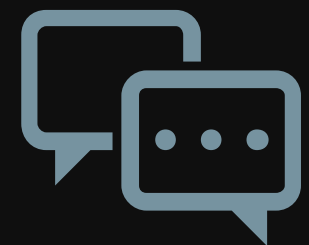


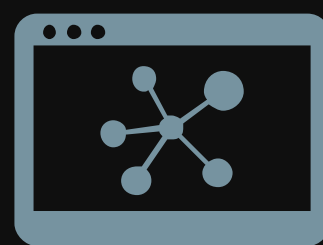


WHAT IS UTELOGY

At its core, Utelogy is an Internet of Things (IoT) platform that specialises in professional AV environments.
It works on the following principles:



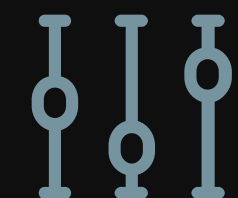
*Most professional AV devices communicate via TCP/IP protocol**



This enables the devices to communicate and be controlled over an IP network



The Utelogy platform leverages the IP network to group together selected AV devices and allocate them to a specific space.

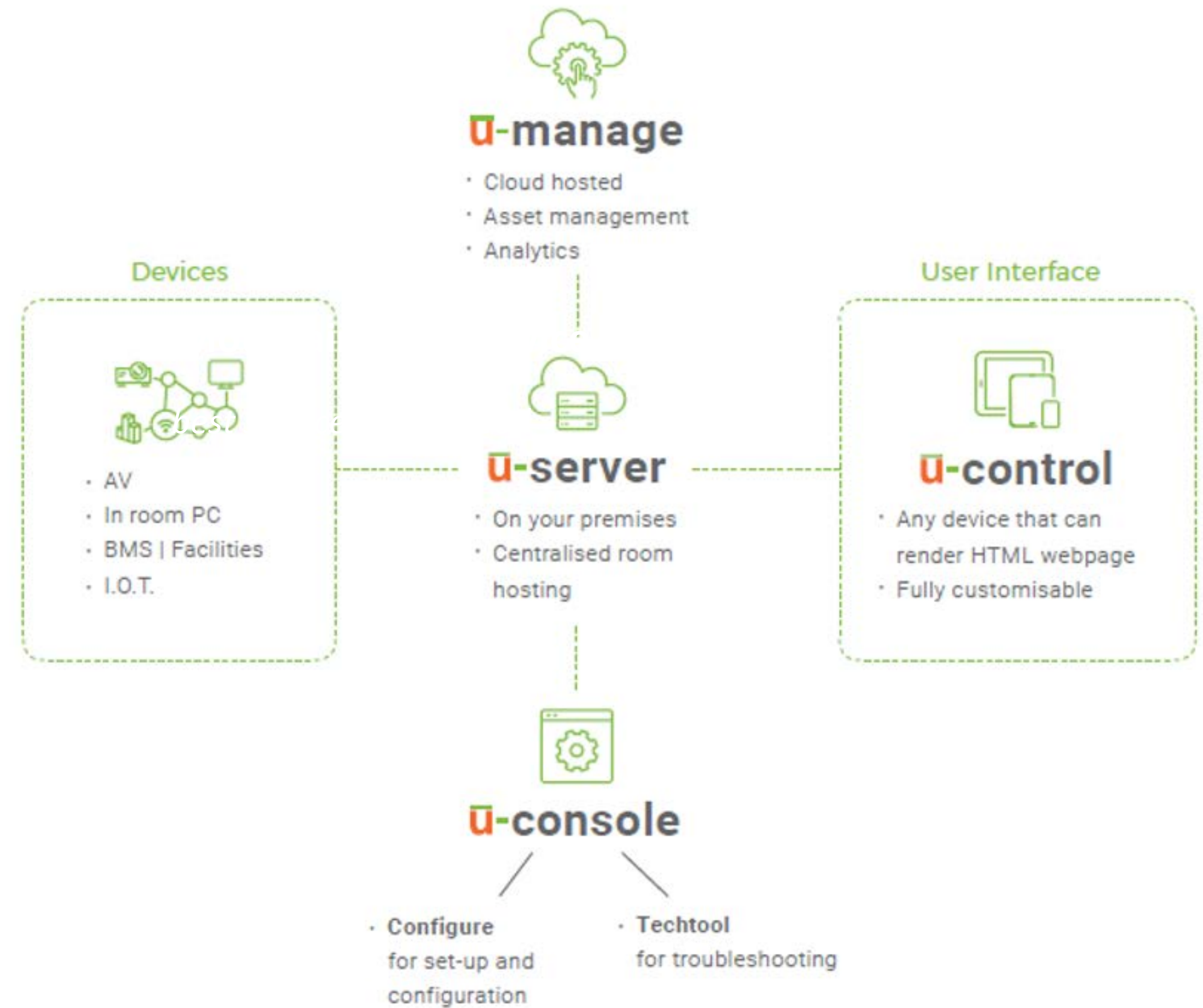


Utelogy uses a software application to configure, control and monitor the AV devices to reflect the functions that the technology needs to deliver for the users of the space.

*For legacy devices that don't have TCP/IP (i.e. relay, IR, serial), there are low cost converters available that convert them to TCP/IP

About Utelogy

System Architecture – Designed for Simplicity



Utelogy Programming Tools

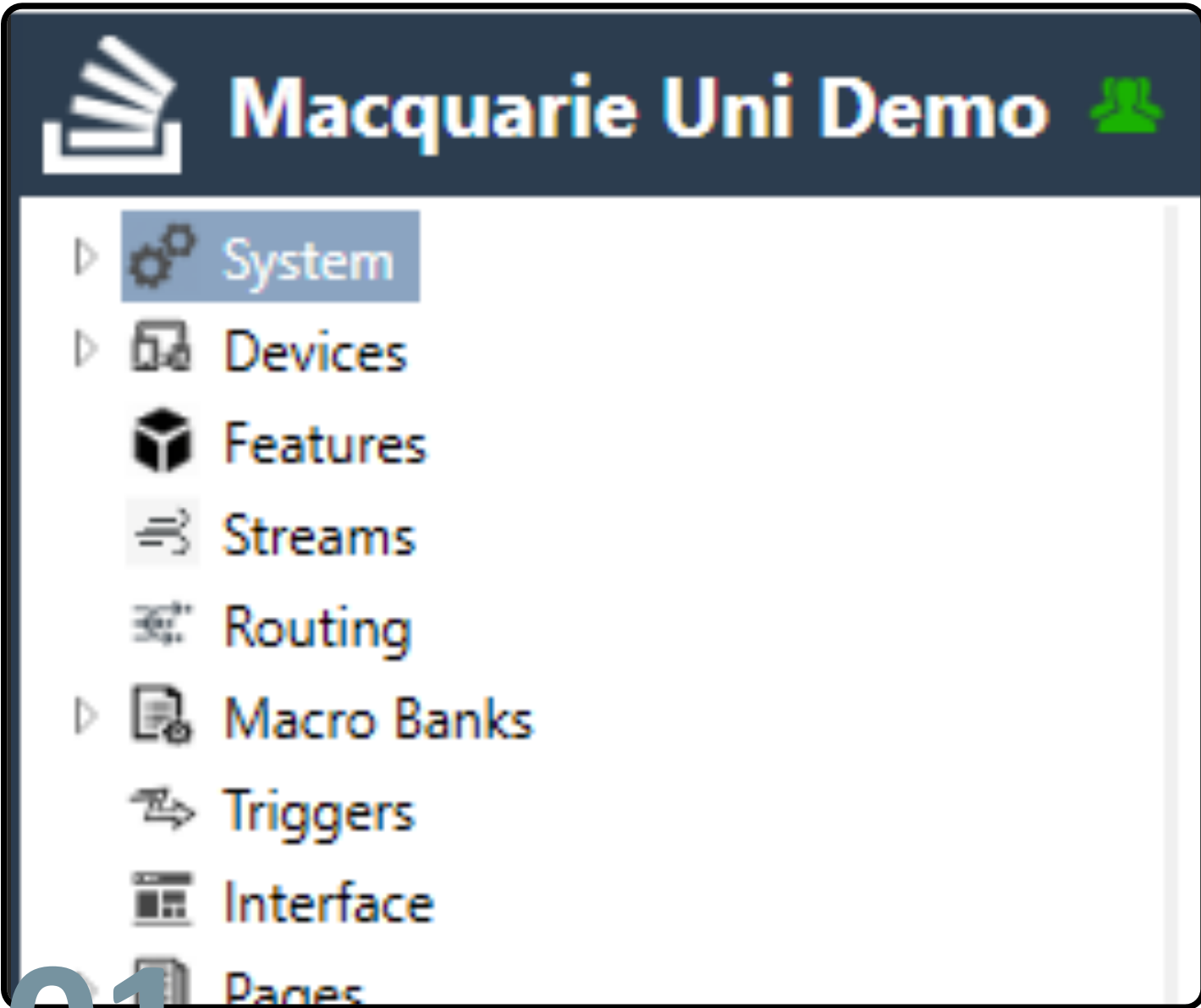
- Utelogy Tools

- **U-Control** – The interface that enables the user to program and control the technology within a space
 - **UDF** – Simple tool to create drivers
 - **Device Pool** – Use the same device across rooms
 - **Tech Tool** – Debug and control devices manually
 - **Theme Selection** – Choose from 3 default themes
 - **Back up and restore** – Entire locations and rooms
- **U-Manage** – The management portal that provides visibility to rooms, equipment, issues, performance and usage
- **U-Console** – Touch Panel control through any web browser or windows application installed on a pc based on CSS and HTML5

- Industry Standard Tools

- **Performance Monitor** – Debugging tool from inbuilt windows 10 software, Event Viewer. Monitors real time U-Server messaging and error reports
- **CSS –Google Dev Tools** – UI Development with Industry standard web tools, freely available online
- **DDK - Visual Studio** – Write device control drivers in C# using Visual Studios, a Microsoft Integrated Development environment with modern programming tools –
- **CDK - Visual Studio/Code** – Create your own components using JavaScript and HTML. Components are objects that contain controls you can add to a UI and attach a device driver feature to, e.g. a teleconference dialler. Reusable code and programming simplified

We believe that Utelogy makes management of an audio-visual fleet easier.
Here's why:



01

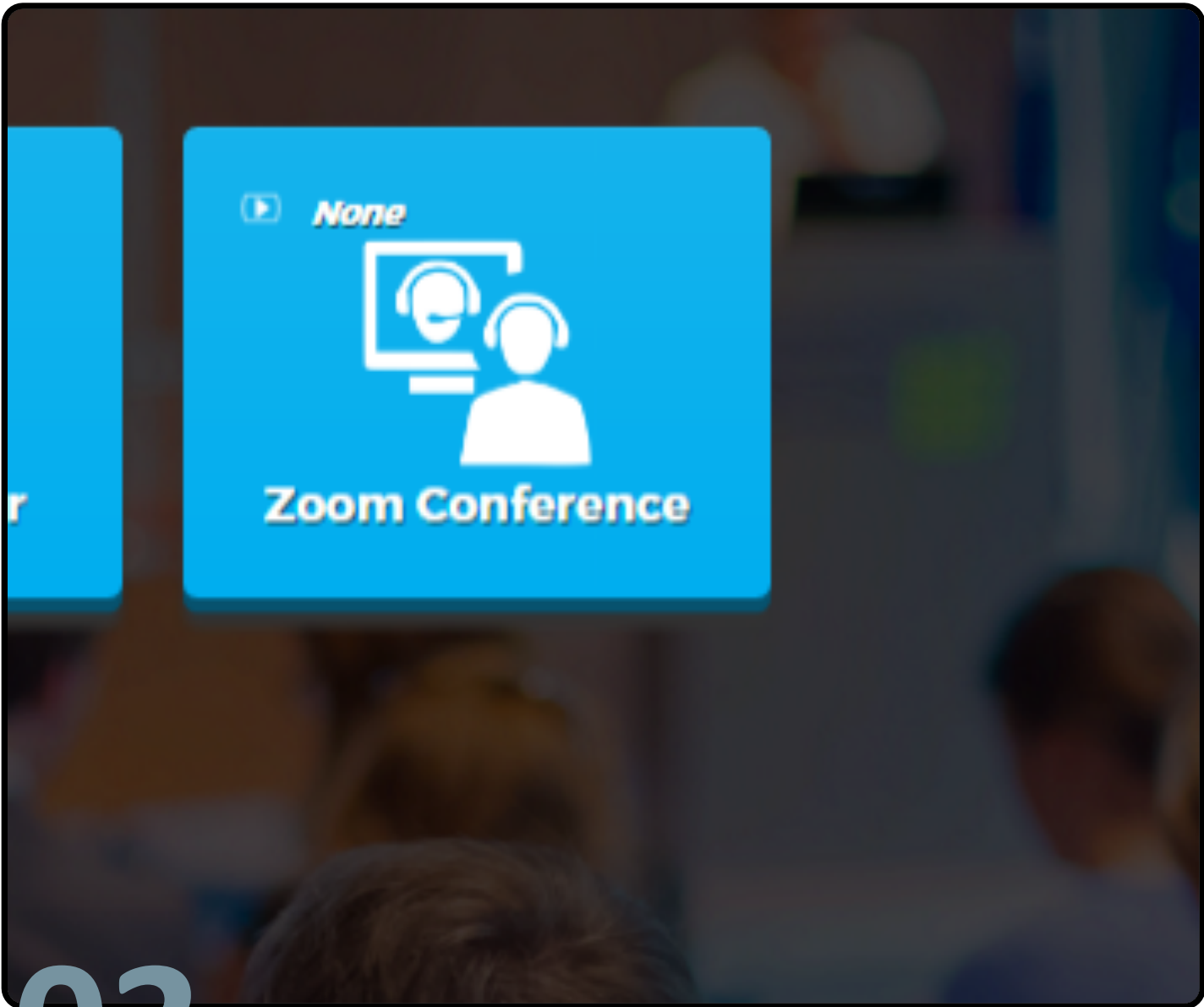
Utelogy uses a configuration tool rather than programming language to define how the technology will behave in a space. This means that its quicker and easier to build the user interface & room control and it doesn't require specialist programming skills to create or change the functionality of the space.

