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User Guide

XiO Cloud®

Provisioning and Management Service

Crestron Electronics, Inc.

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Original Instructions
The U.S. English version of this document is the original instructions.
All other languages are a translation of the original instructions.

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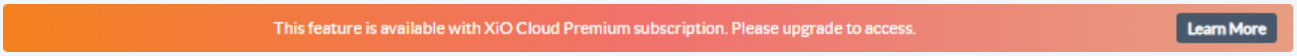
Introduction

The XiO Cloud® provisioning and management service allows all supported Crestron® devices and certain supported third-party devices across an enterprise to be managed and configured from one central, secure location in the cloud. The XiO Cloud service may be used to view the status of a device, to configure various device and network settings, to manage licenses, and to update device firmware.

> **NOTE:** Third-party device management and configuration is supported by XiO Cloud Premium subscriptions only.

The XiO Cloud service is an IoT (Internet of Things) based platform that provides the following benefits for an enterprise:

> **NOTE:** Certain XiO Cloud features are supported by an XiO Cloud Premium subscription only. The following banner is shown above XiO Cloud Premium features within accounts with free XiO Cloud subscriptions. Other items, such as premium dashboard tiles, are grayed out and cannot be selected within accounts with free XiO Cloud subscriptions.
>
> 
>
>
> For more information on XiO Cloud subscriptions, refer to How to Subscribe on page 16. For a complete list of supported features for each subscription, refer to the XiO Cloud Feature Comparison Chart.

Quick Deployment

- Configure new or replacement devices before installation
- Retrieve device settings automatically
- Drag-and-drop naming, configuration, and organization

Remote Management

- Change settings for multiple devices across the enterprise simultaneously
- Update firmware for all devices across the enterprise simultaneously
- View cloud audit logs to identify and resolve issues quickly

Instant Monitoring

- View live status of all connected devices from anywhere at any time
- Monitor device changes in real time
- No extra configuration tools are required for monitoring

Confident Evolution

- Interactive dashboards provide real-world usage data
- No programming is required for data gathering

- Optimize workplace technology experiences

For more details and additional resources, refer to https://www.crestron.com/xiocloud.

> **NOTE:** This document is current as of the XiO Cloud version 2.15 release.

> **Refer to Getting Started on page 13 for important information on using the XiO Cloud service and this document.**

What's New?

Updates to the XiO Cloud service and documentation are described below from newest to oldest (starting with XiO Cloud release 1.63).

November 20, 2026

- **XiO Cloud v2.15 Released**
  - XiO Cloud v2.15 has been released publicly. Refer to the release notes posting on the Crestron website for detailed information about this release.
- **Documentation Updates**
  - Updated Build the Environment on page 32 with information on adding, editing, and deleting custom floors for buildings in the account.

November 6, 2026

- **XiO Cloud v2.14.2 Released**
  - XiO Cloud v2.14.2 has been released publicly. Refer to the release notes posting on the Crestron website for detailed information about this release.
- **Documentation Updates**
  - Updated XiO Cloud Program Connector on page 148 with information on the new **Custom Links** card and to indicate that cards are hidden from the room if they have no signals connected to the program symbol.

October 14, 2026

- **XiO Cloud v2.14 Released**
  - XiO Cloud v2.14 has been released publicly. Refer to the release notes posting on the Crestron website for detailed information about this release.
- **Documentation Updates**
  - Updated Build the Environment on page 32 and Account Dashboard on page 163 to indicate that alerts can be generated when a room's occupancy exceeds its maximum capacity.
  - Updated Account Dashboard on page 163 to reflect UI changes to the **Room Occupancy** tile.
  - Updated XiO Cloud Program Connector on page 148 to indicate that **Quick Actions**, **Lighting Control**, and **Shades Control** buttons can now be programmed as macros or as toggles.

- Updated applicable Works with XiO Cloud on page 243 topics to add support for DM-NVX-370(C) and DM-NVX-371(C) devices.

September 25, 2026

- **XiO Cloud v2.13.3 Released**
  - XiO Cloud v2.13.3 has been released publicly. Refer to the release notes posting on the Crestron website for detailed information about this release.
- **Documentation Updates**
  - Added TS/TSW-80 series as supported devices to Remote Control on page 223.
  - Updated applicable Works with XiO Cloud on page 243 topics to add support for MPC4-302 and PC-300 devices.

August 28, 2026

- **XiO Cloud v2.13 Released**
  - XiO Cloud v2.13 has been released publicly. Refer to the release notes posting on the Crestron website for detailed information about this release.
- **Documentation Updates**
  - Updated Build the Environment on page 32 with information on improved search functionality and multiselecting devices in the group tree.
  - Updated XiO Cloud Program Connector on page 148 with information on localized date and time formatting for the **Reservation Details** card.

July 31, 2026

- **XiO Cloud v2.12 Released**
  - XiO Cloud v2.12 has been released publicly. Refer to the release notes posting on the Crestron website for detailed information about this release.
- **Documentation Updates**
  - Updated Build the Environment on page 32 with new icons for room capacity and service requests in the grouped **Rooms** tab.
  - Updated Account Dashboard on page 163 to indicate that **Hide Devices in Maintenance Mode** setting is available for individual room and group dashboards.
  - Updated Room Status Indicators on page 192 to indicate that **Service Requested** alerts can now be created.
  - Updated FAQs on page 236 with information on which conferencing devices supports the Room Call Status indicator.

- Updated applicable Works with XiO Cloud on page 243 topics to add support for DM-NAX-AP-100, MPB4/MPC4-301, TS-80 series, and TSW-80 series devices.

June 26, 2026

- **XiO Cloud v2.11 Released**
  - XiO Cloud v2.11 has been released publicly. Refer to the release notes posting on the Crestron website for detailed information about this release.
- **Documentation Updates**
  - Updated Navigate the Service on page 28 with note that multitab XiO Cloud sessions are now supported.
  - Updated Build the Environment on page 32 to reflect updated user interface for room pages, including displaying the building nickname and new program connector functions. Added section on new **Notes** tab for rooms.
  - Updated Manage Users on page 136 to reflect changes to inheritance settings for user access levels.
  - Updated Subscription Utilization on page 144 with new **Subscription Overview** status tab.
  - Updated Account Dashboard on page 163 to reflect changes to **Occupied Rooms** tile.
  - Updated XiO Cloud Program Connector on page 148 with new features and functions provided by XiO Cloud Space symbol.
  - Updated Room Status Indicators on page 192 with new room scheduling status indicator and **Service Requested** badge.
  - Updated applicable Works with XiO Cloud on page 243 topics to add support for Crestron Collab Compute, TSS-80 series, and TS(W)-1080-UC series devices.

April 24, 2026

- **XiO Cloud v2.10 Released**
  - XiO Cloud v2.10 has been released publicly. Refer to the release notes posting on the Crestron website for detailed information about this release.
- **Device Assistant App v2.5 Released**
  - The Device Assistant App v2.5 has been released publicly. Refer to the respective App Store® online store or Google Play™ online store pages for detailed information about this release.
- **Documentation Updates**
  - Updated Navigate the Service on page 28 to add information about inactivity timeout.
  - Updated Build the Environment on page 32 to reflect updated user interface for room pages, including navigational breadcrumbs. Added the ability to create a building via the Device Assistant app while adding a new room.

- Updated XiO Cloud Program Connector on page 148 based on workflow changes when adding and editing a room program. Added information about associating an HTML5 Web XPanel with rooms for custom control applications.
- Updated Room Status Indicators on page 192 with new room call status indicators.

March 20, 2026

- **XiO Cloud v2.9 Released**
  - XiO Cloud v2.9 has been released publicly. Refer to the release notes posting on the Crestron website for detailed information about this release.
- **Documentation Updates**
  - Added new two-year and three-year XiO Cloud Premium subscription licenses to How to Subscribe on page 16.
  - Updated Build the Environment on page 32 with information about setting room capacity and UI changes for displaying and editing room details. Added instructions for adding new groups and rooms via the Device Assistant app. Added new occupancy reporting states for grouped rooms.
  - Updated XiO Cloud Program Connector on page 148 with additional details about programming custom alerts.
  - Created standalone topic for Room Status Indicators on page 192 and updated details to make it generic for all room status reporting (previously was included within XiO Cloud Program Connector on page 148). Also added state for "No Occupancy Data."
  - Updated Historical Reports on page 176 with details about each space usage report.
  - Added new Intelligent Video on page 259 section to Works with XiO Cloud on page 243 with support for IV-SAM-VX2-P and IV-SAM-VX2-S devices.

February 2, 2026

- **XiO Cloud v2.8 Released**
  - XiO Cloud v2.8 has been released publicly. Refer to the release notes posting on the Crestron website for detailed information about this release.
- **Documentation Updates**
  - Updated Build the Environment on page 32 with information about the new room tabs and confirmation dialog that is shown when moving items in the group tree. Also indicated that beta devices can now be claimed into XiO Cloud.
  - Updated Manage Devices on page 104, File Library on page 196, and Load a Program to a Control System on page 212 to reflect recent UI and workflow changes.
  - Updated XiO Cloud Program Connector on page 148 to describe new status indicator icons.
  - Updated Account Dashboard on page 163 to describe the **Hide Devices in Maintenance Mode** setting for the **Device Status** tile.

December 15, 2025

- **XiO Cloud v2.7 Released**
  - XiO Cloud v2.7 has been released publicly. Refer to the release notes posting on the Crestron website for detailed information about this release.
- **Device Assistant App v2.3 Released**
  - The Device Assistant App v2.3 has been released publicly. Refer to the respective App Store® online store or Google Play™ online store pages for detailed information about this release.
- **Documentation Updates**
  - Updated Build the Environment on page 32 to remove the ability to add desk devices to groups. Updated the workflow for claiming a device via the Device Assistant app based on v2.3 changes to the user interface.
  - Updated Manage Users on page 136 to reflect that subgroups or spaces created under a parent group will now share the parent group's access level by default. Added that a confirmation dialog is now shown before resetting a user's password.
  - Updated Account Dashboard on page 163 to reflect that the **Hide Unassociated Device** setting is now shown on the **Device Status** tile without requiring it to be expanded. Unassociated devices are also now hidden from the report by default.

October 31, 2025

- **XiO Cloud v2.6 Released**
  - XiO Cloud v2.6 has been released publicly. Refer to the release notes posting on the Crestron website for detailed information about this release.
- **Documentation Updates**
  - Updated Build the Environment on page 32 to reflect the increased number of device records that can be shown per page within the grouped device status table.

October 6, 2025

- **XiO Cloud v2.5 Int 1 Released**
  - XiO Cloud v2.5 Int 1 has been released publicly. Refer to the release notes posting on the Crestron website for detailed information about this release.
- **Device Assistant App v2.2 Released**
  - The Device Assistant App v2.2 has been released publicly.
- **Documentation Updates**
  - Updated Build the Environment on page 32 and Appendix B: User Access Matrix on page 290 with the ability for standard users (admin and tech) to claim devices directly into rooms via the Device Assistant App.

- Updated XiO Cloud Program Connector on page 148 to reflect new maintenance mode icons and icon color changes.
- Updated Subscription Utilization on page 144 to reflect the ability to change between years when viewing historical subscription utilization data.

September 12, 2025

- **XiO Cloud v2.5 Released**
  - XiO Cloud v2.5 has been released publicly. Refer to the release notes posting on the Crestron website for detailed information about this release.
- **Documentation Updates**
  - Added new Getting Started on page 13 topic for users new to the XiO Cloud service.
  - Updated Build the Environment on page 32 and Appendix B: User Access Matrix on page 290 with the ability to claim devices directly into rooms and desks.
  - Updated Build the Environment on page 32 to reflect that a scheduling calendar email is now optional when adding or importing desks.
  - Updated Manage Users on page 136 with a note about how user logoff events are handled in the audit log.
  - Updated Alerts on page 183 with information about alert batching rules.
  - Updated File Library on page 196 with support for .ch5z files.

July 25, 2025

- **XiO Cloud v2.4 Released**
  - XiO Cloud v2.4 has been released publicly. Refer to the release notes posting on the Crestron website for detailed information about this release.
- **Documentation Updates**
  - Added new Subscription Utilization on page 144 topic to describe controls for managing an XiO Cloud Premium subscription utilization within the portal.
  - Updated How to Subscribe on page 16 with new email notification that is sent 90 days prior to the anniversary date of an XiO Cloud Premium subscription.
  - Updated Manage Devices on page 104 with the ability to edit scheduled actions and information about scheduling actions across grouped spaces (rooms and desks).

June 30, 2025

- **Device Assistant App v2.1 Released**
  - The Device Assistant App v2.1 has been released publicly.

- **Documentation Updates**
  - Updated Build the Environment on page 32 and Appendix B: User Access Matrix on page 290 to reflect the ability for Global Administrators to claim devices directly into rooms or groups using the Crestron Device Assistant app.
  - Added DM-NVX-385 and DM-NVX-385C to Works with XiO Cloud on page 243

June 6, 2025

- **XiO Cloud v2.3 Int 1 Released**
  - XiO Cloud v2.3 Int 1 has been released publicly. Refer to the release notes posting on the Crestron website for detailed information about this release.
- **Documentation Updates**
  - Updated Build the Environment on page 32 and Appendix B: User Access Matrix on page 290 to reflect that standard users can now claim devices into XiO Cloud via the XiO Cloud portal.
  - Updated Appendix A: Configure ServiceNow for XiO Cloud Alerts on page 273 to add information for enabling a "close ticket" delay from XiO Cloud to a ServiceNow® instance.
  - Updated Manage Users on page 136 to add support for Entra ID single sign-on integration.

May 23, 2025

- **XiO Cloud v2.3 Released**
  - XiO Cloud v2.3 has been released publicly. Refer to the release notes posting on the Crestron website for detailed information about this release.
- **Documentation Updates**
  - Updated Manage Devices on page 104 with option to select a room's time zone for scheduled actions.

May 9, 2025

- **XiO Cloud v2.2 Int 1 Released**
  - XiO Cloud v2.2 Int 1 has been released publicly. Refer to the release notes posting on the Crestron website for detailed information about this release.
- **Documentation Updates**
  - Updated Navigate the Service on page 28 with information about the **Subscription Utilization** indicator (for XiO Cloud Premium subscriptions only).

April 25, 2025

- **XiO Cloud v2.2 Released**
  - XiO Cloud v2.2 has been released publicly. Refer to the release notes posting on the Crestron website for detailed information about this release.
- **Documentation Updates**
  - Updated How to Subscribe on page 16 to summarize the different email notifications sent to the account administrator and to add new XiO Cloud Premium subscription true-up SKUs.
  - Updated Navigate the Service on page 28 with changes to **Account Info** window.
  - Updated Build the Environment on page 32 with instructions on how to claim Crestron devices using the Crestron Device Assistant app.
  - Updated Alerts on page 183 with ServiceNow® software and enable notification controls.

March 14, 2025

- **XiO Cloud v2.1 Released**
  - XiO Cloud v2.1 has been released publicly. Refer to the release notes posting on the Crestron website for detailed information about this release.
- **Documentation Updates**
  - Updated Alerts on page 183 and Account Dashboard on page 163 to add information about room-based alerts (for XiO Cloud Premium subscriptions only).
  - Added note to Historical Reports on page 176 and Account Dashboard on page 163 regarding time zone synchronization for hour-based reports.
  - Updated Log in to the Service on page 25 to reflect latest UI changes.

January 31, 2025

- **XiO Cloud v2.0 Released**
  - XiO Cloud v2.0 has been released publicly. Refer to the release notes posting on the Crestron website for detailed information about this release.
- **Documentation Updates**
  - Updated Introduction on page 1 with note XiO Cloud Premium features.
  - Updated How to Subscribe on page 16 to reflect new processes for XiO Cloud and XiO Cloud Premium subscriptions.
  - Updated Navigate the Service on page 28 to add information on **Account Info** window.
  - Updated various topics to indicate XiO Cloud Premium functionality (where applicable) and removed mention of discontinued XiO Cloud licenses.

- Removed Licensed Features topic (no longer applicable with new XiO Cloud and XiO Cloud Premium subscriptions).
- Updated Third-Party Devices on page 264 in the Works with XiO Cloud on page 243 section to remove list of supported Crestron Connected® devices (these are provided instead in the linked web app).

January 9, 2025

- **XiO Cloud v1.64 Int 1 Released**
  - XiO Cloud v1.64 Int 1 has been released publicly. Refer to the release notes posting on the Crestron website for detailed information about this release.
- **Documentation Updates**
  - Updated Build the Environment on page 32 to indicate that device IP addresses are now selectable and will navigate to the device web configuration interface in a new tab (if available).

December 20, 2024

- **XiO Cloud v1.64 Released**
  - XiO Cloud v1.64 has been released publicly. Refer to the release notes posting on the Crestron website for detailed information about this release.
- **Documentation Updates**
  - Updated Manage Devices on page 104 and XiO Cloud Program Connector on page 148 with information about the maintenance mode schedule room action.
  - Updated Log in to the Service on page 25, Manage Users on page 136, and Alerts on page 183 to reflect latest UI changes.

December 6, 2024

- **XiO Cloud v1.63 Int 1 Released**
  - XiO Cloud v1.63 Int 1 has been released publicly. Refer to the release notes posting on the Crestron website for detailed information about this release.
- **Documentation Updates**
  - Updated Log in to the Service on page 25 to reflect new login workflow.
  - Added notes to Account Dashboard on page 163 and Historical Reports on page 176 that certain data is shown only up until the end of the previous day.

November 15, 2024

- **XiO Cloud v1.63 Released**
  - XiO Cloud v1.63 has been released publicly. Refer to the release notes posting on the Crestron website for detailed information about this release.
- **Documentation Updates**
  - Added information about room scheduled actions to XiO Cloud Program Connector on page 148 and Manage Devices on page 104.
  - Added support for the DM-NVX-384(C) to Works with XiO Cloud on page 243.

Getting Started

Follow the seven steps below to get started with the XiO Cloud service.

Step 1: Register for an Account and Choose Your Subscription

The XiO Cloud service is available in a free XiO Cloud subscription (SW-XIOC) and a paid XiO Cloud Premium subscription that can be purchased in one (SW-XIOC-PREMIUM-1YR-1-99, SW-XIOC-PREMIUM-1YR-100-499, SW-XIOC-PREMIUM-1YR-500+), two (SW-XIOC-PREMIUM-2YR-1-99, SW-XIOC-PREMIUM-2YR-100-499, SW-XIOC-PREMIUM-2YR-500+), or three-year (SW-XIOC-PREMIUM-3YR-1-99, SW-XIOC-PREMIUM-3YR-100-499, SW-XIOC-PREMIUM-3YR-500+) periods. All XiO Cloud subscriptions require an XiO Cloud account registration. A new XiO Cloud account can be created when a subscription is activated, or an existing XiO Cloud account can be selected.

- Refer to How to Subscribe on page 16 for instructions on registering for an account and choosing a subscription.
- Refer to Subscription Utilization on page 144 for information on managing device usage within an XiO Cloud Premium subscription.

Step 2: Log In to the Service

Log in to the XiO Cloud service at https://portal.crestron.io. The account administrator identified in the new XiO Cloud account registration will receive an email from Crestron that provides a username and a temporary password. These credentials are used for the initial login.

- Refer to Log in to the Service on page 25 for instructions on logging in for the first time.
- Refer to Navigate the Service on page 28 for information on how to navigate the XiO Cloud user interface.
- Refer to Single Sign-On on page 142 for information on how to configure a single sign-on (SSO) identity provider with an XiO Cloud account.

Step 3: Build Your Environment

The XiO Cloud service environment consists of groups, rooms, desks, and devices. XiO Cloud administrators are able to create virtual buildings with multiple floors that represent their organization's workspaces. Once a building has been created, rooms or desks that contain devices can be added using the group tree.

NOTE: It is recommended to create a single root group that contains all other groups and spaces, as this allows global settings (such as NTP server settings) to be pushed to all devices in your account. The company name is commonly used as the title of the root group.

- Refer to Create a New Building on page 35 for instructions on creating a building address book.
- Refer to Create the Group Tree on page 40 for instructions on creating and managing groups, rooms, and desks.

Step 4: Claim Devices

Devices must be claimed into the XiO Cloud service before they can be managed. Devices can be claimed individually or as a group. Supported Crestron devices can also be claimed using the Crestron Device Assistant app. Any user (standard or admin) can claim devices into XiO Cloud using either the Crestron Device Assistant app or XiO Cloud portal.

- Refer to Works with XiO Cloud on page 243 to view all devices that are supported by the XiO Cloud service.
- Refer to Claim Devices via the Device Assistant App on page 70 for instructions on claiming devices using the Device Assistant app.
- Refer to Claim a Single Device via XiO Cloud on page 89 for instructions on claiming a single device using the XiO Cloud user interface.
- Refer to Claim Multiple Devices via XiO Cloud on page 92 for instructions on claiming multiple devices at once using the XiO Cloud user interface.

Step 5: Manage Devices

Devices may be managed via the XiO Cloud service after they have been claimed by the service and added into a group or room. Devices may be managed individually or as a group.

- Refer to Add Devices to Rooms or Desks on page 95 for instructions on adding a claimed device to a room or desk.
- Refer to Manage Devices on page 104 for information on various device management functions.

Step 6: Manage Users

Individuals in an organization can have their own login credentials to access the XiO Cloud service. The system administrator can limit a user's access to only the room or groups that they need to manage. Users can also receive custom device or room alerts that are generated from within XiO Cloud.

- Refer to Manage Users on page 136 for instructions on adding and managing users for the XiO Cloud account.

Step 7: Configure Account Settings

Global administrators can configure various account settings to get the most out of their XiO Cloud deployment.

- Refer to Alerts on page 183 for instructions on configuring alerts for devices and rooms.
- Refer to Remote Control on page 223 for instructions on configuring remote control for supported user control devices.
- Refer to Enable API Access on page 230 for instructions on enabling the XiO Cloud REST API functionality.
- Refer to Appendix A: Configure ServiceNow for XiO Cloud Alerts on page 273 for instructions on integrating your XiO Cloud account with a ServiceNow® software instance.
- Refer to Manage Support Providers on page 232 for instructions on granting account access to Authorized Support Providers.

How to Subscribe

The following sections describe how to subscribe to XiO Cloud and XiO Cloud Premium subscriptions.

Choose Your Subscription

The XiO Cloud service is available in a free XiO Cloud subscription (SW-XIOC) and a paid XiO Cloud Premium subscription that can be purchased in one (SW-XIOC-PREMIUM-1YR-1-99, SW-XIOC-PREMIUM-1YR-100-499, SW-XIOC-PREMIUM-1YR-500+), two (SW-XIOC-PREMIUM-2YR-1-99, SW-XIOC-PREMIUM-2YR-100-499, SW-XIOC-PREMIUM-2YR-500+), or three-year (SW-XIOC-PREMIUM-3YR-1-99, SW-XIOC-PREMIUM-3YR-100-499, SW-XIOC-PREMIUM-3YR-500+) periods. All XiO Cloud subscriptions require an XiO Cloud account registration. A new XiO Cloud account can be created when a subscription is activated, or an existing XiO Cloud account can be selected.

> **NOTE:** For a complete list of supported features for each subscription, refer to the XiO Cloud Feature Comparison Chart.

- The free XiO Cloud subscription allows enterprises to provision, monitor, and manage Crestron devices across virtual rooms and desks that represent their physical spaces. It also provides support for user management, cloud activity logs, alerts, and file libraries, as well as some limited dashboard and API functionality.
- The XiO Cloud Premium subscription provides all the functionality of the free XiO Cloud subscription with additional support for third-party device management (including via the Crestron XiO Cloud™ Gateway software), historical reports, program connector functionality, touch screen remote control, ServiceNow® software integration, full dashboard and API functionality, and more.

The XiO Cloud Premium subscription uses a device-based licensing model: purchase a specified device count based on the anticipated number of devices in your XiO Cloud account. If an account exceeds the budgeted device count over the course of the year, a true-up process is provided that allows you to purchase and adjust the device count either proactively (SW-XIOC-PREMIUM-TRUE-UP) or retroactively (SW-XIOC-PREMIUM-TRUE-UP-1-99, SW-XIOC-PREMIUM-TRUE-UP-100-499, and SW-XIOC-PREMIUM-TRUE-UP-500+) to reflect your increased device usage. This model allows enterprises to be flexible with their XiO Cloud deployment based on changing business or space usage needs while avoiding any down time for new devices.

> **NOTE:** XiO Cloud accounts can only have one subscription type at a time.

The following table provides an overview of the XiO Cloud Premium subscription licenses. For more information, including pricing, visit the product pages by selecting the appropriate link in the table.

License	Model/SKU #	Description
SW-XIOC-PREMIUM-1YR-1-99, SW-XIOC-PREMIUM-2YR-1-99, SW-XIOC-PREMIUM-3YR-1-99	3002322, 3002382, 3002385	One, two, or three-year XiO Cloud Premium subscription for accounts with 1 to 99 total devices. Subscription is priced and purchased based on device count.
SW-XIOC-PREMIUM-1YR-100-499, SW-XIOC-PREMIUM-2YR-100-499, SW-XIOC-PREMIUM-3YR-100-499	3002324, 3002383, 3002386	One, two, or three-year XiO Cloud Premium subscription for accounts with 100 to 499 total devices. Subscription is priced and purchased based on device count.
SW-XIOC-PREMIUM-1YR-500+, SW-XIOC-PREMIUM-2YR-500+, SW-XIOC-PREMIUM-3YR-500+	3002325, 3002384, 3002385	One, two, or three-year XiO Cloud Premium subscription for accounts with 500 or more devices. Subscription is priced and purchased based on device count.
SW-XIOC-PREMIUM-TRUE-UP	3002326	Device count true-up for XiO Cloud Premium subscriptions. Can be applied proactively to increase device count at any time during a subscription term. For more information, refer to the Crestron XiO Cloud Premium True-Up Guide.
SW-XIOC-PREMIUM-TRUE-UP-1-99	3002332	Device count true-up for XiO Cloud Premium subscriptions with 1 to 99 total devices. Applied retroactively upon receipt of a true-up statement for the device count usage within the past year. For more information, refer to the Crestron XiO Cloud Premium True-Up Guide.
SW-XIOC-PREMIUM-TRUE-UP-100-499	3002333	Device count true-up for XiO Cloud Premium subscriptions with 100 to 499 total devices. Applied retroactively upon receipt of a true-up statement for the device count usage within the past year. For more information, refer to the Crestron XiO Cloud Premium True-Up Guide.
SW-XIOC-PREMIUM-TRUE-UP-500+	3002334	Device count true-up for XiO Cloud Premium subscriptions with 500 or more devices. Applied retroactively upon receipt of a true-up statement for the device count usage within the past year. For more information, refer to the Crestron XiO Cloud Premium True-Up Guide.

Free XiO Cloud Subscriptions

Authorized resellers and end users can request a free XiO Cloud subscription directly through the Licensing and Registration Hub.

1. Within the hub, select the **Crestron XiO Cloud** tab (open by default), and then expand the **New Account Registration & Licensing** accordion.
2. Select **See the Form** to open the **XiO Cloud Account Registration** form.
3. Select **New** or **Existing** from the **XiO Cloud Account** drop-down menu depending on whether a new or existing account will be used for the subscription.
4. Select **Subscribe to free XiO Cloud service** from the **Registration Type** drop-down menu.
5. Enter all other required information in the appropriate fields.
6. Agree to the **Crestron License Agreement** and **Privacy Statement Regarding Internet Data Collection** by filling the check boxes.
7. Select **Submit** at the bottom of the form.

The form is submitted directly to Crestron, who initiates creating the account. The account administrator receives the new account information via email, including account credentials and a temporary password.

XiO Cloud Premium Subscriptions

Authorized resellers can purchase new XiO Cloud Premium subscriptions or renew existing subscriptions directly through Crestron. Existing subscriptions can also be upgraded to increase the device count.

> **NOTE:** Crestron does not automatically activate renewals for XiO Cloud subscriptions. The authorized reseller must submit a purchase order and an updated XiO Cloud registration form to activate or renew the subscription, pending verification by Crestron. For more information, refer to Renew Existing XiO Cloud Premium Subscriptions on page 20.

New XiO Cloud Premium Subscriptions

To purchase a new XiO Cloud Premium subscription:

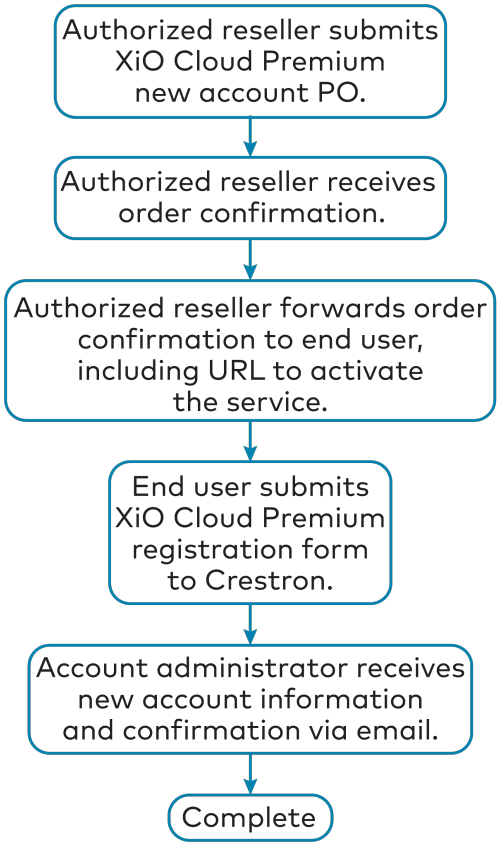
> **NOTE:** XiO Cloud Premium subscriptions can be purchased with a maximum term of three years.

1. The authorized reseller submits a purchase order (PO) for the subscription to orders@crestron.com (US), eurorders@crestron.com (EU), asiaorders@crestron.com (ASIA), or anzorders@crestron.com (ANZ) **Include the following information in the PO to avoid ordering delays:**
    - Specify that the order is for a new XiO Cloud Premium subscription
    - End user and project name (for reference)
    - Expected device count
    - Subscription term (in years)
2. The authorized reseller receives an order confirmation along with a link to the Licensing and Registration Hub.
3. The authorized reseller forwards the order confirmation to the end user, including the request to complete the XiO Cloud registration form.

    > **NOTE:** The end user must provide a PO number or Crestron Sales Order number from the authorized reseller as part of the activation process.

4. The end user completes the XiO Cloud registration form as follows when they are ready to activate the subscription:
    a. Within the hub, select the **Crestron XiO Cloud** tab (open by default), and then expand the **New Account Registration & Licensing** accordion.
    b. Select **See the Form** to open the **XiO Cloud Account Registration** form.
    c. Select **New** or **Existing** from the **XiO Cloud Account** drop-down menu depending on whether a new or existing account will be used for the subscription.
    d. Select **Subscribe to paid XiO Cloud Premium service** from the **Registration Type** drop-down menu.
    e. Enter all other required information in the appropriate fields.
    f. Enter the **Purchase Order or Crestron Order Number** as provided by the dealer.
    g. Agree to the **Crestron License Agreement** and **Privacy Statement Regarding Internet Data Collection** by filling the check boxes.
    h. Select **Submit** at the bottom of the form.
5. The form is submitted directly to Crestron, who initiates creating the account.
6. The account administrator receives the new account information via email, including account credentials and a temporary password.

Refer to the following process diagram for an overview on how to order new XiO Cloud Premium subscriptions.



Renew Existing XiO Cloud Premium Subscriptions

To renew existing XiO Cloud Premium subscriptions:

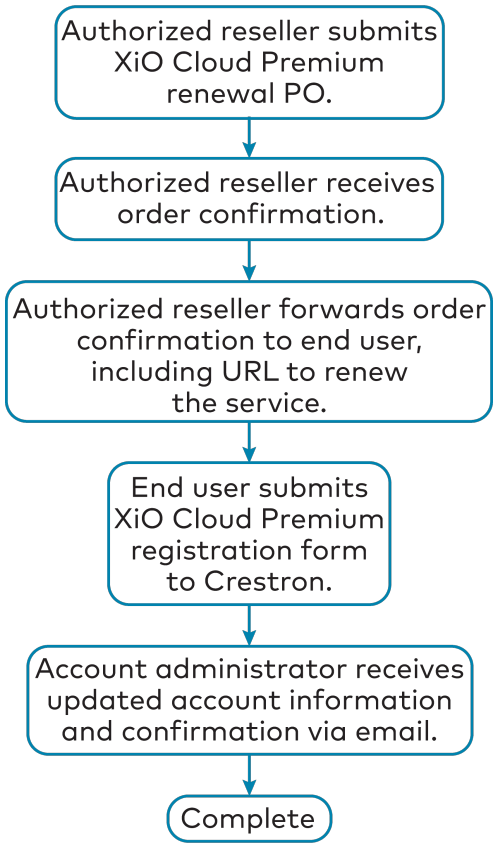
> **NOTE:** XiO Cloud Premium subscriptions can only be renewed within six months of the subscription end date.

1. The authorized reseller submits a purchase order (PO) for the subscription to orders@crestron.com (US), ceurorders@crestron.com (EU), asiaorders@crestron.com (ASIA), or anzorders@crestron.com (ANZ) **Include the following information in the PO to avoid ordering delays:**
    - Specify that the order is to renew an existing XiO Cloud Premium subscription
    - End user and XiO Cloud account name (for reference)
    - Expected device count (to be verified by Crestron)
    - Subscription term (in years)
2. The authorized reseller receives an order confirmation along with a link to the Licensing and Registration Hub.
3. The authorized reseller forwards the order confirmation to the end user, including the request to complete the XiO Cloud registration form.

> **NOTE:** The end user must provide a PO number or Crestron Sales Order number from the authorized reseller as part of the activation process.

4. The end user completes the XiO Cloud registration form as follows when they are ready to renew the subscription:
    a. Within the hub, select the **Crestron XiO Cloud** tab (open by default), and then expand the **New Account Registration & Licensing** accordion.
    b. Select **See the Form** to open the **XiO Cloud Account Registration** form.
    c. Select **Existing** from the **XiO Cloud Account** drop-down menu.
    d. Select **Renew XiO Cloud Premium Subscription** from the **Registration Type** drop-down menu.
    e. Enter all other required information in the appropriate fields.
    f. Agree to the **Crestron License Agreement** and **Privacy Statement Regarding Internet Data Collection** by filling the check boxes.
    g. Select **Submit** at the bottom of the form.
5. The form is submitted directly to Crestron, who initiates the renewal process.
6. The account administrator receives their updated account information via email, including the total device count and updated expiration date.

Refer to the following process diagram for an overview on how to renew XiO Cloud Premium subscriptions.



Increase Device Count for XiO Cloud Premium Subscriptions

End users can add more devices to their account before the end date of their subscription term. Crestron strongly recommends working with our Licensing team (license@crestron.com) to accurately determine what should be ordered based on the end user's account and needs.

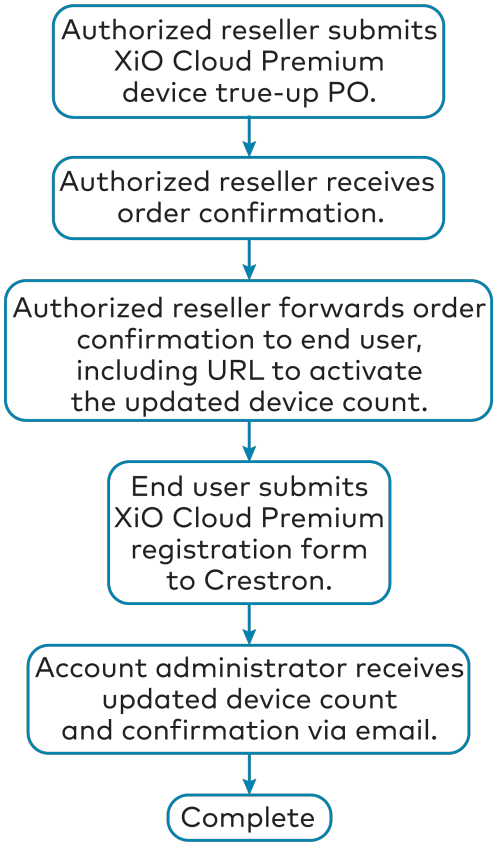
To increase the device count for XiO Cloud Premium subscriptions:

1. The authorized reseller submits a purchase order (PO) for the subscription to orders@crestron.com (US), ceurorders@crestron.com (EU), asiaorders@crestron.com (ASIA), or anzorders@crestron.com (ANZ) **Include the following information in the PO to avoid ordering delays:**
    - Specify that the order is to increase the device count for an existing XiO Cloud Premium subscription
    - End user and XiO Cloud account name (for reference)
    - Updated device count
2. The authorized reseller receives an order confirmation along with a link to the Licensing and Registration Hub.
3. The authorized reseller forwards the order confirmation to the end user, including the request to complete the XiO Cloud registration form.

    > **NOTE:** The end user must provide a PO number or Crestron Sales Order number from the authorized reseller as part of the activation process.

4. The end user completes the XiO Cloud registration form as follows when they are ready to increase their device count:
    a. Within the hub, select the **Crestron XiO Cloud** tab (open by default), and then expand the **New Account Registration & Licensing** accordion.
    b. Select **See the Form** to open the **XiO Cloud Account Registration** form.
    c. Select **Existing** from the **XiO Cloud Account** drop-down menu.
    d. Select **Increase Device Count for XiO Cloud Premium Subscription** from the **Registration Type** drop-down menu.
    e. Enter all other required information in the appropriate fields.
    f. Agree to the **Crestron License Agreement** and **Privacy Statement Regarding Internet Data Collection** by filling the check boxes.
    g. Select **Submit** at the bottom of the form.
5. The form is submitted directly to Crestron, who confirms the provided information and then initiates increasing the device count for the remainder of the subscription term.
6. The account administrator receives their updated account information via email, including the new device count.

Refer to the following process diagram for an overview on how to increase the device count for XiO Cloud Premium subscriptions.



Email Notifications

The XiO Cloud renewal contact or global administrator will receive email notifications in the following scenarios:

- New free XiO Cloud subscription has been obtained
  - An email is sent welcoming the end user to the XiO Cloud service and explaining that all devices in the account will receive a free 60-day trial period for XiO Cloud Premium features.
- New or renewed XiO Cloud Premium subscription has been obtained
  - An email is sent welcoming the end user to the XiO Cloud service, summarizing their device count and subscription term, and explaining the true-up process that occurs on the subscription anniversary date.

- Total device usage has reached 90%, 100%, or 110% of the budgeted device count for an XiO Cloud Premium subscription

  OR

  It is 90 days prior to the subscription anniversary date and the total device usage exceeds 90% of the budgeted device count

  - An email is sent notifying the end user of their budgeted device count, total device usage, and subscription anniversary date. The email also summarizes options for increasing the end user's device count.
- True-up statement is triggered when, at the anniversary date of an XiO Cloud Premium subscription, the end user's device usage has exceeded their device count by 10% or less and there are additional years remaining in their XiO Cloud subscription term

  OR

  True-up statement is triggered when, at the anniversary date of an XiO Cloud Premium subscription, the end user's device usage has exceeded their device count by greater than 10%

  - An email is sent with true-up statement and provides the end user with options for adjusting or increasing their device count via the true-up process.
- True-up adjustments have not been applied within 30, 45, or 60 days of the true-up statement for an XiO Cloud Premium subscription
  - An email is sent reminding the end user to complete their true-up adjustments to avoid service interruptions.
- XiO Cloud Premium subscription is expiring soon
  - Emails are sent periodically before the expiration date to remind the end user to renew their subscription.
- XiO Cloud Premium subscription has expired
  - An email is sent explaining that the XiO Cloud Premium subscription has been downgraded to a free XiO Cloud subscription and providing information about purchasing a new XiO Cloud Premium subscription.

Log in to the Service

A registered XiO Cloud account is required to use the XiO Cloud service. To register for an account, visit www.crestron.com/Support/Tools/Licensing-Registration/XiO-Account-Registration.

The account administrator identified in the new XiO Cloud account registration will receive an email from Crestron that provides a username and a temporary password. These credentials are used for the initial login.

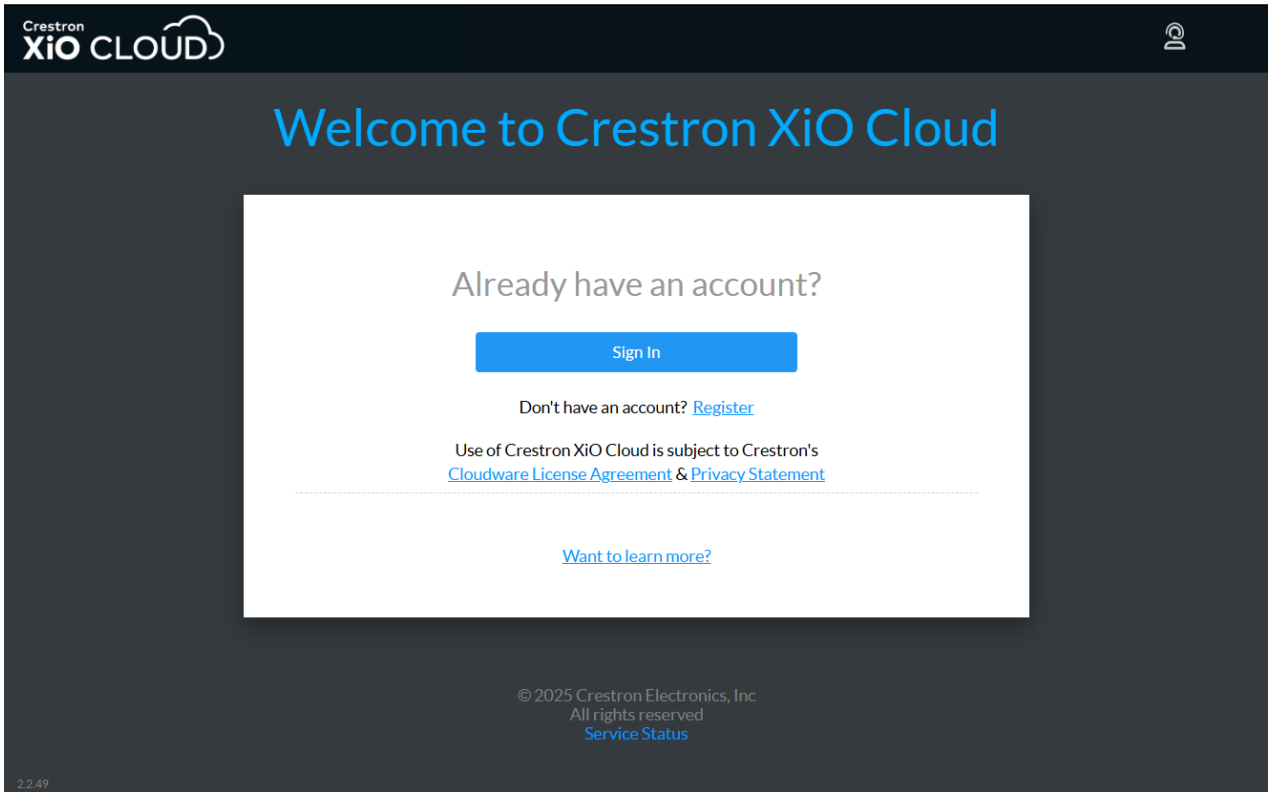
> **NOTE:** Users registered with a single sign-on (SSO) identity provider will receive their login credentials from their provider instead. For more information on configuring SSO with XiO Cloud, refer to Single Sign-On on page 142.

Additional users are added from within the XiO Cloud service. For information about managing, adding, and deleting users, refer to Manage Users on page 136.

To log in to the XiO Cloud service:

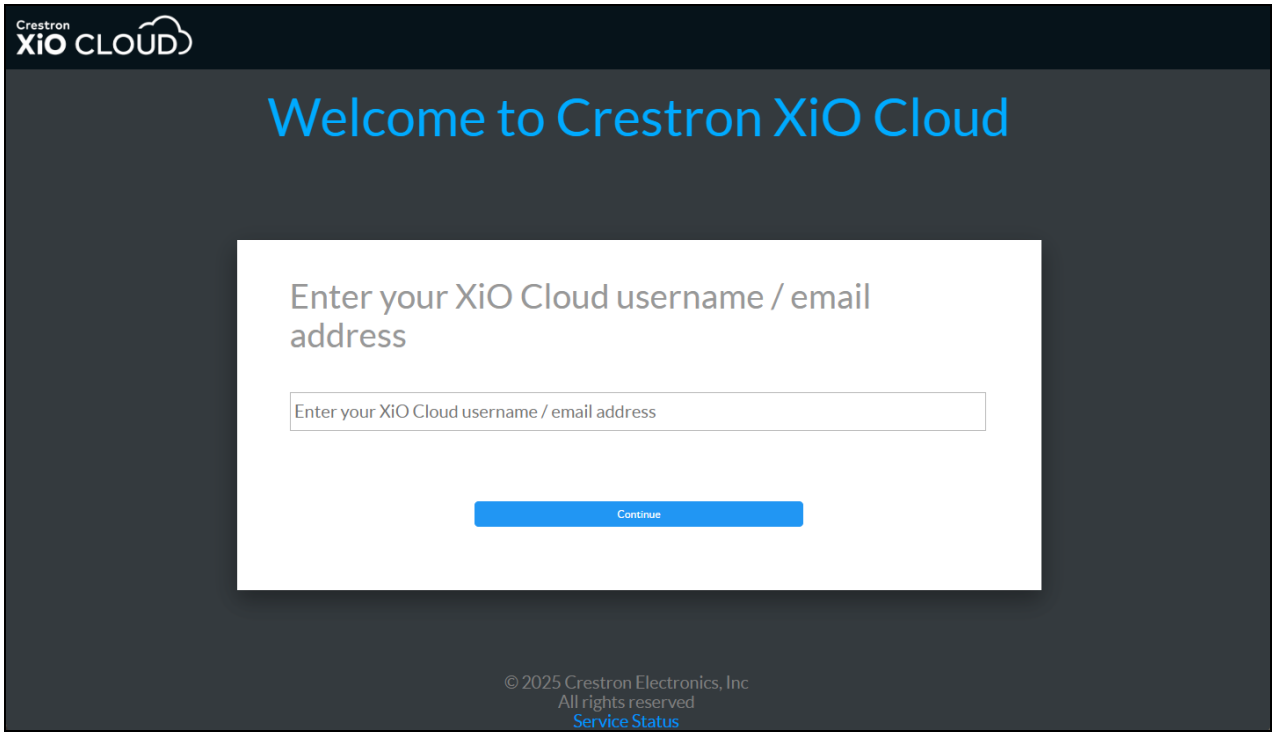
1. Navigate to https://portal.crestron.io. The XiO Cloud landing page is displayed.

   XiO Cloud Landing Page



2. Select **Sign In**. A page for entering login credentials is displayed.

Login Credentials Page

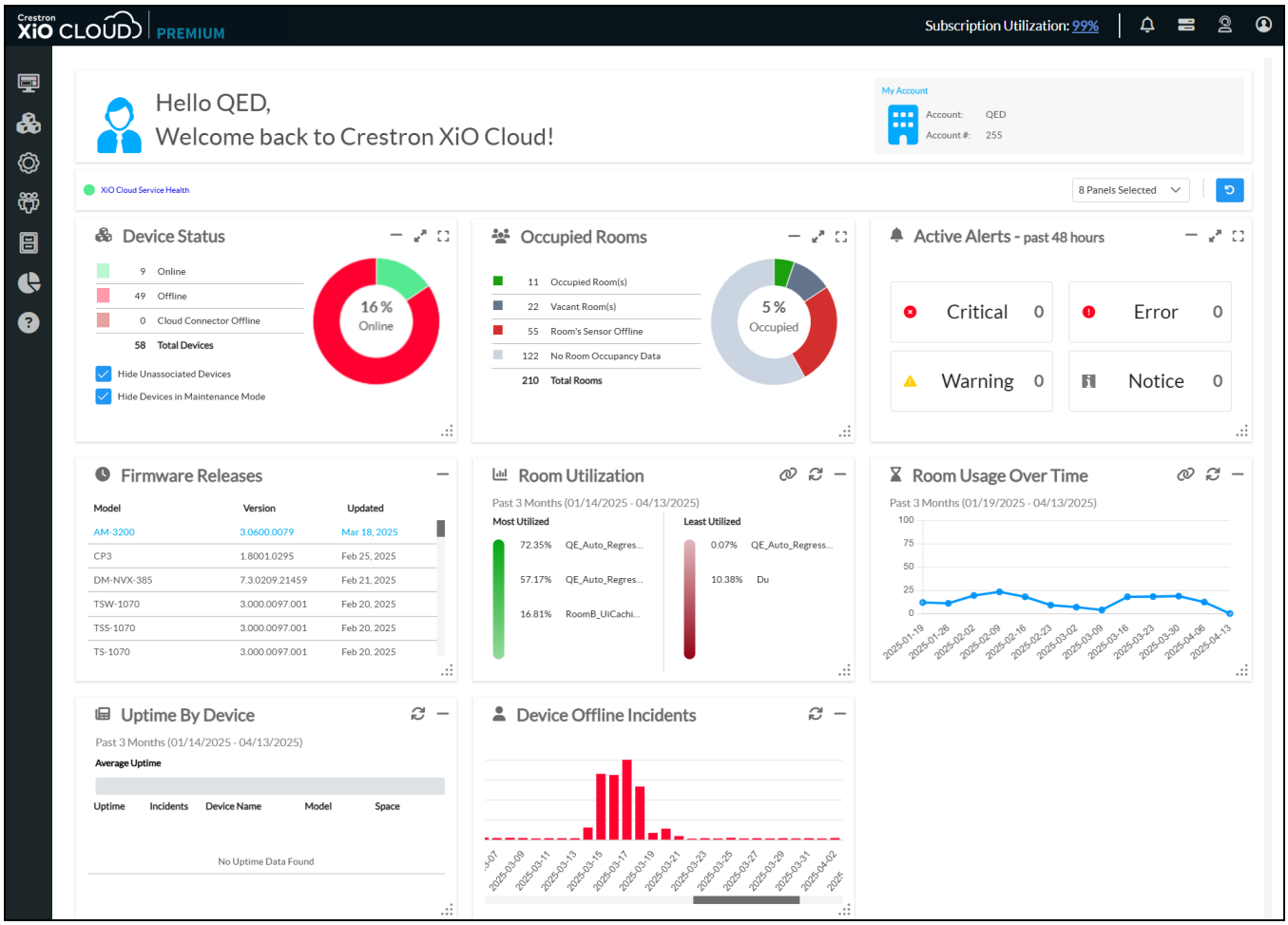


3. Enter your user name or email address (provided in the welcome email) in the text field, and then select **Continue**.

You are redirected to your identity provider to enter your login credentials. Crestron accounts will be directed to a Microsoft® Azure® service page for entering login credentials. Crestron uses Microsoft Azure services to manage login credentials for the highest level of enterprise security.

After logging into a Crestron account for the first time, you are asked to change your password. You then are asked to secure your account using two-factor authentication (or a similar method).

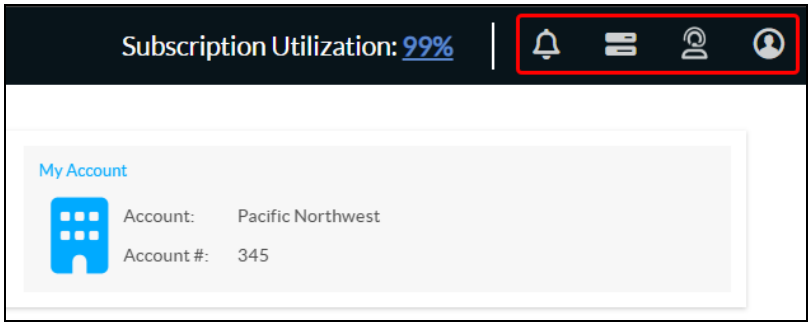
XiO Cloud Service Dashboard Page (showing XiO Cloud Premium Subscription)



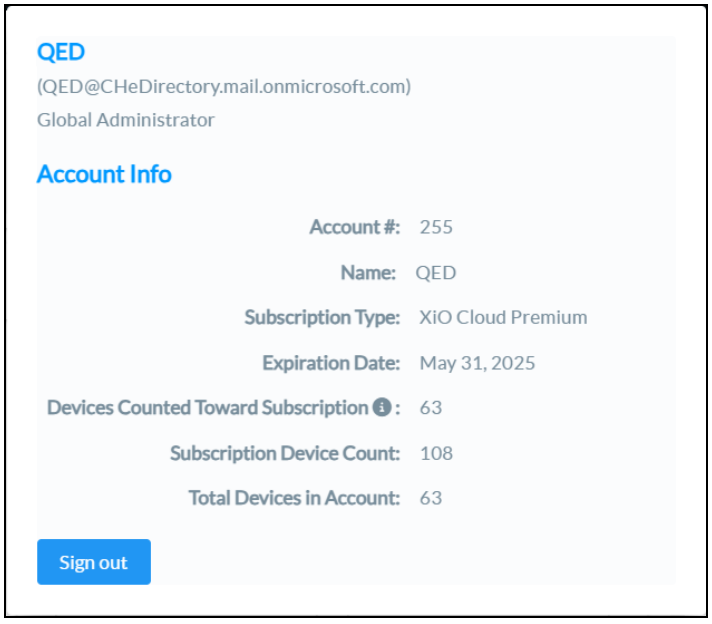
Navigate the Service

The XiO Cloud service provides the following informational controls on the top right of the page.

Informational Controls



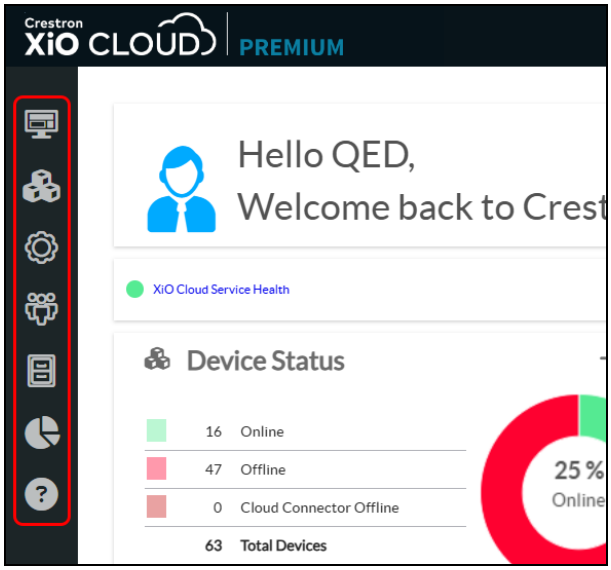
- Select the alerts button to display recent What's New messages for the XiO Cloud account. For more information, refer to What's New Message on page 143.
- Select the progress tracker button to display progress status for tasks initiated within the XiO Cloud service. For more information, refer to Progress Tracker on page 31.
- Select the support button to display options for contacting Crestron True Blue support via email or phone.
- Select the profile button to display the **Account Info** window.



- The **Account Info** window provides the following information about the account:
  - The account number, name, subscription type, and expiration date.
  - The subscription device count, claimed devices that count toward the subscription, and total claimed devices (for XiO Cloud Premium subscriptions only), which can be used to determine whether a true-up will be required. For more information, refer to How to Subscribe on page 16 and Subscription Utilization on page 144.
  - Controls to sign out of the account.

The XiO Cloud service also provides a navigation menu on the left of the page. The navigation menu is used to access the primary functions of the service.

Navigation Menu



The following navigation controls are provided:

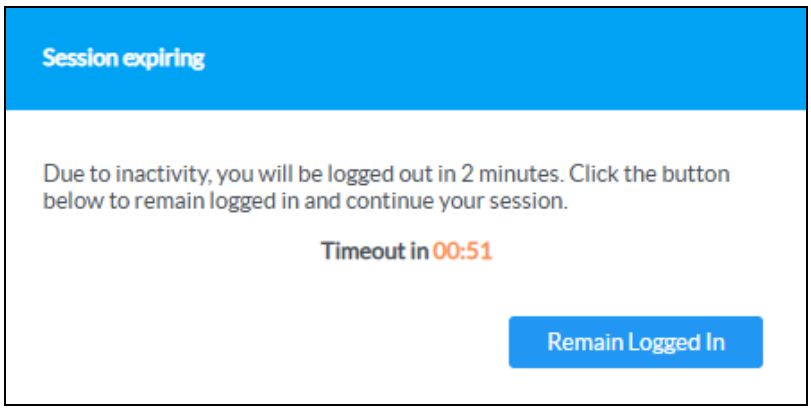
- Select the **Home** button to access the account dashboard page. The home page is displayed by default after logging into the service.
- Select the **Groups** button to access the group tree, which contains all groups, rooms, and devices in the account.
- Select the **Settings** button to access account settings and to manage alerts.
- Select the **Users** button to view and manage account users.
- Select the **File Upload** button to view and manage uploaded files.
- Select the **Historical Reports** button to generate reports for various data sets within the account (for XiO Cloud Premium subscriptions only).
- Select the **Help** button to view documentation for getting started with the XiO Cloud service.

Certain navigation controls show an expanded menu when selected. For example, selecting the **Groups** button shows the group tree in the expanded menu.

- Expanded menus can be collapsed by selecting the collapse button in the header bar.
- When the menu is collapsed, select the expand button to display the menu again.

For security purposes, users are logged out of the XiO Cloud service after 20 minutes of inactivity. A dialog box is displayed two minutes before this occurs.

> **NOTE:** As of XiO Cloud version 2.11.2, users can keep XiO Cloud open in multiple browser tabs without risking inactivity timeout. As long as there is activity in at least one tab, the user's session will remain active across all tabs.

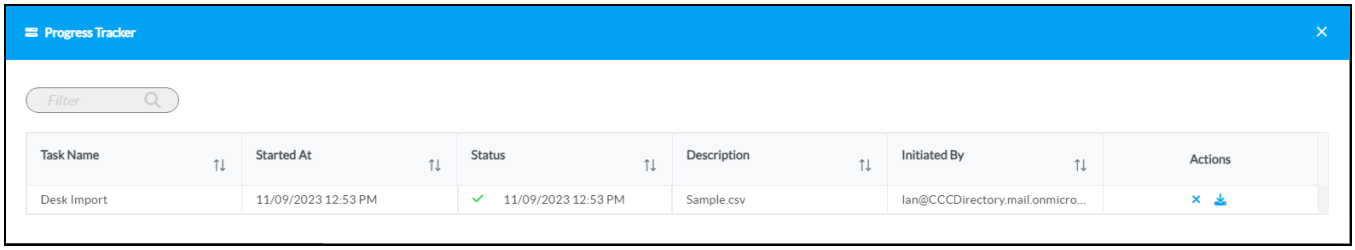


Select **Remain Logged In** to extend the session. If this selection is not made before the timer expires, then you will be logged out of XiO Cloud.

Progress Tracker

Certain tasks initiated within the XiO Cloud service that involve large data sets (such as importing desks and devices for the Crestron Desk Scheduling functionality) can take a considerable amount of time to complete. The progress tracker function allows users to check on the status of these tasks running in the background at any time.

Select the progress tracker button on the top right of the page to display the **Progress Tracker** dialog box.



The **Progress Tracker** dialog box lists all in-progress tasks for the account in table form. A **Filter** function is provided to filter the table based on the entered information. Each table column also provides sorting controls to sort the data in that column.

The following information is provided for each task:

- **Task Name**: The name of the task.
- **Started At**: The date and time when the task was started.
- **Status**: The current task status. Completed tasks show a green check icon with the date and time that the task was completed.
- **Description**: Information about the task, such as the name of an imported file.
- **Initiated By**: The XiO Cloud user who initiated the task.
- **Actions**: Provides actions for the task, such as clearing the task or downloading an imported file.

Build the Environment

The XiO Cloud service provides an environment that represents the organizational structure of an enterprise.

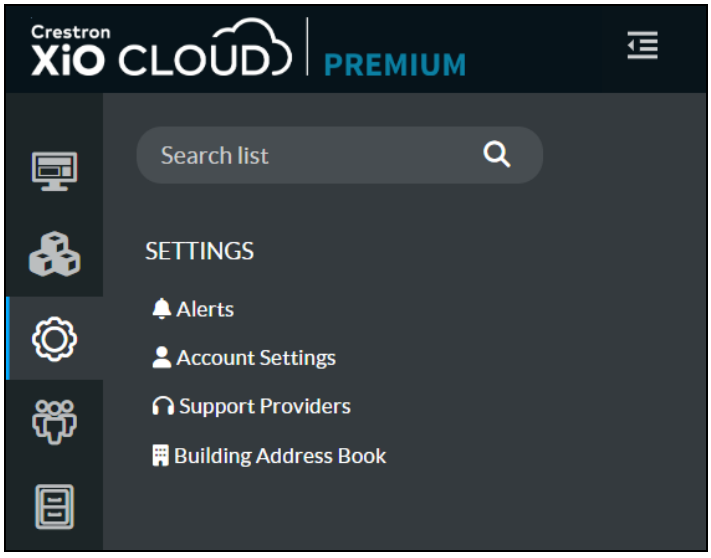
The XiO Cloud service environment consists of groups, rooms, desks, and devices. XiO Cloud administrators are able to create virtual buildings with multiple floors that represent their organization's workspaces. Once a building has been created, rooms or desks that contain devices can be added using the group tree. Devices may be associated with rooms or desks once they are claimed by the service. Once devices are associated with rooms or desks, actions may be performed simultaneously for all grouped devices.

Use the following procedures to build the XiO Cloud service environment.

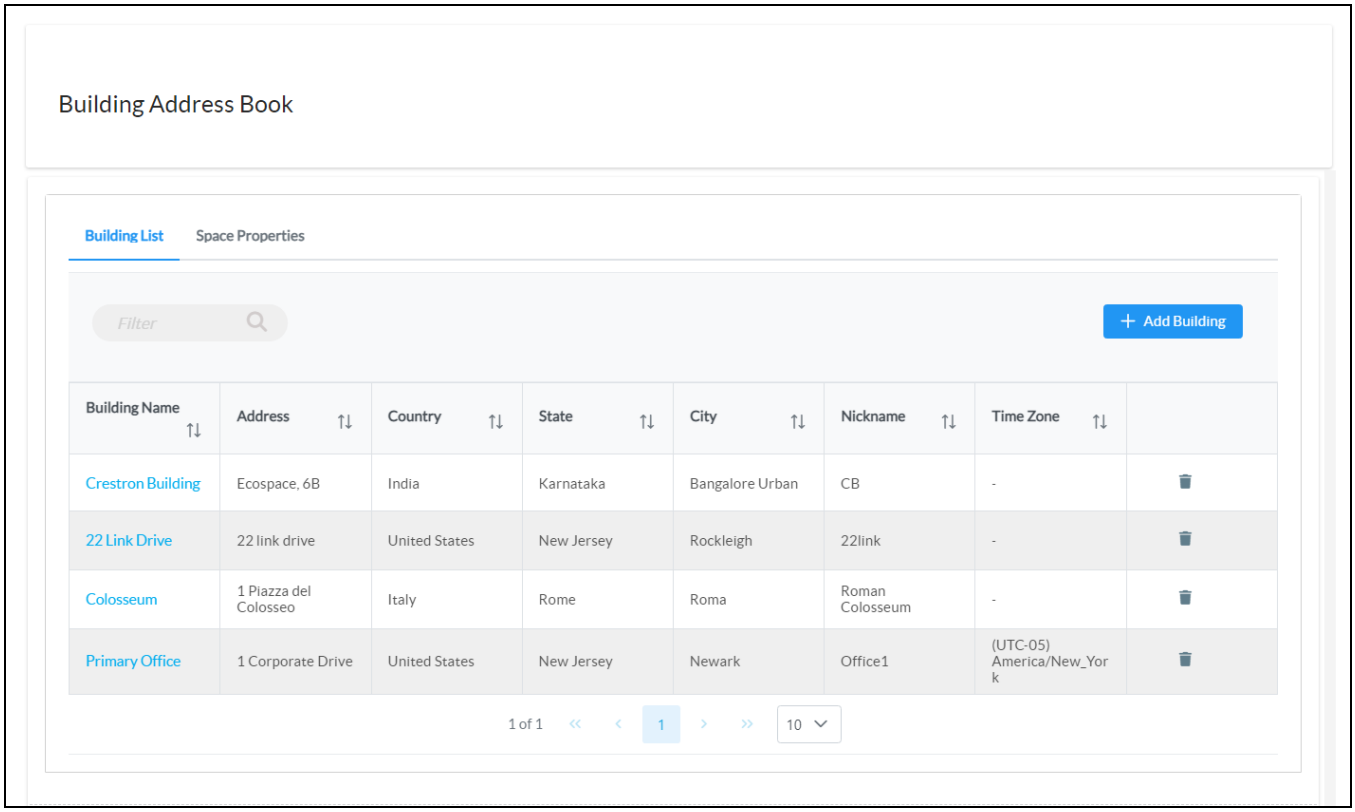
Create the Building Address Book

The building address book represents all workspaces with rooms or desks across an organization.

The **SETTINGS** menu for managing the building address book is located in the settings panel, which may be accessed by clicking the **Settings** button in the navigation menu.



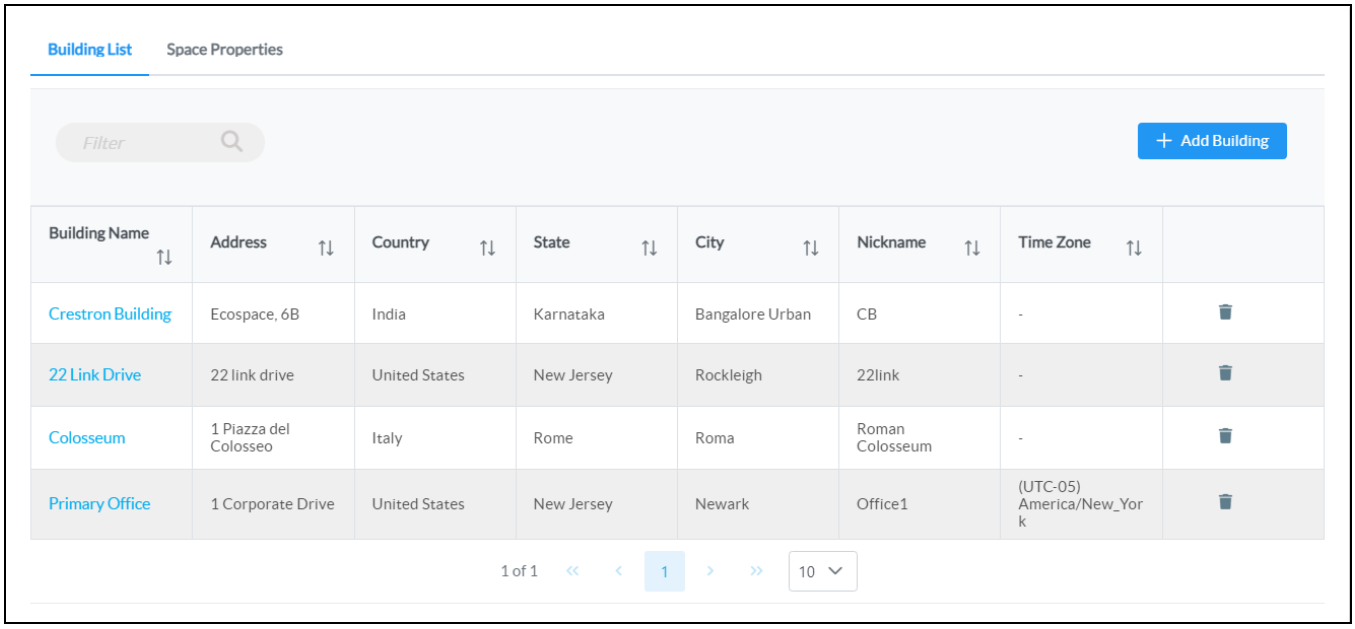
Select **Building Address Book** in the **SETTINGS** menu. A **Building Address Book** page is displayed to the right of the **SETTINGS** menu.



The building address book allows for new buildings to be created and existing buildings to be edited or deleted. In addition, the desk and space types that are available for reservation within the organization can be selected or customized.

Manage Buildings

Select the **Building List** tab in the **Building Address Book** page to show all buildings that have been created for the XiO Cloud account.



Buildings are listed in a table that provides the following information:

- **Building Name**: The user-defined building name. Selecting this name allows the building to be edited.
- **Address**: The physical address of the building.
- **Country**: The country where the building is located.
- **State**: The state or province where the building is located.
- **City**: The city where the building is located.
- **Nickname**: An alternate or shorthand name for the building.
- **Time Zone**: The time zone of the building.

> **NOTE:** Support for time zones was added in XiO Cloud version 1.62. Any buildings created before this release will have their time zones assigned automatically based on the configured building address. If the building address cannot be verified, then the default "(UTC +00) UTC" time zone will be assigned to the building instead. Time zones can be changed at any time by editing the building.

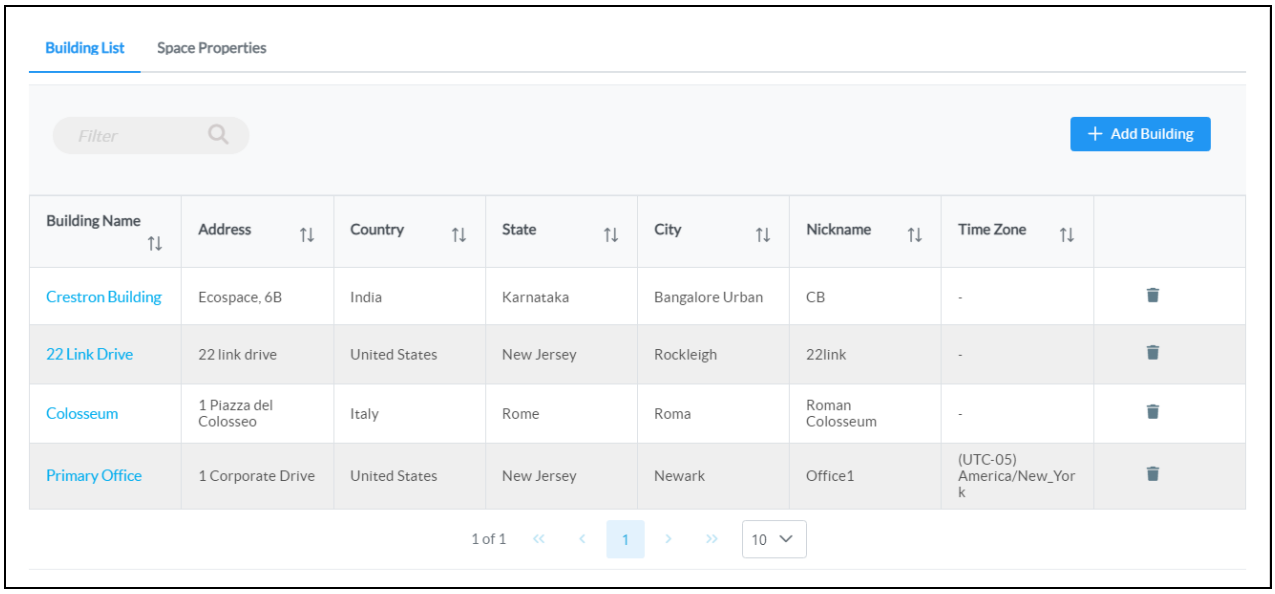
By default, buildings are sorted in alphabetical order. Use the controls provided in each column header to sort buildings in ascending or descending order based on the column data. Use the search field to locate a specific building that matches the search criterion. The table also provides navigational controls that can be used to move between pages and set the number of table rows per page.

Create a New Building

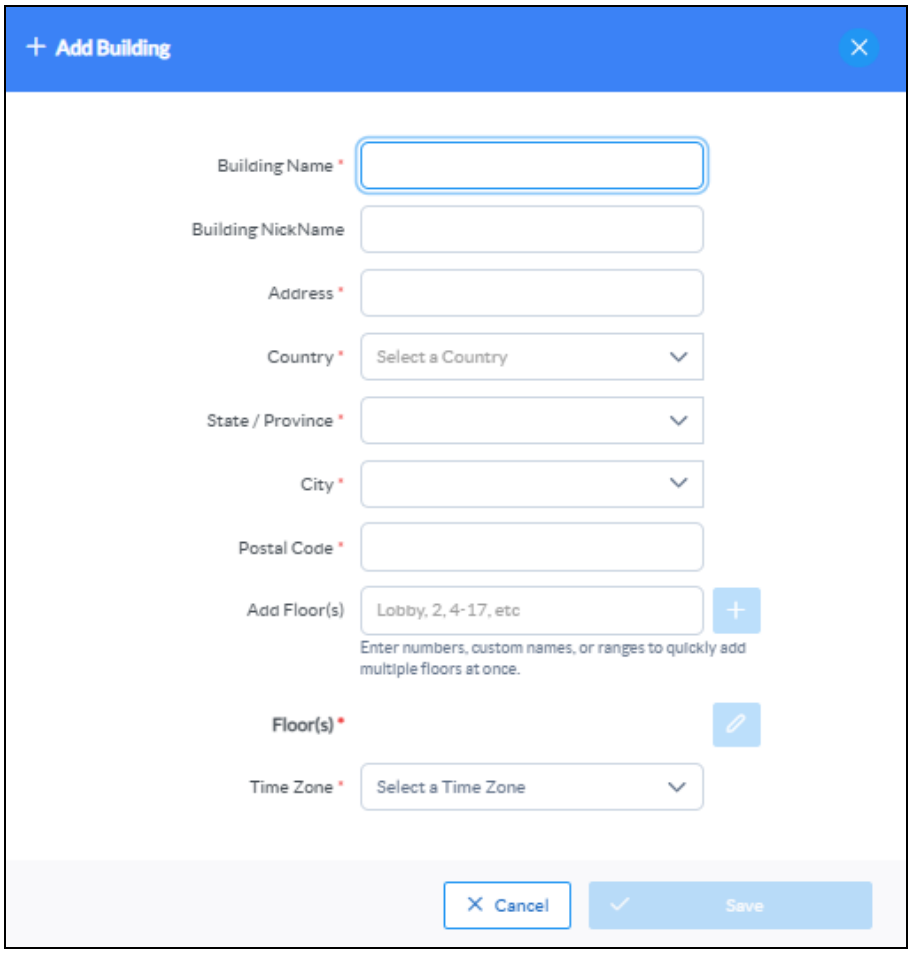
To create a new building in the building address book:

> **NOTE:** Buildings can also be created via the Device Assistant App as of its 2.5 release. For more information, refer to Add a Room via the Device Assistant App on page 85.

1. Select the **Building List** tab in the **Building Address Book** page.

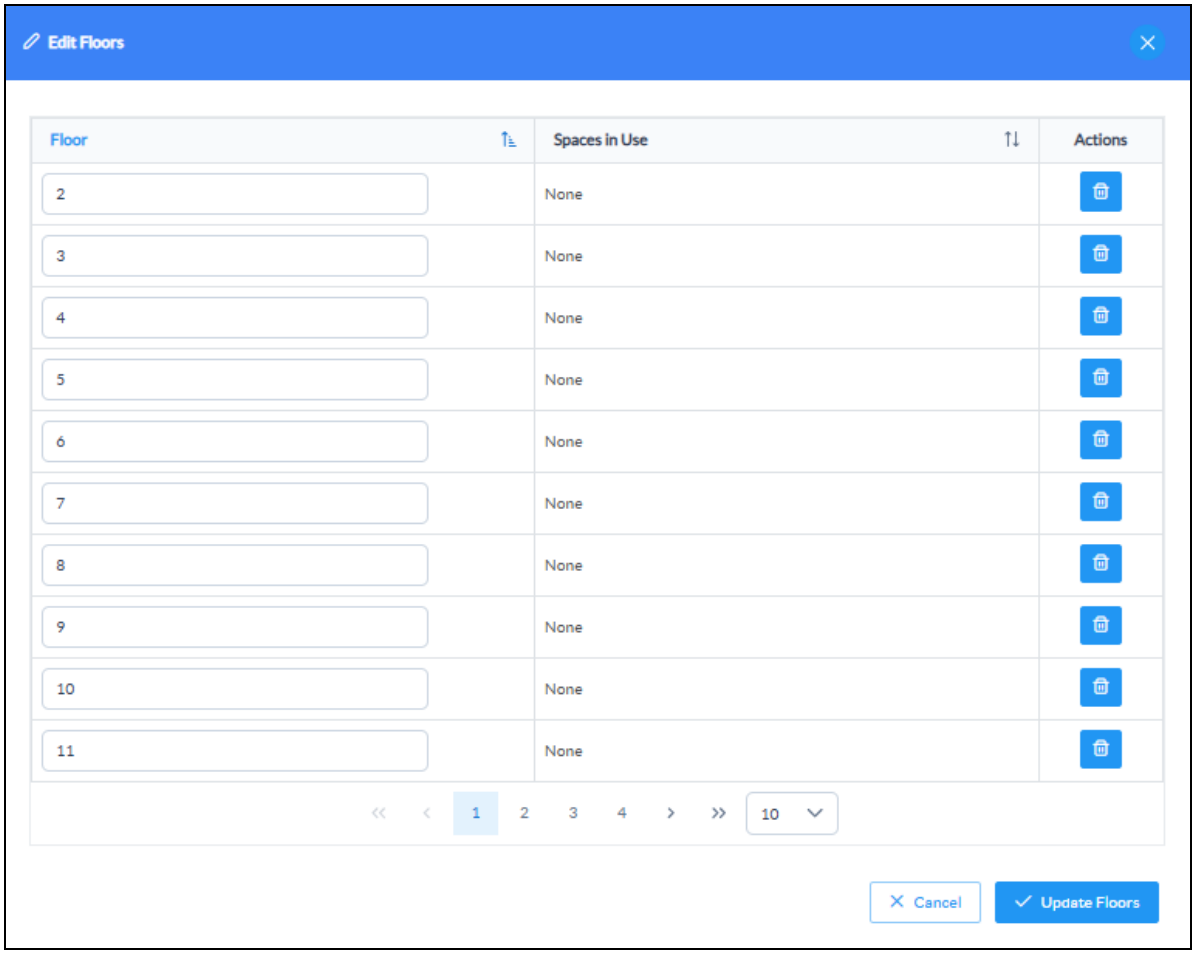


2. Select **+ Add Building**. The **Add Building** dialog box is displayed.



3. Enter the following information for the building:
    - **Building Name**: *Required.* Enter the building name. This name will be displayed for the building throughout the XiO Cloud service.
    - **Building NickName**: Enter an alternate or shorthand name for the building.
    - **Address**: *Required.* Enter the physical street address for the building.
    - **Country**: *Required.* Use the drop-down menu to select the country where the building is located.
    - **State / Province**: *Required.* If applicable, select the state or province where the building is located. The available selections are populated based on the value selected for **Country**.
    - **City**: *Required.* Enter the city where the building is located.
    - **Postal Code**: *Required.* Enter the postal code associated with the building address.
    - **Add Floor(s)**: Enter the numbers or custom names of the building's floors (for example, "1", "2", "3", "Lobby", "Executive Floor", and so forth). Enter a number range (for example, "4–17") to quickly add all floors within that range. Then, select the plus (**+**) button next to the text field to add those floors to the **Floor(s)** field below.

- **Floor(s)**: Provides a list of the building's floors as entered in the **Add Floor(s)** text field above. To edit the building's floors, select the pencil button next to the field. The **Edit Floors** dialog box is displayed.

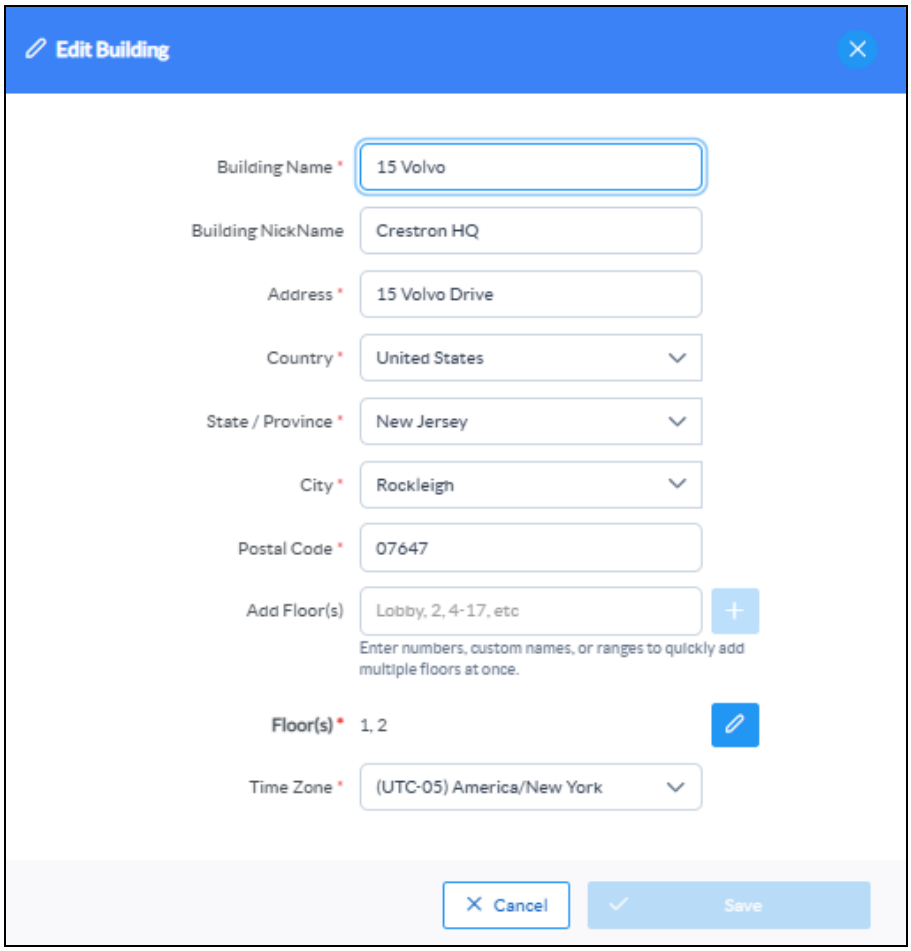


  - To change the name or number of a floor, edit its value directly within the text box in the **Floor** column.
  - If any spaces in the account have been assigned to a floor (once the building has been created), the number of assigned spaces will be displayed in the **Space In Use** column.
  - To delete a floor, select the trash can button in the **Actions** column. Confirm the deletion when prompted.
  - Once all changes have been made, select **Update Floors** to return to the **Add Building** dialog box.
- **Time Zone**: *Required.* Use the drop-down menu to select the time zone of the building.

4. Once all required fields have been populated, select **Add Building**. The building is added to the table in the **Building Address Book** page.

Edit a Building

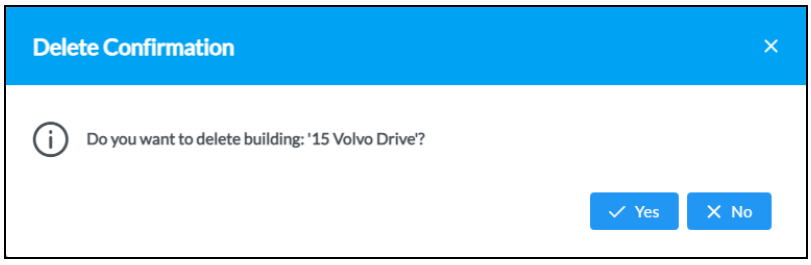
To edit an existing building, select the building name within its table row in the **Building Address Book** page. The **Edit Building** dialog box is displayed.



Edit the provided fields as described in Create a New Building on page 35. Once all changes have been made, select **Save** to return to the **Building Address Book** page.

Delete a Building

To delete an existing building, select the trash can icon within the building's table row in the **Building Address Book** page. A confirmation prompt is displayed asking whether the building should be deleted.



Select **Yes** to delete the building or **No** to cancel the deletion.

NOTE: A building cannot be deleted if any rooms or desks are associated with it. If you attempt to delete a building with associated rooms or desks, a message window is displayed stating that all rooms and desks must be deleted or moved from the building before it can be deleted. For more information, refer to Delete a Room on page 52 and Delete a Desk on page 65.

Manage Space Properties

Select the **Space Properties** tab in the **Building Address Book** page to configure the desk and space types that can be reserved within the organization.



Select **Desk Type** or **Space Type** to configure desk or space types, respectively.



Ten default desk types and space types are provided. Fill the **Show** check box next to a desk or space type to make it available for selection when adding or editing a desk or room.

Additionally, all default desk or space types can be customized using the **Desk Type** or **Space Type** text fields.

Create the Group Tree

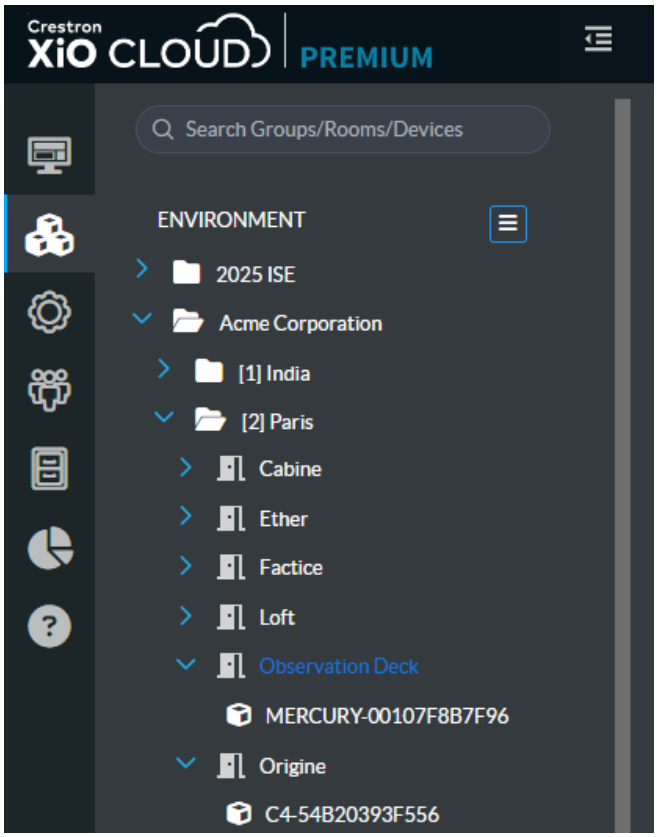
The group tree is in the environment panel, which may be accessed by selecting the **Groups** button in the navigation menu.

The group tree is the primary organizational structure of the XiO Cloud environment. Top-level groups, rooms, and desks appear in the group tree once they are added to the environment. One or more subgroups, rooms, and desks may also be added under each group. Devices can then be added to rooms or desks that are created within the group tree.

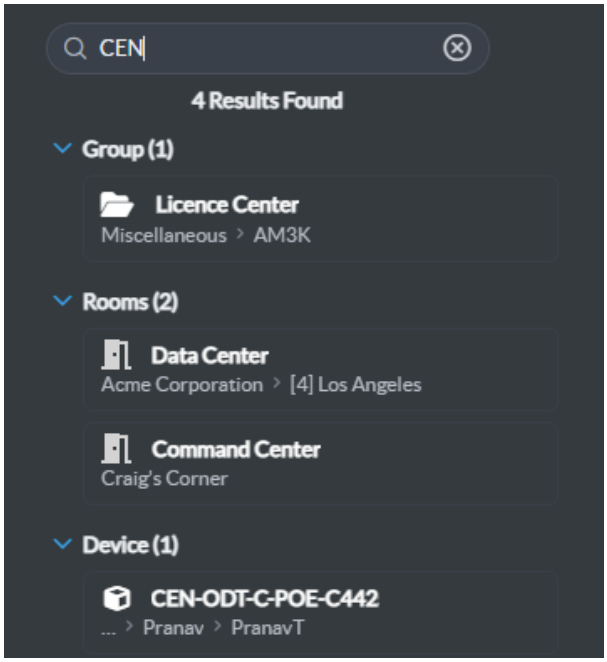
> **NOTE:** Groups, rooms, desks, and devices can be dragged and dropped into different nodes within the group tree. A confirmation dialog is displayed after completing this action. Select **Yes** to confirm the move or **No** to cancel.

The group tree is located under the **ENVIRONMENT** menu on the left side of the configuration pages. Groups, subgroups, rooms, and desks are ordered alphabetically. Hover the cursor over the right edge of the group tree to display a vertical blue bar that can be used to adjust the tree width.

Environment Menu



A search field is provided at the top of the **ENVIRONMENT** menu that can be used to find items within the environment group tree. Search results are divided into groups, rooms, desks, and devices (if applicable) and include the item's location in the group tree. Select a search result to navigate to its location.



Manage Groups

Groups are added within the group tree. Groups provide a means for organizing rooms, desks, and subgroups into logical categories (typically representing the structure of an enterprise or building). Actions can be performed for multiple devices at once at the group level.

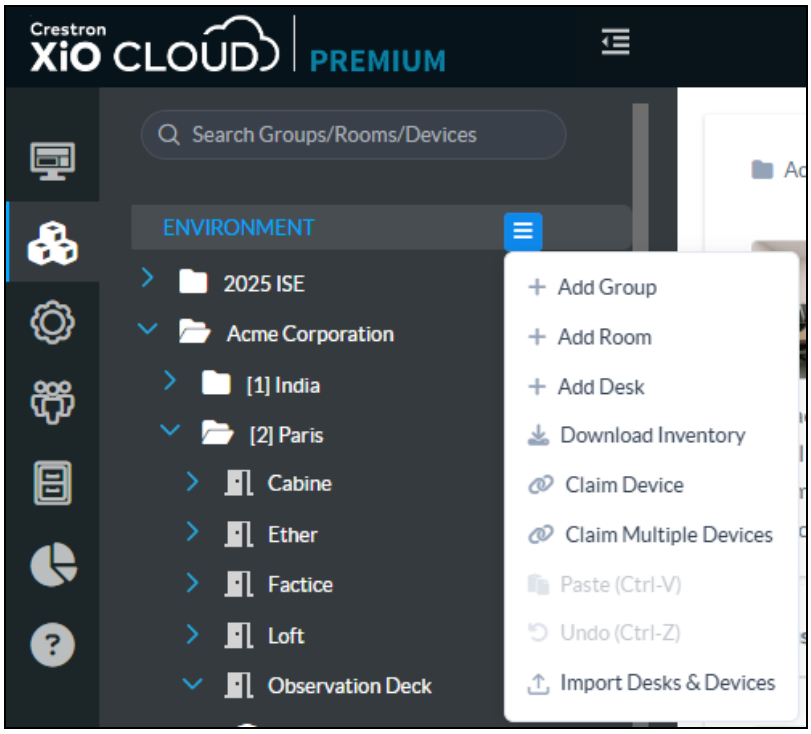
> **NOTE:** It is recommended to create a single root group that contains all other groups and spaces, as this allows global settings (such as NTP server settings) to be pushed to all devices in your account. The company name is commonly used as the title of the root group.

Add a Top-Level Group

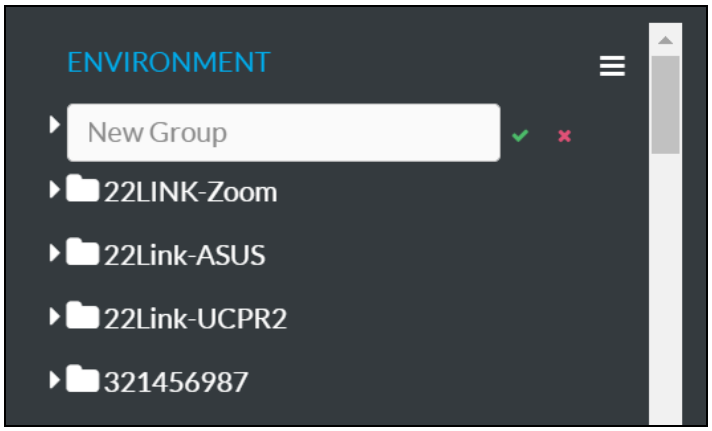
To add a top-level group:

> **NOTE:** Groups can also be added via the Device Assistant App as of its 2.4 release. For more information, refer to Add a Group via the Device Assistant App on page 82.

1. Select the **ENVIRONMENT** menu button ☰ to display a drop-down menu.
   Environment - Drop-Down Menu



2. Select **Add Group**. A new group is added to the group tree.
   Environment - New Group



3. Enter a descriptive group name in the **New Group** text field. A group name must be at least three characters long.

> **NOTE:** Each group name must be unique. If a duplicate group name is entered, a notification is displayed stating that the group name already exists.

4. Select the green check icon or select **Enter** to save the group. Select the red **x** icon to discard the group.

The group is reordered alphabetically in the top level of the group tree after it is added.

Select the group from the group tree to view and configure group settings. For more information, refer to Configure Settings for a Group of Devices on page 112.

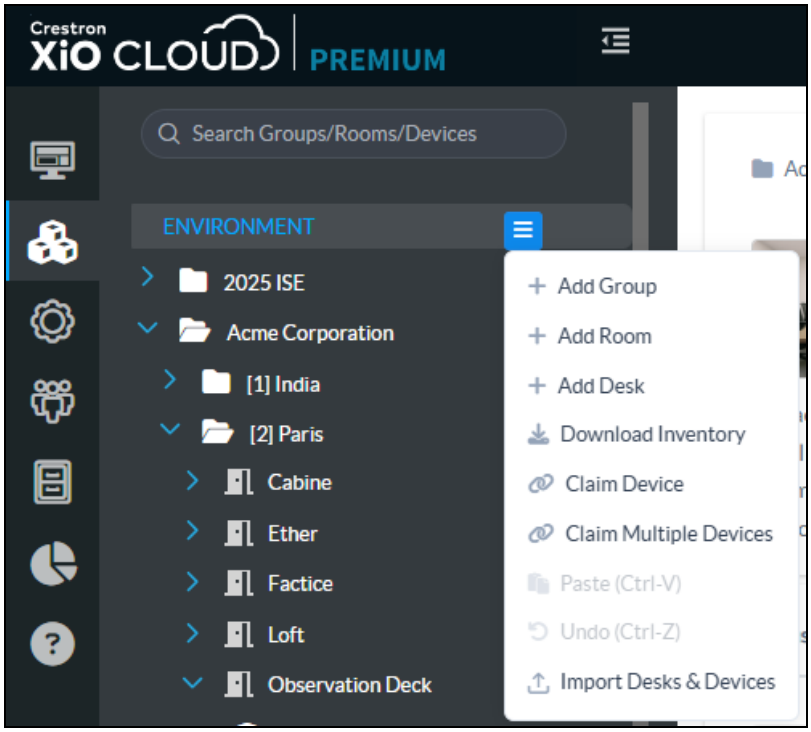
Add a Subgroup

One or more subgroups may be added under the top-level group. A group hierarchy may contain up to eight levels.

To add a subgroup:

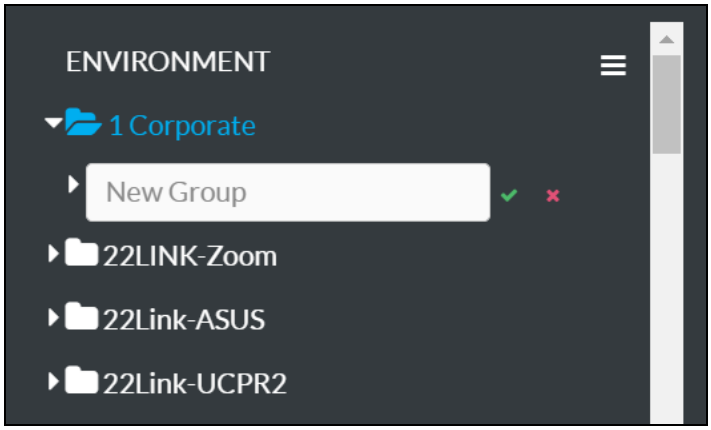
1. Position the cursor over the group name in the **ENVIRONMENT** menu to reveal its context menu.
2. Select the context menu button for the group to display a drop-down menu.

Group - Drop-Down Menu



3. Select **Add Group**. A new subgroup is added under the selected group.

Group - New Group



4. Enter a descriptive subgroup name in the **New Group** text field. A subgroup name must be at least three characters long.
5. Select the green check icon or select **Enter** to save the subgroup. Select the red **x** icon to discard the subgroup.

The subgroup is reordered alphabetically within its parent group after it is added.

Select the subgroup from the group tree to view and configure subgroup settings. For more information, refer to Configure Settings for a Group of Devices on page 112.

