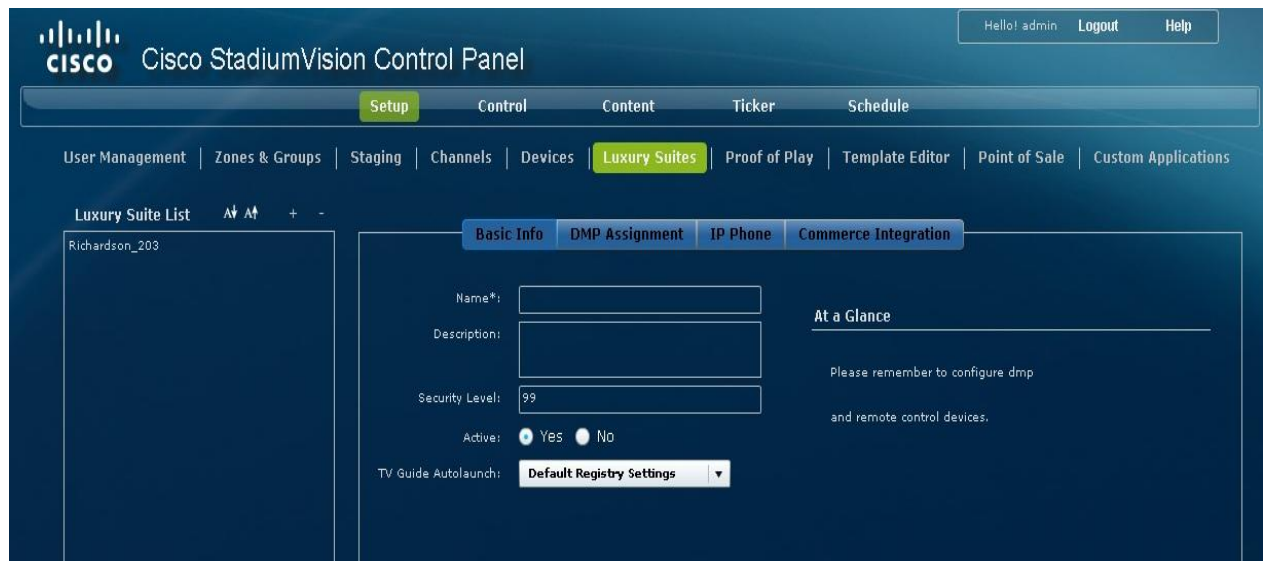
The definition of a luxury suite in StadiumVision Director includes one or more DMPs in a designated area and a Cisco IP Phone or third-party control panel for local control.

Note: Regardless of whether the designated area is a bar, club, restaurant, back office, press box, or luxury suite, it is defined in StadiumVision Director using the “Luxury Suites” tab.

Configuring Basic Information

To define a local control area (suite, bar, restaurant, club, etc.):

1. On the Cisco StadiumVision Control Panel, click **Setup**.
2. On the Setup page, click **Luxury Suites**.
3. To add a luxury suite, click on the **+** (plus sign) at the upper right of the list.



4. On the Basic Info panel, enter the Name of the luxury suite (or designated area). Optionally, you can enter a description. Leave the Security Level at 99.

Active determines whether services (such as TV control and ordering) are available in the suite. This provides a way for the venue to disable services on the phone during select events (such as preventing guests from changing channels on the TV during a concert).

TV Guide Autolaunch allows each suite to have a different TV Guide Autolaunch setting. The default is take the setting in the registry. If the suite needs a different value than the registry, set it here.

5. Click **Save**.

Assigning DMPs to the Suite

To associate one or more DMPs with a luxury suite, restaurant, club or other designated area:

1. Click **DMP Assignment**.

The screenshot shows the Cisco StadiumVision Control Panel interface. The top navigation bar includes 'Setup', 'Control', 'Content', 'Ticker', and 'Schedule'. Below this, there are links for 'User Management', 'Zones & Groups', 'Staging', 'Channels', 'Devices', 'Luxury Suites', 'Proof of Play', 'Template Editor', and 'Point of Sale'. The main content area is titled 'Luxury Suite List' and shows a list of suites on the left and a configuration panel on the right. The configuration panel has tabs for 'Basic Info', 'DMP Assignment', 'IP Phone', and 'Commerce Integration'. The 'DMP Assignment' tab is active, showing two tables: 'Assigned DMPs' and 'Available DMPs'. The 'Assigned DMPs' table has columns for 'Display Label', 'DMP', and 'IP Address'. The 'Available DMPs' table has columns for 'DMP Name' and 'IP Address'. A '<<' button is located between the two tables. A note at the bottom of the 'Assigned DMPs' table states: 'A numeric Display Label always reflects the list order. Drag and drop the DMP to change the order.' There is a 'Save' button at the bottom right of the configuration panel.

2. Select the desired DMPs from the list of Available DMPs. To select more than one DMP, press the Ctrl key while selecting each DMP. To select a consecutive group of DMPs, press the Shift key and select the first and last desired DMP in the group.
3. Click the << button. The selected DMPs will be shown in the Assigned DMP list. As an alternative, you can select and drag the desired DMPs from the Available DMPs list to the Assigned DMPs list.

The order of the DMPs in the list should reflect the order of the TVs in the local control area. The number associated with each will be used in the interface of the local TV control device to identify each TV. To change the order of the DMPs in the Assigned DMP list, simply select, drag, and drop into the correct position.

Notes:

- For luxury suites, the first DMP listed is considered the “designated TV.” This is the TV on which items are shown when placing an order if commerce integration is enabled.
 - To remove a DMP from the Assigned list, select the desired DMP and click the “-“ at the upper right of the Assigned DMPs box.
4. For each added DMP, click in the field under the **Display Label** column and enter the desired label for the TV. The label defaults to the numeric position of DMP in the list. If the DMP list is re-ordered by using drag and drop, the numeric

labels will be updated automatically. If the labels are edited to be a text label, re-ordering will not update the label.

This label will appear in the IP phone UI when a user selects TV/Volume. This label also appears on the TV when the TV identification banner is displayed.

Note: The identification banner is set in the DMP upon boot-up. Therefore, changing the label requires a restart of the DMP to take effect.

5. Click **Save**.

Notes:

