



Planning

This section provides information about how to plan for local TV control in a Cisco Vision Director venue.

Selecting the Appropriate Control Device

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

Table 1 Selecting the Appropriate Local TV Control Device

Quantity of TVs	Example of Location	Recommended Device
1	Press box, back office	IR remote or Cisco Unified IP Phones 7975G
1-9	Luxury Suite	Cisco Unified IP Phone 7975G
>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 nine TVs. Therefore, the recommendation is to use the IP Phone in luxury suites with nine or fewer TVs.

IR Remote

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

- Can only control a single TV.
- Requires line-of-sight access to the infrared (IR) receiver of the DMP.
- Requires a Cisco Vision Alternate Device Services license.

Cisco IP Phone

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

- The Cisco IP Phone is a recommended option for luxury suites. However, if the venue uses a non-Cisco VoIP solution in the luxury suites, use a third-party touch panel for local control.
- The Cisco IP Phone can control up to 29 TVs, but the recommendation is to limit to nine. More than nine TVs will require the user to navigate through multiple pages to locate the desired TV.
- If the Cisco IP Phone is used in a suite with more than nine TVs, consider splitting the suite into two or more control areas, using a separate phone for each area.
- Only Cisco Unified IP Phone 7975G can be used as a local TV control device.
- The Cisco IP Phone requires Cisco Unified Communications Manager (CUCM).
- The Cisco IP Phone requires Cisco Vision 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 7975G option allows both the Video Management Services and Commerce Services (which enables ordering 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 nine TVs).
- Supported and tested vendors include Crestron and AMX.
- Touch panels come in many configurations including wired and wireless.
- Requires a Cisco Vision Alternate Device Services license.

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

Custom Local Control Application

Cisco Vision Director includes an API that can be used by a third-party application to perform local TV control. Permission to use this User Control API, which is currently restricted, is granted on a case-by-case basis. Partners and customers interested in leveraging this API should contact their Cisco account team and provide a brief description of plans and objectives. Once approved, API documentation will be made available.

The intent of this API is to allow customers and partners to develop their own local control apps such as tablets and smart phones. Cisco does not currently offer any apps beyond the 7975 local control app, which does not use this API. A couple of reference apps for Android and iOS, which do exist, can be demonstrated or shared as part of enabling a customer or partner in this area.

The User Control API works over HTTP or HTTPS and uses XML in POST requests and GET responses. When posting a message, client applications must set the content type to application/xml.

Note: If you are interested in developing an application for local control using the User Control API, please contact your Cisco Systems sales representative.

An app using the API must authenticate itself to Cisco Vision Director using a PIN that has been pre-provisioned on Cisco Vision Director. The PIN serves to authenticate the app and identifies the luxury suite(s) that it has been authorized to control.

The following three, distinct PIN types exist:

- **A unique permanent PIN** for each suite in order to access and control the devices within the suite. This PIN type is used for a device that is permanently assigned to a suite, like a wall-mounted tablet.
- **A temporary PIN** for each suite that changes per event script run and can be displayed on the TV. This PIN type is used for temporary devices, like suite guests using their personal smart phone for local control. Temporary PINs can be set to expire once an event is over.
- **A common master PIN** for administrative control. This PIN could be used by an administrator who needs to walk into any suite with a tablet or smart phone in hand and control any TV.

Cisco Vision Director offers a number of capabilities for managing PINs, including:

1. Scheduled auto-generation of new, temporary PINs.
2. Export PINs to a file for use by an installer or for the suite attendants to hand out to guests.
3. Display the relevant temporary PIN on the TVs in a suite, for guests in the suites.

Selecting the Appropriate Control Device

The API is best described as a RESTful web service. Functions that can be performed by an app using the API are listed below:

- The API album control capabilities for SSC include:
 - Retrieve all albums available for play on a specific player.
 - Retrieve common albums available for play on one or more players.
 - Retrieve all albums available for play on one or more players.
 - Retrieve the album play duration.
 - Set the album play duration.
 - Control album loading and unloading of content to the player.
 - Control play/pause/stop/next/previous actions of the album.
- Information capabilities include:
 - Query of which suites that can be controlled.
 - Query of all players that can be controlled.
 - Query of all players with in a suite that can be controlled.
 - Query control features that exist within all suites.
 - Query control features that exist within a specific suite.
 - Query control features that exist for all players.
 - Query control features that exist for a specific player.
 - Query A/V inputs that exist for all players.
 - Query A/V inputs that exist for a specific player.
 - Query of closed captioning capabilities of Cisco Vision Director.
 - Query the channel guide for a specific suite.
 - Query the status of all players that can be controlled.
 - Query the status of a specific player.
 - Detailed HTTP POST response messages in XML.
- Control capabilities include:
 - Power on and off of the TV.
 - Channel change to a channel within the guide.
 - Channel change up or down from the current channel in the guide.
 - Volume change to a specific value.
 - Volume change up or down from current value.
 - Mute the audio with a specific on or off.

Physical Placement

- Mute and unmute the audio with a toggle.
- Closed caption (CC) on with specific CC setting.
- Closed caption off.
- A/V input change with specific input setting.
- Show and hide of the information banner on the TV.

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. The size and physical configuration of the luxury suite will dictate how many TVs can be installed. When installing TVs, it is recommended that they be placed so 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 an attendant is the intended user of the controlling Cisco IP Phone, 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 Cisco Vision Director Solution, it is often difficult to obtain a clear line of sight to the DMP. In such cases, the IR extender may be used to achieve line of sight even though the DMP is hidden. An IR extender is included in the box with every DMP.

Software Requirements

Each option for local control has different software requirements for interaction with licensed components of Cisco Vision Director.

Table 2 Software Requirements

Option	Cisco Vision Director Control Panel	Cisco Vision Director Video Management Services	Cisco Vision Director Alternate Device Services	CUCM
Cisco IP Phone	X	X ¹		X
Third-party Touch Panel	X		X ²	
IR Remote	X		X	

For information about the supported/required software levels, see the [Cisco Vision Dynamic Signage Director Release Notes for Release 6.1](#).

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 of Local TV Control Design Guidelines

[Table 3](#) shows the deployment rules and requirements.

Table 3 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 required ■ Phone graphics loaded into Cisco Vision Director ■ 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>Customer-selected Device Integrated with User Control API</p> <ul style="list-style-type: none"> ■ Device agnostic ■ Rich, customized user interface and branding ■ Controls large number of devices <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 (Configuration Required)	<p>Cisco Vision 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>Cisco Vision Director must contain definitions for the channels:</p> <ul style="list-style-type: none"> ■ Each local channel (corresponding to a video stream from the headend) ■ 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>

Table 3 Deployment Rules

Function	Rules
Central Control and Administration (Software Required)	<p><i>Cisco Vision 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>Cisco Vision 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>Cisco Vision 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
Application Integration	<p>If Cisco IP Phone is used:</p> <ul style="list-style-type: none"> ■ Cisco Unified Communications Manager ■ Cisco Vision Director - Video Management Services <p>If third-party touch panel or User Control API is used:</p> <ul style="list-style-type: none"> ■ Cisco Vision Director - Alternate Device Services ■ See your Crestron or AMX integration partner for information on integrating the third-party touch panels. ■ See your Cisco Systems sales representative to support a customer-selected device integrated with User Control API
Video Endpoint	<ul style="list-style-type: none"> ■ 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, or balcony

Recommendations for the appropriate Crestron or AMX device should come from the integration partner. Cisco has co-developed software with both companies and tested their implementation of the API.