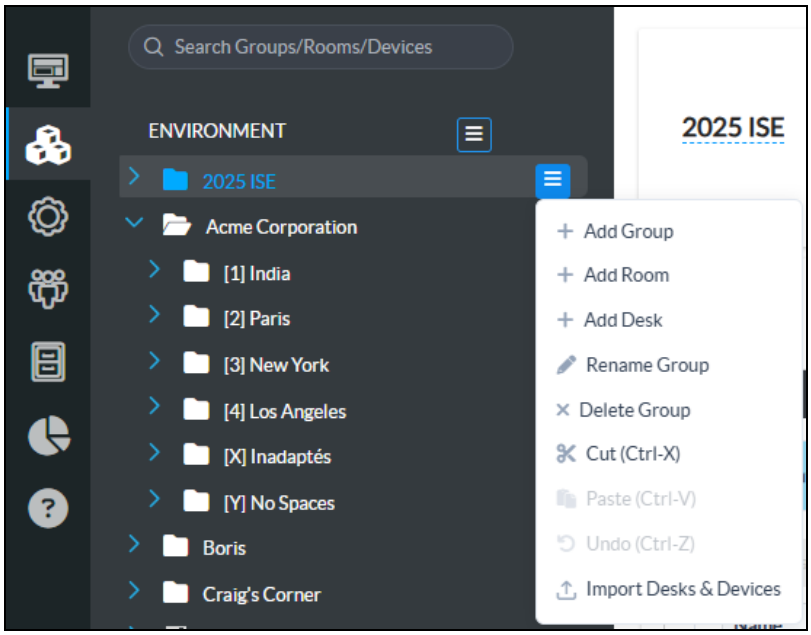
Rename a Group

Each group in the XiO Cloud service has a unique name, which allows the group to be identified and organized within the service. A group may be renamed as needed.

To change the group name in the group tree:

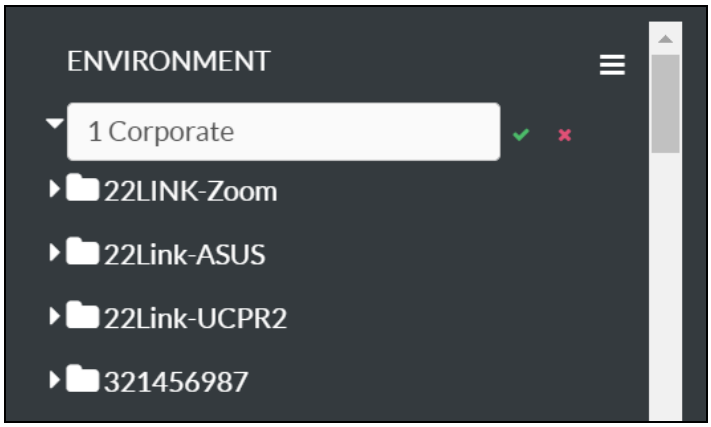
1. Position the cursor over the group name in the **ENVIRONMENT** menu to reveal its context menu.
2. Select the context menu button for the group to display a drop-down menu.

   Group - Drop-Down Menu



3. Select **Rename Group**. The group name becomes an editable text box.

   Group - Edit Group Name



4. Enter a new group name in the text box. A group name must be at least three characters long.
5. Select the green check icon or select **Enter** to save the group name. Select the red **x** icon to discard the changes.

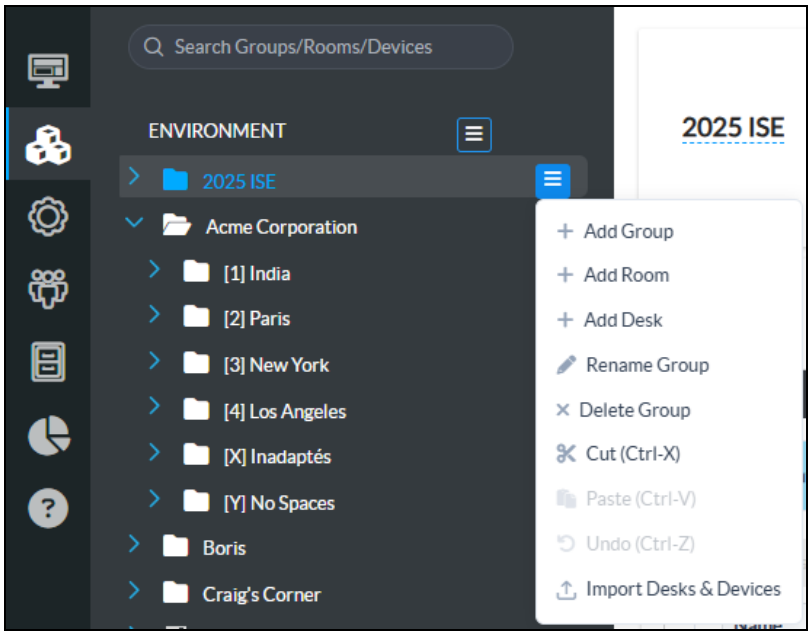
Delete a Group

Groups may be deleted from the XiO Cloud service environment as needed. A group that contains a subgroup may not be deleted until all subgroups are removed.

To delete a group from the group tree:

1. Position the cursor over the group name in the **ENVIRONMENT** menu to reveal its context menu.
2. Select the context menu button for the group to display a drop-down menu.

Group - Drop-Down Menu



3. Select **Delete Group**. A confirmation dialog box is displayed.
4. Select **Yes** to delete the group or select **No** to cancel the deletion.

Manage Rooms

Rooms can be added within groups or at the top level of the group tree. Rooms are designed to represent physical spaces within an enterprise that contain all cloud-enabled devices. Devices can be added to rooms after they claimed into the XiO Cloud service. Rooms can also be tied to custom programming for monitoring, reporting, and control.

> **NOTE:** As of XiO Cloud version 1.55, new rooms are added using the building address book function. An import tool is provided for existing deployments that associates all existing rooms with a building address book. For more information, refer to Associate Rooms with a Building on page 54.

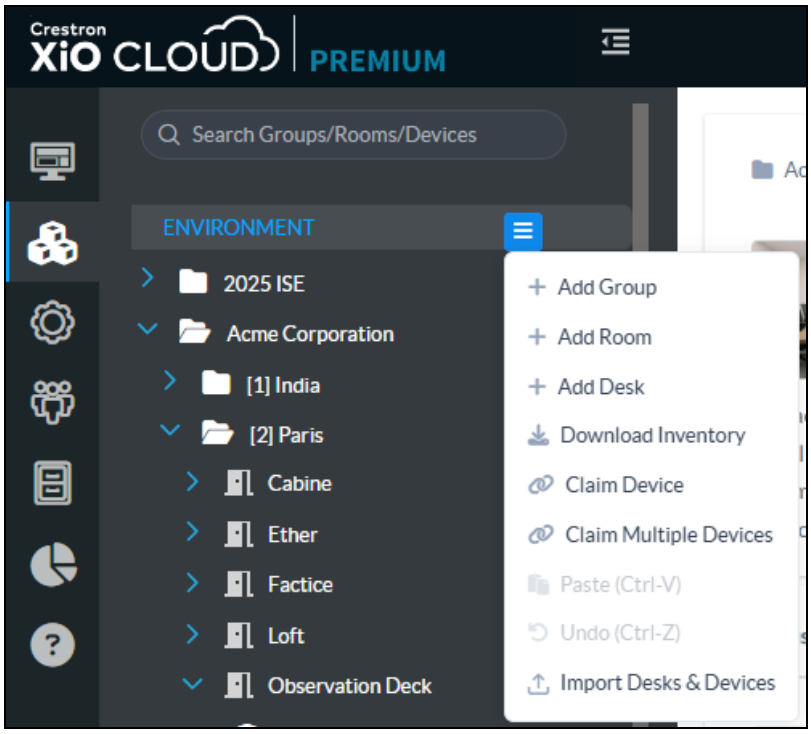
Add a New Room

To add a new room:

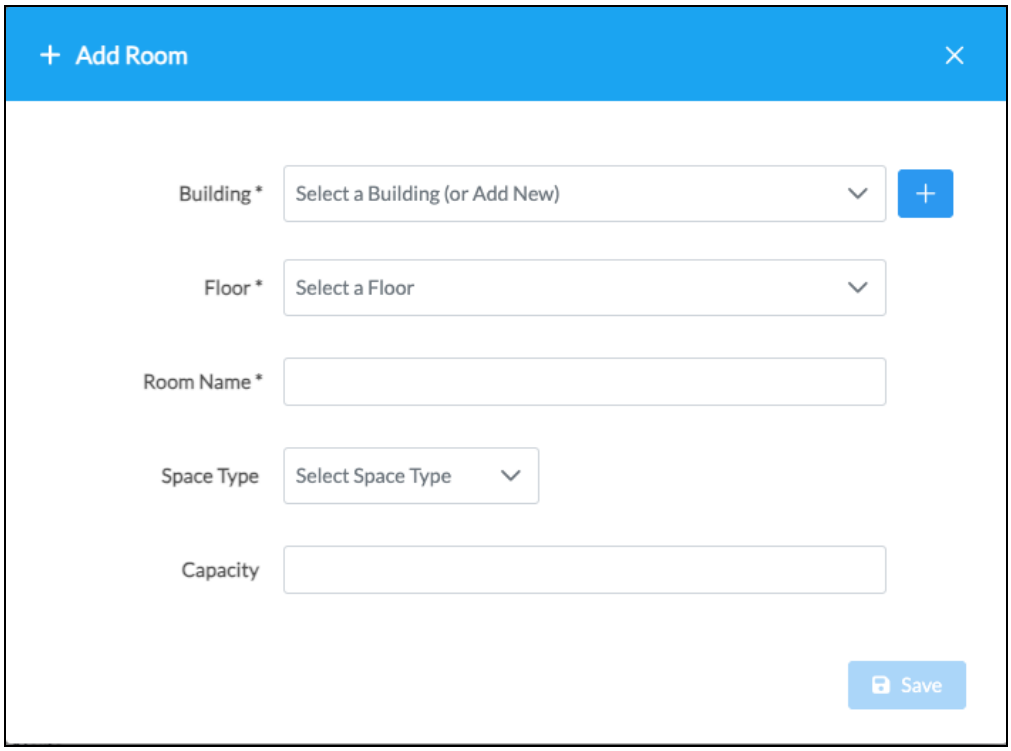
> **NOTE:** Rooms can also be added via the Device Assistant App as of its 2.4 release. For more information, refer to Add a Room via the Device Assistant App on page 85.

1. Select the **ENVIRONMENT** menu button ☰ to display a drop-down menu.

   Environment - Drop-Down Menu



2. Select **Add Room**. The **Add Room** dialog box is displayed.



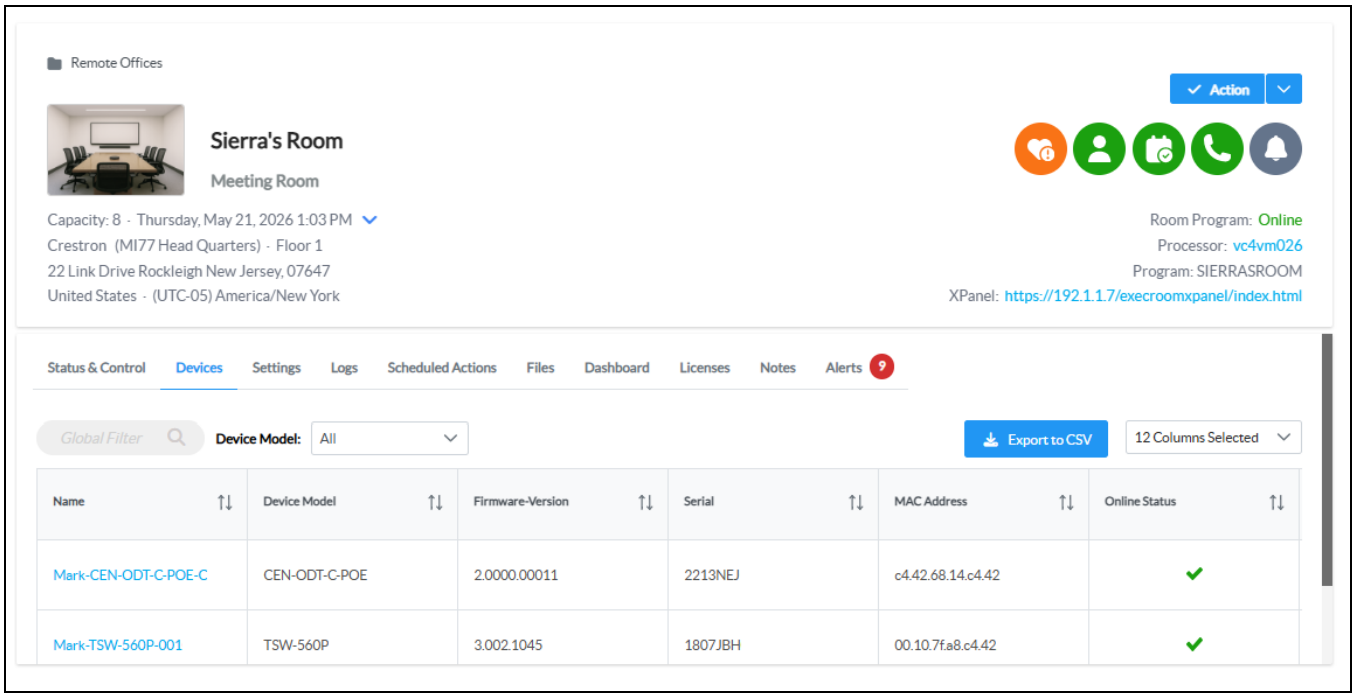
3. Enter the following information for the room:
   - **Building**: *Required.* Use the drop-down menu to select a building that will be associated with the room from the building address book.

     If the desired building is not shown, select the plus button **+** next to **Building** to display the **Add Building** dialog box. For more information on adding a building, refer to Create a New Building on page 35.
   - **Floor**: *Required.* Select the building floor where the room is located. The available selections are populated based on the floors configured for the building.
   - **Room Name**: *Required.* Enter the room name. This name will be displayed for the room throughout the XiO Cloud service.
   - **Space Type**: Select the space type from the available options. For more information, refer to Manage Space Properties on page 39.
   - **Capacity**: Enter the maximum capacity for the room.
4. Select **Save**. The room is added to the group tree and is reordered alphabetically within its parent group after it is added.

Select the room from the group tree to view and configure group settings. For more information, refer to Configure Settings for a Group of Devices on page 112.

Edit a Room

Once a room has been added to the group tree, select it in the tree to open the room details page.



The following information is displayed for the room:

- The user-defined room name and space type.
- The room capacity and the current date and time (based off of the building's time zone).

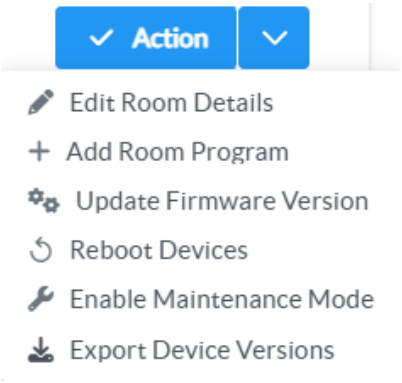
  > **NOTE:** Room capacity was added in XiO Cloud release 2.9. Any rooms created before this release will show a capacity of "Undefined." Select **Edit Room Details** in the **Action** menu to enter the room capacity.

- The building name (with nickname if applicable), floor, address, and time zone. These details can be expanded or collapsed using the arrow next to the room date and time.
- Indicators that show the room health, occupancy status, reservation status, room call status, and whether the room is currently in maintenance mode. A "Service Requested" badge can also be shown if an occupant discovers an issue with the room. For more information, refer to Room Status Indicators on page 192.
- Breadcrumbs that show the room's location within the group tree. Select a parent group to navigate to that location.
- Information about the room program (if applicable), including the processor, program, and XPanel details. For more information, refer to XiO Cloud Program Connector on page 148.
- Tabs that display various status reports and settings for the room:
  - A **Status & Control** tab that displays various room status controls and indicators if the XiO Cloud program connector has been configured. For more information, refer to XiO Cloud Program Connector on page 148.

> **NOTE:** Custom links can be specified for the room on this page even if the XiO Cloud program connector is not configured. An XiO Cloud Premium subscription is required. For more information, refer to Custom Links on page 160.

- A **Devices** tab that displays information and status for all devices associated with the room.
- A **Settings** tab that displays options for configuring devices in the room. For more information, refer to Configure Settings for a Group of Devices on page 112.
- A **Logs** tab that displays logging information for the room. For more information, refer to Logs on page 130.
- A **Scheduled Actions** tab that displays scheduled actions for the room. For more information, refer to Scheduled Actions on page 121.
- A **Files** tab that displays supported files that can be used by devices in the room. For more information, refer to File Library on page 196 and Load a Program to a Control System on page 212.
- A **Dashboard** tab that displays analytics dashboards for supported devices in the room. For more information, refer to Dashboard on page 128.
- A **Licenses** tab that displays licensed features that are available for supported devices in the room. For more information, refer to Manage Licenses on page 116.
- A **Notes** tab that provides text fields for entering custom notes and contact information for the room. For more information, refer to Add Room Notes on page 52.
- An **Alerts** tab that displays any recent alerts that have been raised for the room. For more information, refer to Alerts on page 183.

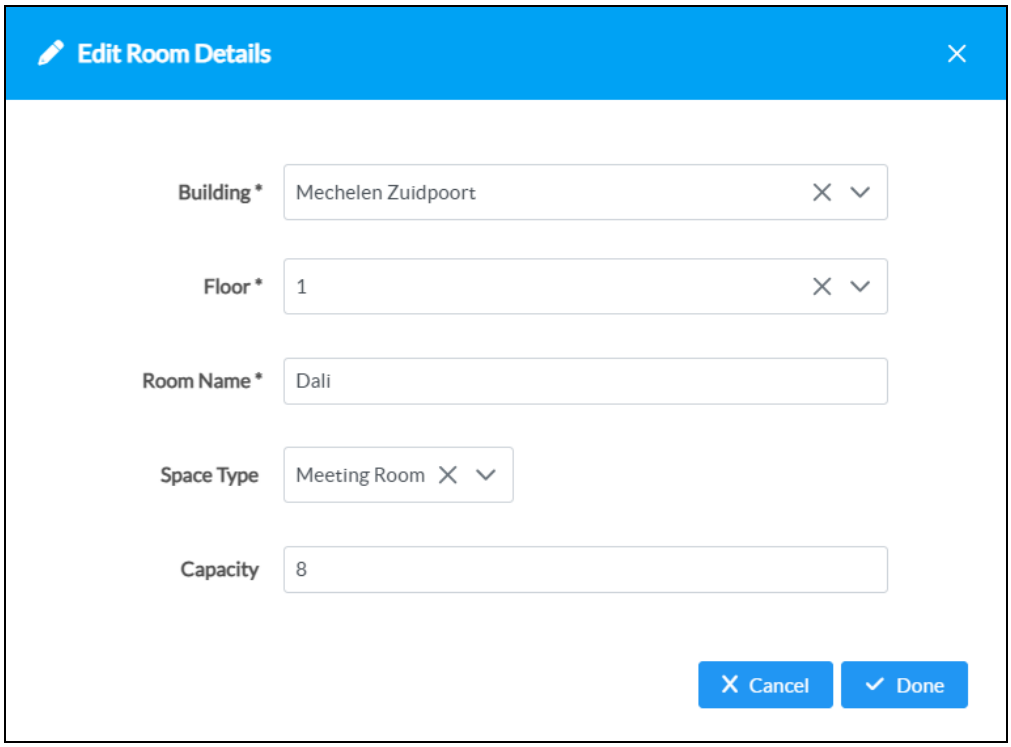
An **Action** menu is also provided in the top right of the page that provides a **Edit Room Details** selection.



The **Action** menu also provides the following room controls:

- **Add Room Program**: Adds a room program for using the XiO Cloud Program Connection functionality. For more information, refer to XiO Cloud Program Connector on page 148.
- **Update Firmware Version**: Updates firmware for devices in the room. For more information, refer to Update Firmware on page 133.
- **Reboot Devices**: Restarts all devices in the room. For more information, refer to Restart Devices on page 135.
- **Enable Maintenance Mode:** Turns on maintenance mode for the room. For more information, refer to Maintenance Mode on page 194.
- **Export Device Versions**: If available, exports all version data for devices in the room as a CSV file.

Select **Edit Room Details** from the room's **Action** menu or context menu in the group tree to open the **Edit Room Details** dialog box.



The following settings can be edited:

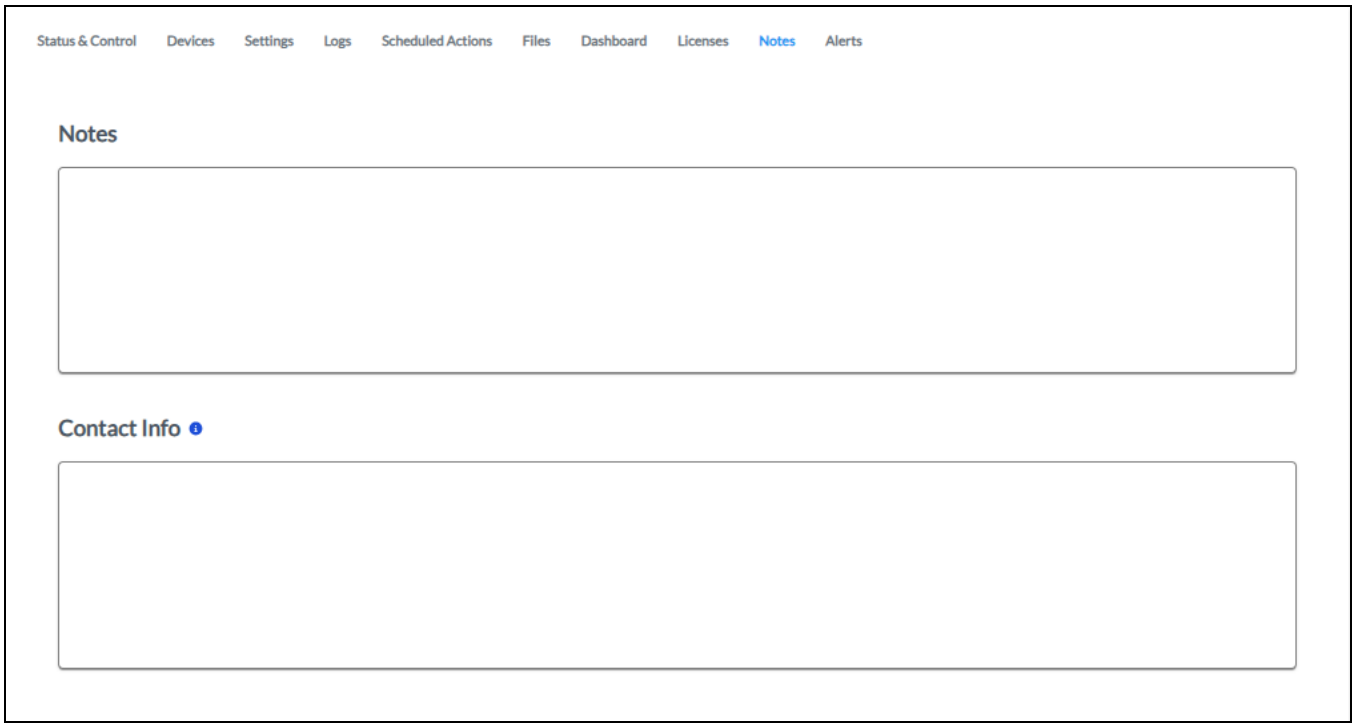
- **Building**: Use the drop-down menu to select a building that will be associated with the room from the building address book.
- **Floor**: Select the building floor where the room is located. The available selections are populated based on the floors configured for the building.
- **Room Name**: Enter the room name. This name will be displayed for the room throughout the XiO Cloud service.

- **Space Type**: Use the drop-down menu to select the space type. The available selections are populated based on the space types configured for the building address book. For more information, refer to Manage Space Properties on page 39.
- **Capacity**: Enter a maximum capacity for the room.

Select **Save Details** to save any changes. A toast notification is shown indicating that the changes have been saved.

Add Room Notes

As of XiO Cloud version 2.10.1, a **Notes** tabs is provided for each room that allows users to enter custom notes, as well as contact information for the dealer or administrator that supports the room.



Text is saved automatically after being entered in either text field. The **Contact Info** field can be shown on a Web XPanel or touch screen via custom programming.

Delete a Room

Rooms may be deleted from an XiO Cloud account environment as needed. A room that contains a device may not be deleted until all child devices removed.

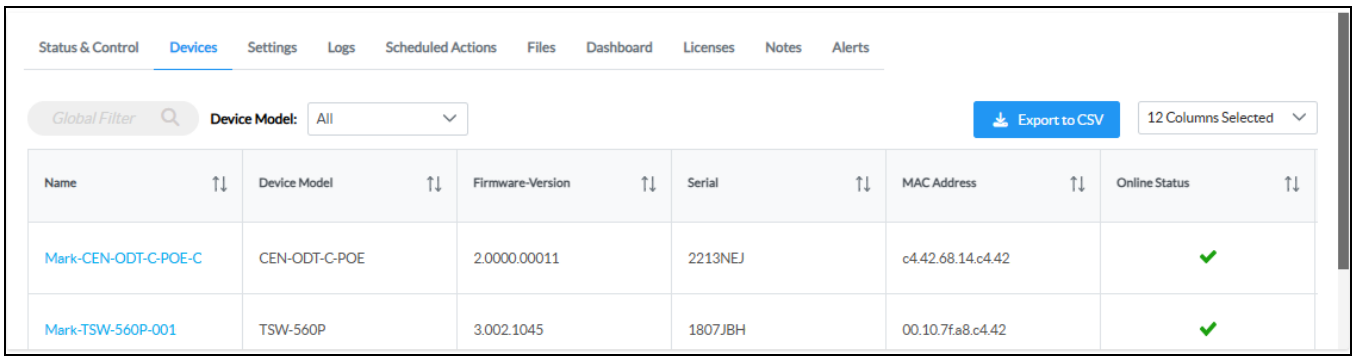
To delete a room from the group tree:

1. Position the cursor over the group name in the **ENVIRONMENT** menu to reveal its context menu.
2. Select the context menu button for the group to display a drop-down menu.
3. Select **Delete Room**. A confirmation dialog box is displayed.
4. Select **Yes** to delete the group or select **No** to cancel the deletion.

View Device Settings

Once devices have been associated with the room, navigate to the **Devices** section of the room status page to view the following device settings.

> **NOTE:** As of XiO Cloud release 2.8, supported beta devices can be claimed into XiO Cloud for testing purposes. An orange beta icon BETA is shown next to the device name in a room to indicate its beta status.



- **Device Name**: The device name in XiO Cloud.
- **Device Model**: The device model.
- **Firmware Version**: The firmware version running on the device.
- **Serial**: The device serial number.
- **MAC Address**: The MAC address of the device network adapter used to connect to the XiO Cloud service.
- **Online Status**: Indicates whether the device is reporting online ✔ or offline ✖ within XiO Cloud. Crestron XiO Cloud Gateway connected devices that are reporting offline show a cloud connector offline icon .
- **Pending Settings Delivery**: Indicates whether device settings changed in XiO Cloud are pending delivery to the device.
- **IP Address**: The current device IP address.

  > **NOTE:** Select the IP address to navigate to the web configuration interface for that device in a new tab (if available).

- **Hostname**: The device host name.
- **Application Mode**: If applicable, indicates the application mode that is running on the device.
- **DHCP Enabled**: Indicates whether DHCP is turned on or off for the device.
- **Room Status**: If applicable, indicates status of the room for devices with room scheduling capabilities.
- **Calendar Connection**: If applicable, indicates status of the calendar connection for devices with room scheduling capabilities.

An **Actions** column is also provided that allows the device to be configured or deleted. For more information on configuring a device, refer to Manage Devices on page 104.

The data that is displayed in the device table can be customized by filtering the table columns. By default, 12 columns are displayed that contain the data described in the list above.

To select or deselect table columns for the device status table, expand the drop-down menu at the top right of the table. Then, select or deselect an item in the menu to display or hide that column from the table, respectively. Use the check box at the top of the menu to select or deselect all columns.

> **NOTE:** The device status table will reset to its default settings after logging out of the XiO Cloud service.

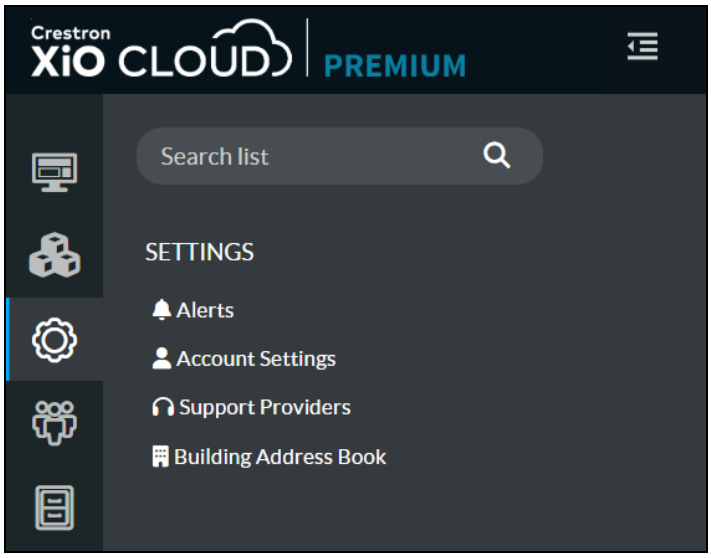
The device status table can be downloaded as a CSV file by selecting the **Export to CSV** button at the top right of the table. The CSV file will include all table columns that have been selected as described above.

Associate Rooms with a Building

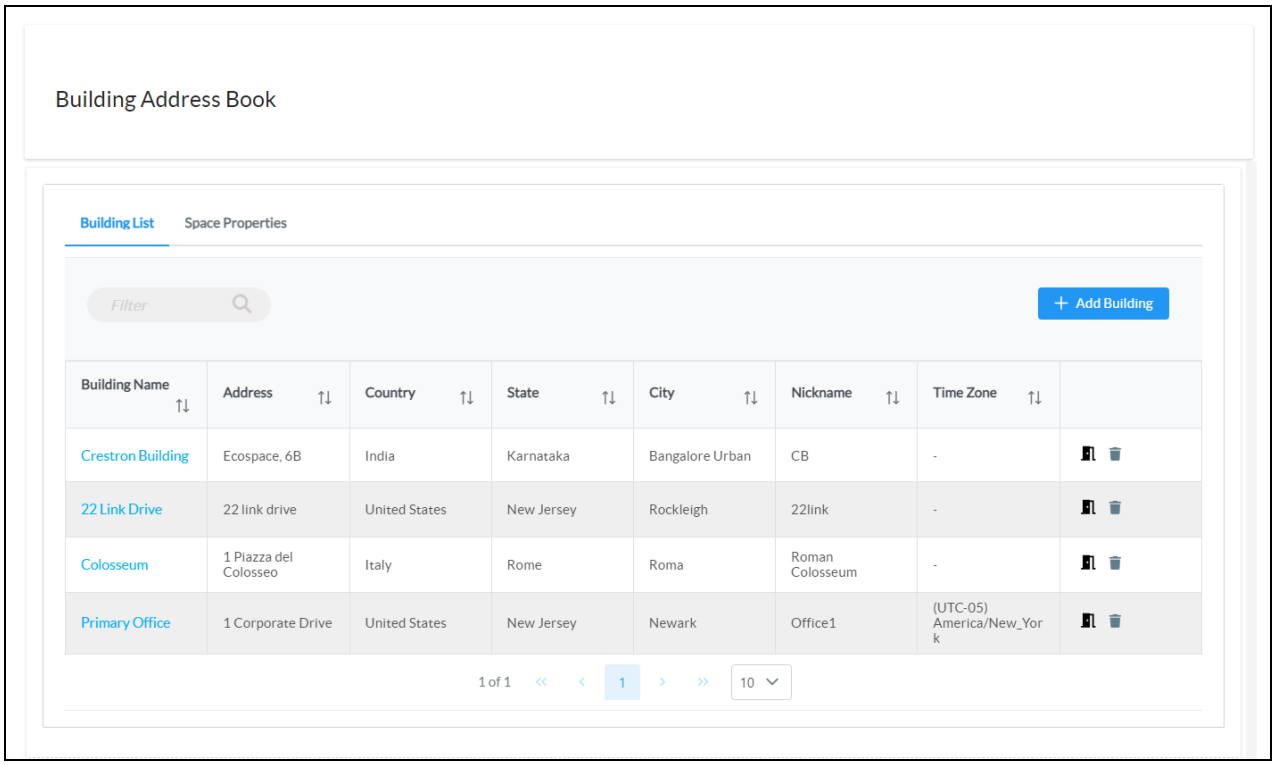
As of XiO Cloud version 1.55, new rooms are added using the building address book function. Any existing rooms must be associated with a building. An import tool is provided for existing deployments that associates all existing rooms with a building address book.

To associate rooms with a building using the import tool:

1. Select the **Settings** button in the navigation menu.

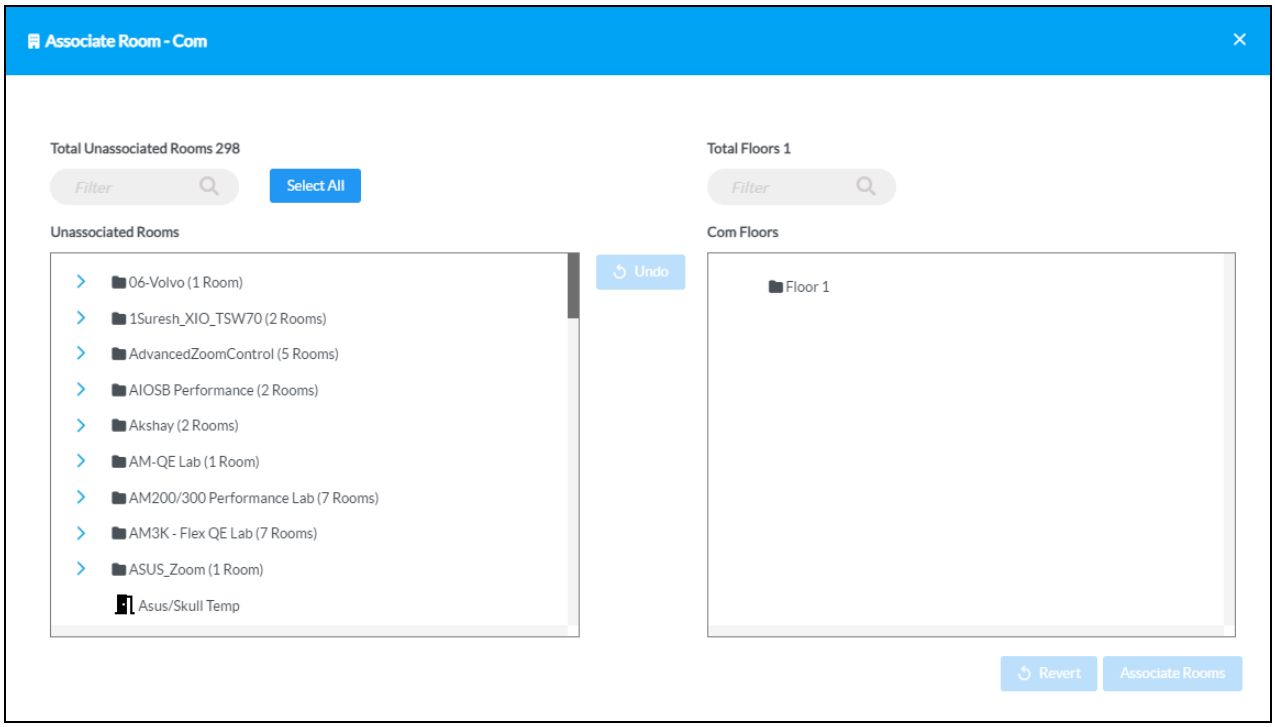


2. Select **Building Address Book**. A **Building Address Book** page is displayed to the right of the **SETTINGS** menu.

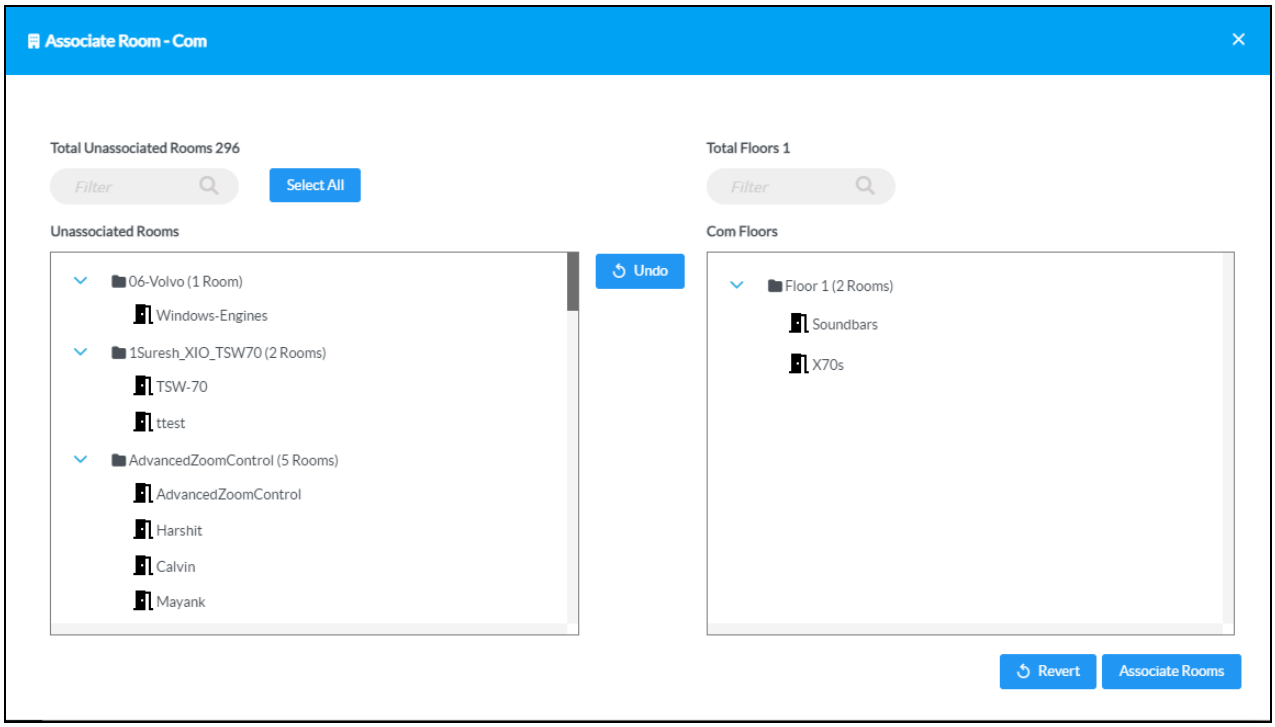


3. Select the door icon in the table row of the desired building address book. An **Associate Rooms** dialog box is displayed.

> **NOTE:** The door icon appears only if there are rooms in a deployment that are not associated with in address book. Once all rooms have been associated, this selection is no longer available.



4. Drag rooms from the **Unassociated Rooms** column into the appropriate floor of the building within the **[Building] Floors** column. The **Unassociated Rooms** column matches the structure of the XiO Cloud group tree for the account.
    - Enter text into the filter text boxes to filter room, group, and floor data based on the entered text.
    - Select **Select All** to select all rooms within the **Unassociated Rooms** column.
    - Select **Undo** to undo the last performed action.
    - Select **Revert** to revert all rooms back to the **Unassociated Rooms** column.



5. Once all rooms have been associated, select **Associate Rooms**. All rooms are associated with the selected floors of the building address book.

Manage Desks

For accounts that use desk scheduling, desks can be added to groups and subgroups within the group tree. After a desk has been added, it can be associated with a building from the building address book and then assigned a unique desk scheduling device and scheduling calendar address.

Import Desks and Devices

Desks and their associated desk scheduling devices can be mass provisioned into the XiO Cloud service via a CSV file. Once the CSV file is imported successfully, all new desks and devices will be added to the appropriate buildings and floors within the XiO Cloud environment tree.

To import desks and devices into the XiO Cloud service:

1. Create a new CSV file with the following header columns in the first row. The name of each header column must match the following items exactly.

   > **NOTE:** A sample CSV file with prepopulated header columns can also be downloaded from the **Import Desks & Devices** dialog box that is described later in this procedure.

   - **Building Name**
   - **Floor**
   - **Desk Name**
   - **Desk Type**
   - **Calendar Email**

- **Serial**
- **MAC Address**

2. For each desk and associated device, enter the following data in the appropriate columns of a new table row. Each desk must have its own table row.
    - **Building Name**: The building that will be associated with the desk. The building must have already been created in the building address book prior to importing the CSV file.
    - **Floor**: The building floor where the desk is located. The floor must match one of the floors configured for the building.
    - **Desk Name**: The desk name that will be displayed for the desk throughout the XiO Cloud service and in the Desk Scheduling UI on the touch screen.
    - **Desk Type**: The desk type. The desk type must match one of the desk types configured for the building address book. For more information, refer to Manage Space Properties on page 39.
    - **Calendar Email**: The unique scheduling calendar address that is paired with the desk to control reservations. This field is optional and can be left empty regardless of scheduling partner usage.
    - **Serial**: The serial number of the associated touch screen.
    - **MAC Address**: The MAC address of the associated touch screen.

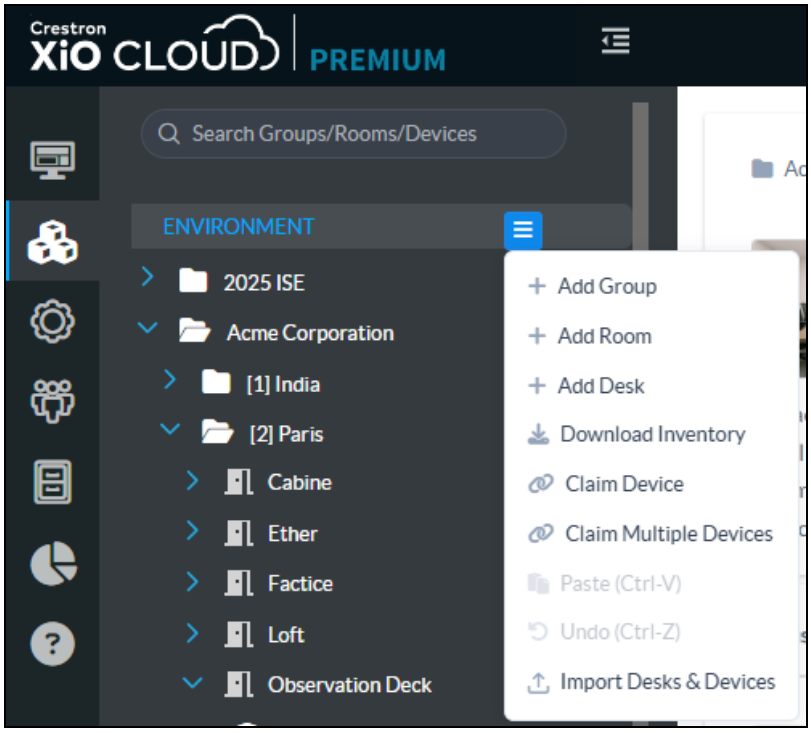
    > **NOTE:** The **Calendar Email**, **Serial**, and **MAC Address** fields are not required to create a desk from the CSV file. Desk scheduling devices can be associated manually with a desk at a later time.

    Refer to the following mock CSV file as an example.

Building Name	Floor	Desk Name	Desk Type	Calendar Email	Serial	MAC Address
Corporate HQ	9	D901	Standard	901@company.onmicrosoft.com	1234567890	00.11.22.33.44
Corporate HQ	9	D902	Standard	902@company.onmicrosoft.com	2345678901	11.22.33.44.55
Corporate HQ	10	D1001	Large	1001@company.onmicrosoft.com	3456789012	22.33.44.55.66
Corporate HQ	10	D1002	Large	1002@company.onmicrosoft.com	4567890123	33.44.55.66.77

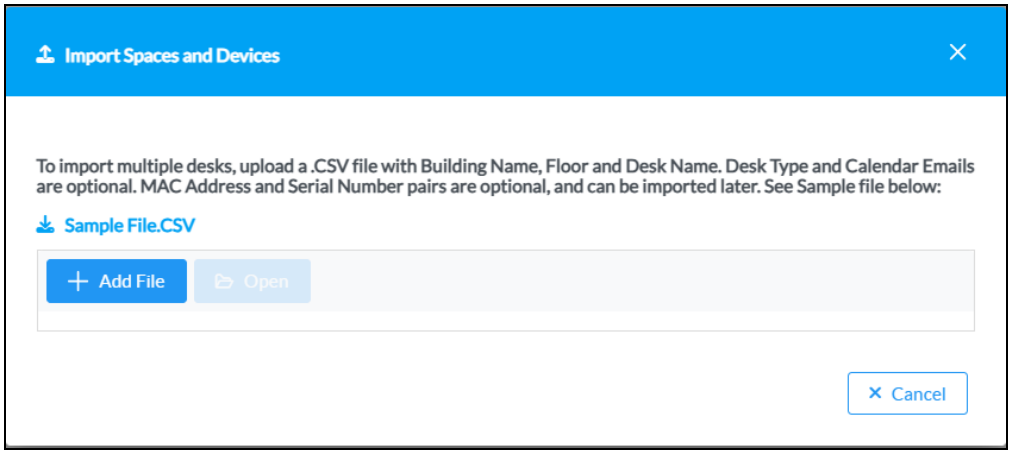
3. Save the CSV file to an accessible location on the local computer.

4. Select the context menu button ☰ for the **ENVIRONMENT** menu (or for a group or subgroup) to display a drop-down menu.

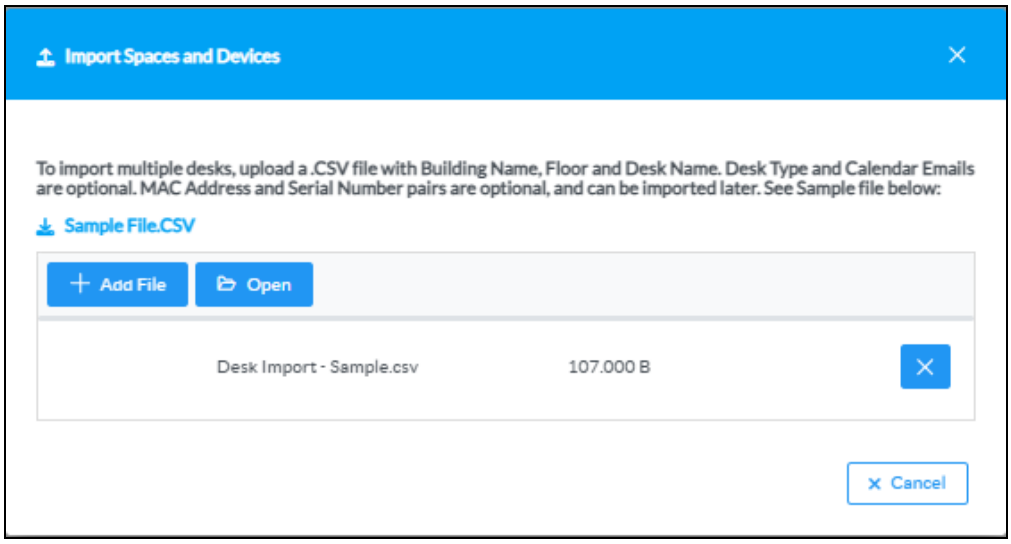


5. Select **Import Desks & Devices**. The **Import Spaces and Devices** dialog box is displayed.

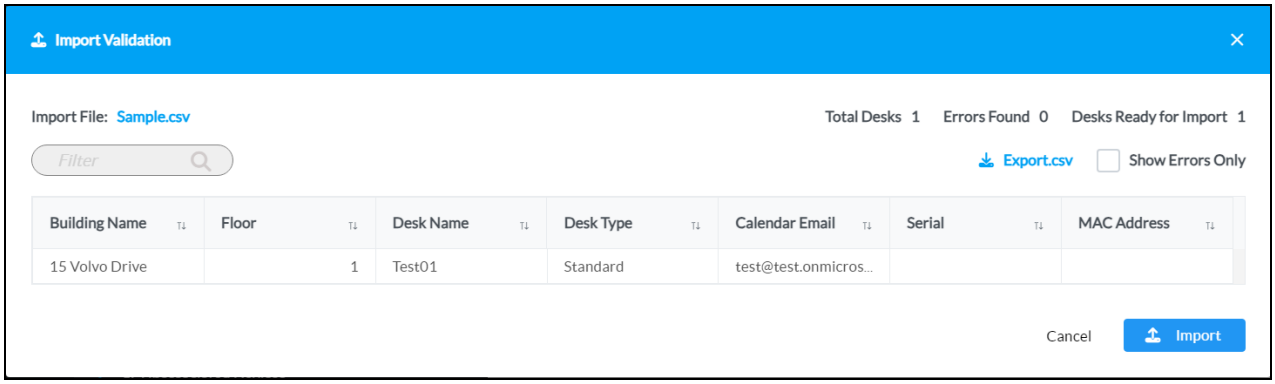
> **NOTE:** The **Import Desks & Devices** selection is also available in the context menu for groups and subgroups. Making this selection at the group level will limit the import to that group.



6. Select **Add File**, and then select the CSV file created earlier in this procedure. The CSV file is shown in the dialog box if it is valid.



7. Select **Open**. The **Import Validation** dialog box is displayed.



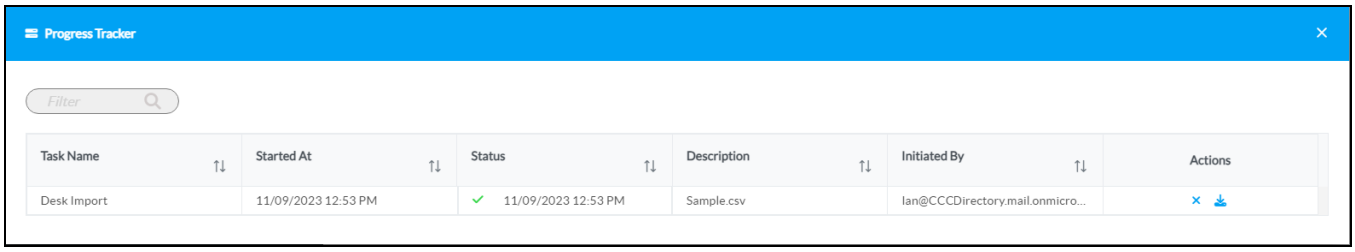
The **Import Validation** dialog box shows the total number of desks that will be imported and reports any errors that are found within the CSV file data. Each row of the CSV file is shown and can be modified within the dialog box. The following controls are provided:

- Use the **Filter** function to filter the CSV file table based on the entered information.
- Use the sorting controls in the table headers to sort the data in that column.
- Select **Export.csv** to export the provided CSV file to the local computer.
- Fill the **Show Errors Only** check box to show only the table rows that contain errors. Any data with errors is shown with red text. Hover over an error to view a pop-up description explaining the error.
- Select within any table cell to edit the data within that cell.

8. Select **Import** once all errors have been corrected. The CSV file upload progress begins.

To check the status of the CSV file upload, select the progress tracker button at the top right of the page. A **Progress Tracker** dialog box is displayed that shows the progress of the import task.

> **NOTE:** Large CSV files may take a considerable amount of time to upload. The status of the upload is always available within the **Progress Tracker** dialog box. For more information, refer to Progress Tracker on page 31.

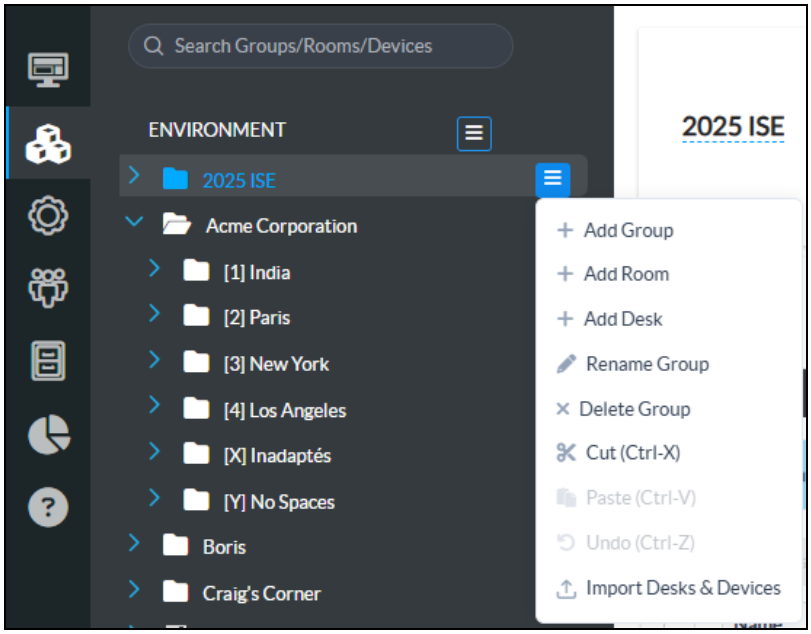


Once the CSV file has been uploaded successfully, a toast notification is shown indicating this. The group tree is updated to show the new desks and child devices.

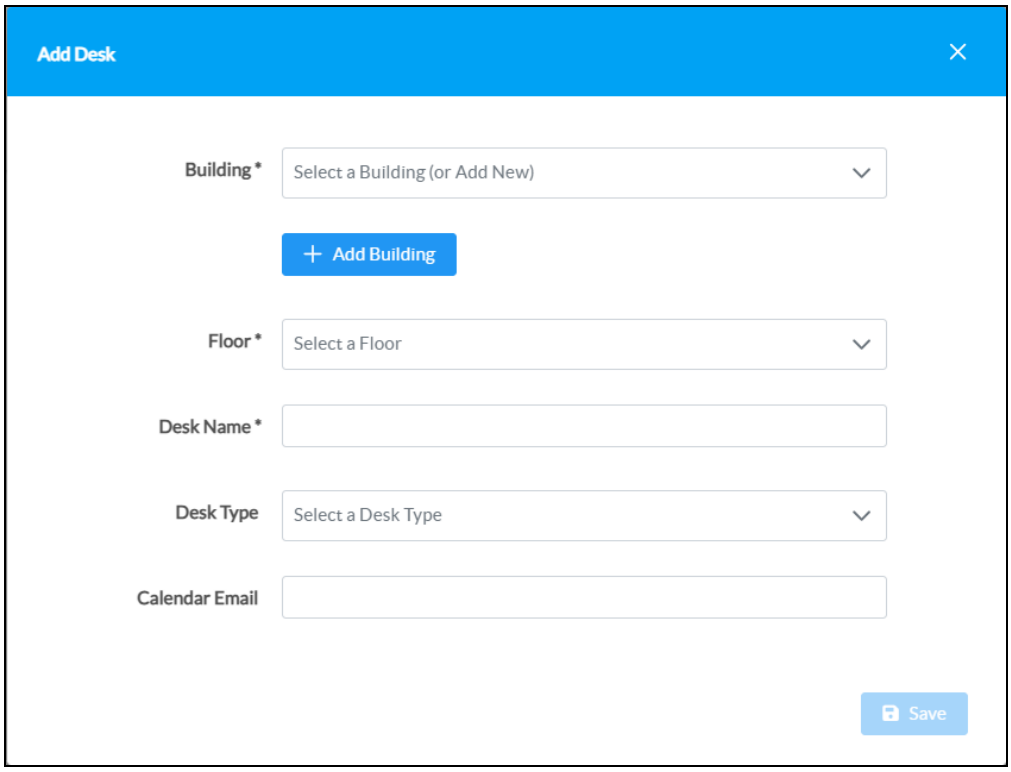
Add a New Desk

To add a new desk to a group manually:

1. Position the cursor over the group name in the **ENVIRONMENT** menu to reveal its context menu.
2. Select the context menu button for the group to display a drop-down menu.



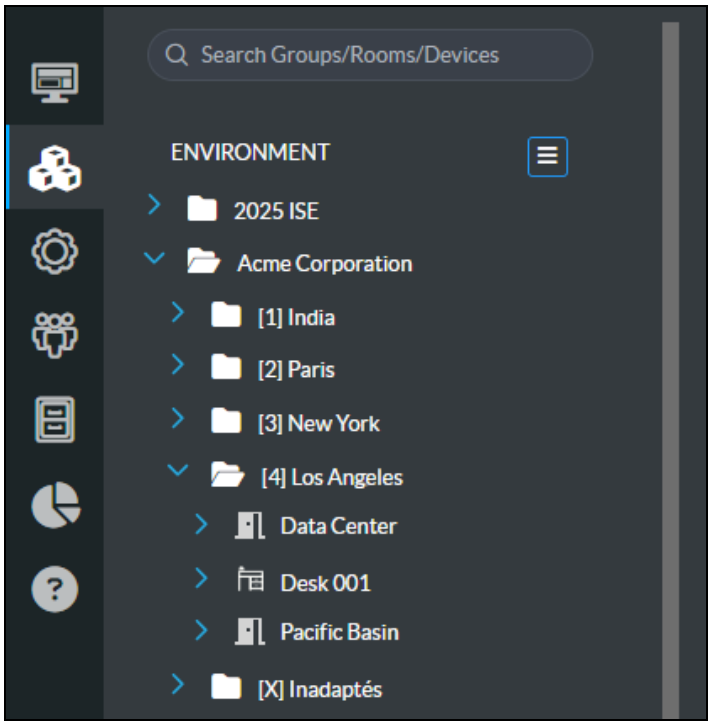
3. Select **Add Desk**. The **Add Desk** dialog box is displayed.



4. Enter the following information for the desk:
   - **Building**: *Required.* Use the drop-down menu to select a building that will be associated with the desk from the building address book.

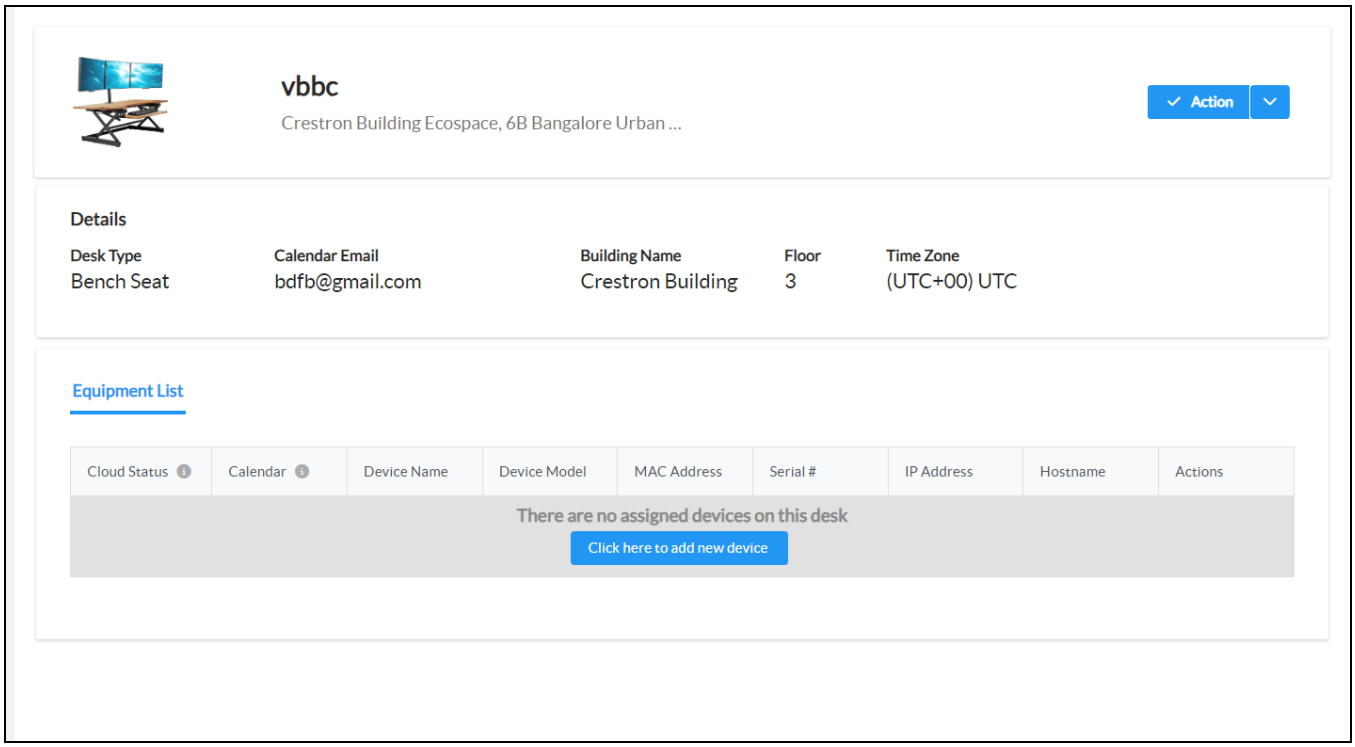
     If the desired building is not shown, select **+ Add Building** to display the **Add Building** dialog box. For more information on adding a building, refer to Create a New Building on page 35.
   - **Floor**: *Required.* Select the building floor where the desk is located. The available selections are populated based on the floors configured for the building.
   - **Desk Name**: *Required.* Enter the desk name. This name will be displayed for the desk throughout the XiO Cloud service and in the Desk Scheduling UI on the touch screen.
   - **Desk Type**: Use the drop-down menu to select the desk type. The available selections are populated based on the desk types configured for the building address book. For more information, refer to Manage Space Properties on page 39.
   - **Calendar Email**: Enter a unique scheduling calendar address that is paired with the desk to control reservations. This field is optional and can be left empty regardless of scheduling partner usage.

5. Select **Save**. The desk is added to the group and is reordered alphabetically within its parent group after it is added.



Edit a Desk

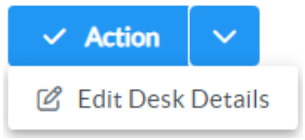
Once a desk has been added to the XiO Cloud environment tree, select it in the tree to open the desk details page.



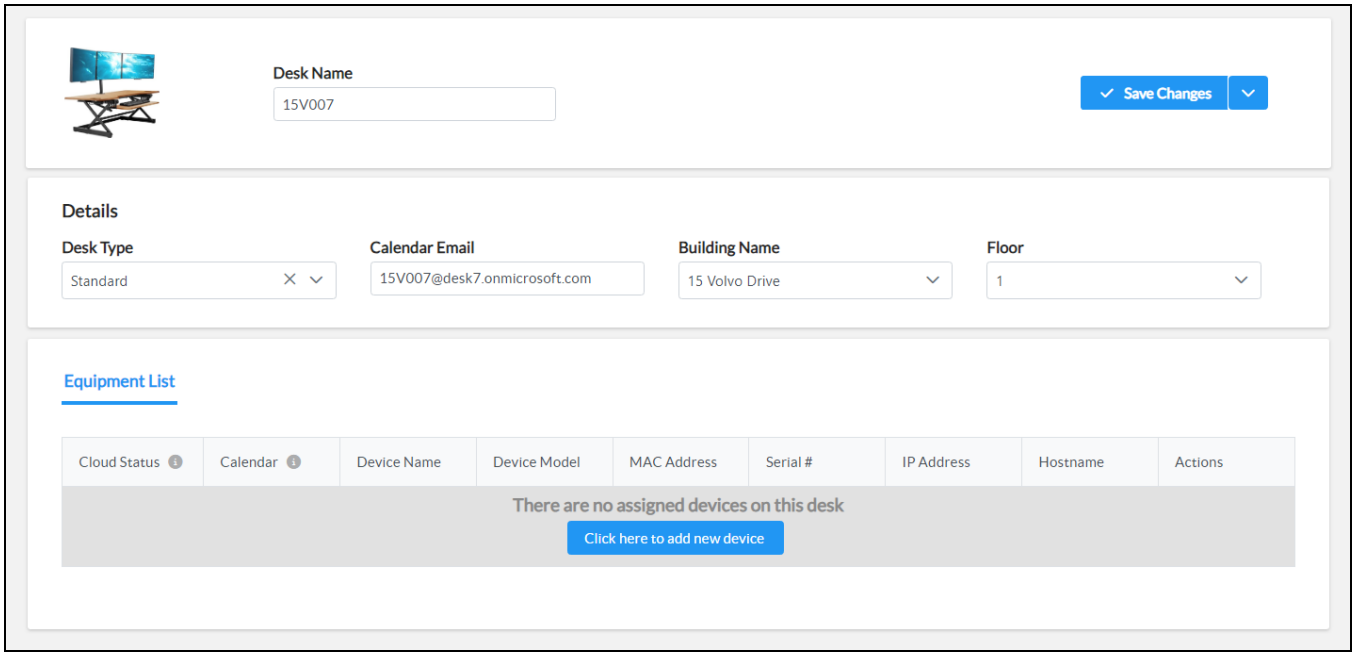
The following information is displayed for the desk:

- The user-defined desk name and the building address.
- A **Details** section that displays the desk type, scheduling calendar email address, building name, floor, and time zone.
- An **Equipment List** section that displays the status of the associated desk scheduling device (once added) and provides controls for adding a device.

An **Action** menu is also provided in the top right of the page that provides a **Edit Desk Details** selection for editing the desk.



Select **Edit Desk Details** to display editable fields for desk settings.



The following settings can be edited:

- **Desk Name**: Enter the desk name. This name will be displayed for the desk throughout the XiO Cloud service and in the Desk Scheduling UI on a TSS-470E touch screen.
- **Desk Type**: Use the drop-down menu to select the desk type. The available selections are populated based on the desk types configured for the building address book. For more information, refer to Manage Space Properties on page 39.
- **Calendar Email**: Enter the unique scheduling calendar address that is paired with the desk to control reservations. This field is optional and can be left empty regardless of scheduling partner usage.
- **Building Name**: Use the drop-down menu to select a building that will be associated with the desk from the building address book.

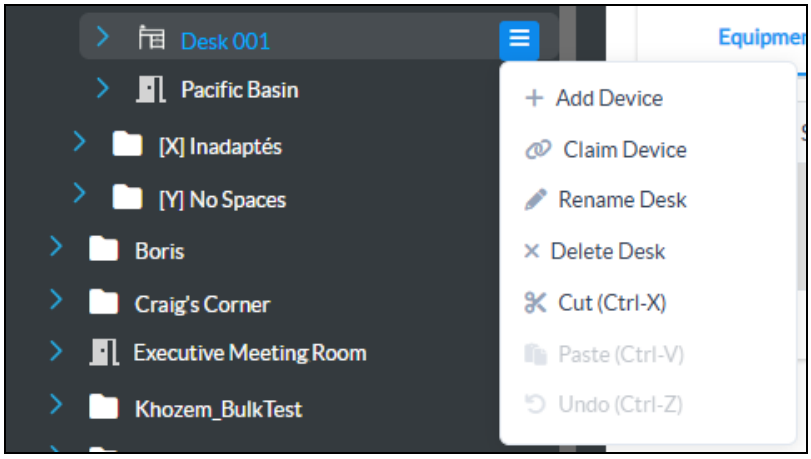
- **Floor**: Select the building floor where the desk is located. The available selections are populated based on the floors configured for the building.

Select **Save Changes** to save any changes. A toast notification is shown indicating that the changes have been saved.

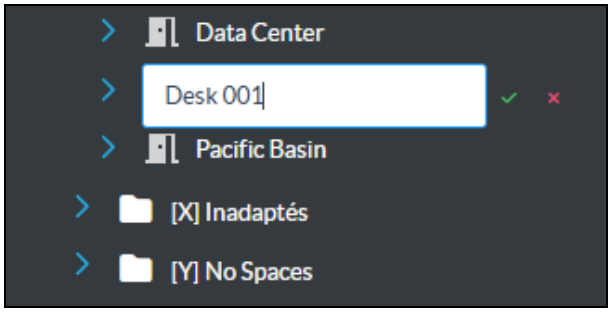
Rename a Desk

To rename an existing desk from the XiO Cloud environment tree:

1. Position the cursor over the desk name in the **ENVIRONMENT** menu to reveal its context menu.
2. Select the context menu button for the desk to display a drop-down menu.



3. Select **Rename Desk**. The room name becomes an editable text box.

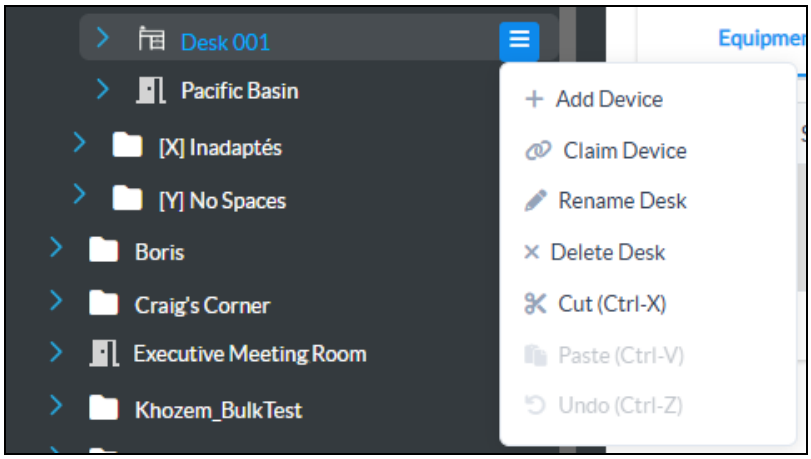


4. Enter a new desk name in the text box. A room name must be at least three characters long.
5. Select the green check icon or press **Enter** to save the room name. Select the red **x** icon to discard the changes.

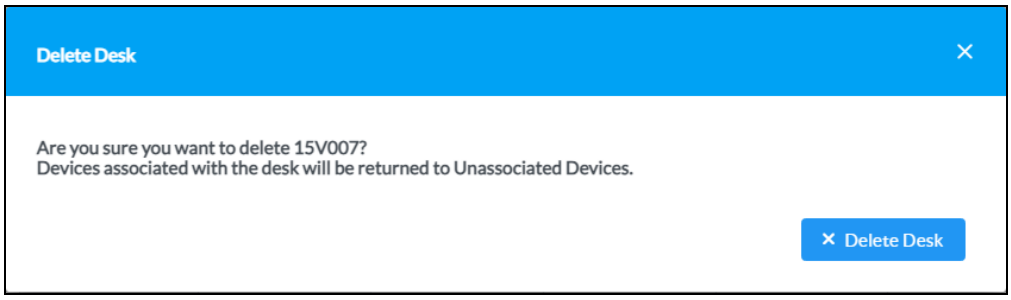
Delete a Desk

To delete an existing desk:

1. Position the cursor over the desk name in the **ENVIRONMENT** menu to reveal its context menu.
2. Select the context menu button for the desk to display a drop-down menu.



3. Select **Delete Desk**. A confirmation prompt is displayed asking whether the desk should be deleted.



4. Select **Delete Desk** to delete the desk or close the message window to cancel the deletion.

> **NOTE:** If a desk scheduling device is associated with the desk, the device will become unassociated with the desk and return to the **Unassociated Devices** node within the XiO Cloud environment tree.

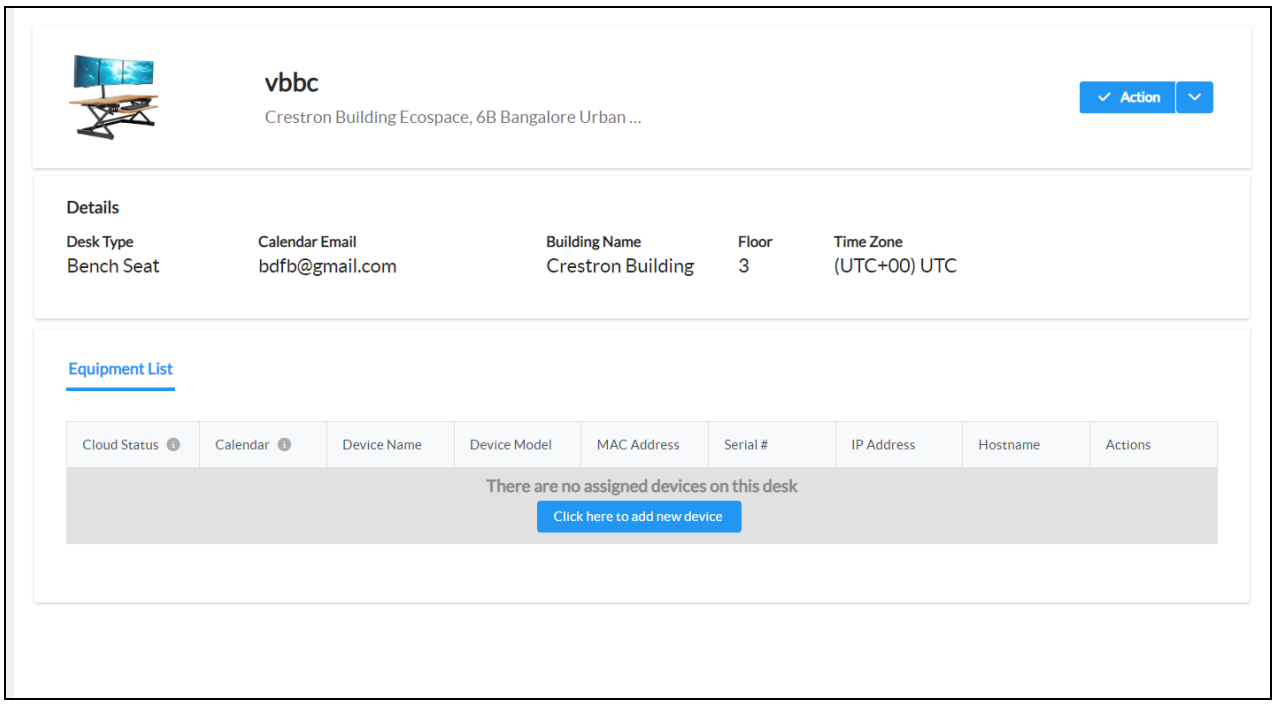
Associate a Desk Scheduling Device with a Desk

Each desk within the XiO Cloud environment tree must be associated with a unique desk scheduling device. Once a device is associated with the desk, status and settings for the device and scheduling calendar connection can be viewed.

> **NOTE:** The following procedure assumes that the desk scheduling device has been claimed to the XiO Cloud service and is not associated with another desk. For more information on how to claim a device, refer to Claim Devices on page 69.

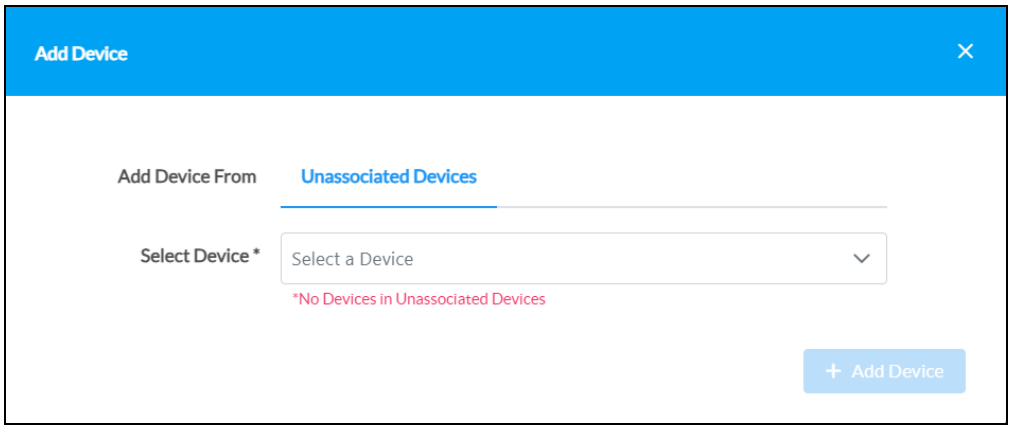
To associated a desk scheduling device with a desk:

1. Select the desk within the XiO Cloud environment tree to display its status page.



2. Select **Click here to add new devices** in the **Equipment List** section. The **Add Device** dialog box is displayed.

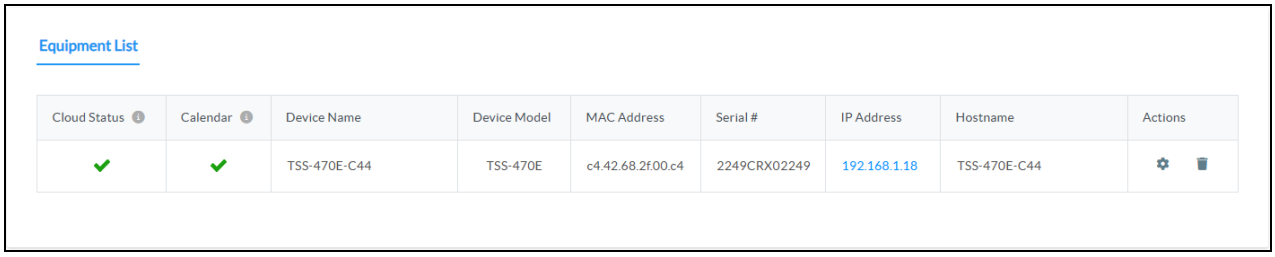
> **NOTE:** Alternately, the **Add Device** selection in the desk's environment tree context menu can be used to open the **Add Device** dialog box.



3. From the **Unassociated Devices** tab, use the **Select Device** drop-down menu to select an unassociated desk scheduling device within the XiO Cloud account.

4. Select **Add Device** once the unassociated desk scheduling device has been selected. The device is added to the **Equipment List** section of the desk status page.

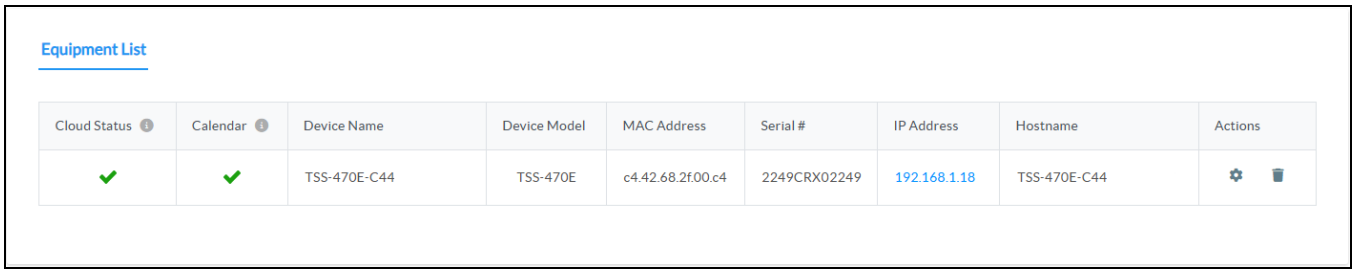
> **NOTE:** It may take up to 15 minutes for the device to establish a connection with the XiO Cloud service.



View Device Settings

Once the desk scheduling device has been associated with the desk, navigate to the **Equipment List** section of the desk status page to view the following device settings.

> **NOTE:** As of XiO Cloud release 2.8, supported beta devices can be claimed into XiO Cloud for testing purposes. An orange beta icon BETA is shown next to the device name in a desk to indicate its beta status.



- **Cloud Status**: Indicates whether the device is reporting online ✔ or offline ✖ within XiO Cloud. A device is considered offline after it fails to respond to multiple call attempts issued five minutes after the device first reports as disconnected.
- **Calendar**: Reports the current status of the scheduling calendar connection:
  - Shows a green check icon ✔ if the scheduling calendar connection is active.
  - Shows a red x icon ✖ if the scheduling calendar connection is inactive.
  - Shows a question mark icon ? if the scheduling calendar connection status is unknown (reported only if the device is showing as offline).
- **Device Name**: The device name in XiO Cloud.
- **Device Model**: The device model.
- **MAC Address**: The MAC address of the device network adapter used to connect to XiO Cloud.
- **Serial #**: The device serial number.
- **IP Address**: The current device IP address.

> **NOTE:** Select the IP address to navigate to the web configuration interface for that device in a new tab (if available).

- **Hostname**: The device host name.

An **Actions** column is also provided that allows the device to be configured or deleted. For more information on configuring a device, refer to Manage Devices on page 104.

Claim Devices

Devices must be claimed into the XiO Cloud service before they can be managed. Devices can be claimed individually or as a group. Supported Crestron devices can also be claimed using the Crestron Device Assistant app. Any user (standard or admin) can claim devices into XiO Cloud using either the Crestron Device Assistant app or XiO Cloud portal. Additionally, as of XiO Cloud release 2.8, supported beta devices can be claimed into XiO Cloud for testing purposes.

> **NOTE:** Third-party device support requires an XiO Cloud Premium subscription. Supported third-party devices that do not use the Crestron Connected® connection protocol must be claimed using a Crestron control system or the Crestron XiO Cloud™ Gateway software. For more information, refer to the XiO Cloud® Service Third-Party Device Monitoring Configuration Guide.

The device MAC address and serial number (generally shown with an "SN" prefix) are required to claim the device into XiO Cloud. The MAC address and serial number are located on labels affixed to the shipping box or device. Locate and verify these values before proceeding to claim the device using any of the following procedures.

The following image shows an example of these labels on a TSS-470E.



NOTES:

- If the device has multiple MAC addresses, use the MAC address that is providing the primary connection back to the network (typically from the adapter with the lowest numeric value, such as "MAC1"). For most devices, the Ethernet MAC address should be used. However, if your device is connecting to the network over a different protocol (such as Wi-Fi® communications), use the MAC address for that protocol instead.
- If claiming a Crestron software product (such as Crestron Virtual Control server software), the serial number and MAC address are generated by the software and can be located using its web configuration interface. For Crestron software products that are preinstalled on a computer or other device (such as the VC-4-SERVER-25), do not use the serial number and MAC address labeled on the device.

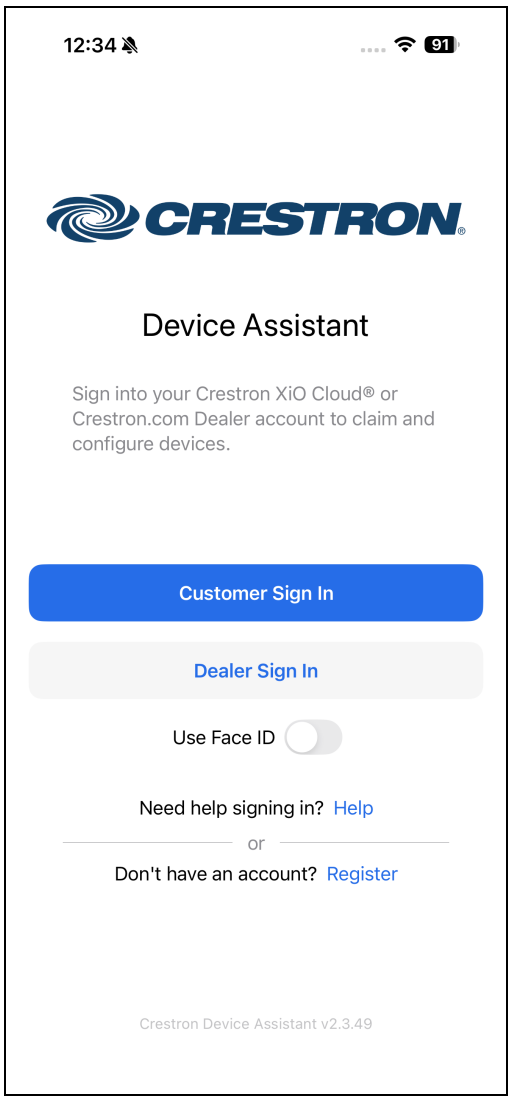
Claim Devices via the Device Assistant App

The Crestron Device Assistant app is a mobile application that claims supported Crestron devices into the XiO Cloud® service. Simply scan the MAC address and serial number label on the device when prompted, and the Crestron Device Assistant app will claim the device into the XiO Cloud service in only a few steps.

The Crestron Device Assistant app is available for download from the App Store® app on supported Apple® iPhone® devices or from the Google Play™ app on supported Android™ OS devices.

To claim a device using the app:

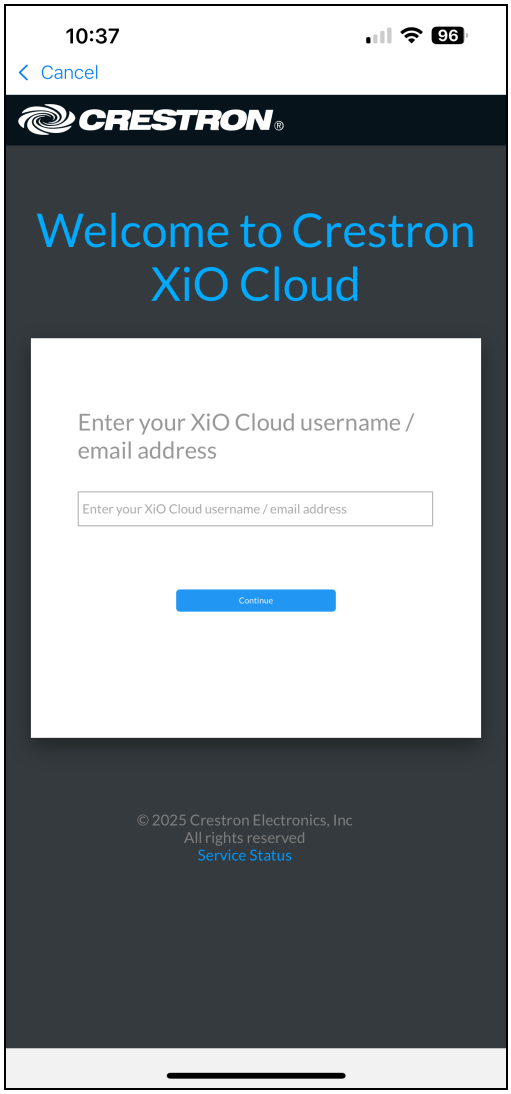
1. Open the Crestron Device Assistant app on your mobile device.



2. Select **Customer Sign in** or **Dealer Sign in** depending on your role. The **Welcome to Crestron XiO Cloud** screen is displayed.

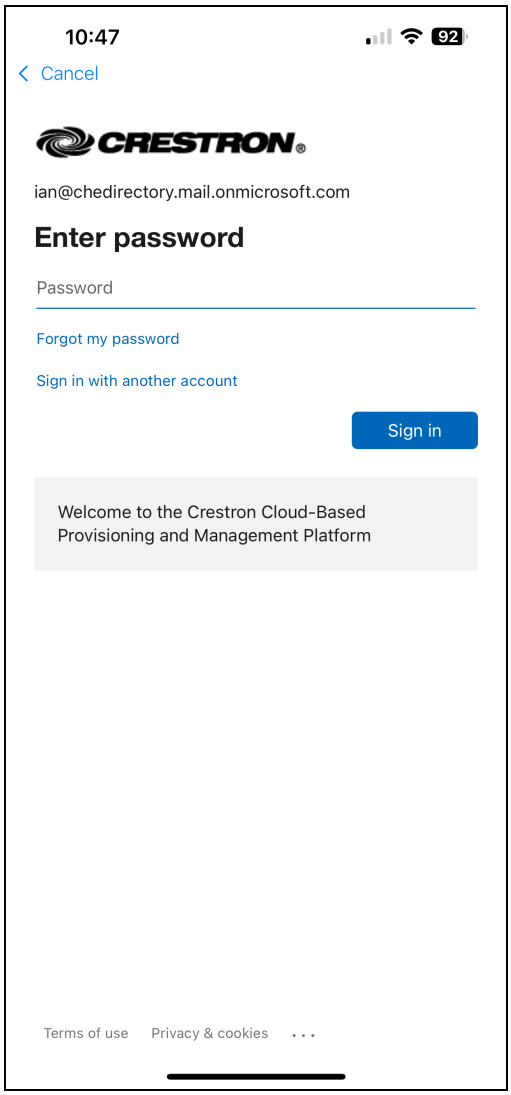
> **NOTES:**
>
> - Select **Customer Sign in** if you are signing into your own XiO Cloud account. Select **Dealer Sign in** if you are an Authorized Support Provider signing into a customer account. Dealers will be taken to a screen for entering their Crestron web account credentials prior to signing into the customer account. For more information on managing support providers in customer accounts, refer to Manage Support Providers on page 232.

- The Device Assistant App supports biometric login methods (facial recognition, touch recognition, or passcode) depending on which are supported and enabled on the mobile device. If a biometric login method is enabled for the device, a toggle is displayed on the Device Assistant App sign in page. Turn on the toggle, sign in normally, and then sign out to use biometrics for the next login. This setting can be turned on or off at any time from the sign in page.



3. Enter your full user name (for example, "jsmith@crestron.io"). For more information, refer to Log in to the Service on page 25.
4. Select **Continue**. The **Enter password** screen is displayed.

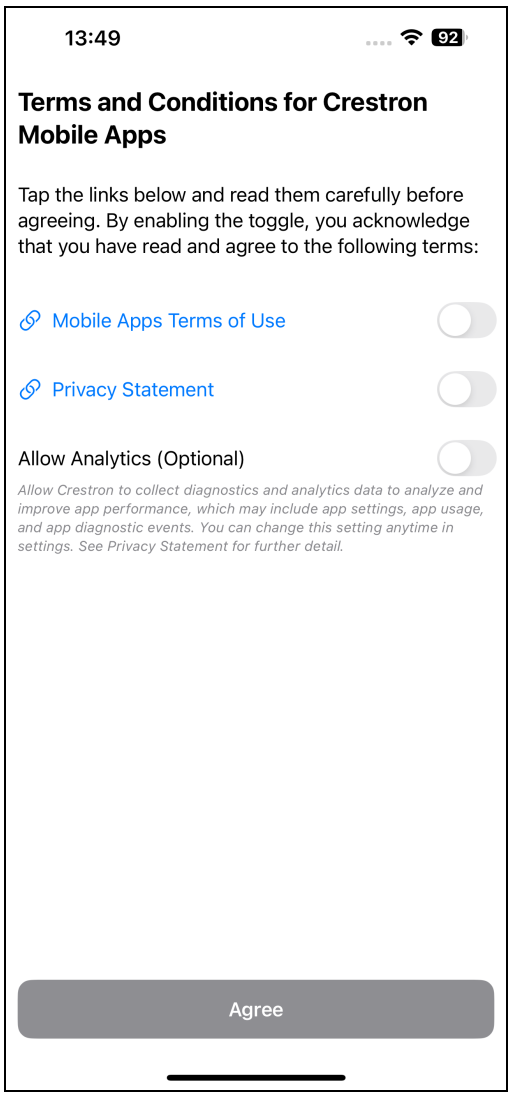
NOTE: Users registered with a single sign-on (SSO) identity provider will be redirected to their identity provider instead to enter login credentials.



5. Enter your account password.

6. Select **Sign in**.

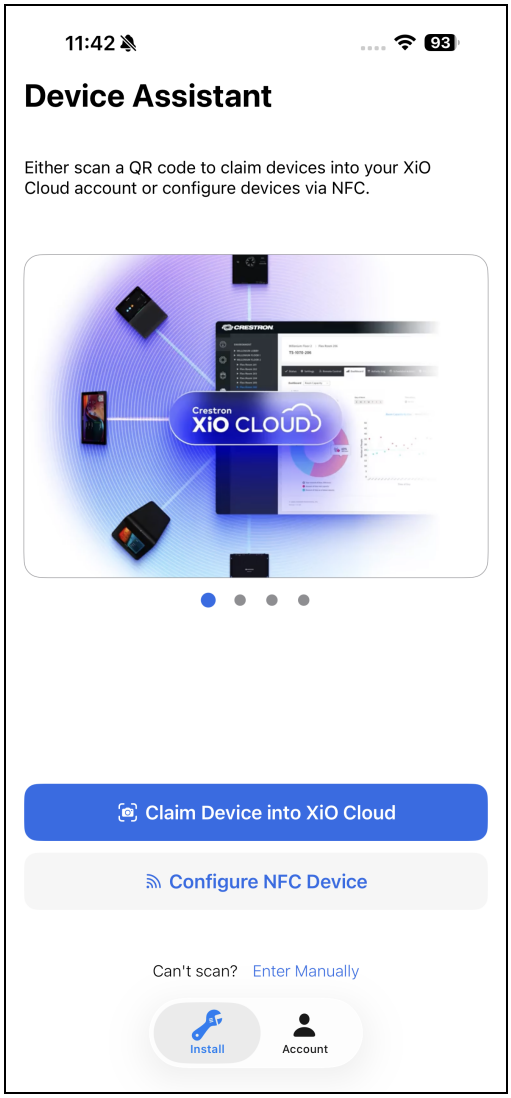
   Upon successful sign in, a **Terms and Conditions for Crestron Mobile Apps** screen is displayed.



7. Agree to the **Mobile Apps Terms of Use** and **Privacy Statement** by turning on their toggles, then select **Agree**.

> **NOTE:** An optional **Allow Analytics** toggle is also provided on this screen. If this toggle is turned on, Crestron will be able to collect anlaytics data to analyze and improve app performance. The collected data may include app settings, app usage, and app diagnostic events. Analytics can be turned on or off at any time within the **Account** settings.

The **Device Assistant** screen is displayed.



8. Select **Claim Device into XiO Cloud**.

> **NOTE:** If the MAC address and serial number labels are damaged or missing and cannot be scanned, select **Enter Manually** from the **Device Assistant** screen. The app will prompt you to enter the serial number and MAC address of the device. Select **Add Device** once the required information has been entered to view the **Confirm Details** screen.

9. When prompted, agree to allow the app to use the phone camera. The camera opens in a screen for scanning device labels.
10. Hover the phone camera over the device label(s) that include the serial number and MAC address. The app's text recognition feature will attempt to populate the **MAC** and **SN** values on screen once they are scanned.

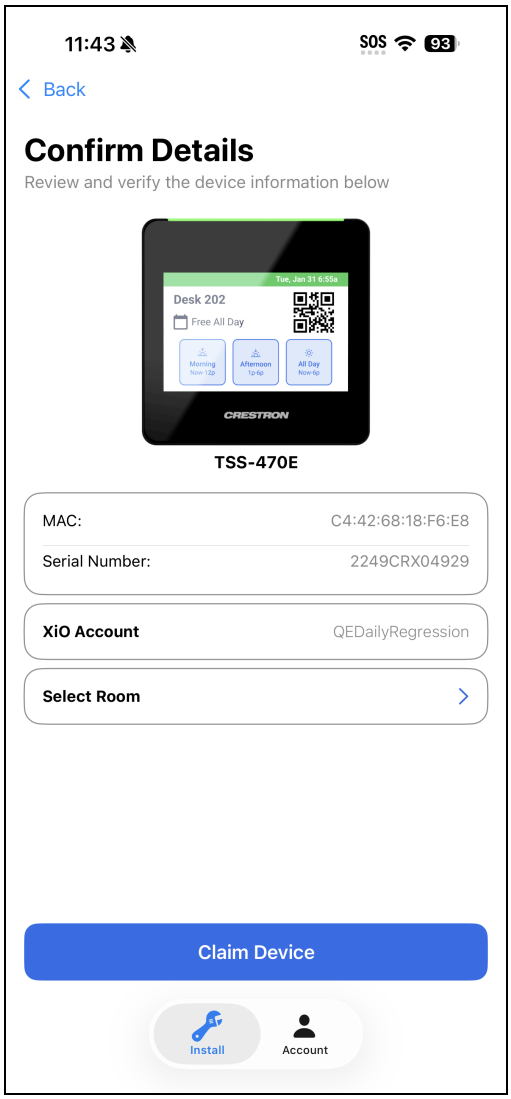


NOTE: If the populated values are not correct, attempt to rescan the label from a different distance or angle. As long as the correct values are captured within the app, any incorrect values will be ignored during device identification and do not need to be deleted. Populated values can be manually edited by tapping the edit button next to **MAC** and **SN**. All populated values can also be deleted by tapping the **x** button.