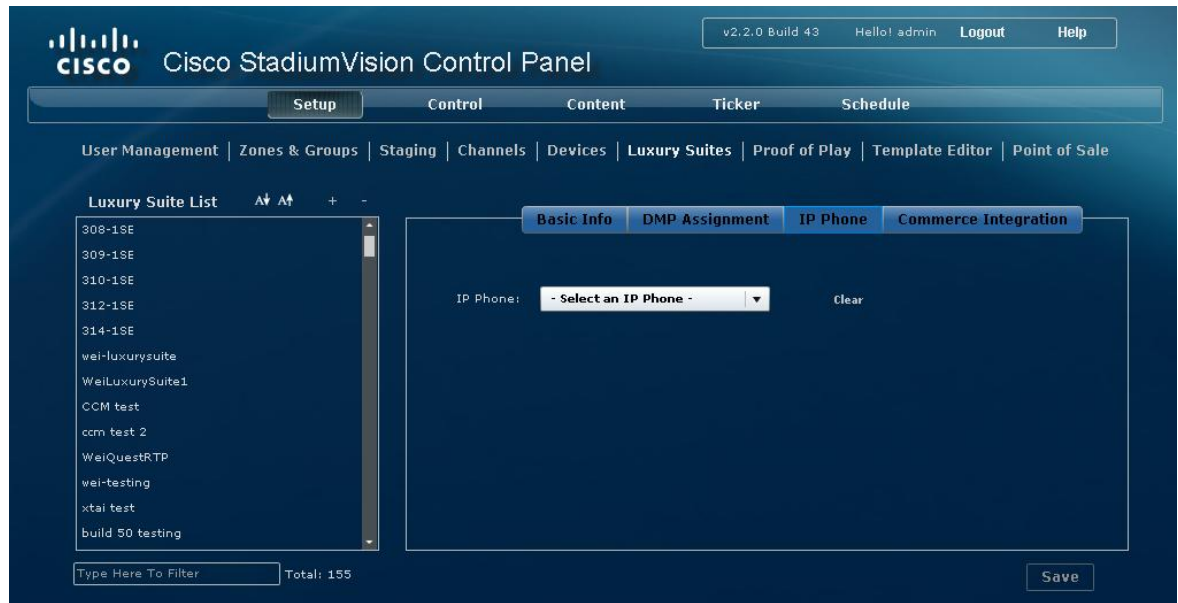
- It is recommended that you avoid assigning a DMP to multiple Luxury Suites. If a DMP is assigned to more than one Luxury Suite, it will use the Per-Area Channel Guide associated with the last Luxury Suite to which it was assigned. For example if a DMP is added to Suite 1 and then added to Suite 2, it will use the Channel Guide defined for Suite 2.
- If an IP phone is configured in StadiumVision director, but not associated with an Luxury suite, an error message is displayed on the IP phone when the user attempts to access StadiumVision services. The text of the error message is configured in the StadiumVision Director Management Dashboard Registry using the “ipPhoneError.SuiteNotFound” parameter. If you modify the content of the message, ensure that carriage returns (represented by #) are placed in the appropriate places for the message to display correctly on the IP phone.

Adding a Local Control Device

To associate a local control device with a luxury suite, restaurant, club or other designated area:

1. Click **IP Phone**.

Note: Regardless of whether a Cisco IP Phone or 3rd party device will be used for local TV control, it must be identified logically as a phone on the IP Phone panel.



2. Select the desired phone or 3rd party remote (as previously defined in the section on **Error! Reference source not found.**).
3. Click **Save**. (You may need to scroll down to see the Save button.)

Each IP phone or 3rd party device can be assigned to only one “luxury suite” (i.e. local control area). If the selected IP phone or 3rd party remote is already assigned to another luxury suite, StadiumVision Director will display a message prompting you to indicate whether you want to remove the device from the other luxury suite and re-assign it to this one.

Providing a Welcome Message on a Luxury Suite TV

Typically, a single TV in the luxury suite will initially display a welcome message. StadiumVision director provides two example welcome message graphics (shown in Example Welcome Message) in Adobe Photoshop format.

- Welcome_SV2-1366 is for use with the DMP 4305.
- Welcome_SV2-1920 is for use with the DMP 4310.

These images are located in the StadiumVision Content Developer’s Kit on the [StadiumVision Sharepoint](#) site.

Figure 11. Example Welcome Message



At a high-level, the steps to implement a welcome message on a specific TV in a luxury suite are as follows. For details on how to load content and create groups and playlists, see the *StadiumVision Content and Event Management Design and Implementation Guide*.

1. Open the supplied graphic in Adobe PhotoShop. Make modifications (as needed) and save the file as a JPEG.
2. Upload the JPEG into the StadiumVision Director content repository.
3. Place the DMPs associated with the welcome TVs in the desired luxury suites (typically one per suite) into a separate group.
4. Create a playlist using a full-screen graphic template and add the welcome message graphic to the playlist.

Note: The template used for the Welcome message must be the Full-Screen Graphic template. Do not use an Overlay template.

5. Associate the playlist with the group (created in step 3) as part of a pre-game state.

The welcome message will be displayed on the specified TV during the pre-game state until either the luxury suite guest changes the channel or there is a state change (from pre-game to in-game, for example).

Note: For information about customizing the welcome message to include a logo, see *StadiumVision Venue Customization and Transformation Best Practices*.

Defining Channel Lineup (Guide)

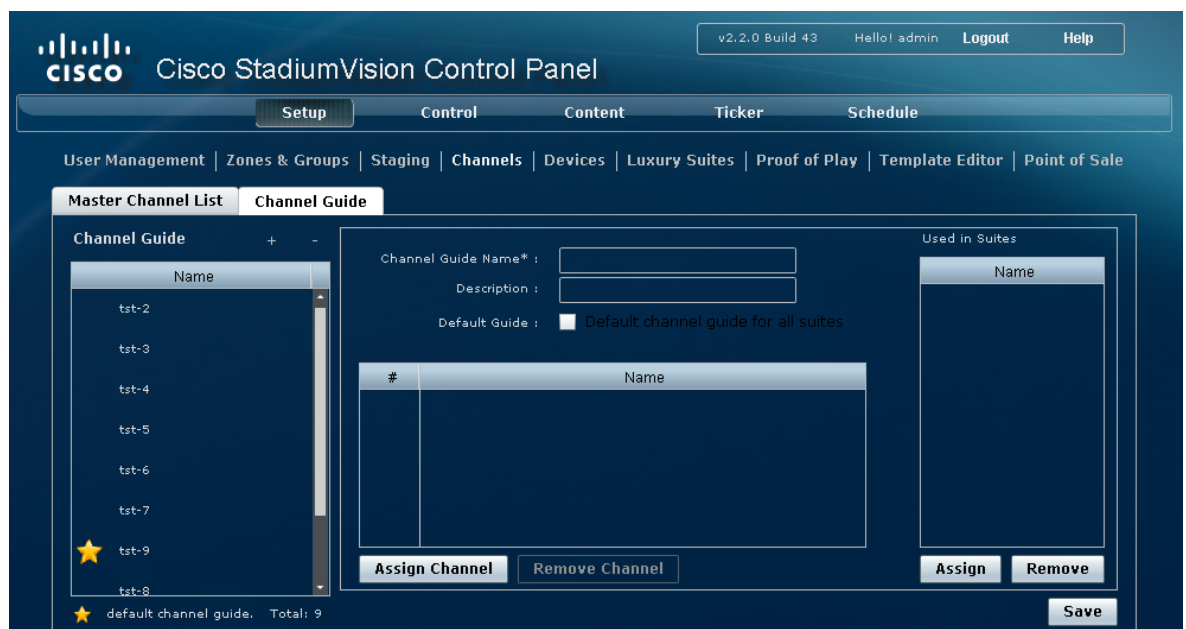
The channels that make up the channel lineup for the entire venue are defined on the Channels panel of the StadiumVision Director Setup page. The process for defining the master channel list and creating the default channel guide is described in the *StadiumVision Content and Event Management Design and Implementation Guide*.

Leveraging the venue-wide master channel list, you can create per-area channel guides, which can be assigned to one or more luxury suites. The per-area channel guides are a subset of the master channel list, meaning the channels numbers and descriptions are preserved. If a DMP is not associated with a luxury suite, bar, restaurant, or other area that supports local control, then it will use the default channel guide.