A screenshot of the 'Assets' monitoring application. It features a blue header with tabs for 'Assets', 'Alerts (0)', 'Notes', 'Events', and 'Help Tickets'. Below the header is a table with three columns: 'Device', 'Model Number', and 'Device ID'. The table lists ten devices, each with a green checkmark in the first column. The devices include 'System Generic Device', 'Barco CSE-200', 'Panasonic PT-RX110', and 'Draper Contact Closure Mu'.

Device	Model Number	Device ID
✓ System Generic Device	Generic Device	D01-
✓ System Generic Device	Generic Device	D02-
✓ System Generic Device	Generic Device	D03-
✓ Barco CSE-200	CSE-200	Wire
✓ System Generic Device	Generic Device	D05-
✓ Panasonic PT-RX110	PT-RX110	D06-
✓ System Generic Device	Generic Device	D07-
✓ Draper Contact Closure Mu	Contact Closure Mult	D08-
✓ Creston DMPS3-300-C	DMPS3-300-C	D10-

02

Once a room has been built, it automatically registers itself and all its associated AV devices to a monitoring application. There is no need to manually register the room or the device. This gives the University an up to date Asset Register along with the ability to remotely access and proactively monitor its entire AV fleet from a web browser.



03

Utelogy will control and monitor anything with an open API. This means that the University isn't locked down to a specific manufacturer ecosystem to control, monitor and manage the AV fleet. This frees the University to easily change the in-room technology stack to match user requirements and technology advancements in the future.

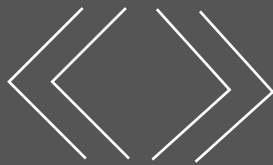
ROOM CONFIGURATION – IN A NUTSHELL

Room configuration is significantly simpler than using a traditional code based model.
The following pages provide a high level overview of how a room is configured using u-Console:

System	Pool
■ Barco Wireless Collaboration Device	CSE-200,CSE-800
■ Crestron Matrix Switcher	DMPS3-300-C
■ Crestron Presentation Switcher	DM_NVX_350
■ Crestron Presentation Switcher	DM_TX_401_C
■ Draper Projection Screen	Contact Closure MultiSeries
■ Other Computer	Echo 360
■ Extron Matrix Switcher	DTP-CrossPoint-108-4K,XTP-CrossPoint-1600,XTP-CrossPoint-82-4K,XTP II 6400, DTP CrossPoint 84
■ GlobalCache Adapter	IP2CC
■ GlobalCache Adapter	IP2IR
■ GlobalCache Adapter	IP2SL
■ JVC DVD	SR-DVM700
■ Panasonic Projector	PT-RZ770WU,PT-RZ770,PT-RZ970,PT-RW930,PT-RFRX110C,PT-RW730,PT-FRZ78C,PT-FRW73C,PT-RZFRW62C
■ Panasonic Projector	PT-RZ Series PLink

1. SELECT YOUR DEVICES

Select the devices that will be included in the system from the device driver library. Search by manufacturer or model



Driver Library Search		
Search: <input type="text" value="QSC"/>		
Device Drivers		
Manufacturer	Kind	Model
QSC		Core 110f,Core 250i,Core 500i,Core 510i,Core 1100,Core 3100

2. NOMINATE ROUTING

Build a routing table the tells the system which source needs to be routed to each destination



Routing		
ID	Source	Destination
D03.F00>D06.F00	Doc Cam (Source) in D03-Generic	D06-Projector (Projector) in D06-Projector
D03.F00>D05.F00	Doc Cam (Source) in D03-Generic	Preview Monitor (Display) in D05-Generic
D03.F00>D07.F00	Doc Cam (Source) in D03-Generic	Recorder (Recorder) in D07-Generic
D01.F00>D06.F00	Laptop (Source) in D01-Generic	D06-Projector (Projector) in D06-Projector
D01.F00>D05.F00	Laptop (Source) in D01-Generic	Preview Monitor (Display) in D05-Generic
D01.F00>D07.F00	Laptop (Source) in D01-Generic	Recorder (Recorder) in D07-Generic
D02.F00>D06.F00	Resident PC (Source) in D02-Generic	D06-Projector (Projector) in D06-Projector
D02.F00>D05.F00	Resident PC (Source) in D02-Generic	Preview Monitor (Display) in D05-Generic
D02.F00>D07.F00	Resident PC (Source) in D02-Generic	Recorder (Recorder) in D07-Generic
D04.F00>D06.F00	Wireless Presenter (Source) in Wireless Presenter	D06-Projector (Projector) in D06-Projector
D04.F00>D05.F00	Wireless Presenter (Source) in Wireless Presenter	Preview Monitor (Display) in D05-Generic
D04.F00>D07.F00	Wireless Presenter (Source) in Wireless Presenter	Recorder (Recorder) in D07-Generic

Macro Editor

Step	Target	Command
1	D10-Matrix Switcher (Switcher) in D10-Ma	Switch.All
2	D08-Projection Screen (Discrete Switch) in	Screen.Stop

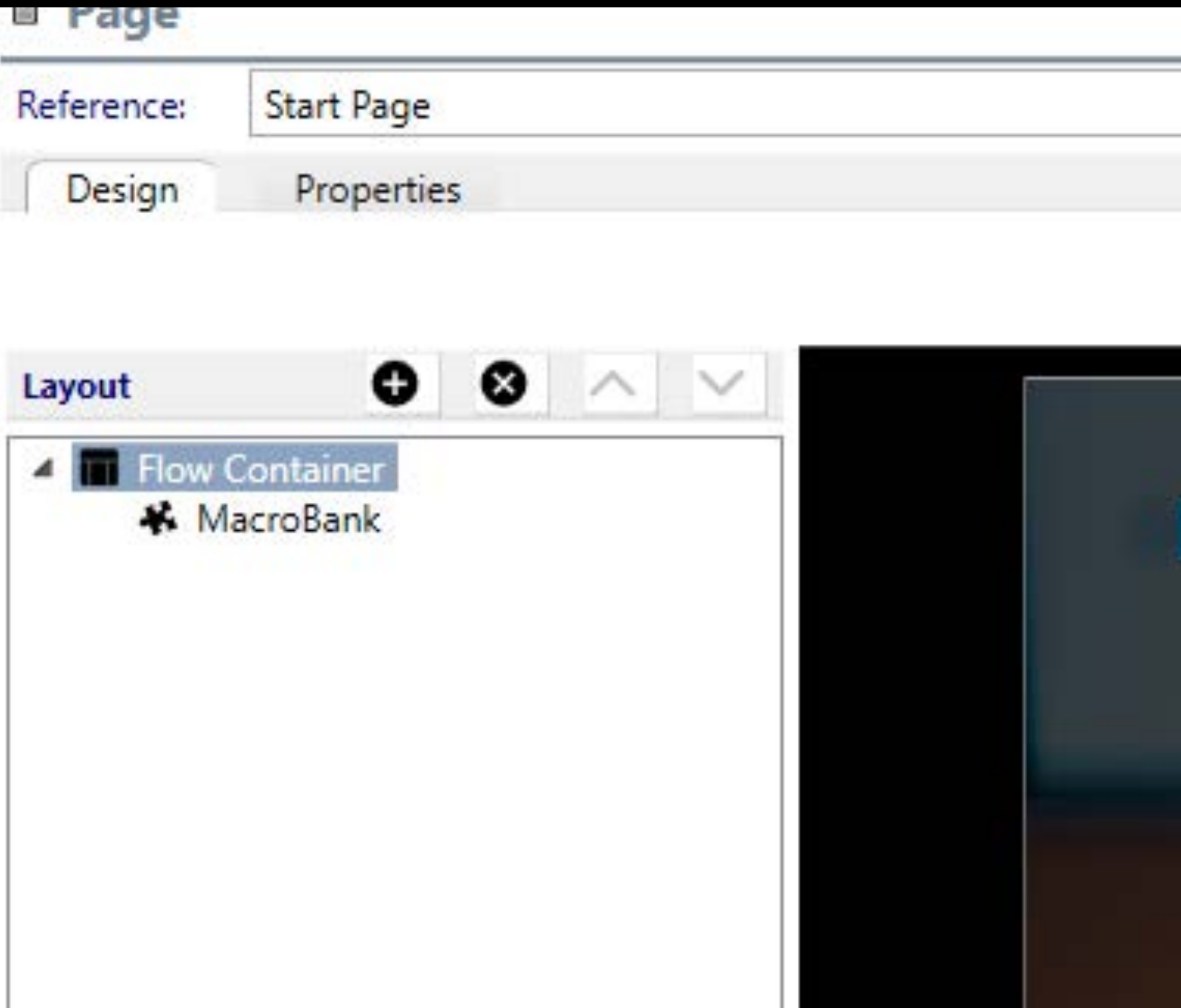


3. BUILD MACROS

Nominate what happens as each button is pushed i.e. execute a route on the matrix switcher, recall a preset, mute volume etc.

4. CONFIGURE THE GUI

The User Interface tool selects from the series of devices, routing options and macros to deliver a drag and drop style GUI configurator



C# Drivers- Visual Studio IDE

- Devices are controlled and monitored by Utelogy drivers.
- These drivers are written by Utelogy and avt in C#, a universally recognised programming language.
- The source code for each driver is made publicly available via the global driver library and can be used by a third party to alter and enhance the driver for any specific customisations.
- Drivers can also be written from ground up by a third party using the publicly available driver development kit.



CASCADING STYLE SHEETS (CSS)

- Utelogy comes with a range of “out of the box” GUI designs.
- Whilst there is extensive customisation capability within the configuration tool itself, Cascading Style Sheets (CSS) can be used to further customise the GUI.
- CSS is a widely used and supportive language
- The benefit of using this method means that a consistent look and feel can be deployed across the entire touch panel fleet whilst still supporting different room types and technology behaviours.
- It also allows changes to the look and feel to be made once and then easily updated across the fleet as necessary.



```
<html>
  <head>...</head>
  ...<body> == $0
    <!-- ko if: $U.showLayer
    <!-- /ko -->
    <div id="loader" style=
    <div id="dashboard" cla
      <div class="modalhider
        index: 1500; display:
    <div class="modalbox co
      messageBox'" style="z-in
    <div data-bind="compon
      class="component" data-n
    <div data-bind="visible
      style="z-index: 2000; di
    "system/window">...</div>
    <div data-bind="visible
      style="z-index: 2000; di
    "system/popup">...</div>
  </body>
</html>
```

html body

Styles Event Listeners DOM

Filter :ho

```
element.style {
}

body {
  font-family: "Montserrat";
  font-size: 10pt;
  margin: 0;
  overflow: hidden;
  color: #00AEEF !important;
  background-image:
    url(../Images/StartPage
  background-size: cover;
}

html, body {
  height: 100%;
}
```


SOME NOTES ON:

WHY UTELOGY!



BYE BYE HARDWARE

Deployed as a networked server application, rather than a black box in every room.



WE LOVE EVERYONE

Hardware agnostic! If its an IP accessible AV hardware, PC or IOT device using C# - we got you.....



CONFIG, NOT CODE

No “hard coding” required. Replace devices without the need for programming changes, quick n’ easy!



LEVEL UP SUPPORT

Web RTC allows a support person to remotely access the room and take control immediately. Instant response + reduced downtime = global happiness

UTELOGY REFERENCE SITES

Over 1000 rooms deployed with Utelogy control and monitoring

LOS ANGELES COMMUNITY COLLEGE

200 rooms across a multi-campus district

SOLANO COMMUNITY COLLEGE

Over 60 rooms deployed scaling up to 150 rooms..