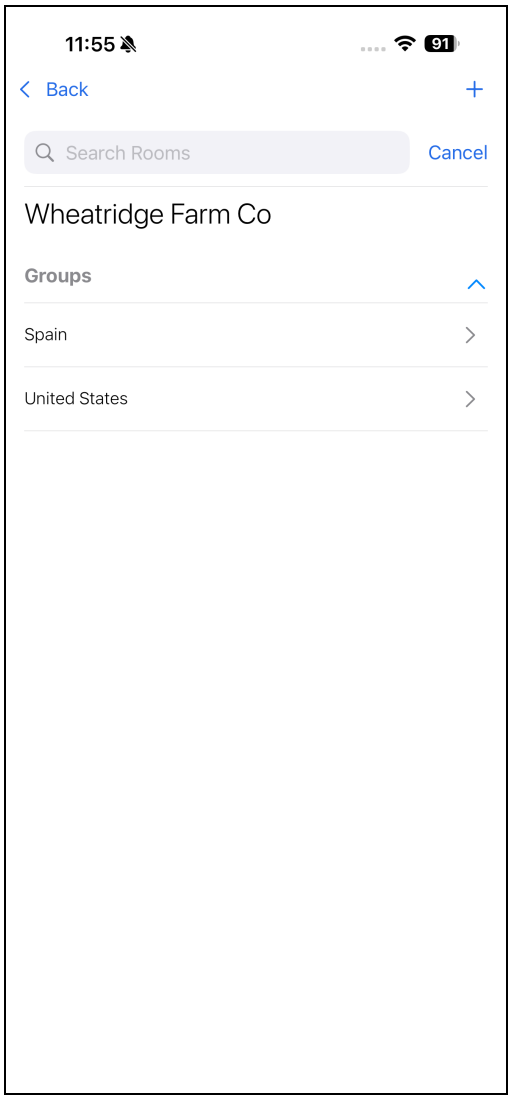
11. Select **Continue**. The app attempts to identify the device within the XiO Cloud service.

    If the identification is successful, a **Confirm Details** screen is shown with information about the device and the XiO Cloud account that will claim it.

> **NOTE:** If you are logged in as a dealer, use the **XiO Account** setting to select the customer account that will claim the device. This setting is not selectable if you are logged in as an end user.

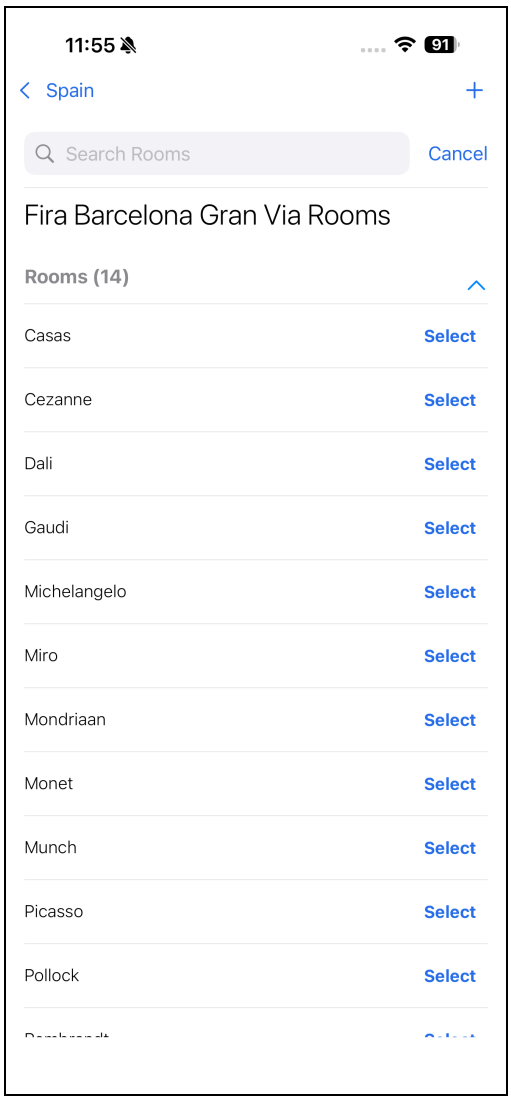


12. To claim a device into a specific room within the XiO Cloud account, tap **Select Room**.



13. Use the group tree that is displayed to locate the desired room in the account, and then tap it to make the selection. Additionally, use the search function at the top of the group tree to filter groups or rooms based on the entered text.

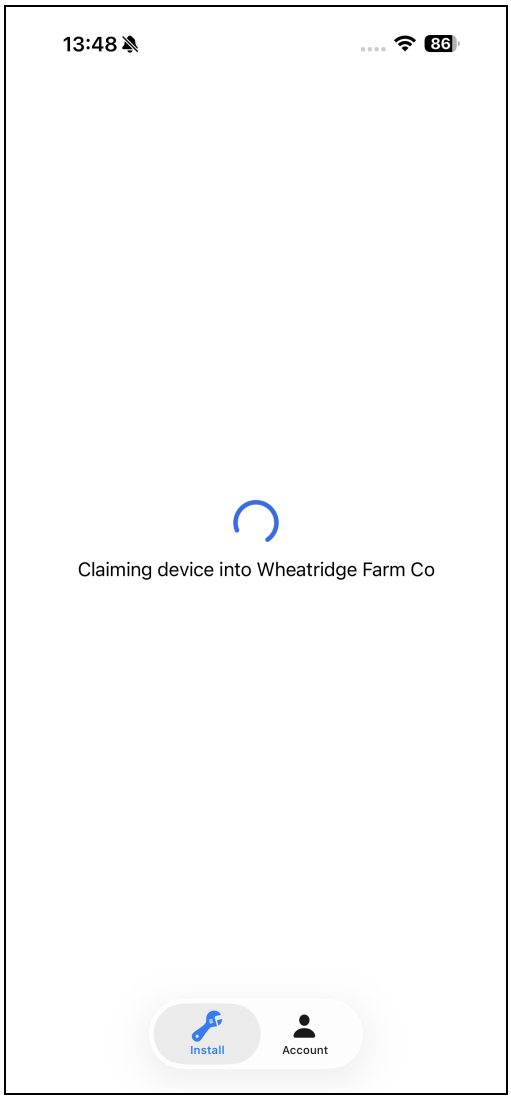
> **NOTE:** Users with the appropriate permissions can create new rooms and groups directly from the app if needed. Select the plus icon **+** in the top right corner of the screen to view controls for adding a room or group. For more information, refer to Add a Group via the Device Assistant App on page 82 and Add a Room via the Device Assistant App on page 85.



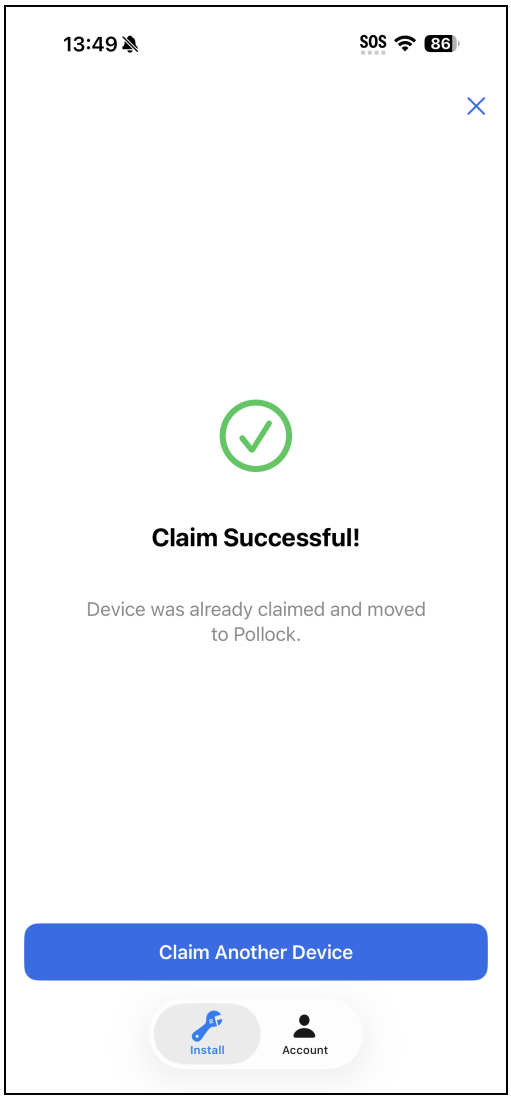
NOTES:

- Standard users with Admin and Tech roles can only claim devices into rooms to which they have been granted access. Rooms that a user cannot select are grayed out within the group tree, and a lock icon is shown in place of the **Select** button. For more information, refer to Manage Users on page 136
- Desks are not shown in the app group tree. Use the XiO Cloud portal to associate claimed devices with desks.
- If no room is selected, the device will be claimed into the **Unassociated Devices** group.
- If a device is already claimed into the account and you attempt to reclaim it into a new room, the device will be moved into that room from its prior location. Devices cannot be moved from a room into **Unassociated Devices** via the app.
- If a new room or group is added to the account while the app is open, pull to refresh to see the changes in the app.
- Devices claimed into rooms will inherit their associated group policies automatically.

14. Select **Claim Device**. The app will attempt to claim the device into the XiO Cloud account.



15. If the claim is successful, a success message is displayed, and the claimed device is added to the selected room within the XiO Cloud group tree. Select **Claim Another Device** to restart the claiming process, or select the **x** button to return to the home screen.



The device may now be managed within XiO Cloud.

Add a Group via the Device Assistant App

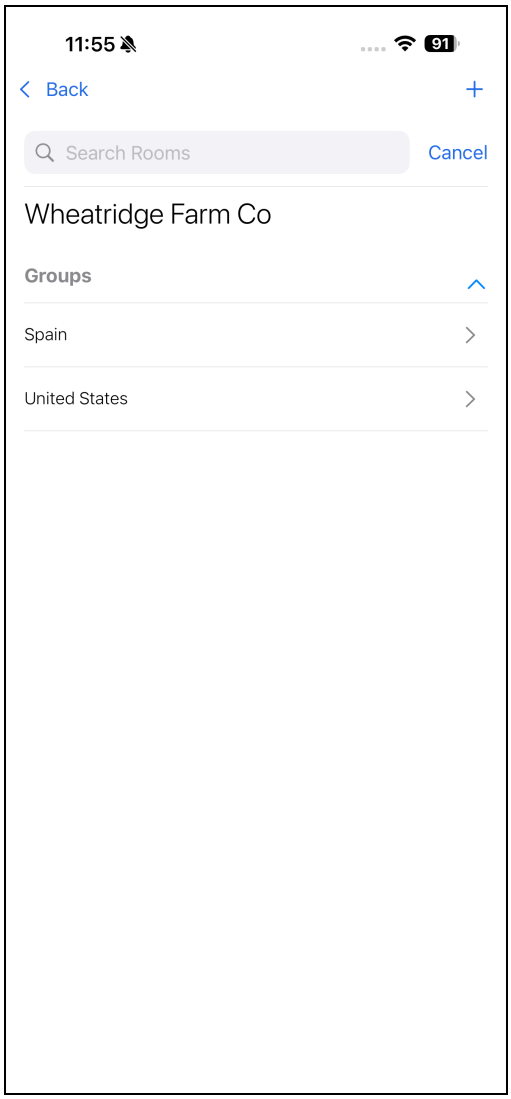
Groups can be added via the Device Assistant App as of its 2.4 release. Users with the appropriate permissions can add groups and subgroups to their XiO Cloud account while claiming devices into the app.

> **NOTE:** Only Global Administrators can add groups at the top level of the group tree.

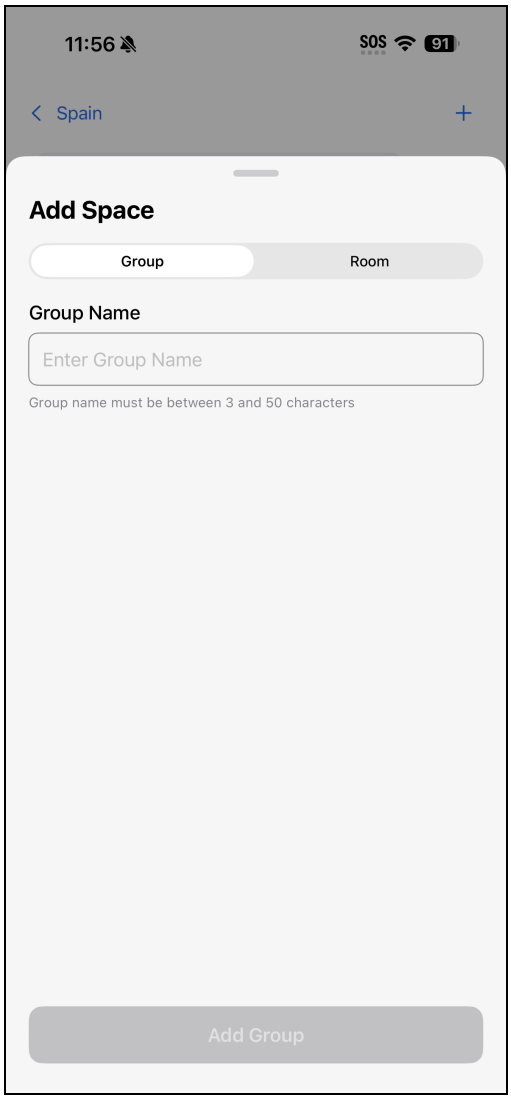
To add a new group via the Device Assistant App:

1. Log into the Device Assistant App and scan a device into the app as described in steps 1–11 of Claim Devices via the Device Assistant App on page 70.

2. Tap **Select Room**.



3. Navigate to the location in the group tree where the new group will be created, and then tap the plus icon **+** in the top right of the screen. The **Add Space** screen is displayed with the **Group** tab selected.



4. Enter a group name in the **Group Name** text field.
5. Select **Add Group**. The group is added to the chosen location in the group tree.

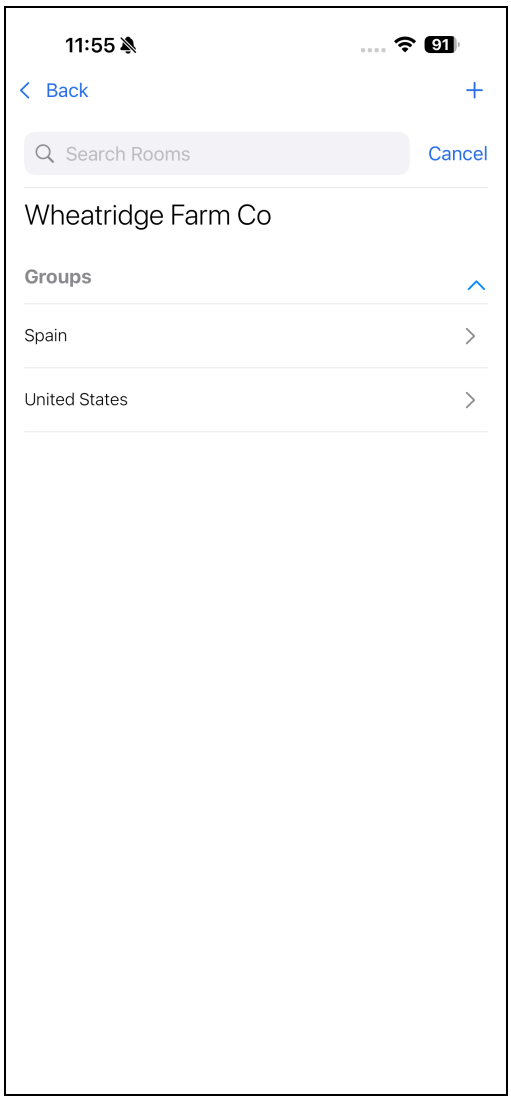
> **NOTE:** An error message will be displayed if you do not have the appropriate permissions to create a group in the chosen group tree location. Contact your XiO Cloud administrator for assistance.

Add a Room via the Device Assistant App

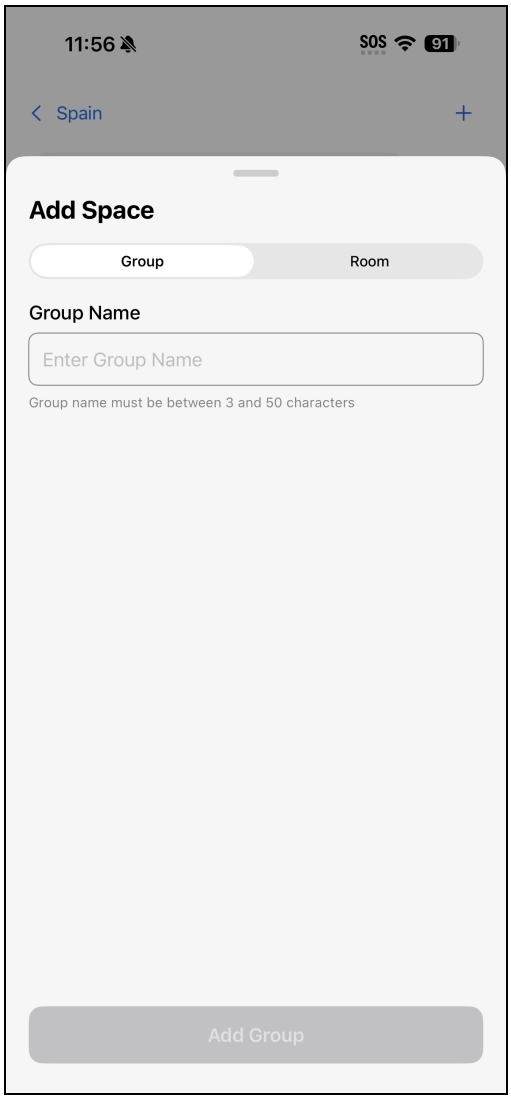
Rooms can also be added via the Device Assistant App as of its 2.4 release. Users with the appropriate permissions can add rooms to their XiO Cloud account while claiming devices into the app.

To add a new room via the Device Assistant App:

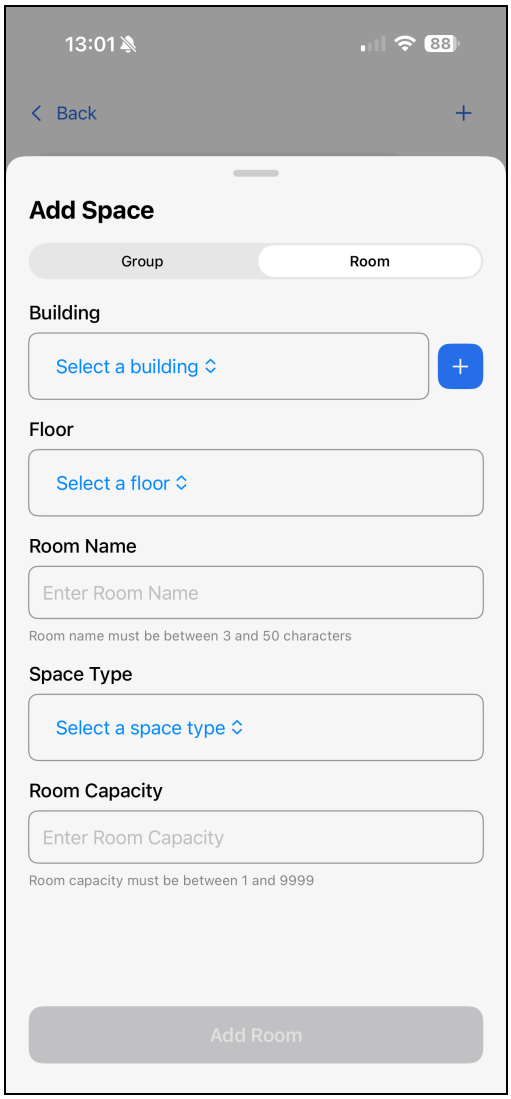
1. Log into the Device Assistant App and scan a device into the app as described in steps 1–11 of Claim Devices via the Device Assistant App on page 70.
2. Tap **Select Room**.



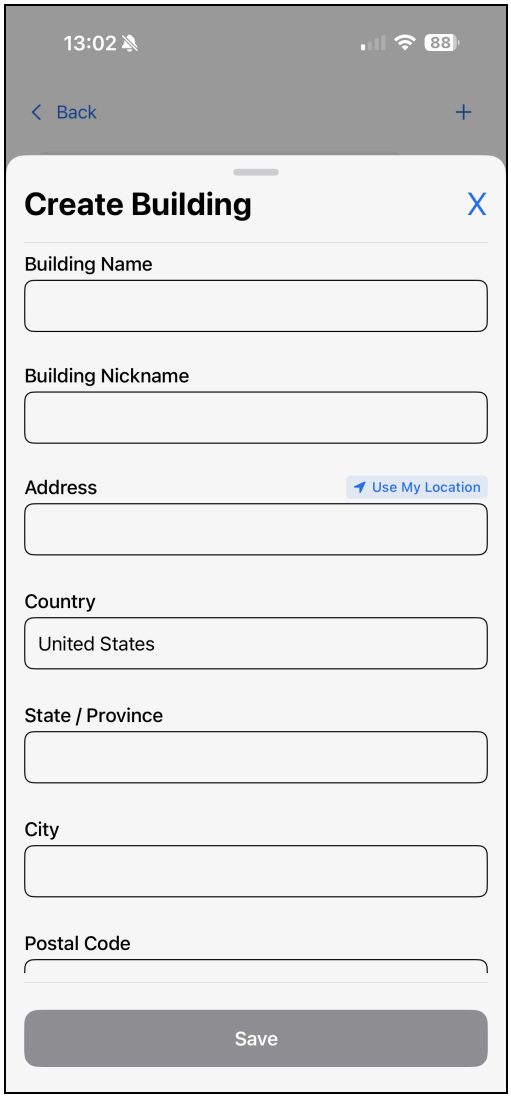
3. Navigate to the location in the group tree where the new group will be created, and then tap the plus icon **+** in the top right of the screen. The **Add Space** screen is displayed with the **Group** tab selected.



4. Tap the **Room** tab to display controls for creating a new room.



5. Enter the following information for the room:
    - **Building**: Select the building in the XiO Cloud account that contains the room. To add a new building, select the plus (**+**) button to the right of the drop-down. Controls are displayed for adding a new building if you have the appropriate permissions to create a building for your account. For more information, refer to Manage Buildings on page 34.



> **NOTE:** Select **Use My Location** above the **Address** text field to populate this field using location data from your mobile device.

    - **Floor**: Select the building floor that contains the room.
    - **Room Name**: Enter a name for the room.
    - **Space Type**: Select the space type from the available options. For more information, refer to Manage Space Properties on page 39.
    - **Capacity**: Enter the maximum capacity for the room.
6. Select **Add Room**. The room is added to the chosen location in the group tree.

> **NOTE:** An error message will be displayed if you do not have the appropriate permissions to create a room in the chosen group tree location. Contact your XiO Cloud administrator for assistance.

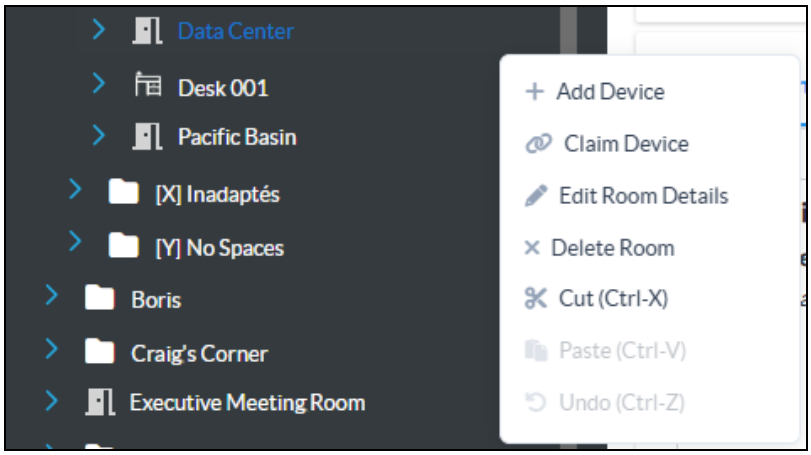
Claim a Single Device via XiO Cloud

To claim a single device using the XiO Cloud web interface:

> **NOTE:** As of the XiO Cloud version 2.5 release, devices can be claimed directly into rooms or desks as described in the following procedure.

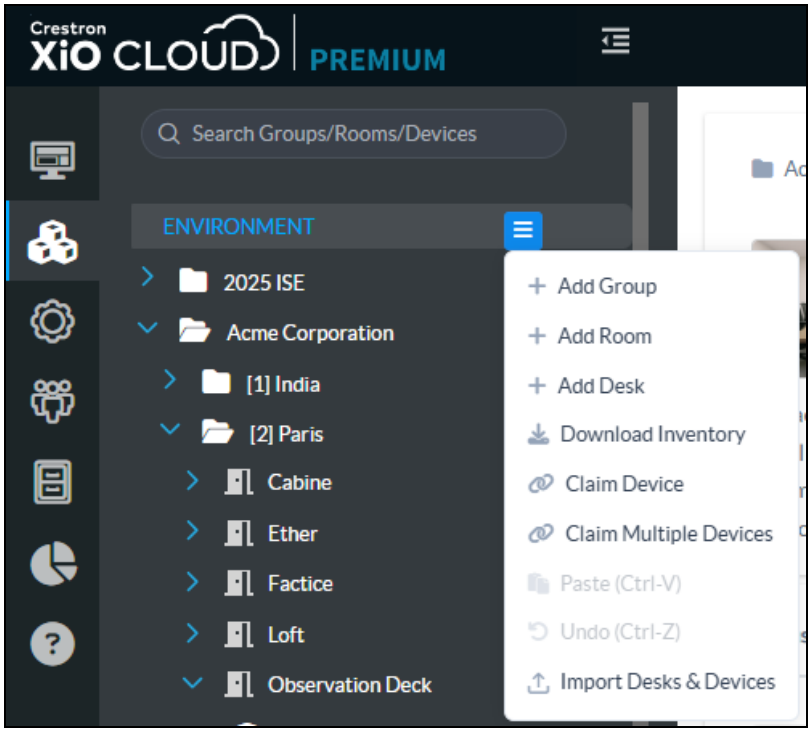
1. Record the MAC address and serial number of the device.
2. Determine where the device will be claimed within the XiO Cloud group tree:
   - To claim into a specific room or desk, select the context menu button for that room or desk to display a drop-down menu.

     Room - Drop-Down Menu



- To claim into the **Unassociated Devices** group, select the **ENVIRONMENT** menu button to display a drop-down menu.

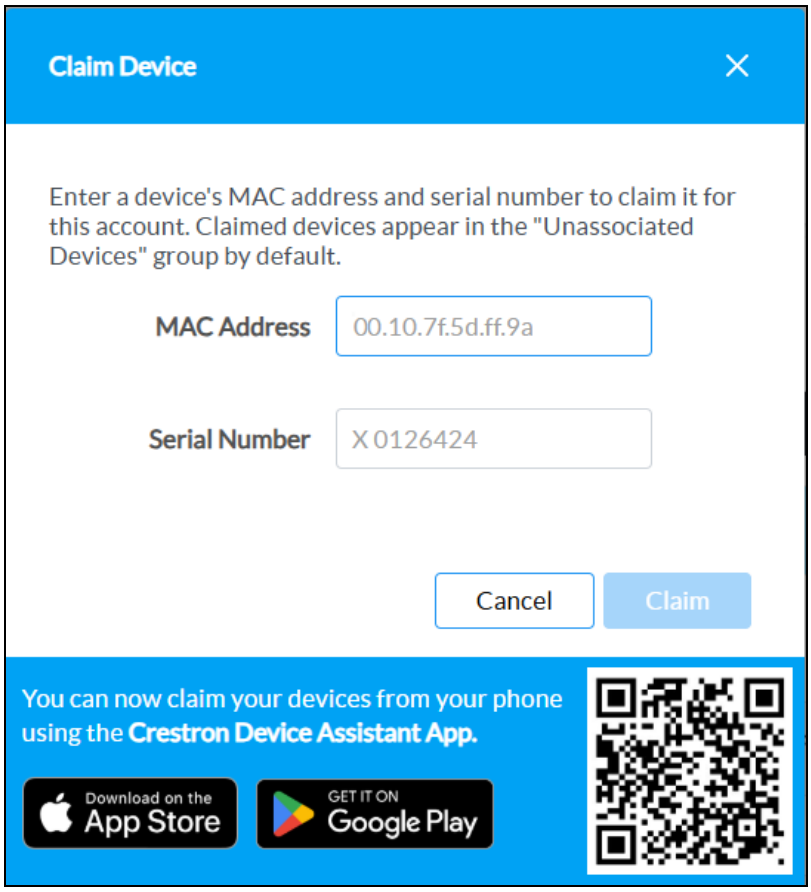
  Environment - Drop-Down Menu



3. Select **Claim Device**. The **Claim Device** dialog box is displayed.

> **NOTE:** Scan the QR code on the bottom of the dialog box with your mobile device to open a web page with links to the Device Assistant app download pages for each OS. If the Crestron Device Assistant app is already installed on the mobile device, scanning the QR code opens the app instead. For more information on claiming devices with the Device Assistant app, refer to Claim Devices via the Device Assistant App on page 70.

Claim Device Dialog Box

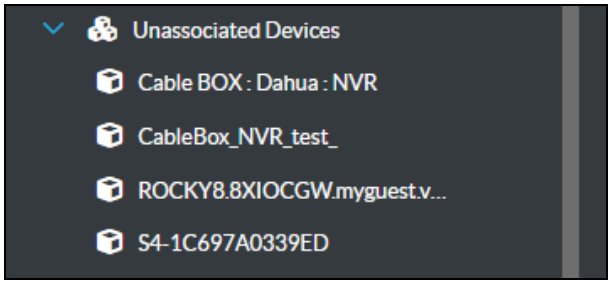


4. Enter the MAC address and serial number recorded in step 1 in the **MAC Address** and **Serial Number** fields, respectively.
5. Select **Claim**. A success message is displayed if the claim is successful.

   > **NOTE:** If an error message is displayed stating that the device does not exist, connect the device to a network that has access to the internet, wait 15 minutes, and then try again.

6. Select **X** to close the dialog box. The claimed device is added to the chosen room or desk. If the device was claimed from the **ENVIRONMENT** menu, then it as added to the **Unassociated Devices** group instead.

   Unassociated Devices



The device may now be managed and assigned to a group, room, or desk (if unassociated).

NOTE: Observe the following points when claiming a device to a room or desk:

- Standard users with Admin and Tech roles can only claim devices into rooms or desks to which they have been granted access. For more information, refer to Manage Users on page 136
- Only one device can be associated with a desk at a time. If a device is already associated with a desk, then the **Claim Devices** function will not be selectable in the desk's drop-down menu.
- Devices claimed into rooms or desks will inherit their associated group policies automatically.

Claim Multiple Devices via XiO Cloud

To claim multiple devices:

1. Record the MAC address and serial number of each device as a comma delimited CSV file.

   The CSV file should be formatted as shown below:

   CSV File Format

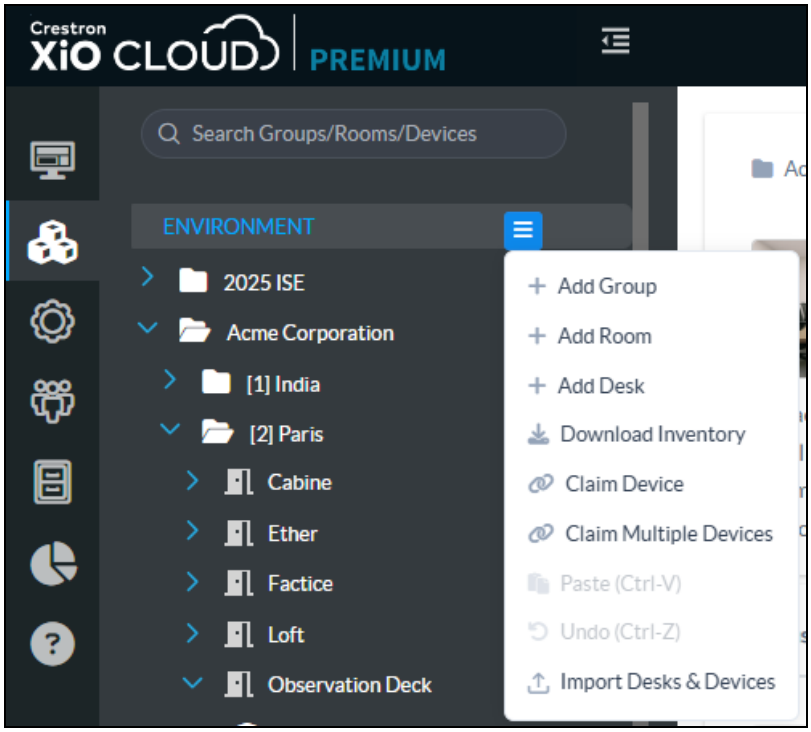
   ```
   MAC Address,Serial Number
   00.10.7e.8b.81.b6,17284712
   00.10.7e.8b.8c.87,17284570
   00.10.7e.96.83.93,1716JBG01207
   00.10.7e.96.92.0a,1716JBG01550
   00.10.7e.8b.87.c1,17284670
   ```

   NOTE: An optional third column may be added to the CSV file with custom device names. After being claimed, the device will take the custom name from the CSV file instead of its default name. For example, if adding a custom device name to the first example above, the formatting would be `00.10.73.8b.81.b6,17284712,[custom device name]`

2. Save the CSV file to a location that may be accessed by the computer used to access the XiO Cloud service.

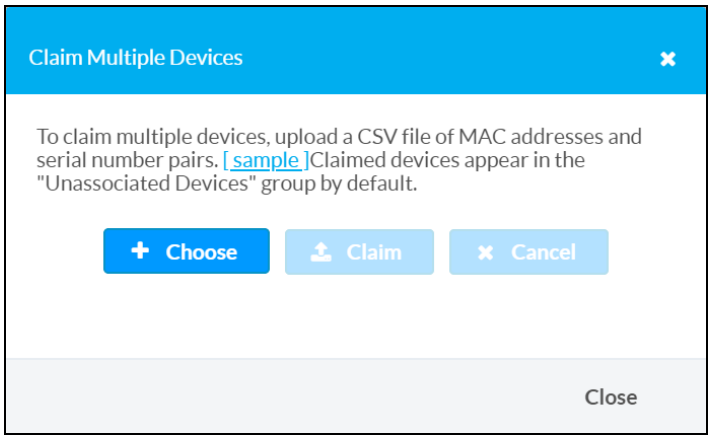
3. In the XiO Cloud service, select the **ENVIRONMENT** menu button to display a drop-down menu.

Environment - Drop-Down Menu



4. Select **Claim Multiple Devices**. The **Claim Multiple Devices** dialog box is displayed.

Claim Multiple Devices Dialog Box

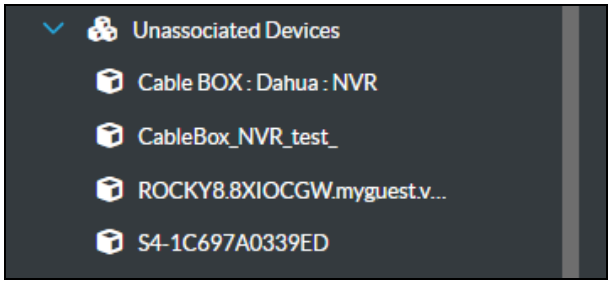


5. Select **Choose**, and then select the CSV file created in step 1.
6. Select **Claim** to claim all of the devices listed in the file. A message indicating the claim status of each device is displayed.

> **NOTE:** If an error message is displayed stating that a device does not exist, connect that device to a network that has access to the internet, wait 15 minutes, and then try again.

7. Select **X** to close the dialog box. The claimed devices are added to the **Unassociated Devices** group within the XiO Cloud group tree

Unassociated Devices



The devices may now be managed and assigned to a group or room.

Unclaim Devices

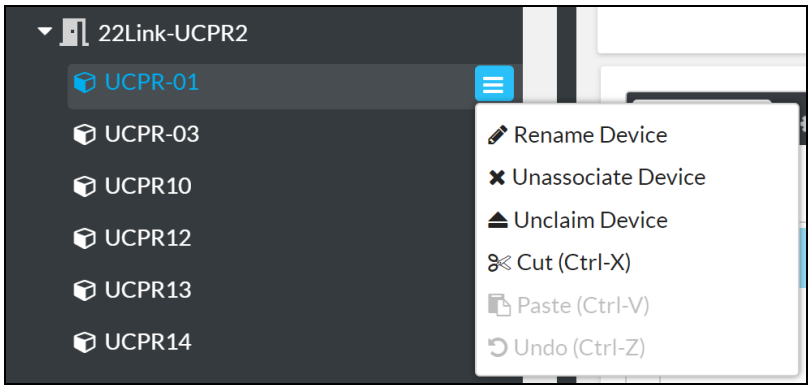
Devices may be unclaimed to remove them from a user's account. Once a device is unclaimed:

- The device is no longer counted against the allotted number of devices for the account
- The device may be claimed by another account.
- The XiO Cloud service no longer enforces any settings on the device.

To unclaim a device:

1. Position the cursor over the device in the **ENVIRONMENT** menu to reveal its context menu.
2. Select the context menu button of the device to display a drop-down menu.

Device - Drop-Down Menu



3. Select **Unclaim Device**. A confirmation dialog box is displayed.
4. Select **Yes** to unclaim the device, or select **No** to cancel.

> **NOTE:** If a device that has any licenses on it is unclaimed, the licenses remain with the account and not the device. The licenses are removed from the device once it is unclaimed, and the licensed functionality is no longer available on the device.

Add Devices to Rooms or Desks

Devices may be added to rooms after they are claimed by the XiO Cloud service. Once devices are added to rooms or desks, all devices within a group or desk may be monitored and controlled at once.

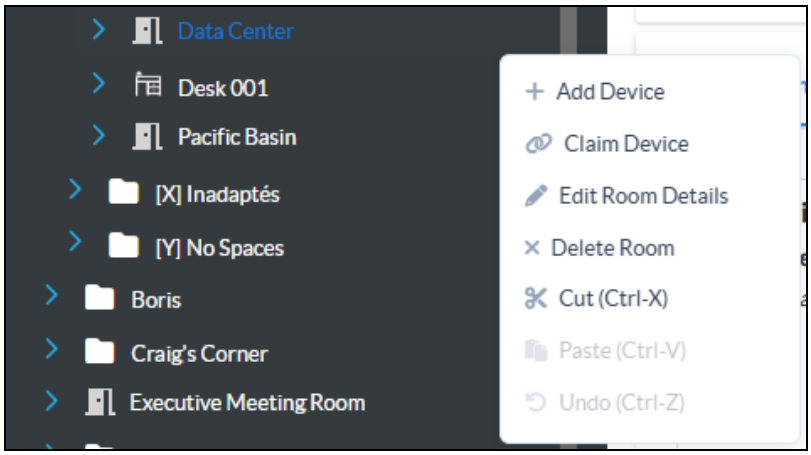
Two methods may be used to add devices to a room or desk: Devices may be added via the context menu for the room or desk, or devices may be dragged into a room or desk from another location in the group tree. Multiple devices can be moved at once by pressing the **Ctrl** key while selecting them in the group tree (or by pressing **Ctrl** + **Shift** to select a range of devices).

> **NOTE:** DSS-100 devices are added to a **Device Assistant Group** in the group tree after they are claimed via the Crestron Device Assistant mobile app. Add these devices to a room or desk from this group instead. Additionally, as of XiO Cloud version 2.7, desk devices can no longer be added to groups (only to rooms or desks).

To add devices to a room or desk via its context menu:

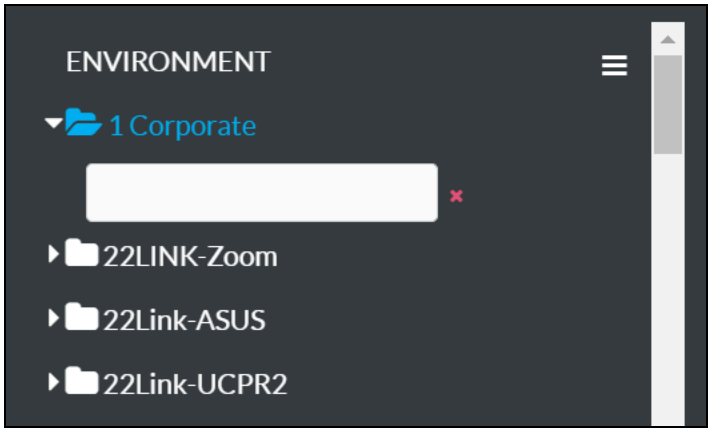
1. Position the cursor over the room or desk name in the **ENVIRONMENT** menu to reveal its context menu.
2. Select the context menu button ☰ for the group or room to display a drop-down menu.

Room - Drop-Down Menu



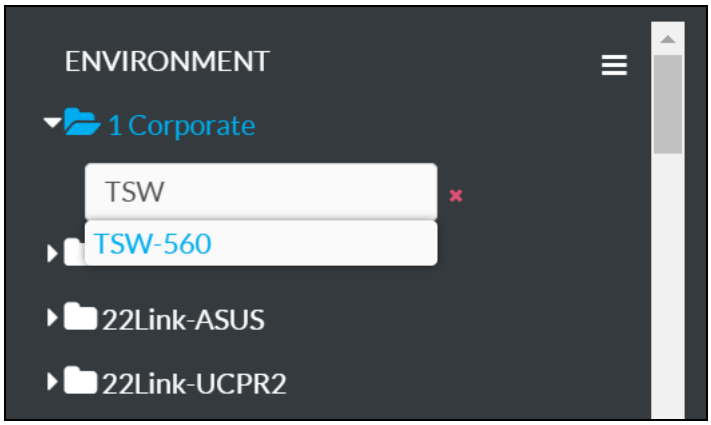
3. Select **Add Device**. A text box is added under the selected room or desk.

Group - Add Device Text Box



4. Start typing the name of the desired device. A list of claimed devices that match the entered text is displayed below the text box.

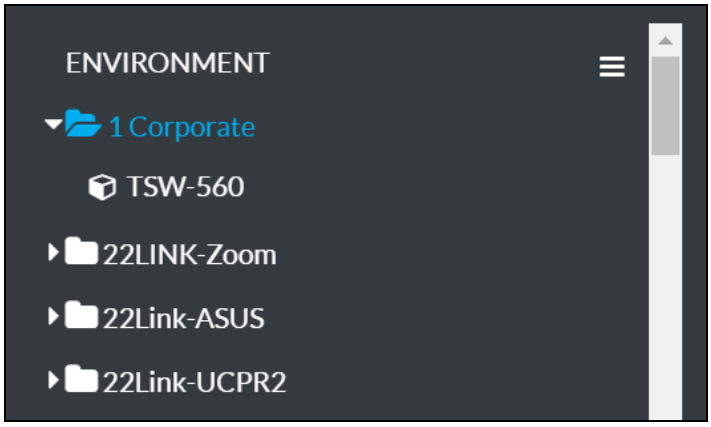
Group - Add Device Text Box (with Text)



5. Select the desired device by clicking on it or by navigating to the device using the arrow keys and pressing **Enter**.

The device is reordered alphabetically within its parent room or desk after it is added. It is no longer shown in the **Unassociated Devices** group.

Group - Device Added



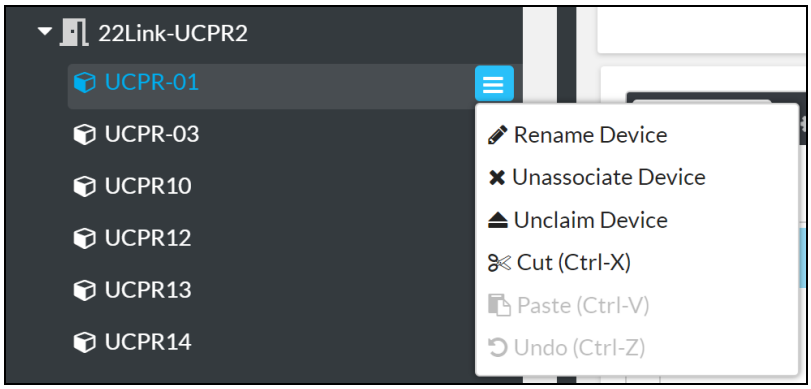
To drag a device from the **Unassociated Devices** group into another room or desk:

1. Select and hold the pointer over the device.
2. Drag the device from the **Unassociated Devices** group and drop it into the desired room or desk. The device is added to the room or desk and is no longer shown in the **Unassociated Devices** group.

To return a device to the **Unassociated Devices** group:

1. Position the cursor over the device in the **ENVIRONMENT** menu to reveal its context menu.
2. Select the context menu button for the device to display a drop-down menu.

   Device - Drop-Down Menu (Cut Action)



3. Select **Unassociate Device**. The device is added back to the **Unassociated Devices** group and is no longer shown in its previous room or desk.

Devices may also be dragged to the **Unassociated Devices** group or to any other room or desk that supports added devices.

Select the device from the group tree to view and configure device settings. For more information, refer to Configure Device Settings on page 109.

Cut and Paste

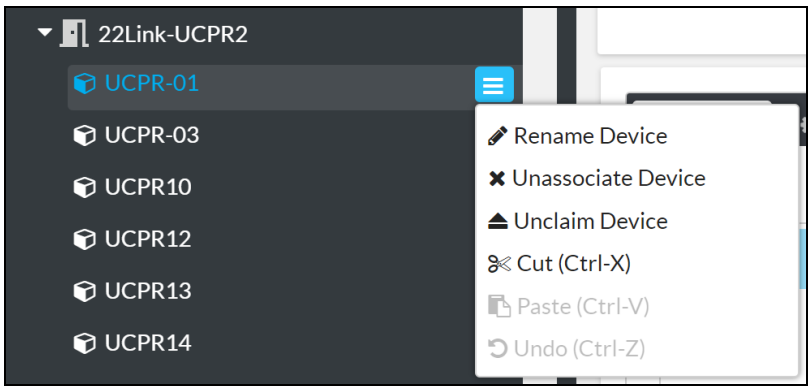
The cut and paste functionality allows items in the group tree to be moved more easily than the traditional drag and drop method, which is helpful when associating devices to rooms or groups in bulk. Cutting and pasting can be performed using the UI controls or keyboard shortcuts.

> **NOTE:** Any item in the group tree can be cut and pasted. However, pasted items must abide by the organizational hierarchy of the group tree. For example, devices can only be pasted to rooms or desks, top-level groups cannot be pasted under subgroups, and so forth.

To cut items (add them to the clipboard):

1. Select one or more items from the group tree. Press **Ctrl** + **Shift** on your keyboard to select multiple items.
2. Select the context menu button for one of the selected items to display a drop-down menu.

   Device - Drop-Down Menu

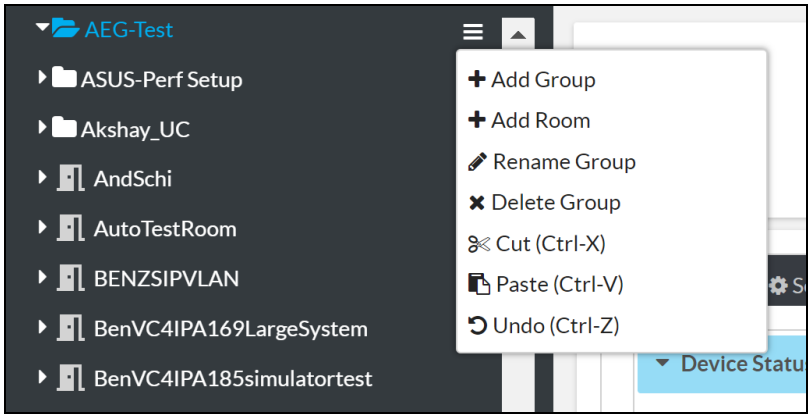


3. Select **Cut**. The selected item(s) are added to the clipboard. Alternately, press **Ctrl** + **x** on your keyboard to perform this action.

To paste items that have been cut (added to the clipboard):

1. Select the parent node in the group tree where the cut items should be pasted.
2. Select the context menu button for the selected group tree node.

   Group - Drop-Down Menu (Paste Action)



3. Select **Paste**. The selected item(s) are pasted into the selected group tree node as long as it abides by the group tree hierarchy. Alternately, press **Ctrl** + **v** on your keyboard to perform this action.

To undo the previous cut or paste action, select **Undo** from the appropriate context menu or press **Ctrl** + **z** on your keyboard.

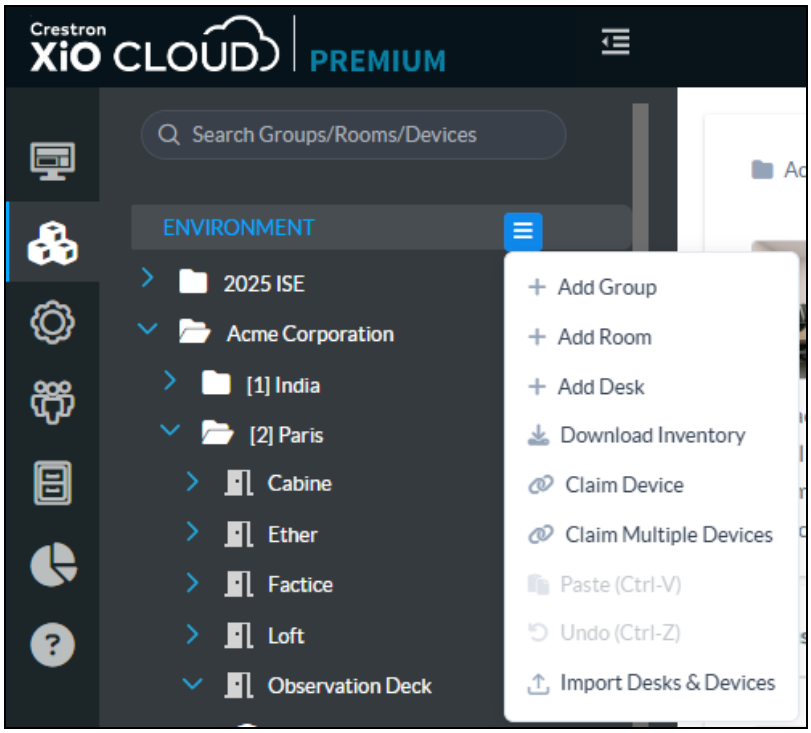
Download Inventory

An inventory report for the XiO Cloud account can be downloaded as a CSV file. The inventory report includes basic information about claimed devices and their location within the group tree.

To download the inventory report:

1. Select the **ENVIRONMENT** menu button to display a drop-down menu.

   Environment - Drop-Down Menu

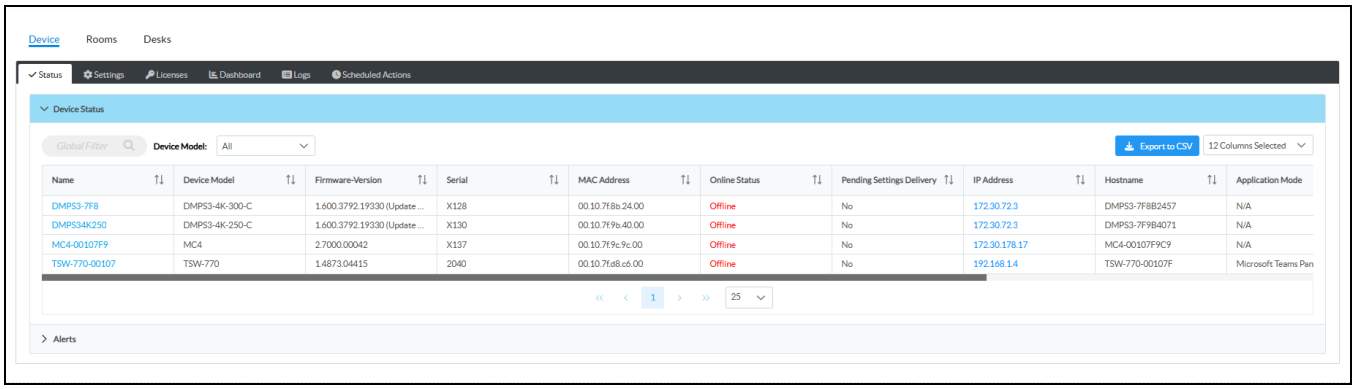


2. Select **Download Inventory**. The inventory report is downloaded to your PC as a CSV file.

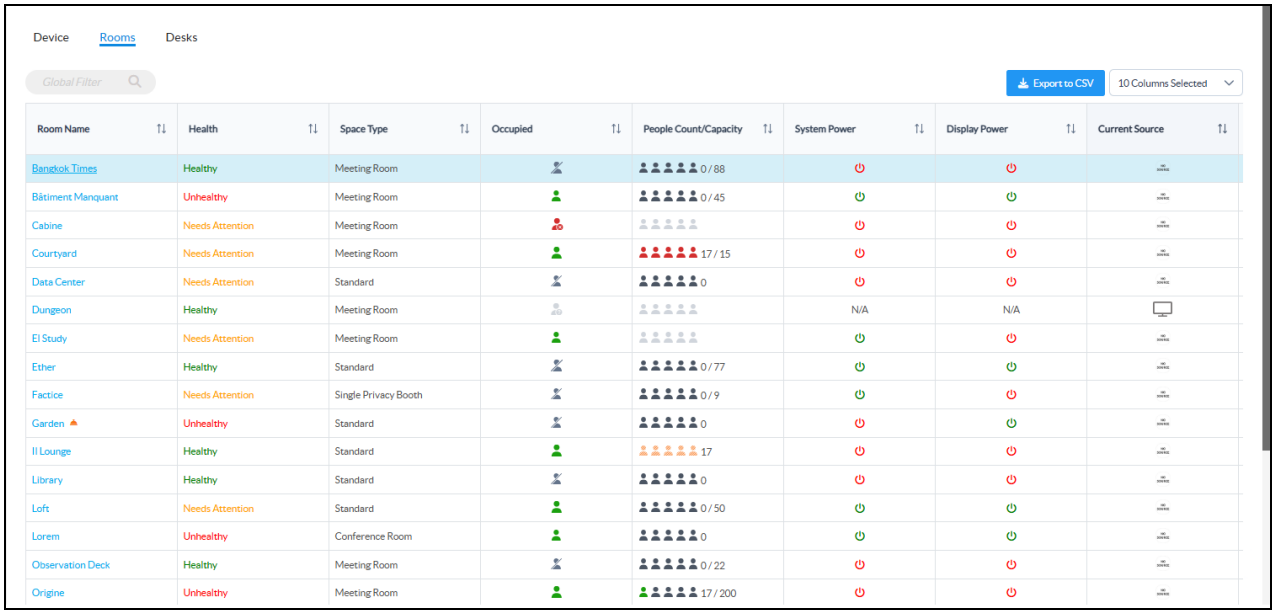
View Grouped Devices, Rooms, and Desks

Select a group from the **ENVIRONMENT** menu to display its configuration page. Selections for viewing all devices, rooms, and desks within the group are provided. The **Device** tab is selected by default.

> **NOTE:** Viewing grouped rooms and desks requires an XiO Cloud Premium subscription.



- Select **Device** to view status, configure settings, and perform other actions for all devices associated with rooms or desks in the group. Additionally, an **Alerts** accordion is provided to view all alerts for the group. For more information, refer to Manage Devices on page 104.
- Select **Rooms** to view the status of all rooms within the group.



The following information is displayed for each room by default:

> **NOTE:** Most room status is driven by the XiO Cloud program connector functionality. For more information on adding this functionality to a room, refer to XiO Cloud Program Connector on page 148

  - The room name, which can be selected to open its details page

    > **NOTE:** If a service request has been raised in a room, an orange service requested icon is displayed next to the room name. For more information, refer to Room Status Indicators on page 192.

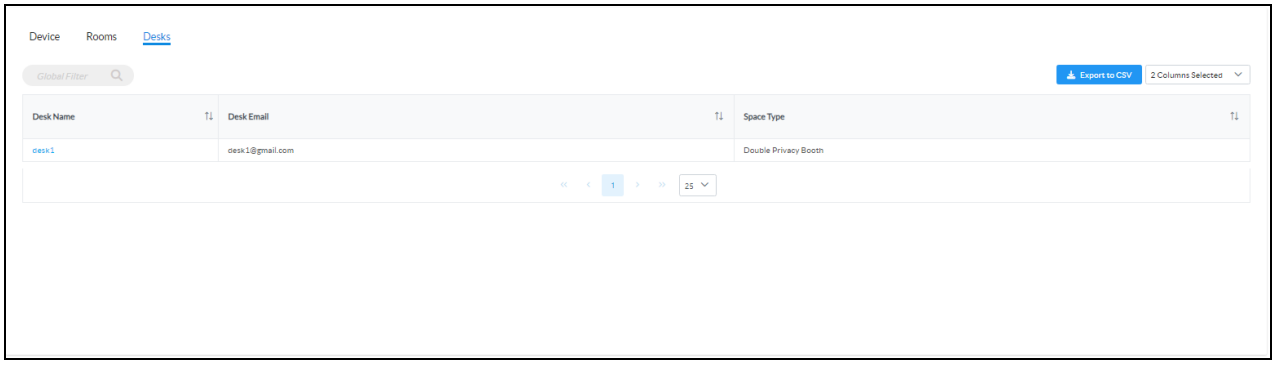
  - The current room health

- The space type
- The reported occupancy state (occupied , vacant , occupancy sensor offline , or no occupancy data)
- The current people count and maximum occupancy of the room (if available):
  - The room is occupied within its maximum capacity (each individual person icon represents 20% of the total room capacity).
  - The room is occupied over its maximum capacity.

    > **NOTE:** An **Occupancy (People Count) Exceeded Capacity** alert can be generated for the room when this state occurs. For more information on creating alerts, refer to Alerts on page 183.

  - The room is occupied but its capacity is unknown.
  - The room is not occupied.
  - No room occupancy data is provided.
- The system power state
- The power state of the display(s) in the room
- The current source routed to the primary display in the room as described in Appendix C: XiO Cloud Program Connector Sources on page 293
- The maintenance mode status
- The date and time when a system check was last run

- Select **Desks** to view the status of all desks within the group.



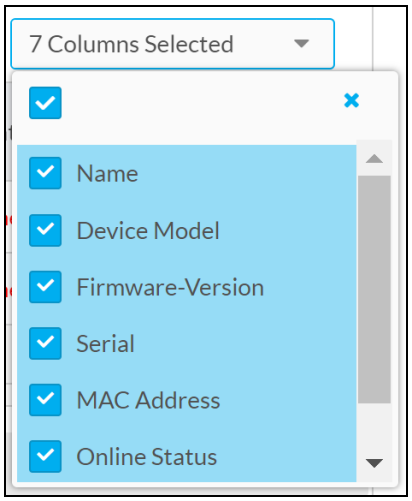
The following information is displayed for each desk by default:

- The desk name, which can be selected to open its details page
- The email address associated with the desk scheduling calendar
- The space type

The data that is displayed for devices, rooms, or desks can be customized by filtering the table columns. To select or deselect table columns for devices, rooms, or desks, expand the drop-down menu at the top right of the status table. Then, select or deselect an item in the menu to display or hide that column from the status table, respectively. Use the check box at the top of the menu to select or deselect all columns.

The column selections for devices are shown below as an example.

Column Selection Drop-Down Menu (Device Tab)



> **NOTE:** Changes made to the status table are made only on a per-group basis. The status table will reset to its default settings after logging out of the XiO Cloud service.

The status table for devices, rooms, or desks can be downloaded as a CSV file by selecting the **Export to CSV** button at the top right of the status table. The CSV file will include all table columns that have been selected as described above.

Enter text into the **Global Filter** text box to search for and display results that match the search terms.

If the status table spans multiple pages, use the navigation arrows on the bottom of the page to move forward or backward through the pages, or select a page number to navigate to it. Additionally, use the adjacent drop-down menu to select the number of records shown per page:

- **Device**: 25, 50, or 100 records (default is 25)
- **Rooms** and **Desks**: 5, 10, 20, or 25 records (default is 25)

Manage Devices

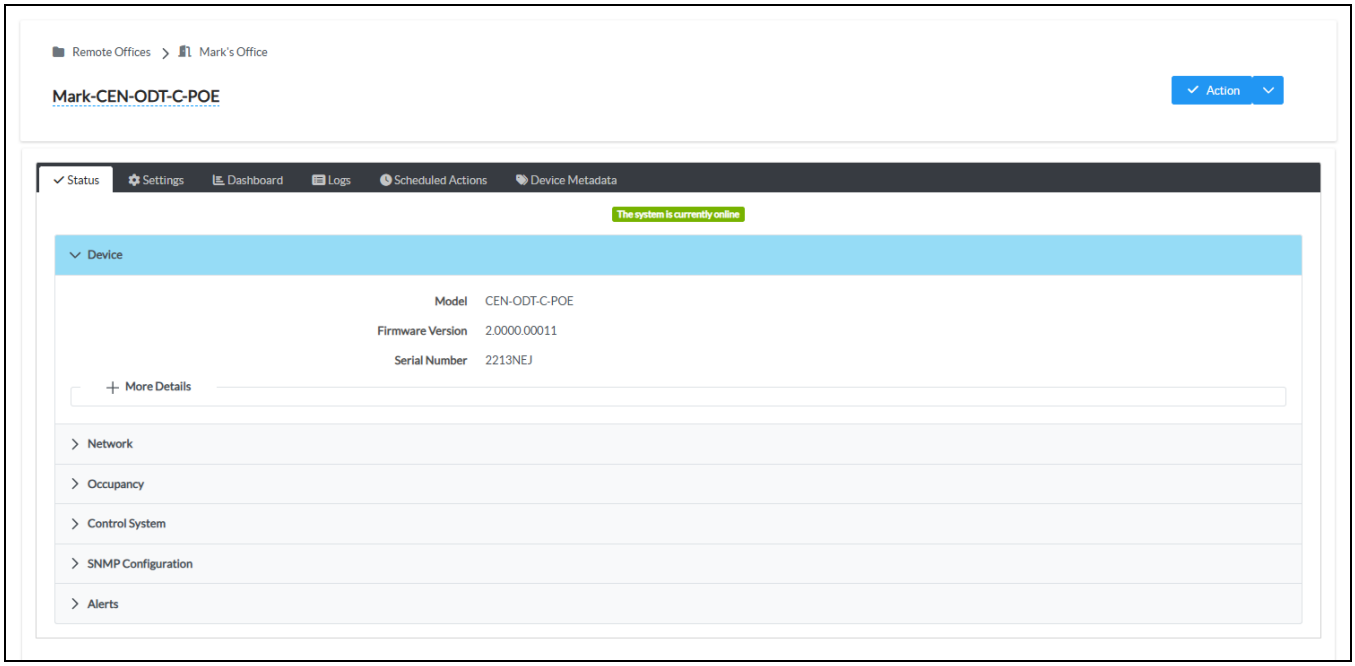
Devices may be managed via the XiO Cloud service after they have been claimed by the service and added into a group or room. Devices may be managed individually or as a group.

> **NOTE:** As of XiO Cloud release 2.8, supported beta devices can be claimed into XiO Cloud for testing purposes. An orange beta icon BETA is shown next to the device name in its configuration page to indicate its beta status.

Select a device from the group tree to view and configure the device status, settings, and licenses. The configuration page for the device also provides options for viewing status dashboards and activity logs, and automated actions may be scheduled for the device. Breadcrumbs are provided on the top left of the page that show the device's location within the group tree. Select a parent room, group, or desk to navigate to that location.

> **NOTE:** Not all management options are available for some devices.

Device Configuration Page



Use the following procedures to manage devices via the XiO Cloud service.

Rename a Device

Each device in the XiO Cloud service has a unique device name, which allows the device to be identified and organized within the service. The device name is used only by the XiO Cloud service.

By default, the device name is set as the host name of the device. However, the device may be renamed as needed.

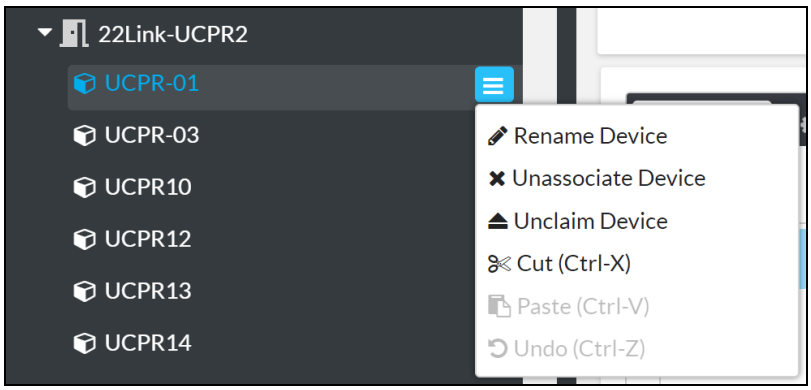
> **NOTE:** Changing the device name has no impact on the host name or other identifying features on the hardware.

Two methods may be used to rename a device: The device name may be changed in the group tree or from its configuration page.

To change the device name in the group tree:

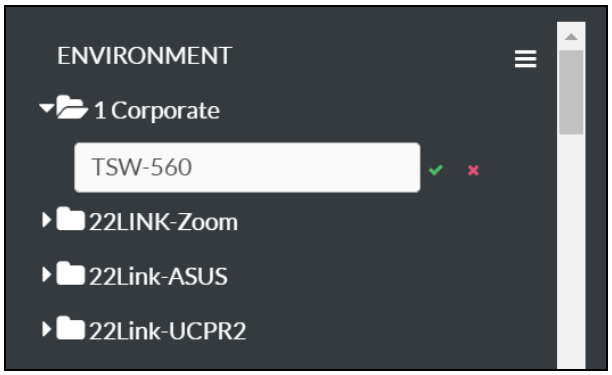
1. Position the cursor over the device in the **ENVIRONMENT** menu to reveal its context menu.
2. Select the context menu button of the device to display a drop-down menu.

   Device - Drop-Down Menu



3. Select **Rename Device**. The device name becomes an editable text box.

   Device - Edit Device Name

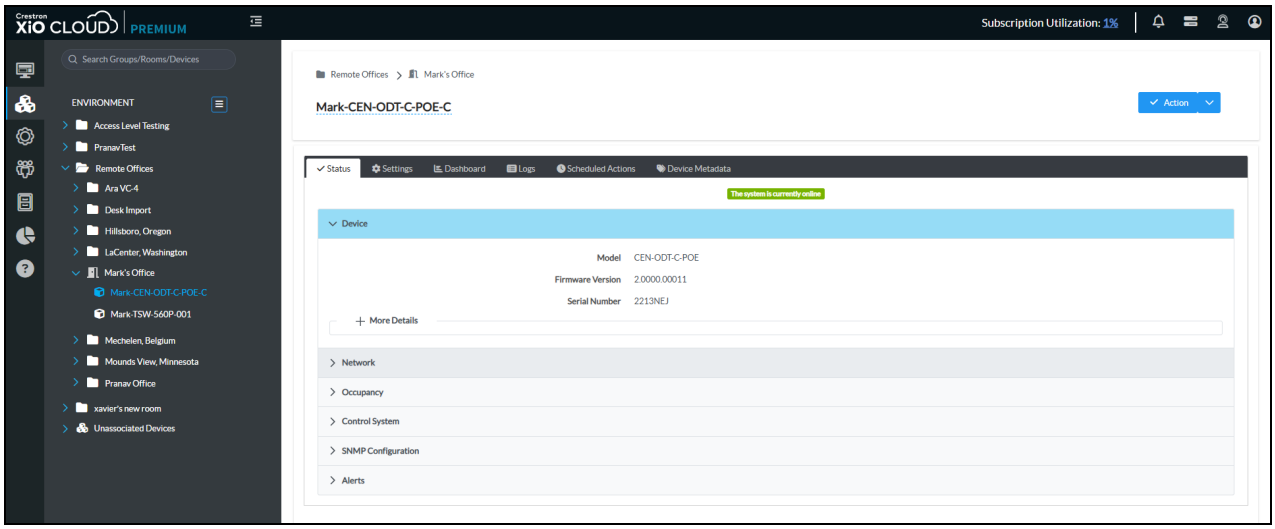


4. Enter a new device name in the text box. A device name must be at least three characters long.
5. Select the green check icon or select **Enter** to save the device name. Select the red **x** icon to discard the changes.

To change the device name from the configuration page:

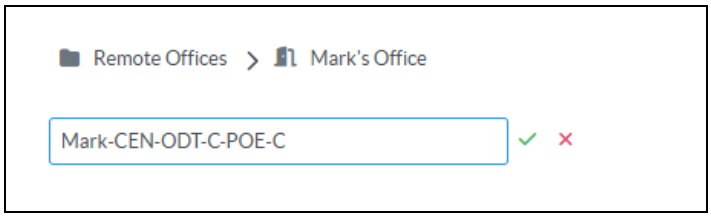
1. Select the device from the group tree to display its configuration page.

   Device Configuration Page



2. Select the device name on the top left of the configuration page. The device name becomes an editable text box.

   Device Configuration Page - Edit Device Name



3. Enter a new device name in the text box. A device name must be at least three characters long.
4. Select the green check icon ✔ or select **Enter** to save the device name. Select the red **x** icon ✖ to discard the changes.

View Device Status

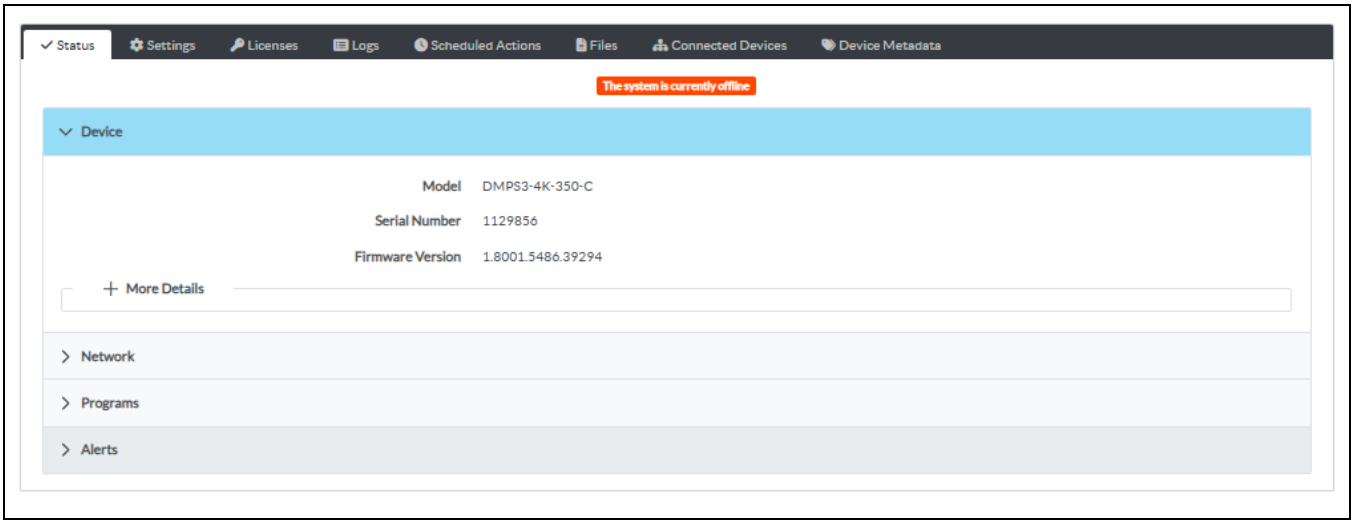
The device status may be viewed for individual devices or for multiple devices within the same group or room.

View Status for a Single Device

To view the status for a single device, select a device from the group tree to display its configuration page. The **Status** tab is open by default.

> **NOTE:** A device must be added into a room or group before its configuration page can be viewed.

Device Configuration Page - Status Tab (Devices)



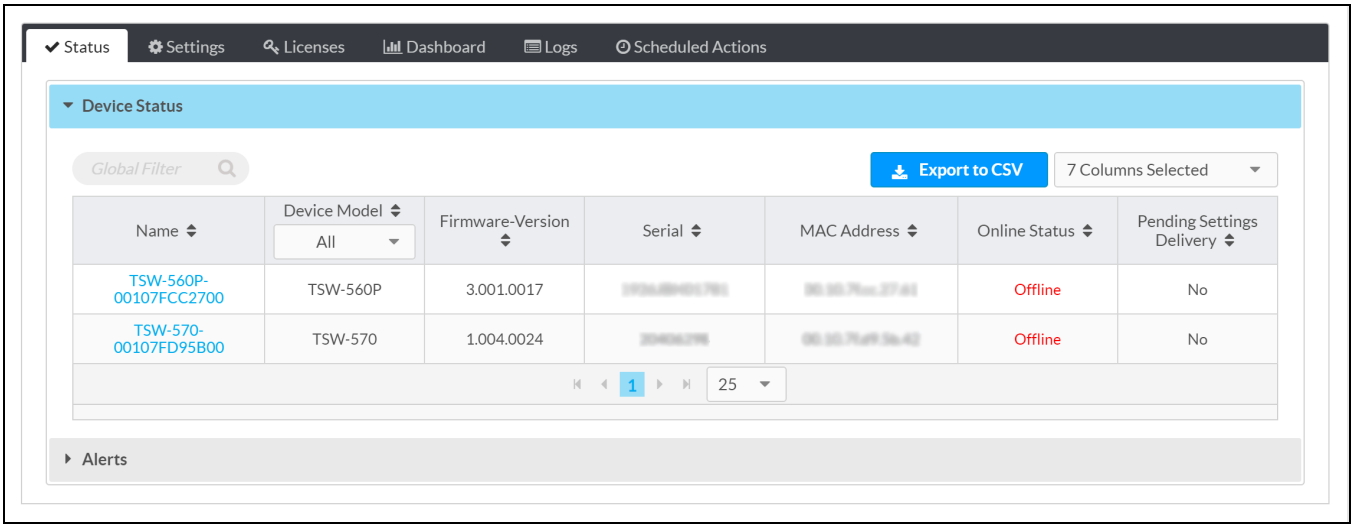
The **Status** tab provides expandable "accordions" that display static and changing device attributes. Dynamic attributes, such as volume, change in the appropriate status accordion within seconds of being changed on the device.

Select an accordion name to expand it. If the accordion is expanded, select the accordion name again to collapse it. The accordions provided vary depending on the device.

View Status for a Group of Devices

To view the status for multiple devices within the same group or room, select a group or room from the group tree to display its configuration page. The **Status** tab is selected by default.

Group Configuration Page - Status Tab (Device Status)



The **Status** section lists all of the devices within the group or room and any subgroups in table format. The **Device Status** table provides a subset of important status information for the devices within the group and its subgroups.

> **NOTE:** Selecting the **Unassociated Devices** group displays the device status for all unassociated devices in the account. Only the **Name**, **Device Model**, **Serial**, and **MAC Address** status fields are provided for unassociated devices. An unassociated device must be moved to a room or group before its individual status can be viewed.

The following information is displayed for each device by default:

- The name and model
- The loaded firmware version, including whether any firmware updates are pending
- The serial number and MAC address
- The online status, which indicates whether the device is online or offline within XiO Cloud
- The pending settings delivery status, which indicates whether any device settings changes are pending

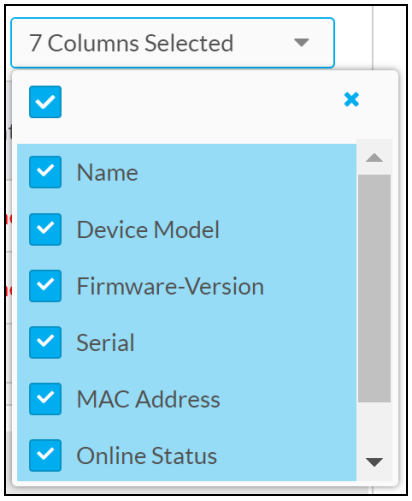
  > **NOTE:** If the **Pending Settings Delivery** status is **Yes**, device settings have been saved in the portal but have not yet been applied to the device (such as in instances where the device is unplugged).

- The current device IP address and host name
- The application mode that is running on the device (if applicable)
- The DHCP status (dynamic or static IP addressing)
- The room status (for devices with room scheduling capabilities)
- The calendar connection status (for devices with room scheduling capabilities)

The data that is displayed for each device in a group or room can be customized by filtering the table columns for that group or room. By default, 7 columns are displayed that contain the data described in the list above. Up to 15 columns can be displayed by selecting or deselecting a column in the provided drop-down menu.

To select or deselect table columns for a group or room, expand the drop-down menu at the top right of the status table. Then, select or deselect an item in the menu to display or hide that column from the status table, respectively. Use the check box at the top of the menu to select or deselect all columns.

Column Selection Drop-Down Menu



> **NOTE:** Changes made to the status table are made only on a per-group or room basis. The status table will reset to its default settings after logging out of the XiO Cloud service.

The device status table for a group or room can be downloaded as a CSV file by selecting the **Export to CSV** button at the top right of the status table. The CSV file will include all table columns that have been selected as described above.

Enter text into the **Global Filter** text box to search for and display devices that match the search terms.

If the device lists spans multiple pages, use the navigation arrows on the bottom of the page to move forward or backward through the pages, or select a page number to navigate to that page. Additionally, the number of devices displayed on each page may be set to 5, 10, 20, or 25 devices.

Configure Device Settings

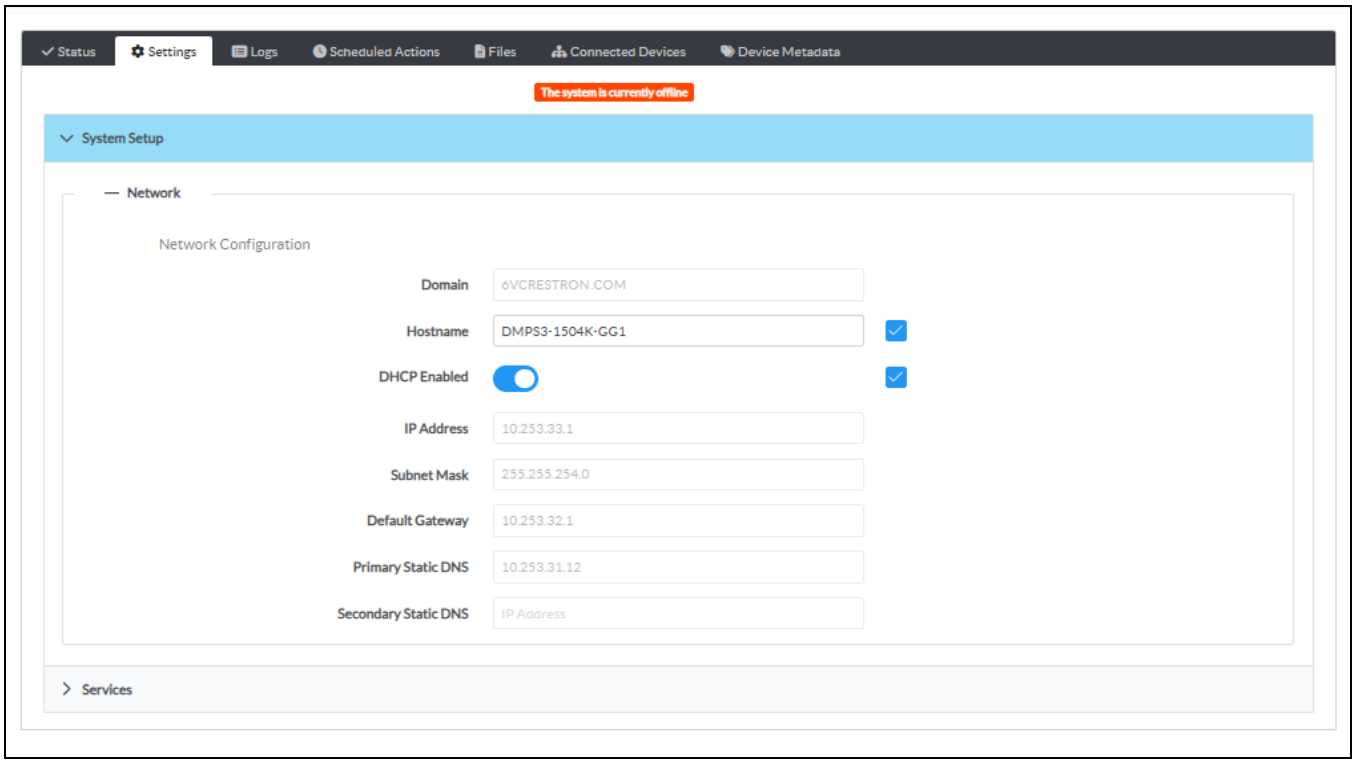
Device settings may be configured for individual devices or for multiple devices within the same group or room.

Configure Settings for a Single Device

To configure the settings for a single device, select a device from the group tree to display its configuration page, and then select the **Settings** tab.

> **NOTE:** A device must be added into a room or group before its configuration page can be viewed.

Device Configuration Page - Settings Tab (System Setup)



The **Settings** tab provides selections for configuring various device settings. When a device is first claimed and added to a group, the current device settings are prepopulated in the XiO Cloud service.

To change a device setting:

1. Locate the device setting in the appropriate **Settings** accordion.

   The accordions provided vary depending on the device. Some accordions include subsections that may be expanded by selecting the plus (**+**) button next to the subsection name. If the subsection is expanded, select the minus (**-**) button to collapse the subsection.

2. Fill the check box next to a setting to enable it in XiO Cloud.

   If a setting is not enabled in XiO Cloud, it will not be sent to the device and can be managed by processes outside of XiO Cloud (such as joins).

   > **NOTE:** If a setting is enabled in XiO Cloud, it will show what is currently saved in the portal. If a setting is not enabled in XiO Cloud, it will show what is currently set on the device.

For more information on configuring specific settings for a device, refer to its documentation at www.crestron.com/manuals.

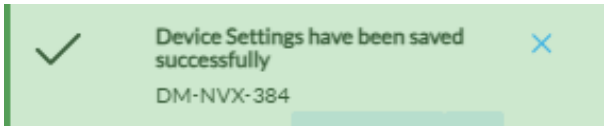
Once a device setting has been changed, the **Action** button on the top right of the configuration page changes to a **Save Changes** button. Select **Save Changes** to push the updated setting(s) to the device.

Save Changes Button



After the settings have been pushed from the cloud to the device successfully, a toast notification is displayed confirming the success.

Device Settings Saved Successfully Message



If the device has not yet received the settings, orange "Delivery to Device Pending" text is shown next to the changed settings until the device receives the settings.

NOTES:

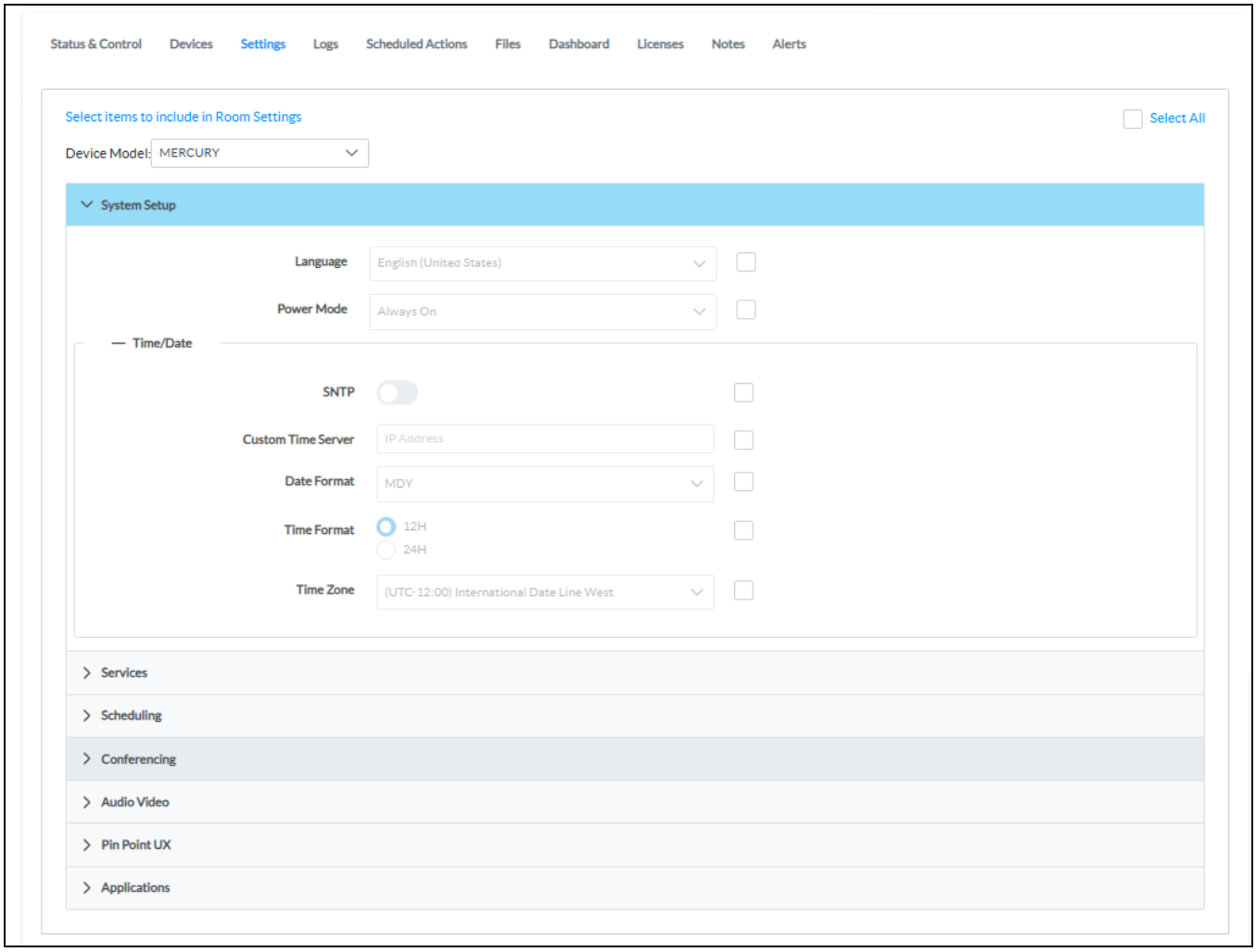
- Depending on the settings that are changed, the device may restart a few minutes after **Save Changes** is selected.
- Each setting checks for valid input. If an invalid input is entered, red text explaining the error is displayed next to the setting, and a red underline is shown under the setting. Changes cannot be saved until the error is resolved.
- A setting entered at the group level cannot be edited on the individual device page. Each device in a group inherits any group-level settings.

To undo changes before saving the settings to the device, select the drop-down arrow next to the **Action** (or **Save Changes**) button, and then select **Revert**. The device settings are returned to their last saved state.

Configure Settings for a Group of Devices

To configure the settings for multiple devices within the same group or room, select a group or room from the group tree to display its configuration page, and then select the **Settings** tab.

Room Configuration Page - Settings Tab (System Setup)



Configuring device settings (such as language or date and time) at the group level pushes the settings to every device in that group or room or its subgroups. Device settings configured at the group level overwrite the same settings on the individual device pages.

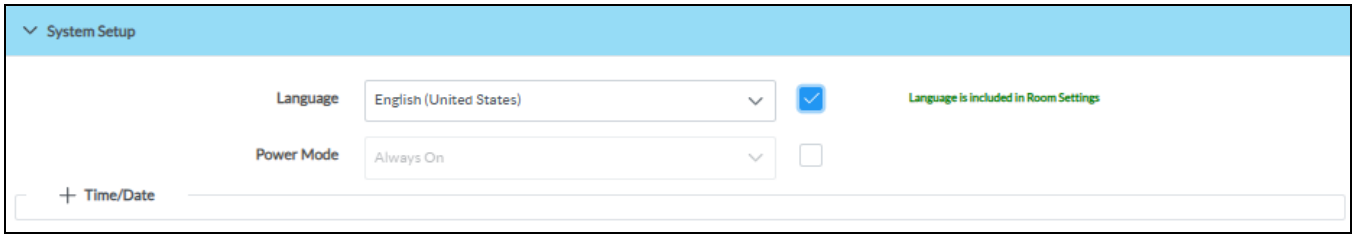
> **NOTE:** No device settings can be configured for devices within the **Unassociated Devices** group. An unassociated device must be moved to a room or group before its settings can be configured.

Each group-level setting in the **Settings** section provides a check box next to the setting:

- Select an empty check box to activate the associated setting at the group level. Green text is displayed next to the setting to indicate that the setting is now included in the group settings.
- Select a filled check box to disable the associated setting at the group level.

By default, all group-level settings are disabled.

System Setup Accordion (Language Setting Enabled)



Group-level settings in the **Settings** section are organized by device type. To configure the group-level settings for a device type:

1. Select the desired device type from the **Device Model** drop-down menu on the top left of the **Settings** section.
2. Navigate through the accordions provided for each device to locate the desired group-level settings.
3. Select the applicable check box(es) next to the group-level settings to activate the associated setting at the group level.

Once a group setting has been changed, the **Actions** button on the top right of the configuration page changes to a **Save Changes** button. Select **Save Changes** to save the group-level settings.

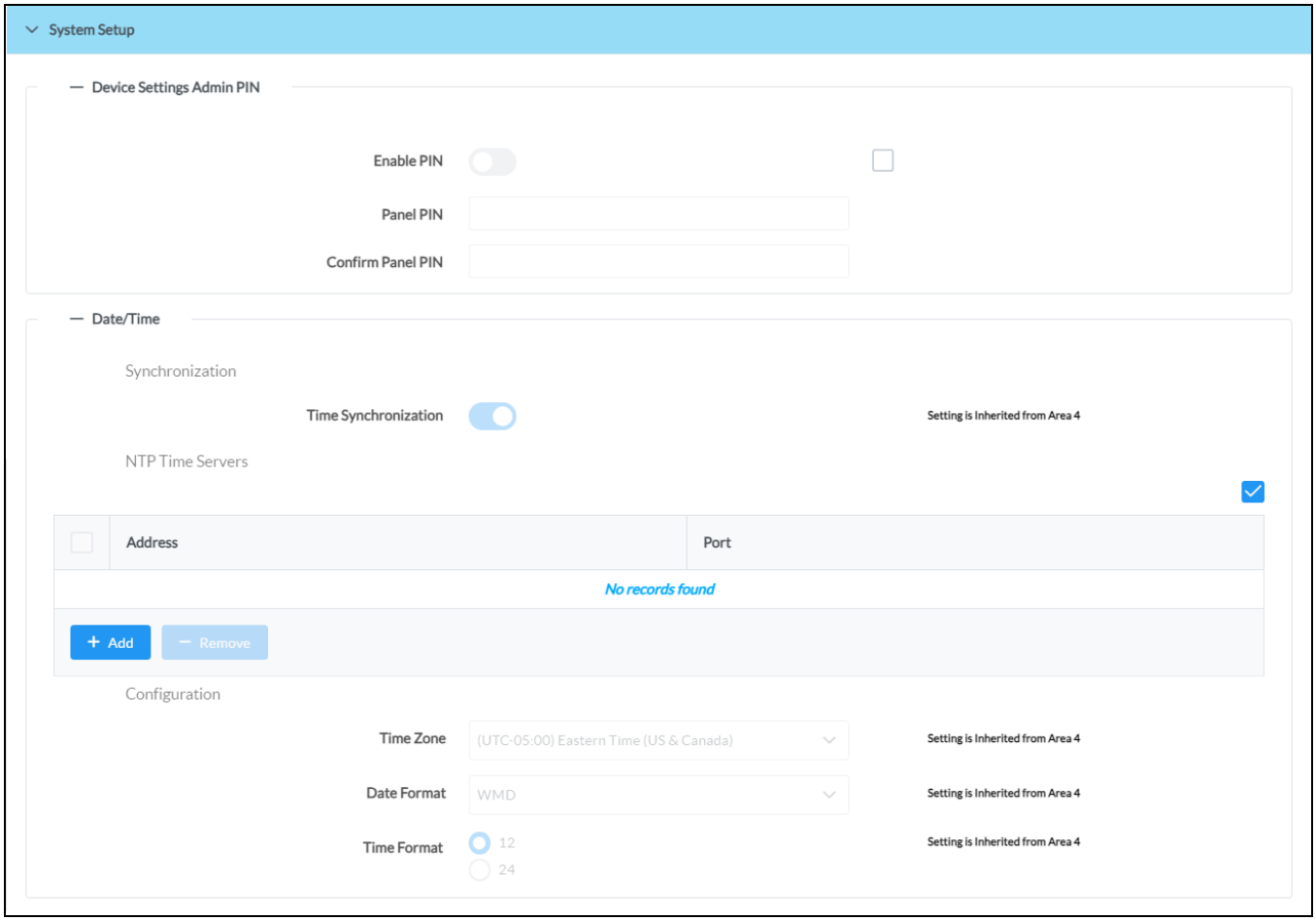
Save Changes Button



Additional settings may be configured for subgroups after changes are made at the parent group level.

Only settings that have not been configured for the parent group may be activated. Parent group settings are disabled because they are inherited by the subgroup. A "Setting is Inherited from [Group]" text is displayed next to any subgroup settings that may not be activated, where [Group] is the parent group name.

System Setup Accordion (Subgroup)



Subgroup-level settings in the **Settings** section are organized by device type. To configure the subgroup-level settings for a device type:

1. Select the desired device type from the **Device Model** drop-down menu on the top left of the Settings section.
2. Navigate through the accordions provided for each device to locate the desired subgroup-level settings.
3. Select the applicable check box(es) next to the subgroup-level settings to activate the associated setting at the subgroup level.

Once a subgroup setting has been changed, the **Actions** button on the top right of the configuration page changes to a **Save Changes** button. Select **Save Changes** to save the subgroup-level settings.

Save Changes Button

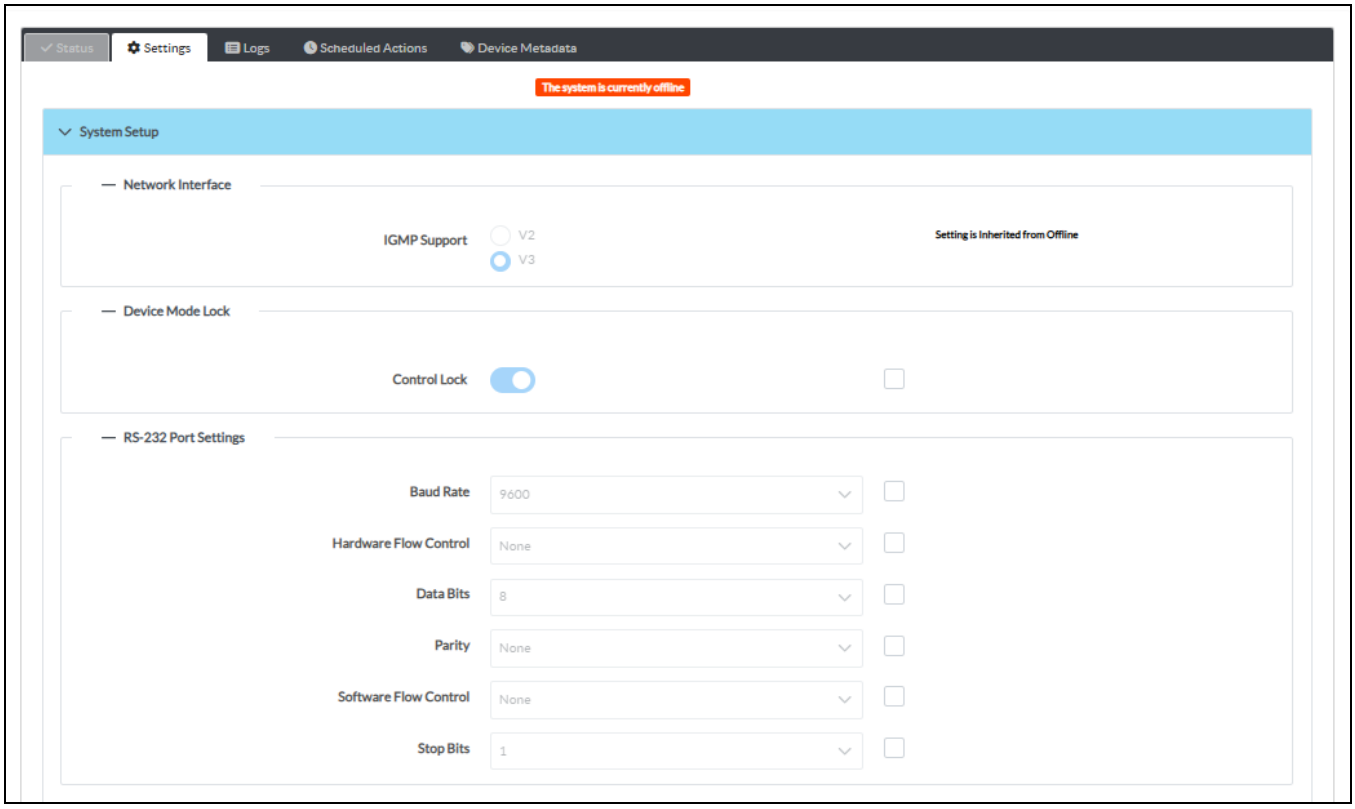


Any remaining settings may be configured for individual devices after changes are made at the parent group and subgroup level.