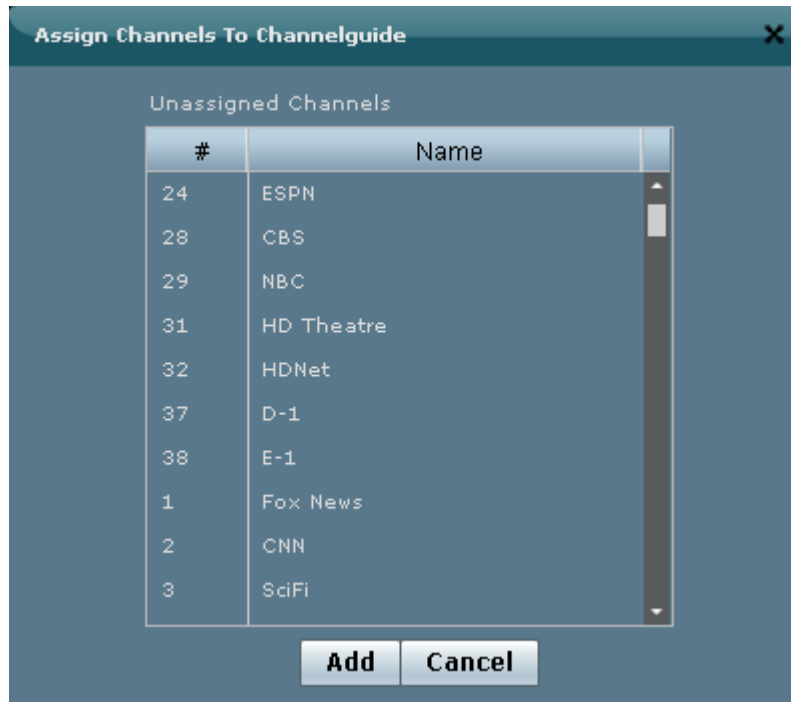
Note: If you make changes to a channel guide that is associated with an area serviced by a third-party touch panel, the third-party device must reload the latest channel guide information. Consult the third-party device integrator (AMX or Crestron) for reload options.

To create a per-area channel guide and assign it to the desired luxury suites (*after the master channel list has been created*):

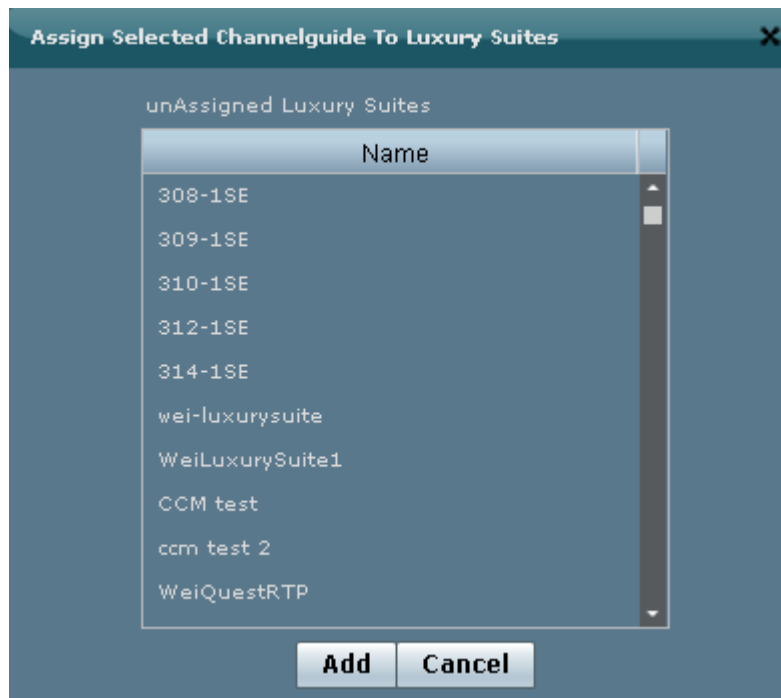
1. On the Cisco StadiumVision Control Panel, click **Setup**.
2. On the Setup page, click **Channels** and click the **Channel Guide** tab.
3. To add a channel guide, click on the **+** (plus sign) at the upper right of the list.



4. Specify the Channel Guide Name.
5. Click **Assign Channel**. The master channel list is displayed.



6. Select the desired Channels from the list. To select more than one Channel, press the Ctrl key while selecting each Channel. To select a consecutive group of Channels, press the Shift key and select the first and last desired Channel.
7. Click **Add**.
8. Click **Assign** (under the “Used in Suites” list. The list of configured Luxury Suites is displayed.



9. Select the desired Suites from the list. To select more than one Suite, press the Ctrl key while selecting each Suite. To select a consecutive group of Suite, press the Shift key and select the first and last desired Suite.
10. Click **Add**.

By default, when the channel guide is brought up on the IP Phone, it is also displayed on the selected TV(s). You can change this behavior by setting the “tvguide.autolaunch” parameter to 0 in the StadiumVision Director Management Dashboard Registry.

Using “Favorites” (Third-Party Touch Panels Only)

In addition to the channel lineup, a maximum of 10 channels can be identified as favorites, which appear on the initial video control page of the third-party touch panels.

For each channel that should be listed as a favorite:

- In the Favorite field, select **Yes**.
- In the Favorite Order field, enter a number (between 1 and 10) indicating the ordinal placement of this channel in the listing,

Work with the third-party device integrator to determine how the favorites list should be displayed on the third-party touch panels. All installations should move to access channels directly versus indirectly through the favorites mechanism.

Note: This feature will be removed in a future release.

Controlling the Behavior of the Channel Guide

The appearance and behavior of the channel guide are controlled by parameters in the StadiumVision registry.

The registry settings are as follows:

- tvGuide.ChannelSelectFullScreen

This parameter controls whether the selected channel is displayed in full-screen mode. The default is tvGuide.ChannelSelect FullScreen = 1.

- If the tvGuide.ChannelSelectFullScreen = 1 and the guide is displayed on the TV, then when a user selects a channel, the selected channel is displayed in full-screen mode on the TV.
- If the tvGuide.ChannelSelectFullScreen = 0 and the guide is displayed on the TV, then when a user selects a channel, the guide preview window will change but the user must navigate away from the channel select page (by moving to the Home Page, Display Select Page, Exit, etc.) for the selected channel to be displayed in full-screen mode on the TV.

- **tvguide.autolaunch**

This parameter controls whether the channel guide is automatically displayed on the TV when the display is selected. The default is `tvguide.autolaunch = 1`. (This will change in subsequent releases.)

- If `tvguide.autolaunch = 0`, do not automatically display the guide.
- If `tvguide.autolaunch = 1`, automatically display the guide.

NOTE: This parameter can be overridden for an individual suite at the Luxury Suite Basic Info panel in the Control Panel.

- **phoneControl.stayOnChannelSelect**

This parameter controls whether the IP Phone continues to show the channel guide after the user has made their selection. The default is `phoneControl.stayOnChannelSelect = 1`. This registry parameter must be added.

- If the `phoneControl.stayOnChannelSelect = 0`, the IP Phone will go back to previous page after the user selects a channel.
- If the `phoneControl.stayOnChannelSelect = 1`, the IP Phone will continue to display the channel guide after the user selects a channel.