CSU East Bay

Deployed in 43 learning and teaching spaces

BAY PATH UNIVERSITY

300 smart classrooms under Utelogy control

SANTA ROSA JUNIOR COLLEGE



utelogy

U-Manage—What's New



Education



Corporate



Government

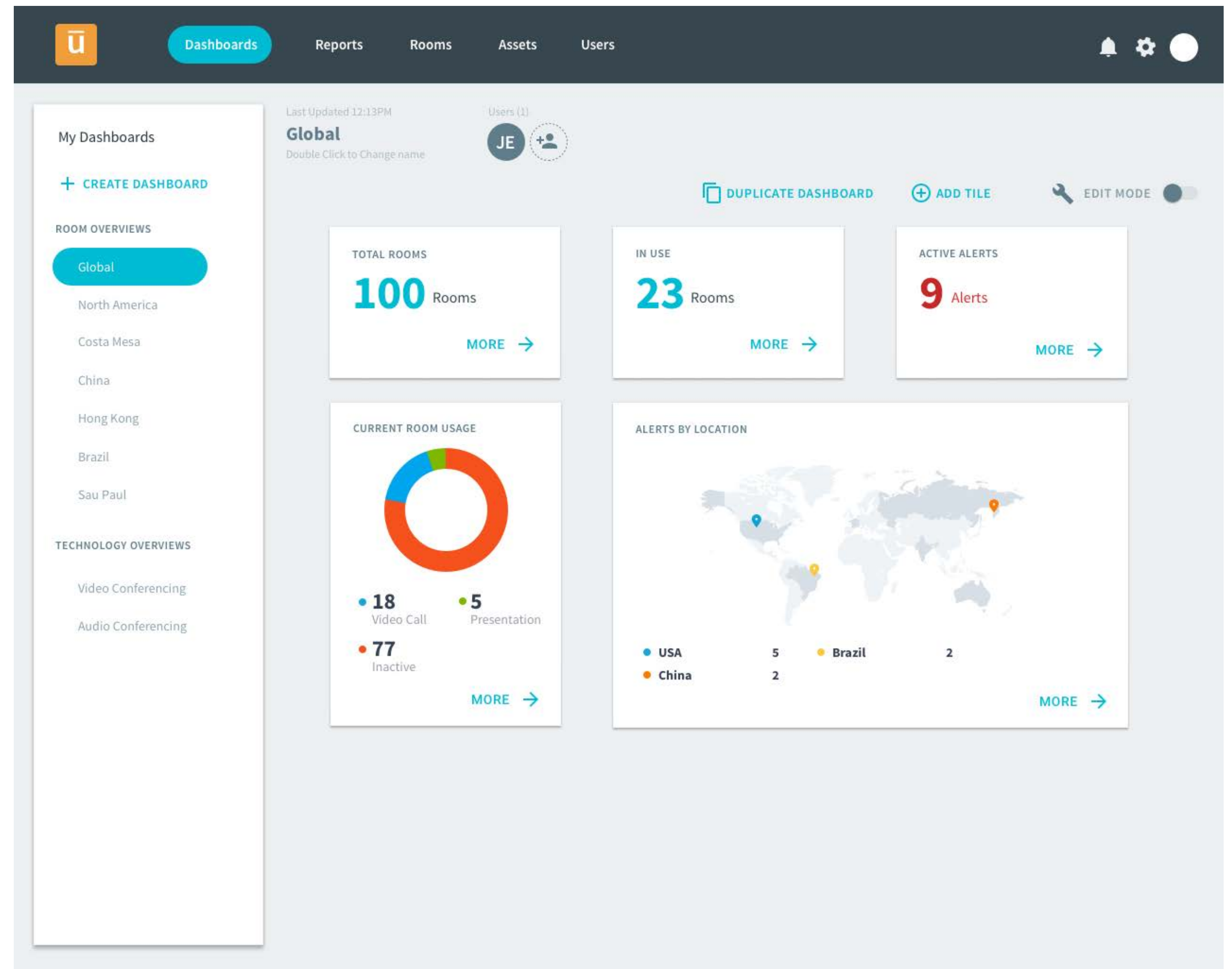
U-Manage –New Features

- **Redesigned Interface and Navigation**
- **Dashboards**
- **Reports**
- **Alerts**
- **Notifications**
- **API**

Redesigned Interface

U-Manage has been redesigned to make navigating through data intuitive.

- **Top level navigation provides links to major system views; Dashboard, reports, asset details and settings.**
- **MSPs can easily navigate from portfolio overviews to individual customer views.**
- **Dashboards and reports can be saved and recalled for a custom tailored experience**

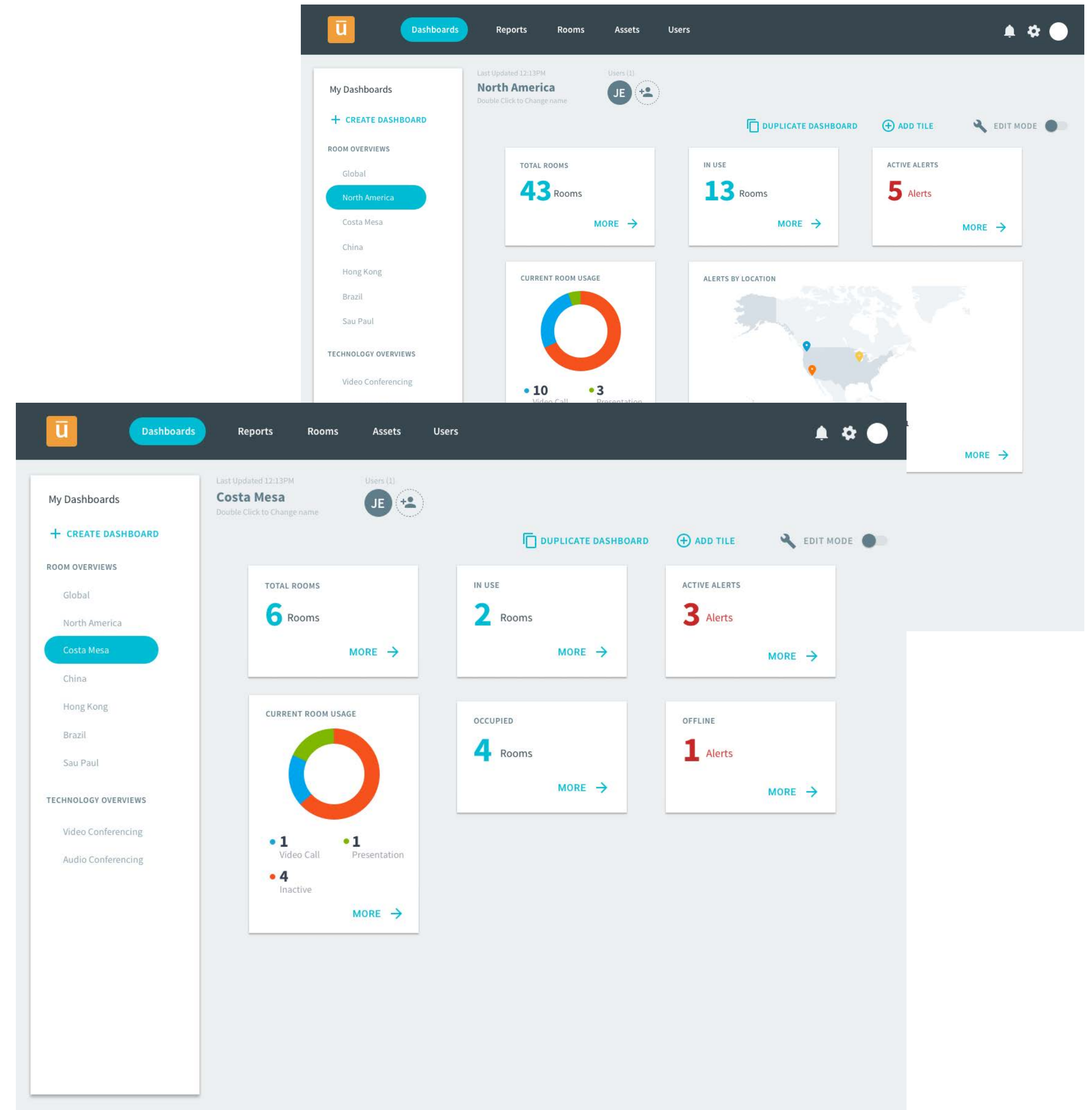


Dashboards

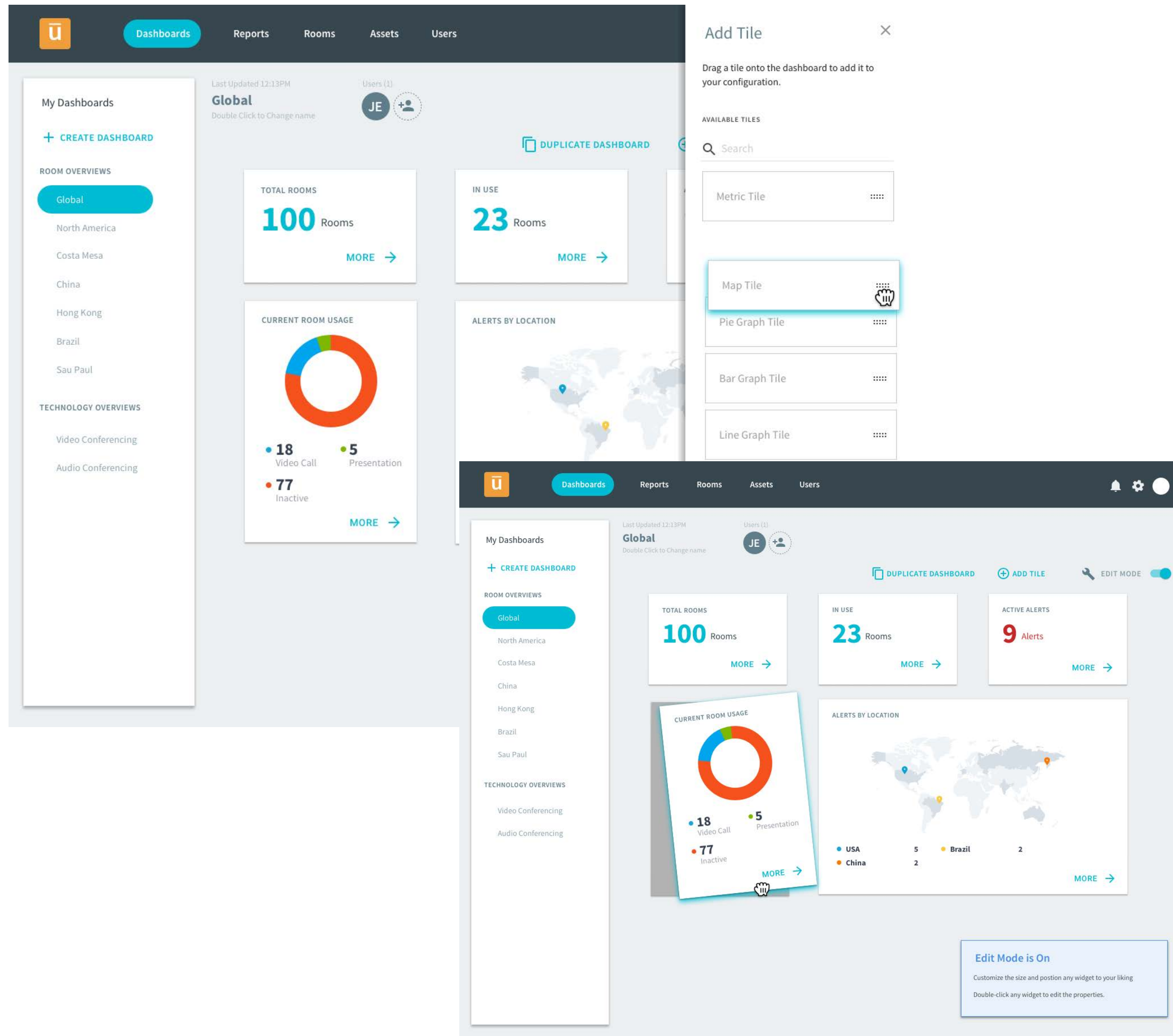
Dashboards are pages that allow the user to configure a view of live data from their system.

These dashboards are built of tiles that display system information in a visual manner. Users can add any number of tiles to their view from a library of tiles:

- Alerts
- Current Room State
- Room Count
- Map View
- Room Utilization
- Device Usage



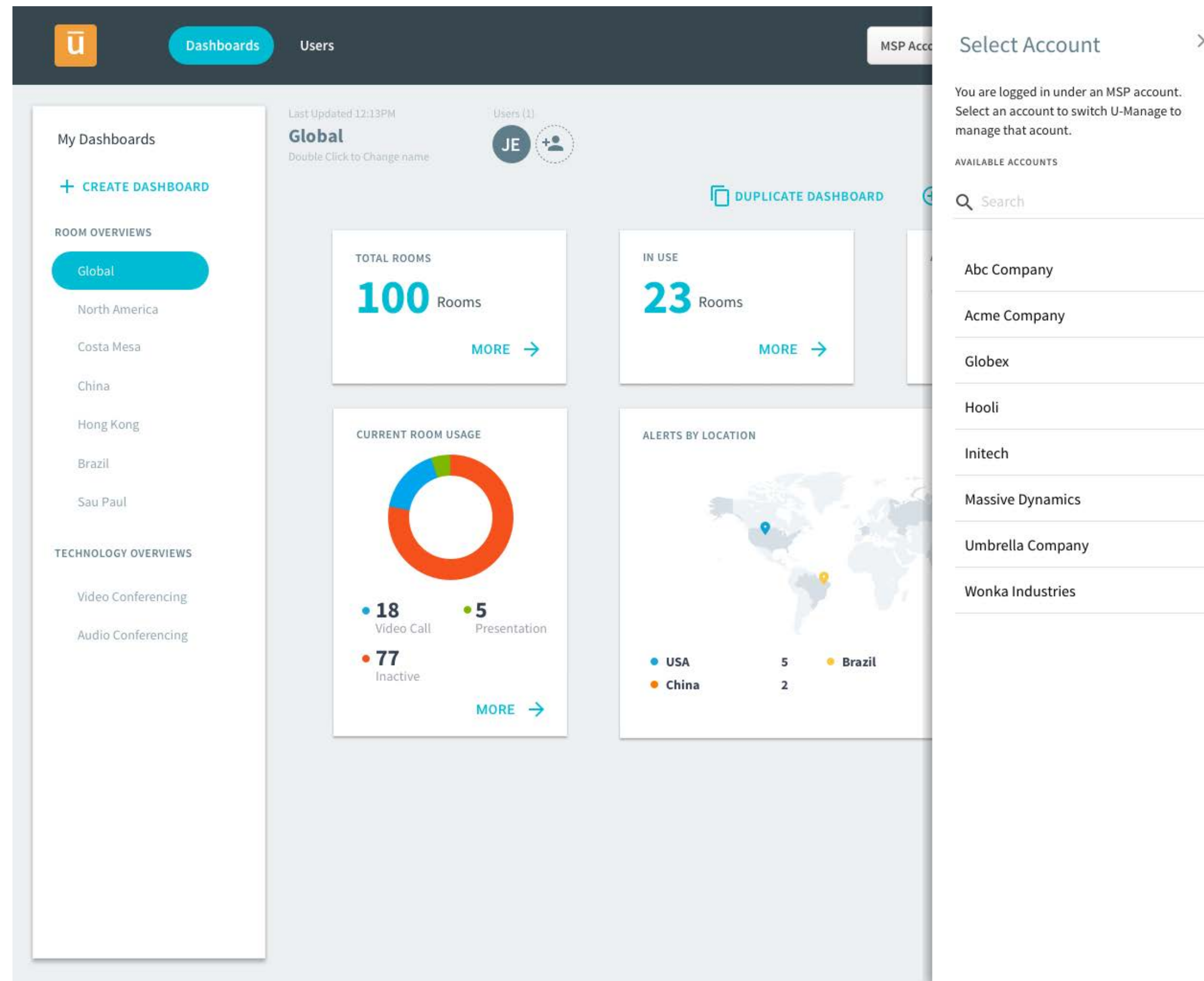
Dashboard Customization



Dashboards can be configured and allow for multiple dashboards to be saved to the users account. Filters allow users to adjust the data displayed.