Only settings that have not been configured for the parent group or subgroup may be configured. Parent group and subgroup settings are disabled because they are inherited by the device. An "Setting is Inherited from [Group]" text is displayed next to any device settings that may not be activated.

> **NOTE:** Unchecking the check box for a group setting does not change the setting for an individual device, but makes it possible to change the setting on the individual device configuration page.

Device Status Page Showing "Setting is Inherited from [Group]" Text



> **NOTE:** Adding a device to a group or room automatically pushes any of the settings from the group to the device.

Prevent Unnecessary Restarts

Under rare circumstances, applying certain settings to a device may cause unexpected device behavior, such as repeated restarting, to occur.

If the XiO Cloud service detects a device in this state:

- The XiO Cloud service stops sending the setting that is causing the issue to the device, which prevents restarts from occurring.
- A message is displayed on the device settings page stating that undesired behavior was detected and that settings are no longer being sent to the device.
- An alert message is placed next to the setting that is causing the issue.

To resume sending settings to the device, update the setting that is causing the issue, and then select **Save Changes** from the **Action** menu. The XiO Cloud service resumes sending settings to the device once it verifies that the problem setting is fixed.

Manage Licenses

Certain Crestron devices use licenses to enable extra functionality. These licenses may be managed through the XiO Cloud service. Licenses may be added to devices, removed from devices, or transferred to different devices.

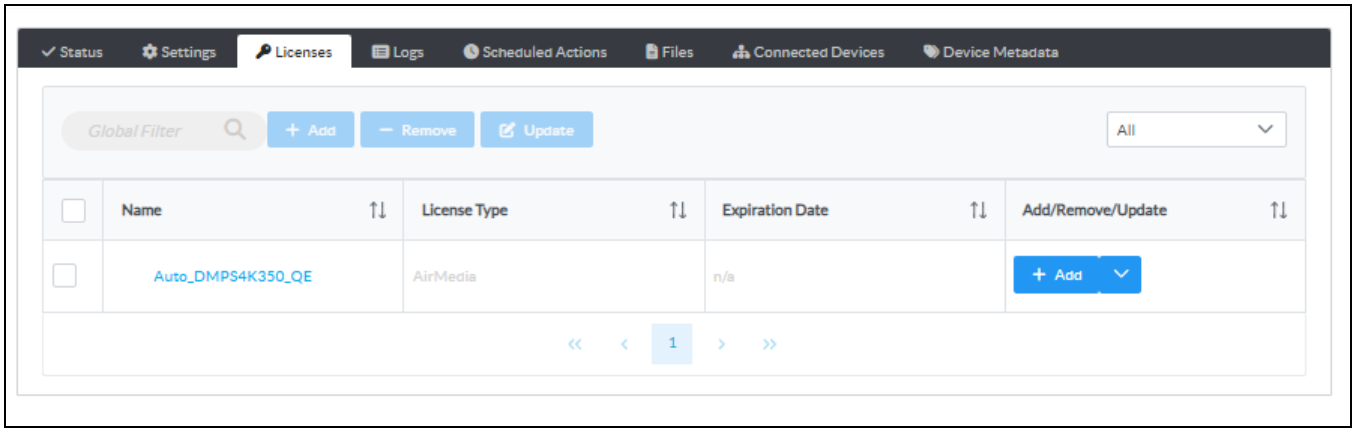
The XiO Cloud service maintains a record of all of the licenses that have been purchased for a end user's account, including licenses that were included with purchased devices.

> **NOTE:** Managing device licenses (such as VC-4 server licenses) is supported by free XiO Cloud subscriptions. However, each instance of a device license is included in the device count for XiO Cloud Premium subscriptions.

Manage Licenses for a Single Device

To manage the licenses for a single device, select a device from the group tree to display its configuration page, and then select the **Licenses** tab.

Device Configuration Page - Licenses Tab



The **Licenses** section lists all of the licenses that are available for the device in table format. The **Licenses** table provides the following information for each license:

- The device name
- The license type
- The expiration date
- Controls to add, remove, or update the license

Enter text in to the **Global Filter** text box to search for and display licenses that match the search terms.

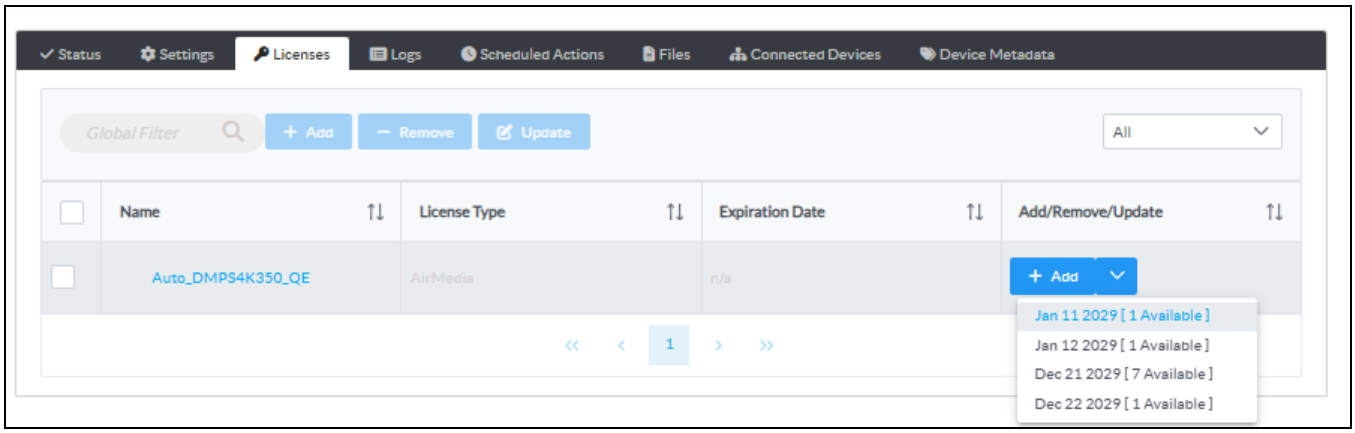
If the license list spans multiple pages, use the navigation arrows on the bottom of the page to move forward or backward through the pages, or select a page number to navigate to that page.

To add a license for a feature that has not yet been licensed for a device, select**Add** in the **Add/Remove/Update** column for the device.

> **NOTE:** If multiple licenses are available for the same feature, the license that expires first is added first automatically. For example, if a 1-year AirMedia® presentation system license and a 2-year AirMedia license are available, the 1-year license is added first.

If a license other than the license with the earliest expiration date is desired, select the arrow next to the **Add** button to choose from the available expiration dates in the account.

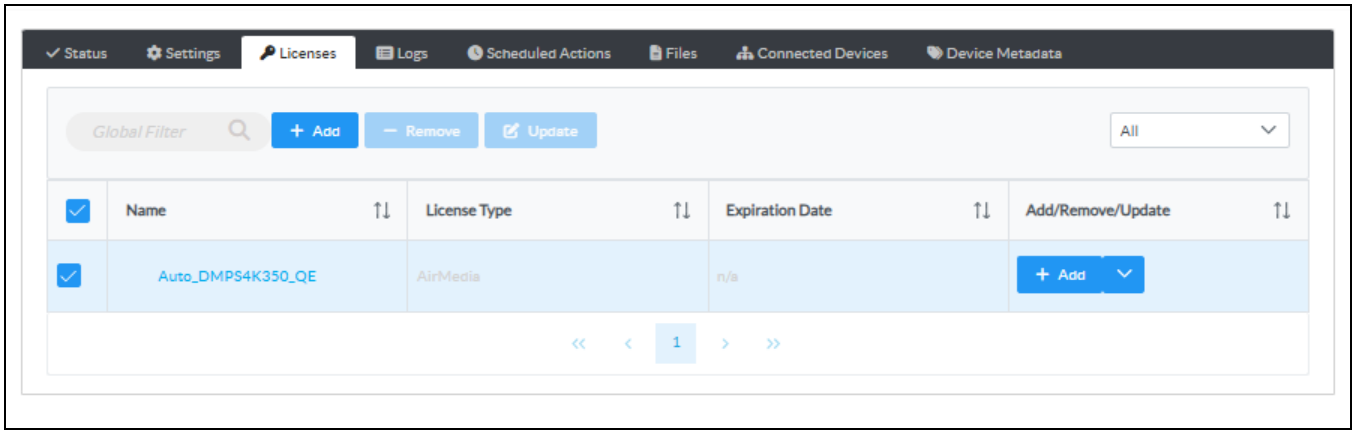
Device Configuration Page - Licenses Tab (Expiration Date Selection)



To add licenses for multiple features at the same time, check the boxes next to the license features, and then select **Add** at the top of the screen. As with adding licenses individually, if multiple licenses are available for the same feature, the license that expires first is added first automatically.

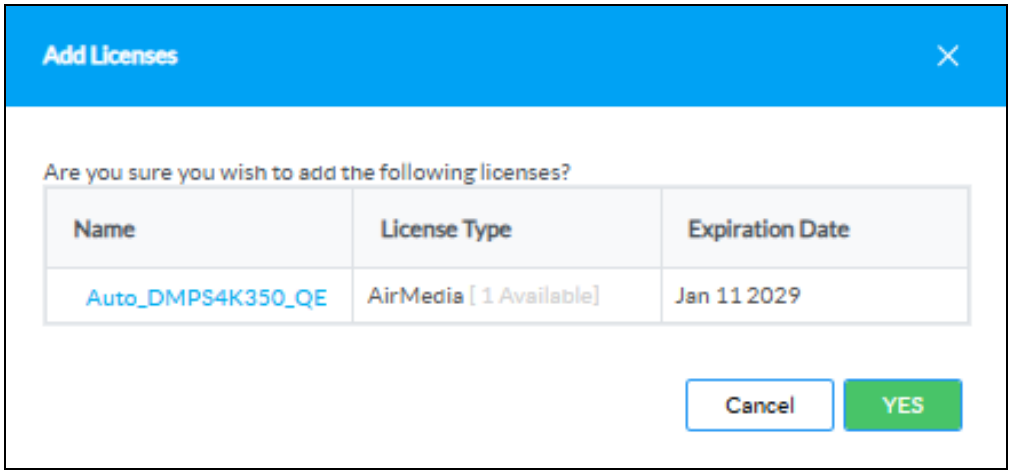
Select the check box in the table heading row to select or deselect all available licenses.

Device Configuration Page - Licenses Tab (Add Multiple Licenses)



After adding a license using either of these methods, a confirmation dialog box is displayed. Select **YES** to apply the license.

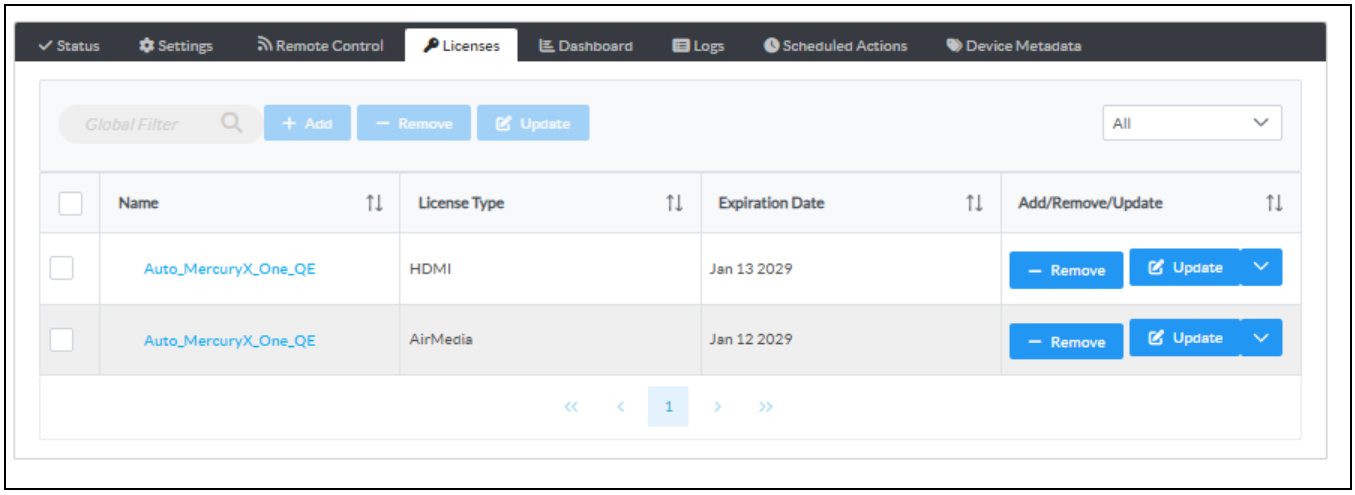
Add Licenses Confirmation Dialog Box



To remove a license for a feature that has not yet been licensed for a device, select **Remove** in the **Add/Remove/Update** column for the device.

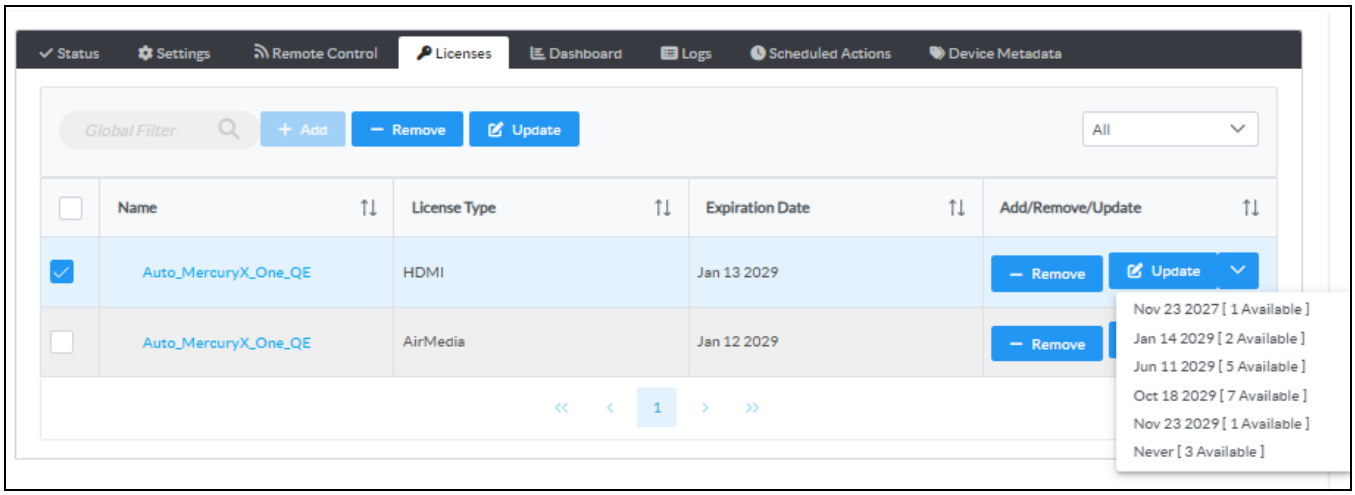
Removing a license returns it to the end user's license pool, allowing the same license to be applied to a different device.

Device Configuration Page - Licenses Tab (Remove Button)



Similarly, licenses can be updated to use the latest version in the end user's license pool by selecting **Update** in the **Add/Remove/Update** column for the device. If a license other than the license with the earliest expiration date is desired, select the arrow next to the **Add** button to choose from the available expiration dates in the account.

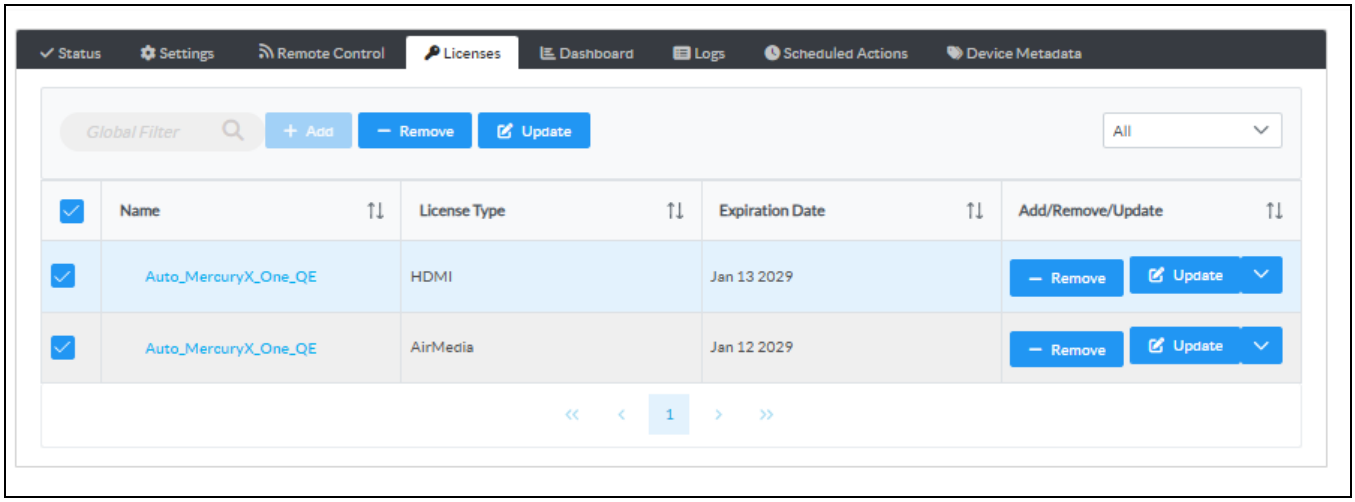
Device Configuration Page - Licenses Tab (Update Button)



To remove or update licenses for multiple features at the same time, check the boxes next to the license features, and then select **Remove** at the top of the screen.

Select the check box in the table heading row to select or deselect all available licenses.

Device Configuration Page - Licenses Tab (Remove/Update Multiple Licenses)

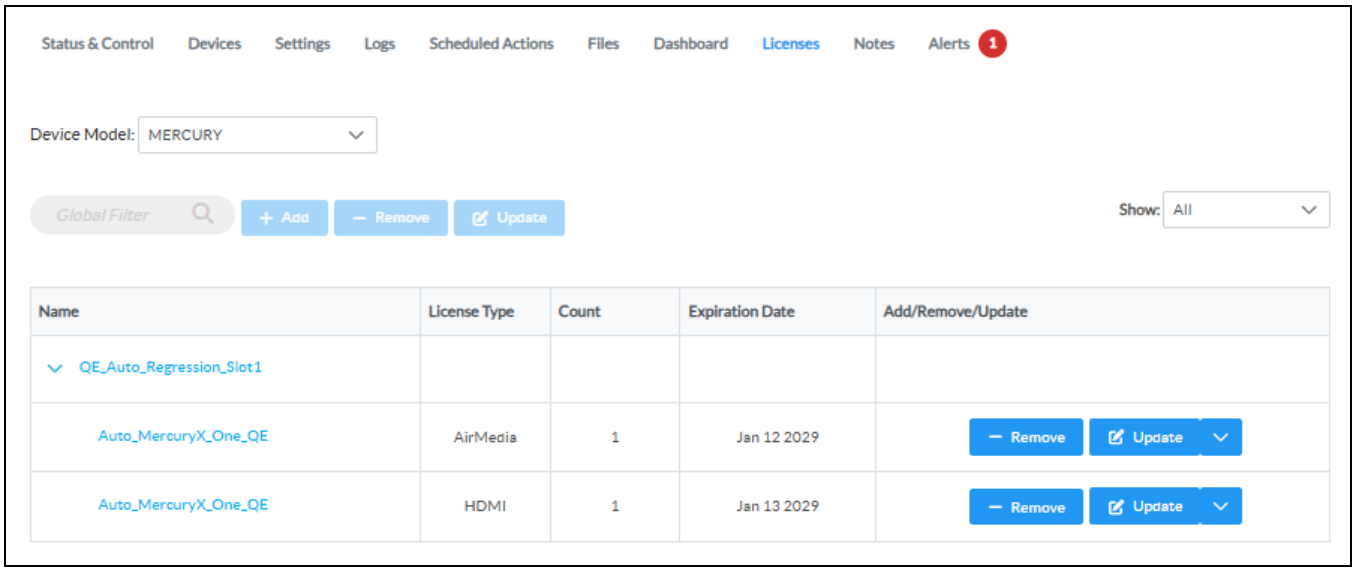


NOTE: Adding or removing licenses may cause a device to restart. Behavior may differ between device models based on the loaded firmware.

Manage Licenses for a Group or Room

To manage the licenses for multiple devices within the same group or room, select a group or room from the group tree to display its configuration page, and then select the **Licenses** tab.

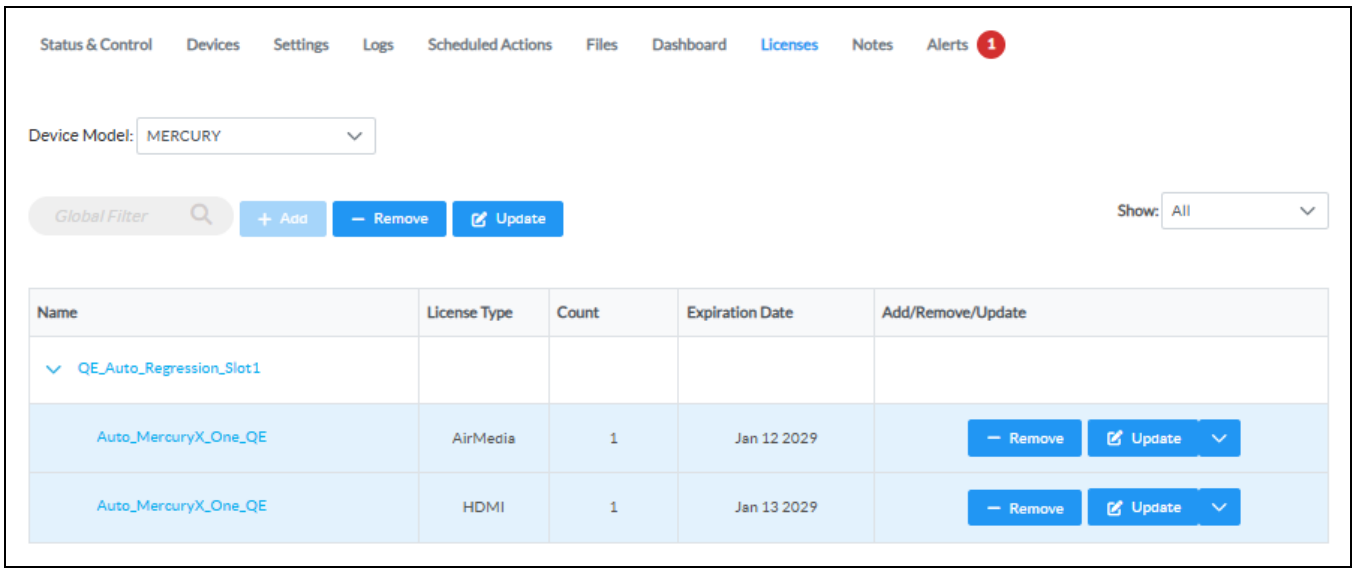
Room Configuration Page - Licenses Tab



The **Licenses** section of the group or room configuration page provides the same information and controls as the **Licenses** section of the device configuration page; however, the licenses for all the devices in the group or room and its subgroups are displayed.

To add or remove the licenses for multiple features or devices at once, click within the appropriate features to select them, and then use the bulk **Add**, **Remove**, or Update buttons at the top of the page to add, remove, or update the licenses, respectively.

Group Configuration Page - Licenses Tab (Select Multiple Licenses)



Scheduled Actions

Scheduled actions allow certain device and room functions to be automated from the cloud.

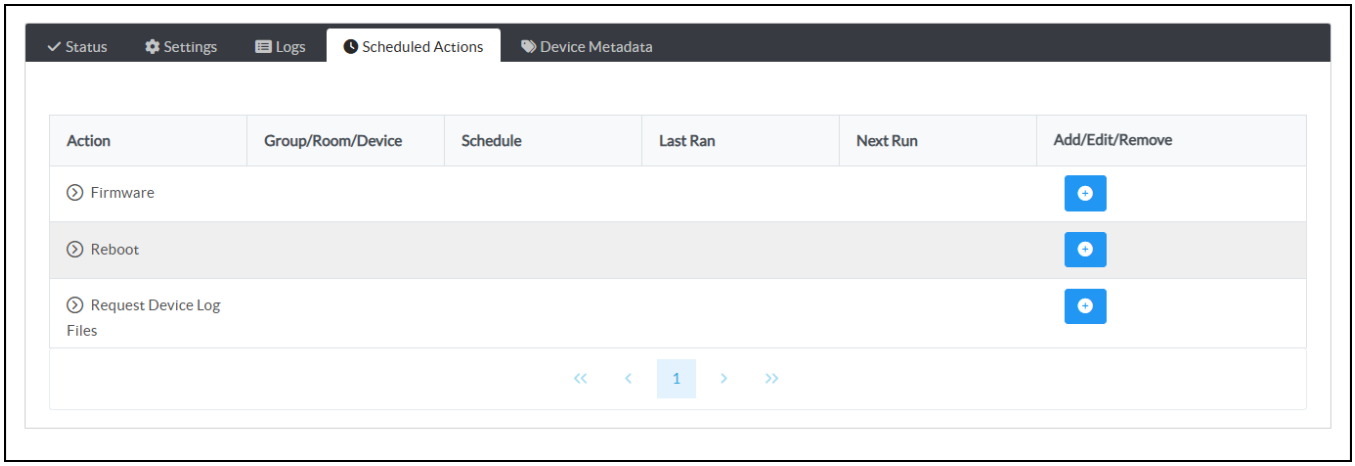
> **NOTE:** Scheduled actions require an XiO Cloud Premium subscription.

The available actions for each device vary, although all devices support a scheduled restart and firmware upgrade. All rooms support display power, system check, system power, and maintenance mode actions. Actions may be scheduled to occur once or in a recurring pattern.

> **NOTE:** Scheduled actions for rooms require the XiO Cloud Program Connector functionality to be configured appropriately for each action. For more information, refer to XiO Cloud Program Connector on page 148.

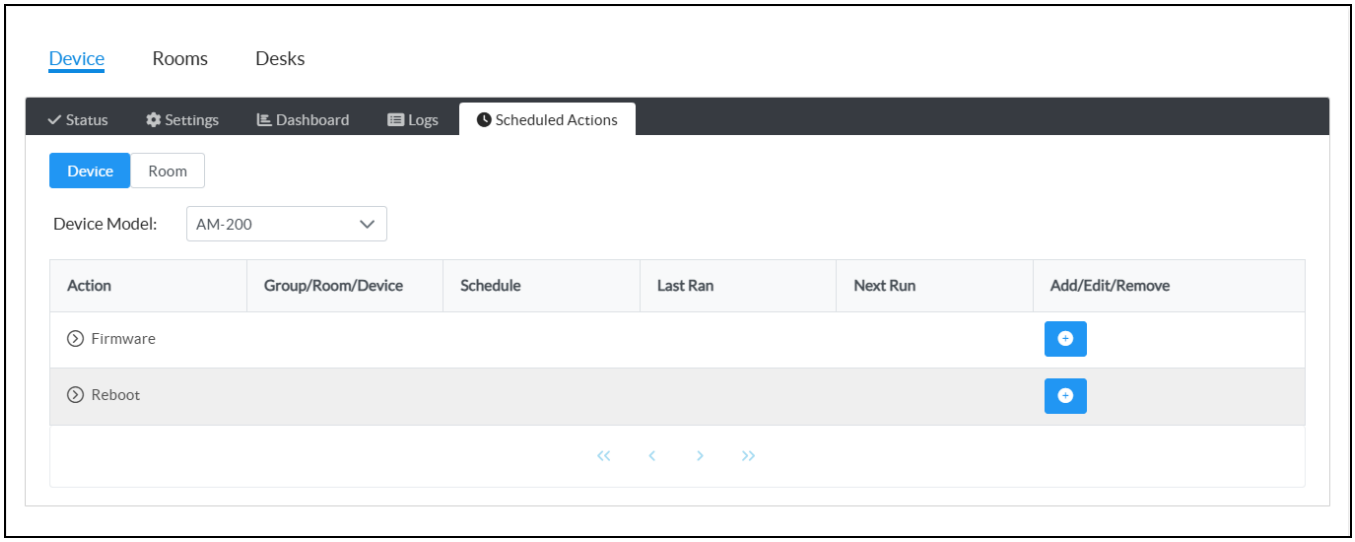
Scheduled actions are accessible from the **Scheduled Actions** tab for an individual device, group, or room.

Device Configuration Page - Scheduled Actions



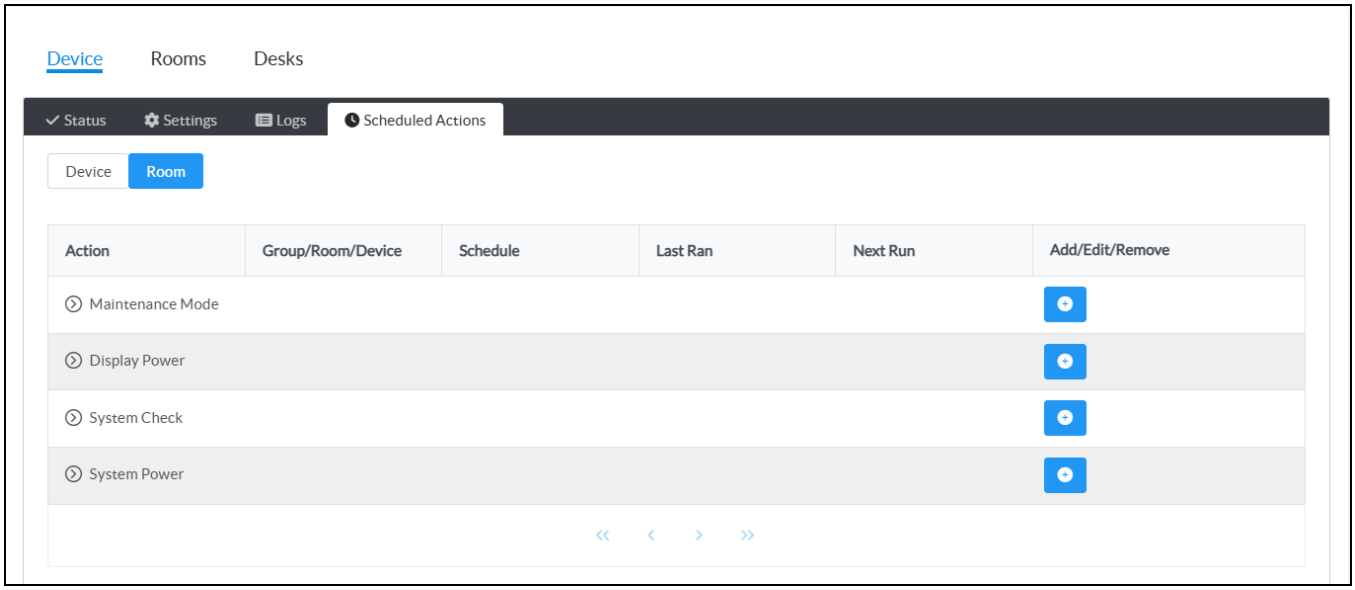
For rooms or groups, select **Device** to view the available scheduled actions for their grouped devices.

Group Configuration Page - Scheduled Actions (Device)



For rooms or groups, select **Room** to view the available scheduled actions for the room or grouped rooms, respectively.

Group Configuration Page - Scheduled Actions (Room)

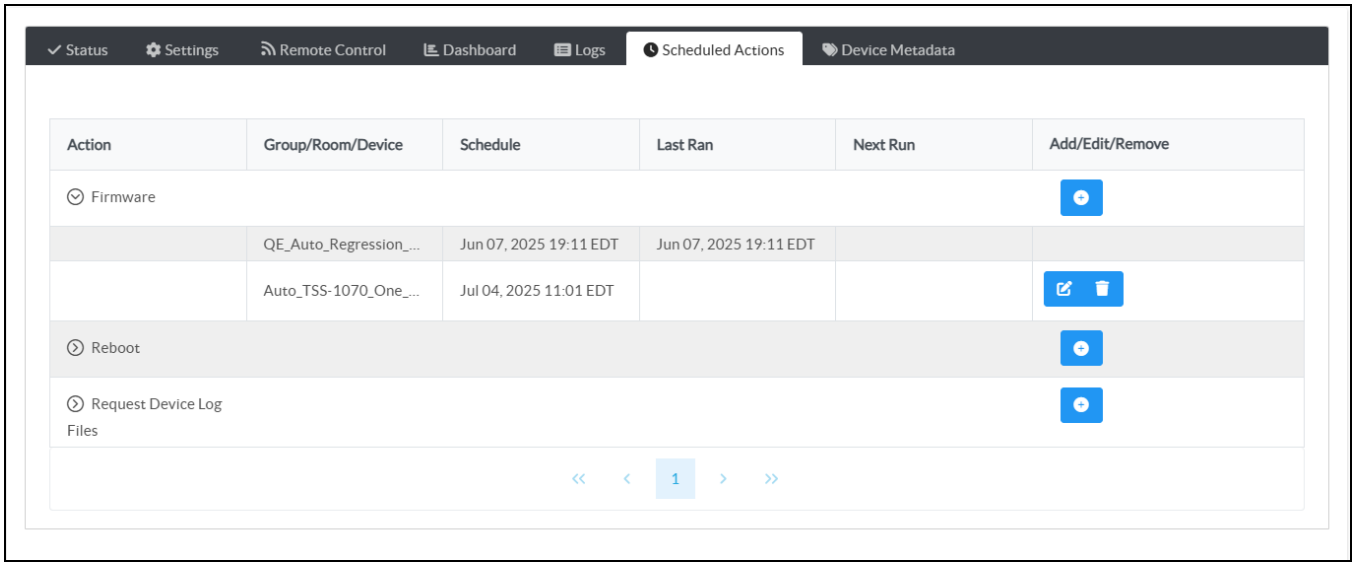


The **Scheduled Actions** table lists the actions that may be scheduled for the selected device, device model, or room.

When scheduling actions for a group or room, select the desired device type from the **Device Model** drop-down menu on the top left of the **Scheduled Actions** section. An action created in the group or room configuration page will be applied to all devices that share the selected model.

Select the arrow button next to an action to view more details about the action.

Scheduled Actions Table



The following information is displayed for each device:

- The name of the action
- The device, room, or room group name
- The schedule that has been set for the action
- The date and time when the action was last ran

> **NOTE:** If the action was triggered but the device was unable to complete it for any reason, such as being offline at the scheduled date and time, an error icon is shown next to the **Last Ran** date and time to indicate this error.

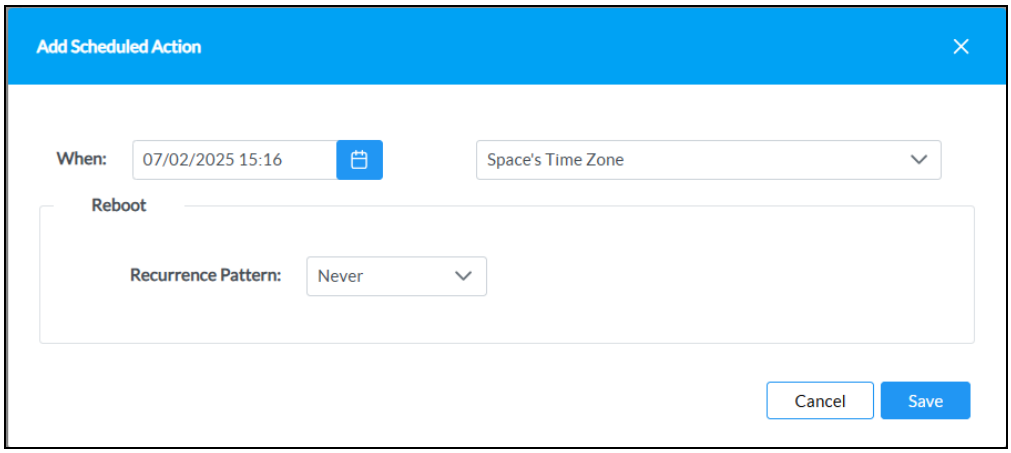
- The date and time when the action is scheduled to run again
- Controls for adding, editing, and removing an action

Create a Scheduled Action

To schedule an action:

1. Select the add button under **Add/Edit/Remove**. An **Add Scheduled Action** dialog box is displayed.

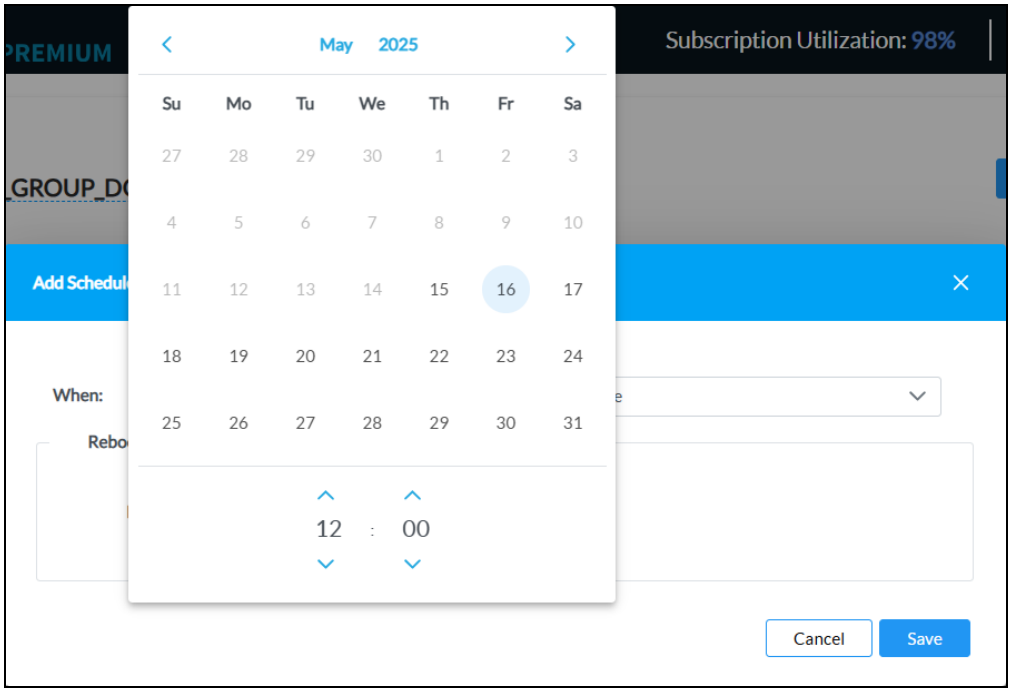
   Add Scheduled Action Dialog Box



2. Select the **When** field to open the calendar and time settings.

3. Select the date and time for the action to occur. If the **Recurrence Pattern** is set to **Never**, the action will occur only once at the selected date and time.

   Add Scheduled Action Dialog Box (Calendar and Time Settings)



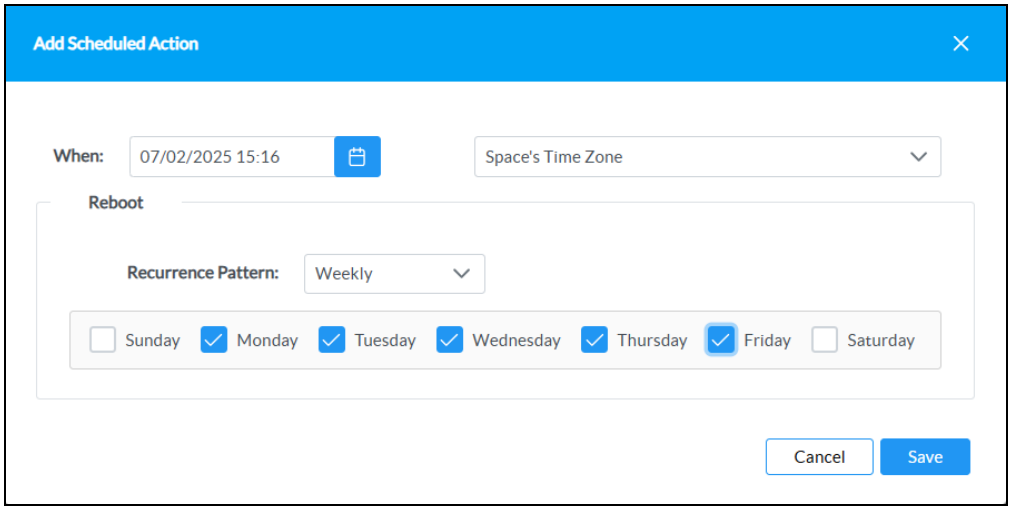
4. Select a time zone from the drop-down menu to the right of the **When** field.

   > **NOTE:** Scheduled actions for devices or rooms in the same time zone are performed simultaneously if the action is set at a group level. For grouped spaces (rooms and desks) in different time zones, select **Space's Time Zone** to perform the scheduled action based on each space's local time.

5. If applicable, use the **Recurrence Pattern** drop-down menu to select if and when the action should repeat. The following options are provided:
   - **Never**: The action will occur only once on the date and time that is set for the **When** field.
   - **Daily**: The action will occur every day starting on the date and time that is set for the **When** field.

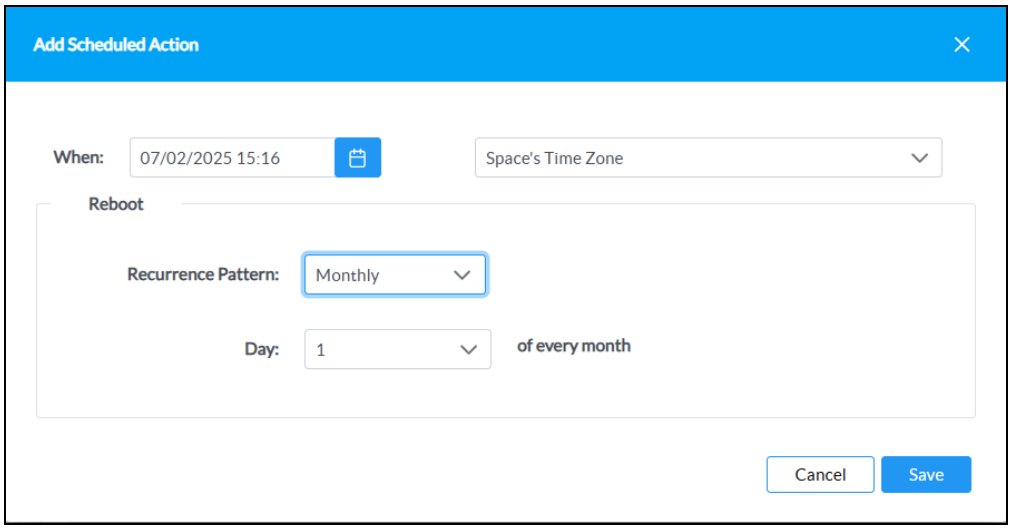
- **Weekly**: The action will occur every week on the days selected, starting on the date and time that is set for the **When** field. Select the empty check box next to a day to select it.

  Add Scheduled Action Dialog Box (Weekly Recurrence Pattern)



- **Monthly**: The action will occur on the selected date of every month. Options are **1** through **31** and last.

  Add Scheduled Action Dialog Box (Monthly Recurrence Pattern)



> **NOTE:** The selection in the **When** box determines the first time the scheduled action occurs and does not need to be set for the recurrence pattern. In the example above, the first time the action occurs will be on July 12. Thereafter, it will occur on the first day of each month, so the next occurrence will be on August 1.

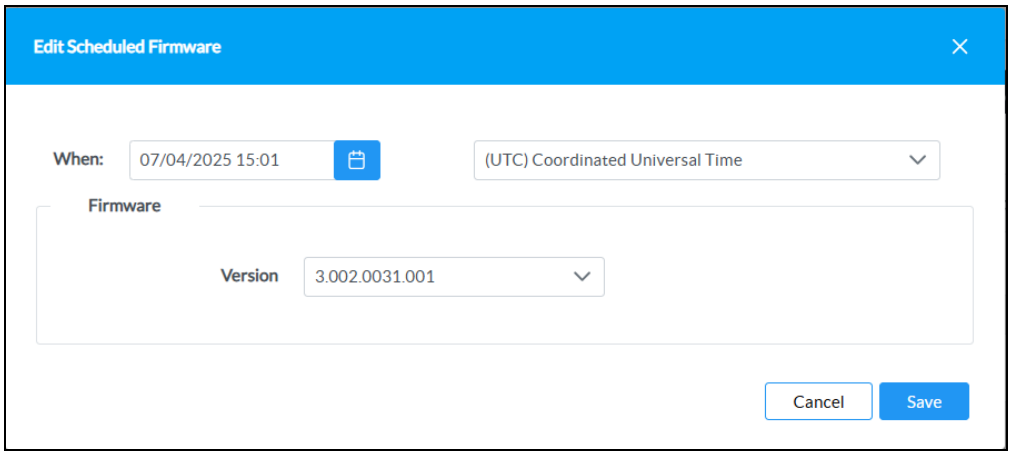
6. If applicable, use the provided controls to configure additional settings for the scheduled action. Each category of scheduled actions has its own unique controls.
7. Select **Save**. The new scheduled action is added under its parent category.

Edit a Scheduled Action

To schedule an action:

1. Use the arrow button next to the action name to expand the selection.
2. Select the edit button under **Add/Edit/Remove**. An **Edit Scheduled Action** dialog box is displayed.

   Edit Scheduled Action Dialog Box



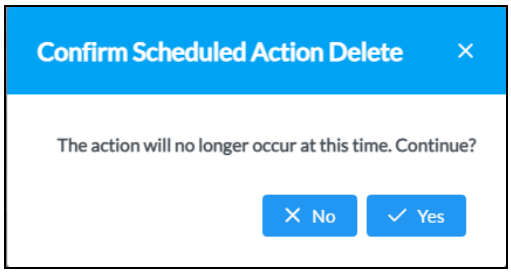
3. Use the provided controls to configure the recurrence pattern and any additional settings for the scheduled action as described in Create a Scheduled Action on page 124. Each category of scheduled actions has its own unique controls.
4. Select **Save**. The scheduled action is updated under its parent category.

Delete a Scheduled Action

To delete a scheduled action:

1. Use the arrow button next to the action name to expand the selection.
2. Select the remove button under **Add/Edit/Remove** for the desired action. A **Confirmed Scheduled Action Delete** dialog box is displayed.

   Confirm Scheduled Action Delete Dialog Box



3. Select **Yes** to delete the action, or select **No** to cancel the deletion.

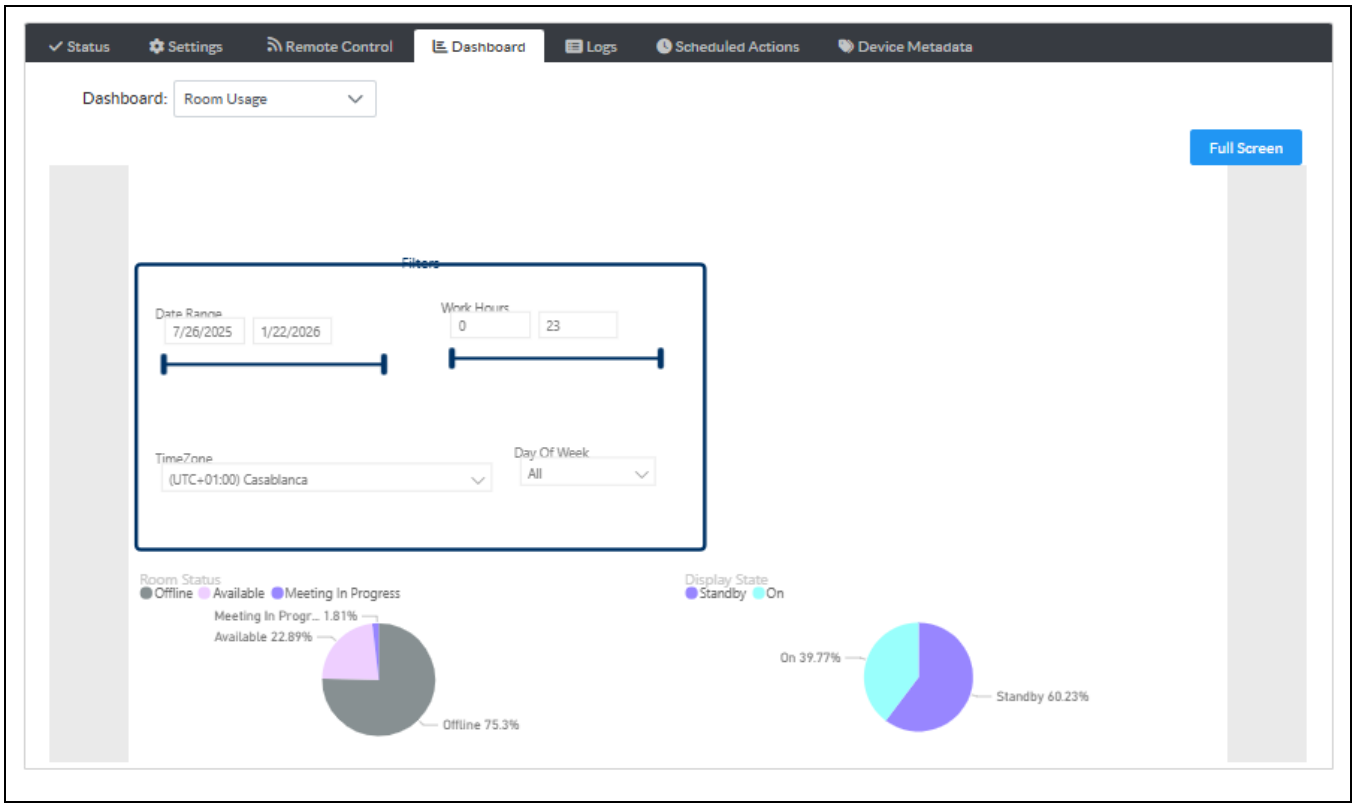
Dashboard

The **Dashboard** section provides interactive data that shows when and how a device is used within the organization.

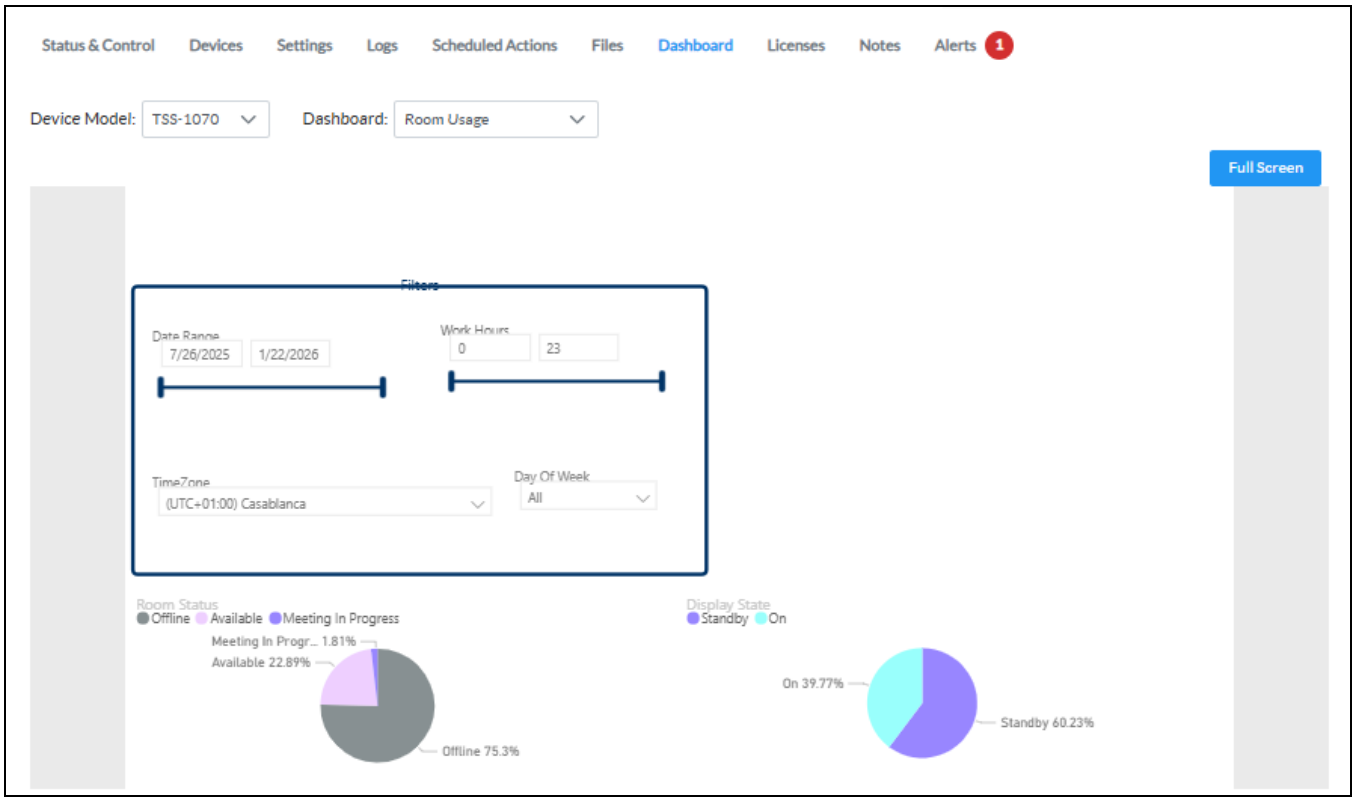
The **Dashboard** section is accessible from the **Dashboard** tab for an individual device or for a group or room (license-dependent).

> **NOTE:** Dashboards require an XiO Cloud Premium subscription.

Device Configuration Page - Dashboard



Room Configuration Page - Dashboard



Use the **Dashboard** drop-down menu to select the type of data shown for the device (such as device usage). The available data varies by device.

When viewing the **Dashboard** section for a group or room, select the desired device type from the **Device Model** drop-down menu on the top left of the **Settings** section. The dashboard presents data for all devices within the group or room that share the same model.

Dashboards are interactive and contain different charts that may be cross-filtered by selecting the chart and filters:

- Hover the mouse cursor over a chart to expose additional selections for viewing and sorting the chart, changing the level of data shown, and exporting data as a CSV file or a Microsoft Excel® software file.
- Use the **Date Range** filter to show data from a specific date range. Enter a start and end date in the appropriate fields, or drag the two points on the slider bar up and down to adjust the start and end dates.

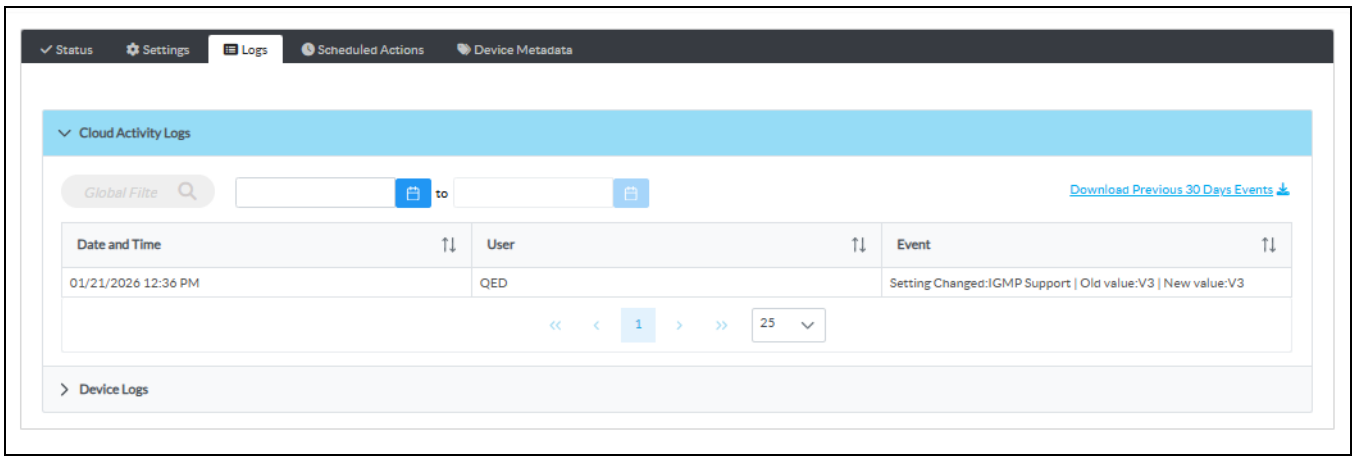
Select **Full Screen** to display the **Dashboard** section in full screen mode. To return to the normal size, press the **Esc** key on the keyboard.

Logs

The **Logs** section provides a list of events that have occurred for each device.

The **Logs** section is accessible from the **Logs** tab for an individual device or for a group or room (license-dependent).

Device Configuration Page - Logs



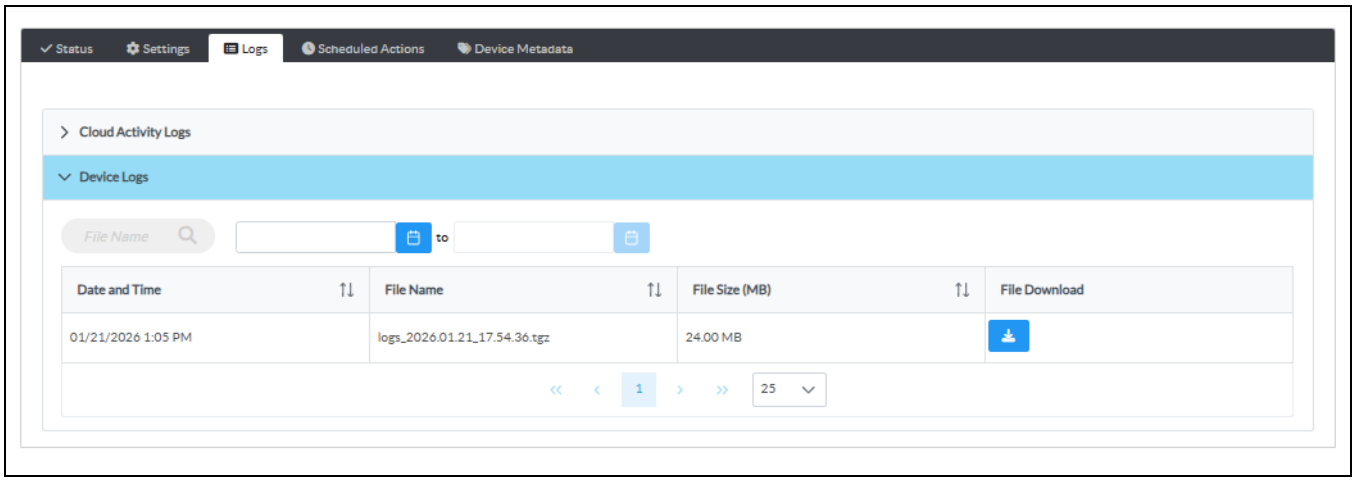
The **Cloud Activity Logs** accordion presents the following information for each device in table format:

- Scheduled actions
- Changed device settings, including the original and new values
- Licenses that were added to or removed from the device
- Movement from one group to another
- Movement between online and offline states

Each entry in the **Cloud Activity Logs** table includes the date and time of the event, the logged-in user who performed the event (if applicable), and a summary of the event.

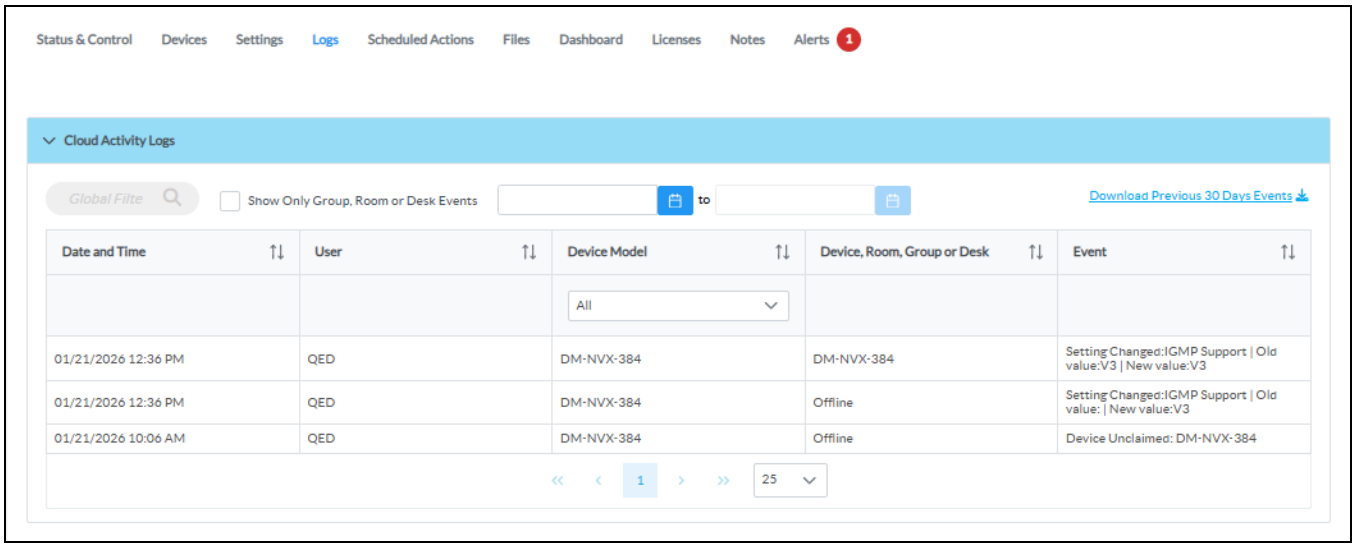
Additionally, a **Device Logs** accordion is provided that can be used to view and download log files from the device for troubleshooting purposes.

Device Configuration Page - Device Logs Table



The **Cloud Activity Logs** table at the group or room level presents additional data, including the device model and the device, group, or subgroup that was affected. Use the drop-down menu at the top of the **Device Model** column to filter the table by device type.

Room Configuration Page - Activity Log



All log tables may be filtered using a global filter or date filter:

- Enter text in to the **Global Filter** text box to search for and display activity log entries that match the search term(s). (For example, typing "Mercury" in the global filter box will show all rows containing the word "Mercury" in any column.)
- Click inside the first date filter text box to select a start date for the activity log, and then click inside the second date box to select an end date for the activity log. The activity log updates to show entries within the specified date range.

If the log table spans multiple pages, use the navigation arrows on the bottom of the page to move forward or backward through the pages, or select a page number to navigate to that page.

Select **Download Previous 30 Days Events** to download the previous 30 days of the activity log as a CSV file. Any filter applied to the table are not applied to the CSV file.

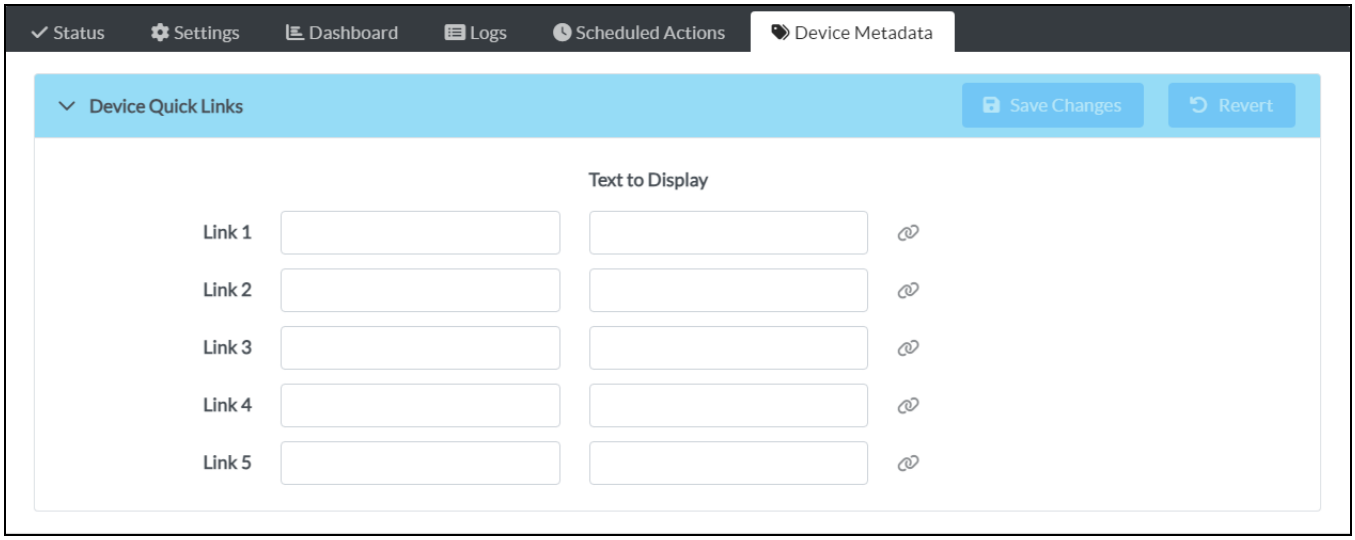
When viewing logs at the group level, select the empty check box next to **Show Only Group, Room, or Desk Events** to update the table to show events that were performed at these levels only.

Device Metadata

The **Device Metadata** section allows various metadata information to be added to devices within the XiO Cloud service.

The **Device Metadata** section is accessible from the **Device Metadata** tab for an individual device.

> **NOTE:** Device metadata requires an XiO Cloud Premium subscription.



Expand the **Device Quick Links** accordion to associate related URLs to a device for quick access within the XiO Cloud service, such as URLs for XPanels, device documentation, and other management portals. Up to five URLs can be added per device.

> **NOTE:** The following URL protocols are supported: "http://", "https://", "ssh://", "sftp://", "rtsp://", "vnc://". For protocols that are not supported by the web browser, a compatible application must be registered in the OS of the local computer; otherwise, selecting the link will open a blank page in the web browser. The registered application is OS dependent and must be able to handle the associated resource URI.

For each link, enter the desired URL within the first text field, and then enter the text to display within the second field. The link is provided to the right of these text fields once it has been entered. Select the link once it has been generated to open the URL in a new tab.

Update Firmware

Firmware for one or all devices may be updated from the XiO Cloud service. When new firmware is released for a device, it is posted to the cloud and made available for update.

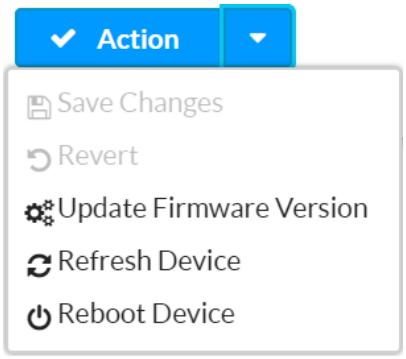
> **NOTE:** Firmware updates are scheduled actions and may be managed as such. For more information, refer to Scheduled Actions on page 121.

To update device firmware:

> **NOTE:** As of XiO Cloud version 1.58, firmware cannot be downgraded from the XiO Cloud service on any devices.

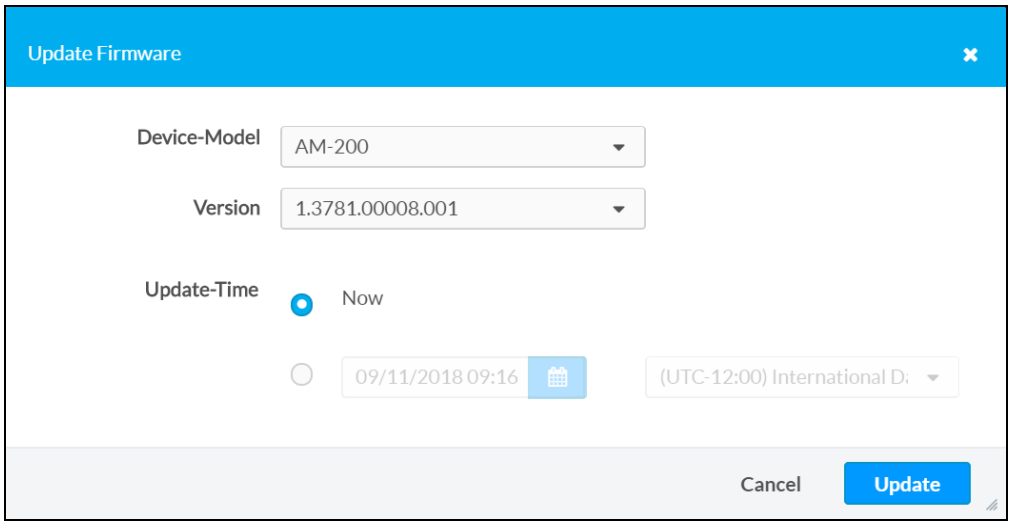
1. Select the individual device, room, or group where the firmware update is desired.
2. Select **Update Firmware Version** from the **Action** drop-down menu.

   Action Drop-Down Menu

   The **Update Firmware** dialog box is displayed.

   Update Firmware Dialog Box

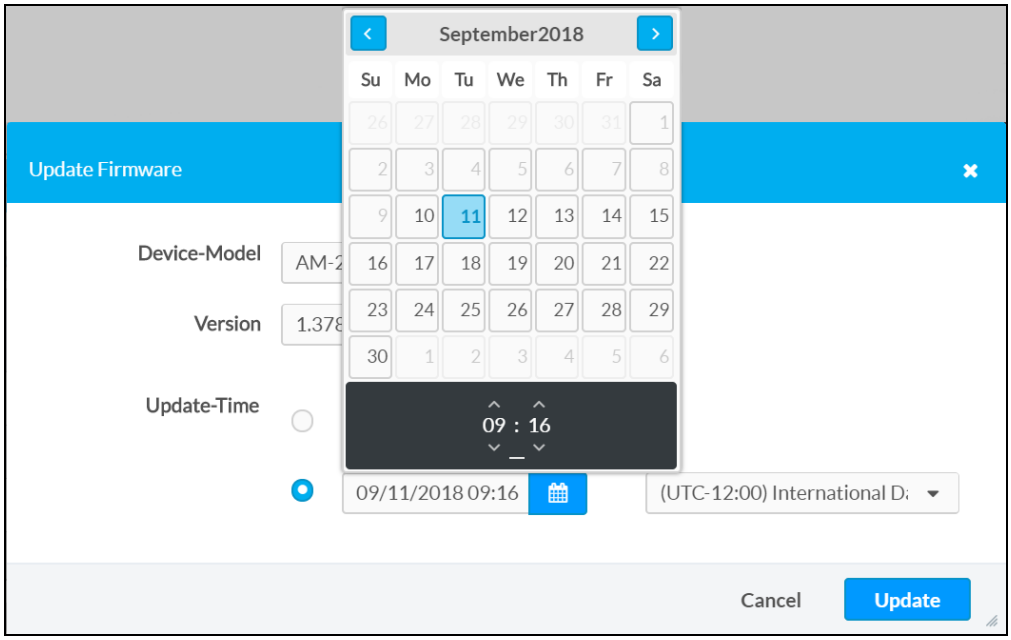
> **NOTE:** When updating firmware from the group or room level, select the device model from the **Device-Model** drop-down menu to update the firmware of all devices that share the model type.

3. Use the **Version** drop-down menu to select the firmware version that will be installed on the device or devices.

   > **NOTE:** Release notes may be downloaded from the link below the **Version** menu if available.

4. Select when the firmware update will be performed:
   a. Select the **Now** radio button to perform the firmware update immediately, or select the radio button next to the **date/time** and **time zone** fields to perform the firmware update at a set date and time. The firmware update will occur on the selected date and time.
   b. Select inside the **date/time** field to display a pop-up dialog box for selecting a date and time.
   c. Use the drop-down menu to the right of the **date/time** field to select a time zone for the firmware update.

   Update Firmware Dialog Box (Day and Time Selection)



5. Select **Update** to perform the firmware update at the selected date and time, or select **Cancel** to cancel the firmware update.

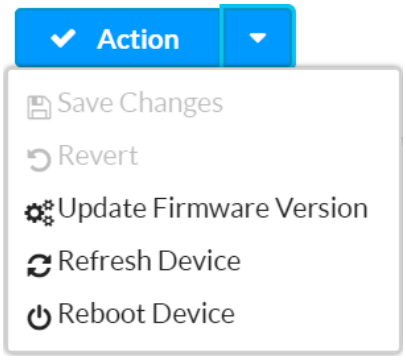
At the specified update time, the device connects to a secure Crestron file server to download and install the firmware. If the device cannot complete the download and installation on the first attempt, it tries up to three more times. If these attempts fail, the device tries one more time at 2:00 AM local time. If this final attempt fails, a failure message is displayed in the **Firmware-Version** column on the group **Status** page.

Restart Devices

An individual device or group of devices may be rebooted remotely from the XiO Cloud service.

To restart one or more devices, select **Reboot Device** from the **Action** drop-down menu on the desired device, room, or group page. The device or devices restart immediately.

Action Drop-Down Menu



Refresh Devices

Occasionally, the settings or status of a device shown in the XiO Cloud service may become out of sync with the settings or status on the actual device.

To obtain the latest settings and status from the device, select **Refresh Device** from the **Action** drop-down menu. The latest device settings and status are synced with the XiO Cloud service.

Manage Users

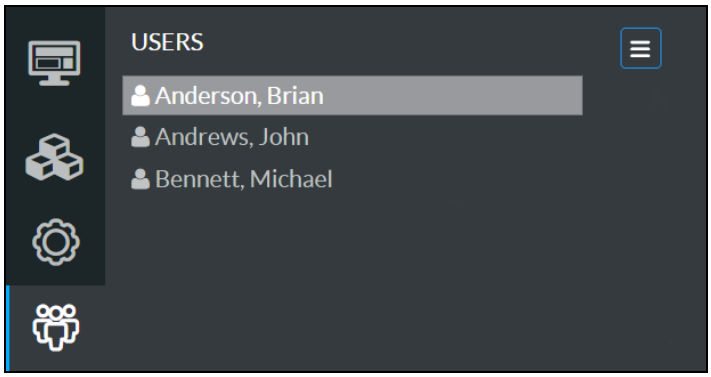
Individuals in an organization may have their own login credentials to access the XiO Cloud service. The system administrator can limit a user's access to only the devices that they need to manage. For example, an administrator in Hong Kong may be granted read/write access to devices in their local office but granted read-only access to devices in the London office.

This section explains how to manage users locally.

Add a New User

The **USERS** menu is located in the user management panel, which may be accessed by selecting the **Users** button in the navigation menu.

Users Menu

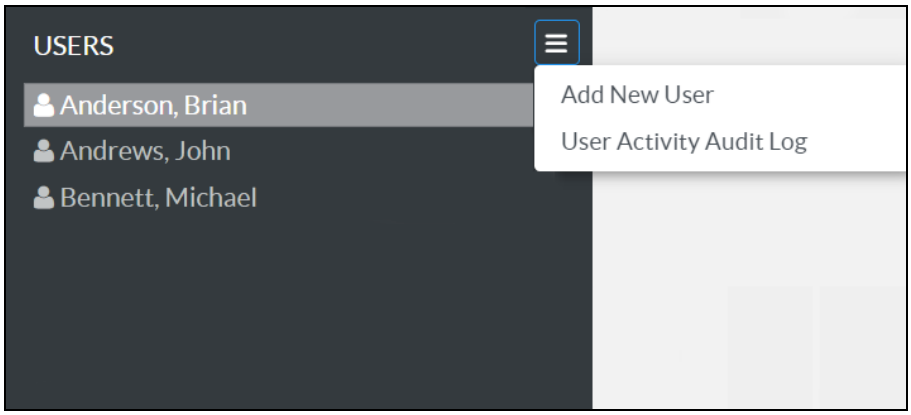


The **USERS** menu provides a list of the users with access to the XiO Cloud service for the organization.

To add a new user:

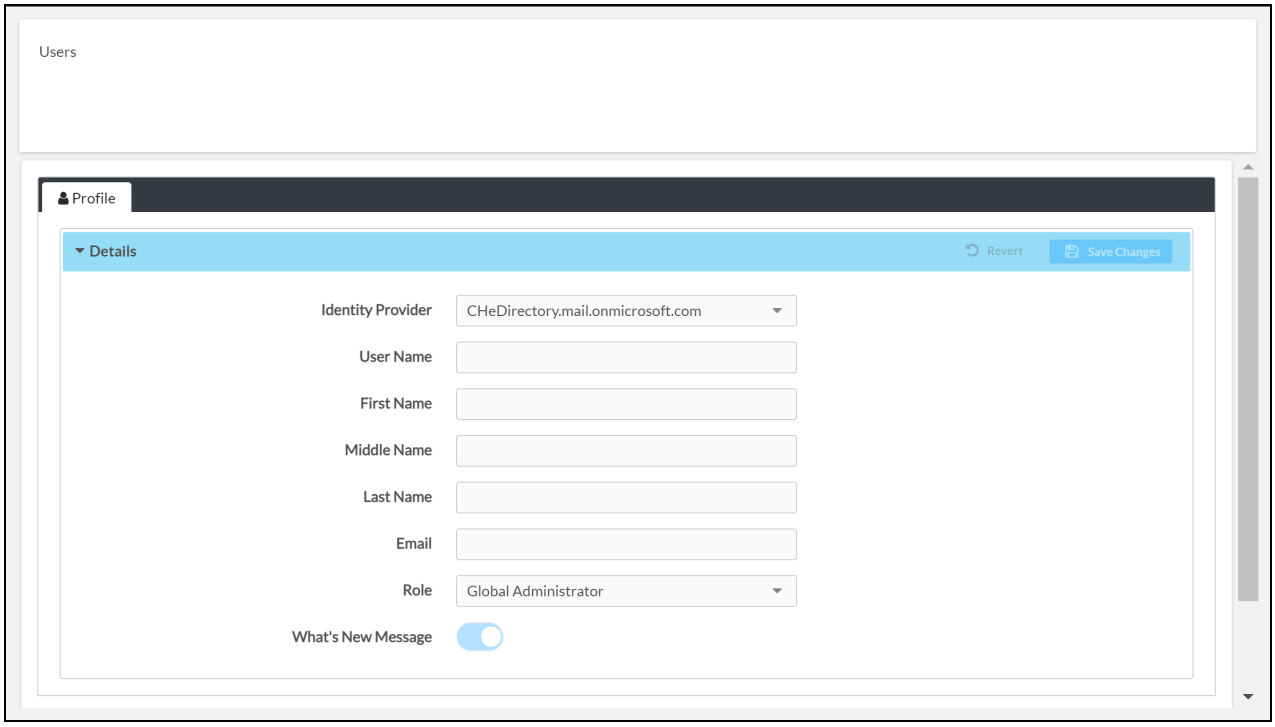
1. Select the **USERS** menu button to display a drop-down menu.

   Users Menu - Add New User



2. Select **Add New User**. A **Users** page is displayed to the right of the **USERS** menu.

Users Page



3. Use the provided fields to enter information about the new user, including identity provider, user name, name, email address, and role. Two roles are available in the XiO Cloud service:
    - Select **Global Administrator** from the **Role** drop-down menu to grant the user complete access to every part of the system. The user may add other global administrators. There must always must be at least one global administrator in the system.
    - Select **Standard User** from the **Role** drop-down menu to grant the user limited levels of access based on assigned groups. This user may not add other global administrators.
4. Once all information is entered, select **Save Changes** at the top right of the page. Select **Revert** to clear any information that was entered.

The user receives an email asking for account confirmation, along with a temporary password. A change of password is requested on the first login.

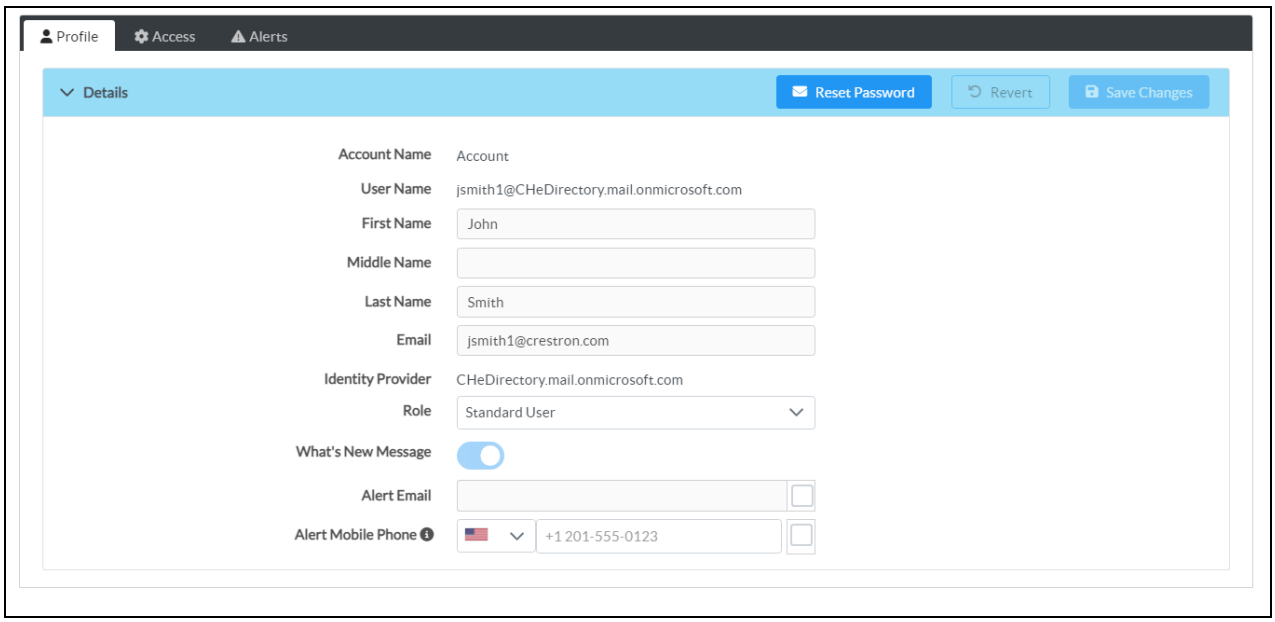
Edit User Information

Any of the information entered for a user during the account creation process may be edited at any time.

To edit the information for an existing user:

1. Select the user's name in the **USERS** menu. A **Users** page with the **Profile** tab open by default is displayed to the right of the **USERS** menu.

   Uses Page - Profile



2. Use the provided fields to edit information about the user, including name, email address, role, and alert notifications.

   > **NOTE:** For more information on managing alerts, refer to Alerts on page 183. For more information on the What's New Message, refer to What's New Message on page 143.

3. Select **Save Changes** at the top right of the page to save any changes made. Select **Revert** to clear any information that was entered.

To reset a user's password, select **Reset Password** at the top right of the page, and then select **Yes** when a confirmation dialog is displayed. An email will be sent to the user with instructions to reset their password.

Manage User Access

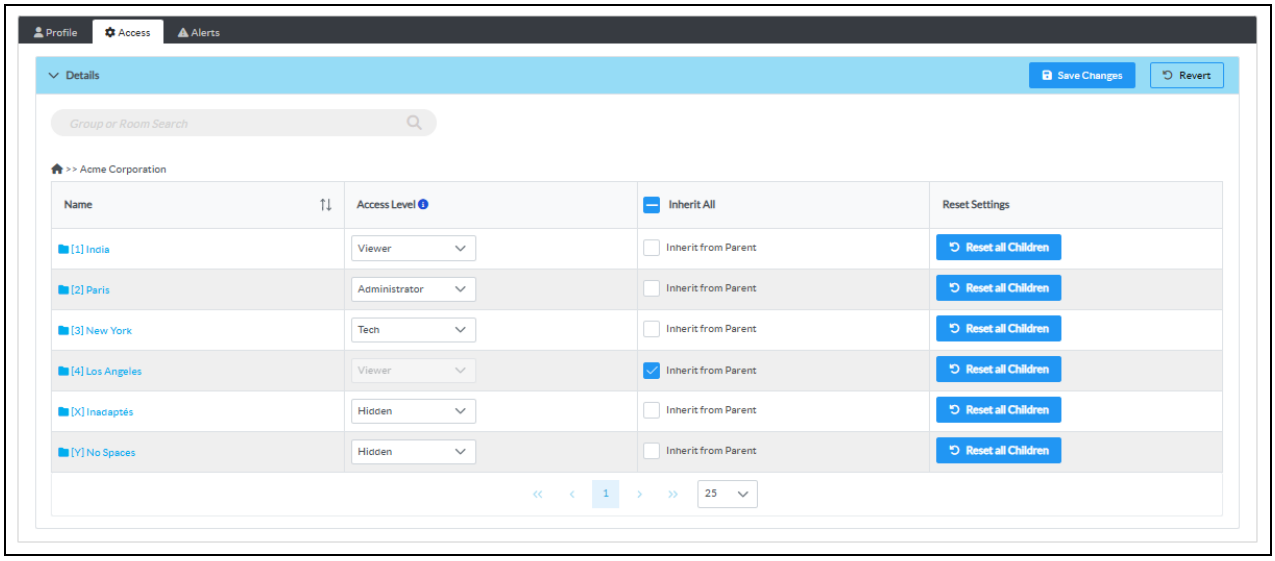
Users may be granted different access levels to groups, rooms, and desks within the XiO Cloud service environment.

NOTE: For more information on the tasks that can be performed by each user access level, refer to Appendix B: User Access Matrix on page 290.

To manage access levels for a user:

1. Select the user's name in the **USERS** menu. A **Users** page with the **Profile** tab open by default is displayed to the right of the **USERS** menu.
2. Select the **Access** tab.

   Users Page - Access Tab



3. Use the **Access Level** drop-down menu to select the user's access level for each group, subgroup, and space (room or desk).

   NOTE: Enter text in to the **Group or Room Search** text box to search for and display groups or spaces that match the search term(s).

   - Select **Viewer** to grant the user read-only access to the group or space. The user may view devices within the group or space but cannot modify them.
   - Select **Tech** to grant the user read and write access to the group or space. The user may view the status of devices and change device settings within the group or space.
   - Select **Administrator** to grant the user read and write access to the group or space and to allow the user to change the access level of other users to the group or space.
   - Select **Hidden** to hide the group or space from the user within the group tree.
   - (Subgroups and spaces only): Select **Inherit** to have the subgroup or space inherit the access level settings of its parent group. **Inherit** is the default settings for subgroups and spaces.

4. Set the inheritance settings for subgroups and spaces:
   - Select **Inherit from Parent** to have the subgroup or space inherit the access level settings of its parent group. **Inherit from Parent** is the default setting for subgroups.

- Select **Inherit All** in the column header to apply inheritance settings to all subgroups and spaces in the parent group.
- Select **Reset all Children** in the **Reset Settings** column to reset the access level for all subgroups and spaces within the corresponding parent group. All children will have **Inherit from Parent** selected automatically after being reset (even those that had **Inherit from Parent** deselected previously).

> **NOTES:**
>
> - If the access level for a parent group is changed, all children will be changed to that access level except for those with **Inherit from Parent** deselected.
> - The access level for a subgroup or space that is set to **Inherit from Parent** from its parent group can be overridden. For example, if a standard user has **Hidden** permissions for the parent group, that user can be assigned **Tech** permissions for a subgroup or space below the parent group.
> - As of XiO Cloud version 2.7, any subgroups or spaces created under a parent group will inherit the parent group's access level by default. This change allows standard users to access and edit newly created spaces within their assigned groups without requiring intervention from a Global Admin.

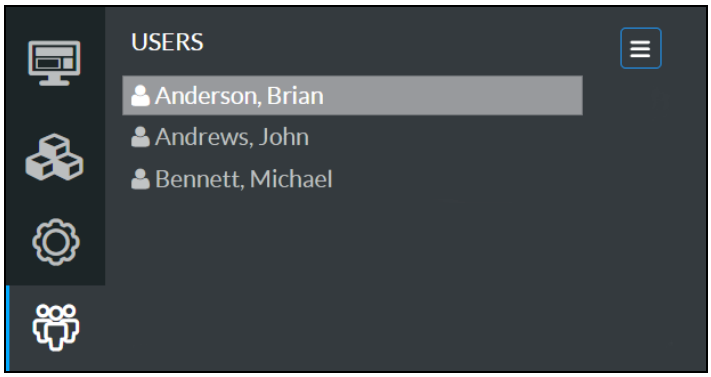
Delete a User

Users may be deleted from the XiO Cloud service to remove their access and to prevent them from viewing or changing any settings in the service.

To delete a user:

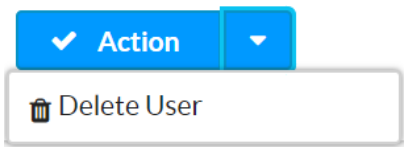
1. Select the user's name in the **USERS** menu.

   Users Menu

2. Select **Delete User** from the **Action** menu.

   Action Drop-Down Menu - Delete User

The **Confirm User Delete** dialog box is displayed.

Confirm User Delete Dialog Box



3. Select **Yes** to delete the user or select **No** to cancel the deletion.

Download User Activity Audit Log

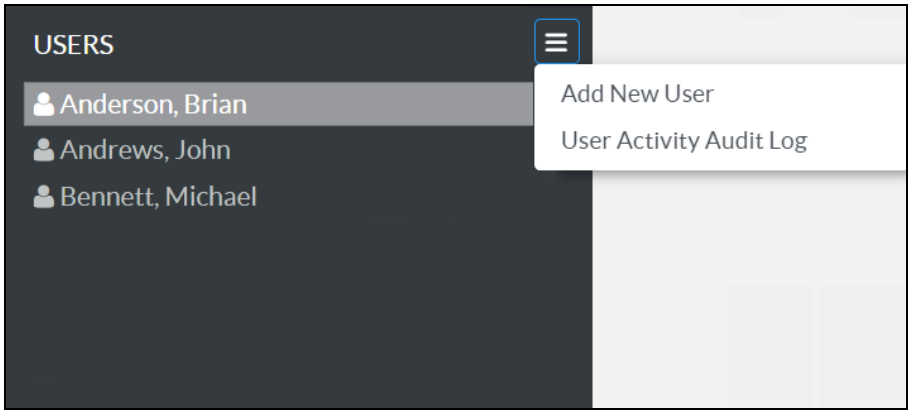
A user activity audit log for the XiO Cloud account can be downloaded as a CSV file. The audit log provides a list of recent user-initiated events (such as login and logoff) with corresponding user IDs and time stamps.

> **NOTE:** User logoffs due to inactivity timeout are not recorded. A user must manually log out of the service (from the web interface or Device Assistant app) for a logoff event to be recorded.

To download the user activity audit log:

1. Select the **USERS** menu button ☰ to display a drop-down menu.

   Users Menu - User Activity Audit Log



2. Select **User Activity Audit Log**. The audit log is downloaded to your PC as a CSV file.

Single Sign-On

XiO Cloud accounts can be configured for enterprise single sign-on (SSO) with the Okta® management platform, the Microsoft Entra ID service, and other identity providers. Account administrators may contact Crestron support to configure their accounts for single sign-on.

To configure SSO for the XiO Cloud service using an identity provider:

1. Obtain the required data for the chosen identity provider.
    - Refer to Knowledge Article 1000838 for instructions on how to create SAML applications for common identity providers.
    - Refer to Knowledge Article 1000840 for instructions on how to create OpenID applications for common identity providers.
    - Refer to Knowledge Article 3146 for instructions on how to obtain Entra ID tenant IDs and domains.
2. Submit a completed XiO Cloud SSO Request Form to Crestron. Crestron will respond to the account administrator via email once the integration is confirmed.
3. Add one or more external users to the XiO Cloud account as described in Manage Users on page 136.
    - Select **External Domain** for **Identity Provider** when creating the external user.
    - The email address specified for the external user must match their email address used to access the identity provider.
    - Ensure that the appropriate user role and access level are delegated to the external user.
4. Test that the external user(s) can log into the service once Crestron has confirmed the integration.

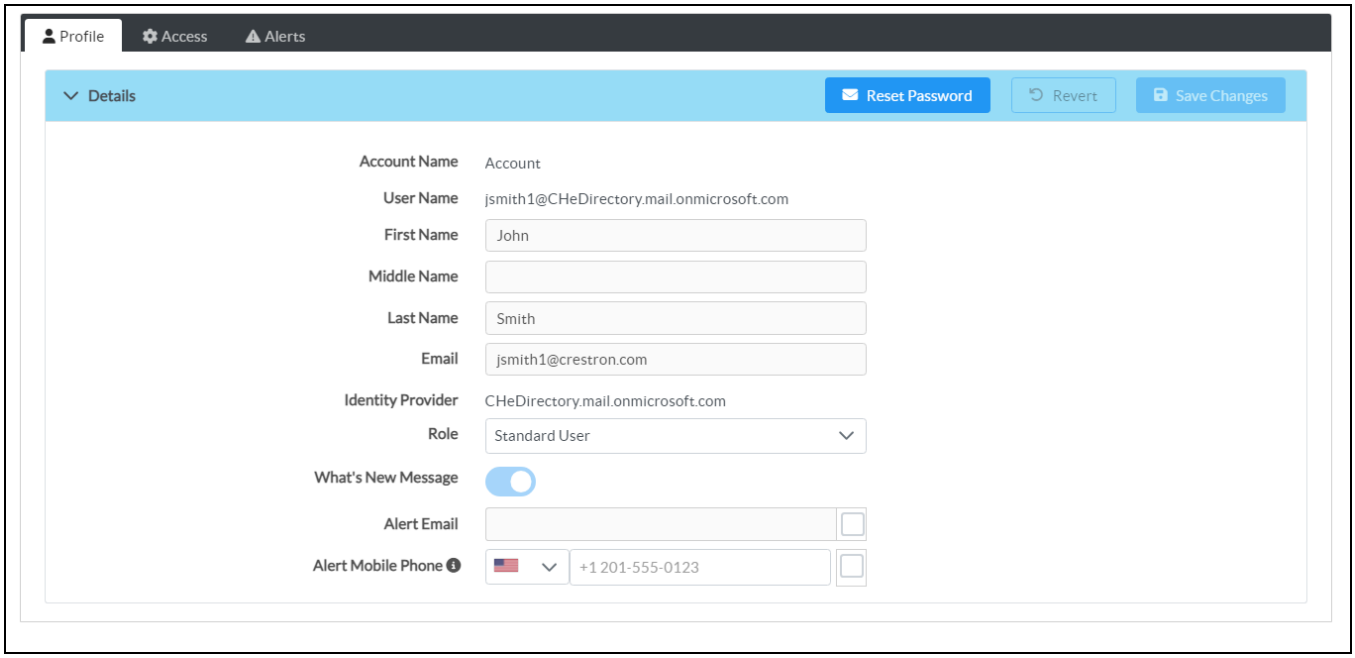
XiO Cloud also supports multifactor authentication (MFA) for single sign-on solutions. MFA is configured within your identity provider.

What's New Message

The XiO Cloud service shows messages occasionally that announce new features or news about the service. Recent What's New messages can be viewed by selecting the alerts button on the top right of the page.

To disable these messages for a user, turn off the **What's New Message** toggle on the user's profile page. For more information on editing user information, refer to Edit User Information on page 138.

User Profile Page

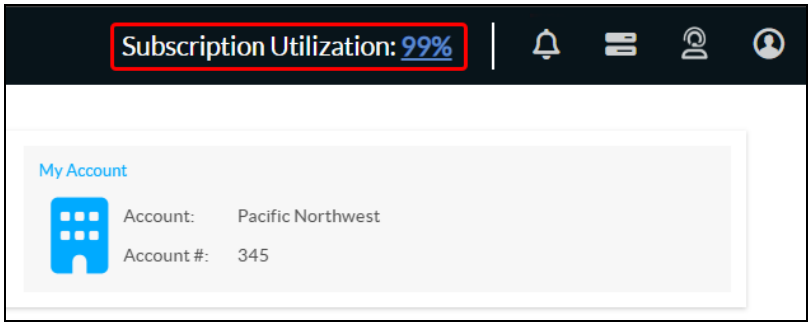


Subscription Utilization

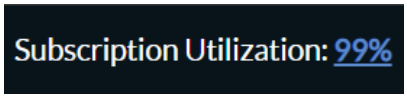
Subscription Utilization controls provide an at-a-glance view of your current device usage and help to determine whether a device count true-up will be required (for XiO Cloud Premium subscriptions only).

The **Subscription Utilization** indicator next to the top menu bar shows the percentage of claimed devices in your account that count toward your subscription's limit.

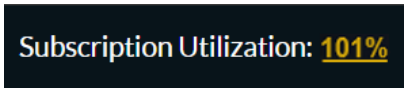
> **NOTE:** Subscription utilization represents the percentage of your current device usage compared to your purchased device count in your subscription. Subscription utilization accounts for device years, which are prorated based on which month in the subscription term new devices are added to your account. For more information on device year calculations and the true-up process, refer to the Crestron XiO Cloud Premium True-Up Guide.