The following table indicates how the settings for these three parameters interact to produce a specific behavior.

| tvguide.autolaunch | tvGuide.ChannelSelect FullScreen | phoneControl.stayOn ChannelSelect | Resulting Behavior |
|---------------------------|---|--|--|
| 0 | 0 | 1 | After display is selected, the Channel Guide appears on the IP Phone (but not on the TV). The user selects channel and channel changes on TV. If the user invokes the Guide on the IP Phone, the Guide will appear on the TV; subsequent channel selections will only change the preview window of the channel guide. Navigation away from the TV guide will be necessary for the video to return to full screen. IP phone will show channel guide page after selecting channel. |
| 0 | 1 | 1 | After display is selected, The Channel Guide appears on the IP Phone (but not on the TV). User selects channel and channel changes on TV. If the user invokes the Guide button on the IP Phone the TV Guide will appear on the TV screen; subsequent channel selections will change the selected channel to full screen. IP phone will show channel guide page after selecting channel. |
| 1 | 0 | 1 | After display is selected, The Channel Guide appears on the IP Phone (and on the TV). User selects channel and channel changes will only change the preview window of the channel guide. Navigation away from the TV guide will be necessary for the video to return to full screen. IP phone will show channel guide page after selecting channel. |

| | | | |
|---|---|---|---|
| 1 | 1 | 1 | After display is selected, the Channel Guide appears on the IP Phone (and on the TV). User selects channel and channel changes on TV Full Screen. IP phone will show channel guide page after selecting channel. |
| 0 | 0 | 0 | After display is selected, the Channel Guide appears on the IP Phone (but not on the TV). If the user invokes the Guide button on the IP Phone the TV Guide will appear on the TV screen; subsequent channel selections will change the selected channel to full screen because the phone navigation will leave the channel selection page. IP phone will go back to previous page after selecting channel. |
| 0 | 1 | 0 | After display is selected, the Channel Guide appears on the IP Phone (but not on the TV). User selects channel and channel changes on TV. If the user invokes the Guide button on the IP Phone the TV Guide will appear on the TV screen; subsequent channel selections will change the selected channel to full screen. IP phone will go back to previous page after selecting channel. |
| 1 | 0 | 0 | After display is selected, the Channel Guide appears on the IP Phone (and on the TV). User selects channel and selected channel will be full screen on TV because the phone navigation will leave the channel selection page. IP phone will go back to previous page after selecting channel. |
| 1 | 1 | 0 | After display is selected, the Channel Guide appears on the IP Phone (and on the TV). User selects channel and channel changes on TV Full Screen. IP phone will go back to previous page after selecting channel. |

To set the values of these parameters:

1. On the Advanced Tools page, click **Registry**.

The screenshot displays the Cisco Advanced Tools interface. The left sidebar shows the navigation menu with 'Registry' selected under the 'Advanced' tab. The main content area shows the configuration for the 'Registry' command. The 'Parameters' table is as follows:

| Key | Value |
|-------------------------------|-------------|
| 4305.upload.max | 1288490190 |
| 4310.upload.max | 21474836480 |
| activeDisplayTimeout | 30 |
| activeOverlayCount | 1 |
| activeOverlaying | 0 |
| allowUniformBlockingOfIPPhone | 0 |

The right sidebar contains an 'Overall Status' section with a traffic light icon, a 'Network Summary' section with various statistics, and a 'Top Alerts' section with a table.

2. Click **Load** to ensure that you are viewing the current settings.
3. Scroll through the Registry Data list to the desired parameters. **Note:** To change the phoneControl.stayOnChannelSelect parameter from its default (1), you must add the parameter using **Add Row**.
4. Click the Value field beside each parameter and enter the appropriate values.
5. Click **Apply**.

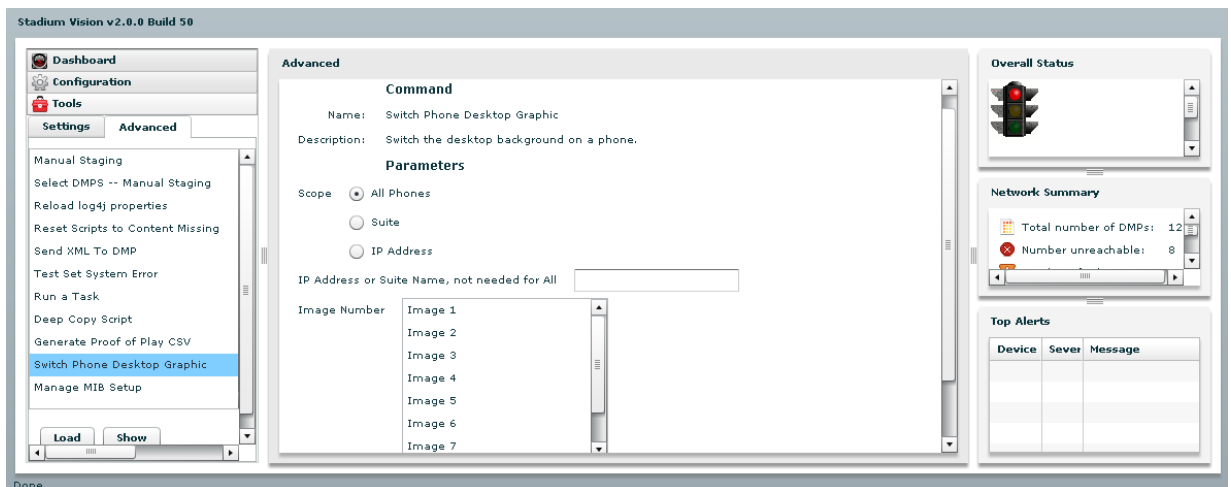
For more information about the Registry, see the *StadiumVision Director Management Dashboard User Guide*.

Changing the IP Phone Background

Once an alternative background has been loaded in CUCM (as described in the section on [Loading the StadiumVision IP Phone Desktop Graphic](#)), you can use StadiumVision Director to change the background on the Cisco IP Phone.

Note: This feature is intended to be used to change the desktop graphic to the official StadiumVision graphic. Use caution when changing the desktop graphic to any other image as the result may be undesirable.

1. On the Advanced Tools page of the Management Dashboard, click **Switch Phone Desktop Graphic**.



2. Specify the Scope.
 - If you select Suite, specify the Ext. Suite ID configured on the Setup > Luxury Suite > Commerce Integration tab. If the venue does not use commerce integration, use the IP Address parameter to narrow the scope.
 - If you select IP Address, enter the address if the IP Phone.
3. Select the desired image.

Notes:

- StadiumVision supports up to 9 images, even though the CUCM supports more.

- Image 1 is the factory-default image (which cannot be customized.) Images 2 through 9 correspond to the order of the images in the List.xml file (which is loaded into CUCM).
- The Image Number list always includes Image 1 through Image 9. The list does not change even if there is only one image in CUCM, or there are more than 9.
- If an image number is selected that is greater than the images available in the CUCM, the factory default image (Image 1) will be used.

4. Click **Apply**.

It takes approximately 10 seconds for the background switch to take effect on a single phone. Changes to multiple phones can be processed in parallel, e.g. when choosing option 'All'.

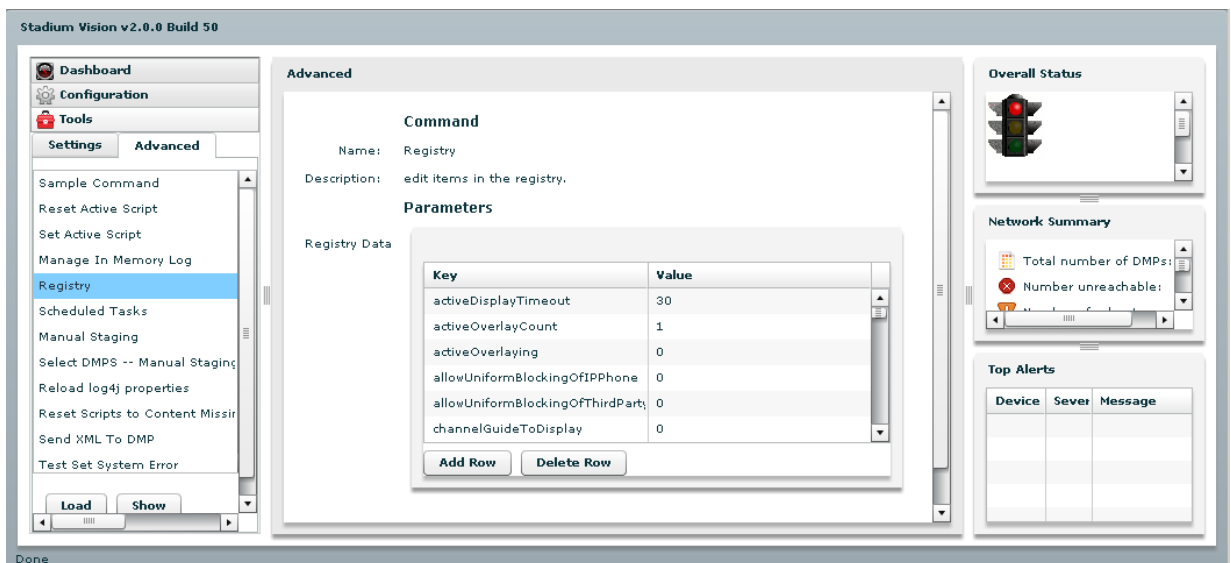
For more information about the Advanced Tools, see the *StadiumVision Director Management Dashboard User Guide*.