- **Create a custom collection of tile data views**
- **Resize and place tiles**
- **Add custom filters to each tile**
- **Globally filter the dashboard by location, date, time and devices.**

MSP Views



Customers with an MSP account can view a portfolio wide dashboard or select individual managed accounts.

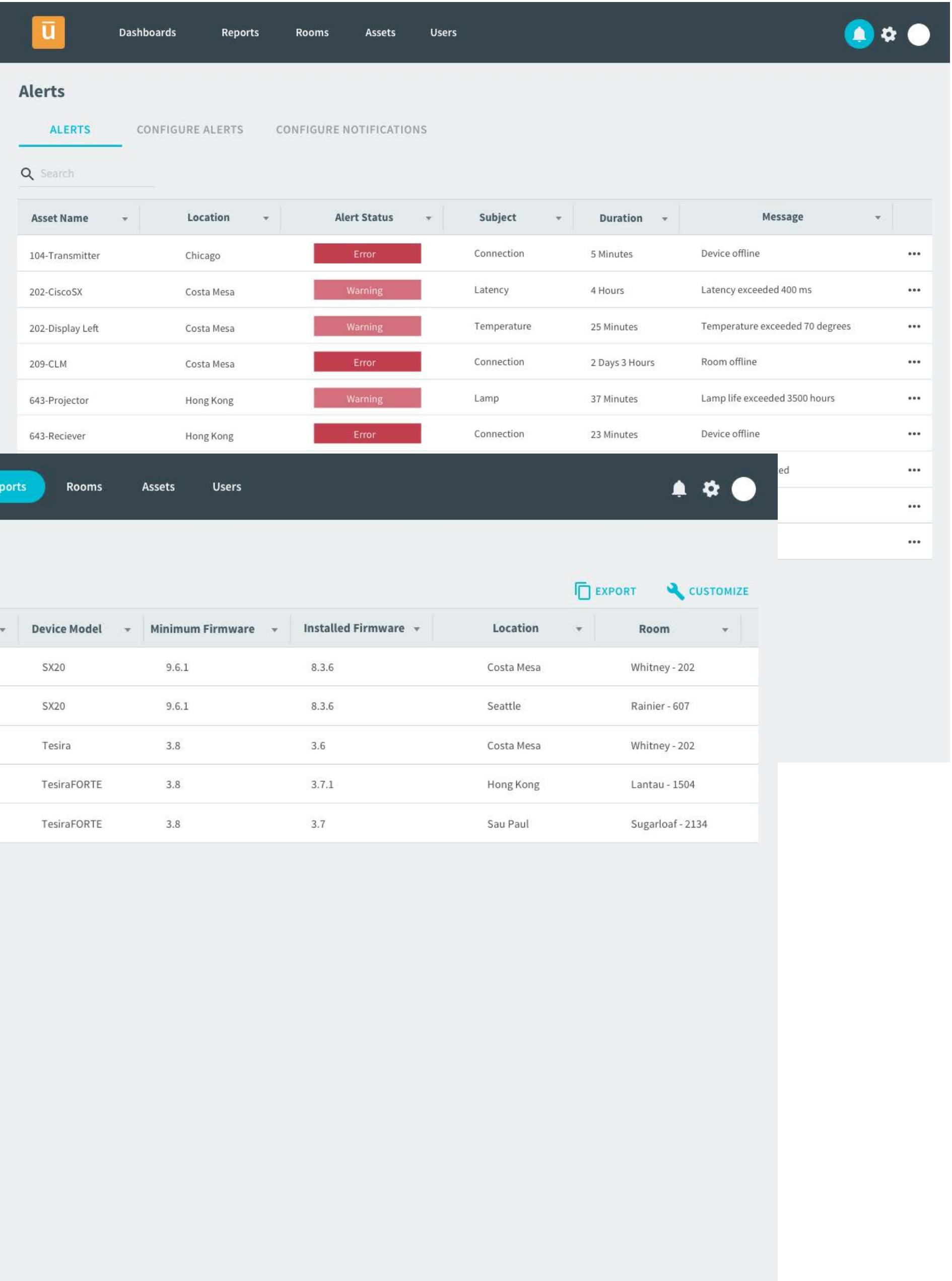
- **Create custom MSP dashboards**
- **“Act as customer” allowing access to the full customers U-Manage experience.**

Reports

Reports are a detailed data view. U-Manage will ship with pre configured reports to provide insightful data views out of the box.

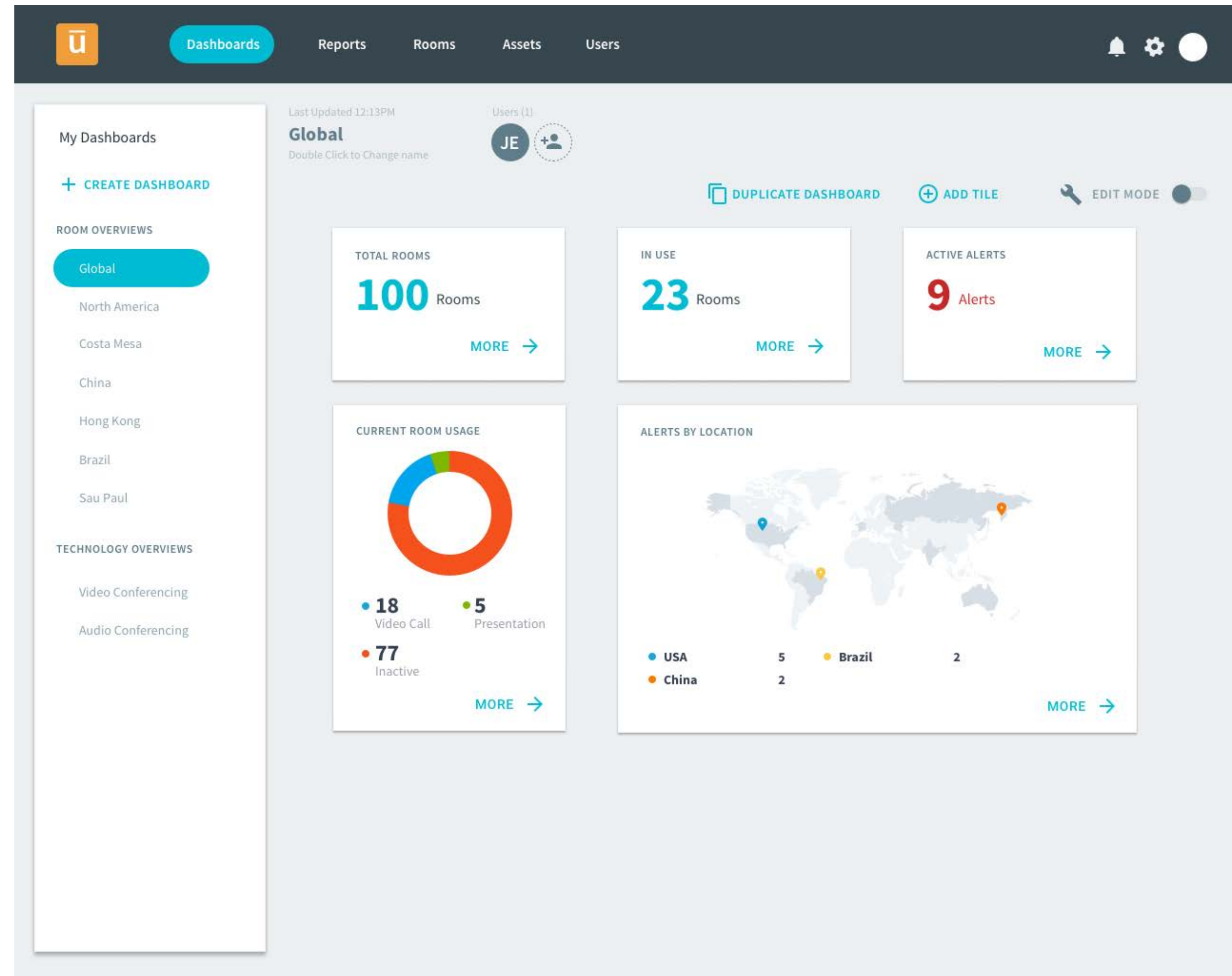
Reports can be viewed in the browser or exported to pdf or csv for consumption in various platforms.

- Report Library includes:
 - Alert Report
 - Asset Report
 - Firmware Report
 - Room Utilization Report
 - VTC Report
 - Warranty Report
 - Room Report



Managing and Monitoring Services

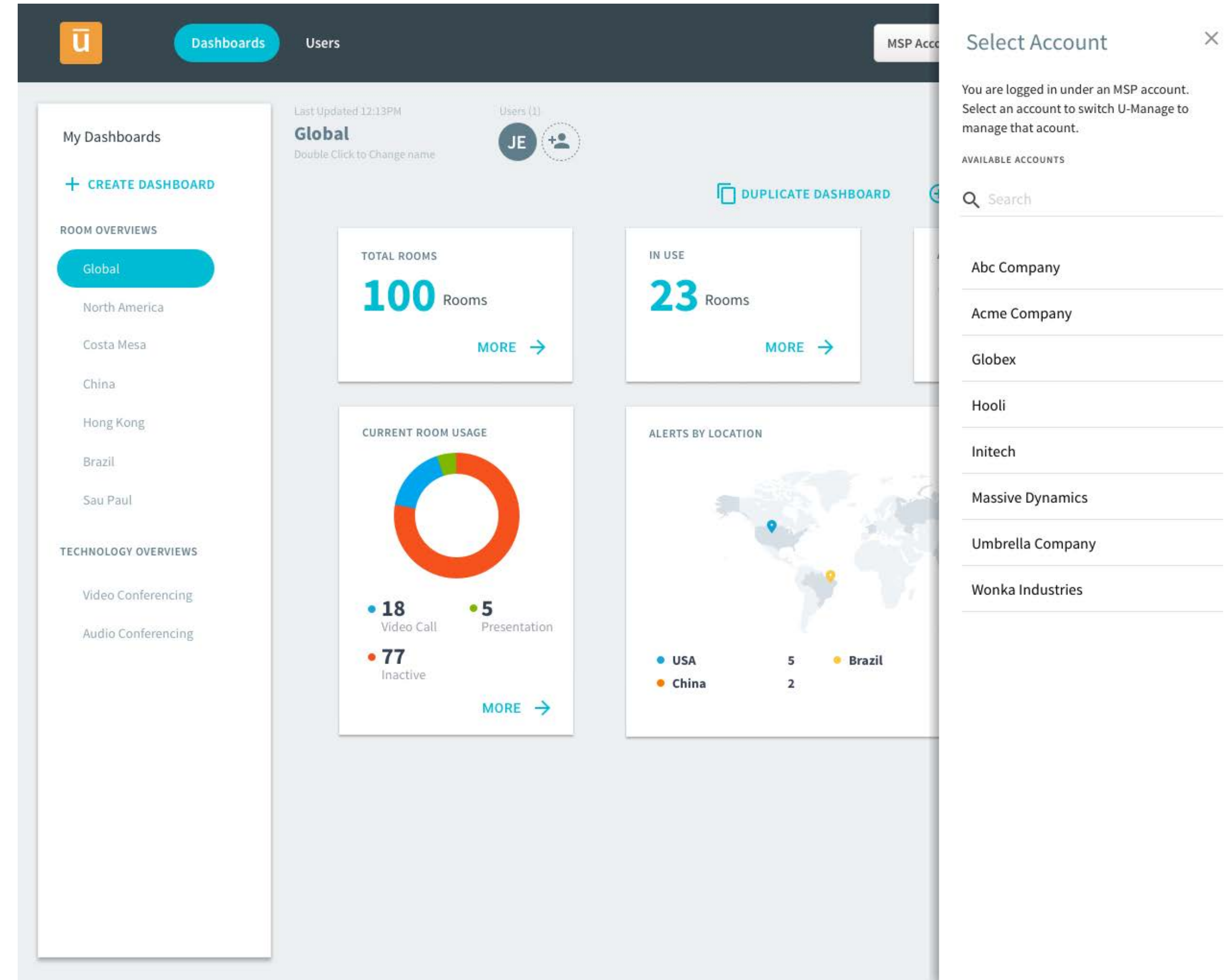
- **Time-range filtering**
- **Geographic filtering to manage support**
- **Drill down a level**
- **Service your own environment or manage multiple accounts**