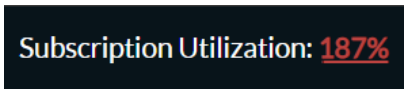
- If the subscription utilization is 100% or less, a blue value is shown. At this usage, a true-up is not required for the current year. However, a true-up may be required at the anniversary date of your XiO Cloud Premium subscription if there are additional years remaining in your XiO Cloud subscription term. This is dependent on your expected usage for the following year.

- If the subscription utilization is between 101% and 110%, a yellow value is shown. At this usage, a true-up statement will be triggered at the anniversary date of your XiO Cloud Premium subscription if there are additional years remaining in your XiO Cloud subscription term, and a device count true-up will be required for any remaining years in your subscription term (if applicable).

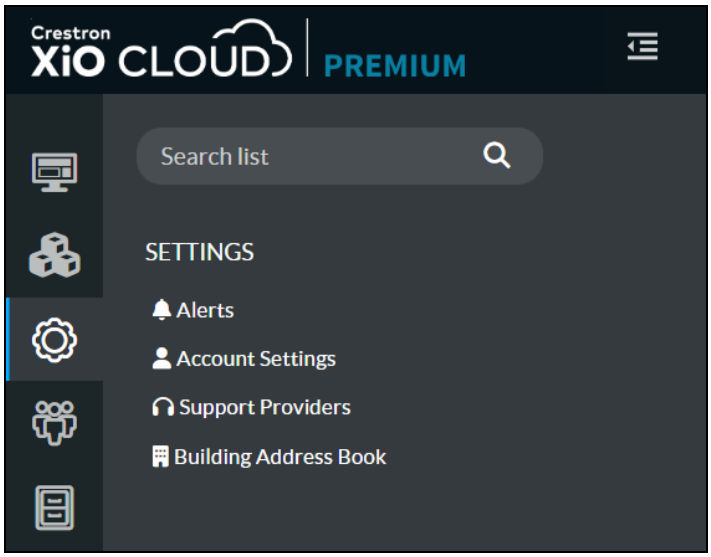
- If the subscription utilization exceeds 110%, a red value is shown. At this usage, a true-up statement will be triggered at the anniversary date of your XiO Cloud Premium subscription, and a device count true-up will be required for both the current year of your subscription term and for any remaining years in your subscription term (if applicable).



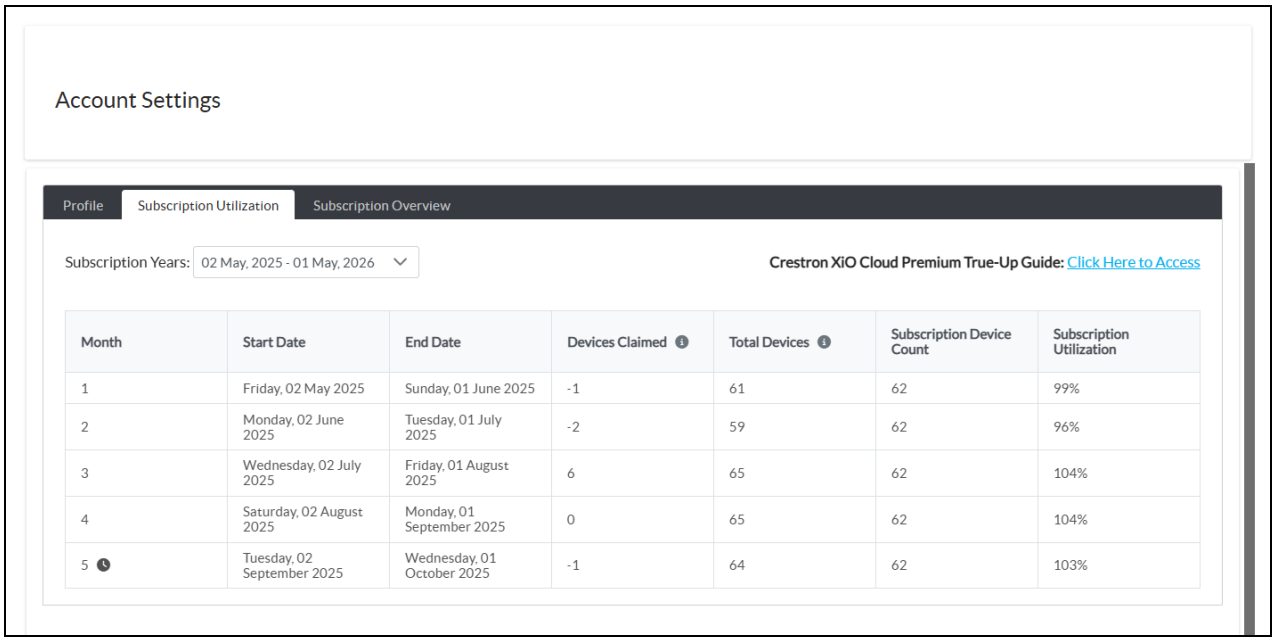
For a more in-depth view of the account's subscription utilization, access the **Subscription Utilization** tab in the **Account Settings**:

> **NOTE:** The **Subscription Utilization** tab can also be accessed by selecting the percentage value in the **Subscription Utilization** indicator described above.

1. Select the gear icon on the left side of the page.
2. Select **Account Settings**.



3. Select the **Subscription Utilization** tab.



Month	Start Date	End Date	Devices Claimed	Total Devices	Subscription Device Count	Subscription Utilization
1	Friday, 02 May 2025	Sunday, 01 June 2025	-1	61	62	99%
2	Monday, 02 June 2025	Tuesday, 01 July 2025	-2	59	62	96%
3	Wednesday, 02 July 2025	Friday, 01 August 2025	6	65	62	104%
4	Saturday, 02 August 2025	Monday, 01 September 2025	0	65	62	104%
5	Tuesday, 02 September 2025	Wednesday, 01 October 2025	-1	64	62	103%

The **Subscription Utilization** tab provides a table showing each month in the current subscription term. A time icon is shown next to the current month to indicate live data.

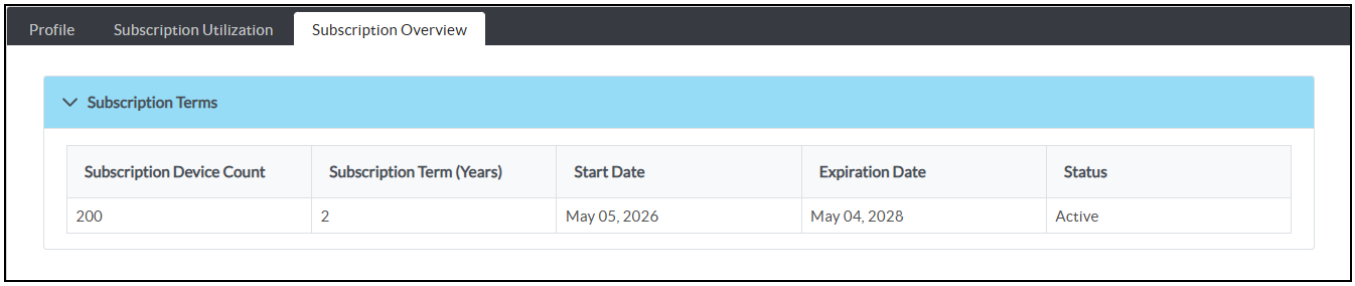
Additionally, use the **Subscription Years** drop-down menu to view historical utilization data for previous subscription years.

> **NOTE:** Subscription years are based on the start and end dates of your subscription terms (which may not correspond with calendar years). For example, if your subscription term started on July 2nd, the subscription year would start on that date and end on July 1st of the next calendar year.

The table provides the following data for each month in the subscription term:

- **Month**: The number of the month within your subscription term (which may not correspond with calendar months). For example, if your subscription started on July 2nd, the date range of July 2nd through August 1st would be considered the first month of the subscription.
- **Start Date**: The start date of the subscription month.
- **End Date**: The end date of the subscription month.
- **Devices Claimed**: The number of devices that were claimed or unclaimed within the subscription month. A positive value indicates an increase in claimed devices, which a negative value indicates a decrease in claimed devices.
- **Total Devices**: The total devices in the account that count toward the subscription device limit.
- **Subscription Device Count**: The subscription device limit for the account.
- **Subscription Utilization**: The percentage of claimed devices in your account that count toward your subscription's limit. Refer to the note at the beginning of this topic for more information.

A **Subscription Overview** tab is also provided within the **Account Settings** that gives a high-level view of the current subscription terms, including the device count, term (in years), start date, expiration date, and status.



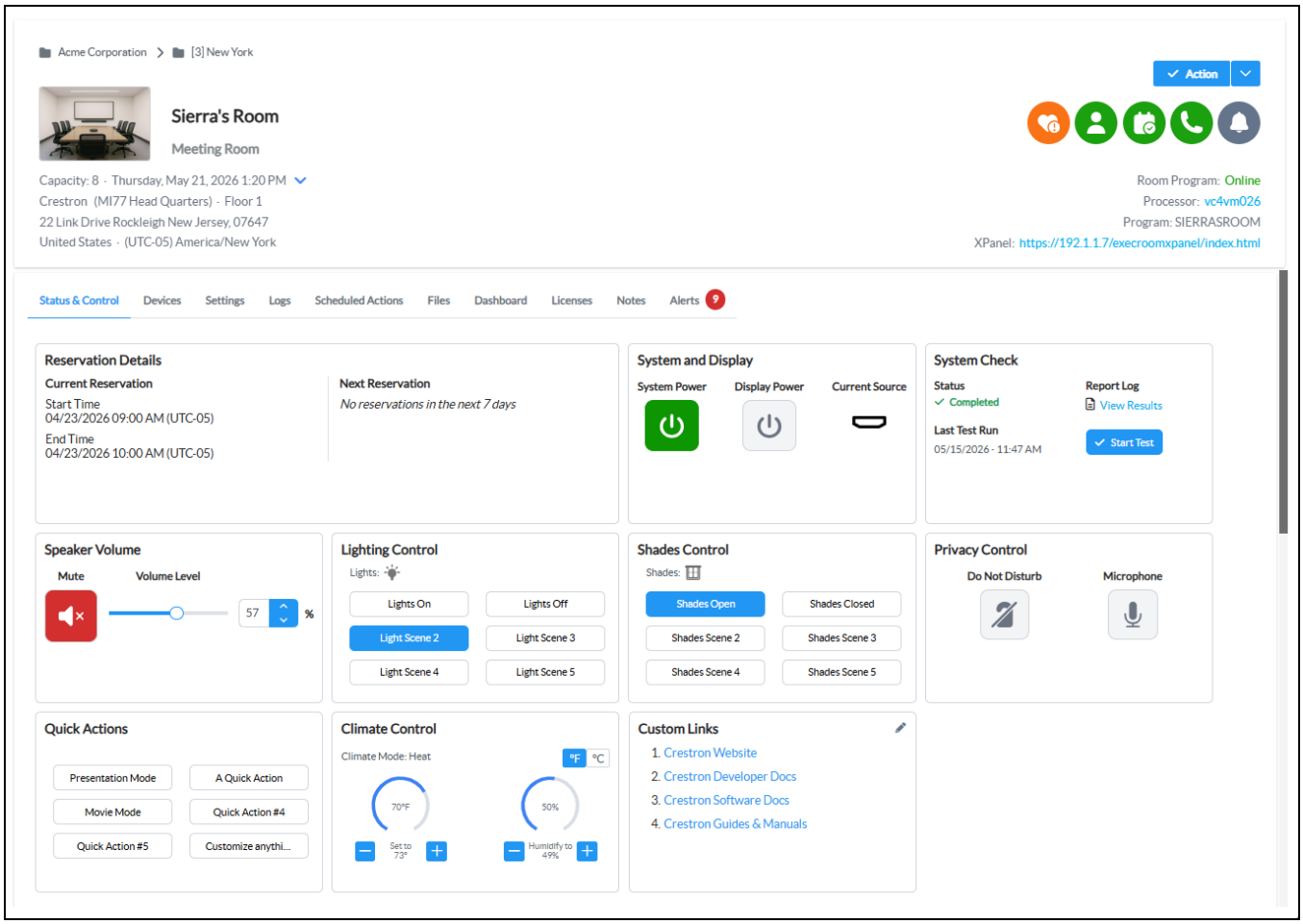
XiO Cloud Program Connector

As of XiO Cloud version 1.59, the XiO Cloud program connector is available for all rooms within an XiO Cloud environment. Programmers can enable custom monitoring, reporting, and control of rooms within XiO Cloud. Each room requires a unique SIMPL or C# program built with the XiO Cloud Space symbol to be loaded to a 4-Series® control system or Crestron Virtual Control (VC-4) server that is claimed to the XiO Cloud account.

> **NOTE:** Use of the XiO Cloud program connector requires an XiO Cloud Premium subscription.

For more information on programming with the XiO Cloud Space symbol, refer to the SIMPL help file. The legacy XiO Cloud Room symbol can still be used in existing programs, but Crestron recommends migrating to the XiO Cloud Space symbol to take advantage of the latest features and functions (added in XiO Cloud version 2.11 or higher).

> **NOTE:** The control system must be running the minimum firmware or software version (or higher) that supports the XiO Cloud program connector:
>
> - **4-Series**: 2.8006.00284 (for XiO Cloud Space symbol support), 2.8005.0010 (for XiO Cloud Room symbol support)
> - **VC-4**: 4.0004.00153 (for XiO Cloud Space symbol support), 4.0004.00093 (for XiO Cloud Room symbol support)



Various cards and indicators are provided in the **Status & Control** section that support different programming logic. Each programmable item is described in the sections that follow.

NOTES:

- As of XiO Cloud version 1.63, room control functions can be set as scheduled actions for a room or group. For more information, refer to Scheduled Actions on page 121.
- If the custom program does not support a control or indicator, it will be grayed out in its corresponding card. Hover text will indicate whether a control or indicator is supported within the room.
- If a card does not have any signals connected to the custom program, then that card will be hidden from the **Status & Control** section. The **Custom Links** card cannot be hidden since it does not connect to the custom program via signals. Certain cards can also hide applicable controls or indicators when there are partial signals connected to the custom program as described in their respective sections.

Add a Room Program and Web XPanel

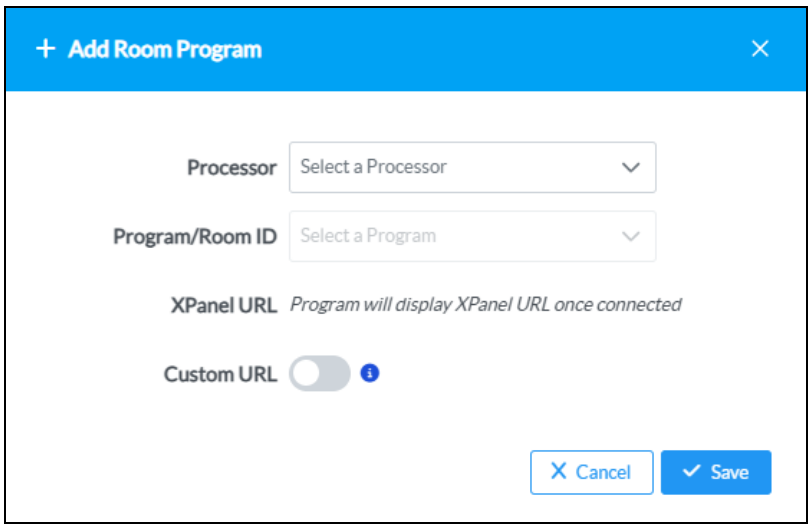
A control system and a unique room program must be added to a room to enable the XiO Cloud program connector functionality.

An HTML5 Web XPanel can also be associated with the room for custom control applications. The Web XPanel URL can be derived from the program (feature coming soon) or it can be linked from a remote server. For more information on HTML5 Web XPanel deployment, refer to the Crestron HTML5 User Interface Developer Microsite.

> **NOTE:** A room program is not required to associate a Web XPanel hosted on a remote server.

To add a room program:

1. Select **Add Room Program** from the room's **Action** menu. The **Add Room Program** dialog box is displayed.

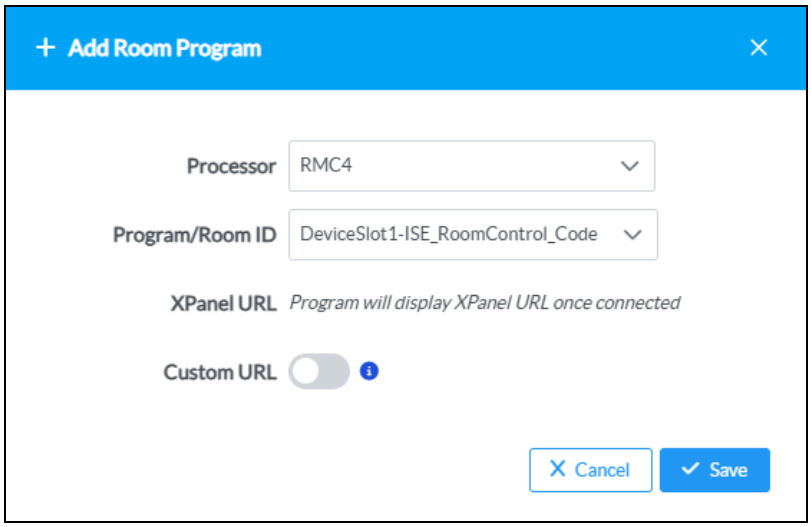


2. Use the **Processor** drop-down menu to select a control system running the XiO Cloud Space symbol.

> **NOTE:** Only supported control systems that have been claimed into the XiO Cloud account and that have a program created with the XiO Cloud Space or XiO Cloud Room symbols will be available for selection. A message will be displayed in the dialog box if no devices that support the program connector are available in the account.

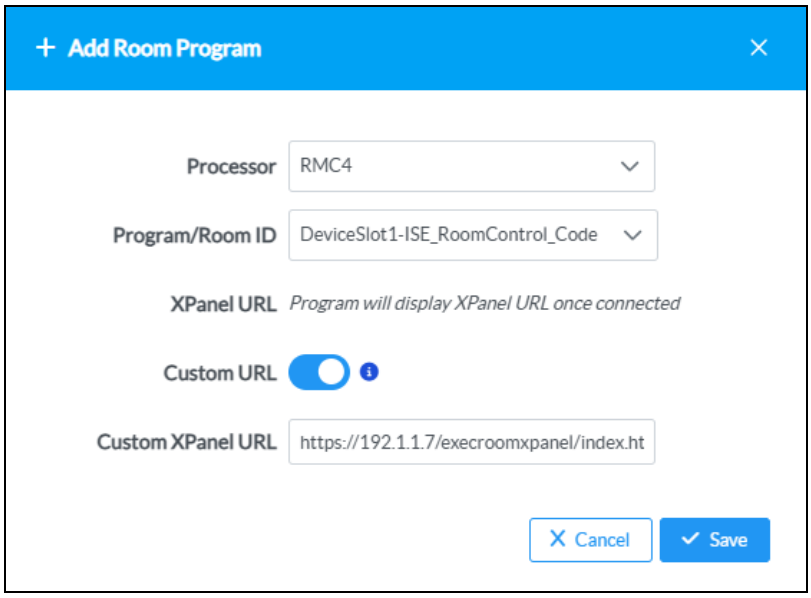
3. Use the **Program/Room ID** drop-down menu to select the program for the XiO Cloud room.
    - For 4-Series control systems, the program name is prepended with its corresponding device slot on the control system.
    - For VC-4 servers, the program name is prepended with the room ID of its corresponding room on the server.

    NOTE: Only programs created with the XiO Cloud Space or XiO Cloud Room symbols will be available for selection. Once a program has been applied to a room, it can no longer be selected from this menu unless it is removed from the room. A message will be displayed in the dialog box if all available programs are assigned to other rooms.



4. *(Optional)* To associate a remote Web XPanel project with the room, turn on the **Custom URL** toggle, and then enter the URL of the remote XPanel project in the **Custom XPanel URL** text field.

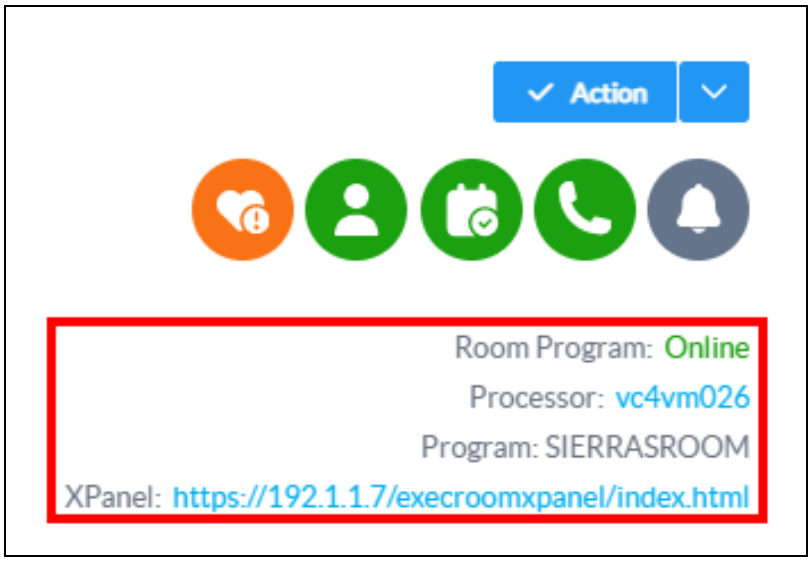
    NOTE: An XPanel URL can also be provided by the XiO Cloud program (feature coming soon). If an XPanel URL is included within the program, then it will be displayed in the **XPanel URL** field once the program is connected. Specifying a custom XPanel URL for the room will override the URL provided by the program. For more information, refer to the SIMPL help file.



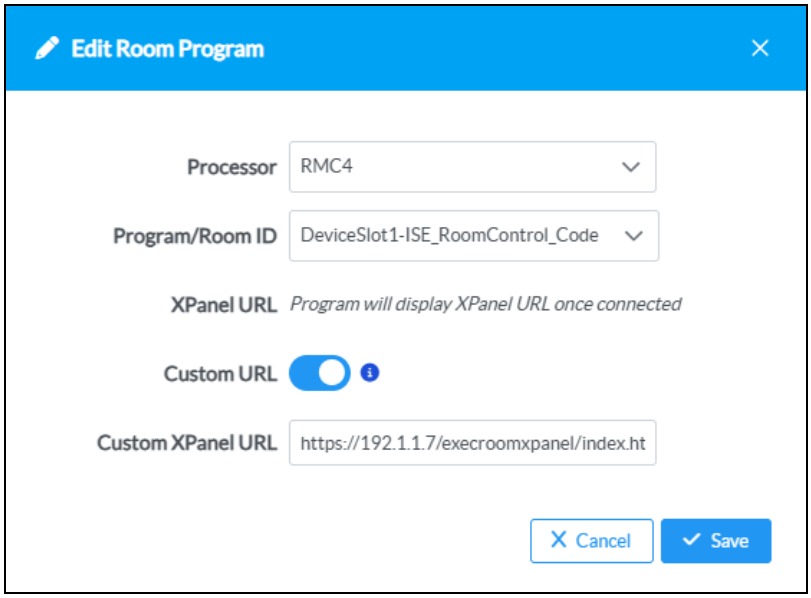
5. Select **Save**.

If this program is added successfully, the program and processor statuses are shown at the top right of the room page, and the applicable room controls and indicators are activated depending on the custom programming logic. Select the processor name to navigate to its device page within the XiO Cloud group tree. If applicable, select the Web XPanel URL to open the associated XPanel in a new browser tab.

> **NOTE:** Web XPanels hosted on private networks are only accessible from computers or mobile devices that can connect to those networks.



To edit a room program, select **Edit Room Program** from the room's action menu. The control system and room program can be changed using the appropriate drop-down menus.



Reservation Details

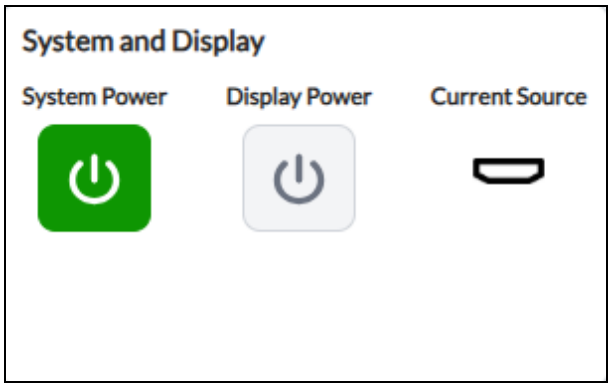
The **Reservation Details** card shows information for current and upcoming reservations in the room, including the date, start time, and end time. Reservation details can be driven by custom programming. Reservation date and time formatting is localized automatically based on the user's locale settings in their web browser.

Data for the **Current Reservation** and **Next Reservation** will not be provided if there are no current reservations or reservations scheduled within the next seven days, respectively.



System and Display

The **System and Display** card shows the current power state of the room, the power state of any controlled displays in the room, and the current source that is routed to a display depending on the custom programming logic. Power on and off controls are also provided for the room and displays.



The following controls and indicators are provided:

> **NOTE:** If partial signals are connected to the custom program for this card, then only the controls or indicators with connected signals will be shown.

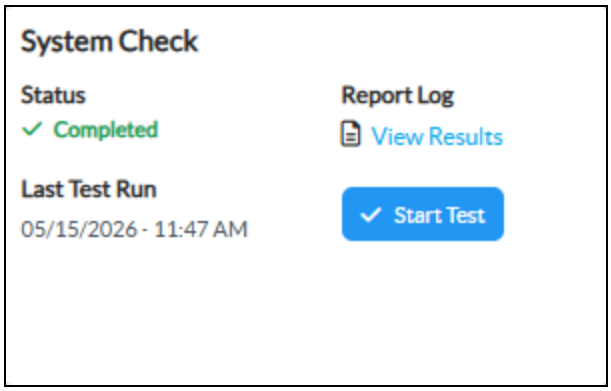
- **System Power**: Indicates whether the room power is on (represented by a green power icon) or off (represented by a black power icon). Select the icon to toggle the room power on or off depending on the programming logic. Power on and off events can also be scheduled in XiO Cloud.
- **Display Power**: Indicates whether controlled displays in the room are powered on (represented by a green power icon) or off (represented by a black power icon). Select the icon to toggle the display power on or off depending on the programming logic. Power on and off events can also be scheduled in XiO Cloud.

  > **NOTE:** If there is more than one display in the room, the **Display Power** state should represent all displays in the room, and power on/off should control the power state for all displays. This logic is recommended and must be enforced by the program.

- **Current Source**: Shows an icon representing the active source that is being routed to a display in the room, or shows a no source icon if no source is selected. A blank display icon is shown if the source type is unknown or has not been sent by the program. Hover the cursor over the icon to expose a description of the source. For a list of all available **Current Source** icons, refer to Appendix C: XiO Cloud Program Connector Sources on page 293.

System Check

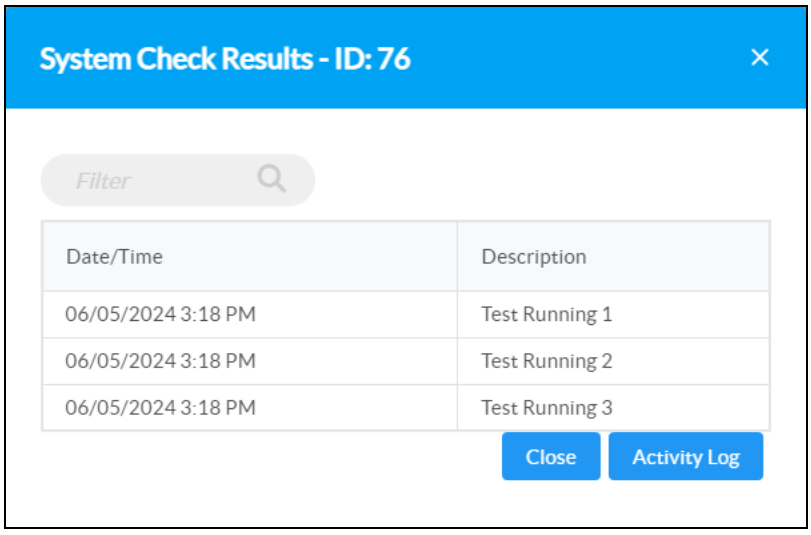
The **System Check** card is used to perform a test of the room system based on the programming logic. The test can be used on all system components or specific system components (such as a microphone test). The system check and all logic that drives it relies on custom programming, allowing programmers to create tests for anything in their program.



Select **Start Test** to perform the programmed room test. A digital signal is sent to the control system to initiate the test and the button text changes to **Running**. Once the test has completed, the results are populated in the **Cloud Activity Logs** accordion for the room and can be filtered based on the time stamp.

The following additional status fields and controls are provided:

- **Status**: Indicates the current status of the test (**No Test**, **Running, Completed**, **Completed with Error(s)**, or **Failed**).
- **Last Test Run**: Indicates the date and time when the test was last run.
- **Report Log**: Select **View Results** to open a **System Check Results** window that shows a condensed and filtered view of the room **Cloud Activity Logs** corresponding with the test results.

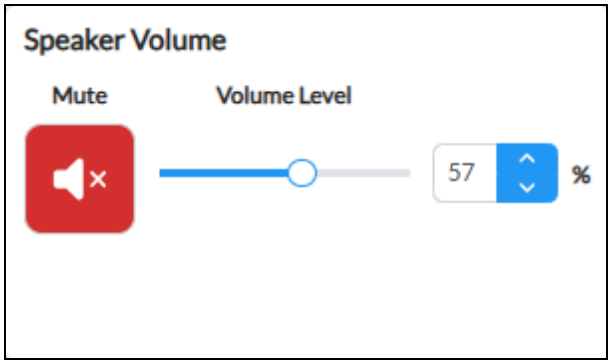


  - Enter a search term in the **Filter** text box to filter the results by the entered search criteria.

- Select **Activity Log** to open the full **Cloud Activity Logs** for the room.
- Select **Close** to close the **System Check Results** window.

Speaker Volume

The **Speaker Volume** card is used to control the volume level of a speaker device in the room via custom programming. The card also can be used to control or receive the speaker mute status.



The following controls and indicators are provided:

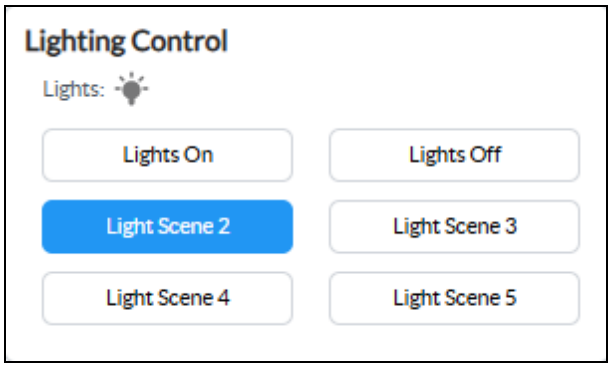
> **NOTE:** If partial signals are connected to the custom program for this card, then only the controls or indicators with connected signals will be shown.

- **Mute**: Indicates whether the room speaker is muted (represented by a red volume mute icon) or unmuted (represented by a gray speaker volume icon). Select the icon to mute or unmute the speaker based on the programming logic.
- **Volume Level**: Provides controls for changing the volume level of the room speaker based on the programming logic. Use the slider or the arrow buttons to increase or decrease the volume level, or enter a numeric value (between 0 and 100) in the percentage text box to set that exact volume level.

  > **NOTE:** If the speaker volume cannot be controlled from the program, a static volume level and slider bar are displayed.

Lighting Control

The **Lighting Control** card is used to control different lighting scenes in the room via custom programming. The current lighting state of the room is also reported.

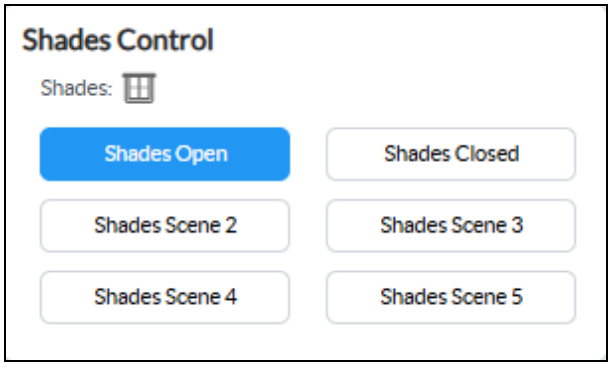


The following controls and indicators are provided:

- **Lights**: Indicates whether room lights are reporting as on, off, or state unknown based on the programming logic.
- Scene Controls: Up to six lighting scenes can be programmed for the room, including **Lights On** and **Lights Off** controls. Select a button to activate the corresponding lighting scene. The selected button turns blue when active and either returns to a neutral state after a few seconds (if the button is programmed to trigger a macro) or when the button is selected again (if the button is programmed as an on/off toggle). A toast notification is displayed either way indicating that the corresponding programmatic action was initiated.

Shades Control

The **Shades Control** card is used to control different shading scenes in the room via custom programming. The current shading state of the room is also reported.



The following controls and indicators are provided:

- **Shades**: Indicates whether room shades are reporting as open, closed, or state unknown based on the programming logic.

- Scene Controls: Up to six shading scenes can be programmed for the room, including **Shades Open** and **Shades Closed** controls. Select a button to activate the corresponding shading scene. The selected button turns blue when active and either returns to a neutral state after a few seconds (if the button is programmed to trigger a macro) or when the button is selected again (if the button is programmed as an on/off toggle). A toast notification is displayed either way indicating that the corresponding programmatic action was initiated.

Privacy Control

The **Privacy Control** card is used to control different room privacy functions via custom programming.



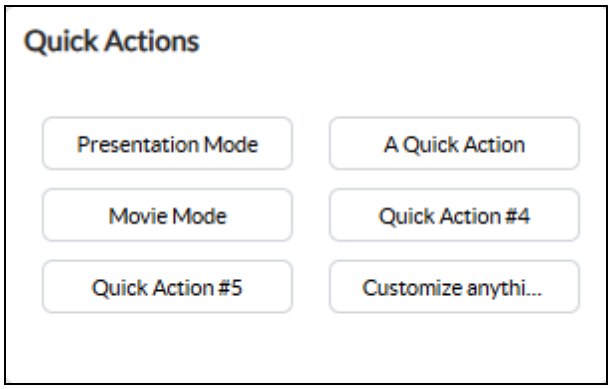
The following controls and indicators are provided:

> **NOTE:** If partial signals are connected to the custom program for this card, then only the control or indicator with a connected signal will be shown.

- **Do Not Disturb**: Indicates whether the room is in Do Not Disturb mode (represented by a red lock icon) or not (represented by a gray lock icon). Select the icon to toggle the Do Not Disturb state based on the programming logic.
- **Microphone**: Indicates whether the room microphone is muted (represented by a red microphone mute icon) or unmuted (represented by a gray microphone icon). Select the icon to mute or unmute the microphone based on the programming logic.

Quick Actions

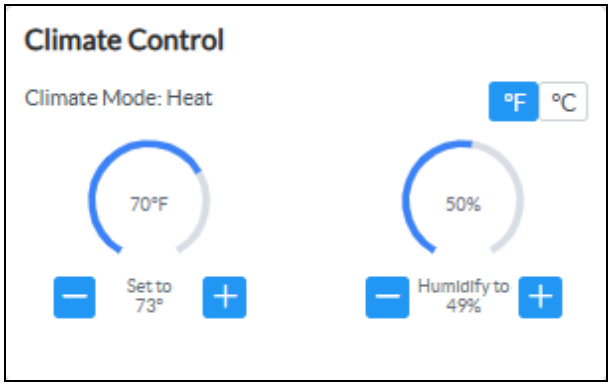
The **Quick Actions** card is used to control different quick action scenes in the room via custom programming. Quick actions are macros, meaning that programmers can combine multiple room actions into a single button for the user. For example, a quick action named "Presentation Mode" could lower the shades, dim the lights, and change the display source to a project.



Up to six quick actions can be programmed for the room. Select a button to activate the corresponding quick action. The selected button turns blue when active and either returns to a neutral state after a few seconds (if the button is programmed to trigger a macro) or when the button is selected again (if the button is programmed as an on/off toggle). A toast notification is displayed either way indicating that the corresponding programmatic action was initiated.

Climate Control

The **Climate Control** card is used to control the thermostat in the room via custom programing. The current climate mode of the room is also reported.



The following controls and indicators are provided:

> **NOTE:** If partial signals are connected to the custom program for this card, then only the controls or indicators with connected signals will be shown.

- **Climate Mode**: Indicates the thermostat state ("Off", "Heat", "Aux Heat", "Cool", or "Auto") based on the programming logic. Custom modes are also supported.
- Temperature Controls:
  - Select the **°F** or **°C** buttons to display the temperature in Fahrenheit or Celsius, respectively. The segmented button will be hidden from the card if this function is not programmed.
  - Select the minus (**-**) or plus (**+**) buttons under the temperature display to lower or raise the temperature, respectively. The current temperature is displayed within the gauge, and the current setpoint is displayed in between the buttons.

    > **NOTE:** The supported range for the temperature setpoint is 38–99 °F (3–37 °C). An alert message is displayed in the card if the current setpoint is outside of the supported range.

- Humidity Controls:
  - Select the minus (**-**) or plus (**+**) buttons under the humidity display to lower or raise the relative humidity (RH), respectively. The current humidity percentage is displayed within the gauge, and the current setpoint is displayed in between the buttons.

    > **NOTE:** The supported range for the humidity setpoint is 5–90 RH. An alert message is displayed in the card if the current setpoint is outside of the supported range.

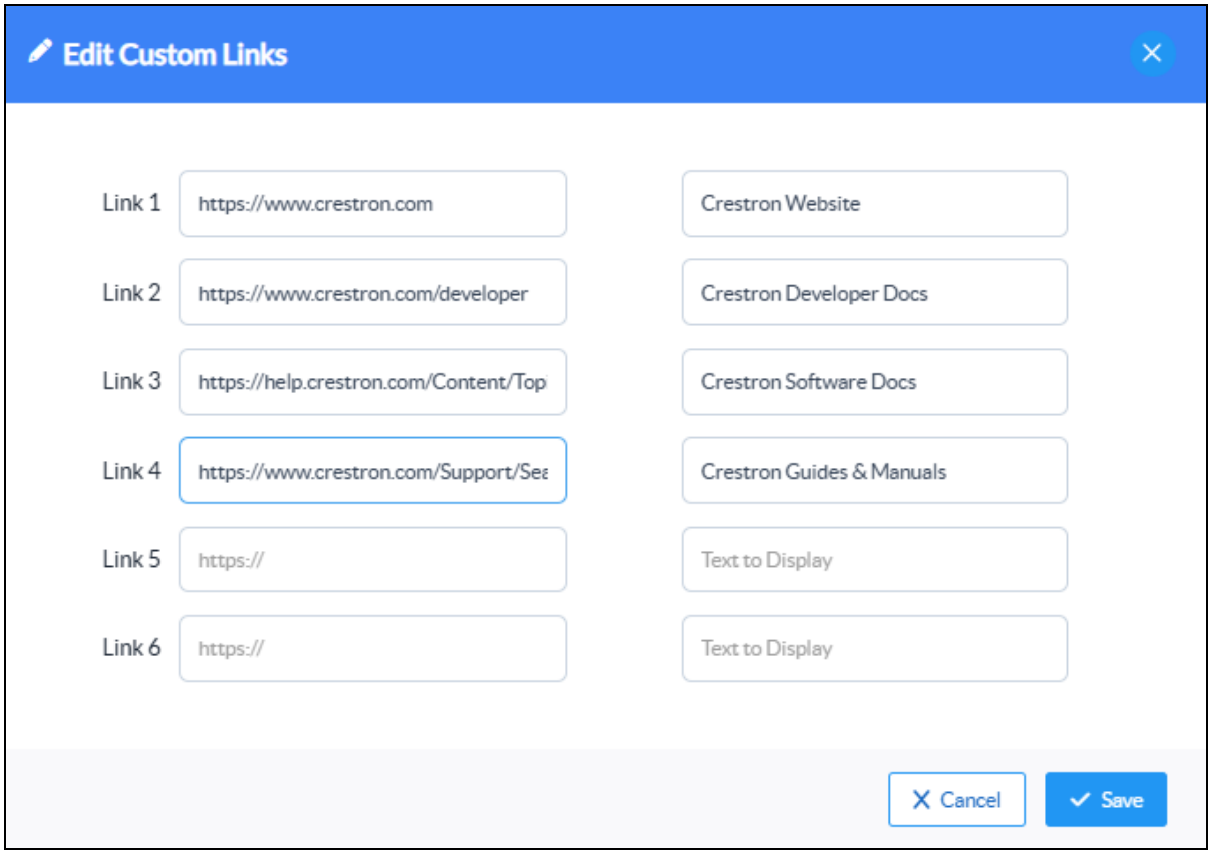
Custom Links

The **Custom Links** card is used to add custom website URLs to the room status page for quick access. Up to six URLs can be added per room and open in a new web browser tab when selected.

> **NOTE:** The **Custom Links** card is not tied to any custom programming and must be edited manually in XiO Cloud. An XiO Cloud Premium subscription is required to use the **Custom Links** card.



To enter custom links, select the pencil icon in the top right of the card. The **Edit Custom Links** dialog box is displayed.



For each link, enter a valid URL within the first text field, and then enter the text to display on the card within the second field. Select **Save** to save any changes.

> **NOTE:** The following URL protocols are supported: "http://", "https://", "ssh://", "sftp://", "rtsp://", "vnc://". For protocols that are not supported by the web browser, a compatible application must be registered in the OS of the local computer; otherwise, selecting the link will open a blank page in the web browser. The registered application is OS dependent and must be able to handle the associated resource URI.

Custom Room Status Triggers

Custom programming can be used to trigger changes to the room status indicators, including room health, occupancy, reservation status, call status, and room maintenance or service requests. For more information, refer to Room Status Indicators on page 192.

Space Metadata

As of XiO Cloud version 2.11, metadata for the room can be sent to a custom program built with the XiO Cloud Space symbol. Receiving space metadata allows the program to display pertinent information (such as room name and type) and to create custom events (such as a touch screen alerting users that a room has exceeded its maximum capacity based on occupancy reporting).

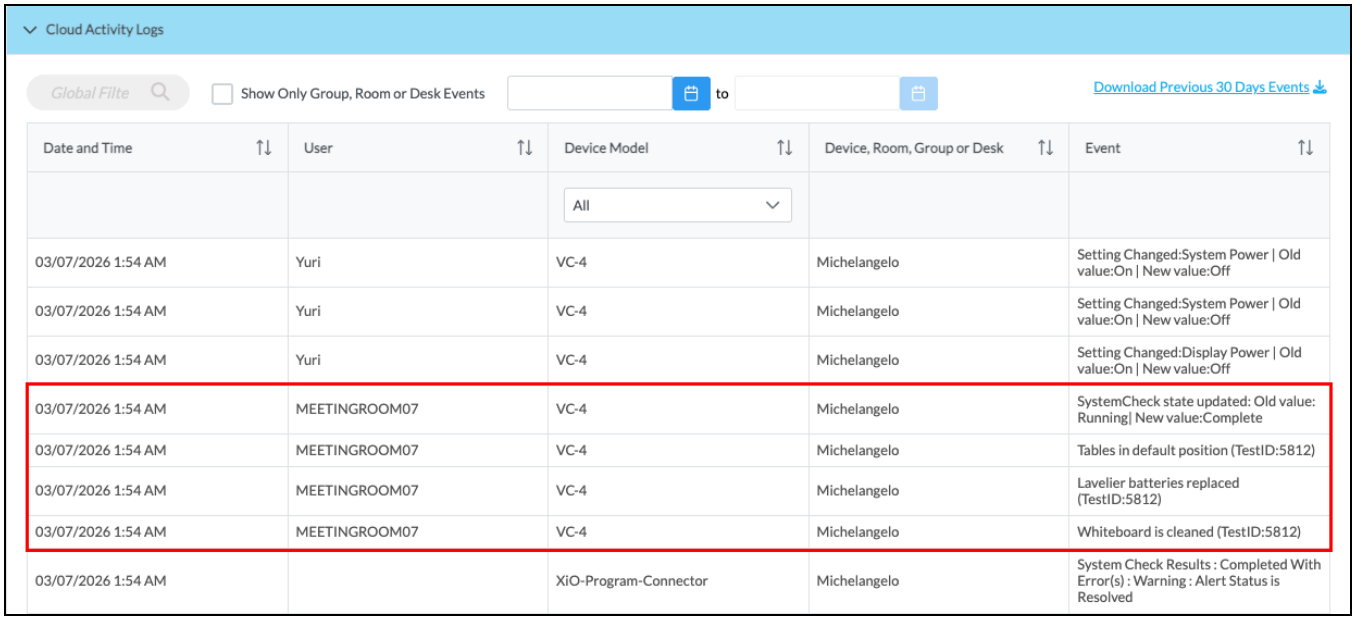
The following metadata can be sent to the program:

- Capacity
- Dealer Contact Info
- ID
- Name
- Space Type
- Time Zone

Custom Alerts

Custom alerts or messages can be sent from the program to XiO Cloud when a corresponding device or room event is triggered. Custom alerts use programmatic operators to trigger room health changes based off text strings within the program (such as "Your thermostat temperature is too high"). These custom alerts and messages are then reported into the **Cloud Activity Logs** for the room. Examples of custom alerts sent from a program are shown in the image below.

For more information on adding custom alerts to control room health, refer to Add a New Alert on page 188.

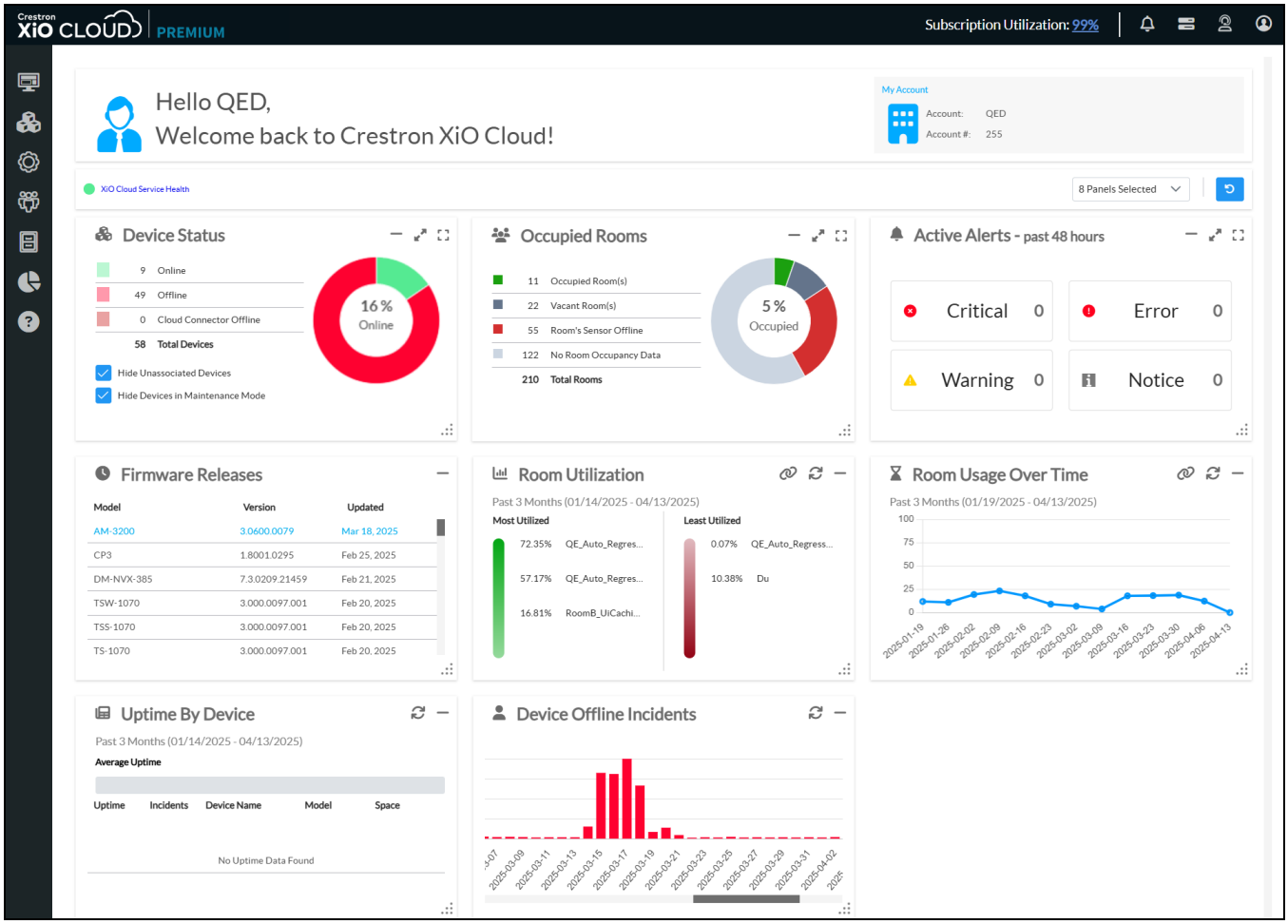


Account Dashboard

The XiO Cloud service provides an account dashboard that shows various account statuses in real time. The account dashboard can be accessed by selecting the **Home** button in the navigation menu and is displayed by default after logging into the service. The account dashboard can also be viewed for individual groups or rooms using the left navigation menu.

> **NOTE:** Viewing certain dashboard tiles requires an XiO Cloud Premium subscription.

Account Dashboard



The account dashboard page provides a message near the top of the page that indicates the current health status of the XiO Cloud service.



A green icon is shown if the service is healthy, and a red icon is shown if the service is unhealthy (experiencing issues or outages). A link to Crestron Online Help answer ID 5894 is also provided that gives detailed information on the current health status of the XiO Cloud service and updates regarding service restoration.

The account dashboard page also contains tiles that each show different account statuses. These tiles can be expanded, hidden, or reordered as needed.

> **NOTE:** Certain account status tiles may not provide all of the controls listed below.

- Select the maximize button at the top right of a tile to expand the tile to the full width of the browser window and to show more information for the associated account status.

  > **NOTE:** The maximize button cannot be selected if the browser window is not maximized to full screen.

- If a tile is expanded to full width, select the maximize button again to shrink the tile to its original size, or select the half-width button to shrink the tile to half the width of the browser window.
- Select the half-width button at the top right of a tile to expand the tile half the width of the browser window and to show more information for the associated account status.
- If a tile is expanded to half width, select the half-width button again to shrink the tile to its original size.
- Select the minimize button to hide the tile from the account dashboard page. Hidden tiles can be returned to the account dashboard page using the **View Panels** drop-down menu.
- Select the refresh button to refresh the data shown in the tile (if supported).
- Select the link button to navigate to the **Historical Reports** page for generating a custom report based on the data shown in the tile (if supported). For more information, refer to Historical Reports on page 176.
- Use the **View Panels** drop-down menu on the top right of the page to show or hide tiles. If a tile is selected, it will be shown on the account dashboard page. If a tile is unselected, it will be hidden from the page.
- Select the clear button to clear any filters that have been created to sort data in the account status tiles. Each tile that allows filters will also provide a clear button for the individual account status.
- Press and hold a tile's header bar or the grip icon in the bottom-right corner to float the tile for reordering. Once it is floating, drag the tile across the account dashboard page to the desired location, and then release the tile to move it to that location. If the floating tile is placed over an existing tile, the latter tile is moved automatically.

The following account statuses are displayed in the dashboard.

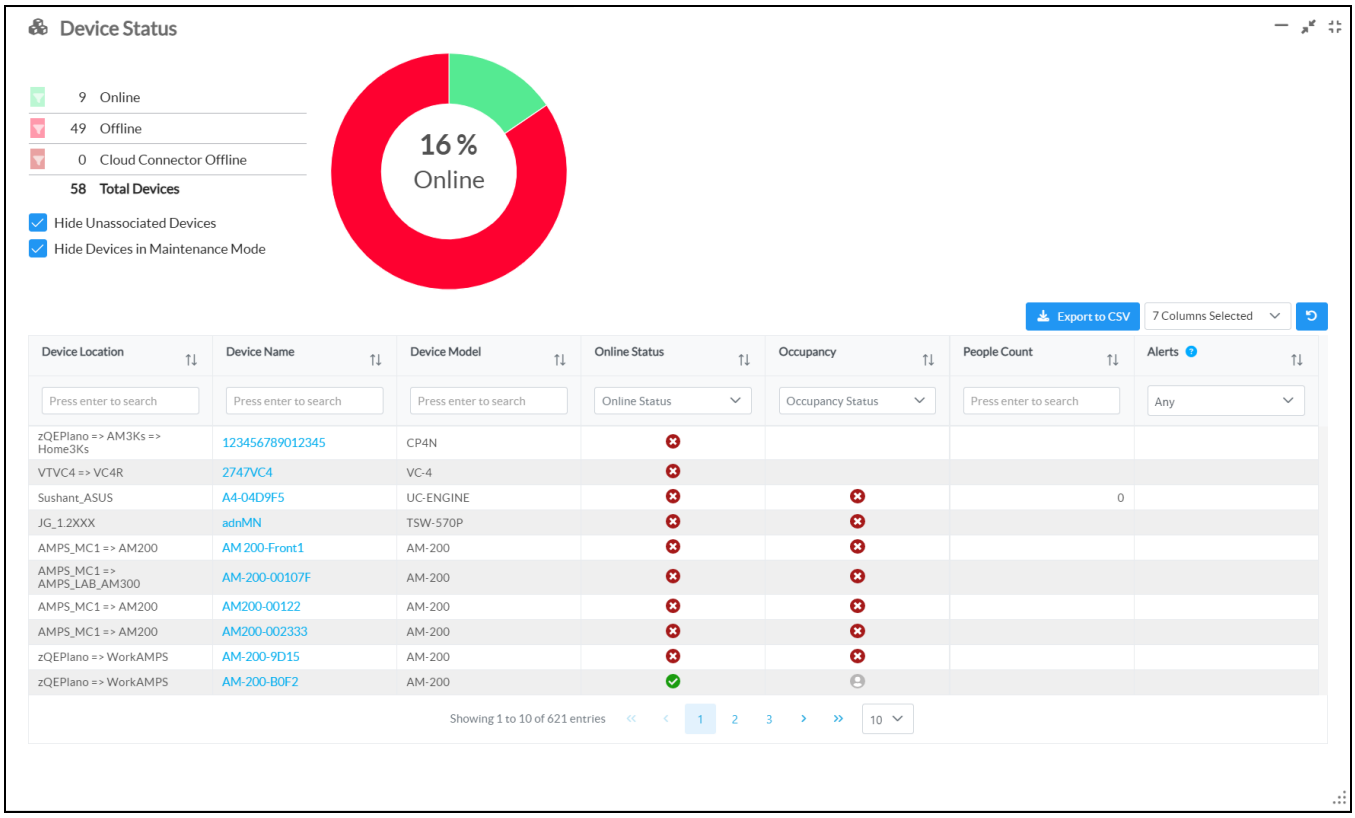
NOTES:

- For dashboards with date ranges, the data shown will extend only until the end of the previous day.
- As of XiO Cloud version 2.1, any dashboards with hourly data will be synchronized to the UTC (0:00) time zone so that report data is comparable across different time zones.

Device Status

Expand the **Device Status** tile to display information about devices that are reporting online or offline within the service. The devices that are shown can be filtered based on their status and type.

Account Dashboard Page - Device Status



A pie chart is provided that gives an overview of the devices that are reporting online or offline within the service. The pie chart corresponds with the device status categories that are listed to the left of the chart. The following device status categories are provided:

- **Online**: Indicates the number of devices that are reporting online within the service.
- **Offline**: Indicates the number of devices that are reporting offline within the service. A device is considered offline after it fails to respond to multiple call attempts issued five minutes after the device first reports as disconnected.
- **Cloud Connector Offline**: Indicates the number of connected Crestron XiO Cloud Gateway devices that are reporting offline.

The following settings can be used to filter which devices are shown in the device status reports:

- Select **Hide Unassociated Devices** to hide any device that has not been associated with a room or group. This setting is selected by default.
- Select **Hide Devices in Maintenance Mode** to hide any device that is associated with a room currently in maintenance mode. This setting is selected by default. This setting is also available for individual group or room dashboards.

Additionally, certain device status categories have filter buttons that can be used to show or hide the category from the pie chart. The color of the filter buttons matches the color of the device status category in the pie chart. Once a device status category is hidden, select the button again to show the status in the pie chart. The percentage of online devices shown within the pie chart changes automatically depending on the selected filters.

> **NOTE:** The filter buttons also filter data in the device status table within the tile automatically.

The **Device Status** tile also lists all devices in the account in table form. Each table column provides a search field or drop-down menu in its header row that allows the device table to be filtered or sorted based on the selected criterion. The table also provides navigation controls at the bottom of the tile that can be used to move between pages and set the number of table rows per page.

The following information is provided for each device:

- **Device Location**: The room or group where the device is located within XiO Cloud.
- **Device Name**: The device name in XiO Cloud. Select the device name to navigate to the device within the group tree.
- **Device Model**: The device model.
- **Online Status**: Indicates whether the device is reporting online or offline within XiO Cloud. Crestron XiO Cloud Gateway connected devices that are reporting offline show a cloud connector offline icon .
- **Occupancy**: Shows one of the following icons if the device supports occupancy detection. No icon is shown if the device does not support occupancy detection.
  - Shows a blue icon if occupancy is detected.
  - Shows a gray icon if no occupancy is detected.
  - Shows an x icon if occupancy detection is reporting offline.
- **People Count**: If occupancy detection is supported by the device, displays the occupancy number for the associated room.
- **Alerts**: If alerts are reported for the room, a description of the issue and the corresponding alert level (**Notice**, **Warning**, **Error**, and **Critical**) are shown for each alert.

The data that is displayed in the device table can be customized by filtering the table columns. By default, 7 columns are displayed that contain the data described in the list above. Select the clear button to clear any filters for the **Device Status** tile.

To select or deselect table columns for the device status table, expand the drop-down menu at the top right of the table. Then, select or deselect an item in the menu to display or hide that column from the table, respectively. Use the check box at the top of the menu to select or deselect all columns.

> **NOTE:** The device status table will reset to its default settings after logging out of the XiO Cloud service.

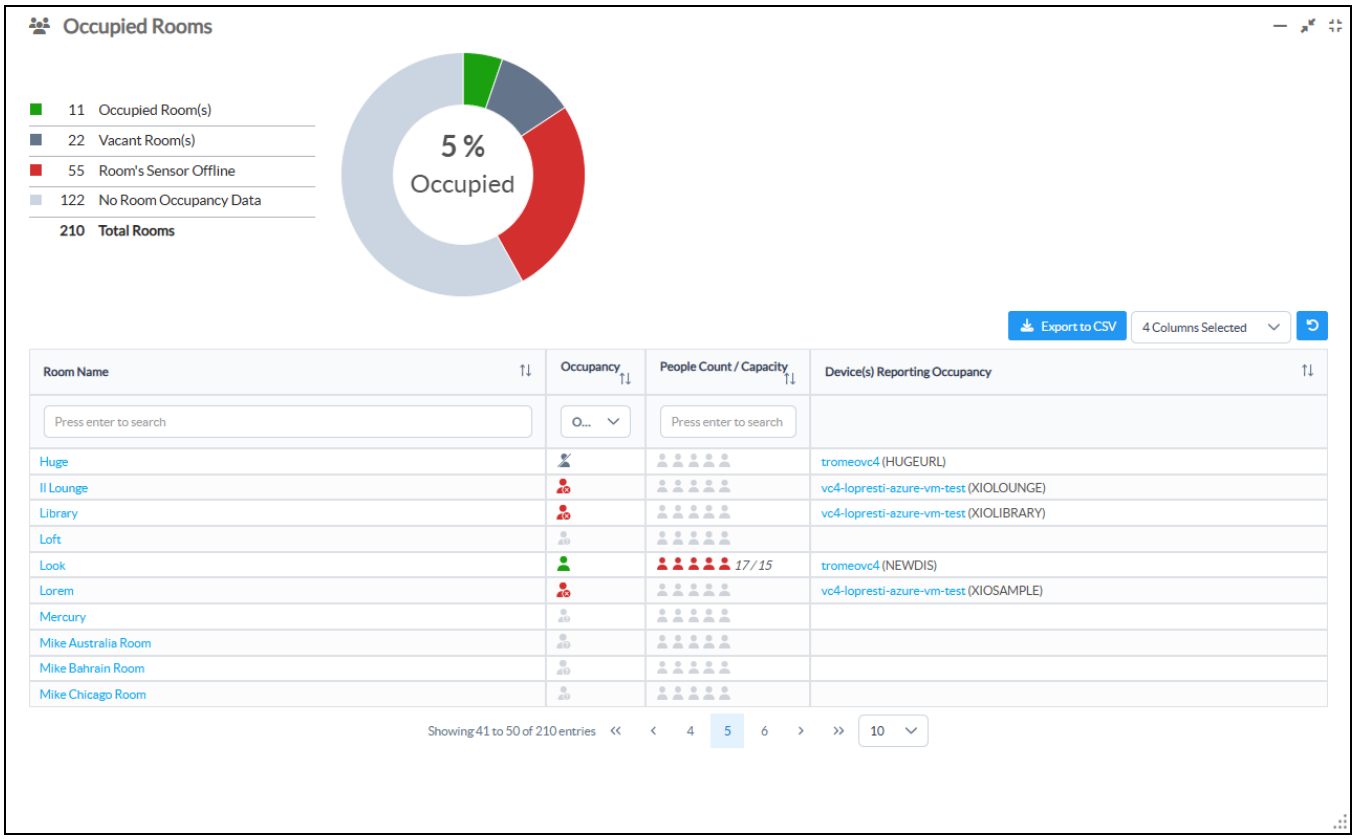
The device status table can be downloaded as a CSV file by selecting the **Export to CSV** button at the top right of the table. The CSV file includes all selected table columns as described above.

Occupied Rooms

Expand the **Occupied Rooms** tile to display information about room occupancy status within the service. The rooms that are shown can be filtered based on their status and type.

> **NOTE:** The **Occupied Rooms** tile requires an XiO Cloud Premium subscription.

Account Dashboard Page - Occupied Rooms



A pie chart is provided that gives an overview of the room occupancy within the service. The pie chart corresponds with the room occupancy categories that are listed to the left of the chart. The following room occupancy categories are provided:

- **Occupied Room(s)**: Indicates the number of rooms that are reporting as occupied within the service. If multiple devices in a room report occupancy, the room will show as occupied if any of these devices report active occupancy. Occupancy reporting driven by custom programming is also included.
- **Vacant Room(s)**: Indicates the number of rooms that are reporting as vacant within the service.
- **Room's Sensor Offline**: Indicates the number of rooms that have occupancy detection reporting as offline within the service.
- **No Room Occupancy Data**: Indicates the number of rooms that do not contain devices that report occupancy.

Certain room occupancy categories have filter buttons that can be used to show or hide the category from the pie chart. The color of the filter buttons matches the color of the room occupancy category in the pie chart. Once a room occupancy category is hidden, select the button again to show the status in the pie chart. The percentage of occupied rooms shown within the pie chart changes automatically depending on the selected filters.

> **NOTE:** The filter buttons also filter data in the room occupancy table automatically.

The **Occupied Rooms** tile also lists all rooms in the account in table form. Each table column provides a search field or drop-down menu in its header row that allows the room occupancy table to be filtered or sorted based on the selected criterion. The table also provides navigation controls at the bottom of the tile that can be used to move between pages and set the number of table rows per page.

The following information is provided for each room:

- **Room Name**: The room name in XiO Cloud
- **Occupancy**: Shows one of the following icons to report the room's occupancy state (if available):
  - The room is occupied.
  - The room is not occupied.
  - The room's occupancy detection is reporting as offline.
  - No room occupancy data is provided.

- **People Count / Capacity**: Shows one of the following icons to report the current people count and maximum occupancy of the room (if available):
  -  The room is occupied within its maximum capacity (each individual person icon represents 20% of the total room capacity).
  -  The room is occupied over its maximum capacity.

    > **NOTE:** An **Occupancy (People Count) Exceeded Capacity** alert can be generated for the room when this state occurs. For more information on creating alerts, refer to Alerts on page 183.

  -  The room is occupied but its capacity is unknown.
  -  The room is not occupied.
  - No room occupancy data is provided.
- **Device(s) Reporting Occupancy**: Lists any devices in the room that can report occupancy. Select the device name to navigate to its location in the group tree.

The data that is displayed in the room occupancy table can be customized by filtering the table columns. By default, 4 columns are displayed that contain the data described in the list above. Select the clear button to clear any filters for the **Occupied Rooms** tile.

To select or deselect table columns for the room occupancy table, expand the drop-down menu at the top right of the table. Then, select or deselect an item in the menu to display or hide that column from the status table, respectively. Use the check box at the top of the menu to select or deselect all columns.

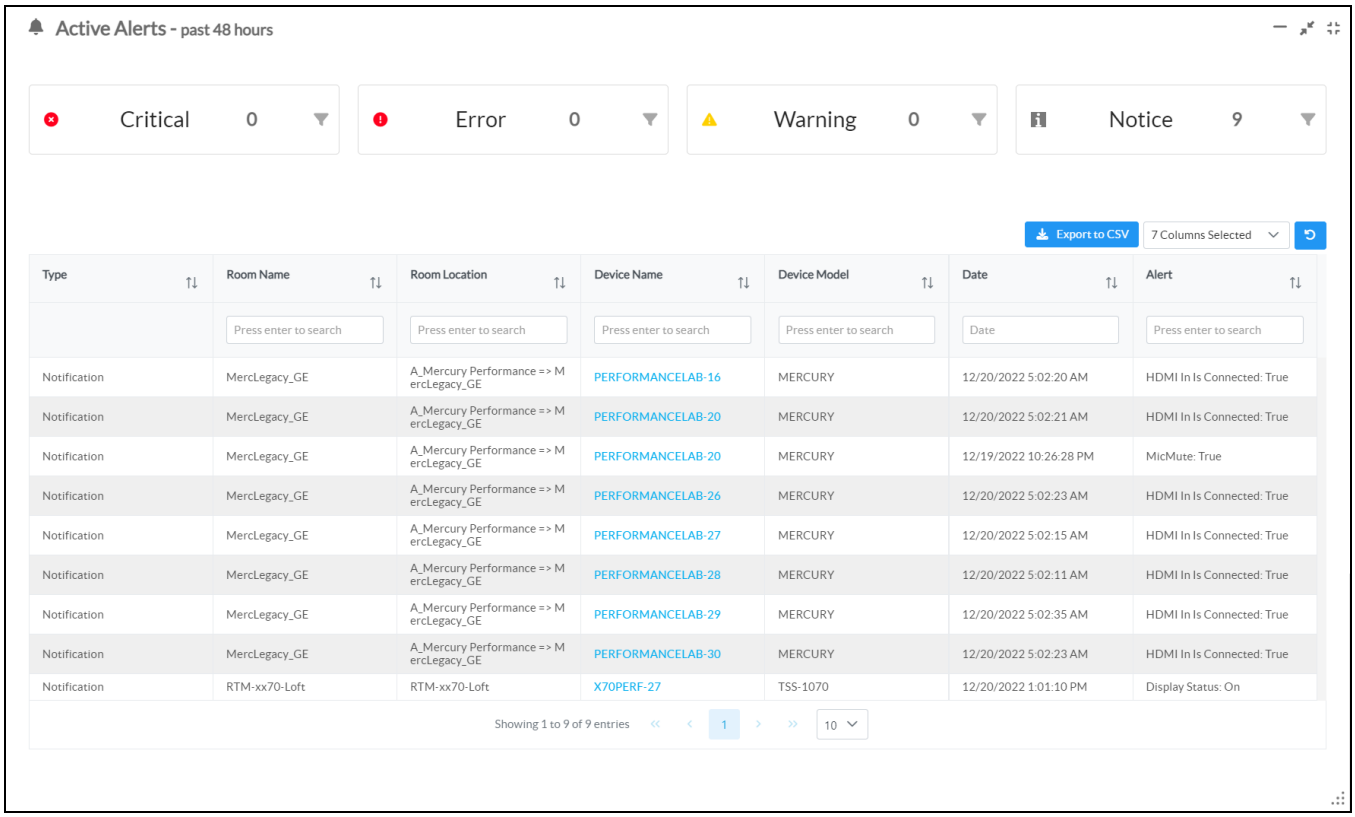
> **NOTE:** The room occupancy table will reset to its default settings after logging out of the XiO Cloud service.

The room occupancy table can be downloaded as a CSV file by selecting the **Export to CSV** button at the top right of the table. The CSV file includes all selected table columns as described above.

Active Alerts - last 48 hours

Expand the **Active Alerts - last 48 hours** tile to display information about alert messages that have been raised within the service over the last 48 hours.

Account Dashboard Page - Active Alerts - last 48 hours



The **Active Alerts - last 48 hours** tile shows the total number of alert messages that are active. Each alert level (**Notice**, **Warning**, **Error**, and **Critical**) shows a number that indicates how many alerts are active for that level.

> **NOTE:** For more information on alert messages, refer to Alerts on page 183.

The **Active Alerts - last 48 hours** tile also lists all active alerts in the account in table form. Each table column provides a search field or drop-down menu in its header row that allows the alerts table to be filtered or sorted based on the selected criterion. The table also provides navigation controls at the bottom of the tile that can be used to move between pages and set the number of table rows per page.

The following information is provided for each alert:

- **Type**: The alert level (**Notice**, **Warning**, **Error**, and **Critical**)
- **Room Name**: The room name in XiO Cloud where the alert was raised.
- **Room Location**: The location of the room within the group tree.
- **Device Name**: The device name in XiO Cloud that raised the alert (if applicable).
- **Device Model**: The device model (if applicable).

- **Date**: The date and time when the alert was raised.
- **Alert**: A description of the issue that triggered the alert.

The data that is displayed in the alerts table can be customized by filtering the table columns. By default, 7 columns are displayed that contain the data described in the list above. Select the clear button to clear any filters for the **Active Alerts - last 48 hours** tile.

To select or deselect table columns for the alerts table, expand the drop-down menu at the top right of the table. Then, select or deselect an item in the menu to display or hide that column from the table, respectively. Use the check box at the top of the menu to select or deselect all columns.

> **NOTE:** The alerts table will reset to its default settings after logging out of the XiO Cloud service.

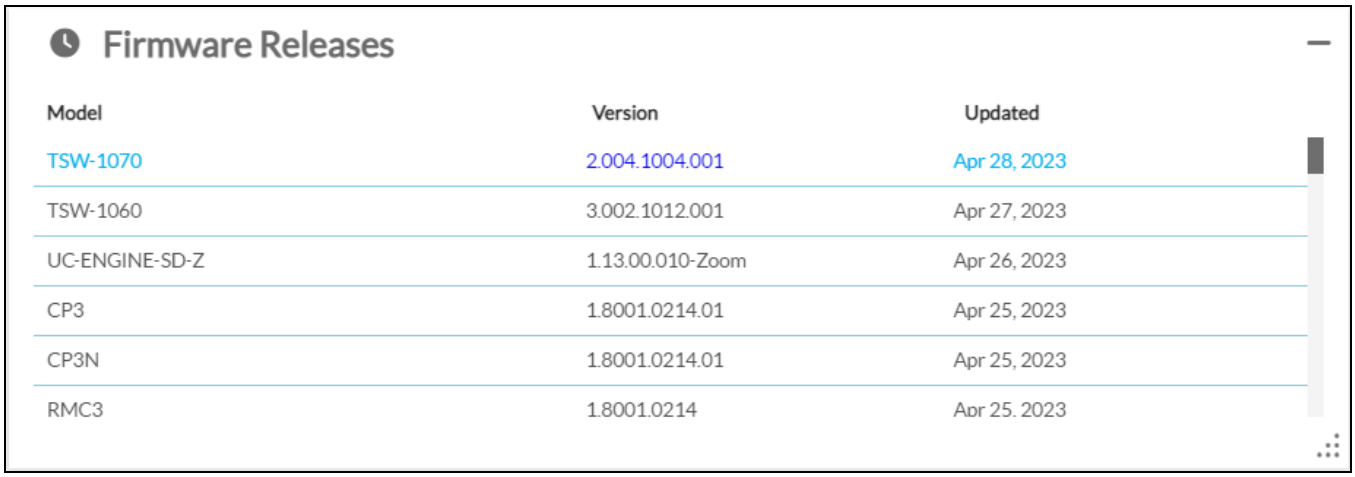
The alerts table can be downloaded as a CSV file by selecting the **Export to CSV** button at the top right of the table. The CSV file includes all selected table columns as described above.

Firmware Releases

The **Firmware Releases** tile displays information about recent firmware releases for devices that have been claimed to the XiO Cloud account. For more information about updating device firmware in XiO Cloud, refer to Manage Devices on page 104.

> **NOTE:** The **Firmware Releases** tile cannot be expanded to full or half-width size.

Account Dashboard Page - Firmware Releases



The following information is provided for each firmware release:

- **Model**: The device model.
- **Version**: The device firmware version.

> **NOTE:** If release notes are available for the device firmware version within XiO Cloud, the listed firmware version is displayed as a hyperlink that opens the release notes in a new tab or browser window or downloads them to the local computer.

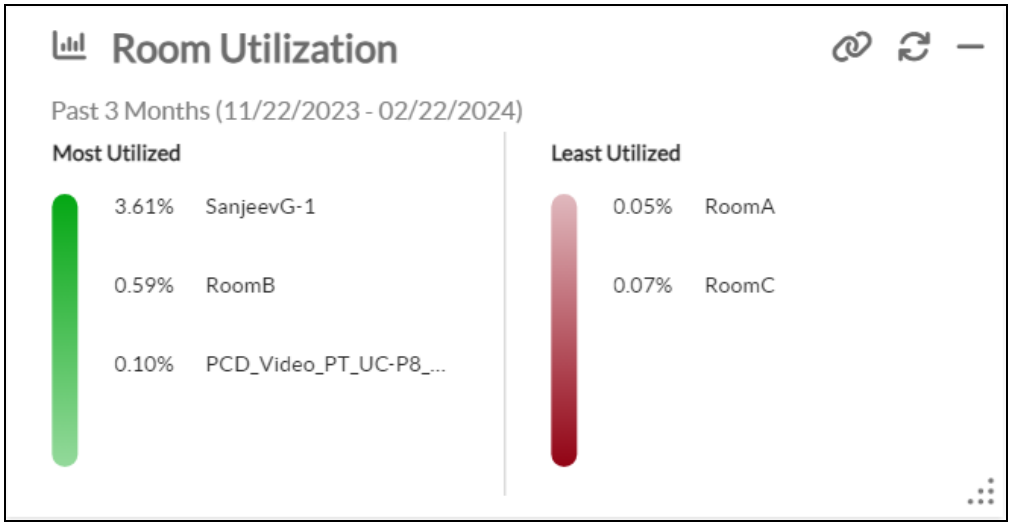
- **Updated**: The date the firmware version was last updated or released.

Room Utilization

The **Room Utilization** tile displays information about the most and least used rooms within the XiO Cloud account (or for an individual group or room) based on reported occupancy. The data is fixed to a three month period leading up to the current date.

> **NOTE:** The **Room Utilization** tile requires an XiO Cloud Premium subscription. This tile cannot be expanded to full or half-width size.

Account Dashboard Page - Room Utilization



The following information is provided:

> **NOTE:** Only rooms that support occupancy detection are included.

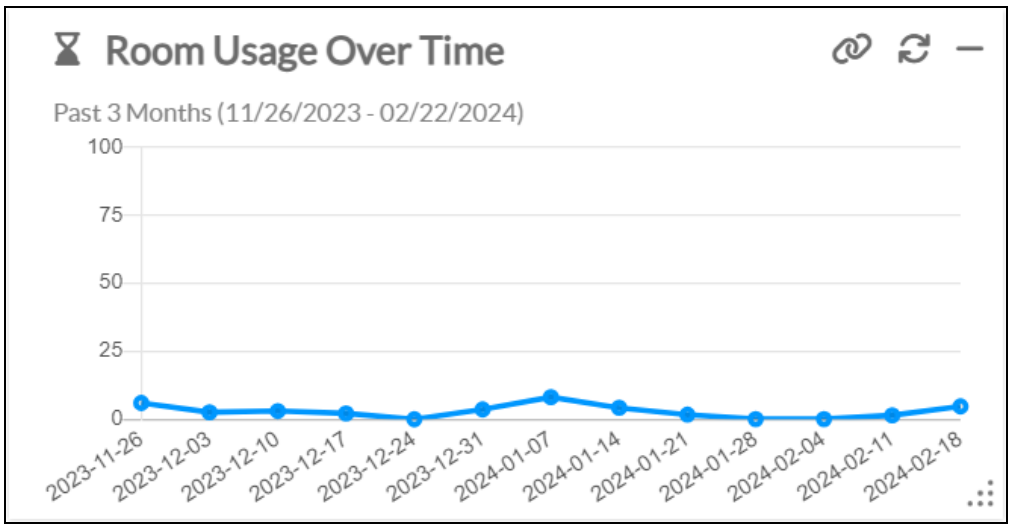
- **Most Utilized**: Lists up to four rooms that have been most utilized based on their reported occupancy in descending order. A percentage is shown next to each room indicating its total occupancy over a 24-hour period.
- **Least Utilized**: Lists up to four rooms that have been least utilized based on their reported occupancy in ascending order. A percentage is shown next to each room indicating its total occupancy over a 24-hour period.

Room Usage Over Time

The **Room Usage Over Time** tile displays information about how often rooms are used over time within the XiO Cloud account (or for an individual group or room) based on reported occupancy. The data is fixed to a three month period leading up to the current date.

> **NOTE:** The **Room Usage Over Time** tile requires an XiO Cloud Premium subscription. This tile cannot be expanded to full or half-width size.

Account Dashboard Page - Room Usage Over Time



The **Room Usage Over Time** data is presented as a line graph where room usage is represented by data points for each week in the three-month period. Each data point is a percentage indicating the room or room group's total occupancy over a 24-hour period for the given week. Hover over a data point to view the exact usage percentage for that week.

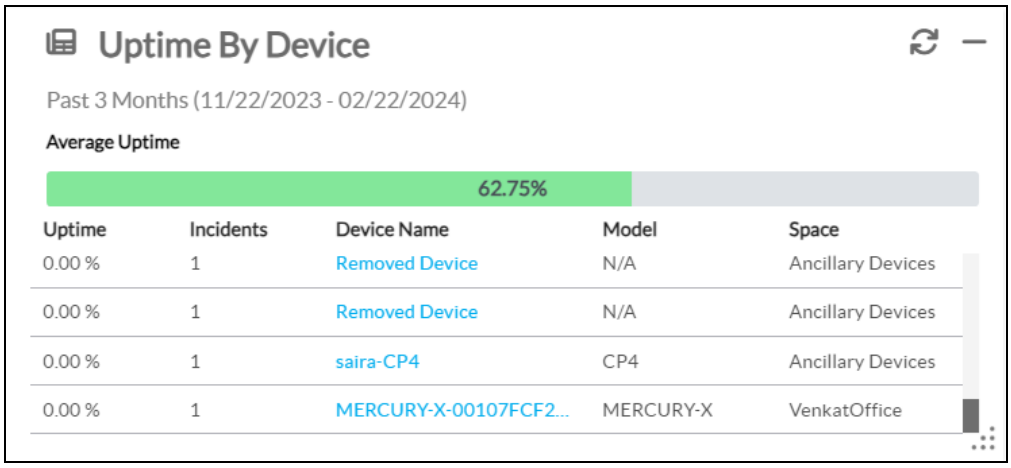
> **NOTE:** Only rooms that support occupancy detection are included.

Uptime By Device

The **Uptime By Device** tile displays information about the uptime for every device within the XiO Cloud account (or for an individual group or room). The data is fixed to a three month period leading up to the current date.

> **NOTE:** The **Uptime By Device** tile requires an XiO Cloud Premium subscription. This tile cannot be expanded to full or half-width size.

Account Dashboard Page - Uptime By Device



The **Average Uptime** filled bar chart reports the average uptime (as a percentage) for all devices over a 24-hour period.

A table is also provided that lists all devices in ascending order by average uptime. The table includes the following information:

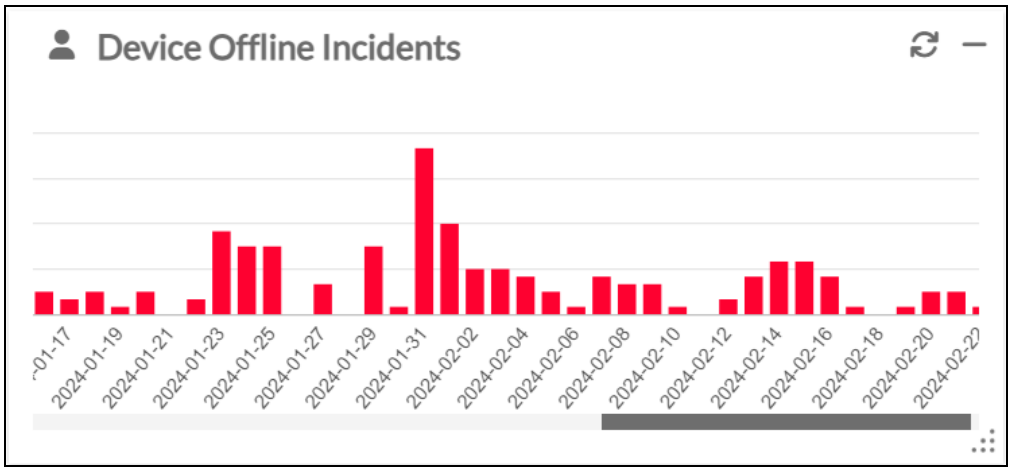
- **Uptime**: The average uptime for the device over a 24-hour period (as a percentage).
- **Incidents**: The number of incidents reported by the device.
- **Device Name**: The device name.
- **Model**: The device model.
- **Space**: The room or group where the device is located.

Device Offline Incidents

The **Device Offline Incidents** tile displays information about the number of reported offline incidents for all devices within the XiO Cloud account (or for an individual group or room). The data is fixed to a three month period leading up to the current date.

> **NOTE:** The **Device Offline Incidents** tile requires an XiO Cloud Premium subscription. This tile cannot be expanded to full or half-width size.

Account Dashboard Page - Device Offline Incidents

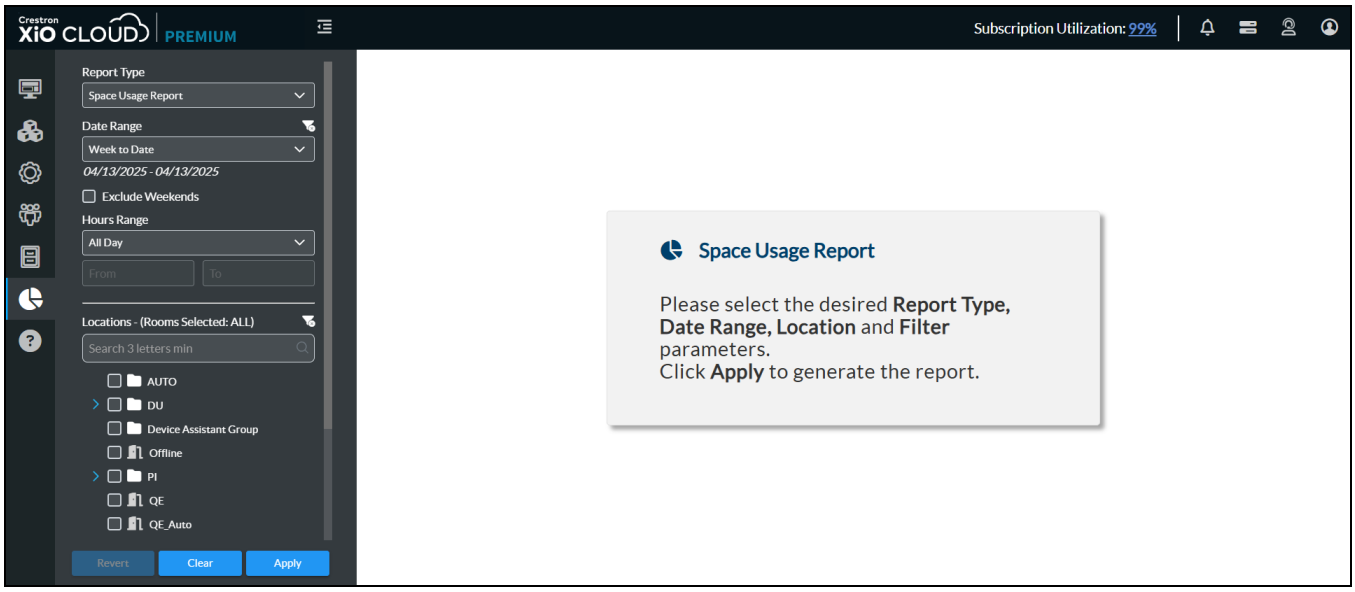


The **Device Offline Incidents** data is presented as a bar graph where offline incidents are represented by bars for each day in the three-month period. Each bar indicates the total number of offline incidents per day. Hover over a bar to view the exact number of offline incidents for that day. Use the scroll bar to scroll through the provided date range.

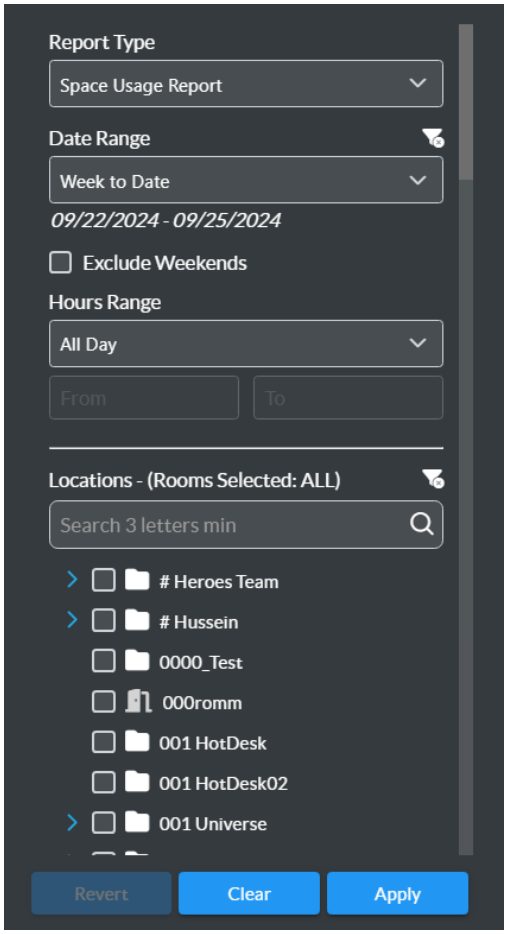
Historical Reports

The XiO Cloud service provides a feature that allows custom historical reports to be generated based on various data sets within the XiO Cloud account. Historical reports can be customized based on report type, date range, and location within the environment group tree.

> **NOTE:** Historical reports require an XiO Cloud Premium subscription.



This feature is accessed by selecting the **Historical Reports** button in the navigation menu.

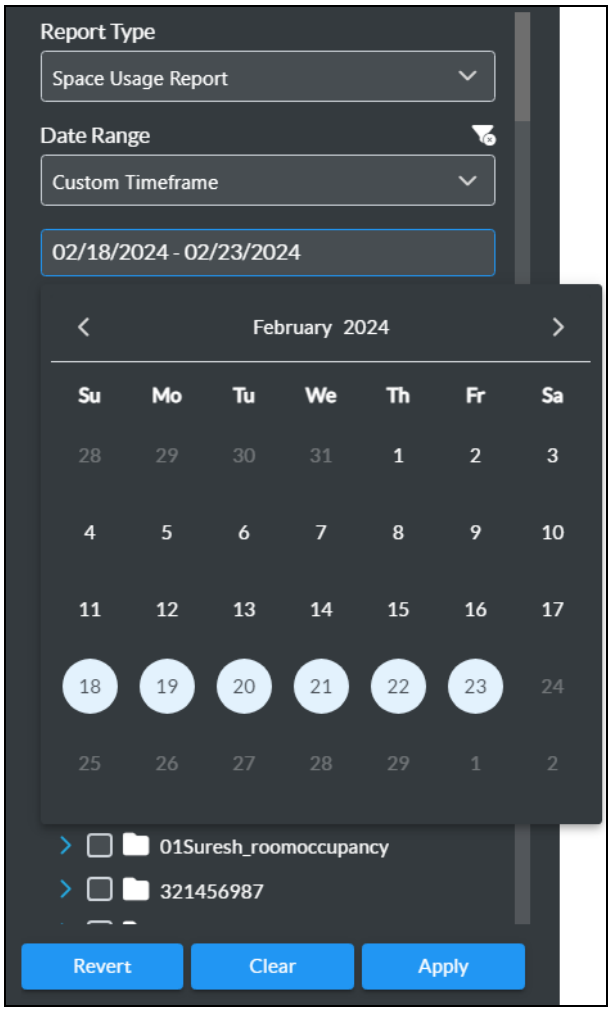


Use the following filters to customize the historical report.

- **Report Type**: Select one of the provided report types from the drop-down menu. Each report type includes different data sets from a specific category (such as space usage metrics) that are shown when the report is generated.
- **Date Range**: Select one of the provided date ranges from the drop-down menu. The generated report will show data only from within the specified range.

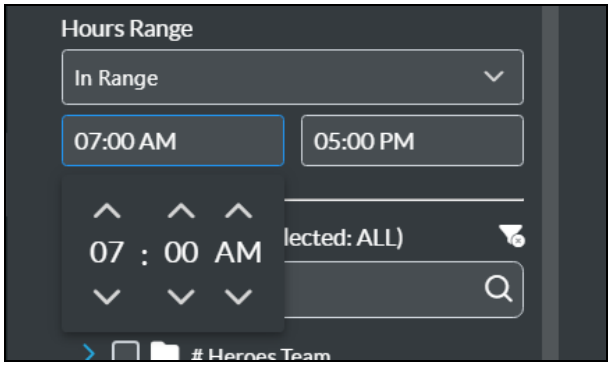
  > **NOTES:**
  >
  > - No more than three months of data can be selected in any date range query.
  > - For reports with date ranges that include the current day, the data shown will extend only until the end of the previous day.

- Select **Custom Timeframe** to create a custom date range for the report. A pop-up calendar is displayed that is used to select the start and end dates to be used.



- Select the filter clear button to clear any custom filters created for this selection.

- **Hour Range**: Select one of the provided hour ranges from the drop-down menu. The generated report will show data only from within the specified range.
  - Select **In Range** to create a custom hour range for the report. Select inside the start and end time boxes to display controls for setting the range.



- Select **Outside Range** to only show data that does not fall within a custom hour range for the report. Select inside the start and end time boxes to display controls for setting the range.

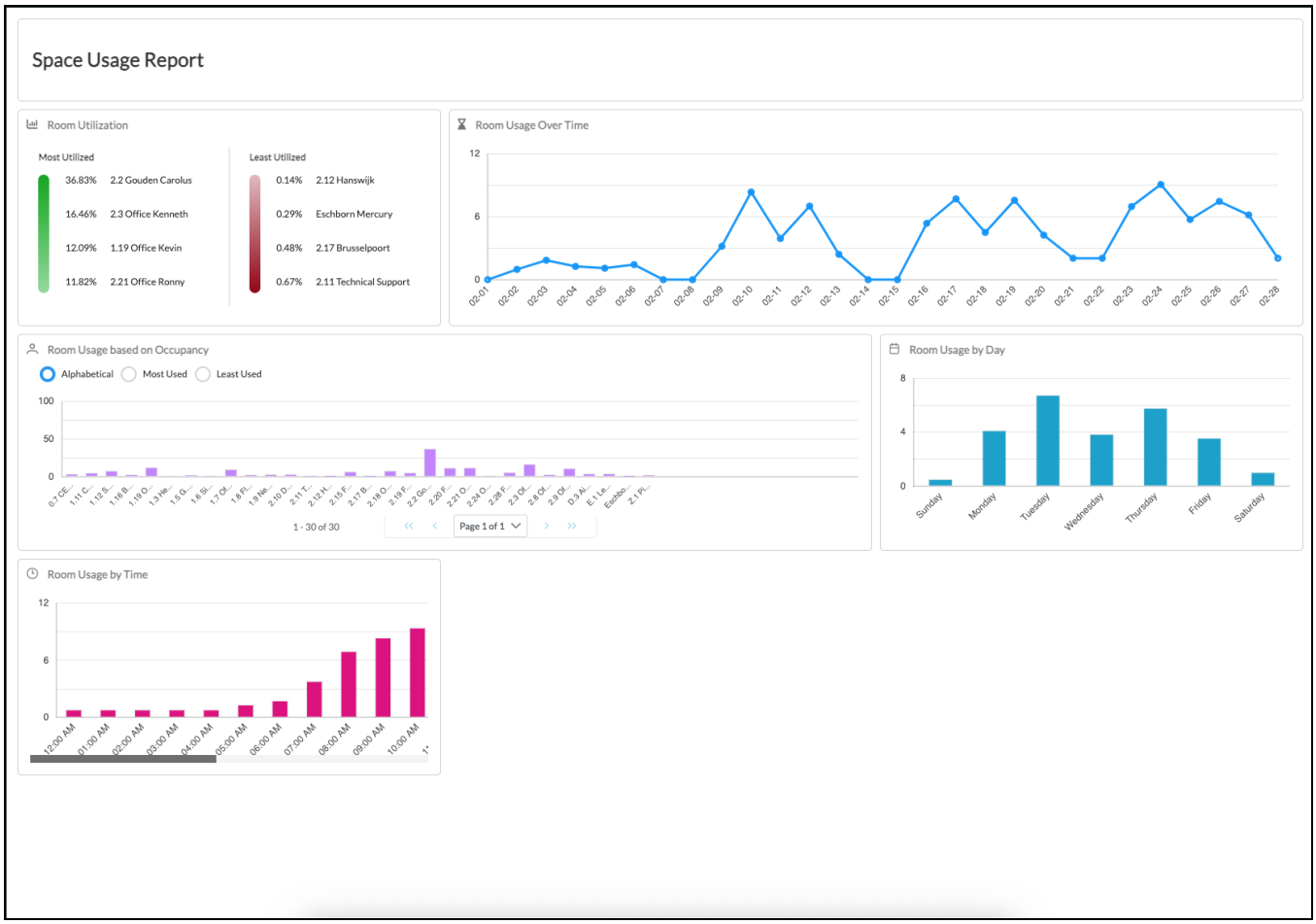
- **Locations**: Select the groups, rooms, or desks that will be included in the report using the environment group tree. The number of selected nodes are shown above the search field.
  - Fill the check box next to the group, room, or desk in the group tree to add that node to the report.

    > **NOTE:** If no nodes are selected, the report will include data for the entire group tree.

  - Use the search function to search for a specific node within the group tree. The group tree will only show nodes that match the entered search terms.
  - Select the filter clear button to clear any custom filters created for this selection.

Once all filters have been selected, select **Apply** to generate the report within the right pane of the screen. If any changes are made to the report filters, select **Apply** again to generate a new report.

> **NOTE:** Any reports with hourly data are normalized to the room's local time zone. Report data is adjusted to fit a standard 24-hour day in that room's local time. For example, 8:00 AM always means 8:00 AM local to that room when it is viewed in a report.



The following additional controls are provided:

- Select **Revert** to revert the report filters to their previous settings.
- Select **Clear** to restore the report filters to their default values.

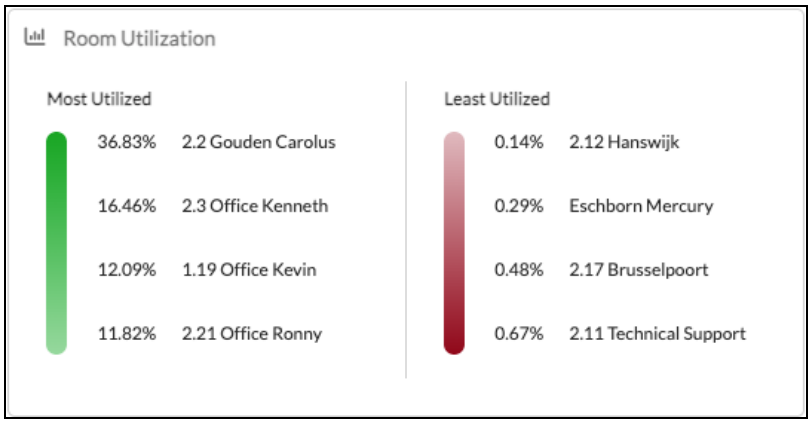
Space Usage Reports

The following data is generated as part of the **Space Usage Report**:

> **NOTE:** All space usage reports are based on occupancy only. Scheduling data or active system power data is not reported. Additionally, only rooms that support occupancy detection are included in the reports. For more information on how occupancy can be reported in XiO Cloud, refer to Room Occupancy on page 193.