Adjusting IP Phone Timeout Values

When guests use the IP Phone for local TV control or ordering, if the IP Phone receives no input from the guest for a given amount of time (is idle), it returns to the home page. By default, the idle timeout is set to 30 seconds.

To change the idle timeout:

1. On the Advanced Tools page of the Management Dashboard, click **Registry**.



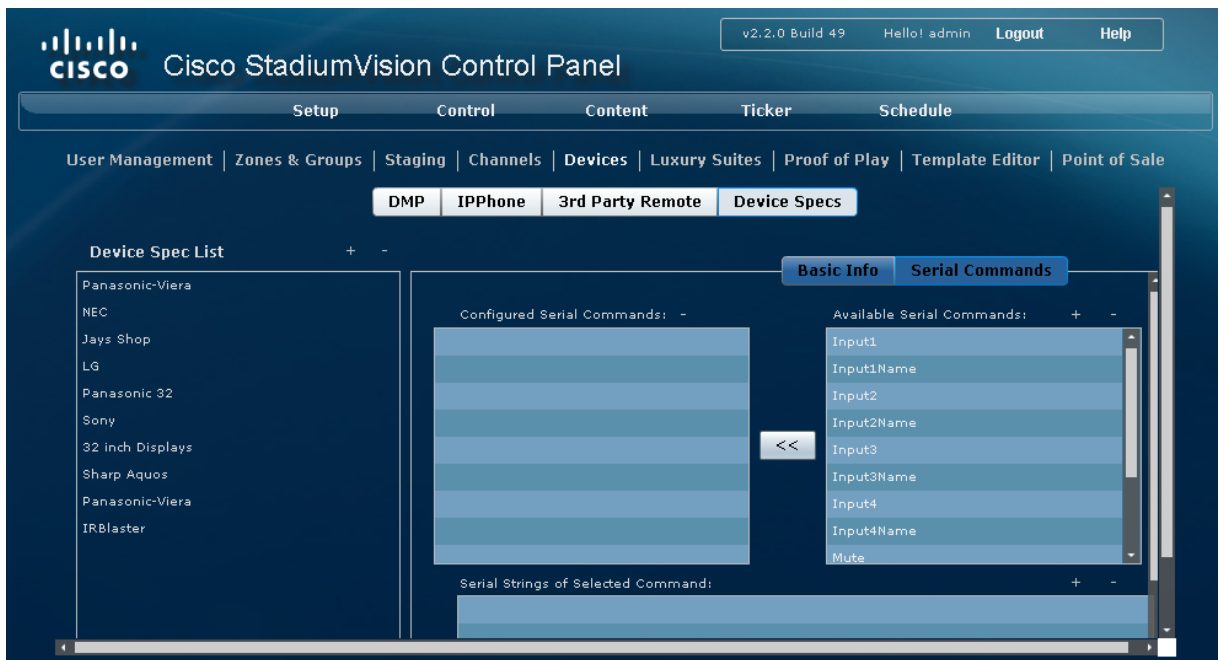
2. Click **Load** to ensure that you are viewing the current settings.
3. Scroll through the Registry Data list to **tvRefreshTime** (to modify the idle timeout for TV control) and to **orderRefreshTime** (to modify the idle timeout for ordering).
4. Click in the Value field beside each and enter the new idle timeout in seconds.
5. Click **Apply**.

For more information about the Registry, see the *StadiumVision Director Management Dashboard User Guide*.

Labeling TV External Inputs

In a luxury suite, guests can use the Cisco IP Phone to change the TV input to an external device, such as a DVD player. To make it easier for the guest to select the input, do the following to label the TV's external inputs in StadiumVision Director:

1. On the Cisco StadiumVision Control Panel, select **Setup**.
2. On the Setup page, click **Devices > Device Specs**.
3. Select the desired device (TV) and click **Serial Commands**.



4. For each desired input (1 through 4):
 - a. Select the InputxName command in the available list and click << to add it to the configured list.
 - b. Select the InputxName command in the configured list and click + at the upper right of the Serial Strings of Selected Commands. Enter the desired label, such as HDMI or Composite. This label that appear on the Cisco IP Phone when the guest selects the Advanced option.
 - c. Select the Inputx command in the available list and click << to add it to the configured list.
 - d. Select the Inputx command in the configured list and click + at the upper right of the Serial Strings of Selected Commands. Enter the appropriate RS-232 command for that input.
5. If the TV has more available inputs:

- a. Click **+** at the upper right of the Available Serial Commands box and add a corresponding command called InputxName, where x is a number that identifies the input.
 - b. Select the InputxName command in the available list and click **<<** to add it to the configured list.
 - c. Select the InputxName command in the configured list and click **+** at the upper right of the Serial Strings of Selected Commands. Enter the desired label.
 - d. Click **+** at the upper right of the Available Serial Commands box and add a corresponding command called Inputx, where x is the number that identifies the input .
 - e. Select the Inputx command in the available list and click **<<** to add it to the configured list.
 - f. Select the Inputx command in the configured list and click **+** at the upper right of the Serial Strings of Selected Commands. Enter the appropriate RS-232 command for that input.
6. Click **Save**.

Chapter 4 Operations

With regard to local TV control and ordering, once the services have been implemented, the operation is largely performed by the end user. This chapter provides information about how to use the Cisco IP Phone to access the StadiumVision services. For information about how to use a third-party device (such as AMX or Crestron), please contact the third-party integrator.

When guests arrive at their luxury suite in a venue, they should see a welcome message on one of the TVs (similar to that shown in Figure 6). It is recommended that the welcome screen instruct them to use the Cisco IP Phone to control the TVs located in their suite.

Initially, the Cisco IP Phone will display the “home” screen (as configured using the CUCM idle timer).

TV Control

In a luxury suite, the Cisco Unified IP Phone 7975 can be used to control the TVs and to place calls. It has a touch screen, softkeys (which change depending on the screen contents), a navigation pad, and a phone keypad.



- 1 Use the **touch screen** to select and control the video displays.
Use the **softkeys** to:
 - 2 Navigate
 - Perform actions on the current TV
- 3 The **navigation pad** is not used with StadiumVision.
The function of the **keypad** changes depending on the mode of the phone.
 - 4 In phone mode, you can use the keypad to dial a phone number
 - In StadiumVision Channel mode, you can use the keypad to select a channel in the line up or use the Keypad softkey and enter a channel number.
- 5 Use the line buttons to select a phone line.

Controlling TVs

To control the TVs, touch **TV/Volume**.