Managing and Monitoring Services

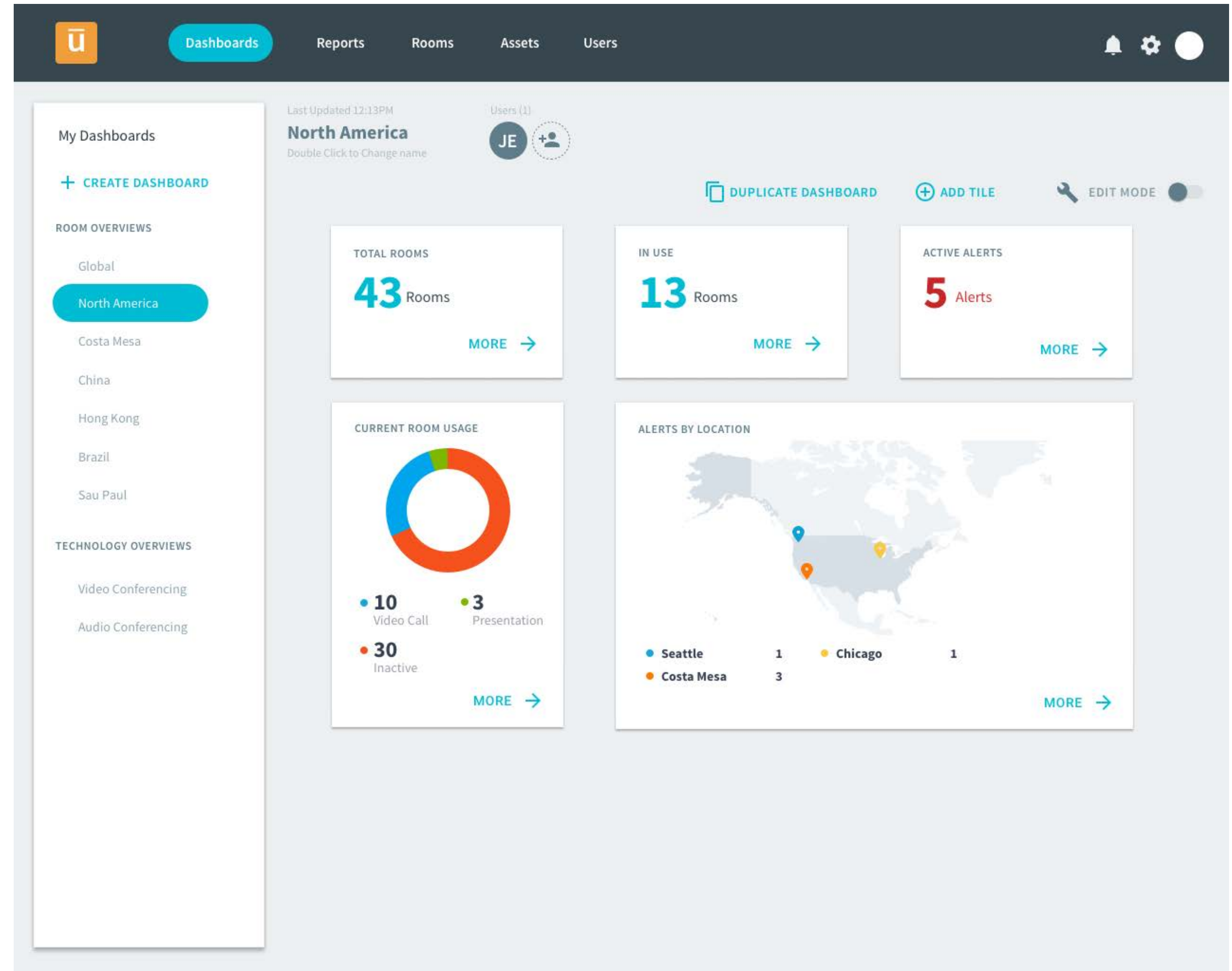
Customers with an MSP account can view a portfolio wide dashboard or select individual managed accounts.

- **Start with global dashboard**
- **Create custom MSP dashboards**
- **“Act as customer” allowing access to the full customers U-Manage experience.**



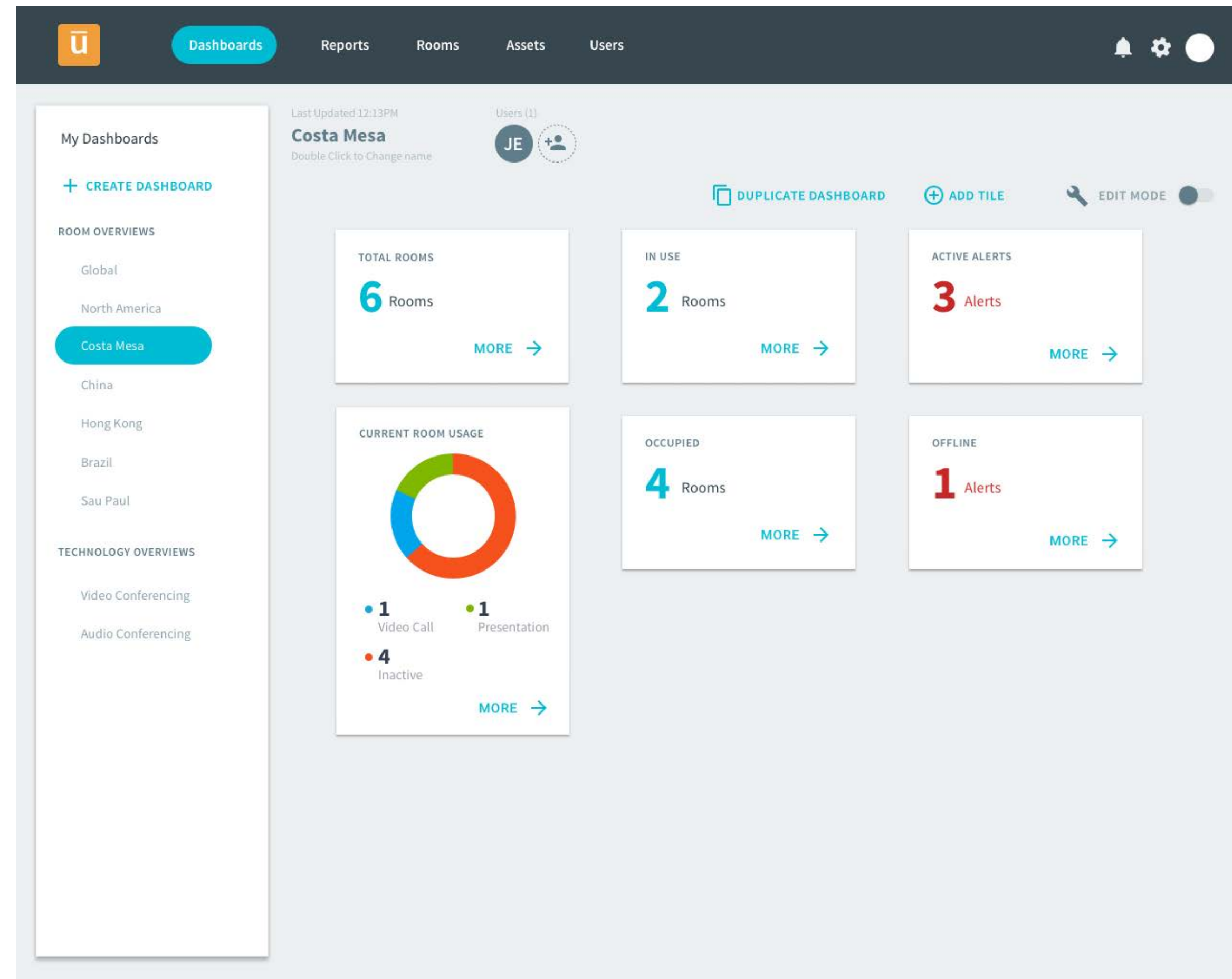
Isolate Geographies

- **Re-configure the dashboard as you drill down**
- **Remove maps**
- **Identify and isolate alerts based on support team and geographic coverage**



Drill Down to Location

- **Add room data**
- **Are the rooms up and running?**
- **Manage and monitor all devices**



Rooms

u

Dashboards

Reports

Rooms

Assets

Users

🔔

⚙️

👤

← Whitney

Double Click to Change name

ASSETS

ALERTS

EVENTS

DOCUMENTS

MODELS

NOTES

🔍 Search

Choose View

+ CREATE VIEW

🔧

CUSTOMIZE

Asset Name	Asset Model	Connection Status	Power Status	Alert Status	
Left Display	V554	Connected	Power On	OK	...
Right Display	V554	Connected	Power On	OK	...
Video Codec	SX20	Connected	Power On	OK	...
DSP	TesiraForte				
Switcher	SW4				

u

Dashboards

Reports

Rooms

Assets

Users

🔔

⚙️

👤

Rooms - Costa Mesa

[Filter]

ADD FILTER

APPLY

🔍 Costa Mesa

Room Name	Location	Alert Status	Room State	
201 - Boardroom	Costa Mesa	OK	Ready	...
202 - Whitney	Costa Mesa	Warning	Ready	...
205 - Rainer	Costa Mesa	OK	In Call	...
209 - Denali	Costa Mesa	Error	Offline	...
303 - Sanford	Costa Mesa	OK	In Presentation	...
316 - Vancouver	Costa Mesa	OK	Ready	...

Key Deliverables:

- Identify availability
- Device status determines room status
- Room utilization for real estate planning

Alerts

U

Dashboards

Reports

Rooms

Assets

Users

🔔

⚙️

👤

← 202 - Whitney

Double Click to Change name

ASSETS

ALERTS

EVENTS

DOCUMENTS

MODELS

NOTES

🔍 Search

Choose View

+ CREATE VIEW

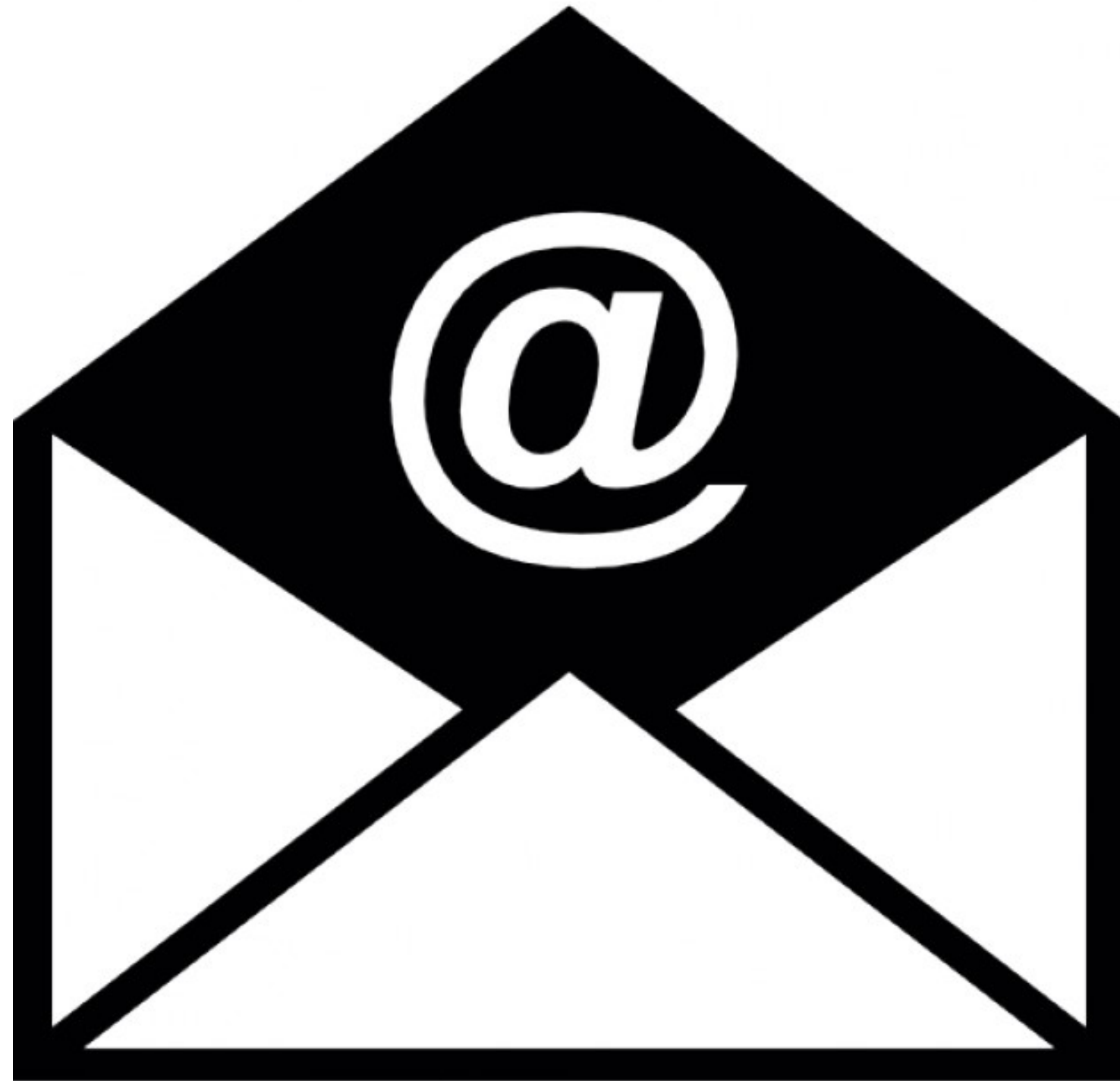
🔧 CUSTOMIZE

Asset Name	Asset Model	Connection Status	Power Status	Alert Status	
Left Display	V554	Connected	Power On	Warning	...
Right Display	V554	Connected	Power On	OK	...
Video Codec	SX20	Connected	Power On	Warning	...
DSP	TesiraForte	Connected	Power On	OK	...
Switcher	SW4	Connected	Power On	OK	...