Room Utilization

The **Room Utilization** report displays the most and least-used rooms based on occupancy data within the chosen date range. This report helps you to quickly identify at a high level which rooms are most frequently used or underutilized within your organization.

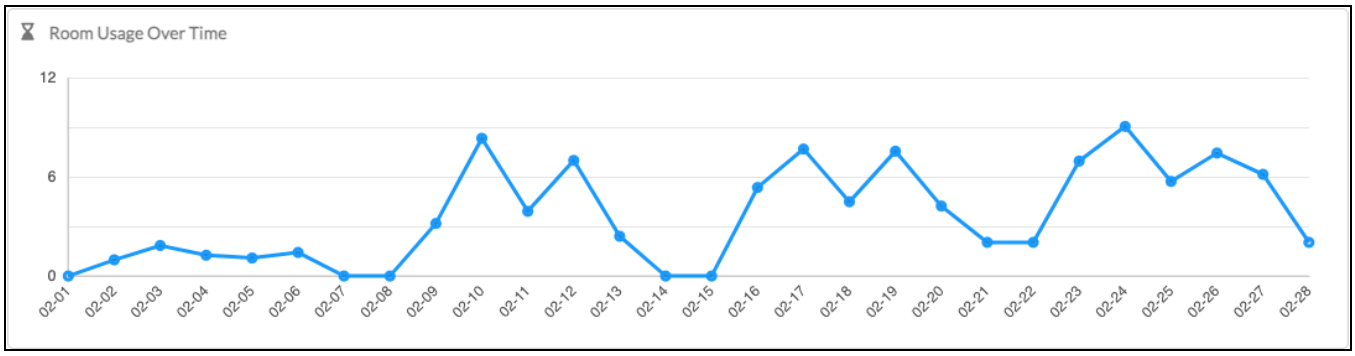


The following information is provided:

- **Most Utilized**: Displays up to four rooms with the highest usage in descending order. A percentage is shown next to each room that represents the percentage of time that the room was occupied over the date range.
- **Least Utilized**: Displays up to four rooms with the lowest usage in ascending order. A percentage is shown next to each room that represents the percentage of time that the room was occupied over the date range.

Room Usage Over Time

The **Room Usage Over Time** report displays room occupancy changes across the chosen date range. This report helps you to identify usage patterns and trends, making it easier to compare current room utilization with previous weeks or months.



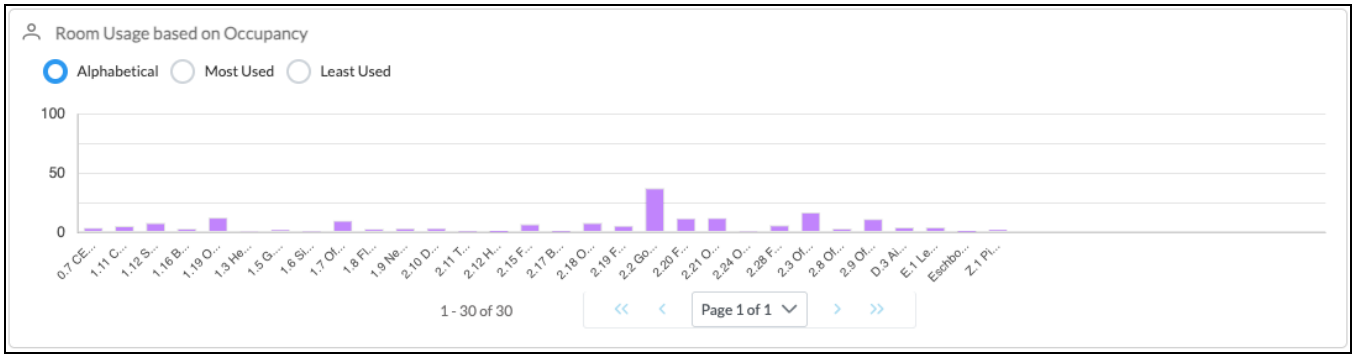
The **Room Usage Over Time** report is a line graph that spans the chosen date range. Each data point represents the average percentage of rooms that were occupied during a corresponding time interval. Hover over a data point to view the exact usage percentage for that time interval.

The **Room Usage Over Time** report changes time intervals automatically based on your chosen date range:

- If the date range is 60 days or less, data is shown per day.
- If the date range is greater than 60 days, data is shown per week.

Room Usage Based on Occupancy

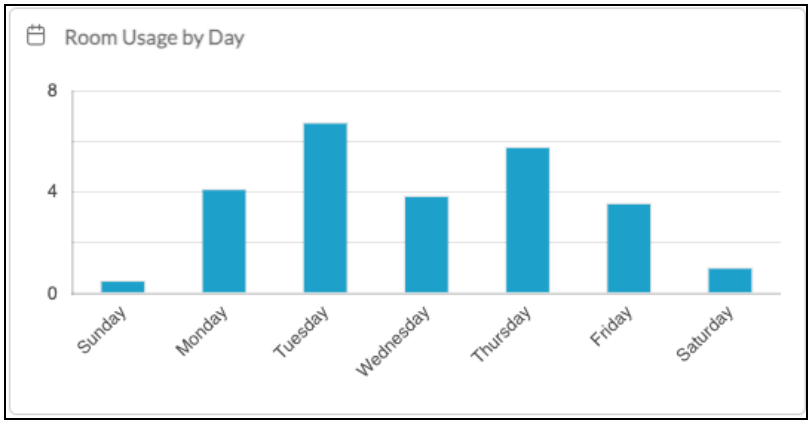
The **Room Usage based on Occupancy** report displays room usage ranked by occupancy data. This report helps you to quickly identify which rooms are most frequently used or underutilized within your organization and to compare usage across rooms.



The **Room Usage based on Occupancy** report is a bar graph that contains all selected rooms. Each bar represents the percentage of time a room was occupied during the selected date range. Rooms can be ordered alphabetically, by most used, or by least used.

Room Usage by Day

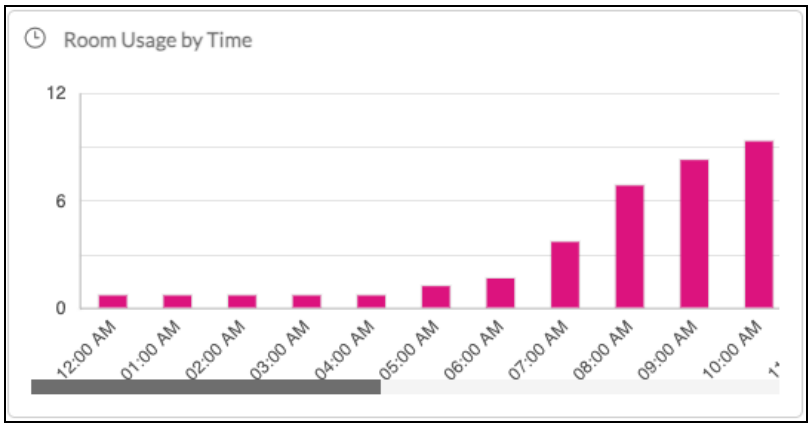
The **Room Usage by Day** report displays the average room usage for each day of the week. This report helps you to identify which days of the week have the highest room usage within your organization.



The **Room Usage by Day** report is a bar graph that contains each day of the week. Each bar represents the average occupancy (the percentage of time that rooms were occupied) across all selected rooms for that day. If the date range is longer than one week, the report calculates the average utilization for each day across the entire time period.

Room Usage by Time

The **Room Usage by Time** report displays the average room usage by hour of the day. This report helps you to identify peak and low-usage hours for your rooms.



The **Room Usage by Time** report is a bar graph that contains each hour of the day. Each bar represents the average occupancy (the percentage of time that rooms were occupied) across all selected rooms for that hour. If the date range is longer than one day, the report calculates the average utilization for each hour across the entire time period.

Alerts

The XiO Cloud service sends alerts when it detects an issue with a device or a room. Alerts are sent via email or text messages to any user that is configured to receive alerts. Alerts can also be tied to custom programming logic for individual XiO Cloud rooms.

> **NOTE:** XiO Cloud alerts can be integrated with ServiceNow® software instances. For more information, refer to Appendix A: Configure ServiceNow for XiO Cloud Alerts on page 273.

Configure Contact Information

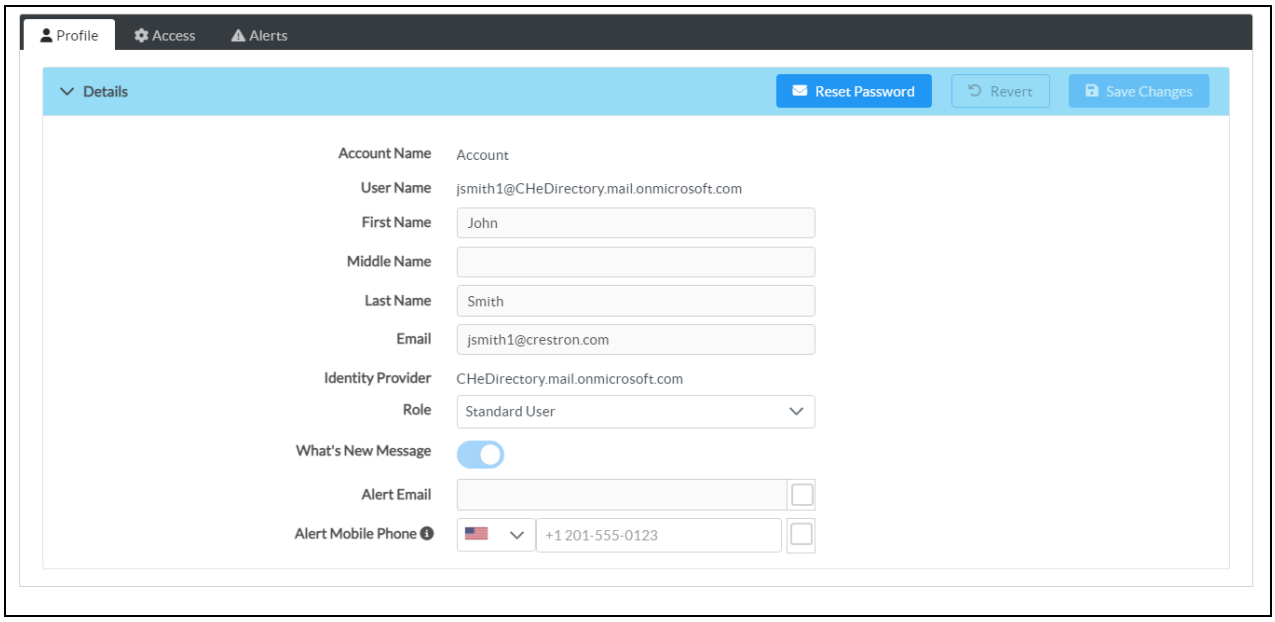
To receive alerts, a user must enable alerts for email and/or text messages in their profile page.

To configure alerts for a user:

1. Select the user's name in the **USERS** menu. A **Users** page with the **Profile** tab open by default is displayed to the right of the **USERS** menu.
2. Choose one or both of the following alert methods:
    - Select the check box next to the **Alert Email** text field to enable email alerts. Enter a valid email address in the **Alert Email** text field to receive messages at that address.
    - Select the check box next to the **Alert Mobile Phone** text field to enable text message alerts. Enter a valid mobile phone number (including country code and area code) in the **Alert Mobile Phone** text field to receive text messages at that phone number.

      > **NOTE:** SMS services are not supported in all countries. For a list of countries that currently support the service, refer to FAQs on page 236.

User Profile Page



3. Select **Save Changes** at the top right of the screen to save any changes made. Select **Revert** to clear any information that was entered.

Configure Alert Levels

Alerts may be configured so that they are issued at different severity levels for different groups. This configuration is set at the user level, so each user may customize the alerts that they receive.

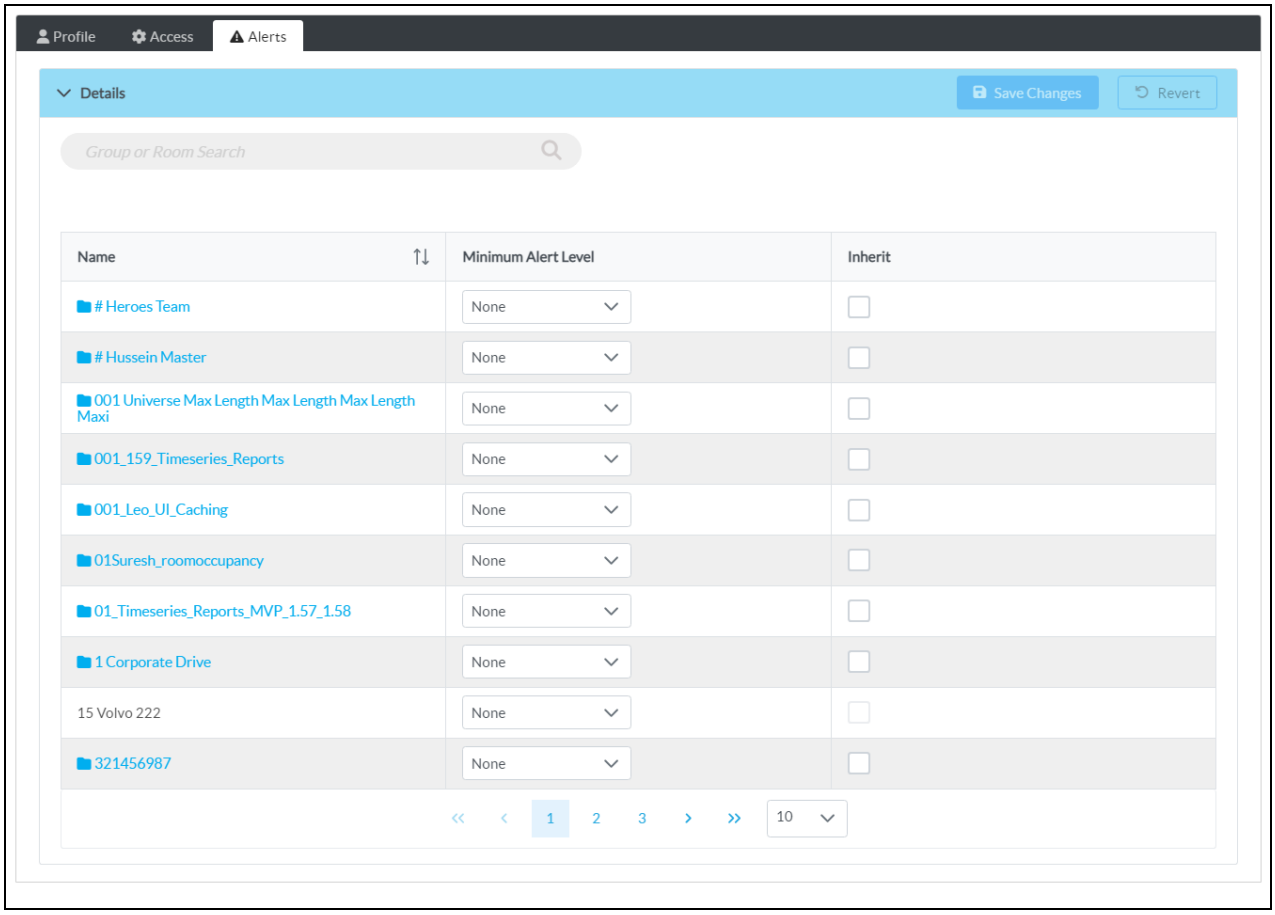
To configure access levels for alerts:

> **NOTE:** A user must be configured to receive alerts via email or mobile phone before alert levels can be configured for that user. Refer to Configure Contact Information on page 183 for more information.

1. Select the user's name in the **USERS** menu. A **Users** page with the **Profile** tab open by default is displayed to the right of the **USERS** menu.

2. Select the **Alerts** tab.

Users Page – Alerts Tab



3. Use the **Minimum Alert Level** drop-down menu to select the alert severity level (**None**, **Notice**, **Warning**, **Error**, or **Critical**) for each group and subgroup or room. Only alerts of the chosen severity level or higher will be sent.

> **NOTE:** Enter text in to the **Group or Room Search** text box to search for and display groups or rooms that match the search term(s).

4. (Subgroups or spaces only) Select **Inherit** to have the subgroup or room inherit the alert severity level settings of its parent group. **Inherit** is the default setting for subgroups and rooms.

> **NOTE:** As of XiO Cloud version 2.9, any subgroups or spaces created under a parent group will share the parent group's access level and minimum alert level by default. This change allows standard users to set alert levels within their assigned groups without requiring intervention from a Global Admin.

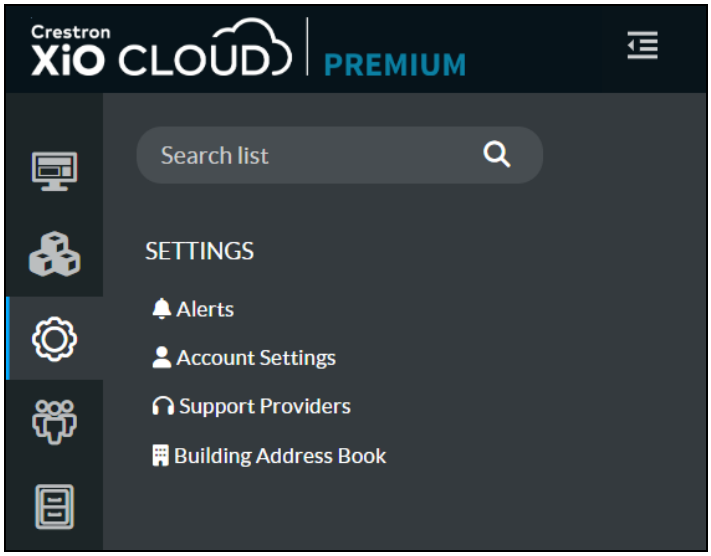
5. Select **Save Changes** at the top right of the screen to save any changes made. Select **Revert** to clear any information that was entered.

Manage Alerts

The changes made to a device or room that trigger an alert may be customized. The XiO Cloud service adds common alerts automatically. However, these alerts may be deleted and new alerts may be added.

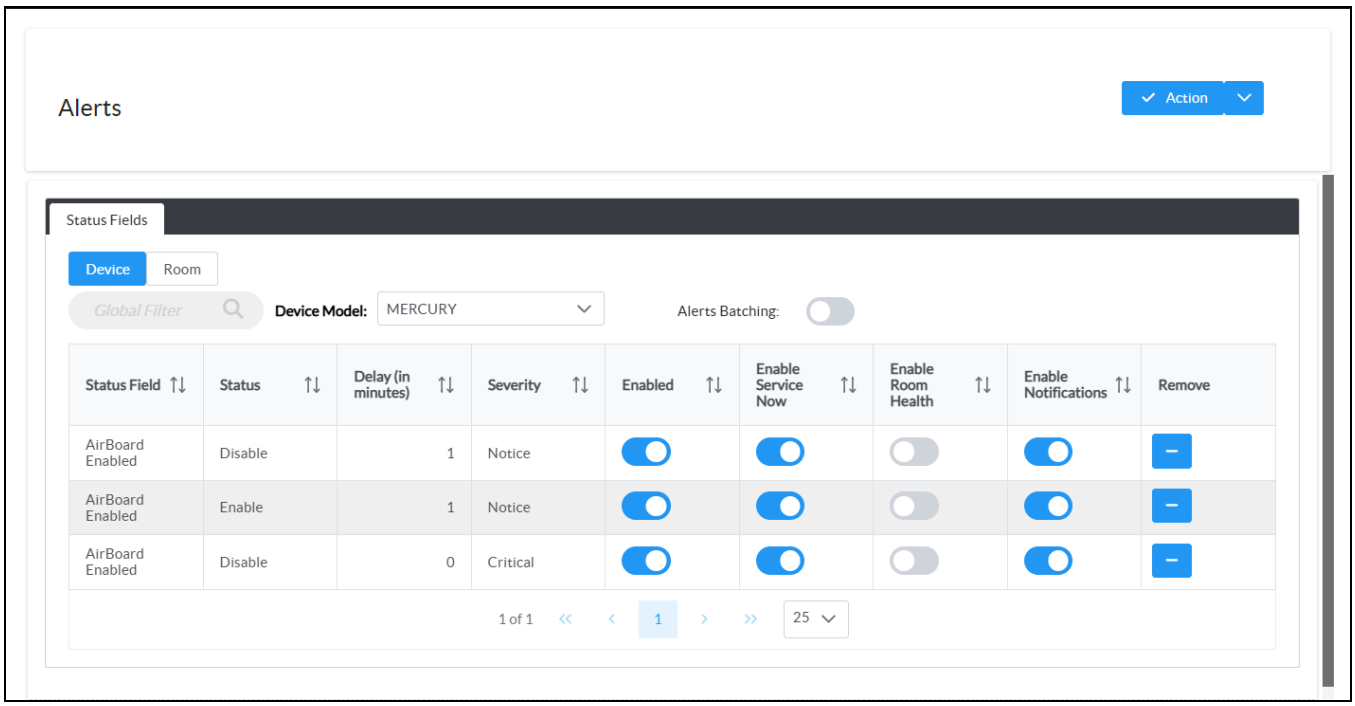
The **SETTINGS** menu for alerts is located in the user management panel, which may be accessed by selecting the **Settings** button in the navigation menu.

Settings – Alerts Option



Select **Alerts** in the **SETTINGS** menu. An **Alerts** page with the **Device** button selected by default is displayed to the right of the **SETTINGS** menu.

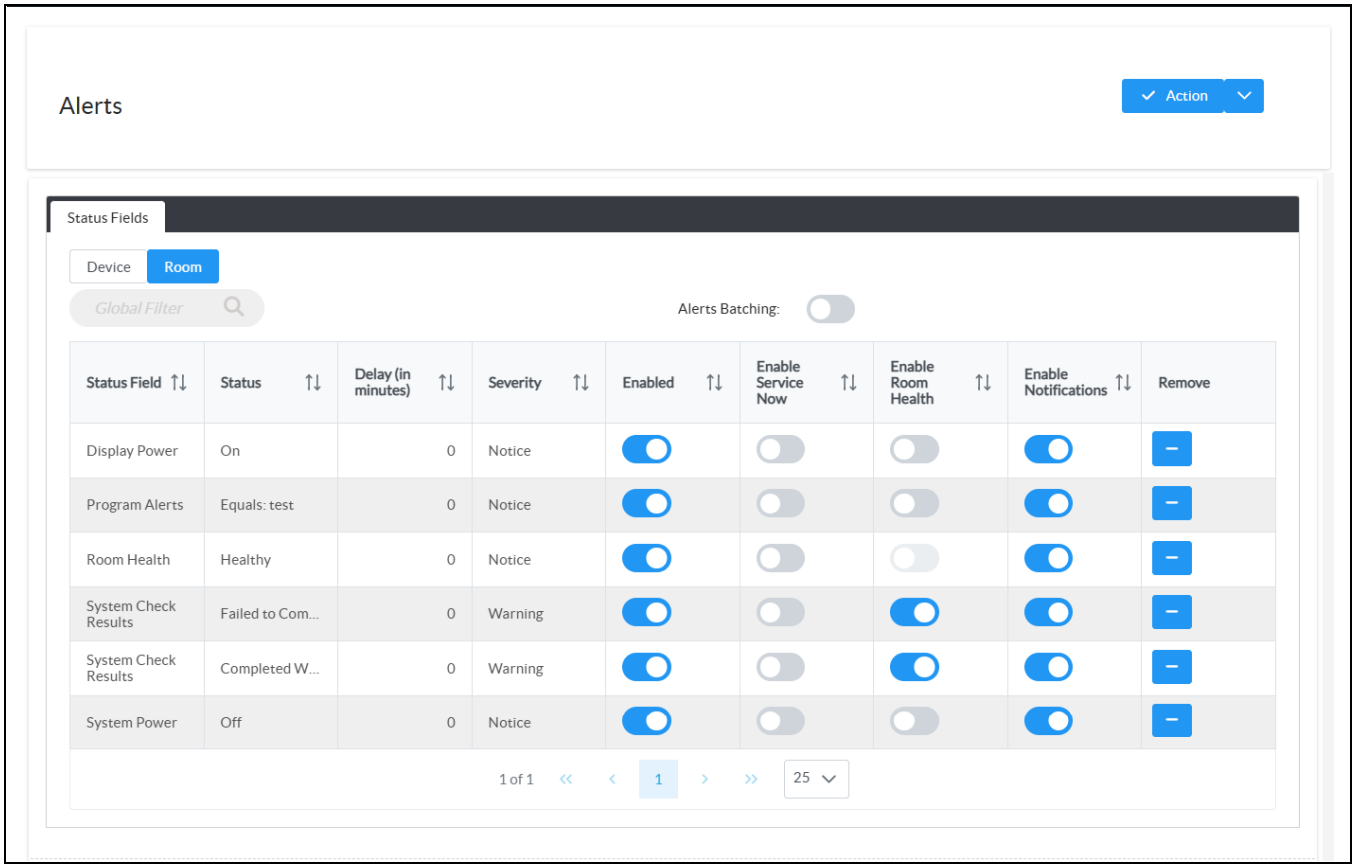
Alerts – Status Fields Tab (Device)



Select **Room** to configure alerts for rooms in the account.

> **NOTE:** Configuring room alerts requires an XiO Cloud Premium subscription. Refer to XiO Cloud Program Connector on page 148 for more information on custom programming and XiO Cloud.

Alerts – Status Fields Tab (Room)



Device-based alerts in the **Status Fields** section are organized by device type. To configure alerts for a device type, select the desired device type from the **Device Model** drop-down menu on the top left of the **Status Fields** section.

Alerts may be also be batched by turning on the **Alerts Batching** toggle. When **Alerts Batching** is turned on, alerts for devices and rooms that occur in close succession are batched together and are sent in a consolidated message. For information about alert batching, refer to Alert Batching Rules on page 191.

The **Status Fields** table presents all of the alerts configured for the selected device type. The following information is provided:

- **Status Field**: The device or room status type (An alert is triggered if changes to this status are detected.)
- **Status**: The state that the device or room status must reach in order to trigger an alert
- **Delay (in minutes)**: The duration that the device or room must remain in the selected status before an alert is triggered

- **Severity**: The severity level of the alert, which determines the users who are notified based on their configured alert levels
- **Enabled**: Provides controls for enabling or disabling the alert
- **Enable ServiceNow**: If this toggle is turned on, the alert can be configured to trigger an incident within a ServiceNow® software instance. For more information, refer to Appendix A: Configure ServiceNow for XiO Cloud Alerts on page 273.

  > **NOTE:** The **Enable ServiceNow** toggle is shown only if ServiceNow functionality has been turned on in the account settings.

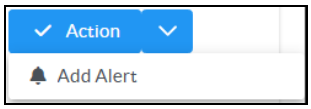
- **Enable Room Health**: If this toggle is turned on, the alert will contribute to the room health status based on the chosen severity level. For more information on room health, refer to Room Status Indicators on page 192.
- **Enable Notifications**: If this toggle is turned on, subscribed users will be notified when the alert is raised. This toggle can be used to help streamline notifications (for example, a user could get only one alert notifying them that the room system is offline instead of getting many alerts for each offline device).
- **Remove**: Provides controls for removing the alert

Add a New Alert

To add a new alert for a device or room:

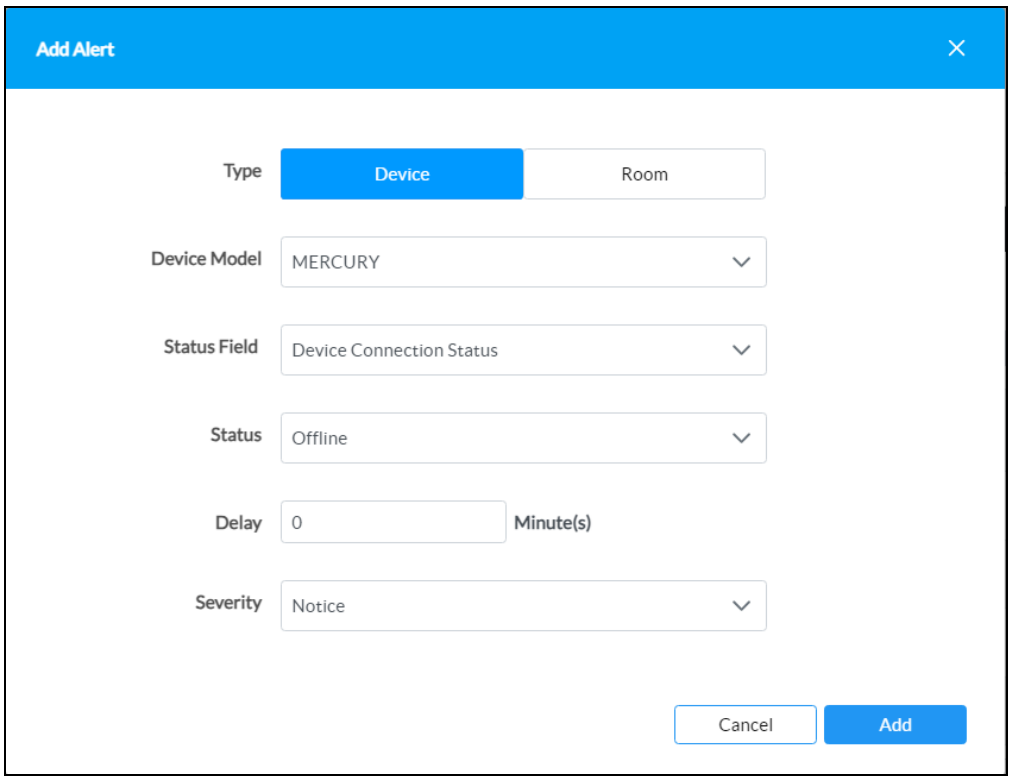
1. Select **Add Alert** from the **Action** drop-down menu.

   Drop-Down Menu with Add Alert Option

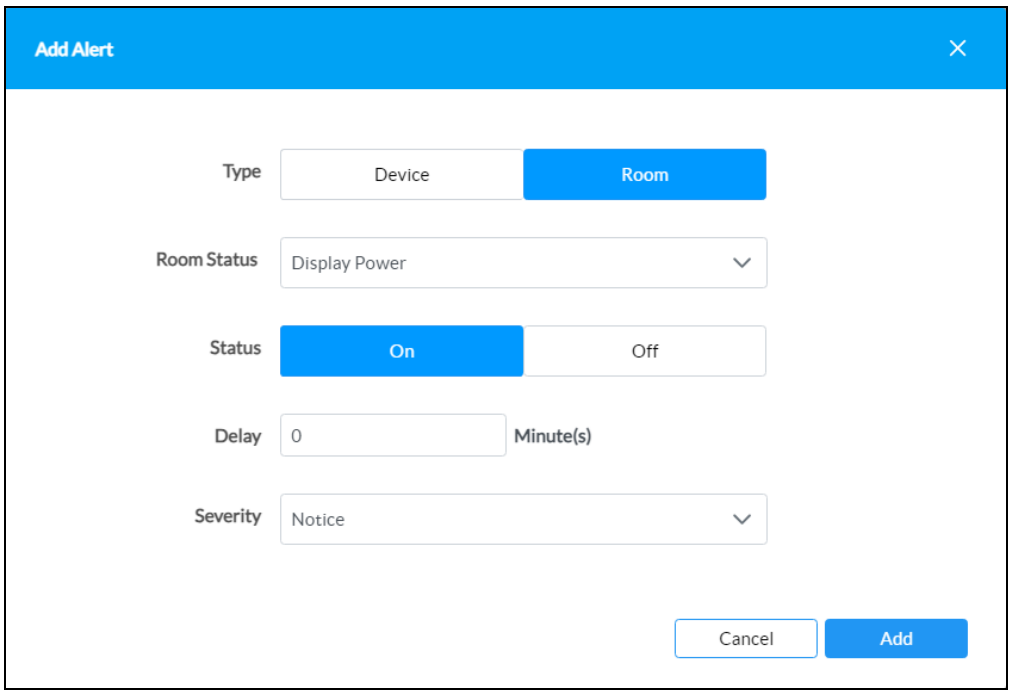
An **Add Alert** dialog box is displayed.

Add Alert Dialog Box (Device)



2. Select **Device** or **Room** for **Type** to add a device alert or a room alert, respectively.

Add Alert Dialog Box (Room)



3. Use the provided text fields and drop-down menus to enter the required information for the alert.

> **NOTE:** For alerts with a **Text Value** string, note the following behavior for each selectable operator:
>
> - **Equals**: A string from the program must equal the **Text Value** field exactly to generate an alert. For example, If the **Text Value** is "Your thermostat temperature is too high", then an alert would be generated only if the program string matched this text exactly.
> - **Contains**: A string from the program must contain the **Text Value** field to generate an alert. For example, If the **Text Value** is "thermostat", then an alert would be generated only if the program string contained "thermostat" anywhere within it.
> - **Begins With**: A string from the program must begin with the **Text Value** field to generate an alert. For example, If the **Text Value** is "The room temperature", then an alert would be generated only if the program string began with "The room temperature".
> - **Ends With**: A string from the program must end with the **Text Value** field to generate an alert. For example, If the **Text Value** is "is too low", then an alert would be generated only if the program string ended with "is too low".

4. (Optional) Enter a value in the **Delay** text field to set a delay (in minutes) before the alert is triggered.

> **NOTE:** if alert batching is turned on, XiO Cloud will start the five-minute batching period after an alert's configured delay expires. For example, if an alert has a two-minute delay, the alert message will be sent seven minutes after the alert is first raised. For more information, refer to Alert Batching Rules on page 191.

5. Once all information has been entered, select **Add** to add the alert.

The new alert is displayed in the **Status Fields** section of the **Alerts** page for the selected device type or room.

Delete an Alert

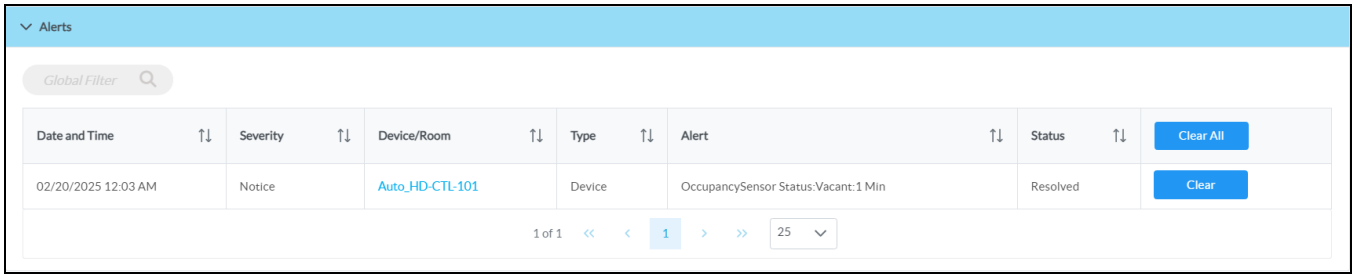
To delete an alert, select the minus button (**-**) in the **Remove** column for that alert.

View Alerts

In addition to receiving alerts via email or text messages, alerts may also be viewed for individual devices, groups of devices, and rooms.

Alerts are accessible from the **Alerts** accordion of the **Status** tab for an individual device or for a group, or from the **Alerts** tab in a room.

Settings Tab – Alerts Accordion



The **Alerts** section provides the following information in table format:

- The date and time the alert was issued
- The severity of the alert
- The device or room that caused the alert to be issued (with a link to that device or room in the environment tree)
- The status field, status, and duration values that triggered the alert
- The status of the alert (An alert changes from **Active** to **Resolved** automatically when the status field value changes to a status other than the one that triggered the alert.)
- A **Clear** button that removes the alert from the log

Select **Clear All** at the top right of the table to clear all listed alerts.

Alert Batching Rules

Alert batching is a global setting that is applied to all devices and rooms in an XiO Cloud account when turned on.

XiO Cloud applies the following rules when the **Alert Batching** toggle is turned on:

- When an alert is triggered, XiO Cloud waits five minutes before sending an alert email or text message
- Any additional alerts triggered during this period are grouped into the same alert message.
- Any alerts triggered after this period are grouped into a new alert message.

Room Status Indicators

Various status indicators are shown at the top of the room pane that report information about the room. These indicators can be driven by alerts, custom programming, and other applicable events in XiO Cloud.

> **NOTE:** For more information on custom programming in XiO Cloud, refer to XiO Cloud Program Connector on page 148.



Each indicator is described in the sections that follow.

Room Health

The room health indicator shows the overall health status of the room, allowing building or IT administrators to quickly identify and triage rooms that are reporting issues.

Health status levels are set based on raised alerts and their severity, and these levels can be customized based on end user requirements. For example, if a room has a touch screen that is required for accessing the room controls, an alert with critical severity could be triggered when the touch screen goes offline to indicate that the entire room system is not functional. Additionally, custom alerts can be programmed to trigger room health changes based off text strings within the program (such as "Your thermostat temperature is too high"). For more information on enabling alerts to control room health, refer to Alerts on page 183.

> **NOTE:** Alerts are also shown in the room **Alerts** log and can be cleared as they are resolved.

The following health levels are provided that correspond with the severity of any active alerts:

- A green room health icon indicates that the room is functioning normally with no reported issues or minor issues (**Notice** severity level).
- An orange room health icon indicates that the room is usable but has issues that could affect its performance (**Warning** severity level).
- A red room health icon indicates that the room is not usable based on critical issues (**Error** and **Critical** severity level).

Room Occupancy

The room occupancy indicator shows whether the room is reporting occupancy or vacancy based on its occupancy-detecting devices (Huddly IQ™ Collaboration Cameras and Crestron Videobar 70 devices) or custom programming.

In addition to reporting from an occupancy sensor, custom programming can tie the state of an occupancy event (such as the room reporting an active call) to the XiO Cloud Room symbol, which pushes the state to XiO Cloud. When this occurs, the occupancy status is updated and counts towards room utilization. The programmed occupancy event can be combined with other XiO Cloud occupancy reporting triggers. The XiO Cloud room can also have its occupancy state set by other devices, which can then be sent to the program for automation logic and other purposes.

The following occupancy states are provided:

- A green occupancy icon indicates that the room is currently occupied.
- A green occupancy icon with a number indicates that the room is currently occupied and reports the number of occupants (if the room contains people-counting devices). If 100 or more occupants are present, the icon will show the occupancy count as "99+". Hovering over the icon displays text with the exact number of occupants.
- A gray occupancy icon indicates that the room is currently vacant.
- A red occupancy icon indicates that the room's occupancy-sensing equipment is currently offline.
- A light gray occupancy icon with a question mark indicates that the room is not reporting occupancy data.

Room Reservation Status

The room reservation status indicator shows whether a room is currently reserved or not. Reservation status can be driven by custom programming. The reservation status indicator can also show whether a participant has checked into the meeting if this function is supported and configured within the scheduling source.

The following room reservation states are provided:

- An green calendar icon indicates the room is currently reserved.
- A green calendar icon with a check mark indicates that the room is currently reserved and that a participant has checked into the meeting.
- An orange calendar icon with an exclamation mark indicates that the room is currently reserved, but no participants have checked into the meeting.
- A gray calendar icon indicates the room is not currently reserved.
- A light gray calendar icon indicates that the room is not reporting reservation data.

Room Call Status

The room call status indicator shows whether or not the room is in an active call via a supported conferencing device (Crestron Mercury® or UC-ENGINE devices). If a supported conferencing device is claimed into a room, the room call status indicator will show whether the device is currently in an active call or not. If no conferencing devices are claimed into the room, the indicator will show that no call status is available.

NOTE: The room call status indicator has the following limitations:

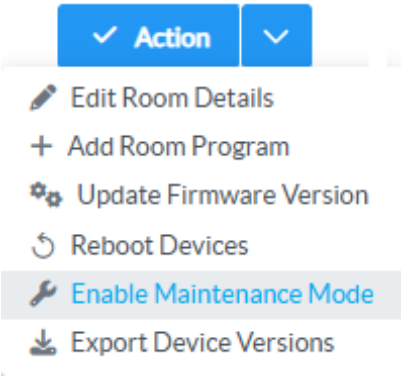
- The room call status indicator does not update in real time. The user must refresh the room page to see any changes to the indicator.
- It can take up to 30 seconds to refresh the room call status for a Crestron Mercury device and up to 80 seconds to refresh the status for a UC-ENGINE device.
- Room call status support varies by conferencing device. For more information, refer to FAQs on page 236.

The following room call states are provided:

- An green call icon indicates the room is currently in an active call.
- A gray call icon indicates the room is not currently in an active call.
- A light gray call icon indicates that the room is not reporting call status data.

Maintenance Mode

The maintenance mode indicator shows whether or not the room is currently in maintenance mode, which is entered using the **Action** menu for the room.



NOTE: Scheduled actions can be configured for maintenance mode by navigating to the **Scheduled Actions** tab for the room under the **Group View** settings.

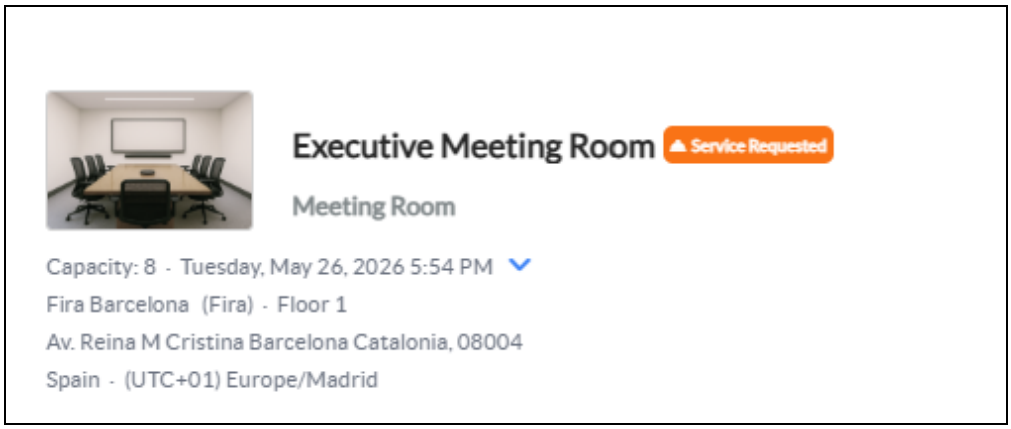
Custom programs can receive the maintenance mode state from XiO Cloud, which allows programmers to define maintenance mode messaging in the room. For example, if the room is placed into maintenance mode to perform firmware updates on system components but the room is still largely usable, a programmer could create messaging that explains the scenario and any usage limitations. Conversely, if the room is not usable at all during maintenance mode, messaging could be provided to alert users that the room is offline and not currently available for meetings. Hover text for the icon will indicate whether maintenance mode state is being driven via custom programming.

The following maintenance mode states are provided:

- An orange maintenance icon indicates the room is currently in maintenance mode and that room alerts are disabled.
- A gray maintenance icon indicates the room is currently not in maintenance mode and that room alerts are enabled.

Service Requested

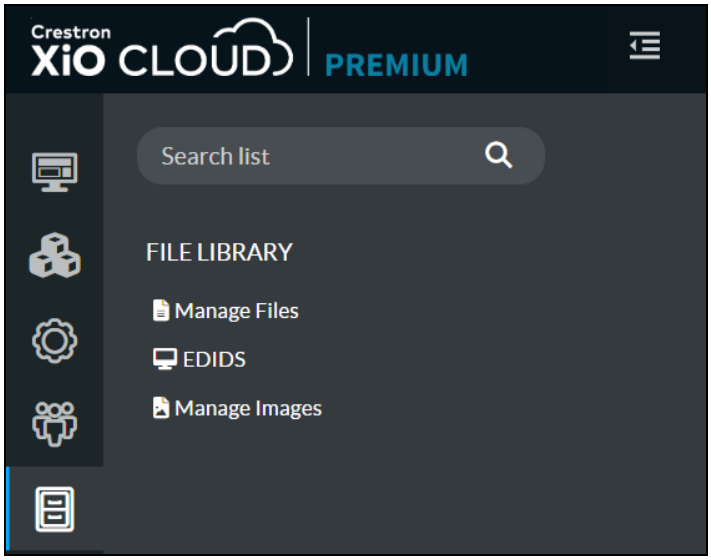
A **Service Requested** badge can be programmed to appear in XiO Cloud when a user triggers a corresponding action in a room (such as tapping a help button displayed on a touch screen). Alert rules can also be created based on the programmed event to notify IT or BMS admins that a room issue has been raised.



File Library

Various files can be loaded to the XiO Cloud service for use by claimed devices via the **FILE LIBRARY** selections. Once loaded, files can then be managed at the device and room levels. Select the **File Upload** button in the navigation menu to display the **FILE LIBRARY** menu.

FILE LIBRARY Menu



The following selections are provided:

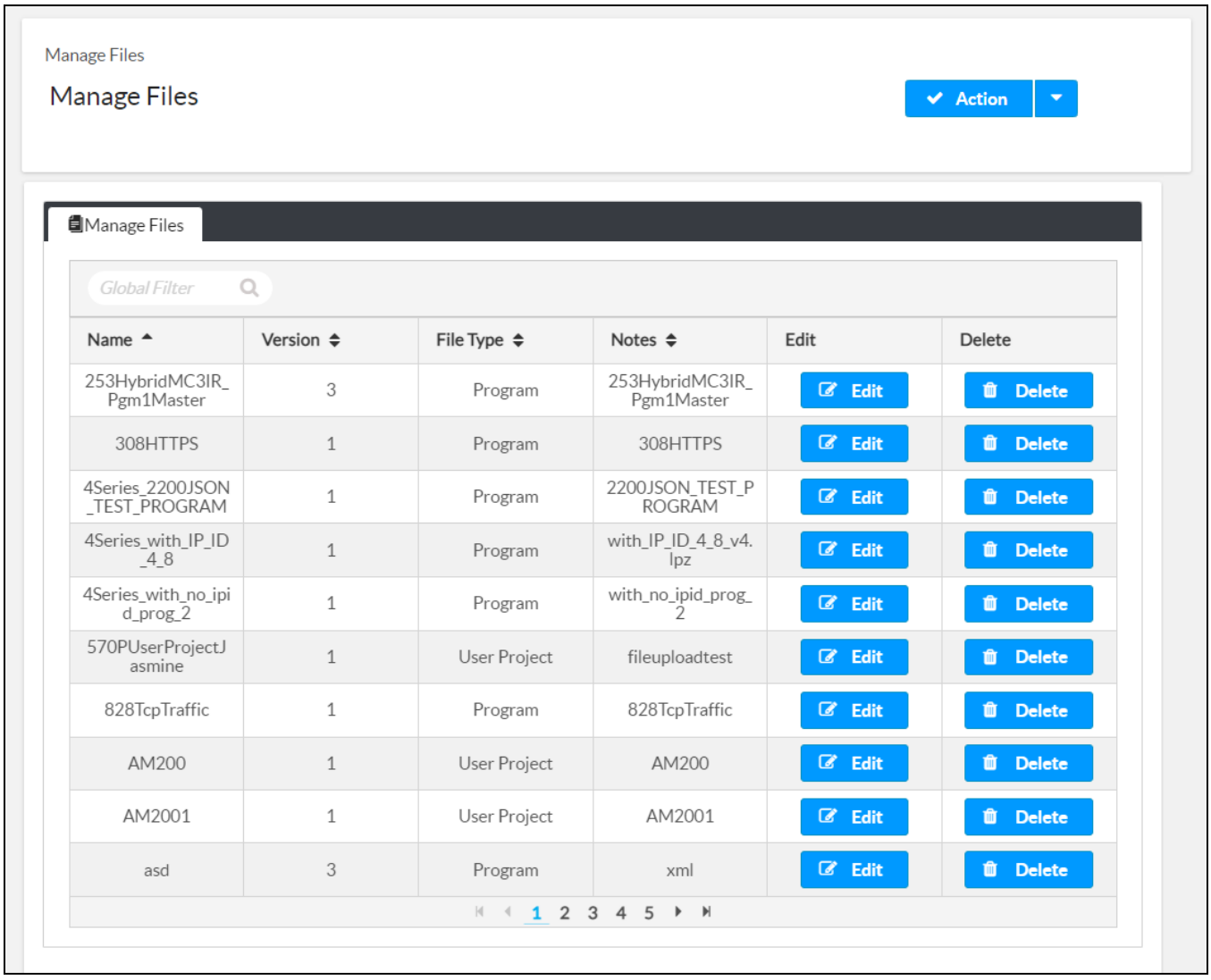
- **Manage Files**: Contains a library of programs and projects for control systems, touch screens, and other devices
- **EDIDs**: Contains a library of Extended Display Identification (EDID) data files for use with display devices
- **Manage Images**: Contains a library of image files for use by various devices

Each menu selection is described in the following sections.

Manage Files

Select **Manage Files** from the **FILE LIBRARY** menu to display the **Manage Files** page.

Manage Files Page



Each loaded program or project file is represented in a table that provides the following information and controls. An **Action** drop-down menu is also provided in the top-right of the page that is used to add program or project files to XiO Cloud.

- **Name**: The program or project name
- **Version**: The version of the program or project
- **File Type**: The program or project file type
- **Notes**: User-provided notes that describe the program or project
- **Edit**: Contains an **Edit** button that is used to edit program or project information (Refer to Edit a Program or Project on page 200 for more information.)
- **Delete**: Contains a **Delete** button that is used to delete the program or project file from XiO Cloud

Enter text in to the **Global Filter** text box to search for and display programs or project files that match the search term(s).

If the table spans multiple pages, use the navigation arrows on the bottom of the page to move forward or backward through the pages, or select a page number to navigate to that page.

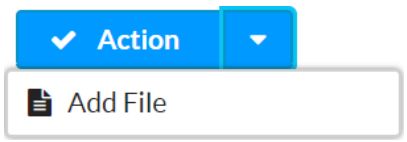
Add a Program or Project

To add a program or project file to XiO Cloud:

> **NOTE:** Only valid program or project files (.ch5z, .cpz, .lpz, .xml, or .zip) can be uploaded. Other file types will be rejected.

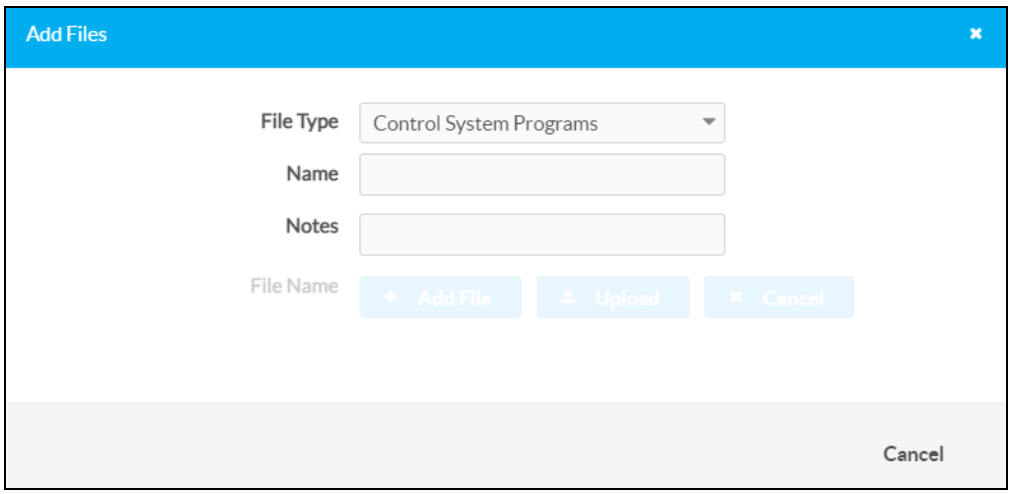
1. Select **Add File** from the **Action** drop-down menu.

   Drop-Down Menu with Add File Option

   The **Add Files** dialog box is displayed.

   Add Files Dialog Box

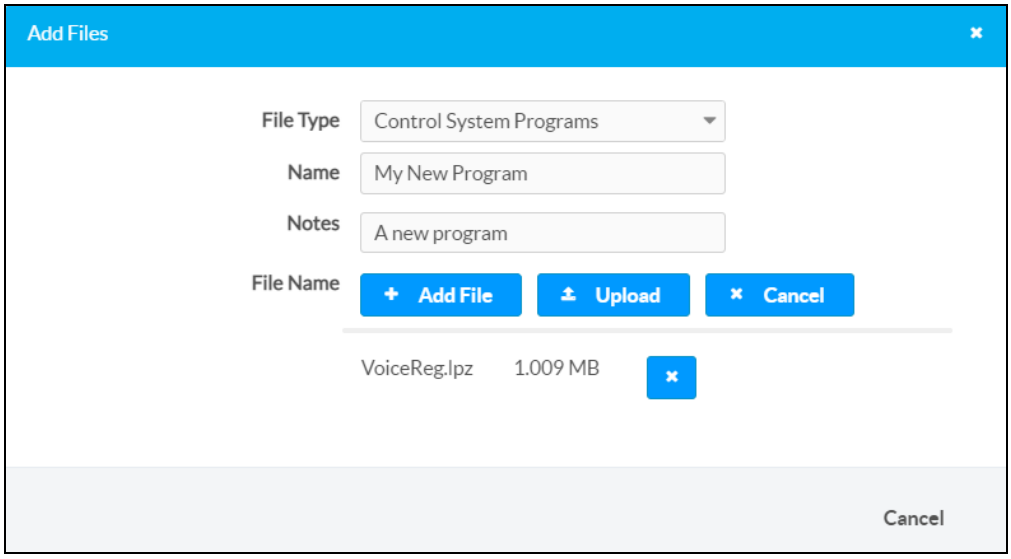
2. Enter the following information about the program or project file:
   - **File Type**: Select one of the supported program or project file types from the drop-down menu:
     - **Control System Programs**
     - **User Project**
     - **Mobility Project**
     - **Web Browser Project**
   - **Name**: Enter a program or project name into the text field.
   - **Notes**: Enter any notes about the program or project into the text field.

Once the information above is entered, the **+ Add File** button can be selected.

3. Select **+ Add File**, and then navigate to the program or project file on the computer.
4. Select the program or project file, and then select **Open**. The filename and file size is shown after the program or project file is selected.

> **NOTE:** Select the **x** button to discard the program.

Add Files Dialog Box - File Preview



> **NOTE:** Only compiled program files may be uploaded. The program code must be compiled with a minimum version of the include4.dat file to ensure full compatibility with XiO Cloud. For more information, refer to the respective programming tool help file.

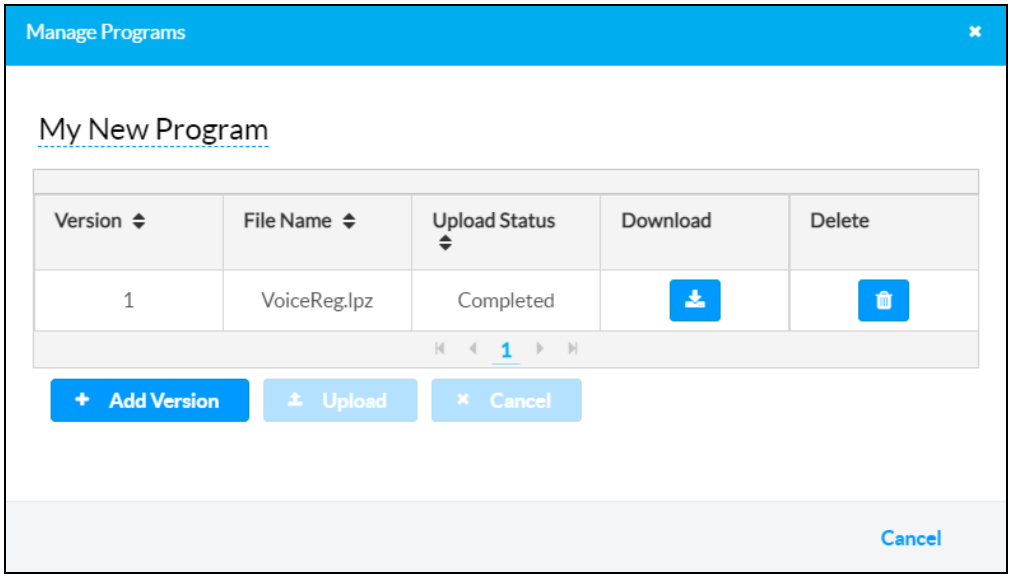
5. Select **Upload**. Toast notifications are displayed when the upload starts and completes.

Upon successful upload, the program or project file is added to the **Manage Files** table.

Edit a Program or Project

To edit an existing program or project file within XiO Cloud, navigate to the program or project file within the **Manage Files** table. Then, select **Edit** within the table row for the file. A **Manage Programs** dialog box is displayed.

Manage Programs Dialog Box



The program or project files are represented in a table that provides the following information and controls. Controls are also provided for adding new versions of the program or project file.

- **Version**: The version of the program or project

  > **NOTE:** If there are multiple versions of a program or project file available, each version populates a table row.

- **File Name**: The program or project file name
- **Upload Status**: The upload status of the program or project file
- **Download**: Contains a download button that is used to download the program or project file to a computer.
- **Delete**: Contains a delete button that is used to delete the program or project file from XiO Cloud

If the table spans multiple pages, use the navigation arrows on the bottom of the page to move forward or backward through the pages, or select a page number to navigate to that page.

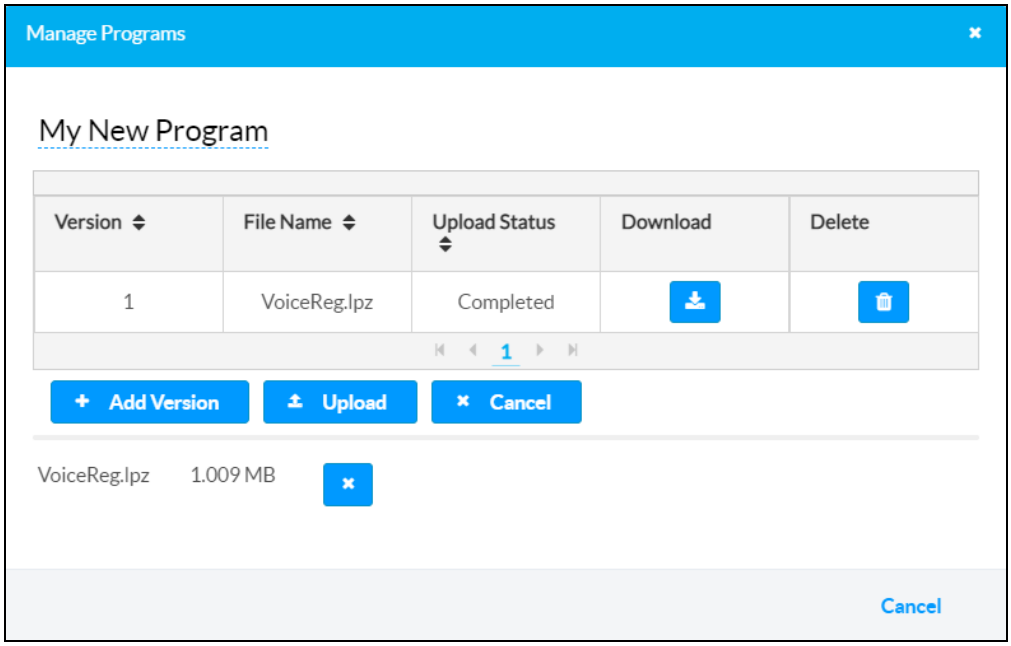
To edit the program or project name, select the program or project name on the top-left of the dialog box. A text field is displayed where the name can be edited. Select the green check button to save any changes.

To add a new version of the program or project file:

1. Select **+ Add Version**, and then navigate to the program or project file on the computer.
2. Select the program or project file, and then select **Open**. The file name and file size are shown after the program or project file is selected.

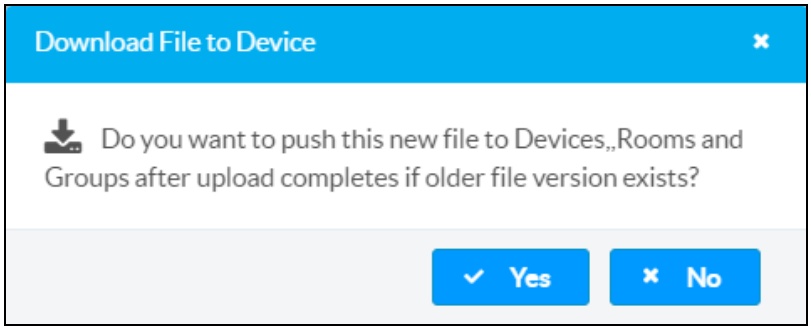
> **NOTE:** Select the **x** button to discard the program.

Manage Programs Dialog Box - File Preview



> **NOTE:** Only compiled program files may be uploaded. The program code must be compiled with a minimum version of the include4.dat file to ensure full compatibility with XiO Cloud. For more information, refer to the respective programming tool help file.

3. Select **Upload**. A **Download File to Device** dialog box is displayed asking whether the new program or project version should be pushed to devices, rooms, or groups running the older file version.

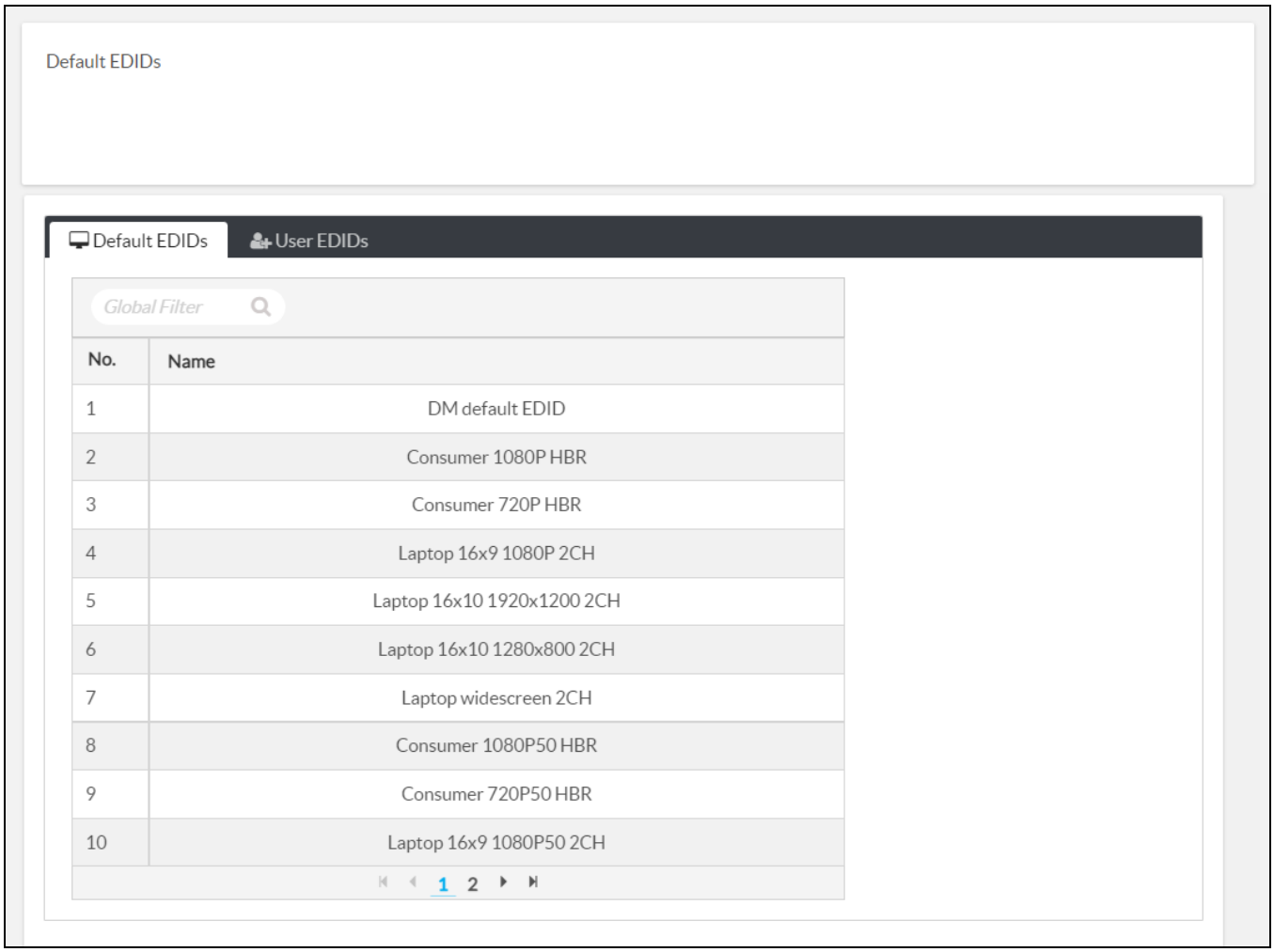


4. Make a selection to start the upload. The new file version is added to the **Manage Programs** table. The **Upload Status** changes from "In Progress" to "Completed" once the new file version is uploaded successfully.

EDIDs

Select **EDIDs** from the **FILE LIBRARY** menu to display the EDIDs page.

EDIDs Page



The EDIDs page is divided into two sections that can be accessed by selecting the respective tab at the top of the page:

- **Default EDIDs**: Provides a collection of default EDID data files (in CEDID format) for common display device configurations
- **User EDIDs**: Provides a collection of custom EDID data files (in CEDID format) and supports uploading new EDID data files

Enter text in to the **Global Filter** text box to search for and display EDID data files that match the search term(s).

If the table spans multiple pages, use the navigation arrows on the bottom of the page to move forward or backward through the pages, or select a page number to navigate to that page.

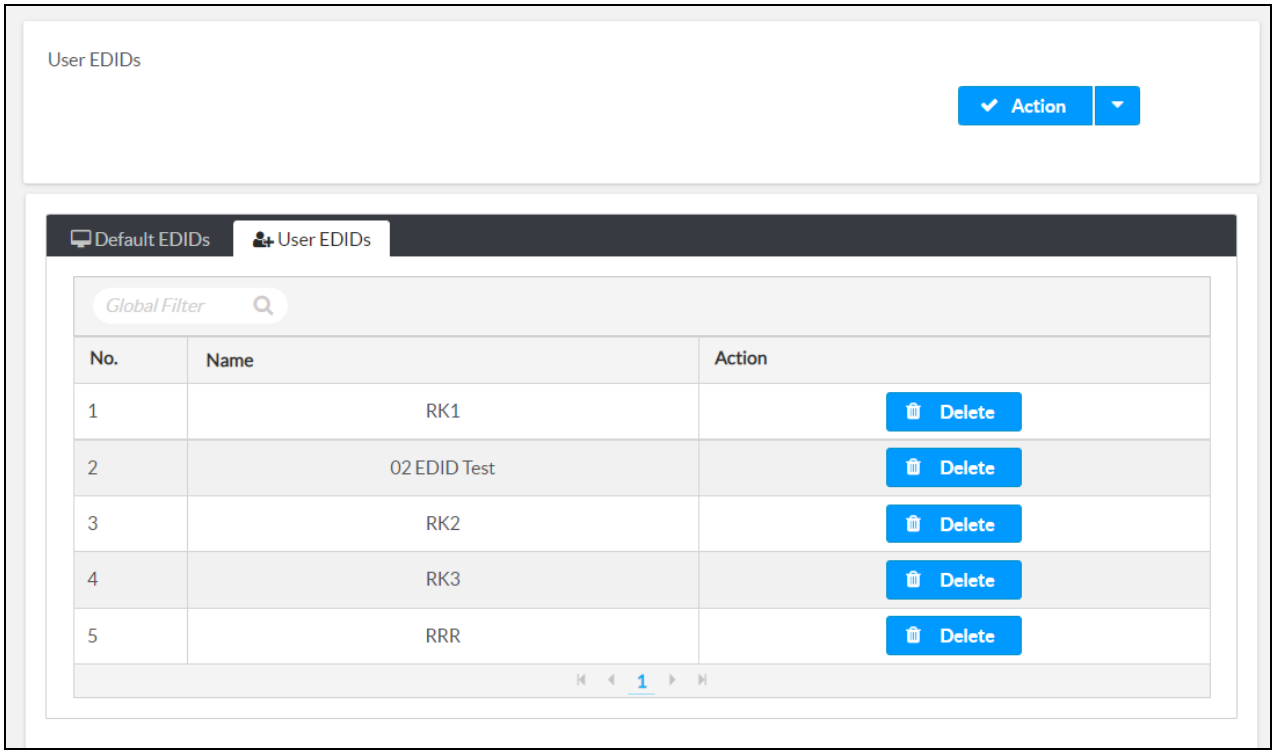
Add a Custom EDID File

To upload a custom EDID data file (in CEDID format) to XiO Cloud:

> **NOTE:** Only valid CEDID files can be uploaded. Other file types will be rejected.

1. Select the **User EDIDs** tab to display the **User EDIDs** page.

   EDIDs Page - User EDIDs



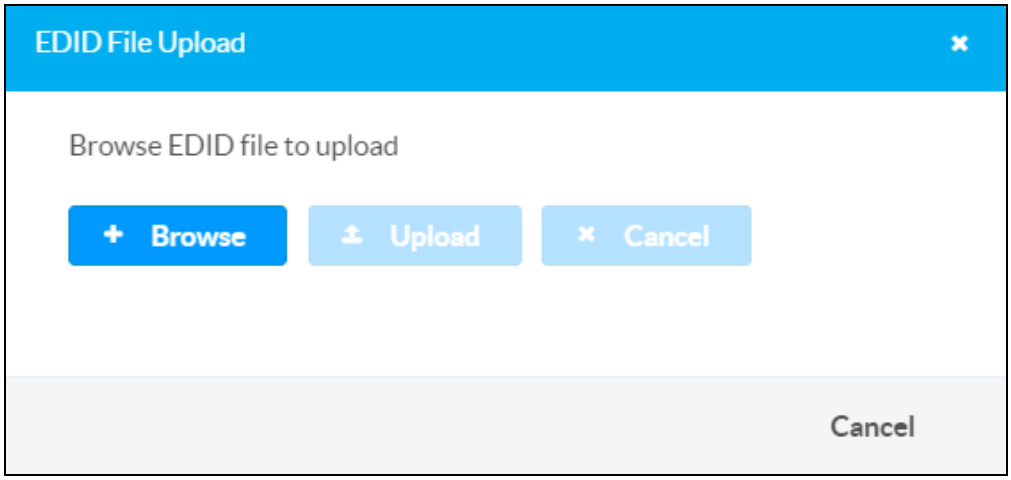
2. Select **Add EDID** from the **Action** drop-down menu.

   Drop-Down Menu with Add EDID Option



The **EDID File Upload** dialog box is displayed.

EDID File Upload Dialog Box



3. Select **+ Browse**, and then navigate to the CEDID file on the computer.
4. Select the CEDID file, and then select **Open**. The filename and file size are shown after the CEDID file is selected.

   > **NOTE:** Select the **x** button to discard the CEDID file.

5. Select **Upload**. Toast notifications are displayed when the upload starts and completes.

Upon successful upload, the EDID data file is added to the User EDIDs table.

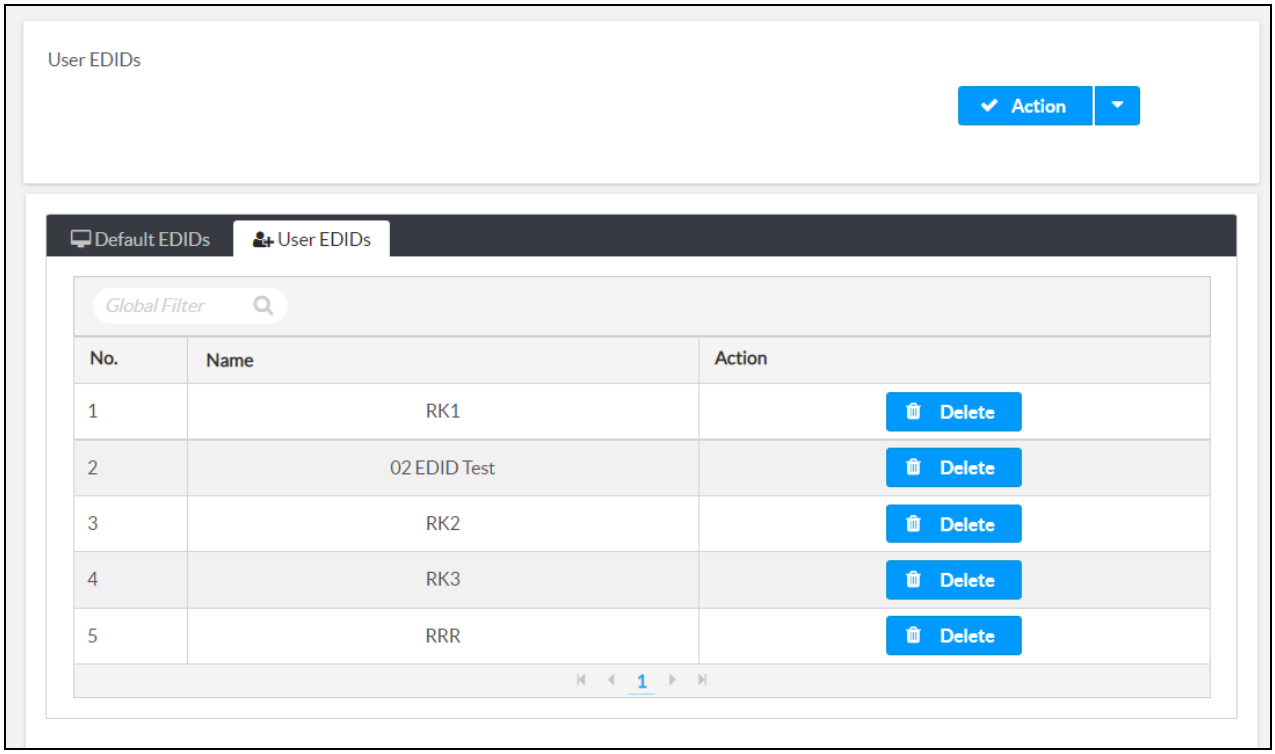
Delete a Custom EDID File

To delete a custom EDID file from XiO Cloud:

> **NOTE:** The default EDID files provided by XiO Cloud cannot be deleted.

1. Select the **User EDIDs** tab to display the User EDIDs page.

EDIDs Page - User EDIDs

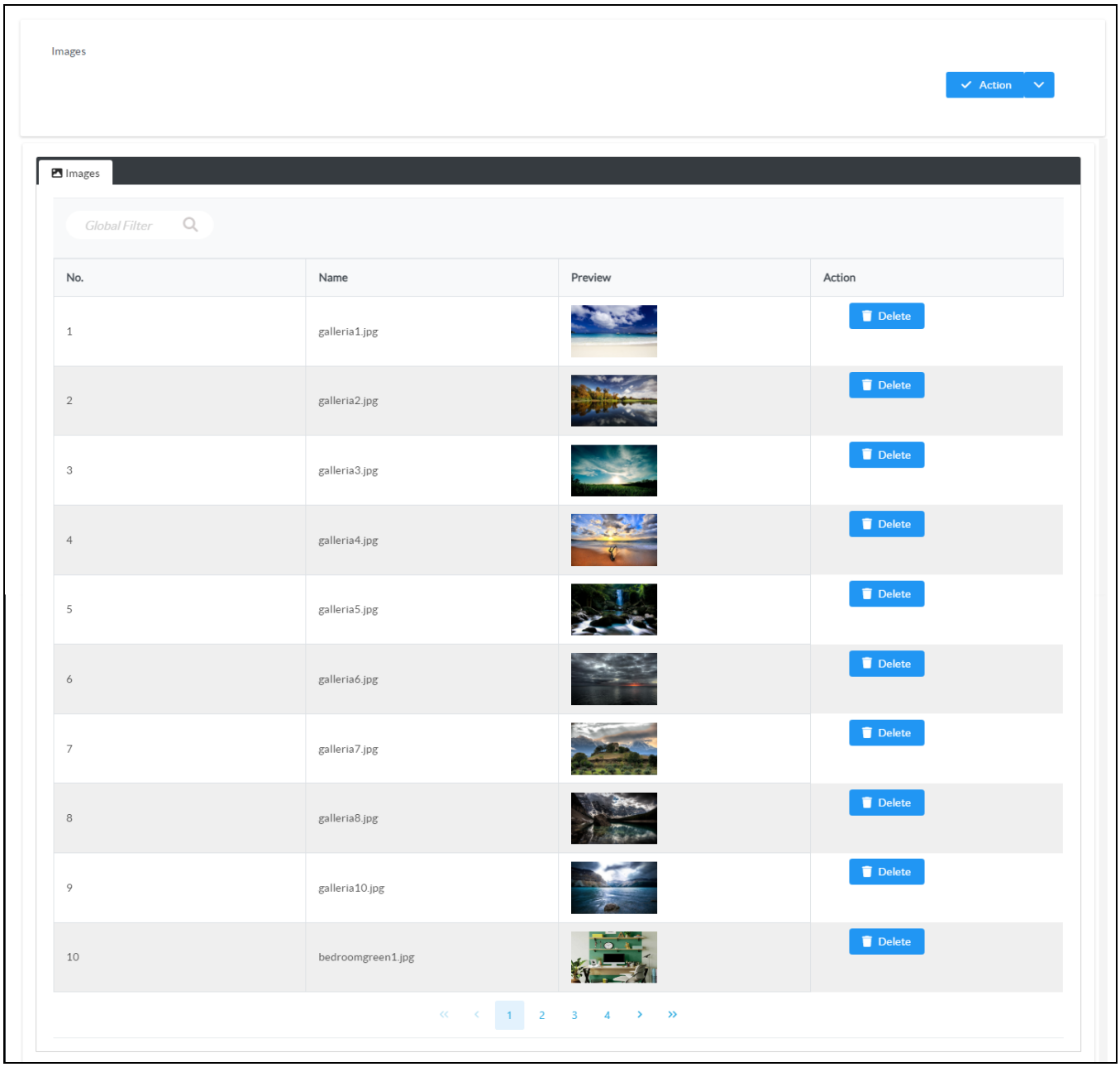


2. Navigate to the file within the User EDIDs table.
3. Select **Delete** from the corresponding table row. A dialog box is displayed confirming the deletion.
4. Select **Yes** to delete the file.

Manage Images

Select **Manage Images** from the **FILE LIBRARY** menu to display the Images page.

Images Page



Each loaded image file is represented in a table that provides the following information and controls. An **Action** drop-down menu is also provided in the top-right of the page that is used to add image files to XiO Cloud.

- **No.**: The image file number within XiO Cloud (determined by the upload order)
- **Name**: The image filename

- **Preview**: A thumbnail preview of the image file
- **Action**: Contains a **Delete** button that is used to delete the image file from XiO Cloud

Enter text in to the **Global Filter** text box to search for and display image files that match the search term(s).

If the table spans multiple pages, use the navigation arrows on the bottom of the page to move forward or backward through the pages, or select a page number to navigate to that page.

Add an Image File

Images can be added into XiO Cloud from a remote web server or from the local computer.

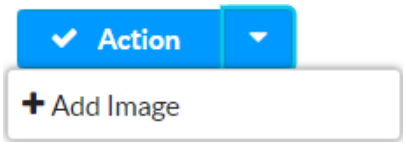
> **NOTE:** Only valid image files can be added. Other file types will be rejected.

Add an Image File from a Web Server

To add a custom image file to XiO Cloud from a remote web server:

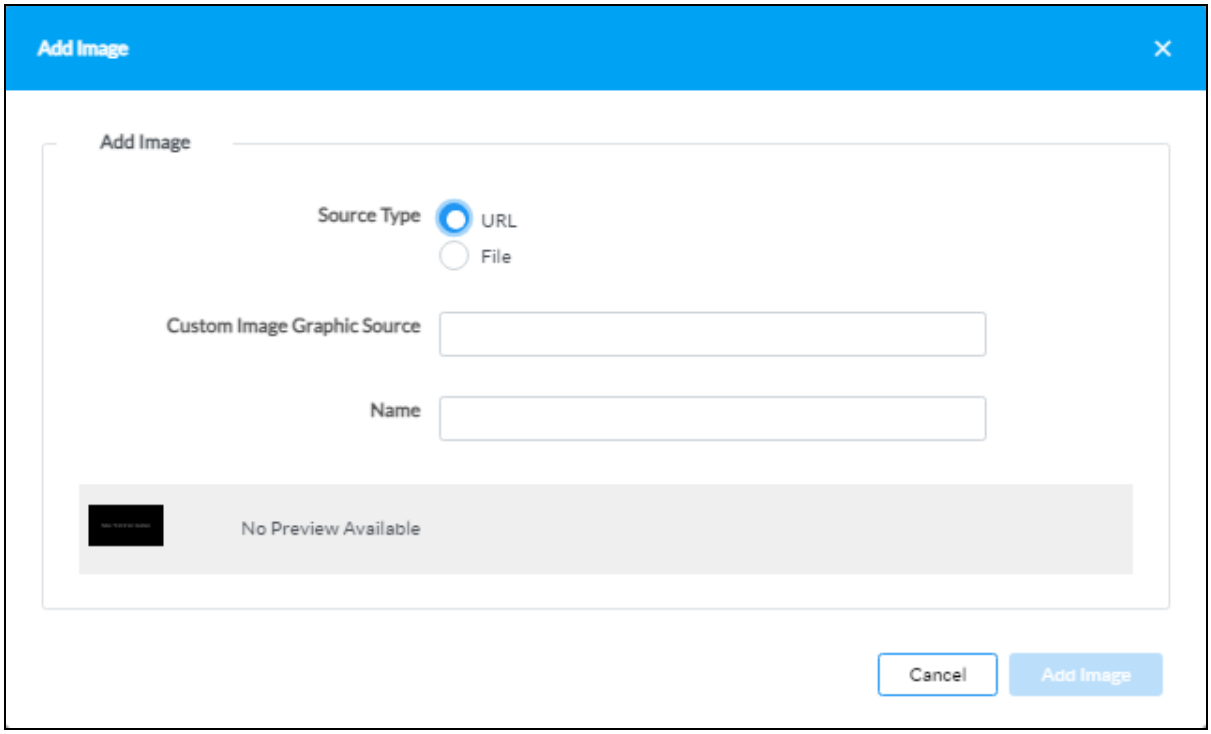
1. Select **Add Image** from the **Action** drop-down menu.

   Drop-Down Menu with Add Image Option

   The **Image File Upload** dialog box is displayed.

   Image File Upload Dialog Box

2. Select **URL** for **Source Type**.
3. Enter the full URL of the image file on the remote server in the **Custom Image Graphic Source** text field. The filename, file size, and a thumbnail preview of the image are shown after the image file is selected.
4. Enter a name for the image file that will be displayed in XiO Cloud in the **Name** text field.
5. Select **Add Image**. Toast notifications are displayed when the add process starts and completes.

> **NOTE:** Select the **x** button instead to discard the image file.

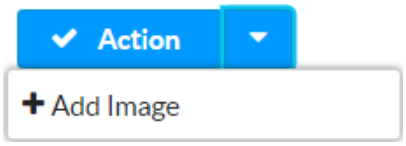
If the process is successful, the image file is added to the **Images** table.

Add a Local Image File

To add a custom image file to XiO Cloud from a remote web server:

1. Select **Add Image** from the **Action** drop-down menu.

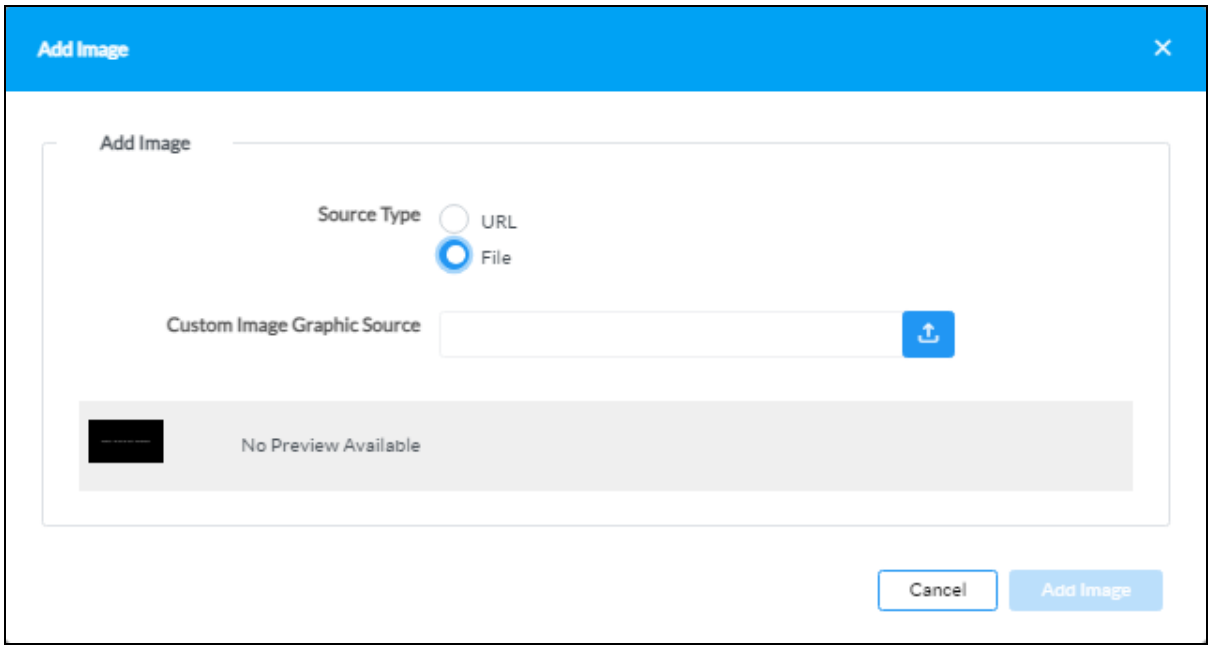
   Drop-Down Menu with Add Image Option

   The **Image File Upload** dialog box is displayed.

2. Select **File** for **Source Type**.

   Image File Upload Dialog Box - File Source Type

3. Select the upload button next to **Custom Image Graphic Source**, and then navigate to the image file on the computer.

4. Select the image file, and then select **Open**. The filename, file size, and a thumbnail preview of the image are shown after the image file is selected.
5. Select **Add Image**. Toast notifications are displayed when the add process starts and completes.

> **NOTE:** Select the **x** button instead to discard the image file.

Upon successful upload, the image file is added to the **Images** table.

Delete an Image File

To delete an image file from XiO Cloud:

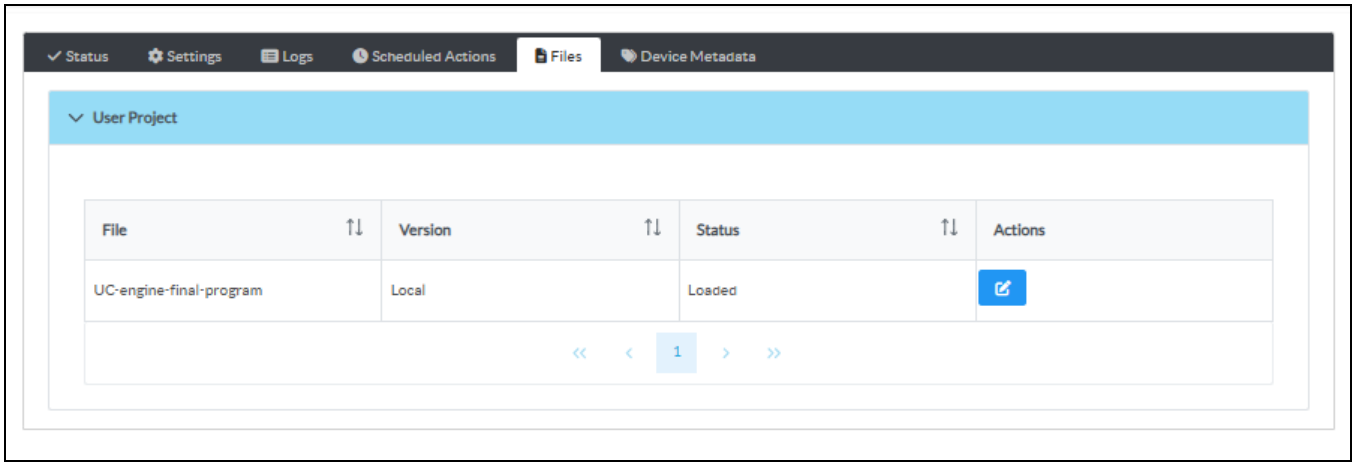
1. Navigate to the file within the Images table.
2. Select **Delete** from the corresponding table row. A dialog box is displayed confirming the deletion.
3. Select **Yes** to delete the file.

Load Files to Devices

Supported file types can be assigned to applicable devices in XiO Cloud after they have been loaded into the account. The **Files** section allows files to be assigned, managed, and controlled at the device or group level.

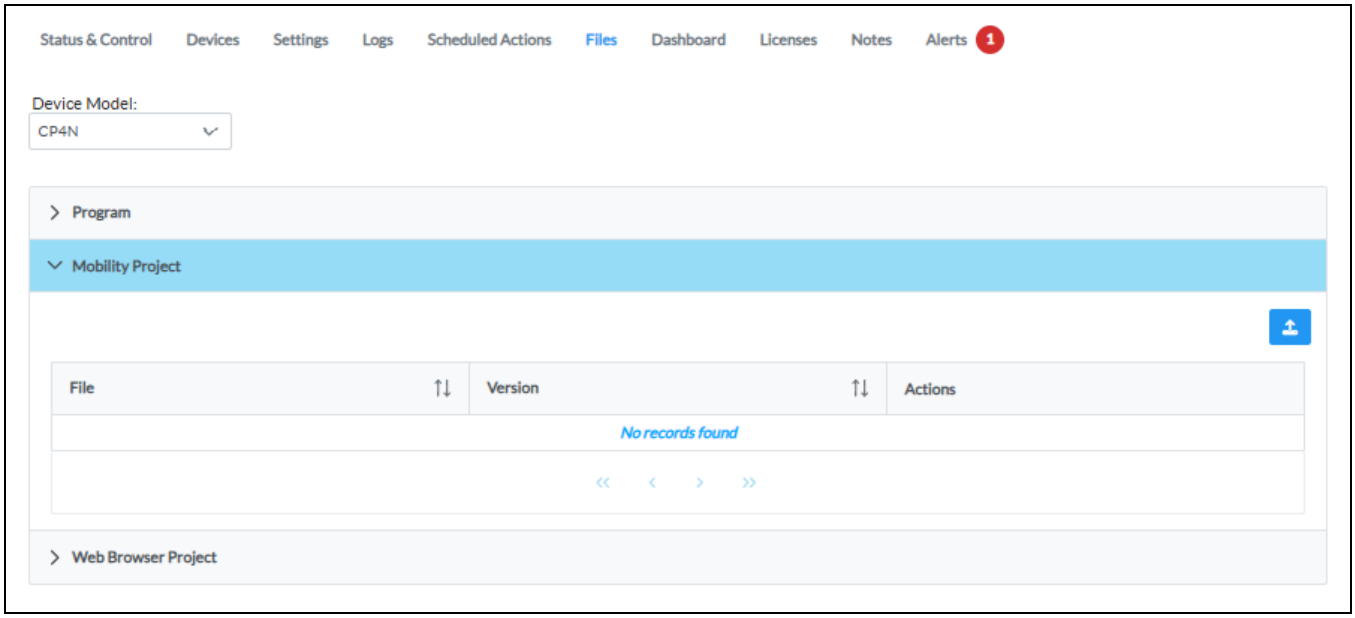
To manage files for a single device, select the **Files** tab on the device configuration page. Only devices that support XiO Cloud file types will have this tab available.

Device Configuration Page - Files Tab



Files can also be assigned at the room or group level for each supported device type. Each device of that type will inherit the files assigned at its parent group or room level.

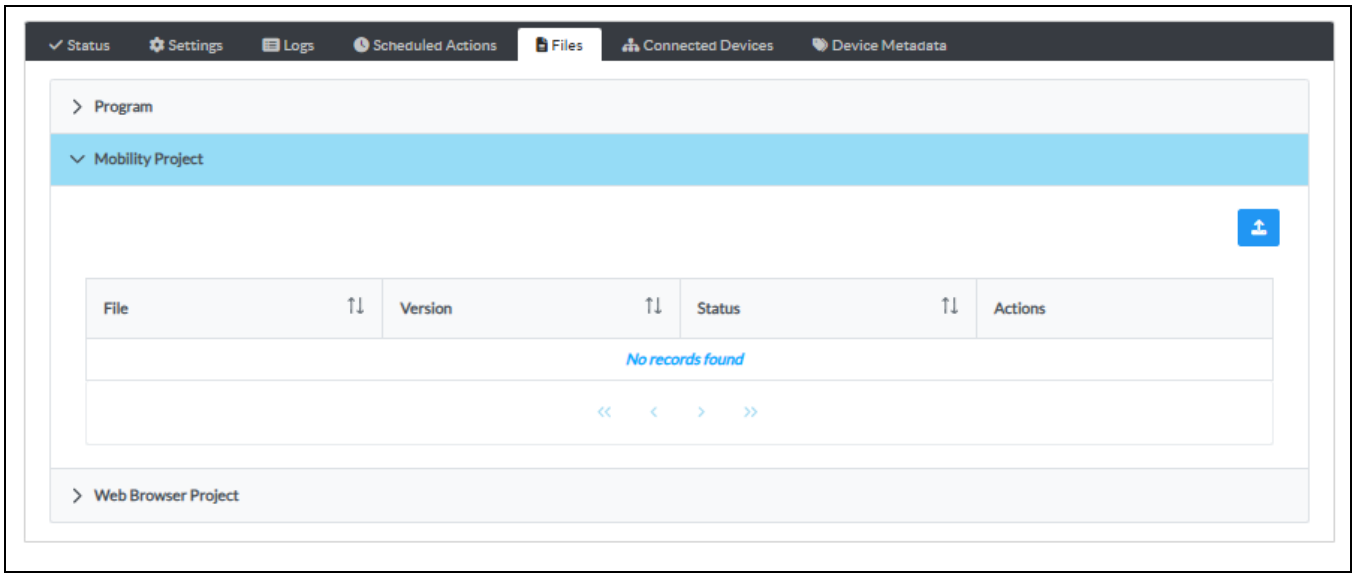
Room Configuration Page - Files Tab



Accordions are provided for each file type that is supported on the device. Each accordion provides different information and controls based on the file type.

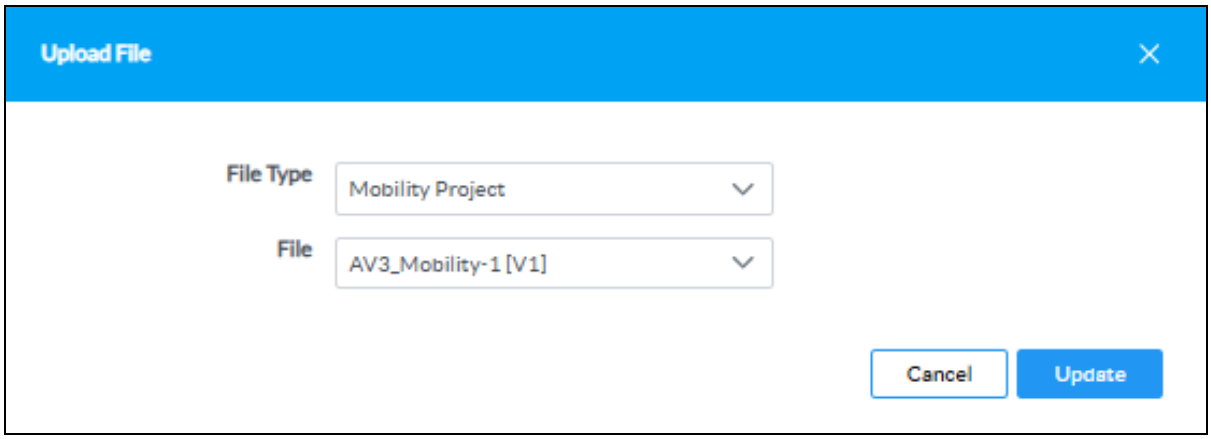
> **NOTE:** For information on loading and controlling custom programs, refer to Load a Program to a Control System on page 212.