Notes:

- If the phone has been configured through StadiumVision Director for the “Luxury Suite” service type, the services page will show both options for TV/Volume control and for Ordering. If the phone has been configured for the “AdminOffice” service type, only the TV/Volume control option will be displayed.
- The first three speed dials configured in CUCM will appear on the services page.

Selecting a Display

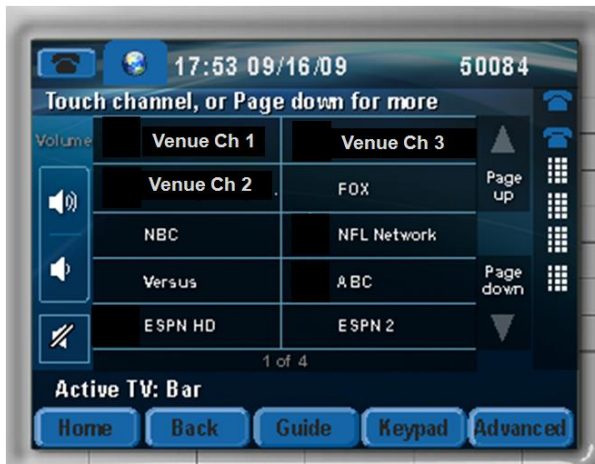
The TVs are typically identified by location. The labels are assigned in StadiumVision Director. Touch the label of the TV you want to control or touch **All**.



The labels of the TVs are configurable in StadiumVision Director on the Setup > Luxury Suites > DMP Assignments page.

Selecting a Channel

Touch desired channel or touch **Page Up** or **Page Down** to see additional channels.



The channels are listed in the order in which they are configured in StadiumVision Director on the Setup > Channels page. Note that channel icons can be included but are not shown here due to licensing restrictions.

By default, the channel guide is displayed on the selected TVs. If this feature has been disabled (through the StadiumVision Director Management Dashboard, the “Guide” softkey will be displayed (as shown above). You can touch **Guide** to view the channel guide on the associated TV. If you know the number of the channel you wish to select, simply touch the **Keypad** softkey to enter a desired channel number.

Adjusting the Volume

To adjust the volume, touch:



To increase the volume on the selected TV(s).



To decrease the volume on the selected TV(s).



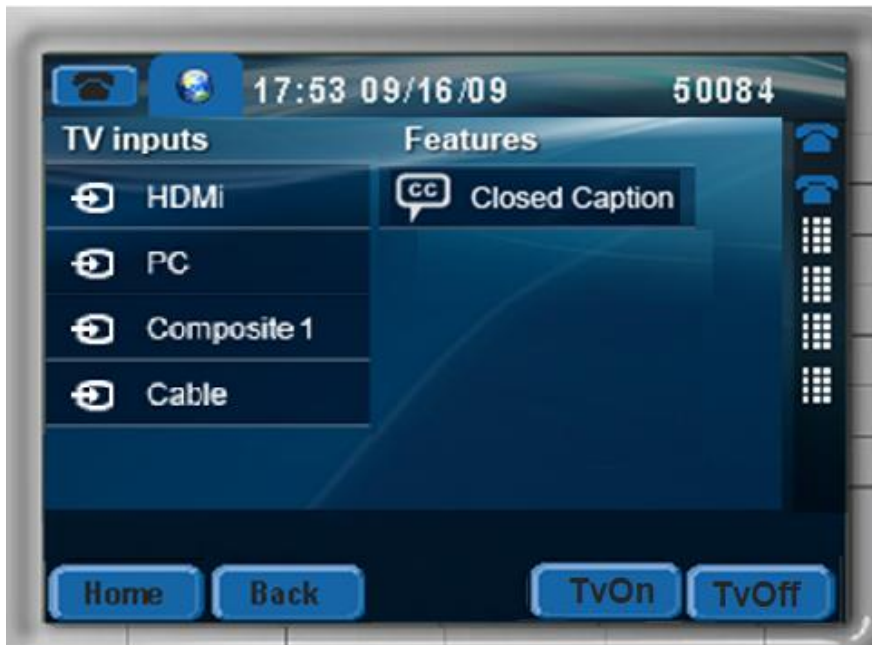
To toggle between mute and unmute on the selected TV(s).

Using Advanced Functions

In addition to channel selection and volume, the Cisco IP Phone can be used to access advanced functions provided by StadiumVision. The resulting page can vary by deployment and may contain some or all of the following.

- External Device Input - In luxury suites, there may be the need for TVs to accept input from an external device, such as a PC or DVD player. Only the available inputs are shown.
- Closed Caption - If the video feed includes closed captions, guests in the luxury suite can turn the display of these captions on or off using their Cisco IP Phone (as well as the IR Remote). Support for closed captioning requires the Cisco DMP 4310.
- Information – Reserved for future use.

To access advanced functions such as controls for external inputs and closed captioning, touch **Advanced**.




Placing A Phone Call

To place a phone call, simply pick up the handset and dial the desired number.

Alternatively, you can:

- Touch the Phone symbol on the touch screen and dial the number on the displayed touch panel.
- Touch the desired speed dial (availability may vary).



 If the suite is equipped with multiple phone lines and you wish to place a call on a line other than the primary line, simply touch the line button associated with the desired line and dial the number using the keypad.

Using Softkeys

The softkeys on the phone are located at the bottom of the touch screen and provide access to functions, which vary depending on the screen currently being displayed.

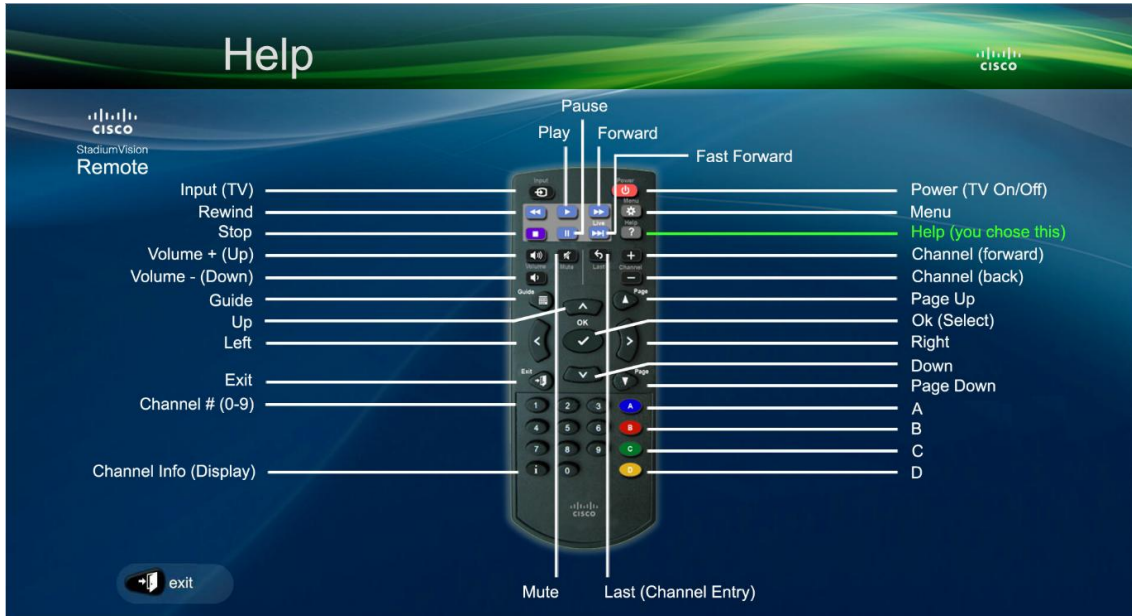
| Softkey | Function |
|----------|---|
| Advanced | Access the advanced features (external input, closed captioning) for the selected TV. |
| Guide | Display the channel guide on the designated TV. |
| Home | Return to the home screen (Display Control). |
| Keypad | Select a channel by entering a number using the keypad. |
| Cancel | Cancel your selection. |
| Mute All | Mute the volume of all the TVs. |
| TV On | Turn the power on for the selected TV(s). |
| TV Off | Turn the power off for the selected TV(s). |
| Unmute | Unmute the volume on all TVs. |

* If the ExplicitTVPower (in the StadiumVision Director registry) is set to 1, the “TV Power” soft key will be replaced with “TV Off” and “TV On” softkeys.