Alerts are U-Manage’s mechanism to inform users of system incidents. An alert Hotlist will display the status of active alerts for a quick overview of the entire systems status.

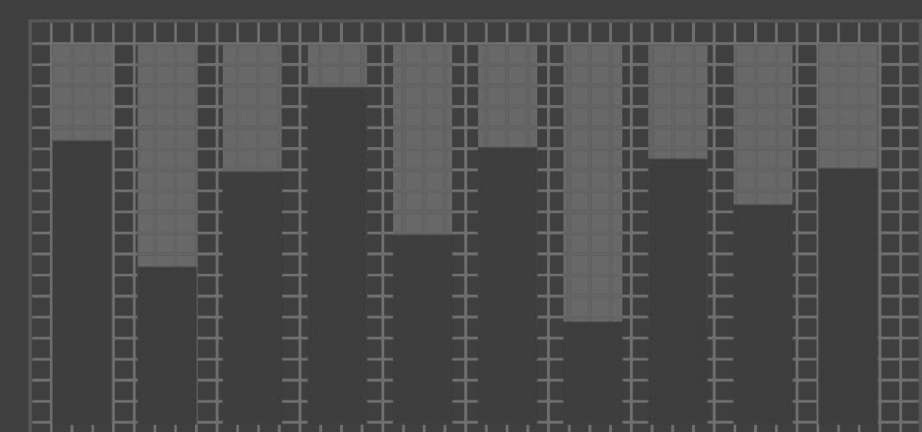
Alerts are configurable allowing users to create alerts based on their unique system needs. The configured alerts can be scoped to an area of the system by location or device make and model.

Notifications



Notifications are an extension of the alerting functionality. U-Manage can be configured to email users based on system events that trigger an alert.

These emails can be configured to send to different groups of recipients based on the each individual alert.



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Utelogy API




What does the Utelogy API do?

- **Allows integrators and partners to connect to U-Manage to access its data**
- **Uses industry standards to enable integration between systems developed in different languages and computing systems**

REST API

- **Designed to take advantage of existing protocols and tools to expedite development and testing**
- **Allows integrators and partners to extend the value of the U-Manage Portal by integrating to other enterprise systems**

 swagger

http://xxxxxx/swagger/docs/v1

api_key

Explore

U.Rest.Gateway.Portal

Account

Show/Hide | List Operations | Expand Operations

Alert

Show/Hide | List Operations | Expand Operations

GET

/api/alert/list

DELETE

/api/alert/{id}/acknowledge

DELETE

/api/alert/{id}

POST

/api/Alert

Asset

Show/Hide | List Operations | Expand Operations

GET

/api/asset/list

GET

/api/asset/{id}

GET

/api/asset/start/{id}

POST

/api/Asset

Base

Show/Hide | List Operations | Expand Operations

Gdl

Show/Hide | List Operations | Expand Operations

DELETE

/api/gdl/{id}

DELETE

/api/gdl/{id}/version/{version}

POST

/api/Gdl

Room

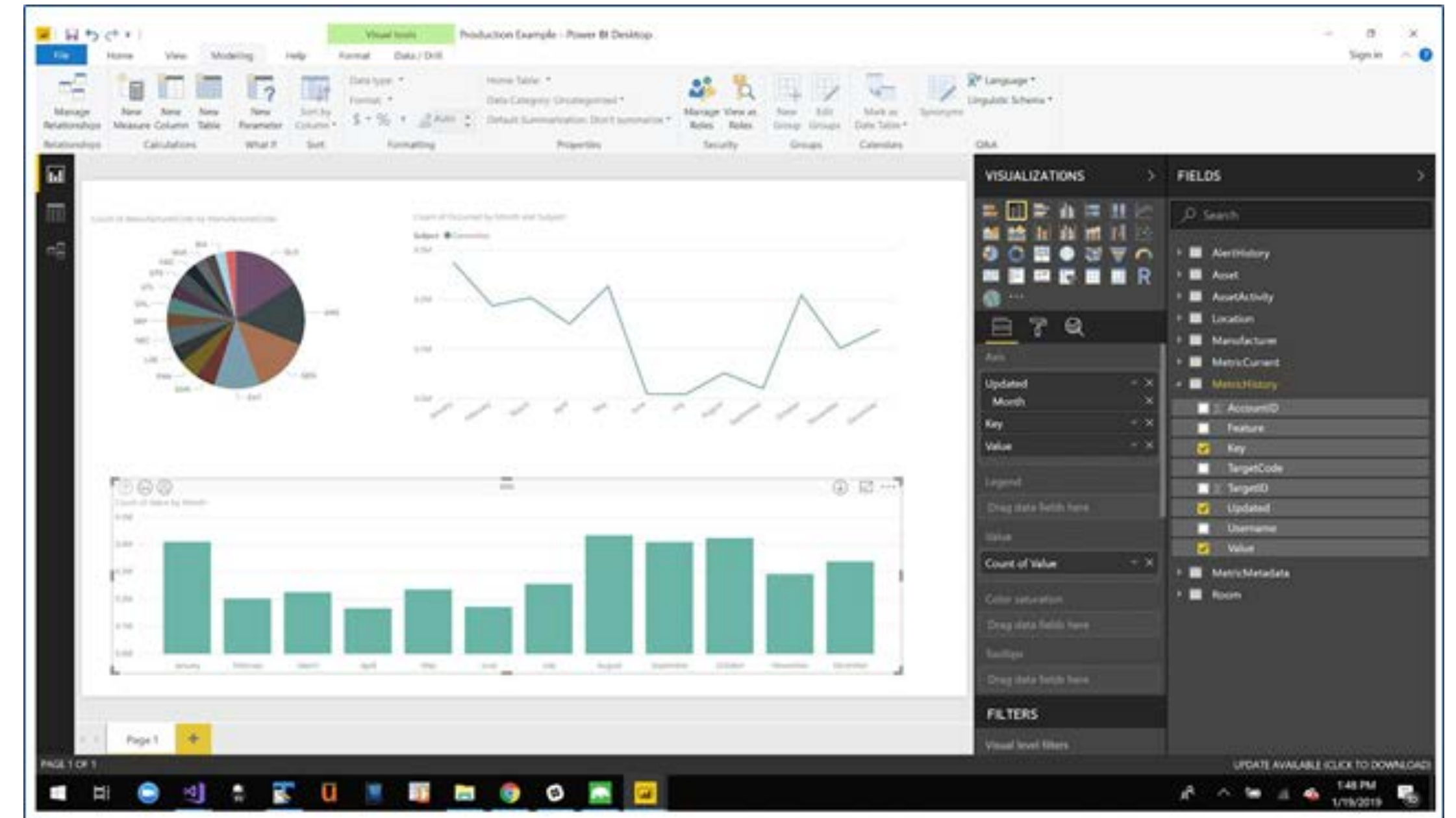
Show/Hide | List Operations | Expand Operations

Rule

Show/Hide | List Operations | Expand Operations

Utelogy BI Connector

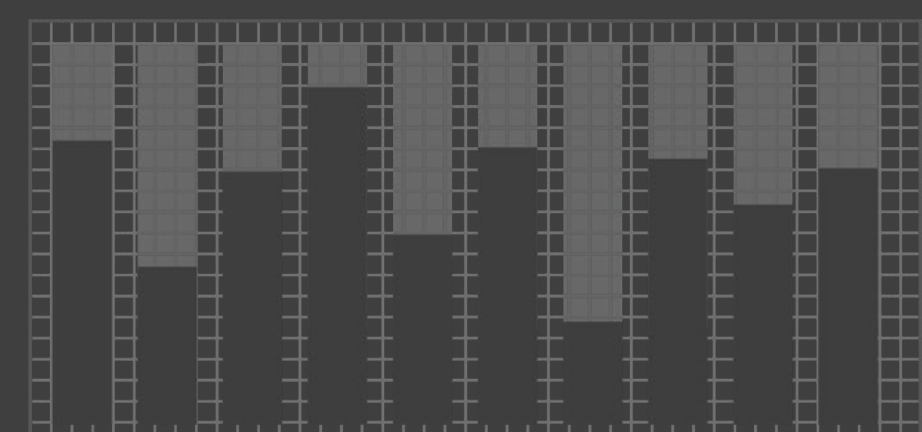
- **Access and analyze your data for historical trends, correlations and other analytical insights with your favorite BI tool**
- **Utelogy BI Connector allows and SQL capable tool to connect**
- **Capture usage, performance and health data on devices and room**
- **Collect data from proprietary legacy AV systems**
- **Innovative metrics capture and storage engine in Utelogy allow any metric to be added for analytics and reporting**





Why We Developed and Documented the API

- APIs allow for software design consistency using standardized best practices
- This expedites development and testing so innovation scales at a faster pace
- Enable third party developers which extends the value of the Utelogy platform to a wider user base in less time
- Increases success with partners and developers
- Opens access to new markets



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Utelogy / Zoom Room Integration



Education



Corporate



Government



/ Transform any Collaborative Workspace into a Zoom Room





Key Features

- Expands the key features of Zoom Room systems to provide AV system control
- Deliver a ubiquitous AV experience from any control device
- Integrate additional room technology for one-button start-up
- Gather Zoom Room management, monitoring and analytics data from Utelogy's U-Manage