Device Configuration Page - Files Tab (Mobility Project Accordion)



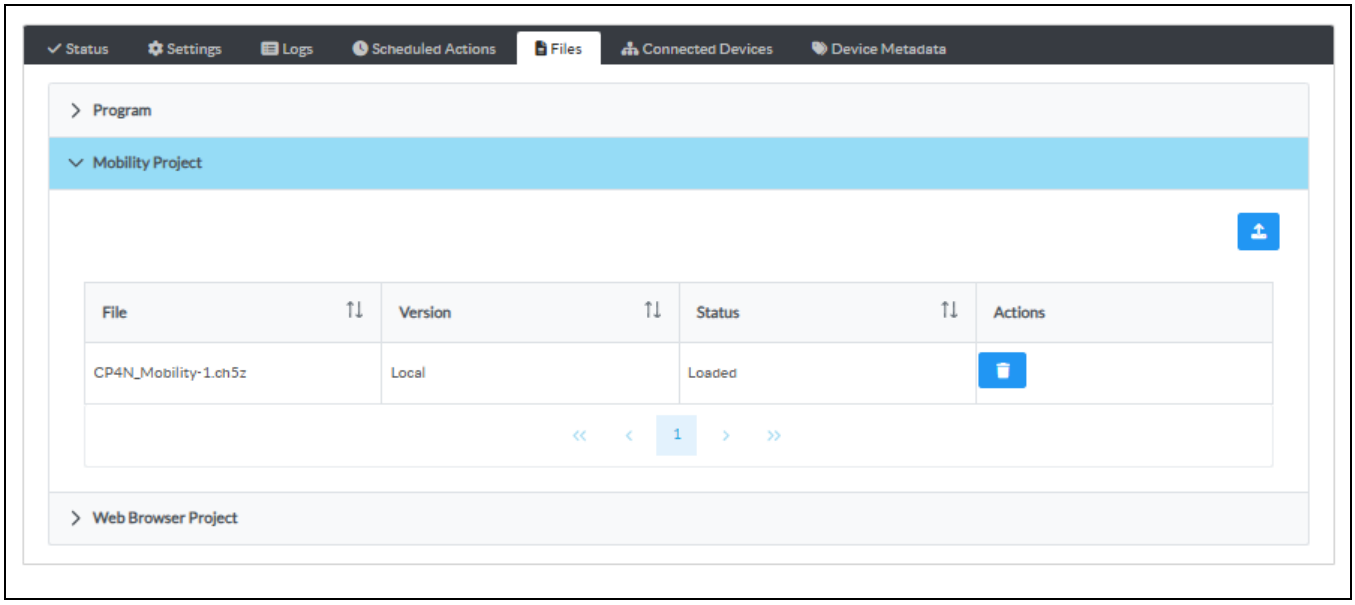
To assign a file to a device, select the load button within the applicable accordion. The **Upload File** dialog box is displayed.

Upload File Dialog Box



All files of the chosen type that have been loaded into XiO Cloud are displayed in the **File** drop-down menu. Choose the desired file, and then select **Update**. The file will be assigned to the device, and file details will be displayed in the accordion.

Device Configuration Page - Files Tab (with Loaded File)



Once a file has been assigned, select the edit button to make any changes to the file, or select the delete button to remove the file from the device.

Load a Program to a Control System

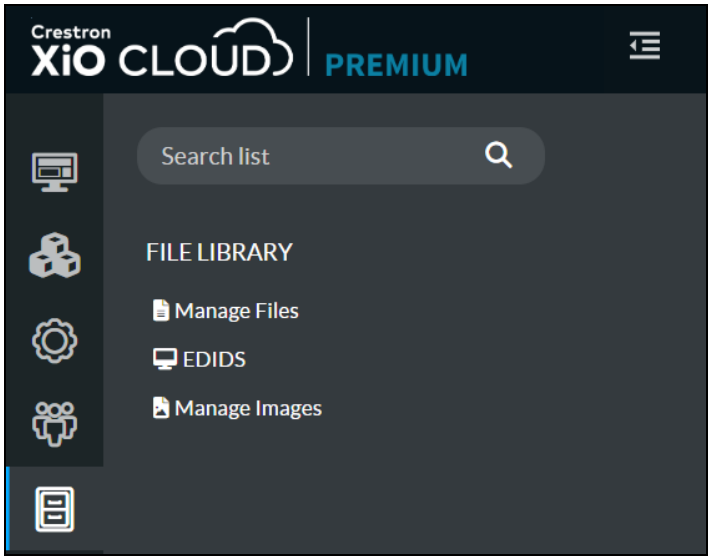
The XiO Cloud service provides controls for uploading a program file to a 3-Series® or 4-Series® control system. Once a program has been uploaded to the XiO Cloud environment, it may be pushed to any number of control systems that have been claimed by the service.

Upload a New Program

To upload a new program to the XiO Cloud environment:

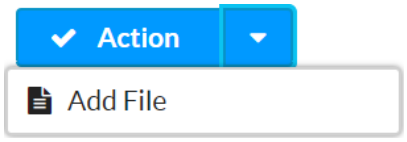
1. Select the **File Upload** button in the navigation menu to display the **FILE LIBRARY** menu.

   FILE LIBRARY Menu



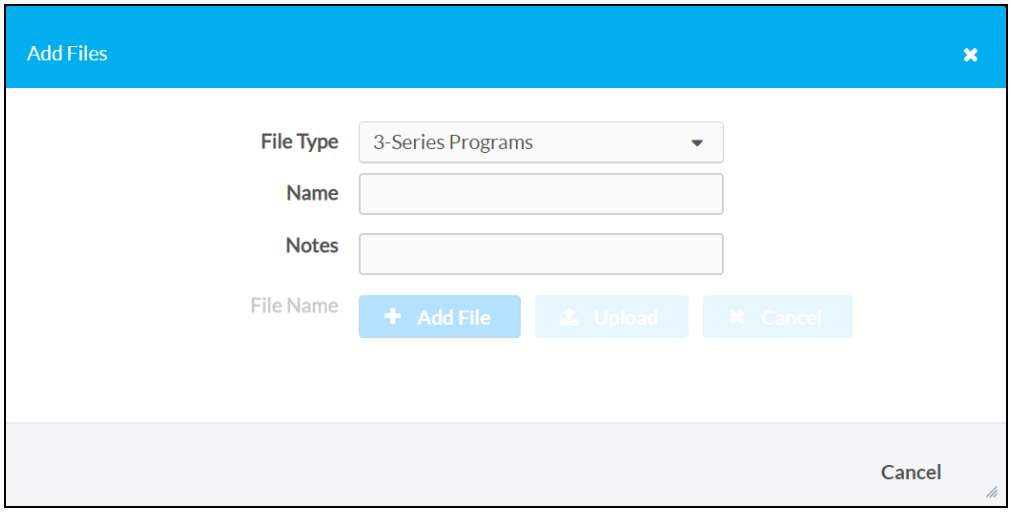
2. Select **Add File** from the **Action** drop-down menu.

   Drop-Down Menu with Add File Option



The **Add Files** dialog box is displayed.

Add Files Dialog Box

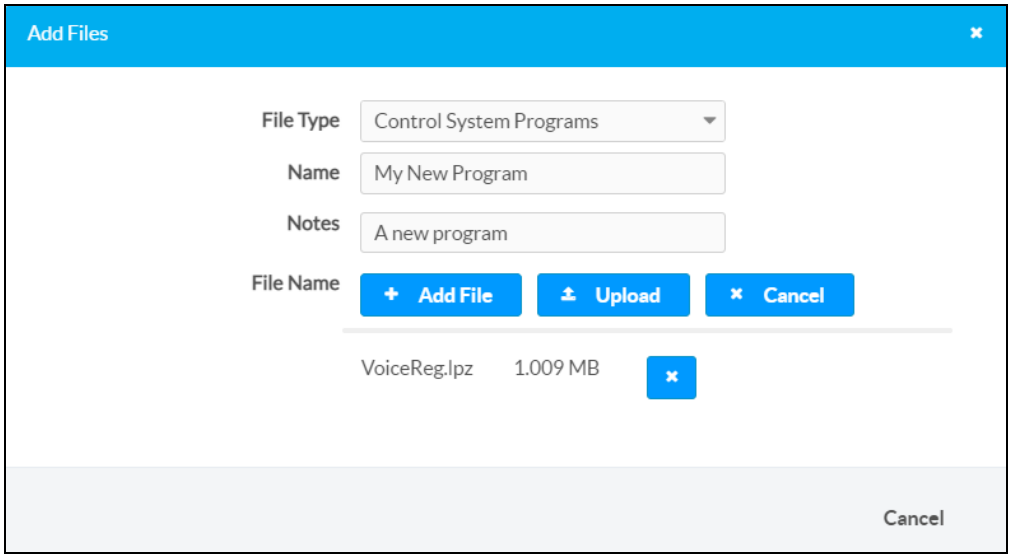


3. Enter the following information about the program:
    - **File Type**: Select **Control System Programs** from the drop-down menu
    - **Name**: Enter a name for the program.
    - **Notes**: Enter any notes about the program.

    Once the information above is entered, the **+ Add File** button can be selected.
4. Select **+ Add File**, and then navigate to the program file on a connected computer.
5. Select the program file, and then select **Open**. The filename and file size of the program is shown after the program is selected.

> **NOTE:** Select the **x** button to discard the program.

Add Files Dialog Box - Program Preview

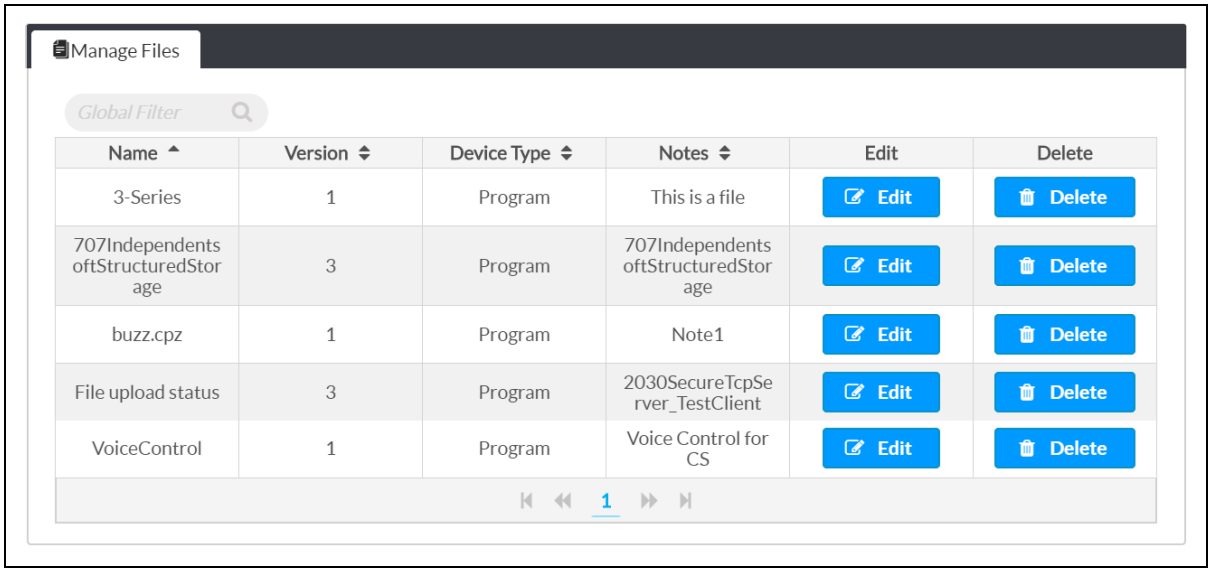


> **NOTE:** Only compiled programs may be uploaded. The program code must be compiled with a minimum version of the include4.dat file to ensure full compatibility with XiO Cloud. For more information, refer to the respective programming tool help file.

6. Select **Upload**. A window showing the status of the upload is displayed.

Upon successful upload, the program file is added to the **Manage Files** table on the right side of the screen.

Manage Files Table



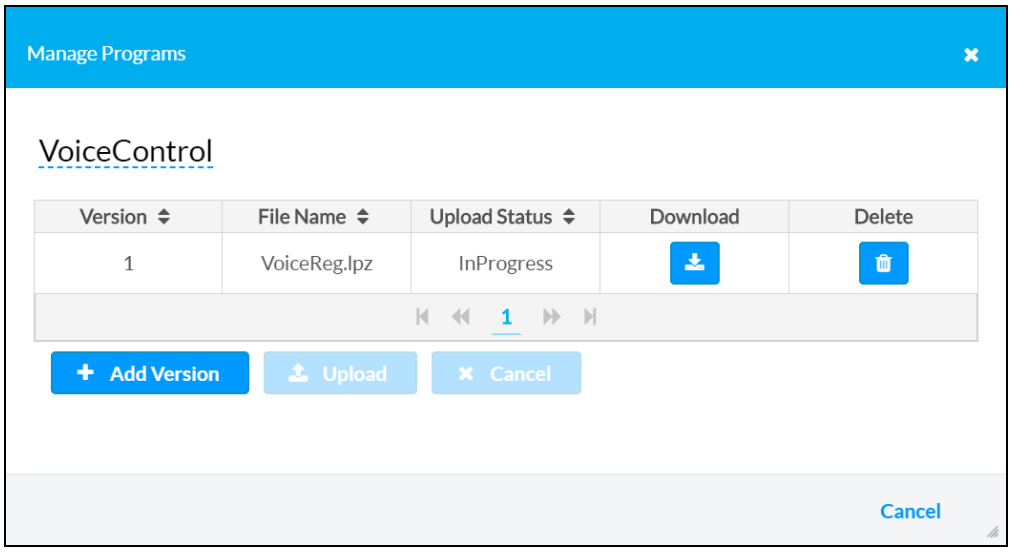
Manage Programs

Use the **Manage Files** table to manage program files after they have been uploaded to the XiO Cloud environment.

Edit a Program

Select **Edit** next to a program file to edit that program file. A **Manage Programs** dialog box is displayed.

Manage Programs Dialog Box



The **Manage Programs** dialog box provides the following information about the program in table format:

- The program version
- The program file name
- The status of the program upload
- Controls to download or delete the program file

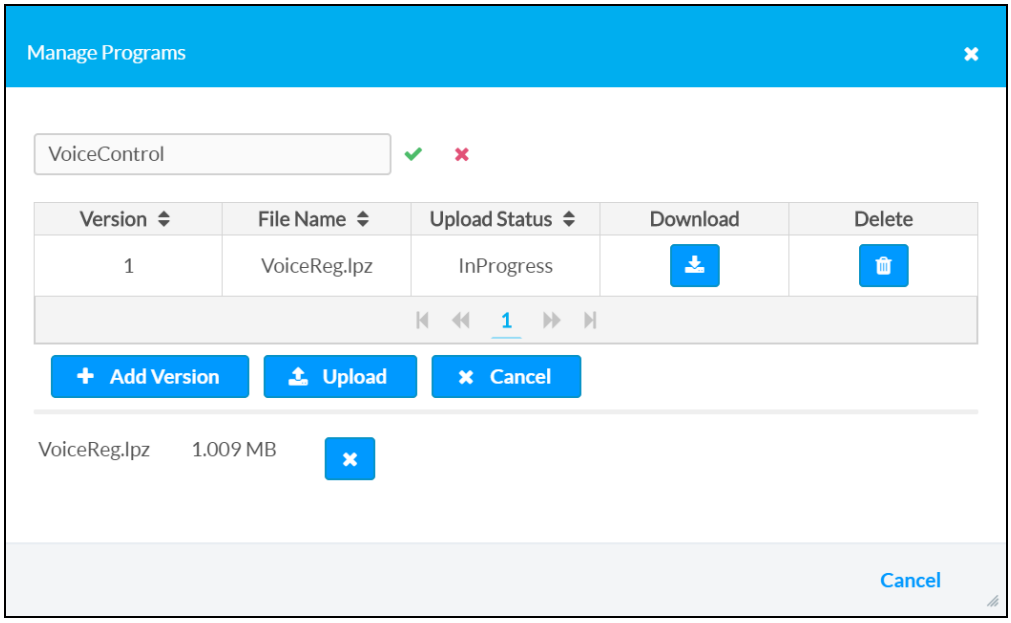
To edit the program name, select the program name in the top left corner of the dialog box. The program name becomes an editable text box. Select the green check icon or press **Enter** to save the new program name. Select the red **x** icon to discard the changes.

To add a new version of the program file:

1. Select **+ Add Version**, and then select an updated version of the program from the host computer.

   The file name and file size of the program is shown after the program is selected. Select the **x** button to discard the program.

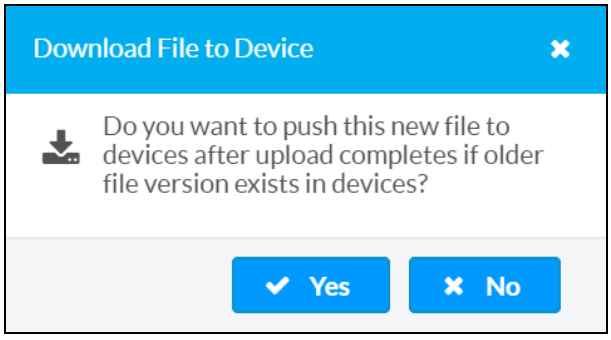
   Manage Programs Dialog Box - Program Preview



2. Select **Upload**.

   A message window is displayed asking whether the updated program file should be pushed to all devices running the older program file.

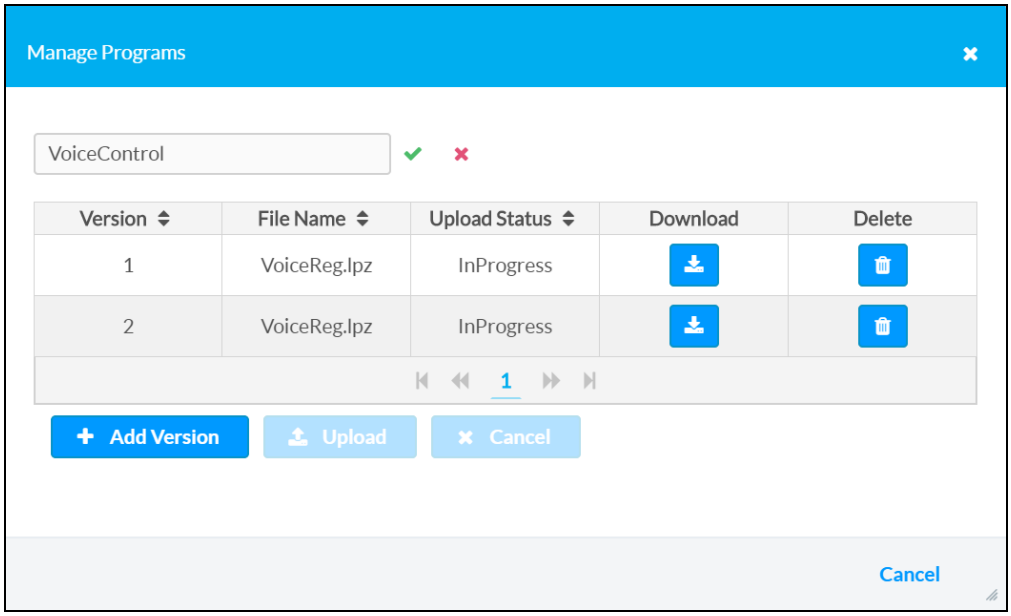
   Download File to Device Window



3. Select **Yes** to push the program file to all applicable devices, or select **No** to upload the file without pushing the program to the devices.

Upon successful upload, the new program file is added to the **Manage Programs** table with the latest iteration of the version number. All previous versions of the program file are retained in this table unless they are deleted manually.

Manage Programs Dialog Box - New Program Version Uploaded



Select the **x** button or **Cancel** to exit the **Manage Programs** dialog box.

Delete a Program

Select **Delete** next to a program file to delete that program file. A message window is displayed asking whether the program file should be deleted.

Select **Yes** to delete the program file or **No** to cancel the deletion.

> **NOTE:** If multiple versions of a program file have been uploaded, all program file versions will be deleted.

Load a Program to Device

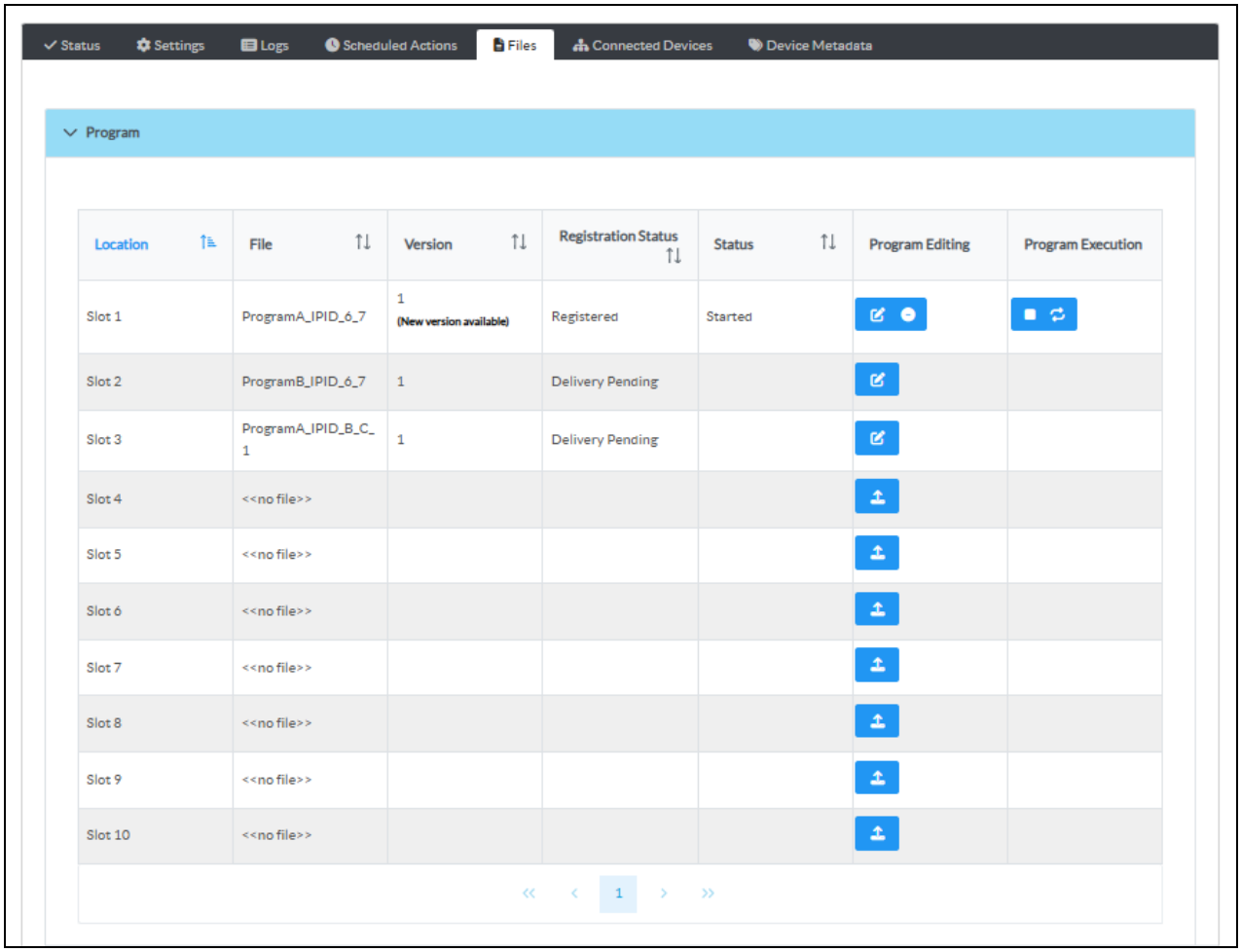
Once a program is uploaded to the XiO Cloud environment, it may be loaded to any number of claimed 3-Series or 4-Series control systems within the environment.

To load a program to a control system:

1. Select the **Groups** button on the left side of the screen.
2. Select the desired control system from the group tree to display its configuration page.

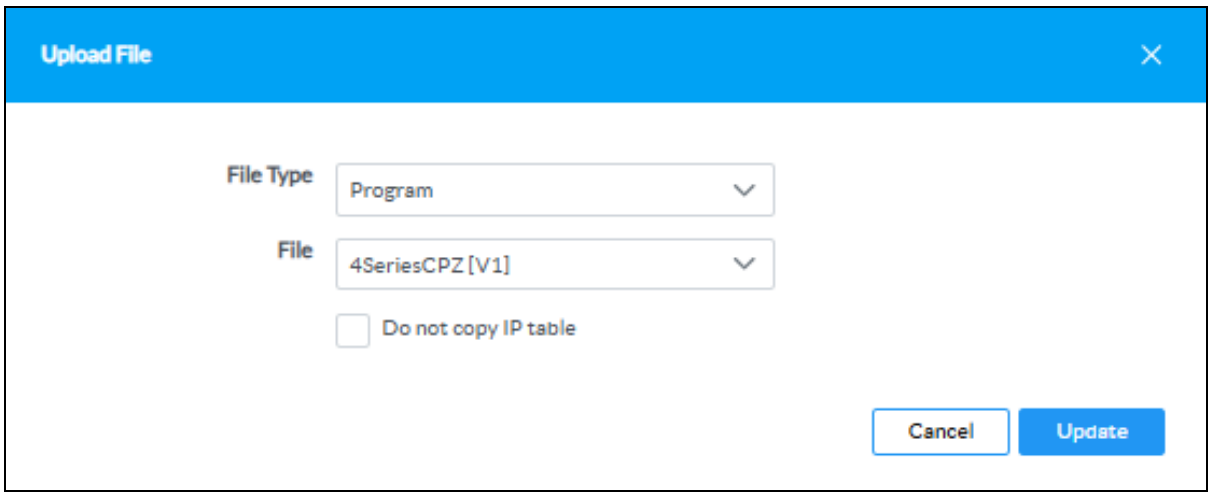
3. Select the **Files** tab. A table showing all of the device's program slots is displayed.

Files Tab



4. Select the load button to the right of the desired program slot. The **Upload File** dialog box is displayed.

Upload File Dialog Box

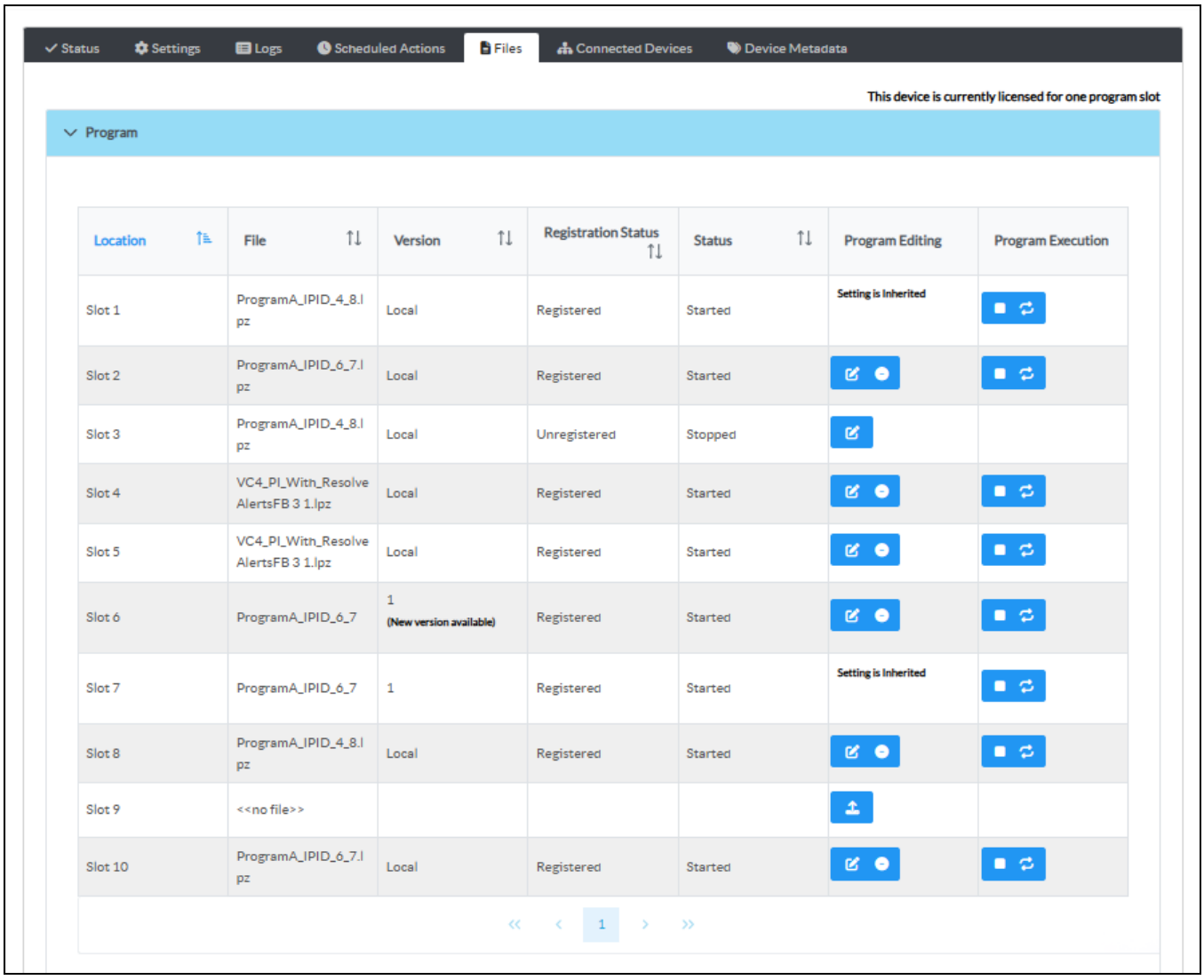


5. Enter the following information about the program file:
    - **File Type**: Select **Program** from the drop-down menu.
    - **File**: Select the desired program file from the drop-down menu. The program version is displayed to the left of the program file name.
    - If required, fill the **Do not copy IP table** check box to the prevent copying the program's IP table to the control system.
6. Select **Update**. The program file is pushed to the chosen program slot of the control system.

Manage a Loaded Program

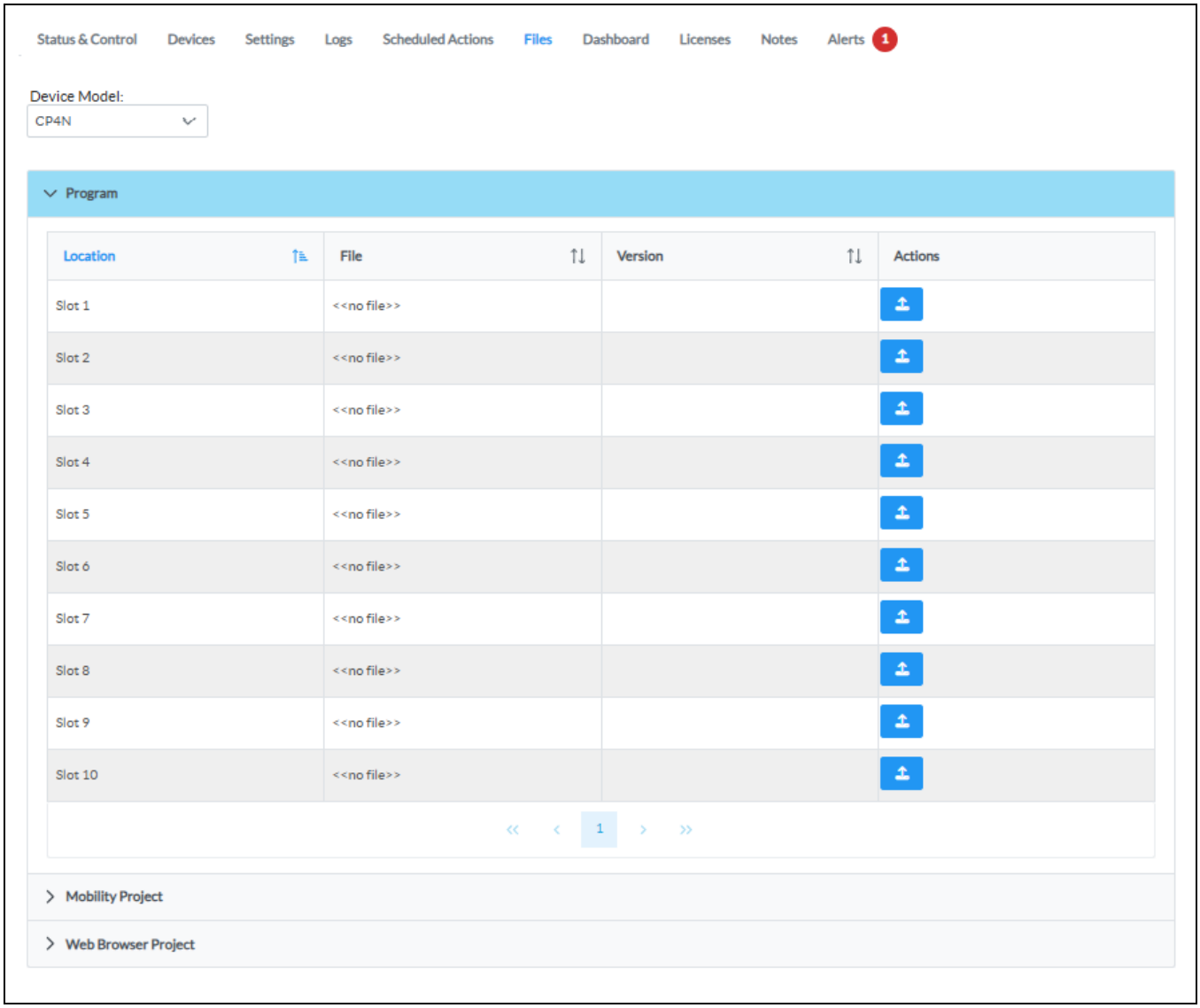
Use the **Files** table to manage program files after they have been loaded to a 3-Series or 4-Series control system.

Device Configuration Page - Files Tab



Program files can also be assigned at the room or group level for each supported device type. Each device of that type will inherit the files assigned at its parent group or room level.

Room Configuration Page - Files Tab



The **Files** table displays the following information for each program slot:

- **Location**: The program slot of the control system
- **File**: The name of the program file loaded to the control system
- **Version**: The program file version

  > **NOTE:** The **Version** column for a loaded program will also note if a newer version of the program was loaded to XiO Cloud but has not yet been loaded to the device.

- **Status**: The registration status of the program file

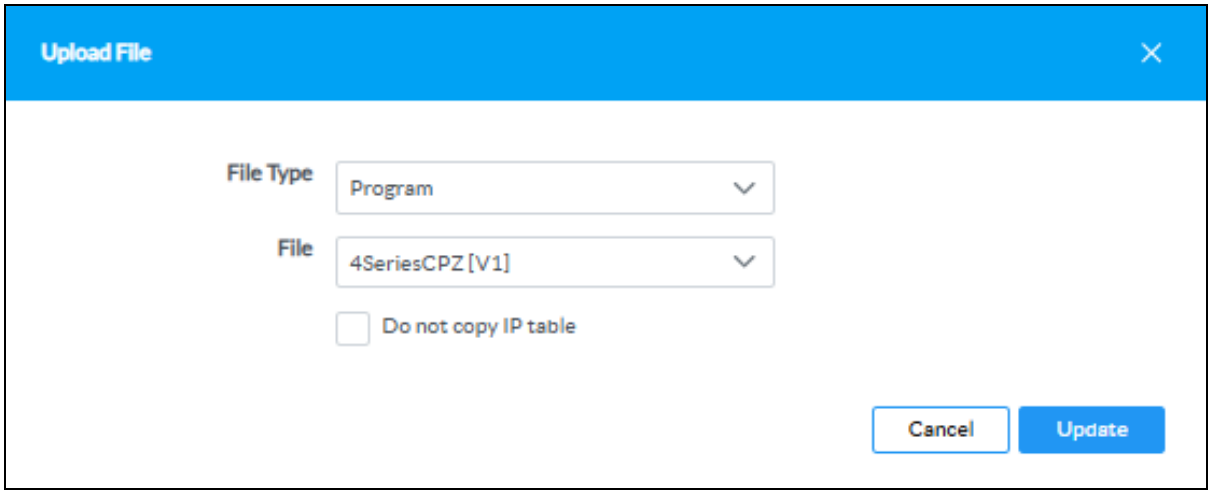
- **Program Editing**: Controls to load a program file to the program slot or to edit a loaded program
- **Program Execution**: Controls to manipulate a loaded program

Edit a Loaded Program

Select the edit button next to a loaded program file in the **Program Editing** column to edit the program file.

The **Upload File** dialog box is displayed.

Upload File Dialog Box



The following program file information may be edited:

- **File Type**: Use the drop-down menu to select the file type (**Program**)
- **File**: Use the drop-down menu to select a program file to load to the program slot.
- If required, fill the **Do not copy IP table** check box to the prevent copying the program's IP table to the control system.

Once all changes have been made, select **Update**. The updated program file is pushed to the chosen program slot of the control system. Select **Cancel** to cancel any changes.

Unregister a Loaded Program

Select the unregister button next to a loaded program in the **Actions** column to unregister a program from the control system. A toast notification is displayed stating that the program unregister command has been sent to the control system, and that there may be a small delay before the program is unregistered.

Start/Stop/Restart a Loaded Program

Select the play button next to a loaded program file in the **Program Execution** column to start the program file. A toast notification is displayed stating that the program start command has been sent to the control system, and that there may be a small delay before the program starts.

If a program is running, select the stop button  in the **Program Execution** column to stop the program. A toast notification is displayed stating that the program stop command has been sent to the control system, and that there may be a small delay before the program stops.

Additionally, select the restart button  in the **Program Execution** column to restart the program. A toast notification is displayed stating that the program restart command has been sent to the control system, and that there may be a small delay before the program restarts.

Remote Control

Remote control functionality allows the display of a supported user control device (such as TSW-60, TS/TSW-70, and TS/TSW-80(-UC) series touch screens and Crestron Mercury® video conference systems series) to be viewed and controlled within XiO Cloud. Users can control the user interface directly by clicking on the virtual display, which mirrors the touch controls on the physical device.

Remote control functionality supports any programs that can run on the user control device, including custom user projects, Crestron scheduling, and partner applications. Users also have full control of the capacitive hard buttons on the user interface (if present).

> **NOTE:** Remote control requires an XiO Cloud Premium subscription.

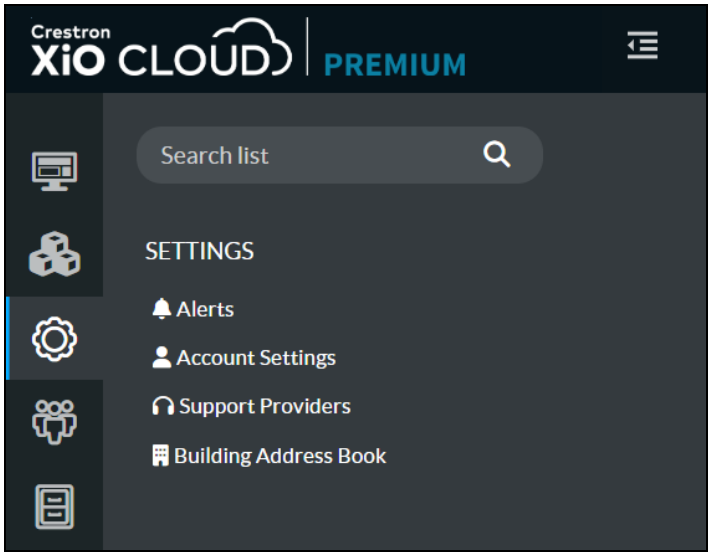
Enable Remote Control

A global administrator must enable remote control for the XiO Cloud account before users can access the functionality.

To enable remote control for an account:

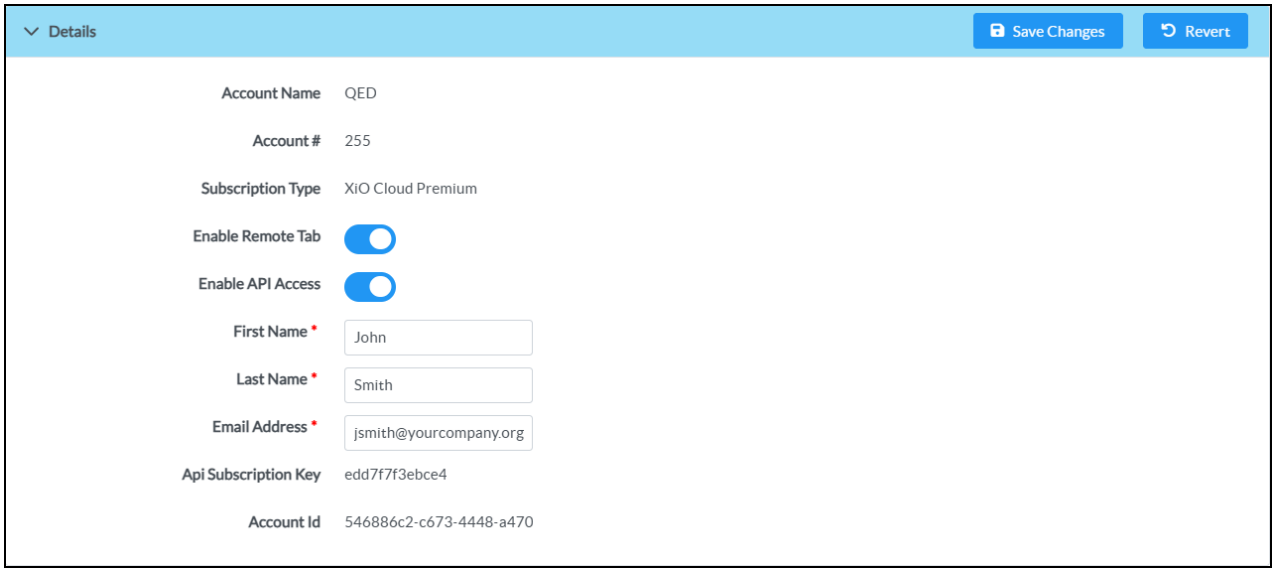
1. Select the gear icon on the left side of the screen.
2. Select **Account Settings**.

SETTINGS Menu



3. Within the **Profile** tab, expand the **Details** accordion, and the turn on the **Enable Remote Tab** toggle.

   Profile Tab - Details Accordion



4. Tap **Save Changes** on the top right of the accordion.

Request Remote Control Access

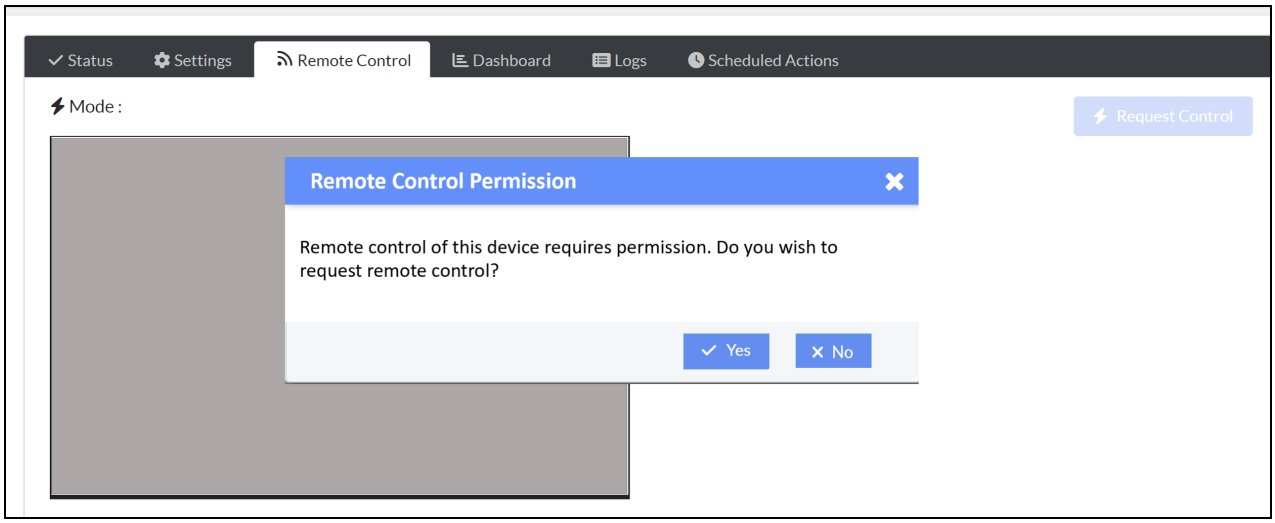
Certain device families (such as Crestron Flex phones) require a local user to approve the remote control request before access is granted. The following sections describe the procedures and work flows associated with requesting remote control access.

Initiate a Request

To initiate a remote control request from XiO Cloud:

1. Navigate to the user control device that supports remote control functionality.
2. Select the **Remote Control** tab on the right side of the screen. A **Remote Control Permission** dialog box is displayed.

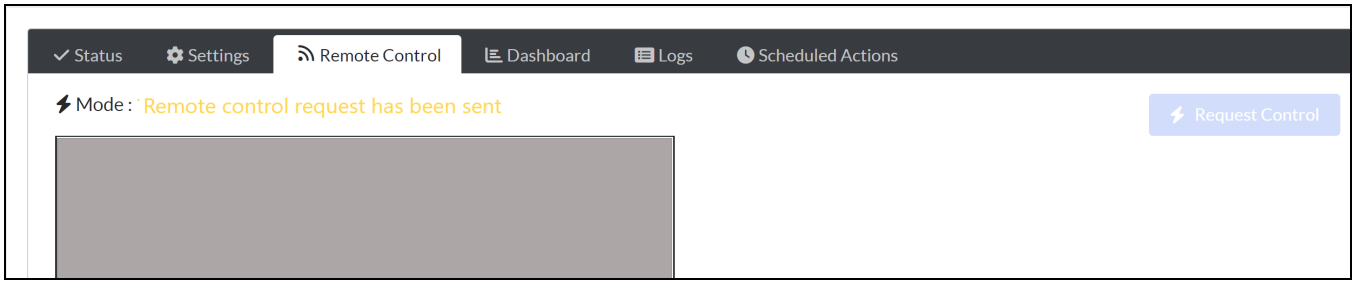
   Remote Control Permission Dialog Box



3. Select **Yes** to initiate the remote control request. Selecting **No** closes the dialog box without sending the request, and the user must navigate back to the **Remote Control** tab to display the dialog box again.

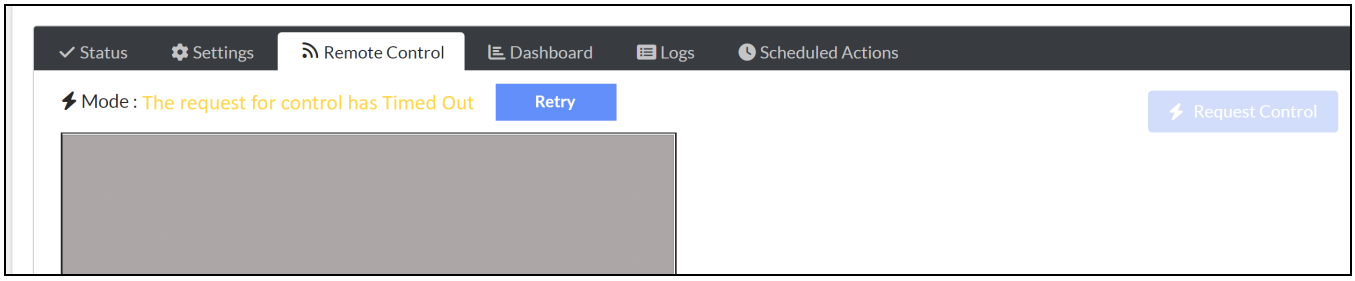
After initiating the request, the **Mode** status changes to **Remote control request has been sent**. The remote user must wait until a local user accepts or denies the request as described in Accept or Decline the Request on page 226.

Remote control request has been sent Mode



If a local user does not respond to the remote request within 30 seconds, the **Mode** status changes to **The request for control has Timed Out**, and a **Retry** button is displayed next to the **Mode**. Select **Retry** to resend the remote control request. There is no limit to the number of retries that can be sent.

The request for control has Timed Out Mode

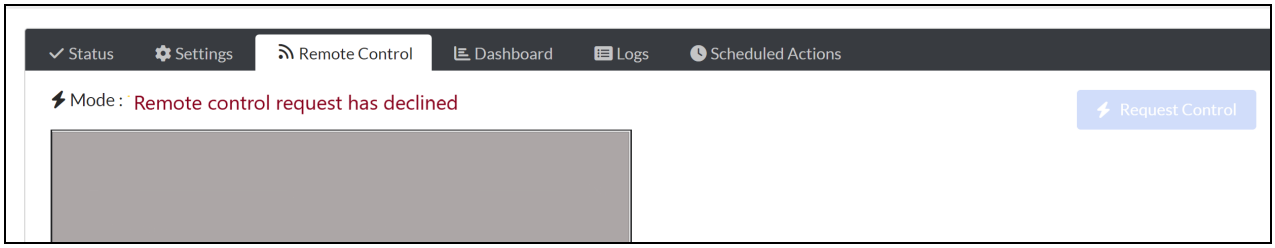


Accept or Decline the Request

After a remote control request is initiated, the user control device prompts a local user to accept or decline the request via a pop-up window.

- If the local user accepts the request, the **Mode** status changes to **View**, and the **Request Control** button can be selected. Refer to View a User Interface on page 227 and Control a User Interface on page 228 for more information.
- If the local user declines the request, the **Mode** status changes to **Remote control request has declined**, and no remote control functionality is provided. The remote user can retry the remote control request as described in Initiate a Request on page 225.

  Remote control request has declined Mode



End a Remote Control Session

The local user can end an active remote control session at any time by selecting **End Remote Support Session** on the user control device. The **Mode** status within XiO Cloud changes to **Remote control Session has ended**, and remote control functionality is no longer provided.

A remote control session times out after one hour. At that time, the local user is prompted to continue or end the session via a pop-up window on the user control device.

- If the local user selects **Continue**, the remote session continues without any interruption.
- If the local user selects **End**, the **Mode** status within XiO Cloud changes to **Remote control Session has ended**, and remote control functionality is no longer provided.
- If the local user does not respond to the prompt, the remote session times out and remote control functionality is no longer provided.

View a User Interface

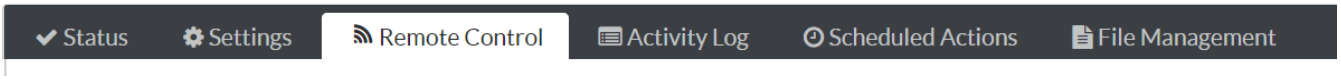
Users can view a connected user interface once remote control is enabled for the XiO Cloud account.

> **NOTE:** To access user control devices within a group, users must have **Tech** access or above.

To view a connected user interface:

1. Navigate to the user control device that supports remote control functionality.
2. Select the **Remote Control** tab on the right side of the screen.
3. If prompted, initiate a remote control request as described in Request Remote Control Access on page 224.

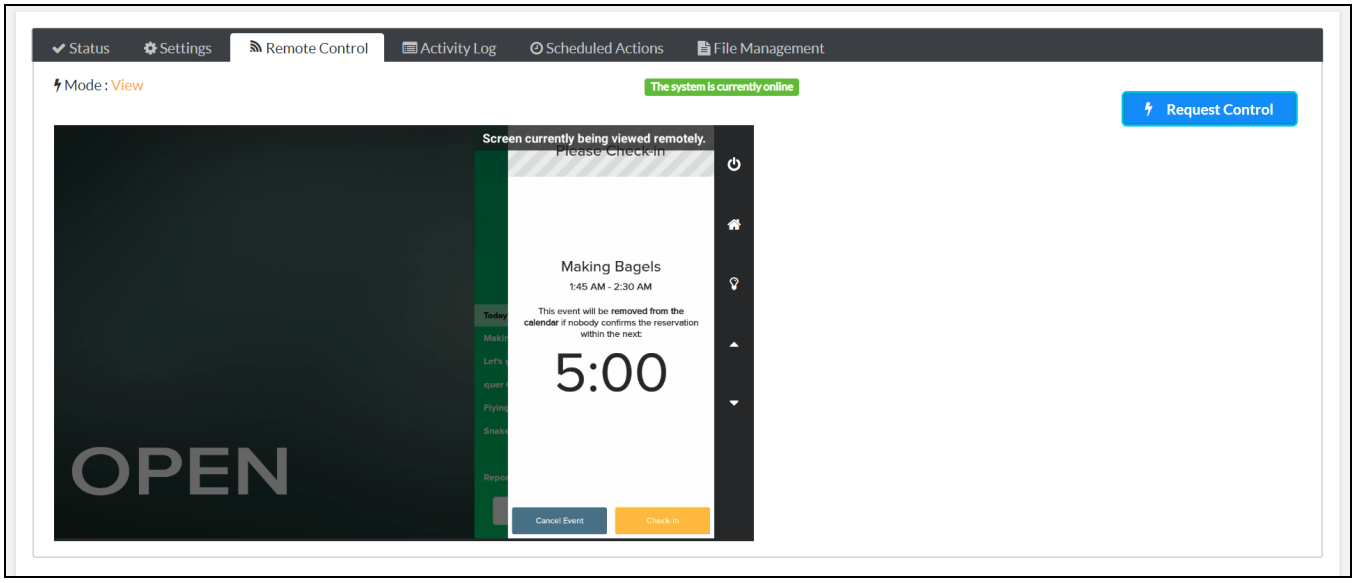
Remote Control Tab



> **NOTES:**
>
> - Remote control is available only on the device level.
> - The **Remote Control** tab is shown only if the user control device has been upgraded to a firmware version that supports this functionality. The device firmware can be updated directly through XiO Cloud if necessary.

The content that is currently displayed on the user interface is shown as an image in the **Remote Control** tab.

Remote Control Tab – User Interface (View Mode)



By default, the user interface is placed in **View** mode, which is indicated in the top left of the screen.

- The image of the remote user interface is updated approximately every five seconds.
- If the remote user interface is viewed for 15 minutes without any other activity occurring on the page, the image stops updating automatically. Refresh the page in the browser to resume viewing the user interface in real time.

Control a User Interface

To take control of a user interface:

1. Navigate to the user control device that supports remote control functionality.
2. Select the **Remote Control** tab on the right side of the screen.
3. If prompted, initiate a remote control request as described in Request Remote Control Access on page 224.
4. Select **Request Control** on the top right of the screen.

> **NOTE:** Only one user can control a remote user interface at any time. If another user requests control, the current user controlling the display is placed back in **View** mode. Users controlling the physical user interface are not affected by remote usage.

Within a few seconds, the mode switches from **View** to **Control**, and the **Request Control** button changes to a **Release Control** button.

While in **Control** mode, select anywhere on the virtual user interface, including capacitive hard buttons (if present), to send a virtual touch command to the device.

> **NOTE:** If the user control device is in standby mode, a black screen is displayed. Click the remote screen once to wake the user control device. Normal control can resume once the image updates to show the remote user interface.

To stop controlling the user control device, select **Release Control**. The user control device, returns to **View** mode.

Privacy Considerations

Remote control functionality was designed with privacy considerations in mind.

- The remote control functionality must be enabled by a Global Administrator before it can be used.
- To access user interfaces within a group, users must have **Tech** access or above.
- Whenever a user is viewing or controlling the user interface remotely, a "Screen currently being viewed remotely" message is displayed on the physical device.
- The activity log is updated to record whenever a user starts and stops viewing or controlling a user interface.

- Remote control access can be disabled entirely on a user interface by issuing the `REMOTECONTOL DISABLE` console command in Crestron Toolbox™ software.
- No images from the user interface are stored on Crestron servers longer than is necessary to display them, and no images are accessible by Crestron staff.

Enable API Access

Users with Global Administrator permissions can enable the XiO Cloud REST API functionality directly from the XiO Cloud portal.

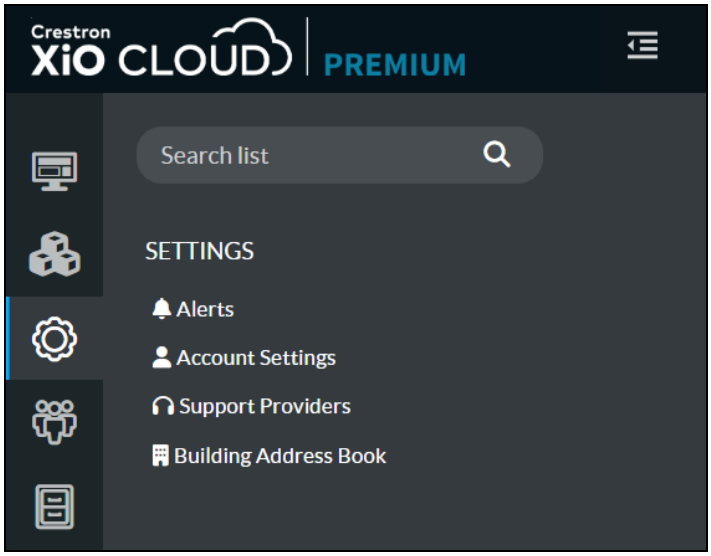
The XiO Cloud REST API binds to the XiO Cloud server as a new transport interface (much like a direct transport interface or a serial join interface). The REST API layer provides a translation from the XiO Cloud server. Web server requests are stateless, and all stateful information is maintained between the XiO Cloud REST API layer and account, group, and device data. For more information, refer to the XiO Cloud Service API microsite at https://developer.crestron.com.

> **NOTE:** Certain API functions (including claiming third-party devices and viewing current and historical data for devices, rooms, and desks) require an XiO Cloud Premium subscription.

To enable API access from the portal:

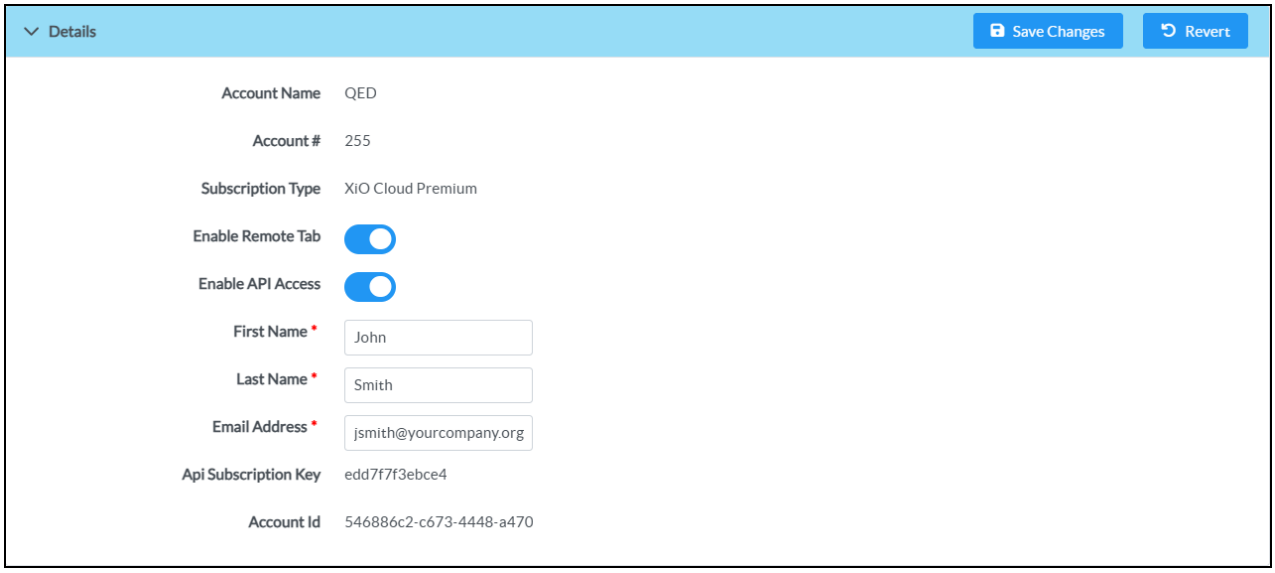
1. Select the gear icon on the left side of the screen.
2. Select **Account Settings**.

SETTINGS Menu



3. Within the **Profile** tab on the right side of the screen, expand the **Details** accordion, and then turn on the **Enable API Access** toggle.

   Profile Tab - Details Accordion



4. Enter the administrator's name and email address in the appropriate text fields.
5. Tap **Save Changes** on the top right of the accordion. An API authentication key is displayed next to **Api Subscription Key**.

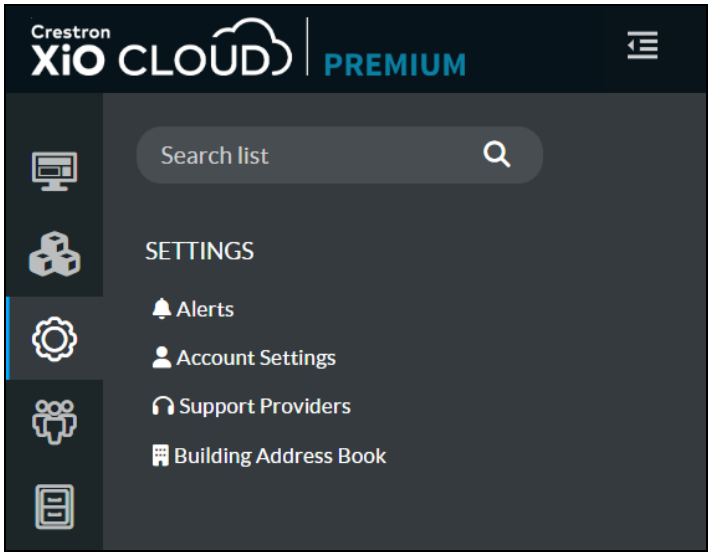
Manage Support Providers

The **Support Providers** feature allows customers to grant account access to Authorized Resellers and Crestron Service Providers (together, Authorized Support Providers). Once a support provider is granted access, the provider can view and manage the account as specified by the Global Administrator in the customer account. Customers can revoke a support provider's access to their account at any time.

> **NOTE:** Support providers must create an XiO Cloud Management Portal account to access customer accounts as described in the XiO Cloud Management Portal User Guide. Once the customer grants a support provider access to their account, portal account users that have been authorized to access the account will be added automatically as **Standard Users** with **Viewer** permissions. These permissions can be elevated by the customer Global Administrator as described in Manage User Access on page 138.

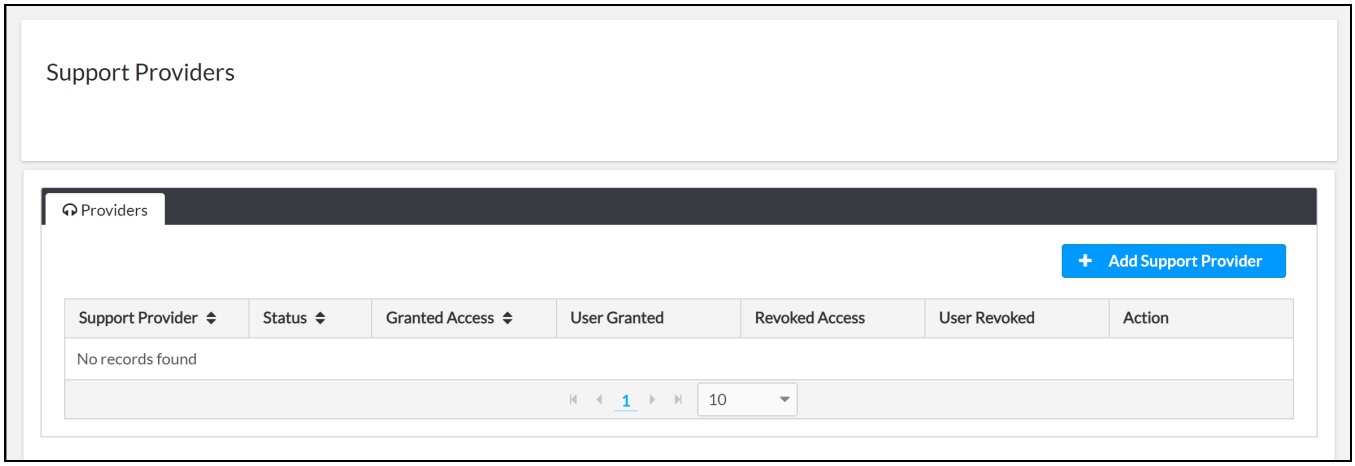
The **SETTINGS** menu for managing support providers is located in the user management panel, which may be accessed by clicking the **Settings** button in the navigation menu.

Settings – Support Providers Option



Select **Support Providers** in the **SETTINGS** menu. A **Support Providers** page is displayed to the right of the **SETTINGS** menu.

Support Providers Page



Support providers are organized by name and displayed within a table. Support provider access can be granted or revoked using the functions in this page.

Add a Support Provider

To add a new support provider to the customer account:

1. Select **+ Add Support Provider** at the top right of the page. The **Add Support Provider** dialog box is displayed.

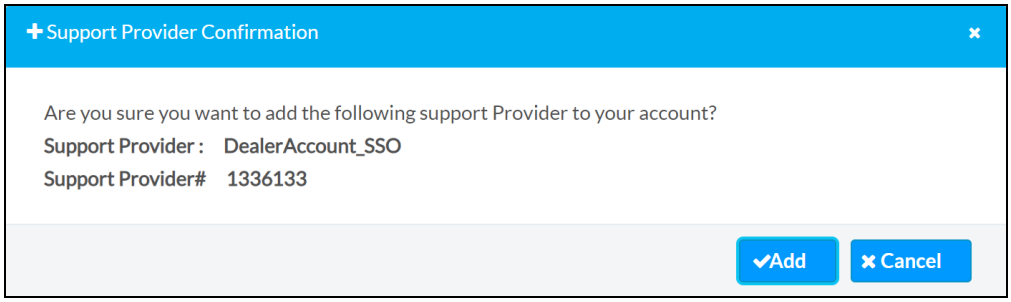
   Add Support Provider Dialog Box

2. Enter a valid seven-digit support provider ID into the **Support Provider#** text field. This number will be provided by your Authorized Support Provider.

3. Select **Add**. A **Support Provider Confirmation** dialog box is displayed to confirm whether the support provider should be added.

Support Provider Confirmation Dialog Box

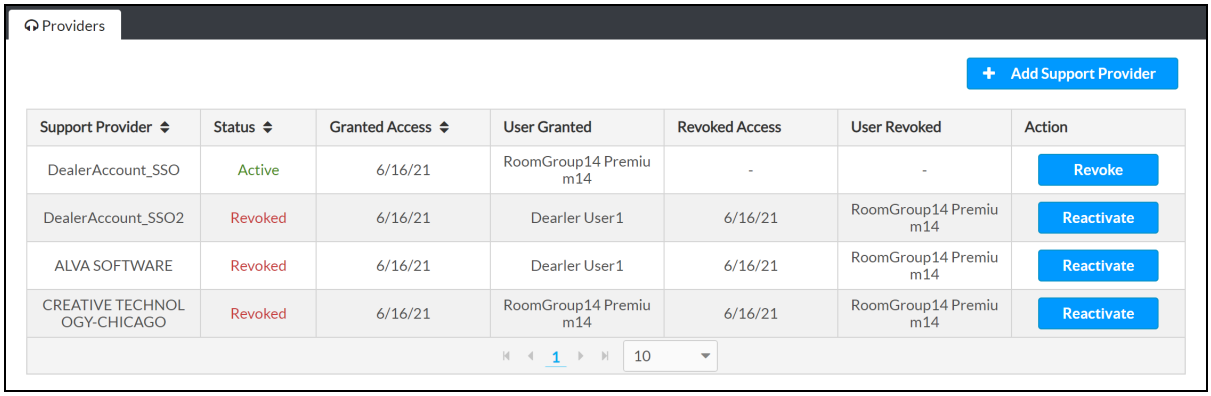


4. Select **Add**. The support provider is added to the table within the **Support Providers** page.

Manage Support Providers

Once support providers have been added as described in Add a Support Provider on page 233, they can be managed using the provided table.

Support Providers Table



If the support provider table spans multiple pages, use the navigation arrows on the bottom of the page to move forward or backward through the pages, or select a page number to navigate to that page. Certain columns also provide arrow controls in the heading row that sorts the table by the data in those columns.

The following information and controls are provided for each listed room:

- **Support Provider**: The name of the Authorized Support Provider account.
- **Status**: The status of the Authorized Support Provider account within the customer account.
  - **Active**: Indicates that the Authorized Support Provider is currently authorized to access the customer account.
  - **Revoked**: Indicates that access to the customer account for the Authorized Support Provider has been revoked.
- **Granted Access**: The date when the Authorized Support Provider was granted access to the customer account.

- **User Granted**: The customer account user that granted account access to the Authorized Support Provider.
- **Revoked Access**: The date when the Authorized Support Provider's access to the customer account was revoked (if applicable).
- **User Revoked**: The customer account user that revoked account access from the Authorized Support Provider.
- **Action**: Provides an action button based on the Authorized Support Provider account status:
- **Revoke**: If the Authorized Support Provider has been granted access to the customer account, select **Revoke** to revoke their access to the customer account.
- **Reactivate**: If the Authorized Support Provider's customer account access has been revoked, select **Reactivate** to reactive their access to the customer account.

FAQs

This topic provides answers to frequently asked questions regarding the XiO Cloud service.

What is the XiO Cloud service?

The XiO Cloud service is a device management software as a service (SaaS). The XiO Cloud service allows all supported Crestron devices and certain supported third-party devices across an enterprise to be managed and configured from one central, secure location in the cloud. The XiO Cloud service may be used to view the status of a device, to configure various device and network settings, to manage licenses, and to update device firmware. After enrolling in the service, the XiO Cloud portal can be accessed at portal.crestron.io.

> **NOTE:** Third-party device support requires an XiO Cloud Premium subscription.

For more details and additional resources, refer to https://www.crestron.com/xiocloud.

What devices are supported by the XiO Cloud service?

For a list of supported Crestron devices, refer to the **Specifications** tab on any of the XiO Cloud product pages at www.crestron.com.

What minimum device firmware versions are required to connect to the XiO Cloud service?

The following table provides minimum firmware versions that must be running on a supported device in order for the device to connect to the XiO Cloud service.

> **NOTE:** If a supported device is not listed in the table below, then it does not have a minimum firmware version that is required to connect to the XiO Cloud service.

Model(s)	Firmware Versions
AV3, CP3, CP3N, DIN-AP3, DIN-AP3MEX, FT-TS600, FT-TSC600, MC3, MPC3-101, MPC3-102, MPC3-201, MPC3-302, PRO3, RMC3, TSCW-730	1.8001.0176
DM-MD8X8-CPU3, DM-MD8X8-CPU3-RPS, DM-MD16X16-CPU3, DM-MD16X16-CPU3-RPS, DM-MD32X32-CPU3, DM-MD32X32-CPU3-RPS, DMPS3-200-C, DMPS3-300-C, DMPS3-300-C-AEC, DMPS3-4K-50, DMPS3-4K-100-C, DMPS3-4K-150-C, DMPS3-4K-200-C, DMPS3-4K-250-C, DMPS3-4K-300-C, DMPS3-4K-350-C	1.603.0112
TSS-7, TSS-10, TSW-560, TSW-560P, TSW-760, TSW-1060	2.009.0121
DGE-100, DM-DGE-200-C, TS-1542, TS-1542-C	1.4662.00000.000

Model(s)	Firmware Versions
CCS-UC-1 W/PS, CCS-UC-1-AV W/PS, CCS-UC-1-X, UC-M50-U, UC-M50-UA, UC-M70-U, UC-M70-UA, UC-MX50-U, UC-MX70-U	1.4395.00025.001
AM-200, AM-300	1.4493.00039.003
DM-NVX-350, DM-NVX-350C, DM-NVX-351, DM-NVX-351C, DM-NVX-352, DM-NVX-352C, DM-NVX-D30, DM-NVX-D30C, DM-NVX-E30, DM-NVX-E30C	5.1.4651.00031
AMP-2000, AMP-4000, AMP-4600, AMP-8000, AMP-8075, AMPI-8075, AMP-8150, AMPI-8150, DSP-860, DSP-1280, DSP-1281, DSP-1282, DSP-1283	1.00.380.002
CEN-ODT-C-POE	1.001.0063
AV4, CP4, CP4N, DIN-AP4, MC4, MC4-I, PRO4, RMC4	2.7000.00083
UC-ENGINE, UC-ENGINE-SD, UC-ENGINE-SD-Z	1.00.16.885 or 1.00.17.185 The minimum firmware version is dependent on the UC-ENGINE hardware. XiO Cloud and the device will select the correct version automatically.
HD-RX-4K-410-C-E, HD-RX-4K-410-C-E-SW4, HD-RX-4K-510-C-E, HD-RX-4K-510-C-E-SW4	1.0.4365.16200

What XiO Cloud features are supported by Crestron devices?

All Crestron devices that can be claimed into the XiO Cloud service support the following features at minimum:

- Online status
- Network settings
- Firmware updates
- Remote restart
- Crestron Fusion® service provisioning (enable/disable and cloudurl)
- Log file retrieval

Certain Crestron devices support additional XiO Cloud features. These additional features are implemented either when the device support is initially released or during a future update to the XiO Cloud service.

Which takes precedence: local settings made on the device, or settings made within the XiO Cloud service?

Settings enforced in the XiO Cloud service always take precedence to local settings. If a local setting is changed, it will report its new value to the XiO Cloud service, and the device will indicate that changes to its settings are pending. Refresh the device within XiO Cloud to see its updated settings.

How do I determine if the XiO Cloud service is down?

Refer to Crestron Online Help article 5894 for the current status of the XiO Cloud service. Subscribe to this article to get updates on any status changes.

Does the XiO Cloud service support single sign-on (SSO) solutions?

The XiO Cloud service supports SAML, OpenID Connect, and Microsoft Entra ID for SSO, which are supported by all major identity providers.

For more information on integrating SSO with XiO Cloud, refer to Manage Users on page 136.

What device ports are required to connect to the XiO Cloud service?

Devices communicate to the XiO Cloud service over TCP using port 443 (AMQP over WebSockets).

What IP addresses are used for the XiO Cloud service?

The XiO Cloud service is located within Azure's US East and West datacenters. The current list of datacenter IP addresses is available at www.microsoft.com/en-us/download/confirmation.aspx?id=56519.

For more information on the URLs and IP addresses used by the XiO Cloud service, refer to the XiO Cloud Service Security Reference Guide.

How do I check that a device is registered with the XiO Cloud service?

To check that a device is registered with the XiO Cloud service, issue the `hydrogenstatus` command to the device using the **Text Console** tool in Crestron Toolbox™ software.

A sample response is shown below indicating that the device is registered to the XiO Cloud service but not claimed.

```
MERCURY>HYDROGENSTATUS
HydrogenUrl: https://fc.crestron.io/api/device/create
This unit is online with Hydrogen
IoT Hub Url: prd-use-iothub.azure-devices.net
Last IOT connect Time: 02/08/2018 15:43:02
Hydrogen device state: REGISTRATION_SUCCESSFUL
HttpsRegistrationRetryInterval (sec): 300
IoTHeartbeatInterval (sec): 300
Empty Callback from CPH count: 0
CresNextReceiveThread: waiting on queue...
```

How to I disable a Crestron Fusion in the Cloud (FITC) connection?

The Crestron Fusion Cloud URL must be changed to the myCrestron URL (https://api.my.crestron.com/api/Registration) prior to disabling the FITC connection. This is required when moving a device from a Crestron Fusion Cloud server to an on-premesis Crestron Fusion server.

What countries currently support SMS alerts for the XiO Cloud service?

SMS (short message service) for XiO Cloud alerts is not currently supported in all countries. The following countries are supported at this time:

- American Samoa
- Anguilla
- Antigua
- Australia
- Barbuda
- Bahamas
- Barbados
- Belgium
- Bermuda
- Canada
- Cayman Islands
- Dominica
- Dominican Republic
- Ireland
- Grenada
- Grenadines
- Guam
- India
- Israel
- Jamaica
- Montserrat
- Myanmar
- North Mariana Islands
- Puerto Rico
- Sweden
- Trinadad
- Turks
- United Kingdom
- United States of America
- Virgin Islands

To inquire about SMS support for a country that is not currently listed, contact Crestron.

How does XiO Cloud determine whether a device is offline?

Prior to XiO Cloud version 1.59:

- Devices send a heartbeat to XiO Cloud every 8 minutes (480 seconds).
- XiO Cloud sends a response back to the device for every third heartbeat. If the device does not receive this response after the third heartbeat, it is marked offline in XiO Cloud.

As of XiO Cloud version 1.59:

- If a device is disconnected from IoT Hub, XiO Cloud waits five minutes before attempting to ping the device three times. If the device does not respond to any of these pings, XiO Cloud marks the device as offline. If the device responds to any of these pings, it maintains its online status.
- Devices send a heartbeat to XiO Cloud every 60 minutes (3600 seconds).

Devices will not automatically switch over to the new offline detection method after XiO Cloud version 1.59 is released. The device must be disconnected from XiO Cloud and then reconnected (or restarted) for the change to take affect.

Which conferencing devices support the Room Call Status indicator?

Use the following table to determine which conferencing devices support the Room Call Status indicator and the applicable device object properties. For more information on the Room Call Status indicator, refer to Room Status Indicators on page 192.

Device Model	Is Room Call Status Supported?	Device Object Property (Call Status or App State)
CCS-UC-1 (MERCURY)	Only in Out of the Box (OotB) mode	N/A
CCS-UC-1-X (MERCURY-X)	Only in OotB mode	N/A
CCS-UC-1-T (MERCURY-TEAMS-AUDIO)	Only in OotB mode	N/A
UC-2-T-V(-I) (Mercury Mini)	Only in OotB mode	ZOOMROOMS
UC-ENGINE	Yes	ZOOMROOMS, SKYPEROOM
UC-ENGINE-SD	Yes	ZOOMROOMS, SKYPEROOM
UC-ENGINE-SD-Z	Yes	ZOOMROOMS, SKYPEROOM
UC-SB2-CAM-A(-I)	No (future support planned)	ZOOMROOMS, TEAMSROOM
CCC-110-T/Z	Yes	ZOOMROOMS, TEAMSROOM
CCC-120-T/Z	Yes	ZOOMROOMS, TEAMSROOM

Troubleshooting

This topic provides troubleshooting procedures for various issues that may occur when using the XiO Cloud® service.

Issue	Solution(s)
A device reports that it is registered with the XiO Cloud service but is reporting as offline within the service.	Ensure that the date and time settings on the device are correct. Incorrect date and time settings can cause the device to report as offline.
The device goes offline after roughly 12 hours.	Ensure that the date and time settings on the device are correct. Incorrect date and time settings can cause the device to report as offline. Additionally, if the device is connected to a control system, check that the time and time zone settings on the control system are correct.
Conflicts occur when attempting to schedule actions for a device.	Stagger the times for scheduled actions to ensure there are no conflicts with delivery.
A change to device settings from XiO Cloud is rejected by the device.	Ensure there are no IP ID conflicts within your system. IP IDs must be unique across systems. For example, if you are adding a Crestron Connected® Display at IP ID 03 to a system that is configured to use Crestron Fusion® software at IP ID 03, the settings will be rejected by the device due to the IP ID conflict.
Errors are received when attempting to claim a device to the XiO Cloud service.	Ensure that the device is connected to the network and has internet access. After connecting the device, wait a few minutes until the device has been registered. Issue the `hydrogenstatus` command to the device using the **Text Console** tool in Crestron Toolbox™ software to ensure the device is able to connect to the XiO Cloud service.
The device reports as connected but the settings in XiO Cloud are different than the local settings on the device.	Select **Refresh Device** from the **Action** drop-down menu to refresh the device connection.
The device is showing pending settings even though it is reporting as connected.	Select **Refresh Device** from the **Action** drop-down menu to refresh the device connection.

Issue	Solution(s)
Settings changed from XiO Cloud are not applied on the device.	Pushing settings while a firmware update is in progress on a device (not scheduled, but actively in progress on a device) may result in the settings not being applied to the device. To resolve, select **Refresh Device** from the **Action** drop-down menu to refresh the device connection.
A firmware upgrade fails to start.	Applying settings may cause a firmware upgrade to not start if the settings are saved around the same time that the upgrade begins. To resolve, restart the firmware upgrade.

Works with XiO Cloud

The XiO Cloud® service is designed to work with many Crestron® and third-party products.

> **NOTE:** Third-party device support requires an XiO Cloud Premium subscription.

The following device types work with XiO Cloud:

- Audio on page 244
- Conferencing on page 246
- Connectivity on page 256
- Control on page 257
- Intelligent Video on page 259
- Lighting and Environmental on page 260
- Power on page 261
- Scheduling on page 262
- Sensors on page 263
- Third-Party Devices on page 264
- Touch Screens on page 265
- Video on page 268

Audio

The following audio solutions are supported by the XiO Cloud® service.

Amplifiers

- AMP-2800: 2-Channel Power Amplifier, 800 W/Ch, Discontinued
- AMP-4600: 4-Channel Power Amplifier, 600 W/Ch
- AMP-8075: 8-Channel Power Amplifier, 75 W/Ch, 4/8 Ω or 70V, North America and Japan, 100–120V, Discontinued
- AMPI-8075: 8-Channel Power Amplifier, 75 W/Ch, 4/8 Ω or 70V, International, 220–240V, Discontinued
- AMP-8150: 8-Channel Power Amplifier, 150 W/Ch, 4/8 Ω or 70V, North America and Japan, 100–120V
- AMPI-8150: 8-Channel Power Amplifier, 150 W/Ch, 4/8 Ω or 70V, International, 220–240V
- DM-NAX-AMP-X300: DM NAX® X-Series Flexible Output Amplifier, 300 W

Digital Signal Processors

- DSP-860: Crestron Avia® 8x6 Digital Signal Processor
- DSP-1280: Crestron Avia® 12x8 Digital Signal Processor
- DSP-1281: Crestron Avia® 12x8 Digital Signal Processor with Dante® Audio Networking
- DSP-1282: Crestron Avia® 12x8 Digital Signal Processor with USB Audio, AEC, and Audio Conferencing Interface, Discontinued
- DSP-1283: Crestron Avia® 12x8 Digital Signal Processor with Dante® Audio Networking, USB Audio, AEC, and Audio Conferencing Interface, Discontinued

Intelligent Audio Processors

- DM-NAX-AP-100: DM NAX® Intelligent Audio Processor

Multiroom Audio Accessories

- DM-NAX-2XLRI-1G: DM NAX® Audio-over-IP Wall Plate with XLR, Black, 1-Gang
- DM-NAX-AUD-IO: DM NAX® Audio-over-IP Converter with Balanced/Unbalanced Line-Level Audio Input and Output
- DM-NAX-AUD-USB: DM NAX® Audio-over-IP Converter with USB-C® Audio Input and Output
- DM-NAX-BTIO-100-1G: DM NAX® Audio-over-IP Wall Plate with Bluetooth® Audio Support, Analog Audio Input and Output, 1-Gang
- DM-NAX-XSP: DM NAX® 8K Smart Display Controller and Network Audio Encoder/Decoder with eARC Support

Speakers

- SAROS DM-NAX-IC4A-W: Saros® 3 in. Active Full-Range In-Ceiling PoE+ Speaker with DM NAX® Audio-over-IP Support, White, Textured

Conferencing

The following conferencing solutions are supported by the XiO Cloud® service.

AirMedia Wireless Presentation and Conferencing

- AM-200: AirMedia® Presentation System 200, Discontinued
- AM-300: AirMedia® Presentation System 300, Discontinued
- AM-3000-WF: AirMedia® Receiver 3000 with Wi-Fi® Network Connectivity
- AM-3000-WF-I: AirMedia® Receiver 3100 with Wi-Fi® Network Connectivity, International
- AM-3100-WF: AirMedia® Series 3 Receiver 100 with Wi-Fi® Connectivity
- AM-3100-WF-I: AirMedia® Series 3 Receiver 100 with Wi-Fi® Connectivity, International
- AM-3200: AirMedia® Series 3 Receiver 200
- AM-3200-GV: AirMedia® Series 3 Receiver 200, Government Version
- AM-3200-WF: AirMedia® Series 3 Receiver 200 with Wi-Fi® Connectivity
- AM-3200-WF-I: AirMedia® Series 3 Receiver 200 with Wi-Fi® Connectivity, International
- AM3-111 KIT: AirMedia® Series 3 Kit with AM-3100-WF Receiver and AM-TX3-100 Adapter
- AM3-111-I KIT: AirMedia® Series 3 Kit with AM-3100-WF Receiver and AM-TX3-100 Adapter, International
- AM3-212-KIT: AirMedia® Series 3 Kit with AM-3200-WF Receiver, two AM-TX3-100 Adapters, and Cradle
- AM3-212-I KIT: AirMedia® Series 3 Kit with AM-3200-WF Receiver, two AM-TX3-100 Adapters, and Cradle, International

Crestron Collab Solutions

- CCC-110-T: Crestron Collab Compute with the Intel® Core™ Ultra 5 for Microsoft Teams® Rooms Software
- CCC-110-Z: Crestron Collab Compute with the Intel® Core™ Ultra 5 for Zoom Rooms™ Software
- CCC-120-T: Crestron Collab Compute with the Intel® Core™ Ultra 7 for Microsoft Teams® Rooms Software
- CCC-120-Z: Crestron Collab Compute with the Intel® Core™ Ultra 7 for Zoom Rooms™ Software

Crestron Collab Accessories

- CCS-UC-1: Tabletop Conference Device for Crestron Collab Compute Devices
- CCS-UC-1-X: Tabletop Conference Device with BYOD for Crestron Collab Compute Devices
- UC-2-T-V: Small Room Tabletop Conference Device for Crestron Collab Compute Devices
- UC-2-T-V-I: Small Room Tabletop Conference Device for Crestron Collab Compute Devices, International

Crestron Flex Solutions

The following Crestron Flex solutions are supported by the XiO Cloud® service.

All-In-One Bars

- UC-B70-A-T: Crestron Flex Large Room Conference Solution with All-In-One Videobar 70 for Microsoft Teams® Software
- UC-B70-A-T-I: Crestron Flex Large Room Conference Solution with All-In-One Videobar 70 for Microsoft Teams® Software, International
- UC-B70-A-Z: Crestron Flex Large Room Conference Solution with All-In-One Videobar 70 for Zoom Rooms® Software
- UC-B70-A-Z-I: Crestron Flex Large Room Conference Solution with All-In-One Videobar 70 for Zoom Rooms® Software, International
- UC-SB2-CAM-A-T: Crestron Flex All-In-One Videobar 70 for Microsoft Teams® Rooms
- UC-SB2-CAM-A-T-I: Crestron Flex All-In-One Videobar 70 for Microsoft Teams® Rooms, International
- UC-SB2-CAM-A-Z: Crestron Flex All-In-One Videobar 70 for Zoom Rooms® Software
- UC-SB2-CAM-A-Z-I: Crestron Flex All-In-One Videobar 70 for Zoom Rooms® Software, International

Crestron Flex Kits

> **NOTE:** The individual devices that can be connected to the XiO Cloud service vary by Crestron Flex kit. Refer to the documentation for your Crestron Flex kit for more information about which devices can be connected to the XiO Cloud service.