IR Remote

The IR remote can also be used to control the TV, similar to the TV remote in your home. The remote is designed to provide the access to the same TV control functions as the IP phone.

To see a diagram of the available functions on the remote, press the Help button. The following is displayed on the associated TV.



Chapter 5 Alternative Softkey Mapping

When an IP Phone subscribes to StadiumVision services, various softkey definitions are provided by default. As an alternative, the following softkey mappings can be used:

- The “Keypad” and “Guide” softkeys can be moved to the Advanced page, while the “TV On” and “TV Off” softkeys are moved to the Channel Selection page.
- The “Guide” softkey can be added to the Advanced page.
- The “Keypad” softkey can be added to the Display Selection page.

The alternative softkey mapping is implemented using SQL scripts. To deploy one of these scripts, enter the following at the StadiumVision Director command line:

```
mysql -u iapps iapps_1 < script_name.sql
```

The SQL scripts referenced in this section are available from the [StadiumVision Sharepoint](#) site (under StadiumVision 2.x Installation Links).

Swap the Keypad and Guide with the TV On and TV Off

By default, the softkeys on the Advanced page include Home, Back, TV On, and TV Off, as shown below:



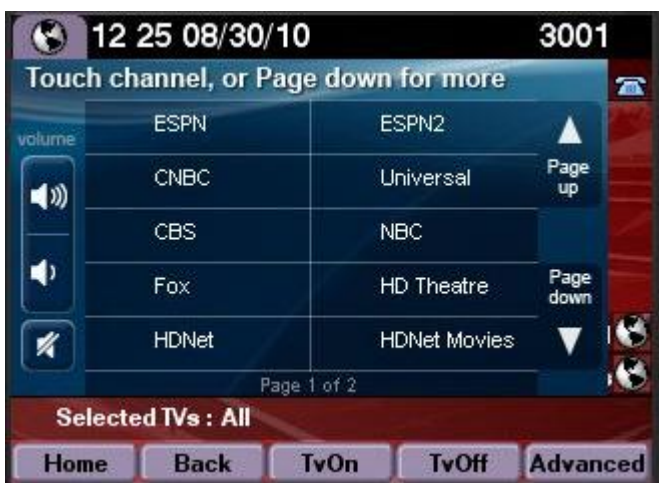
And the softkeys on the Channel Selection page include Home, Back, Guide, Keypad, and Advanced, as shown below:



Use the **NMSPhoneSoftKeys.sql** script to replace the “TV On” and “TV Off” on the Advanced page with the “Keypad” and “Guide” softkeys, as shown below:



And to replace the “Guide” and “Keypad” softkeys on the Channel Selection page with the “TV On” and “TV Off” softkeys as shown below:



Guide on Advanced Page

By default, the softkeys on the Advanced page include Home, Back, TV On, and TV Off, as shown below:



Use the **NMSPhoneSoftKeys2.sql** script to add the "Guide" softkey to the Advanced page, as shown below:



Keypad on Display Selection Page

By default, the softkeys on the Display Selection page include Home and Cancel, as shown below:



Use the **NMSPhoneSoftKeys1.sql** to add the “Keypad” softkey to the Display Selection page, as shown below:

Note: On a single TV suite, the Display Selection page



Chapter 6 Troubleshooting

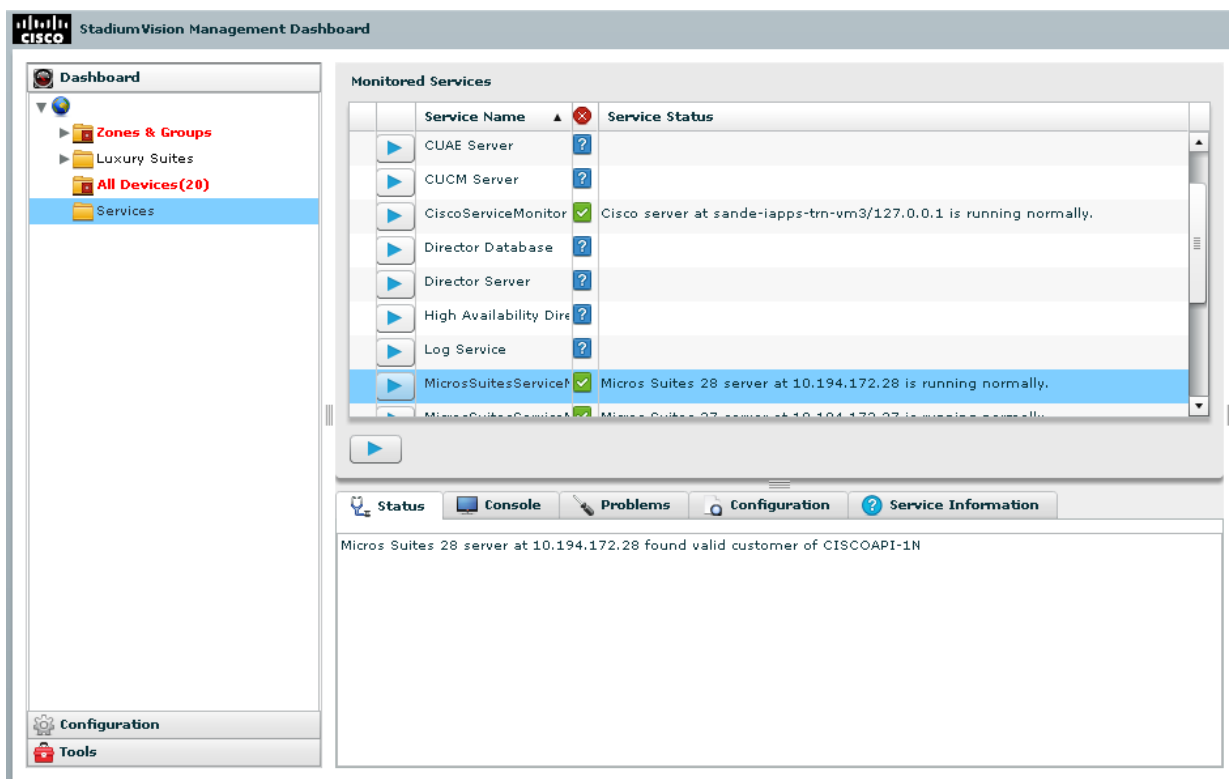
This chapter provides information about the available troubleshooting tools as well as a list of common problems and how to resolve them.

Service Monitoring

To assist in troubleshooting, StadiumVision Director allows you to monitor the services (and servers) that are used in the solution. Pertaining to the operations of luxury suites, you can monitor StadiumVision Director and the following:

- CUCM Server
- CUAE Server

To view the latest monitoring information, go to Management Dashboard > Dashboard > Services.



For more information about the service monitors, see the *StadiumVision Director Management Dashboard User Guide*

Logs

StadiumVision Director maintains activity logs which are located at /opt/apache-tomcat-6.0.18/logs. These logs contain information that may be useful in troubleshooting. Specifically, the sv_config_problems.log is designed to log configuration errors in the system.