Typical Zoom Room Components

Screen 1



Screen 2



Camera



Speaker



PC/Mac



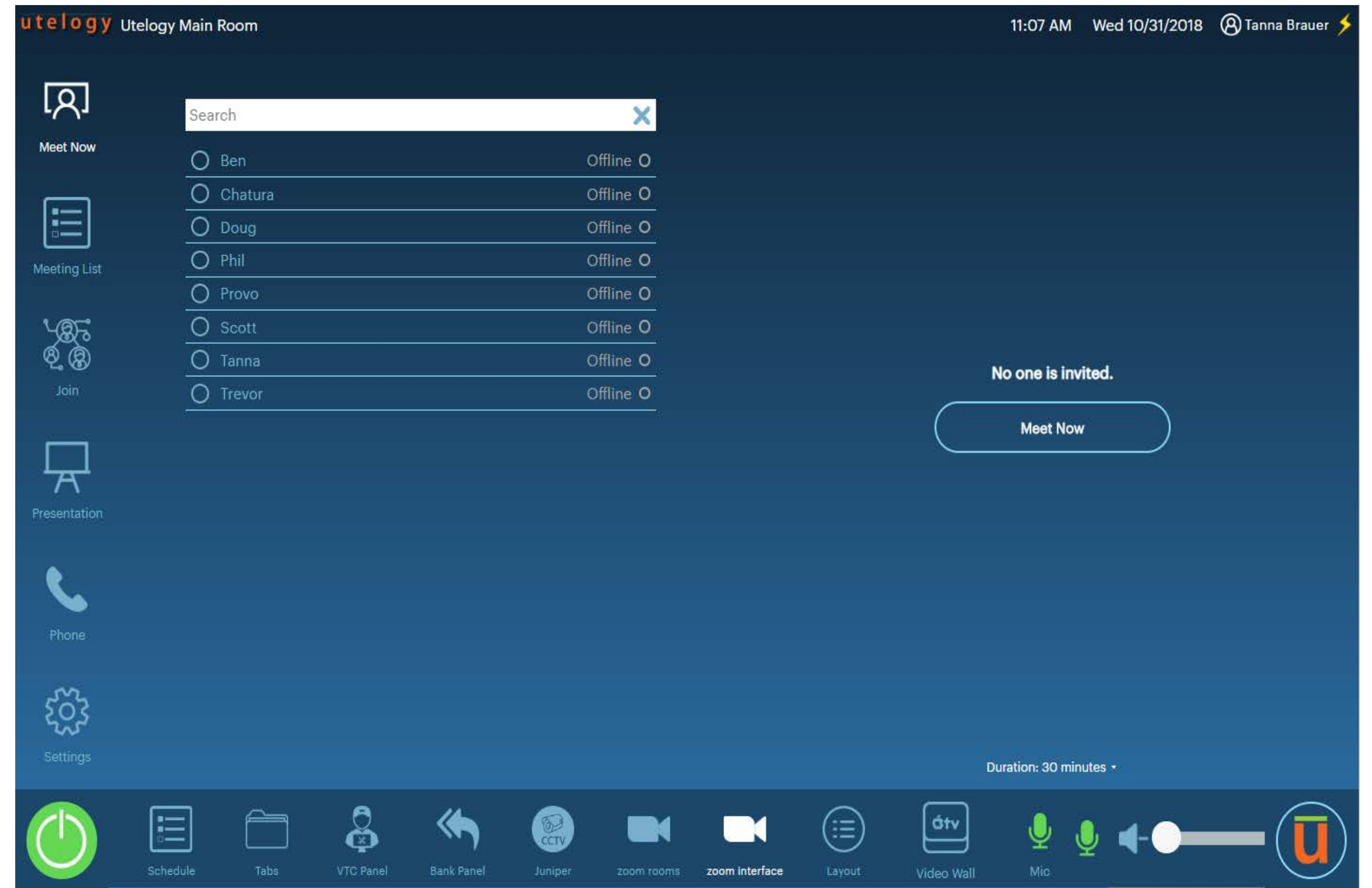
**Mouse & Keyboard
(setup only)**



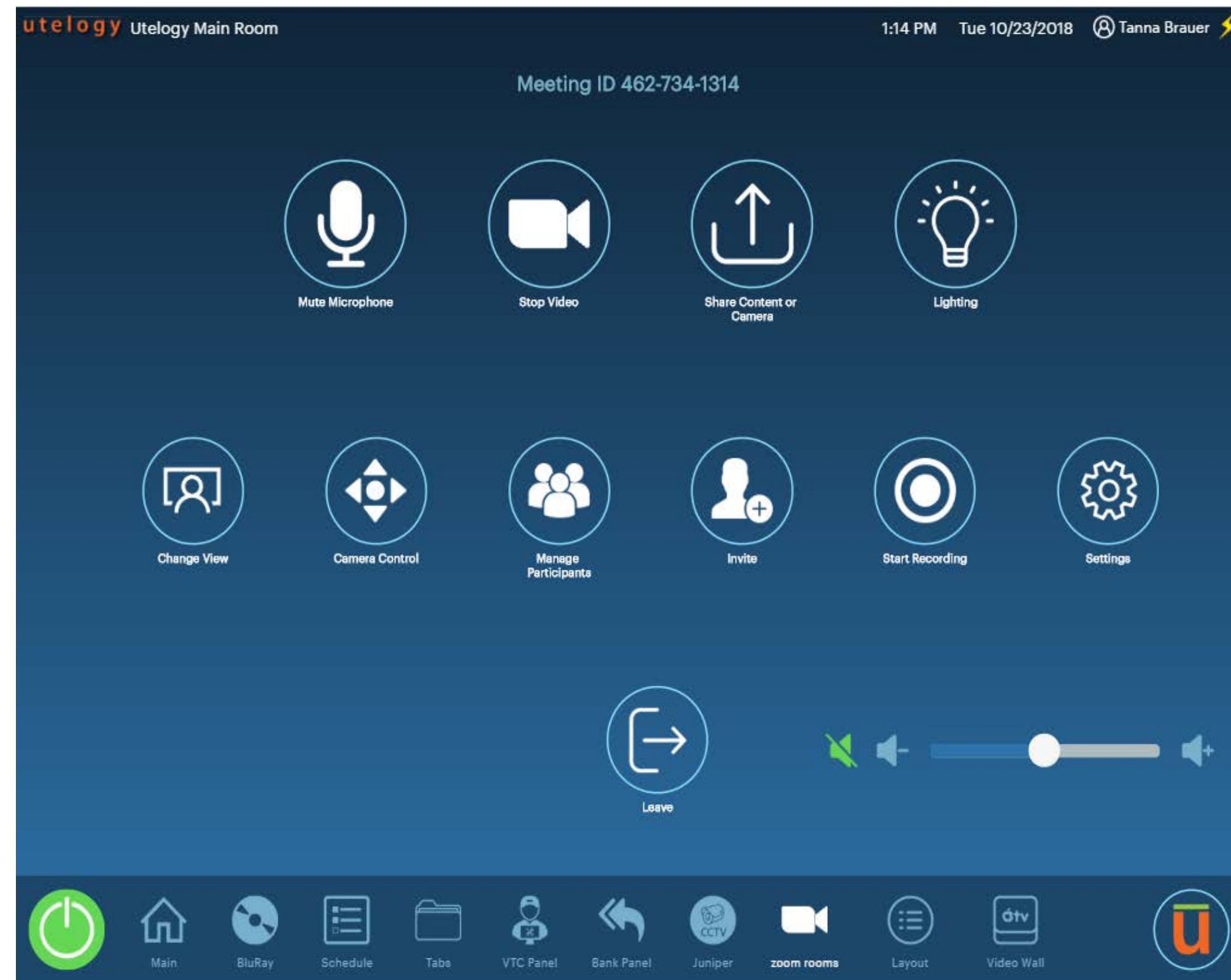
iPad

Utelogy Delivers Seamless Interface

- **Single button-push to start the room.**
- **Deliver a consistent user experience across all of the organization's Zoom Rooms.**
- **Make changes easily with Utelogy Configuration tool.**

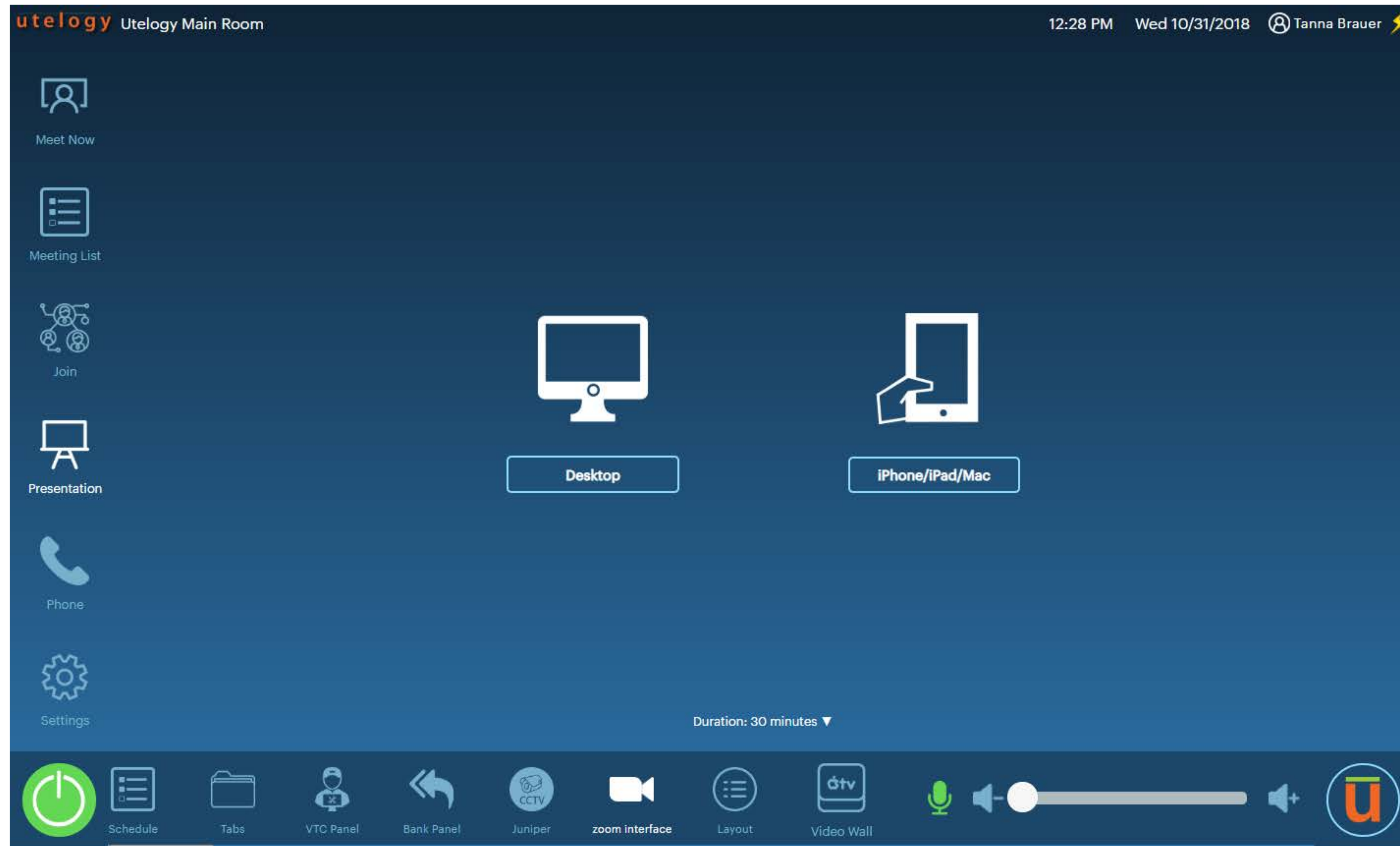


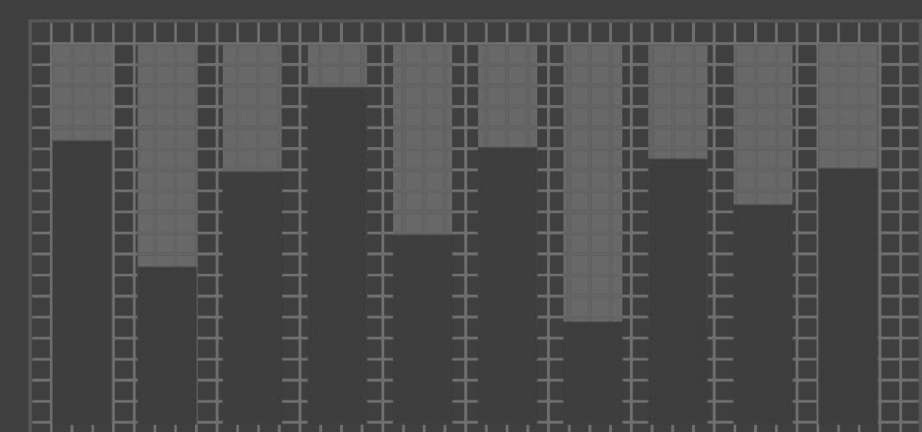
Control All Devices



- **Utelogy can automate and control devices and elements like shade and lighting into a seamless experience.**

Supplementary Controls with Utelogy





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Utelogy / Cisco Touch 10 Integration



Education



Corporate



Government

Cisco Touch 10 Panel

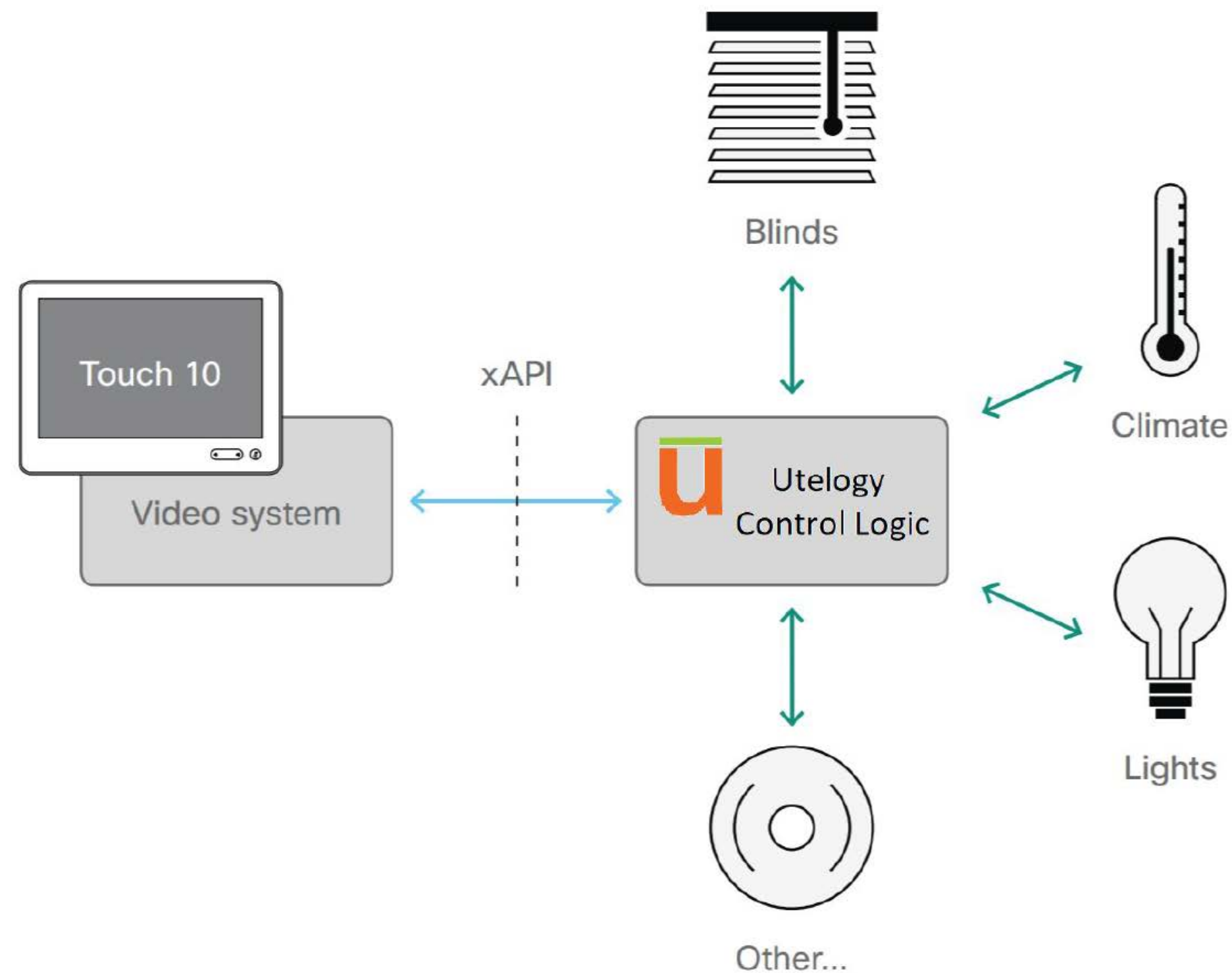
- Cisco Touch 10 is a friendly, well-known interface to control the Cisco video conference experience.
- Integrating Utelogy control into the Cisco Touch 10 panel allows organizations to incorporate functionality and devices beyond what is available through the standard Cisco Touch 10 deployment.