- UC-B30-T: Crestron Flex Small Room Conference System with Video Soundbar for Microsoft Teams® Rooms, Discontinued
- UC-B30-T-GV: Crestron Flex Small Room Conference System with Video Soundbar for Microsoft Teams® Rooms, Government Version, Discontinued
- UC-B30-T-L: Crestron Flex Small Room Conference System with Video Soundbar and Lenovo® M920Q ThinkSmart™ Edition Tiny for Microsoft Teams® Rooms, Discontinued
- UC-B30-T-L-WM: Crestron Flex Small Room Conference System with Video Soundbar, Wall Mounted Control Interface, and Lenovo® M920Q ThinkSmart™ Edition Tiny for Microsoft Teams® Rooms, Discontinued
- UC-B30-T-WM: Crestron Flex Small Room Conference System with Video Soundbar and Wall Mounted Control Interface for Microsoft Teams® Rooms, Discontinued
- UC-B30-Z: Crestron Flex Small Room Conference System with Video Soundbar for Zoom Rooms® Software, Discontinued
- UC-B30-Z-L: Crestron Flex Small Room Conference System with Video Soundbar and Lenovo® M920Q ThinkSmart™ Edition Tiny for Zoom Rooms® Software, Discontinued

- UC-B30-Z-L-WM: Crestron Flex Small Room Conference System with Video Soundbar, Wall Mounted Control Interface, and Lenovo® M920Q ThinkSmart™ Edition Tiny for Zoom Rooms® Software, Discontinued
- UC-B30-Z-WM: Crestron Flex Small Room Conference System with Video Soundbar and Wall Mounted Control Interface for Zoom Rooms® Software, Discontinued
- UC-B31-T: Crestron Flex Small Room Conference System with Jabra® PanaCast® 50 Video Bar for Microsoft Teams® Rooms, Discontinued
- UC-B31-T-INDIA: Crestron Flex Small Room Conference System with Jabra® PanaCast® 50 Video Bar for Microsoft Teams® Rooms, India, Discontinued
- UC-B31-T-WM: Crestron Flex Small Room Conference System with Jabra® PanaCast® 50 Video Bar and Wall Mounted Control Interface for Microsoft Teams® Rooms, Discontinued
- UC-B31-T-WM-INDIA: Crestron Flex Small Room Conference System with Jabra® PanaCast® 50 Video Bar and Wall Mounted Control Interface for Microsoft Teams® Rooms, India, Discontinued
- UC-B31-Z: Crestron Flex Small Room Conference System with Jabra® PanaCast® 50 Video Bar for Zoom Rooms® Software, Discontinued
- UC-B31-Z-INDIA: Crestron Flex Small Room Conference System with Jabra® PanaCast® 50 Video Bar for Zoom Rooms® Software, India, Discontinued
- UC-B31-Z-WM: Crestron Flex Small Room Conference System with Jabra® PanaCast® 50 Video Bar and Wall Mounted Control Interface for Zoom Rooms® Software, Discontinued
- UC-B31-Z-WM-INDIA: Crestron Flex Small Room Conference System with Jabra® PanaCast® 50 Video Bar and Wall Mounted Control Interface for Zoom Rooms® Software, India, Discontinued
- UC-BRKT-200-PRO-Z-ASSY: Crestron Flex Room Upgrade Pro Solution with Zoom Rooms® Software, Discontinued
- UC-BRKT-260-PRO-Z-ASSY: Crestron Flex Advanced Room Upgrade Pro Solution with Zoom Rooms® Software, Discontinued
- UC-BX30-T: Crestron Flex Advanced Small Room Conference System with Video Soundbar for Microsoft Teams® Rooms, Discontinued
- UC-BX30-T-GV: Crestron Flex Advanced Small Room Conference System with Video Soundbar for Microsoft Teams® Rooms, Government Version, Discontinued
- UC-BX30-T-WM: Crestron Flex Advanced Small Room Conference System with Video Soundbar and Wall Mounted Control Interface for Microsoft Teams® Rooms, Discontinued
- UC-BX30-Z: Crestron Flex Advanced Small Room Conference System with Video Soundbar for Zoom Rooms® Software, Discontinued
- UC-BX30-Z-WM: Crestron Flex Advanced Small Room Conference System with Video Soundbar and Wall Mounted Control Interface for Zoom Rooms® Software, Discontinued
- UC-BX31-T: Crestron Flex Advanced Small Room Conference System with Jabra® PanaCast® 50 Video Bar for Microsoft Teams® Rooms, Discontinued
- UC-BX31-T-INDIA: Crestron Flex Advanced Small Room Conference System with Jabra® PanaCast® 50 Video Bar for Microsoft Teams® Rooms, India, Discontinued
- UC-BX31-T-WM: Crestron Flex Advanced Small Room Conference System with Jabra® PanaCast® 50 Video Bar and Wall Mounted Control Interface for Microsoft Teams® Rooms, Discontinued

- UC-BX31-T-WM-INDIA: Crestron Flex Advanced Small Room Conference System with Jabra® PanaCast® 50 Video Bar and Wall Mounted Control Interface for Microsoft Teams® Rooms, India, Discontinued
- UC-BX31-Z: Crestron Flex Advanced Small Room Conference System with Jabra® PanaCast® 50 Video Bar for Zoom Rooms® Software, Discontinued
- UC-BX31-Z-INDIA: Crestron Flex Advanced Small Room Conference System with Jabra® PanaCast® 50 Video Bar for Zoom Rooms® Software, India, Discontinued
- UC-BX31-Z-WM: Crestron Flex Advanced Small Room Conference System with Jabra® PanaCast® 50 Video Bar and Wall Mounted Control Interface for Zoom Rooms® Software, Discontinued
- UC-BX31-Z-WM-INDIA: Crestron Flex Advanced Small Room Conference System with Jabra® PanaCast® 50 Video Bar and Wall Mounted Control Interface for Zoom Rooms® Software, India, Discontinued
- UC-C100-PRO-Z: Crestron Flex Video Conference System Integrator Pro Kit for Zoom Rooms® Software, Discontinued
- UC-C100-PRO-Z-WM: Crestron Flex Video Conference System Integrator Pro Kit with a Wall-Mounted Control Interface for Zoom Rooms® Software, Discontinued
- UC-C100-T: Crestron Flex Video Conference System Integrator Kit for Microsoft Teams® Rooms, Discontinued
- UC-C100-T-GV: Crestron Flex Video Conference System Integrator Kit for Microsoft Teams® Rooms, Government Version, Discontinued
- UC-C100-T-L: Crestron Flex Video Conference System Integrator Kit with Lenovo® M920Q ThinkSmart™ Edition Tiny for Microsoft Teams® Rooms, Discontinued
- UC-C100-T-L-WM: Crestron Flex Video Conference System Integrator Kit with a Wall Mounted Control Interface and Lenovo® M920Q ThinkSmart™ Edition Tiny for Microsoft Teams® Rooms, Discontinued
- UC-C100-T-WM: Crestron Flex Video Conference System Integrator Kit with a Wall Mounted Control Interface for Microsoft Teams® Rooms, Discontinued
- UC-C100-Z: Crestron Flex Video Conference System Integrator Kit for Zoom Rooms® Software, Discontinued
- UC-C100-Z-L: Crestron Flex Video Conference System Integrator Kit with Lenovo® M920Q ThinkSmart™ Edition Tiny for Zoom Rooms® Software, Discontinued
- UC-C100-Z-L-WM: Crestron Flex Video Conference System Integrator Kit with a Wall Mounted Control Interface and Lenovo® M920Q ThinkSmart™ Edition Tiny for Zoom Rooms® Software, Discontinued
- UC-C100-Z-WM: Crestron Flex Video Conference System Integrator Kit with a Wall Mounted Control Interface for Zoom Rooms® Software, Discontinued
- UC-CX100-PRO-Z: Crestron Flex Advanced Video Conference System Integrator Pro Kit for Zoom Rooms® Software, Discontinued
- UC-CX100-PRO-Z-WM: Crestron Flex Advanced Video Conference System Integrator Pro Kit with a Wall-Mounted Control Interface for Zoom Rooms® Software, Discontinued
- UC-CX100-T: Crestron Flex Advanced Video Conference System Integrator Kit for Microsoft Teams® Rooms, Discontinued

- UC-CX100-T-GV: Crestron Flex Advanced Video Conference System Integrator Kit for Microsoft Teams® Rooms, Government Version, Discontinued
- UC-CX100-T-L: Crestron Flex Advanced Video Conference System Integrator Kit with Lenovo® M920Q ThinkSmart™ Edition Tiny for Microsoft Teams® Rooms, Discontinued
- UC-CX100-T-L-WM: Crestron Flex Advanced Video Conference System Integrator Kit with a Wall Mounted Control Interface and Lenovo® M920Q ThinkSmart™ Edition Tiny for Microsoft Teams® Rooms, Discontinued
- UC-CX100-T-WM: Crestron Flex Advanced Video Conference System Integrator Kit with a Wall Mounted Control Interface for Microsoft Teams® Rooms, Discontinued
- UC-CX100-Z: Crestron Flex Advanced Video Conference System Integrator Kit for Zoom Rooms® Software, Discontinued
- UC-CX100-Z-L: Crestron Flex Advanced Video Conference System Integrator Kit with Lenovo® M920Q ThinkSmart™ Edition Tiny for Zoom Rooms® Software, Discontinued
- UC-CX100-Z-L-WM: Crestron Flex Advanced Video Conference System Integrator Kit with a Wall Mounted Control Interface and Lenovo® M920Q ThinkSmart™ Edition Tiny for Zoom Rooms® Software, Discontinued
- UC-CX100-Z-WM: Crestron Flex Advanced Video Conference System Integrator Kit with a Wall Mounted Control Interface for Zoom Rooms® Software, Discontinued
- UC-ENGINE-BRKT-T-UPGRD: Crestron Flex Room Upgrade Solution with Microsoft Teams® Rooms, Discontinued
- UC-ENGINE-BRKT-T-UPGRD-BRKTX: Crestron Flex Standard to Advanced Room Upgrade Solution with Microsoft Teams® Rooms Software, Discontinued
- UC-ENGINE-BRKT-T-UPGRD-GV: Crestron Flex Room Upgrade Solution with Microsoft Teams® Rooms, Government Version, Discontinued
- UC-ENGINE-BRKT-Z-UPGRD: Crestron Flex Room Upgrade Solution with Zoom Rooms® Software, Discontinued
- UC-ENGINE-BRKT-Z-UPGRD-BRKTX: Crestron Flex Standard to Advanced Room Upgrade Solution with Zoom Rooms® Software, Discontinued
- UC-ENGINE-BRKTZ-PRO-Z-UPGRD: Crestron Flex Standard to Advanced Room Upgrade Pro Solution with Zoom Rooms® Software, Discontinued
- UC-ENGINE-BRKTX-T-UPGRD: Crestron Flex Advanced Room Upgrade Solution with Microsoft Teams® Rooms, Discontinued
- UC-ENGINE-BRKTZ-T-UPGRD-GV: Crestron Flex Advanced Room Upgrade Solution with Microsoft Teams® Rooms, Government Version, Discontinued
- UC-ENGINE-BRKTX-Z-UPGRD: Crestron Flex Advanced Room Upgrade Solution with Zoom Rooms® Software, Discontinued
- UC-M50-NC-T: Crestron Flex Tabletop Medium Room Conference System for Microsoft Teams® Rooms, Discontinued
- UC-M50-NC-Z: Crestron Flex Tabletop Medium Room Conference System for Zoom Rooms® Software, Discontinued
- UC-M50-T: Crestron Flex Tabletop Medium Room Video Conference System for Microsoft Teams® Rooms, Discontinued

- UC-M50-T-L: Crestron Flex Tabletop Medium Room Video Conference System with Lenovo® M920Q ThinkSmart™ Edition Tiny for Microsoft Teams® Rooms, Discontinued
- UC-M50-T-UPGRD: Crestron Flex Medium Room Upgrade Solution with Microsoft Teams® Rooms, Discontinued
- UC-M50-U: Crestron Flex Tabletop Medium Room Video Conference System, Discontinued
- UC-M50-UA: Crestron Flex Tabletop Medium Room Audio Conference System, Discontinued
- UC-M50-Z: Crestron Flex Tabletop Medium Room Video Conference System for Zoom Rooms® Software, Discontinued
- UC-M50-Z-L: Crestron Flex Tabletop Medium Room Video Conference System with Lenovo® M920Q ThinkSmart™ Edition Tiny for Zoom Rooms® Software, Discontinued
- UC-M50-Z-UPGRD: Crestron Flex Medium Room Upgrade Solution with Zoom Rooms® Software, Discontinued
- UC-M70-NC-T: Crestron Flex Tabletop Large Room Conference System for Microsoft Teams® Rooms, Discontinued
- UC-M70-NC-Z: Crestron Flex Tabletop Large Room Conference System for Zoom Rooms® Software, Discontinued
- UC-M70-T: Crestron Flex Tabletop Large Room Video Conference System for Microsoft Teams® Rooms, Discontinued
- UC-M70-T-L: Crestron Flex Tabletop Large Room Video Conference System with Lenovo® M920Q ThinkSmart™ Edition Tiny for Microsoft Teams® Rooms, Discontinued
- UC-M70-U: Crestron Flex Tabletop Large Room Video Conference System, Discontinued
- UC-M70-UA: Crestron Flex Tabletop Large Room Audio Conference System, Discontinued
- UC-M70-Z: Crestron Flex Tabletop Large Room Video Conference System for Zoom Rooms® Software, Discontinued
- UC-M70-Z-L: Crestron Flex Tabletop Large Room Video Conference System with Lenovo® M920Q ThinkSmart™ Edition Tiny for Zoom Rooms® Software, Discontinued
- UC-MM30-NC-T: Crestron Flex Tabletop Small Room Conference System for Microsoft Teams® Rooms, Discontinued
- UC-MM30-NC-T-I: Crestron Flex Tabletop Small Room Conference System for Microsoft Teams® Rooms, International, Discontinued
- UC-MM30-NC-Z: Crestron Flex Tabletop Small Room Conference System for Zoom Rooms® Software, Discontinued
- UC-MM30-NC-Z-I: Crestron Flex Tabletop Small Room Conference System for Zoom Rooms® Software, International, Discontinued
- UC-MM30-T: Crestron Flex Tabletop Small Room Video Conference System for Microsoft Teams® Rooms, Discontinued
- UC-MM30-T-I: Crestron Flex Tabletop Small Room Video Conference System for Microsoft Teams® Rooms, International, Discontinued
- UC-MM30-T-L: Crestron Flex Tabletop Small Room Video Conference System with Lenovo® M920Q ThinkSmart™ Edition Tiny for Microsoft Teams® Rooms, Discontinued

- UC-MM30-T-L-I: Crestron Flex Tabletop Small Room Video Conference System with Lenovo® M920Q ThinkSmart™ Edition Tiny for Microsoft Teams® Rooms, International, Discontinued
- UC-MM30-TA: Crestron Flex Tabletop Small Room Audio Conference System for Microsoft Teams® Rooms, Discontinued
- UC-MM30-TA-I: Crestron Flex Tabletop Small Room Audio Conference System for Microsoft Teams® Rooms, International, Discontinued
- UC-MM30-Z: Crestron Flex Tabletop Small Room Video Conference System for Zoom Rooms® Software, Discontinued
- UC-MM30-Z-I: Crestron Flex Tabletop Small Room Video Conference System for Zoom Rooms® Software, International, Discontinued
- UC-MM30-Z-L: Crestron Flex Tabletop Small Room Video Conference System with Lenovo® M920Q ThinkSmart™ Edition Tiny for Zoom Rooms® Software, Discontinued
- UC-MM30-Z-L-I: Crestron Flex Tabletop Small Room Video Conference System with Lenovo® M920Q ThinkSmart™ Edition Tiny for Zoom Rooms® Software, International, Discontinued
- UC-MMX30-NC-T: Crestron Flex Tabletop Small Room Conference System for Microsoft Teams® Rooms, Discontinued
- UC-MMX30-NC-T-I: Crestron Flex Tabletop Small Room Conference System for Microsoft Teams® Rooms, International, Discontinued
- UC-MMX30-NC-Z: Crestron Flex Tabletop Small Room Conference System for Zoom Rooms® Software, Discontinued
- UC-MMX30-NC-Z-I: Crestron Flex Tabletop Small Room Conference System for Zoom Rooms® Software, International, Discontinued
- UC-MMX30-T: Crestron Flex Advanced Tabletop Small Room Video Conference System for Microsoft Teams® Room, Discontinued
- UC-MMX30-T-I: Crestron Flex Advanced Tabletop Small Room Video Conference System for Microsoft Teams® Rooms, International, Discontinued
- UC-MMX30-T-L: Crestron Flex Advanced Tabletop Small Room Video Conference System with Lenovo® M920Q ThinkSmart™ Edition Tiny for Microsoft Teams® Rooms, Discontinued
- UC-MMX30-T-L-I: Crestron Flex Advanced Tabletop Small Room Video Conference System with Lenovo® M920Q ThinkSmart™ Edition Tiny for Microsoft Teams® Rooms, International, Discontinued
- UC-MMX30-Z: Crestron Flex Advanced Tabletop Small Room Video Conference System for Zoom Rooms® Software, Discontinued
- UC-MMX30-Z-I: Crestron Flex Advanced Tabletop Small Room Video Conference System for Zoom Rooms® Software, International, Discontinued
- UC-MMX30-Z-L: Crestron Flex Advanced Tabletop Small Room Video Conference System with Lenovo® M920Q ThinkSmart™ Edition Tiny for Zoom Rooms® Software, Discontinued
- UC-MMX30-Z-L-I: Crestron Flex Advanced Tabletop Small Room Video Conference System with Lenovo® M920Q ThinkSmart™ Edition Tiny for Zoom Rooms® Software, International, Discontinued
- UC-MX50-NC-T: Crestron Flex Advanced Tabletop Medium Room Conference System for Microsoft Teams® Rooms, Discontinued

- UC-MX50-NC-Z: Crestron Flex Advanced Tabletop Medium Room Conference System for Zoom Rooms® Software, Discontinued
- UC-MX50-T: Crestron Flex Advanced Tabletop Medium Room Video Conference System for Microsoft Teams® Rooms, Discontinued
- UC-MX50-T-L: Crestron Flex Advanced Tabletop Medium Room Video Conference System with Lenovo® M920Q ThinkSmart™ Edition Tiny for Microsoft Teams® Rooms, Discontinued
- UC-MX50-T-UPGRD: Crestron Flex Advanced Medium Room Upgrade Solution with Microsoft Teams® Rooms, Discontinued
- UC-MX50-U: Crestron Flex Advanced Tabletop Medium Room Video Conference System, Discontinued
- UC-MX50-Z: Crestron Flex Advanced Tabletop Medium Room Video Conference System for Zoom Rooms® Software, Discontinued
- UC-MX50-Z-L: Crestron Flex Advanced Tabletop Medium Room Video Conference System with Lenovo® M920Q ThinkSmart™ Edition Tiny for Zoom Rooms® Software, Discontinued
- UC-MX50-Z-UPGRD: Crestron Flex Advanced Medium Room Upgrade Solution with Zoom Rooms® Software, Discontinued
- UC-MX70-NC-T: Crestron Flex Advanced Tabletop Large Room Conference System for Microsoft Teams® Rooms, Discontinued
- UC-MX70-NC-Z: Crestron Flex Advanced Tabletop Large Room Conference System for Zoom Rooms® Software, Discontinued
- UC-MX70-T: Crestron Flex Advanced Tabletop Large Room Video Conference System for Microsoft Teams® Rooms, Discontinued
- UC-MX70-T-L: Crestron Flex Advanced Tabletop Large Room Video Conference System with Lenovo® M920Q ThinkSmart™ Edition Tiny for Microsoft Teams® Rooms, Discontinued
- UC-MX70-U: Crestron Flex Advanced Tabletop Large Room Video Conference System, Discontinued
- UC-MX70-Z: Crestron Flex Advanced Tabletop Large Room Video Conference System for Zoom Rooms® Software, Discontinued
- UC-MX70-Z-L: Crestron Flex Advanced Tabletop Large Room Video Conference System with Lenovo® M920Q ThinkSmart™ Edition Tiny for Zoom Rooms® Software, Discontinued

Crestron Flex Phones

- UC-P8-T: Crestron Flex 8 in. Audio Desk Phone for Microsoft Teams® Software, Discontinued
- UC-P8-T-I: Crestron Flex 8 in. Audio Desk Phone for Microsoft Teams® Software, International, Discontinued
- UC-P8-T-C: Crestron Flex 8 in. Video Desk Phone for Microsoft Teams® Software, Discontinued
- UC-P8-T-C-I: Crestron Flex 8 in. Video Desk Phone for Microsoft Teams® Software, International, Discontinued
- UC-P8-T-HS: Crestron Flex 8 in. Audio Desk Phone with Handset for Microsoft Teams® Software, Discontinued
- UC-P8-T-HS-I: Crestron Flex 8 in. Audio Desk Phone with Handset for Microsoft Teams® Software, International, Discontinued

- UC-P8-T-C-HS: Crestron Flex 8 in. Video Desk Phone with Handset for Microsoft Teams® Software, Discontinued
- UC-P8-T-C-HS-I: Crestron Flex 8 in. Video Desk Phone with Handset for Microsoft Teams® Software, International, Discontinued
- UC-P8-TD: Crestron Flex 8 in. Display for Microsoft Teams® Software, Discontinued
- UC-P8-TD-I: Crestron Flex 8 in. Display for Microsoft Teams® Software, International, Discontinued
- UC-P10-T: Crestron Flex 10 in. Audio Desk Phone for Microsoft Teams® Software, Discontinued
- UC-P10-T-I: Crestron Flex 10 in. Audio Desk Phone for Microsoft Teams® Software, International, Discontinued
- UC-P10-T-C: Crestron Flex 10 in. Video Desk Phone for Microsoft Teams® Software, Discontinued
- UC-P10-T-C-I: Crestron Flex 10 in. Video Desk Phone for Microsoft Teams® Software, International, Discontinued
- UC-P10-T-HS: Crestron Flex 10 in. Audio Desk Phone with Handset for Microsoft Teams® Software, Discontinued
- UC-P10-T-HS-I: Crestron Flex 10 in. Audio Desk Phone with Handset for Microsoft Teams® Software, International, Discontinued
- UC-P10-T-C-HS: Crestron Flex 10 in. Video Desk Phone with Handset for Microsoft Teams® Software, Discontinued
- UC-P10-T-C-HS-I: Crestron Flex 10 in. Video Desk Phone with Handset for Microsoft Teams® Software, International, Discontinued
- UC-P10-TD: Crestron Flex 10 in. Display for Microsoft Teams® Software, Discontinued
- UC-P10-TD-I: Crestron Flex 10 in. Display for Microsoft Teams® Software, International, Discontinued
- UC-P100-T: Crestron Flex VoIP Desk Phone for Microsoft Teams® Software, Discontinued
- UC-P110-T: Crestron Flex VoIP Desk Phone with Tilt Screen for Microsoft Teams® Software, Discontinued

Crestron Flex Hubs and Pods

- UC-AUDIO-HUB-DR1: Crestron Flex Hub Wireless Transceiver, DECT Region 1
- UC-AUDIO-HUB-DR2: Crestron Flex Hub Wireless Transceiver, DECT Region 2
- UC-AUDIO-HUB-DR3: Crestron Flex Hub Wireless Transceiver, DECT Region 3
- UC-AUDIO-HUB-DR4: Crestron Flex Hub Wireless Transceiver, DECT Region 4
- UC-AUDIO-HUB-DR5: Crestron Flex Hub Wireless Transceiver, DECT Region 5
- UC-AUDIO-POD-B-DR1: Crestron Flex Pod Wireless Speaker and Microphone, Black, DECT Region 1
- UC-AUDIO-POD-B-DR2: Crestron Flex Pod Wireless Speaker and Microphone, Black, DECT Region 2
- UC-AUDIO-POD-B-DR3: Crestron Flex Pod Wireless Speaker and Microphone, Black, DECT Region 3

- UC-AUDIO-POD-B-DR4: Crestron Flex Pod Wireless Speaker and Microphone, Black, DECT Region 4
- UC-AUDIO-POD-B-DR5: Crestron Flex Pod Wireless Speaker and Microphone, Black, DECT Region 5

Connectivity

The following connectivity solutions are supported by the XiO Cloud® service.

USB Switchers

- USB-SW-200: 2-input USB 3.2 Data Matrix Switcher
- USB-SW-400: 4-input USB 3.2 Data Matrix Switcher

Control

The following control solutions are supported by the XiO Cloud® service.

3-Series Control Systems

- AV3: 3-Series® Control System, Discontinued
- CP3: 3-Series® Control System, Discontinued
- CP3N: 3-Series® Control System, Discontinued
- DIN-AP3: 3-Series® DIN Rail Control System, Discontinued
- DIN-AP3MEX: 3-Series® DIN Rail Control System with infiNET EX® and ER Wireless Gateway, Discontinued
- PRO3: 3-Series® Control System, Discontinued
- RMC3: 3-Series® Control System, Discontinued

4-Series Control Systems

- AV4: 4-Series® Control System, Discontinued
- CP4: 4-Series® Control System
- CP4N: 4-Series® Control System
- DIN-AP4: 4-Series® DIN Rail Control System
- MC4: 4-Series® Control System
- MC4-I: 4-Series® Control System, International
- PRO4: 4-Series® Control System, Discontinued
- RMC4: 4-Series® Control System

Crestron Virtual Control Server-Based Control Systems

- VC-4-PC-3: Computer with Crestron Virtual Control Server Software, Discontinued
- VC-4-ROOM: Crestron Virtual Control Server Software - Single-Room License
- VC-4-SERVER-25: Rack Server with Crestron Virtual Control Software, Discontinued

Media Presentation Controllers

- MPB4-201-B: 4-Series® Media Presentation Button Panel 201, Black
- MPB4-301-B: 4-Series® Media Presentation Button Panel 301, Black
- MPB4-301-W: 4-Series® Media Presentation Button Panel 301, White
- MPC3-101-B: 3-Series® Media Presentation Controller 101, Black, Discontinued
- MPC3-102-B: 3-Series® Media Presentation Controller 102, Black, Discontinued

- MPC3-201-B: 3-Series® Media Presentation Controller 201, Black, Discontinued
- MPC3-302-B: 3-Series® Media Presentation Controller 302, Black
- MPC3-302-W: 3-Series® Media Presentation Controller 302, White
- MPC4-102-B: 4-Series® Media Presentation Controller 102, Black
- MPC4-201-B: 4-Series® Media Presentation Controller 201, Black
- MPC4-301-B: 4-Series® Media Presentation Controller 301, Black
- MPC4-301-W: 4-Series® Media Presentation Controller 301, White
- MPC4-302-B: 4-Series® Media Presentation Controller 302, Black
- MPC4-302-W: 4-Series® Media Presentation Controller 302, White

Smart Display Controllers

- HD-CTL-101: 8K Smart Display Controller with HDMI® connectivity

Intelligent Video

The following intelligent video solutions are supported by the XiO Cloud® service.

Camera Switching Solutions

- IV-SAM-VX2-P: Automate VX Pro System Series 2 Voice-Activated, Multi-Camera Switching Solution
- IV-SAM-VX2-S: Automate VX System Series 2 Voice-Activated, Multi-Camera Switching Solution

Lighting and Environmental

The following lighting and environmental solutions are supported by the XiO Cloud® service.

Lighting Control Systems

- ZUM-HUB4: 4-Series® Control Processor for Zūm® Lighting Control System
- ZUML-HUB4: Zūm® Lighting Control Processor Panel
- ZUML-HUB4-GW: 4-Series® Control Processor for Zūm® Lighting Control System with Wireless Gateway and Power Supply
- ZUML-HUB4-SWPOE-5: Zūm® Lighting Control Processor Panel with 5-Port PoE Network Switch
- ZUML-HUB4-SWPOE-26: Zūm® Lighting Control Processor Panel with 26-Port PoE Network Switch

Power

The following power solutions are supported by the XiO Cloud® service.

Power Conditioners

- PC-300: Energy Monitoring Power Conditioner & Controller 300, Discontinued

  > **NOTE:** The PC-300 requires control system integration with the Power Controller driver type. An XiO Cloud Premium subscription is required. For more information on claiming devices into XiO Cloud using the Crestron Drivers framework, refer to the XiO Cloud® Service Third-Party Device Monitoring Configuration Guide.

- PC-350V-12: 12-Outlet Vertical Networked Power Controller and Conditioner with Surge Protection and Metering
- PC-350V-18: 18-Outlet Vertical Networked Power Controller and Conditioner with Surge Protection and Metering

Scheduling

The following scheduling solutions are supported by the XiO Cloud® service.

Room Scheduling Touch Screens

- TSS-7-B-S: 7 in. Room Scheduling Screen, Black Smooth, Discontinued
- TSS-7-W-S: 7 in. Room Scheduling Screen, White Smooth, Discontinued
- TSS-10-B-S: 10.1 in. Room Scheduling Screen, Black Smooth, Discontinued
- TSS-10-W-S: 10.1 in. Room Scheduling Screen, White Smooth, Discontinued
- TSS-770-B-S: 7 in. Room Scheduling Screen, Black Smooth
- TSS-770-W-S: 7 in. Room Scheduling Screen, White Smooth
- TSS-880-B: 8.1 in. Room Scheduling Touch Screen, Black
- TSS-880-W: 8.1 in. Room Scheduling Touch Screen, White
- TSS-880-B-GV: 8.1 in. Room Scheduling Touch Screen, Government Version
- TSS-1070-B-S: 10.1 in. Room Scheduling Screen, Black Smooth
- TSS-1070-W-S: 10.1 in. Room Scheduling Screen, White Smooth
- TSS-1080-B: 10.1 in. Room Scheduling Touch Screen, Black
- TSS-1080-W: 10.1 in. Room Scheduling Touch Screen, White
- TSS-1080-GV-B: 10.1 in. Room Scheduling Touch Screen, Government Version

Desk Scheduling Devices

- DSS-100: Desk Scheduling Status Indicator, Discontinued
- TSS-470E-B-T: 3.5 in. Desk Scheduling Touch Screen, Black Textured

Sensors

The following sensors are supported by the XiO Cloud® service.

Occupancy Sensors

- CEN-ODT-C-POE: Dual-Technology Occupancy Sensor, PoE, 2,000 Sq Ft

Third-Party Devices

The following third-party devices are supported by the XiO Cloud® service via the Crestron Connected® protocol or the Crestron XiO Cloud™ Third-Party Device Monitoring Gateway.

> **NOTE:** Third-party device support requires an XiO Cloud Premium subscription. For more information on using third-party devices with the XiO Cloud service, refer to the XiO Cloud® Service Third-Party Device Monitoring Configuration Guide.

Crestron Connected Devices

Supported third-party devices that use the Crestron Connected® communications protocol can be claimed to the XiO Cloud service directly without requiring a Crestron control system.

For a list of third-party device models that have been certified to connect to XiO Cloud, refer to the Crestron Connected Devices web app.

Crestron Driver Devices

The XiO Cloud® service provides monitoring capabilities for supported third-party devices within a Crestron® system using the Crestron Drivers framework. The devices will appear in the XiO Cloud service and need only to be claimed to start monitoring.

Crestron Driver support in XiO Cloud is available for the following device types:

- A/V Receivers
- A/V Switchers
- Audio Mixers
- Blu-ray® Disc Players
- Cable Boxes
- Displays
- Polycom® Video Codec
- Projectors
- Video Servers

To view the available Crestron Drivers for these device types, visit the Crestron Driver Portal at drivers.crestron.io.

Third-Party Device Monitoring Gateway Software

Crestron XiO Cloud™ Gateway Software provides expanded configuration and monitoring capabilities for supported third-party devices not connected directly to a Crestron® control processor. This configuration allows for monitoring via Ping, TCP, SNMP, and the Crestron Drivers framework over Ethernet.

Touch Screens

The following touch screens are supported by the XiO Cloud® service.

Tabletop Touch Screens

- TS-770-B-S: 7 in. Tabletop Touch Screen, Black Smooth
- TS-770-W-S: 7 in. Tabletop Touch Screen, White Smooth
- TS-770-GV-B-S: 7 in. Tabletop Touch Screen, Government Version, Black Smooth
- TS-770-GV-W-S: 7 in. Tabletop Touch Screen, Government Version, White Smooth
- TS-880-B: 8.1 in. Tabletop Touch Screen, Black
- TS-880-W: 8.1 in. Tabletop Touch Screen, White
- TS-880-GV-B: 8.1 in. Tabletop Touch Screen, Government Version
- TS-1070-B-S: 10.1 in. Tabletop Touch Screen, Black Smooth
- TS-1070-W-S: 10.1 in. Tabletop Touch Screen, White Smooth
- TS-1070-GV-B-S: 10.1 in. Tabletop Touch Screen, Government Version, Black Smooth
- TS-1070-GV-W-S: 10.1 in. Tabletop Touch Screen, Government Version, White Smooth
- TS-1080-B: 10.1 in. Tabletop Touch Screen, Black
- TS-1080-W: 10.1 in. Tabletop Touch Screen, White
- TS-1080-GV-B: 10.1 in. Tabletop Touch Screen, Government Version
- TS-1080-UC-B: 10.1 in. Tabletop Touch Screen, Unified Communication Version
- TS-1542-TILT-B-S: 15.6 in. HD Touch Screen, Tabletop Tilt, Black Smooth, Discontinued
- TS-1542-TILT-W-S: 15.6 in. HD Touch Screen, Tabletop Tilt, White Smooth, Discontinued
- TS-1542-TILT-SSB: 15.6 in. HD Touch Screen, Tabletop Tilt, Signature Series Black, Discontinued
- TS-1542-TILT-SSW: 15.6 in. HD Touch Screen, Tabletop Tilt, Signature Series White, Discontinued
- TS-1542-TILT-C-B-S: 15.6 in. HD Touch Screen with DM 8G+® Input, Tabletop Tilt, Black Smooth, Discontinued
- TS-1542-TILT-C-W-S: 15.6 in. HD Touch Screen with DM 8G+® Input, Tabletop Tilt, White Smooth, Discontinued
- TS-1542-TILT-C-SSB: 15.6 in. HD Touch Screen with DM 8G+® Input, Tabletop Tilt, Signature Series Black, Discontinued
- TS-1542-TILT-C-SSW: 15.6 in. HD Touch Screen with DM 8G+® Input, Tabletop Tilt, Signature Series White, Discontinued

Touch Screen Control Systems

- TSCW-730-B-S: 7 in. Touch Screen Control System, Black Smooth, Discontinued
- TSCW-730-W-S: 7 in. Touch Screen Control System, White Smooth, Discontinued

Wall Mount Touch Screens

- TS-1542-B-S: 15.6 in. HD Touch Screen, Wall Mount or VESA, Black Smooth, Discontinued
- TS-1542-W-S: 15.6 in. HD Touch Screen, Wall Mount or VESA, White Smooth, Discontinued
- TS-1542-C-B-S: 15.6 in. HD Touch Screen with DM 8G+® Input, Wall Mount or VESA, Black Smooth, Discontinued
- TS-1542-C-W-S: 15.6 in. HD Touch Screen with DM 8G+® Input, Wall Mount or VESA, White Smooth, Discontinued
- TSW-560-B-S: 5 in. Touch Screen, Black Smooth, Discontinued
- TSW-560-W-S: 5 in. Touch Screen, White Smooth, Discontinued
- TSW-560-NC-B-S: 5 in. Touch Screen without Camera or Microphone, Black Smooth, Discontinued
- TSW-560-NC-W-S: 5 in. Touch Screen without Camera or Microphone, White Smooth, Discontinued
- TSW-560P-B-S: 5 in. Touch Screen, Portrait, Black Smooth, Discontinued
- TSW-560P-W-S: 5 in. Touch Screen, Portrait, White Smooth, Discontinued
- TSW-570-B-S: 5 in. Touch Screen, Black Smooth
- TSW-570-W-S: 5 in. Touch Screen, White Smooth
- TSW-570P-B-S: 5 in. Touch Screen, Portrait, Black Smooth, Discontinued
- TSW-570P-W-S: 5 in. Touch Screen, Portrait, White Smooth, Discontinued
- TSW-760-B-S: 7 in. Touch Screen, Black Smooth, Discontinued
- TSW-760-W-S: 7 in. Touch Screen, White Smooth, Discontinued
- TSW-760-NC-B-S: 7 in. Touch Screen without Camera or Microphone, Black Smooth, Discontinued
- TSW-760-NC-W-S: 7 in. Touch Screen without Camera or Microphone, White Smooth, Discontinued
- TSW-770-B-S: 7 in. Wall Mount Touch Screen, Black Smooth
- TSW-770-W-S: 7 in. Wall Mount Touch Screen, White Smooth
- TSW-770-GV-B-S: 7 in. Wall Mount Touch Screen, Government Version, Black Smooth
- TSW-770-GV-W-S: 7 in. Wall Mount Touch Screen, Government Version, White Smooth
- TSW-880-B: 8.1 in. Wall Mount Touch Screen, Black
- TSW-880-W: 8.1 in. Wall Mount Touch Screen, White
- TSW-880-GV-B: 8.1 in. Wall Mount Touch Screen, Government Version
- TSW-1060-B-S: 10.1 in. Touch Screen, Black Smooth, Discontinued
- TSW-1060-W-S: 10.1 in. Touch Screen, White Smooth, Discontinued
- TSW-1060-NC-B-S: 10.1 in. Touch Screen without Camera or Microphone, Black Smooth, Discontinued
- TSW-1060-NC-W-S: 10.1 in. Touch Screen without Camera or Microphone, White Smooth, Discontinued

- TSW-1070-B-S: 10.1 in. Wall Mount Touch Screen, Black Smooth
- TSW-1070-W-S: 10.1 in. Wall Mount Touch Screen, White Smooth
- TSW-1070-GV-B-S: 10.1 in. Wall Mount Touch Screen, Government Version, Black Smooth
- TSW-1070-GV-W-S: 10.1 in. Wall Mount Touch Screen, Government Version, White Smooth
- TSW-1080-B: 10.1 in. Wall Mount Touch Screen, Black
- TSW-1080-W: 10.1 in. Wall Mount Touch Screen, White
- TSW-1080-GV-B: 10.1 in. Wall Mount Touch Screen, Government Version
- TSW-1080-UC-B: 10.1 in. Wall Mount Touch Screen, Unified Communication Version

Wireless Touch Screens

- TST-1080: 10.1 in. Wireless Touch Screen

Video

The following video solutions are supported by the XiO Cloud® service.

AirMedia Wireless Presentation and Conferencing

- AM-200: AirMedia® Presentation System 200, Discontinued
- AM-300: AirMedia® Presentation System 300, Discontinued
- AM-3000-WF: AirMedia® Receiver 3000 with Wi-Fi® Network Connectivity
- AM-3000-WF-I: AirMedia® Receiver 3100 with Wi-Fi® Network Connectivity, International
- AM-3100-WF: AirMedia® Series 3 Receiver 100 with Wi-Fi® Connectivity
- AM-3100-WF-I: AirMedia® Series 3 Receiver 100 with Wi-Fi® Connectivity, International
- AM-3200: AirMedia® Series 3 Receiver 200
- AM-3200-WF: AirMedia® Series 3 Receiver 200 with Wi-Fi® Connectivity
- AM-3200-WF-I: AirMedia® Series 3 Receiver 200 with Wi-Fi® Connectivity, International
- AM3-111 KIT: AirMedia® Series 3 Kit with AM-3100-WF Receiver and AM-TX3-100 Adapter
- AM3-111-I KIT: AirMedia® Series 3 Kit with AM-3100-WF Receiver and AM-TX3-100 Adapter, International
- AM3-212-KIT: AirMedia® Series 3 Kit with AM-3200-WF Receiver, two AM-TX3-100 Adapters, and Cradle
- AM3-212-I KIT: AirMedia® Series 3 Kit with AM-3200-WF Receiver, two AM-TX3-100 Adapters, and Cradle, International

Digital Graphics Engines

- DGE-100: Digital Graphics Engine 100, Discontinued
- DGE-1000: Digital Graphics Engine 1000
- DM-DGE-200-C: Digital Graphics Engine 200 with 4K DM 8G+® Input

DigitalMedia Solutions

The following DigitalMedia™ solutions supported by the XiO Cloud® service.

DigitalMedia Presentation Systems

- DMPS3-4K-50: 3-Series® 4K DigitalMedia™ Presentation System 50, Discontinued
- DMPS3-4K-100-C: 3-Series® 4K DigitalMedia™ Presentation System 100, Discontinued
- DMPS3-4K-150-C: 3-Series® 4K DigitalMedia™ Presentation System 150, Discontinued
- DMPS3-4K-200-C: 3-Series® 4K DigitalMedia™ Presentation System 200, Discontinued
- DMPS3-4K-250-C: 3-Series® 4K DigitalMedia™ Presentation System 250

- DMPS3-4K-250-C-AIRMEDIA: 3-Series® 4K DigitalMedia™ Presentation System 250 with AirMedia®, Discontinued
- DMPS3-4K-300-C: 3-Series® 4K DigitalMedia™ Presentation System 300, Discontinued
- DMPS3-4K-350-C: 3-Series® 4K DigitalMedia™ Presentation System 350
- DMPS3-4K-350-C-AIRMEDIA: 3-Series® 4K DigitalMedia™ Presentation System 350 with AirMedia®, Discontinued
- DMPS3-200-C: 3-Series® DigitalMedia™ Presentation System 200, Discontinued
- DMPS3-300-C: 3-Series® DigitalMedia™ Presentation System 300, Discontinued
- DMPS3-300-C-AEC: 3-Series® DigitalMedia™ Presentation System 300 with Audio Conferencing Interface, Discontinued

DigitalMedia Switchers

- DM-MD8X8-CPU3: 8x8 DigitalMedia™ Switcher, Discontinued
- DM-MD8X8-CPU3-RPS: 8x8 DigitalMedia™ Switcher with Redundant Power Supplies, Discontinued
- DM-MD16X16-CPU3: 16x16 DigitalMedia™ Switcher, Discontinued
- DM-MD16X16-CPU3-RPS: 16x16 DigitalMedia™ Switcher with Redundant Power Supplies, Discontinued
- DM-MD32X32-CPU3: 32x32 DigitalMedia™ Switcher, Discontinued
- DM-MD32X32-CPU3-RPS: 32x2 DigitalMedia™ Switcher with Redundant Power Supplies, Discontinued

DM NVX AV-over-IP Solutions

- DM-NVX-350: DM NVX® 4K60 4:4:4 HDR Network AV Encoder/Decoder, Discontinued
- DM-NVX-350C: DM NVX® 4K60 4:4:4 HDR Network AV Encoder/Decoder Card, Discontinued
- DM-NVX-351: DM NVX® 4K60 4:4:4 HDR Network AV Encoder/Decoder with Downmixing, Discontinued
- DM-NVX-351C: DM NVX® 4K60 4:4:4 HDR Network AV Encoder/Decoder Card with Downmixing, Discontinued
- DM-NVX-352: DM NVX® 4K60 4:4:4 HDR Network AV Encoder/Decoder with Dante® Audio, Discontinued
- DM-NVX-352C: DM NVX® 4K60 4:4:4 HDR Network AV Encoder/Decoder Card with Dante® Audio, Discontinued
- DM-NVX-360: DM NVX® 4K60 4:4:4 HDR Network AV Encoder/Decoder
- DM-NVX-360C: DM NVX® 4K60 4:4:4 HDR Network AV Encoder/Decoder Card
- DM-NVX-363: DM NVX® 4K60 4:4:4 HDR Network AV Encoder/Decoder with Downmixing and Dante® Audio
- DM-NVX-363C: DM NVX® 4K60 4:4:4 HDR Network AV Encoder/Decoder Card with Downmixing and Dante® Audio
- DM-NVX-370: DM NVX® 4K60 4:4:4 AV-over-IP Encoder/Decoder with HDMI® and USB-C® Connectivity

- DM-NVX-370C: DM NVX® 4K60 4:4:4 AV-over-IP Encoder/Decoder Card with HDMI® and USB-C® Connectivity
- DM-NVX-371: DM NVX® 4K60 4:4:4 AV-over-IP Encoder/Decoder with HDMI® and USB-C® Connectivity and Downmixing
- DM-NVX-371C: DM NVX® 4K60 4:4:4 AV-over-IP Encoder/Decoder Card with HDMI® and USB-C® Connectivity and Downmixing
- DM-NVX-384: DM NVX® 5K 4x1 AV-over-IP Switcher with HDMI® and USB-C® Connectivity
- DM-NVX-384C: DM NVX® 5K 4x1 AV-over-IP Switcher Card with HDMI® and USB-C® Connectivity
- DM-NVX-385: DM NVX® 5K 4x1 AV-over-IP Switcher with HDMI® and USB-C® Connectivity and Downmixing
- DM-NVX-385C: DM NVX® 5K 4x1 AV-over-IP Switcher Card with HDMI® and USB-C® Connectivity and Downmixing
- DM-NVX-D10: DM NVX® 1080p60 4:4:4 Network AV Decoder, Discontinued
- DM-NVX-D20: DM NVX® 4K60 4:2:0 Network AV Decoder
- DM-NVX-D30: DM NVX® 4K60 4:4:4 HDR Network AV Decoder
- DM-NVX-D30C: DM NVX® 4K60 4:4:4 HDR Network AV Decoder Card
- DM-NVX-D200: DM NVX® 4K60 4:2:0 Network AV Decoder with Scaler
- DM-NVX-D80-IOAV: DM NVX® 4K60 4:4:4 HDR Network AV OPS Decoder, Discontinued
- DM-NVX-E10: DM NVX® 1080p60 4:4:4 Network AV Encoder, Discontinued
- DM-NVX-E20: DM NVX® 4K60 4:2:0 Network AV Encoder
- DM-NVX-E30: DM NVX® 4K60 4:4:4 HDR Network AV Encoder
- DM-NVX-E30C: DM NVX® 4K60 4:4:4 HDR Network AV Encoder Card
- DM-NVX-E760: DM NVX® 4K60 4:4:4 HDR Network AV Encoder with DM® Input
- DM-NVX-E760C: DM NVX® 4K60 4:4:4 HDR Network AV Encoder Card with DM® Input
- DM-NVX-SW-C310: DM NVX® 4K30 Network AV Encoder/Decoder CPU-Based Software, Single Stream

HDMI Solutions

The following HDMI® solutions supported by the XiO Cloud® service.

HDMI Extenders

- HD-RX-4K-210-C-E: DMPS Essentials 4K Multiformat 2x1 AV Switch and Receiver
- HD-RX-4K-210-C-E-POE: DMPS Lite™ 4K Multiformat 2x1 AV Switch and Receiver with PoE+, Discontinued
- HD-RX-4K-410-C-E: DMPS Lite™ 4K Multiformat 4x1 AV Switch and Receiver, Discontinued
- HD-RX-4K-410-C-E-SW4: DMPS Lite™ 4K Multiformat 4x1 AV Switch and Receiver with 4-Port Ethernet Switch, Discontinued
- HD-RX-4K-510-C-E: DMPS Lite™ 4K Multiformat 5x1 AV Switch and Receiver

- HD-RX-4K-510-C-E-SW4: DMPS Lite™ 4K Multiformat 5x1 AV Switch and Receiver with 4-Port Ethernet Switch, Discontinued
- HD-RXU-4KZ-202: DM® Essentials 4K60 4:4:4 Receiver and 2x2 Auto-Switcher for HDMI® and USB 2.0 Signal Extension over CATx Cable
- HD-TXU-4KZ-211: DM® Essentials 4K60 4:4:4 Transmitter and 2x1 Auto-Switcher for HDMI®, USB-C® DisplayPort™, and USB 2.0 Signal Extension over CATx Cable, Discontinued
- HD-TXU-4KZ-211-CHGR: DM® Essentials 4K60 4:4:4 Transmitter and 2x1 Auto-Switcher for HDMI®, USB-C® DisplayPort™, and USB 2.0 Signal Extension over CATx Cable with Device Charging

HDMI Switchers

- HD-MD2X1-8K: 2x1 8K AV Switcher and Smart Display Controller
- HD-MD4X1-4KZ-E: 4x1 4K60 4:4:4 HDR AV Switcher
- HD-MD4X2-4KZ-E: 4x2 4K60 4:4:4 HDR AV Switcher
- HD-MD4X4-4KZ-E: 4x2 4K60 4:4:4 HDR AV Switcher, Discontinued
- HD-MD8X4-4KZ-E: 8x4 4K60 4:4:4 HDR AV Switcher, Discontinued
- HD-MD8X8-4KZ-E: 8x8 4K60 4:4:4 HDR AV Switcher
- HD-PS401: 4x1 4K60 4:4:4 HDR Presentation System
- HD-PS402: 4x2 4K60 4:4:4 HDR Presentation System
- HD-PS621: 8x1 4K60 4:4:4 HDR Presentation System, Discontinued
- HD-PS622: 8x2 4K60 4:4:4 HDR Presentation System

Smart Display Controllers

- HD-CTL-101: 8K Smart Display Controller with HDMI® connectivity

Appendixes

This section provides the following information:

- Appendix A: Configure ServiceNow for XiO Cloud Alerts
- Appendix B: User Access Matrix
- Appendix C: XiO Cloud Program Connector Sources

Appendix A: Configure ServiceNow for XiO Cloud Alerts

As of XiO Cloud version 1.23, XiO Cloud alerts can be integrated with ServiceNow® software instances. Once alerts have been configured for your XiO Cloud account (as described in Alerts on page 183), the ServiceNow administrator for your system must make configuration changes to allow XiO Cloud to communicate with your ServiceNow instance. The administrator must implement two new inbound actions and modify the scripts/incident form in accordance with your system and requirements. These configuration tasks are described in the following sections.

> **NOTE:** ServiceNow integration requires an XiO Cloud Premium subscription.

Client Prerequisites

Ensure the following client-side prerequisites have been met prior to configuring your ServiceNow instance for XiO Cloud alerts:

- A working ServiceNow instance that is permitted to receive emails
- A ServiceNow system administrator that has been granted the **Admin** role
- ServiceNow has been enabled in the XiO Cloud account settings.
- Basic knowledge of ServiceNow incident form development
- Basic knowledge of ServiceNow scripting and JavaScript® coding

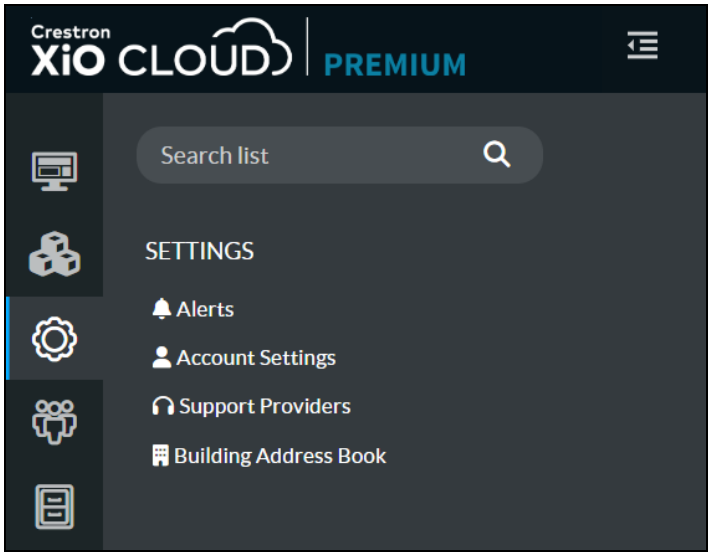
Turn on ServiceNow Within XiO Cloud

Users with Global Administrator permissions can turn on a connection to a ServiceNow instance directly from the XiO Cloud portal.

To turn on ServiceNow within XiO Cloud from the portal:

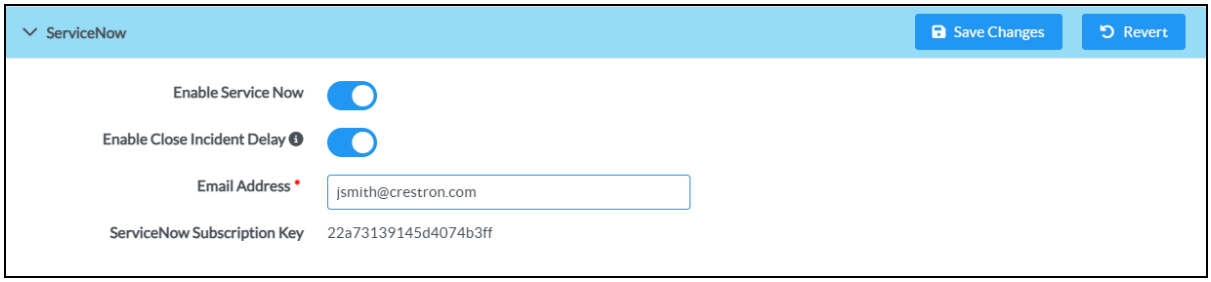
1. Select the gear icon on the left side of the screen.
2. Select **Account Settings**.

   SETTINGS Menu



3. Within the **Profile** tab on the right side of the screen, expand the **ServiceNow** accordion, then turn on the **Enable ServiceNow** toggle.

   Profile Tab - ServiceNow Accordion



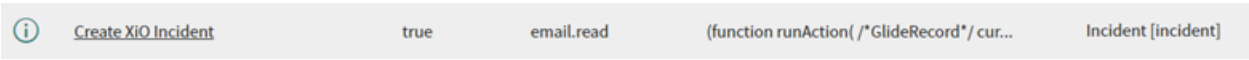
4. (Optional) Turn on the **Enable Close Incident Delay** toggle to delay sending a "close ticket" message from XiO Cloud to ServiceNow by three minutes.

   > **NOTE:** Crestron recommends turning on the **Enable Close Incident Delay** feature to ensure ticket closure is handled properly between ServiceNow and XiO Cloud. Implementing this delay helps to maintain accurate records and prevents potential conflicts in the system.

5. Enter the email address for the ServiceNow instance in the **Email Address** text field.
6. Select **Save Changes** on the top right of the accordion.

Create XiO Incident Script

To allow XiO Cloud to create an alert email within your system, you must implement the **Create XiO Incident** inbound action within your ServiceNow instance. This rule takes emails received from XiO Cloud and converts them into incidents within your system automatically, allowing specified data points to map to fields within your instance. Selecting the inbound action rule shows the details associated with it, including the condition that triggers the inbound action and the script that maps it to your incident table.



When to Run Tab

Select the **When to Run** tab to view and configure conditions that will trigger the **Create XiO Incident** inbound action to run. Sending an email to the ServiceNow instance with a subject that contains "Crestron-XIO: NEW Incident" triggers the inbound action to run.

> **NOTE:** Do not change the subject condition, as it may cause your system to incorrectly triage your XiO Cloud incidents and, therefore, to not trigger the rule.



Actions Tab

Select the **Actions** tab to view and configure action scripts for the **Create XiO Incident** inbound action. The provided script parses through the email and correctly allocates data to certain fields based on the content of the XiO Cloud alert.

Each section of the script is described below.

```
//Parse Table Content to Description

var parseBody = email.body_text.split(',').join('\n');
current.description = parseBody;
```

The code under the "Parse Table Content to Description" comment is used to parse the information within the comma-delimited email sent from XiO Cloud and adds it to the description field of the created incident.

```
//Populate Email content to Fields

current.short_description = email.subject;
current.caller_id = gs.getUserID();
current.contact_type = "Email";
current.comments = "recieved from: " + email.origemail + "\n\n" + email.body_text;
current.category = "xio";
current.subcategory = "Email";
current.cmbd_ci.setDisplayValue('XiO');
```

The code under the "Populate Email content to Fields" section shows the logic used to populate other key fields on the incident form, including **Caller ID**, **Contact Type**, **Comments**, **Category**, **Subcategory**, and **Configuration Item**.

NOTES:

- You must add the **Category**, **Subcategory**, and **Configuration Item** values to your system if they do not already exist. Custom categories, subcategories, or configuration items can also be used. In this case, the code must be modified to match the values that will be used in the current system. Additional information on how to add these values is provided in the ServiceNow documentation.
- The **Caller ID** field will populate as "Guest" unless you create an account associated with the XiO Cloud email. For more information, refer to the ServiceNow documentation.

```
//Parse Correlation ID from Email

var rsubject = email.subject;
var keyword = "CorrelationID#";
var key = rsubject.indexOf(keyword); //Assuming this text would never change
gs.log(key, 'Did it work');

if (key > 0) {

    var number = rsubject.substring(47);

    gs.log(number, "TEST"); //Try logging number

    current.correlation_id = number;
    gs.log(number, "TEST AGAIN");
    current.insert();

}
```

The code under the "Parse Correlation ID from Email" section shows the logic used to populate incidents with the **Correlation ID** needed to link the XiO Cloud alert emails with your ServiceNow instance. This field must be added to your Incident form through the Form Designer tool if has not been already added.

> **NOTE:** Modifying the provided logic is not recommended, as the code will likely break and will prevent the field from being populated.

Additional information on how to add certain fields to your incident form, such as Correlation ID, is provided in the ServiceNow documentation.

```
//Logic to Define Priority

if (email.body_text.toLowerCase().indexOf("critical") >= 0) {
    current.impact = 1;
    current.urgency = 1;
}
if (email.body_text.toLowerCase().indexOf("warning") >= 0) {
    current.impact = 2;
    current.urgency = 2;
}
```

The code under the "Logic to Define Priority" section is showing the logic that will populate the **Impact** and **Urgency** fields on the incident form, which will result in populating the **Priority** field based on the impact/urgency matrix that your incident is configured with.

Currently, there are only two variables within the script that will modify the **Priority** field:

- If an XiO Cloud alert email is of type "Critical" or of type "Warning", the priorities will be set to 1 or 3, respectively.
- If an XiO Cloud alert email is of a type other than "Warning" or "Critical", the default priority of 5 is assigned.

If you would like to modify this logic to better adhere to your instance processes, change the values of current.impact or current.urgency in accordance with the matrix below to get the desired priority for incoming incidents.

Impact/Urgency	1 – Critical	2 – High	3 – Medium	4 – Low
1 – Extensive	Priority 1	Priority 2	Priority 2	Priority 3
2 – Significant	Priority 2	Priority 2	Priority 3	Priority 4
3 – Moderate	Priority 2	Priority 3	Priority 4	Priority 4
4 – Minor	Priority 3	Priority 4	Priority 4	Priority 4

Close Incident XiO Script

After the XiO Cloud alert is resolved, the system will send a follow-up email to your ServiceNow instance. After this email is sent, the **Close Incident XiO** script will trigger and close the associated incident automatically. The primary function of the script is to locate the correct incident that the XiO Cloud email is referencing, and it does so by searching the system for the corresponding correlation ID that links the ServiceNow Incident to the XiO Cloud email.



When to Run Tab

Select the **When to Run** tab to view and configure conditions that will trigger the **Close Incident XiO** inbound action to run. Sending any email to the ServiceNow instance with a subject that contains "Closed incident with CorrelationID#" triggers the inbound action to run.

> **NOTE:** Do not change the subject condition, as it may cause your system to incorrectly triage your XiO Cloud incidents and therefore not trigger the rule.



Actions Tab

Select the **Actions** tab to view and configure action scripts for the **Close Incident XiO** inbound action. The provided script parses through an XiO Cloud alert email and associates its correlation ID (located in the email subject) with the correlated incident and its matching ID.

Each section of the script is described on the following page.

```
//Logic to parse Correlation ID

var rsubject = email.subject;
var keyword = "CorrelationID#";
var key = rsubject.indexOf(keyword); //Assuming this text would never change
if (key > 0) {
    var myID = rsubject.substring(50);
    gs.log(myID);
}
```

The first snippet of code under the "Logic to parse Correlation ID" section is used to parse the correlation ID from the email subject and save it as a variable called "Keyword". An *If* statement is then run to check if the Keyword "Correlation ID#" exists. If this keyword exists, the index of the keyword is parsed from the email subject and saved as the variable "MyID." A log function, `gs.log(myID)`, is also provided.

```
var myTask = new GlideRecord('incident');
myTask.addQuery("correlation_id", myID.toString());
myTask.query();
if (myTask.next()) {
    myTask.incident_state = IncidentState.CLOSED;
    gs.log('Task Completed');
    myTask.update();
} else {
    // No match found so log an error
    gs.info('No Match found');
}
```

The second snippet of code under the "Logic to parse Correlation ID" section takes the saved Correlation ID (MyID) and uses it in a new GlideRecord to find any existing incidents with a matching Correlation ID. Once it is queried using `MyTask.query()`; the system searches your instance for any incidents that have a Correlation ID matching the variable saved from the **Close Incident XiO** email. Once a match is found, the system will set the Incident State to Closed. If no updated occurs, it will log "No Match found" in your system logs.

> **NOTE:** Do not modify the close incident script, as any modifications to it may jeopardize the functionality of this script.

Close ServiceNow Incidents in XiO Cloud

When a ServiceNow incident is closed, the corresponding alert is not automatically resolved in XiO Cloud. In order for a closed incident to resolve the corresponding alert in XiO Cloud, a secure connection must be established between ServiceNow and XiO Cloud via REST API calls to the following endpoint:

https://api.crestron.io/api/v2/servicenowcallback/ServicenowCallBack

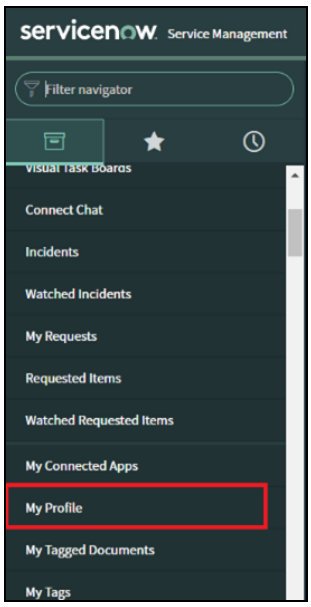
The REST API call is configured in ServiceNow as described in the following sections.

Add a Subscription Key to ServiceNow

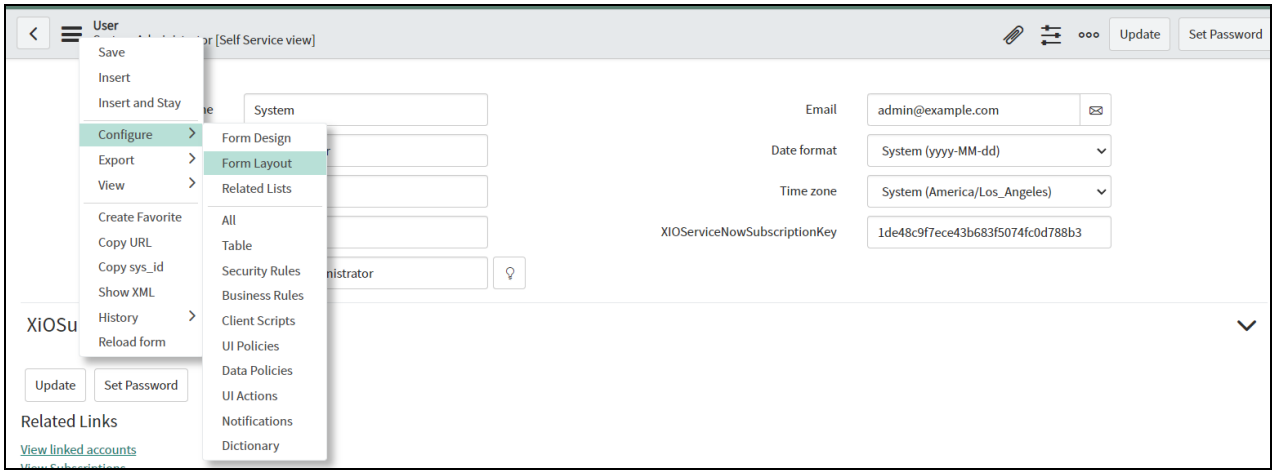
A subscription key must be added to your ServiceNow instance to establish a connection between ServiceNow and XiO Cloud.

To add the required subscription key:

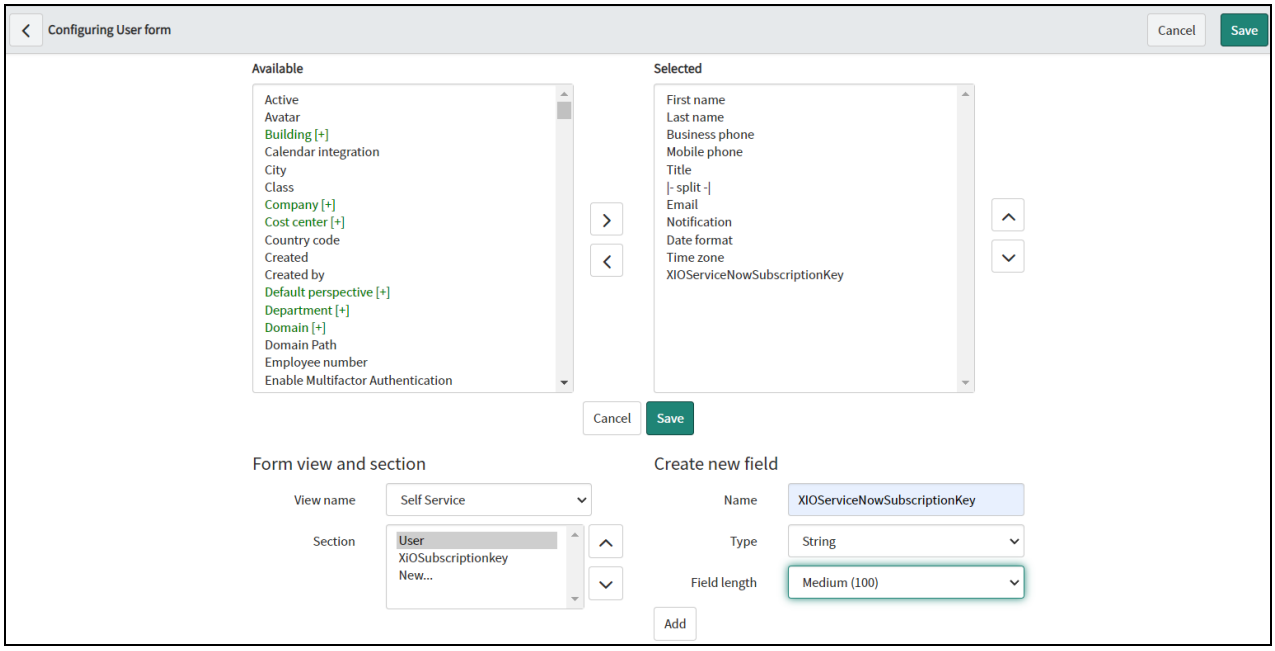
1. Log in to your ServiceNow instance.
2. Select **My Profile** from the right-hand navigation menu.



3. Using the hamburger menu in the top-left corner, navigate to **Configure** > **Form Layout**.

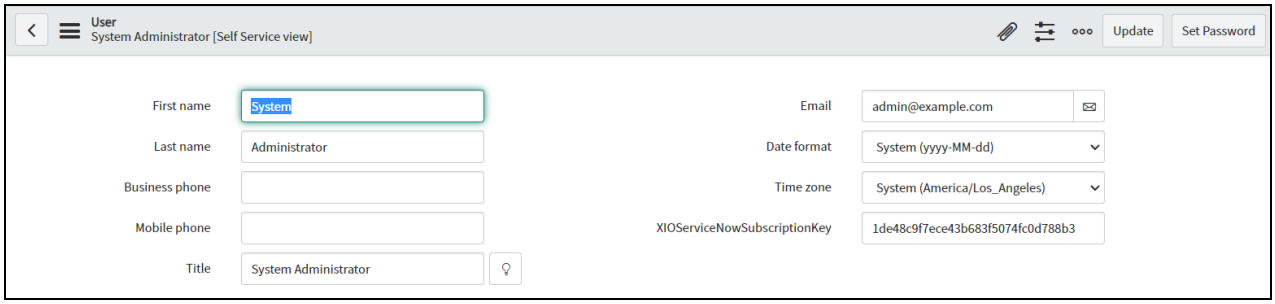


The **Configuring User form** page is displayed.



4. Enter the following information into the **Create new field** section.
    - **Name:** Enter "XIOServiceNowSubscriptionKey" into the text field.
    - **Type**: Select **String** from the drop-down menu.
    - **Field Length**: Select **Medium (100)** from the drop-down menu.
5. Select **Add**. The **XiOServiceNowSubscriptionKey** field is added to the **Available** fields list.
6. Select **XiOServiceNowSubscriptionKey** in the **Available** fields list, and then select the right arrow (**>**) button to move it into the **Selected** fields list.
7. Select **Save**. The **XiOServiceNowSubscriptionKey** field is now shown in the **User** profile page, and the subscription key is populated automatically as long as ServiceNow is turned on in the XiO Cloud tenant.

> **NOTE:** If ServiceNow is already turned on in the XiO Cloud tenant and the subscription key is not populating after completing the steps above, turn off the **Enable ServiceNow** toggle in XiO Cloud and then turn it back on. For more information, refer to Turn on ServiceNow Within XiO Cloud on page 274.

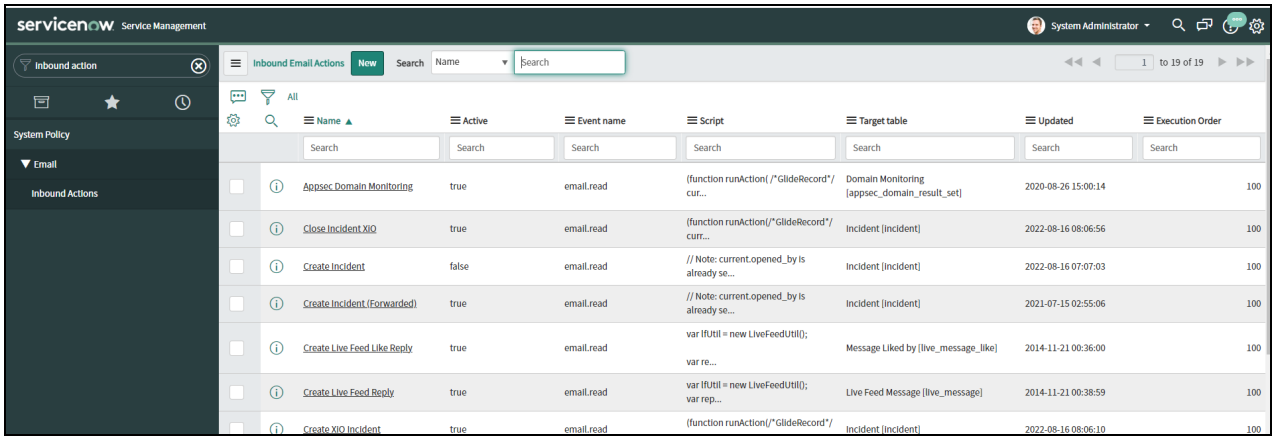


Inbound Actions Setup

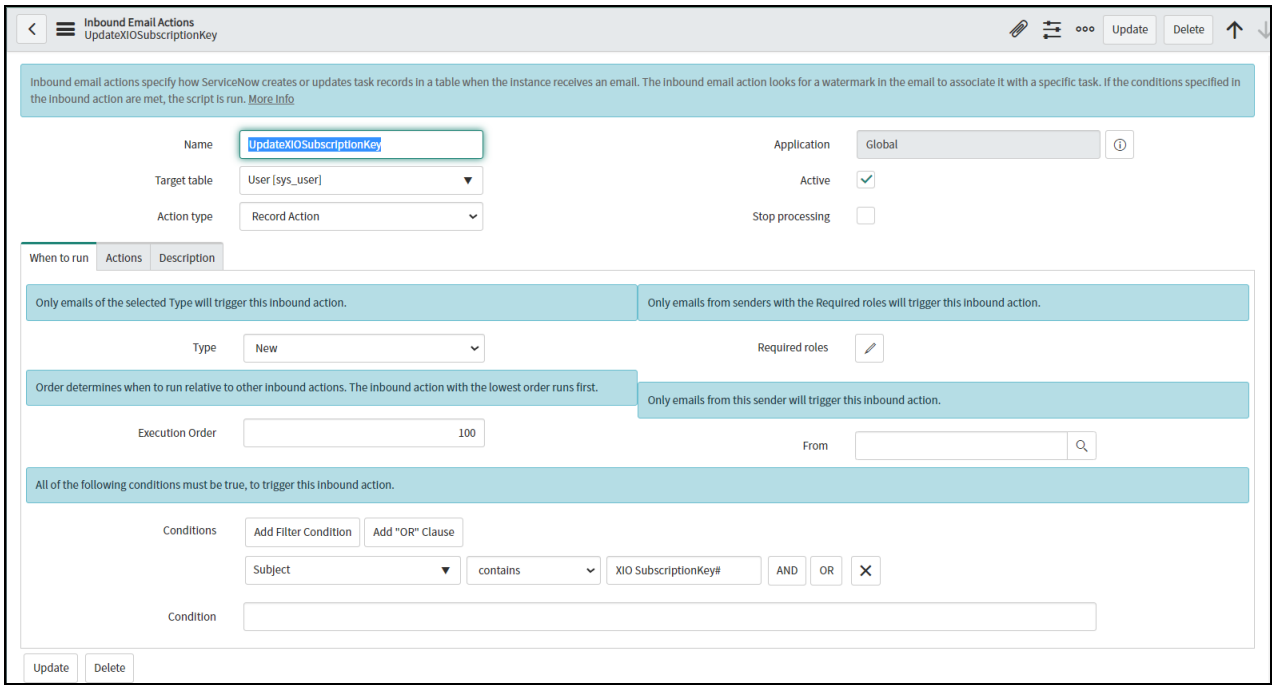
An new inbound action must be created and configured that includes a script for updating the XiO Cloud subscription key within the ServiceNow user profile page.

To create and configure the required inbound action:

1. Select **Inbound Actions** from the **System Policy** section of the right-hand navigation menu to display all inbound actions for the ServiceNow instance.

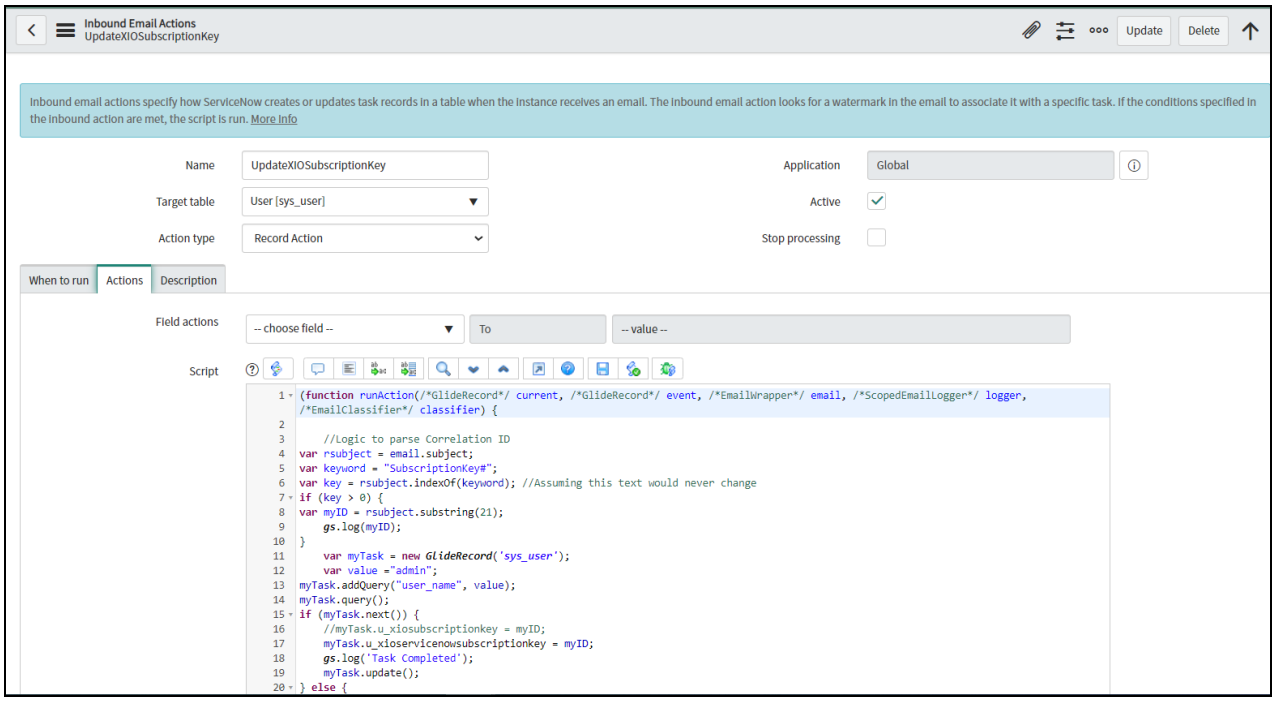


2. Select **New** from the top of the inbound actions list. A page for configuring a new inbound action is displayed.



3. Configure the following information for the inbound action:
    - **Name**: Enter "UpdateXiOSubscriptionKey" into the text field.
    - **Target table**: Select **User [sys_user]** from the drop-down menu.
    - **Action type**: Select **Record Action** from the drop-down menu.

4. Select the **When to run** tab (if is not already selected).
5. Create the following new condition: **Subject** / **contains** / **XIO SubscriptionKey#** / **AND** / **OR**.
6. Select the **Actions** tab.
7. Enter the script located within the Processing Script on page 287 topic into the **Script** text box.



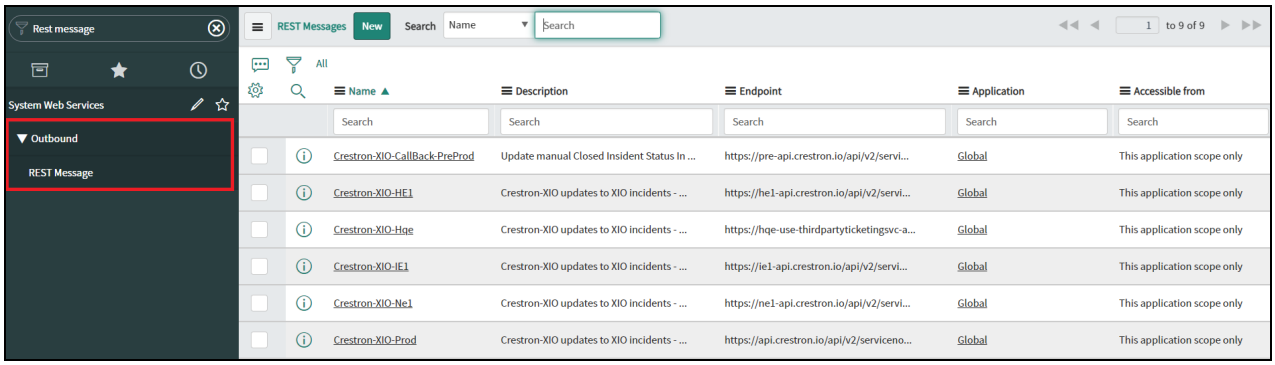
8. Select **Submit** to save the new inbound action. The **UpdateXiOSubscriptionKey** inbound action is added to the ServiceNow instance.

REST Message Setup

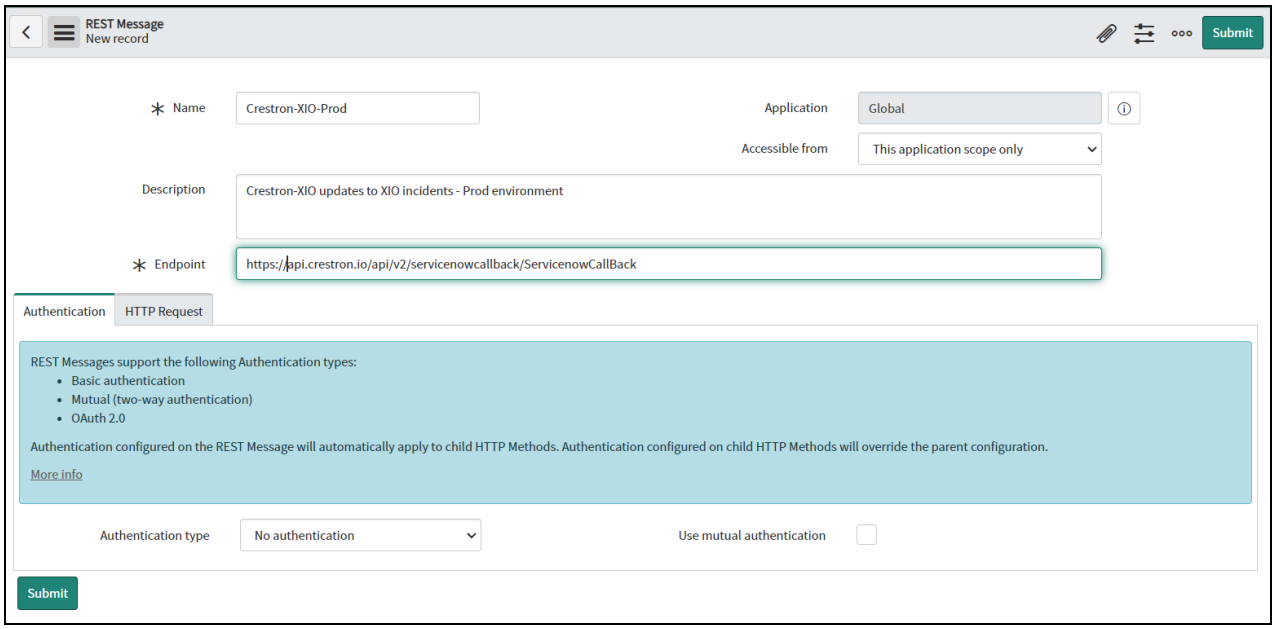
A REST message must be created and configured that invokes the XiO Cloud service when a user changes an incident status to **Closed** from the ServiceNow portal.

To create and configure the required REST message:

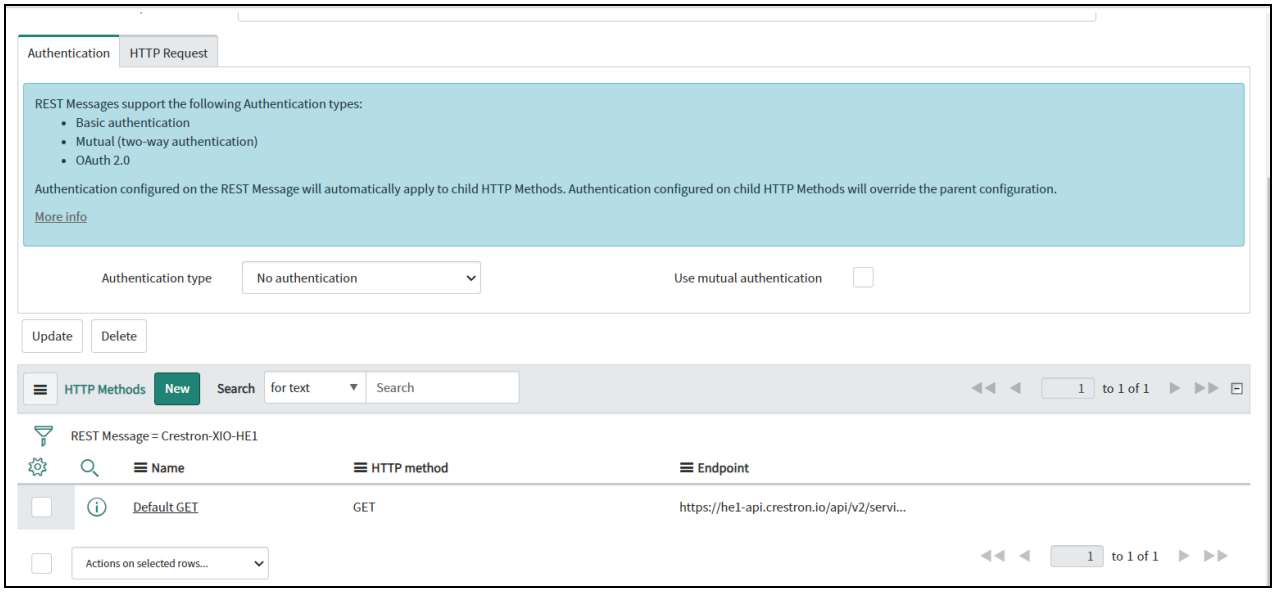
1. Select **Outbound** > **REST Message** from the **System Web Services** section of the right-hand navigation menu to display all REST messages for the ServiceNow instance.



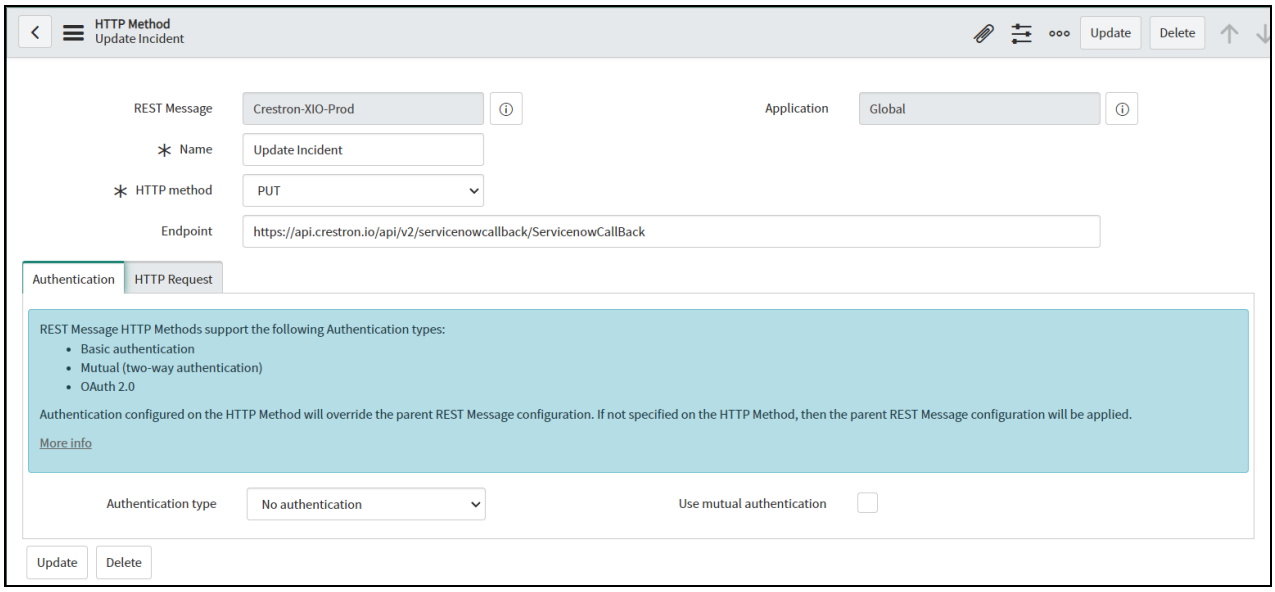
2. Select **New** from the top of the REST messages list. A page for configuring a new REST message is displayed.



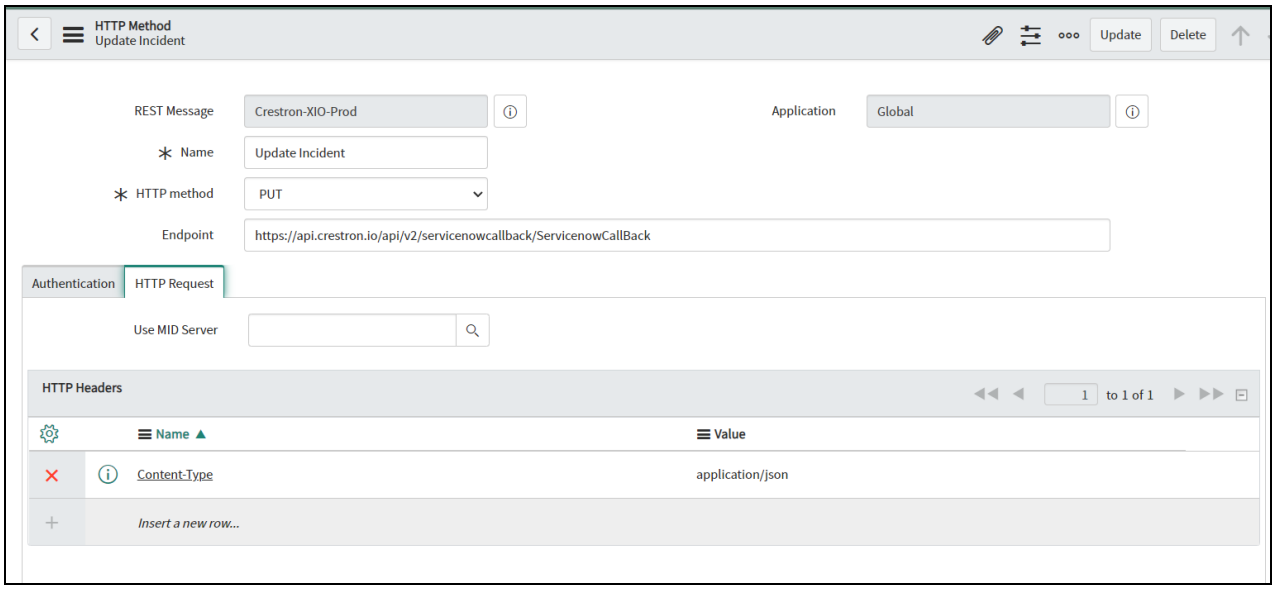
3. Create the new REST message by entering the following information in the provided fields exactly as shown:
    - **Name**: Crestron-XIO-Prod
    - **Description**: Crestron-XIO updates to XIO incidents - prod environment
    - **Endpoint**: https://api.crestron.io/api/v2/servicenowcallback/ServicenowCallBack
4. Select **Submit** to save the new REST message. The **Crestron-XIO-Prod** REST message is added to the ServiceNow instance.
5. Reopen the **Crestron-XIO-Prod** REST message.



6. Under the **HTTP Methods** section, select the **Default Get** method. A page for editing the REST message method is displayed.



7. Enter the following information for the HTTP method in the provided fields:
   - **Name**: Update Incident
   - **HTTP Method**: PUT
   - **Endpoint**: https://api.crestron.io/api/v2/servicenowcallback/ServicenowCallBack
   - **Authentication type**: No authentication
8. Select the **HTTP Request** tab.



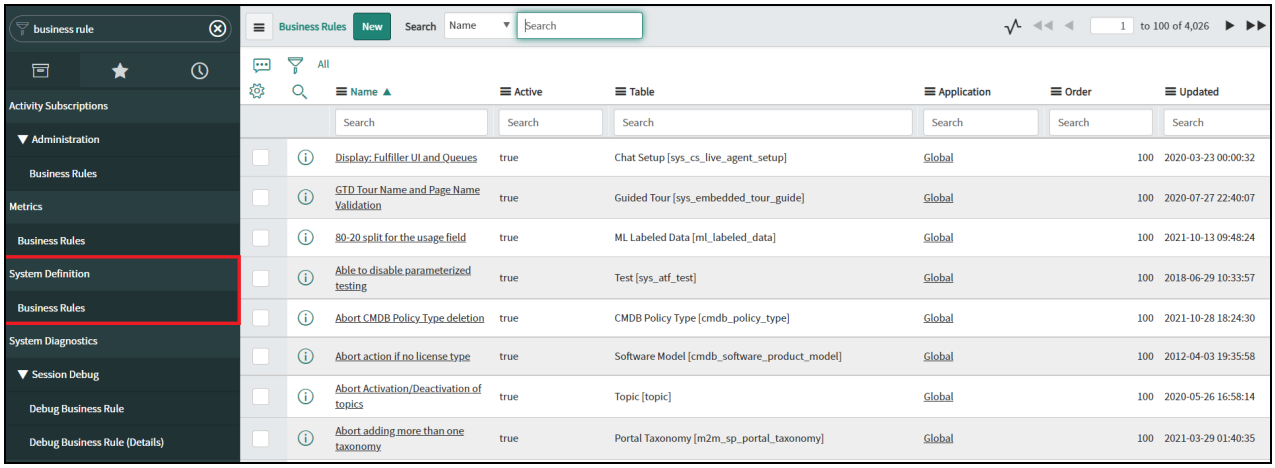
9. Add the following new HTTP header:
   - **Name**: Content-Type
   - **Value**: application/json

10. Select **Update** to save the REST message.

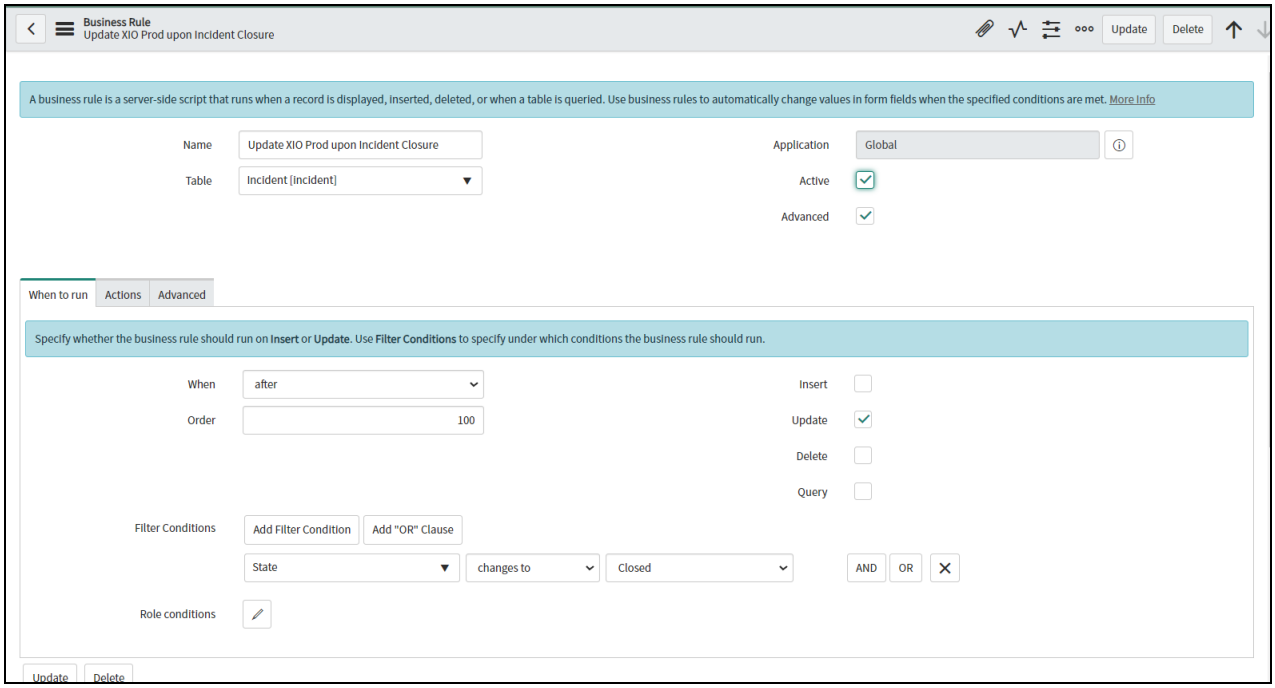
Business Rule Setup

A business rule must be created and configured that includes a script for calling the REST message when an incident status is changed to **Closed** within the **Incident Table** in ServiceNow.

1. Select **Business Rules** from the **System Definition** section of the right-hand navigation menu to display all system definition business rules for the ServiceNow instance.



2. Select **New** from the top of the business rules list. A page for configuring a new business rule is displayed.



3. Enter the following information for the business rule in the provided fields:
    - **Name**: Update XIO Prod upon Incident Closure
    - **Table**: Incident [Incident]
    - **Application**: Global
    - **Active**: Fill the check box
    - **Advanced**: Fill the check box
4. Populate the business rule data by selecting the **Advanced** tab and then adding the XML script located within the Business Rule Script on page 288 topic.
5. Select **Submit** to save the new business rule.

Test the Connection

To test that the incident closing behavior works as expected, create a new incident in ServiceNow, and then toggle the state from **New** to a different state and then back to **New**. A request for a new correlation ID will be generated. Then, update the incident with the new correlation ID and mark the incident as **Closed**. The incident should also be closed in XiO Cloud following this test.

Processing Script

The following script is used when configuring an inbound action to update the XiO Cloud subscription key within the ServiceNow user profile page. Refer to Inbound Actions Setup on page 282 for more information.

```
(function runAction(/*GlideRecord*/ current, /*GlideRecord*/ event, /*EmailWrapper*/ email,
/*ScopedEmailLogger*/ logger, /*EmailClassifier*/ classifier) {

    //Logic to parse Correlation ID
var rsubject = email.subject;
var keyword = "SubscriptionKey#";
var key = rsubject.indexOf(keyword); //Assuming this text would never change
if (key > 0) {
var myID = rsubject.substring(21);
    gs.log(myID);
}
    var myTask = new GlideRecord('sys_user');
    var value ="admin";
myTask.addQuery("user_name", value);
myTask.query();
if (myTask.next()) {
    //myTask.u_xiosubscriptionkey = myID;
    myTask.u_xioservicenowsubscriptionkey = myID;
    gs.log('Task Completed');
    myTask.update();
} else {
// No match found so log an error
    gs.info('No Match found');
}

})(current, event, email, logger, classifier);
```

Business Rule Script

The following script is used when creating a new business rule to set the incident closing behavior. Refer to Business Rule Setup on page 286 for more information.

```
(function executeRule(current, previous /*null when async*/) {

    var myTask = new GlideRecord('sys_user');
    var value ="admin";
myTask.addQuery("user_name", value);
myTask.query();
if (myTask.next()) {
    var XiOSubscriptionKey = myTask.getValue('u_xioservicenowsubscriptionkey');
    gs.log('Task Completed');
} else {
// No match found so log an error
    gs.info('No Match found');
}

    try {

        if (XiOSubscriptionKey) {
            var incObj = {
                sys_id: current.getUniqueValue(),
                state: current.getDisplayValue('state'),
                short_description: current.getValue('short_description'),
                number: current.getDisplayValue('number'),
                assignment_group: current.getDisplayValue('assignment_group'),
                assigned_to: current.getDisplayValue('assigned_to'),
                correlation_id: current.getValue('correlation_id'),
                XiO_subscription_key: XiOSubscriptionKey,
            };

            try {
                var xioRequest = new sn_ws.RESTMessageV2('Crestron-XIO-Prod', 'Update Incident');
//Specific name of the Rest Endpoint
                xioRequest.setRequestBody(JSON.stringify(incObj));
                xioRequest.setRequestHeader("XiO-subscription-key",XiOSubscriptionKey);
                var response = xioRequest.execute();
                var responseBody = response.getBody();
                var httpStatus = response.getStatusCode();
                gs.addInfoMessage(responseBody); //Remove upon conclusion of testing
            } catch (ex) {
                var message = ex.message;
                gs.error("Unexpected error encountered during XIO Update Incident.  " + message);
            }
        }
    } catch (e) {
        gs.error("Unexpected error encountered during XIO Token Request. " + e.message);
    }

})(current, previous);
```

Additional Resources

The following resources are provided to assist users with implementing this functionality.

- ServiceNow Paris Platform Documentation
- ServiceNow Development Documentation
- ServiceNow Inbound Action Documentation
- ServiceNow Community Form
- JavaScript Documentation

Appendix B: User Access Matrix

The following table shows the tasks that can be performed for different user access levels.

> **NOTE:** Access levels for standard users are granted on a per-group and per-room basis. For more information, refer to Manage Users on page 136.

Task	Global Admin	Standard User			
		Admin	Tech	Viewer	Hidden
View devices in device tree	✓	✓	✓	✓	✗
View **Status** tab	✓	✓	✓	✓	✗
View **Settings** tab	✓	✓	✓	✓	✗
View **Licenses** tab	✓	✓	✓	✓	✗
View **Activity Log** tab	✓	✓	✓	✓	✗
View **Dashboard** tab (XiO Cloud Premium subscription only)	✓	✓	✓	✓	✗
View **Scheduled Actions** tab	✓	✓	✓	✓	✗
View **File Management** tab	✓	✓	✓	✓	✗
View **Remote Control** tab (XiO Cloud Premium subscription only)	✓	✓	✓	✗	✗
Change device or group settings	✓	✓	✓	✗	✗
Add or remove licenses on devices	✓	✓	✓	✗	✗
Create scheduled actions	✓	✓	✓	✗	✗
Control devices remotely (XiO Cloud Premium subscription only)	✓	✓	✓	✗	✗
Load a file to a device slot	✓	✓	✓	✗	✗

Task	Global Admin	Standard User			
		Admin	Tech	Viewer	Hidden
Start/stop or register/unregister a device program	✓	✓	✓	✗	✗
Update firmware	✓	✓	✓	✗	✗
Reboot devices	✓	✓	✓	✗	✗
Clear alerts (XiO Cloud Premium subscription only)	✓	✓	✓	✗	✗
Add or modify buildings	✓	✗	✗	✗	✗
Add devices to a group	✓	✓	✓	✗	✗
Rename a group	✓	✓	✓	✗	✗
Delete a group	✓	✓	✓	✗	✗
Add or modify program and project files	✓	✓	✓	✗	✗
Change user access to a group	✓	✓	✗	✗	✗
Add subgroups	✓	✓	✗	✗	✗
Add top-level groups	✓	✗	✗	✗	✗
Claim devices using the XiO Cloud portal	✓ (into all rooms and desks)	✓ (into assigned rooms and desks)	✓ (into assigned rooms and desks)	✓ (only into unassociated devices)	✓ (only into unassociated devices)
Claim devices using the Crestron Device Assistant app	✓ (into all rooms)	✓ (into assigned rooms)	✓ (into assigned rooms)	✓ (only into unassociated devices)	✓ (only into unassociated devices)
Download inventory	✓	✗	✗	✗	✗
Add alerts (XiO Cloud Premium subscription only)	✓	✗	✗	✗	✗
Enable remote control functionality (XiO Cloud Premium subscription only)	✓	✗	✗	✗	✗
Add new users	✓	✗	✗	✗	✗
Delete users	✓	✗	✗	✗	✗
Change user roles	✓	✗	✗	✗	✗

Task	Global Admin	Standard User			
		Admin	Tech	Viewer	Hidden
Change user profile information	✔ (any user)	✔ (for self)	✔ (for self)	✔ (for self)	✔ (for self)
Reset user account password	✔ (any user)	✔ (for self)	✔ (for self)	✔ (for self)	✔ (for self)
Change alerts received by a user (XiO Cloud Premium subscription only)	✔ (any user)	✔ (for self)	✔ (for self)	✔ (for self)	✔ (for self)
View cloud activity logs	✔	✔	✔	✔	✘
Request device logs	✔	✔	✔	✘	✘
View downloaded device logs	✔	✔	✔	✔	✘
Modify alerts	✔	✘	✘	✘	✘
Modify account settings	✔	✘	✘	✘	✘
Modify services (room licensing)	✔	✘	✘	✘	✘
Modify support providers	✔	✘	✘	✘	✘
Manage files	✔	✘ (read only)	✘ (read only)	✘ (read only)	✘ (read only)
Manage EDIDs	✔	✘ (read only)	✘ (read only)	✘ (read only)	✘ (read only)
Manage images	✔	✘ (read only)	✘ (read only)	✘ (read only)	✘ (read only)
Power on/off (displays)	✔	✔	✔	✔	✘
Power on/off (PDUs)	✔	✔	✔	✔	✘
Source routing	✔	✔	✔	✔	✘
Modify a room's **Status & Control** functions via the XiO Cloud Program Connector.	✔ (all rooms)	✔ (assigned rooms only)	✔ (assigned rooms only)	✘ (read only)	✘

Appendix C: XiO Cloud Program Connector Sources

The following **Current Source** icons and descriptions can be displayed via the **Room Control** card when using the XiO Cloud Program Connector functionality. For more information, refer to XiO Cloud Program Connector on page 148.

Source Type	Source Descriptions	Icon
AirMedia® streaming presentation system	AirMedia AirMedia [1–9] AirMedia Conferencing AirMedia Conferencing [1–9] AirMedia Presenting AIrMedia Presenting [1–9]	
Apple TV® streaming service	Apple TV Apple TV [1–9]	
Blu-ray Disc™ player	Blu-ray Player Blu-ray Player [1–9]	
Camera	Camera Camera [1–9] Front Camera Back Camera Side Camera	
Cable Box	Cable Box Cable Box [1–9]	
Document Camera	Document Camera Document Camera [1–9] Front Document Camera Back Document Camera Side Document Camera	
HDMI® output	HDMI HDMI [1–9] Front HDMI Back HDMI Side HDMI	
Laptop	Laptop Laptop [1–9] Front Laptop Back Laptop Side Laptop	

Source Type	Source Descriptions	Icon
Media Player	Media Player Media Player [1–9]	
Microsoft Teams® video conferencing	Microsoft Teams	
PC	PC PC [1–9] Front PC Back PC Side PC	
Roku® streaming service	Roku Roku [1–9]	
Streaming Player	Streaming Player Streaming Player [1–9]	
TV Set Top Box	TV Set Top Box TV Set Top Box [1–9]	
Uncontrolled Audio Source	Uncontrolled Audio Source Uncontrolled Audio Source [1–9]	
Uncontrolled Video Source	Uncontrolled Video Source Uncontrolled Video Source [1–9]	
Unified Communications	Unified Communications	
USB output	USB USB [1–9] Front USB Back USB Side USB	
Video Conferencing	Video Conferencing	
Wireless Presenting	Wireless Presenting Wireless Presenting [1–9]	
Zoom Rooms® conferencing control	Zoom Rooms	

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