For more information about the contents of the log and how to control what it contains, see the *StadiumVision Director Management Dashboard User Guide*.

In 2.3, you have to use the TUI to access the logs.

Common Problems

| Symptom | Possible Cause | Action |
|--|--|--|
| The Welcome screen in a luxury suite shows up on the wrong display. | The video display is configured incorrectly in StadiumVision. | Determine the IP address of the DMP either by looking at the DMP or by using a Cisco IR Remote. Assure this video display is in the correct group. |
| There is a delay when using the TV controls (volume, channel selection) and a delay in TV operation. | Either the switch port or the IP phone is not set to 100 Mbps and Full Duplex. | To set the phone to 100 Full , touch the Settings button. Select option 2, Network Configuration. Scroll down to SW Port Configuration. If SW Port Configuration says 100 Full , the problem is not with the phone settings. Touch exit until you return to the main screen. Then check and reset the switch port. If SW Port Configuration says anything other than 100 Full , touch “* * #” to unlock the configuration. Scroll down to 100 Full . Select 100 Full , save your change, and then touch the exit soft key until you are back to the main screen. Touch “* * #” again to lock the settings. If the problem does not go away, check and reset the switch port. |
| There is a delay when using the TV controls (volume, channel selection) and a delay in TV operation. | Either the switch port or the IP phone is not set to 100 Mbps and Full Duplex. | To set the phone to 100 Full , touch the Settings button. Select option 2, Network Configuration. Scroll down to SW Port Configuration. If SW Port Configuration says 100 Full , the problem is not with the phone settings. Touch exit until you return to the main screen. Then check and reset the switch port. If SW Port Configuration says anything other than 100 Full , touch “* * #” to unlock the configuration. Scroll down to 100 Full . Select 100 Full , save your change, and then touch the exit soft key until you are back to the main screen. Touch “* * #” again to lock the settings. If the problem does not go away, check and reset the switch port. |
| The channel changed automatically in a luxury suite. | There was a state change and the script for this event did not specify No change for the channel. | If this is not the desired action, go to the script for this or subsequent events and set the action to “No Change” for the channel on this display. |
| | A configuration error in StadiumVision defines a controller outside of this suite as the suite controller. | Correct the configuration so that only the controller in this suite has control over the DMPs in this suite. |

| Symptom | Possible Cause | Action |
|--|---|--|
| The IP Phone background graphic will not change. | The graphic is not loaded correctly in CUCM. | Ensure that the graphic is in the correct format and is loaded into CUCM in the correct location. See Loading the StadiumVision IP Phone Desktop Graphic . |
| | StadiumVision is unable to communicate with the IP Phone (see possible causes below). | Check /opt/apache-tomcat-6.0.18/logs/sv_dev_debug.log for errors. Look for a message similar to the following: 2010-02-23 22:57:30,659 [pool-6-thread-20] ERROR com.cisco.sv.phone.PhoneCommandCallable - PhoneCommandCallable .call - Exception occurred sending commands to 10.10.99.3 for SetImage com.cisco.sv.phone.IPPhoneCommandException: Phone Authentication error |
| | The user ID and password of the IP Phone is not correctly configured in StadiumVision Director. | Ensure that the phoneDefaultPassword and phoneDefaultUsername are correctly configured in StadiumVision Director. See Setting IP Phone Passwords. |
| | The user ID and password of the IP Phone is not correctly configured in CUCM. | Ensure that the user credentials are correctly set in CUCM. See Verifying IP Phone . |

Verifying IP Phone Credentials

If the credentials for the IP Phone are not set correctly in CUCM and in StadiumVision Director, you will not be able to change the phone background graphic or speed dials.

To configure the IP Phone credentials in CUCM:

1. In CUCM, select User Management > End User.
2. Click **Find** to list all users.
3. Click the appropriate user name. The End User Configuration window is displayed.

If the desired user is not listed, click Add New and specify the user ID, password, and last name. Click Save, the window is redisplayed.

4. Click **Edit Credentials** beside the Password field. The Credential Configuration for *userid* (Password) window is displayed.
5. Uncheck User Must Change at Next Login.
6. Click **Save**.
7. Go back to the End User Configuration window. Ensure that the user is associated with the correct IP Phone.
8. Click **Save**.

Within StadiumVision Director, there are two places where the IP Phone credentials can be specified.

- In the registry using the Management Dashboard. This is used to specify the “global credentials” for IP Phones. See [Setting IP Phone Passwords](#) for more information.
- On the Setup > Devices > IP Phone page of the Control Panel. The Admin ID and Admin Password fields on this page should only be specified if the phone has credentials that are unique from other phones. See [Defining Cisco IP Phones](#) for more information.

To verify that the credentials are set correctly, enter the following URL in a browser:

```
http://<CUCM_IP_addr>/ccmcip/authenticate.jsp?UserID=<user_ID>&Password=<password>&devicename=<device_name>
```

If the credentials are correctly, the word AUTHORIZED will display in the window.

Chapter 7 Reference

This chapter provides an overview of the components, both hardware and software, that are required in addition to StadiumVision Director to enable local TV control.

Cisco Unified Communications Manager

Cisco Unified Communications Manager is an enterprise-class IP telephony call-processing system that provides traditional telephony features as well as advanced capabilities, such as mobility, presence, preference, and rich conferencing services.

In the StadiumVision solution, CUCM provides the services that enable VoIP in the venue and also enable the Cisco IP Phone to communicate with CUAE in order to access luxury suite services, such as video control.

For more information, see the [documentation on Cisco's website](#).

Cisco Unified Applications Environment

The Cisco Unified Application Environment offers an intelligent interface with Cisco Unified Communications Manager, allowing users to develop applications that interact with IP telephony without acquiring an in-depth understanding of telephony protocols.

In the StadiumVision solution, CUAE provides the platform for enabling Video Control Services and Commerce Services on a Cisco IP Phone. It is required if a Cisco IP Phone is to be used for local TV control in a luxury suite.

For more information, see the [documentation on Cisco's website](#).

Cisco DMP 4310

The Cisco Digital Media Player is a small, flexible device used for the decoding and display of digital media, including high-definition live broadcasts, on-demand video, flash animations, text tickers, and other Web content-on digital signage displays.

In the StadiumVision solution, the DMP enables playback of various types of content in full-screen mode or in regions defined by StadiumVision Director. StadiumVision leverages the RS-232 connection of the DMP to control the state and volume of the attached TV.



For more information, see the [documentation on Cisco's website](#).

Cisco Unified IP Phone 7975G

The Cisco Unified IP Phone 7975G provides the latest advances in VoIP telephony, including wideband audio support, an integrated Gigabit Ethernet port, and a large, easy-to-read, color touch screen display for easy access to communication information and timesaving applications and features. It also accommodates Extensible Markup Language (XML) applications that take advantage of the display.

In the StadiumVision solution, the Cisco Unified IP Phone 7975 is the only phone recommended for use as a local TV control device. The StadiumVision solution leverages the color touch screen display to enable user interaction with custom applications that enable access to video control and concession services.



For more information, see the [documentation on Cisco's website](#).

Crestron

Crestron provides table-top, wireless, and wall mounted touch panels that can be used for local TV control with the StadiumVision solution.

Figure 12. Crestron Touch Panel



For more information about the how to setup and use Crestron Touch Panels, see the [documentation at the manufacturer's website](#).

AMX

AMX provides table-top, wireless, and wall mounted touch panels that can be used for local TV control with the StadiumVision solution.

Figure 13. AMX Touch Panel



For more information about the how to setup and use AMX Touch Panels, see the [documentation at the manufacturer's website](#).

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