A Typical Conference Room



How It Works



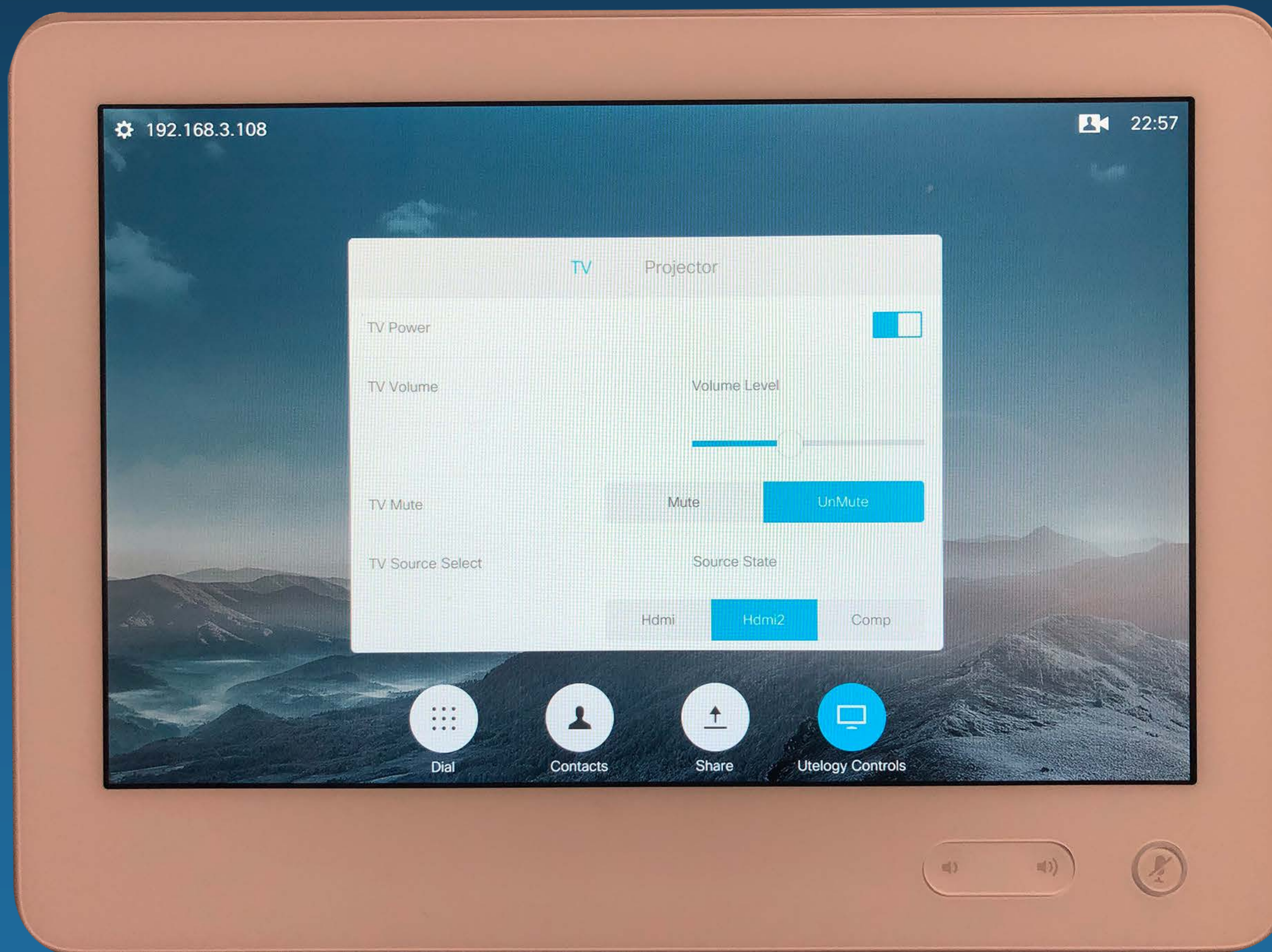
- **Utelogy is configured to talk directly to the Cisco device using Cisco's API.**
- **Utelogy can also be configured to connect to all other devices in the room that you might want to control.**
- **Using the Cisco 'In Rooms Control Editor', you can add panels and widgets to the Touch 10 UI.**

Cisco Touch 10-Utelogy Integration

- **The Utelogy Controls widget is now part of the UI on the Touch 10 Control Panel.**



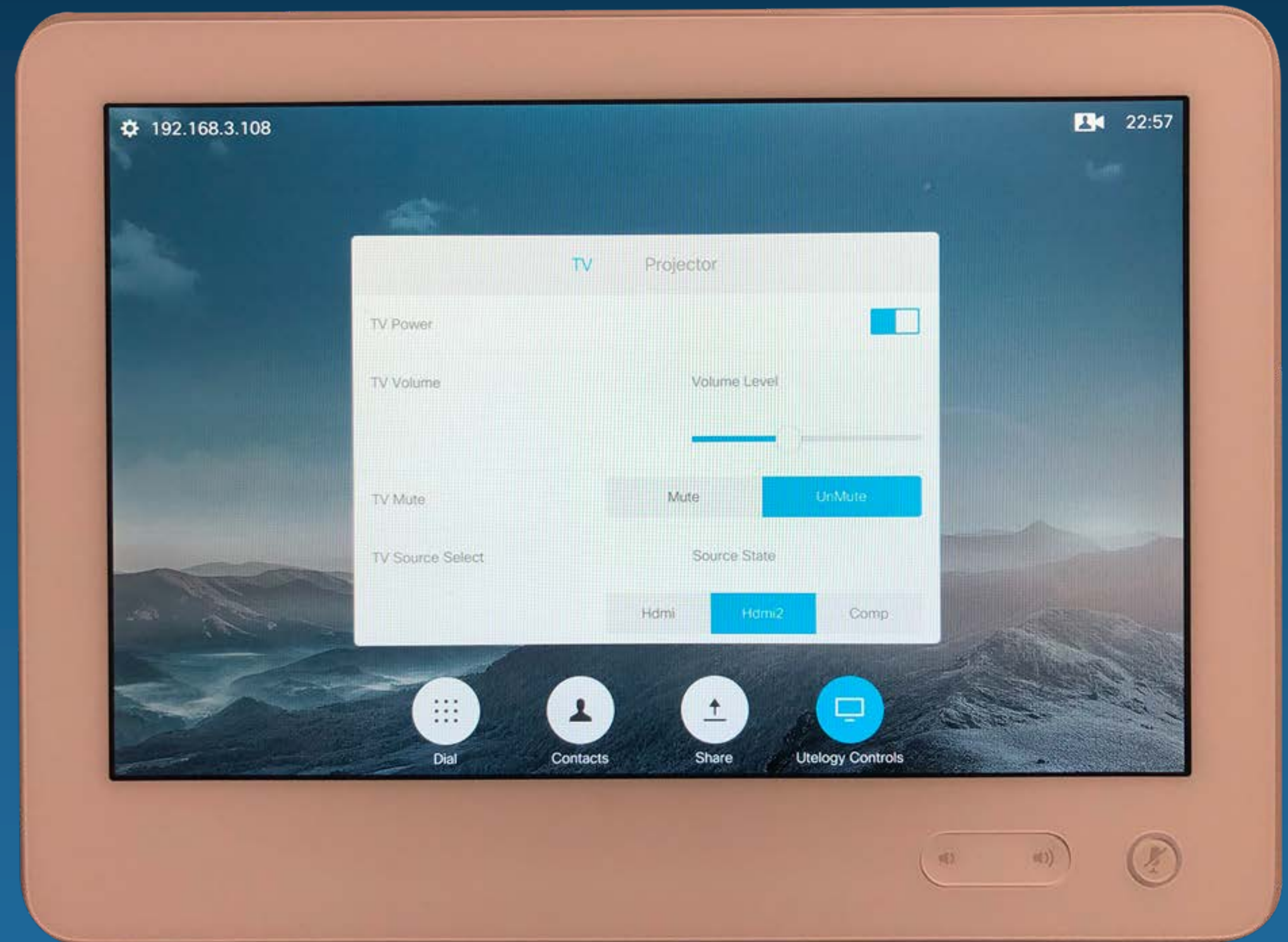
Using U-Control



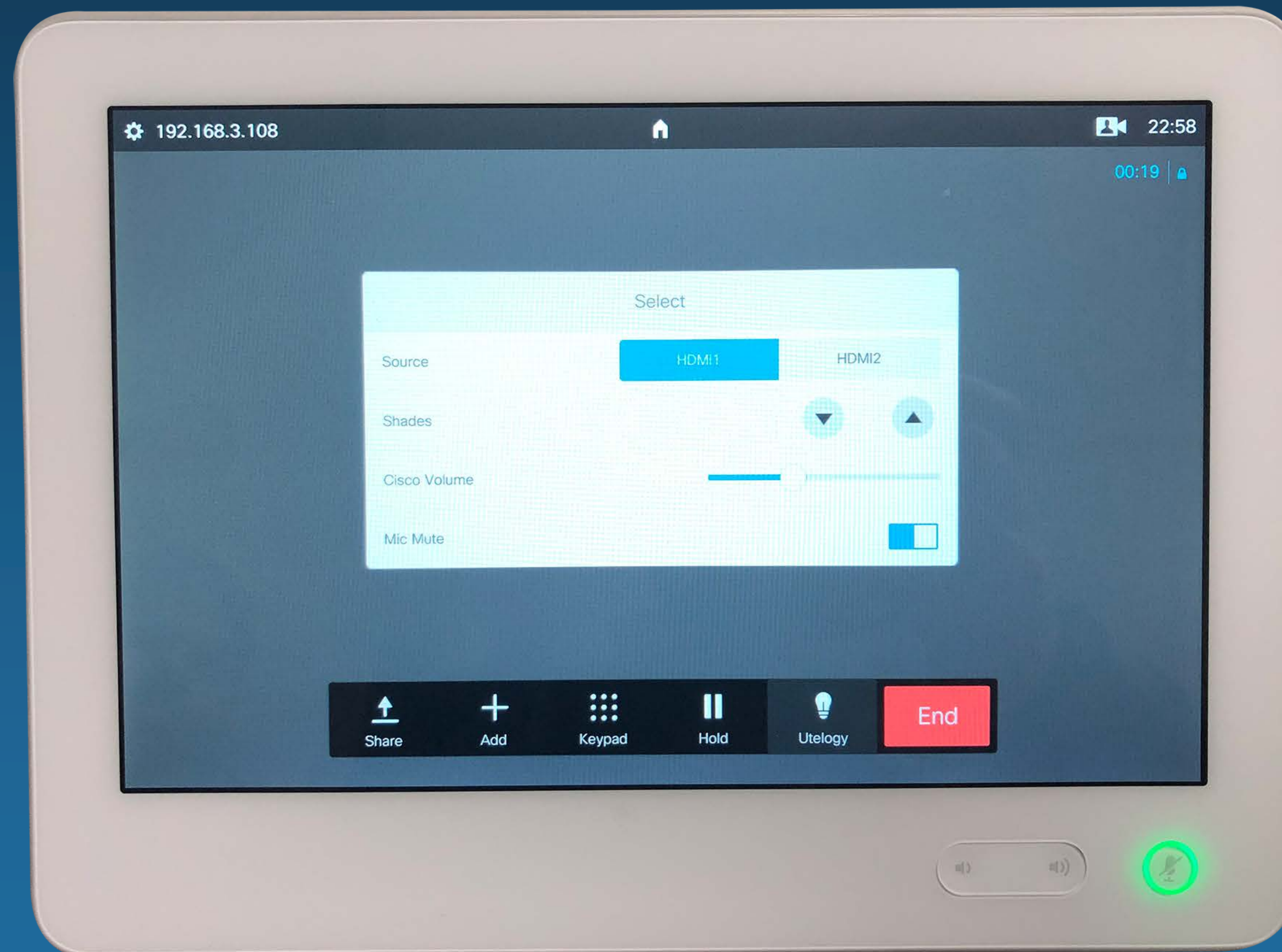
- **Utelogy is configured to talk directly to the Cisco device using Cisco's API.**
- **Utelogy can also be configured to connect to all other devices in the room that you might want to control.**
- **Using the Cisco 'In Rooms Control Editor', you can add panels and widgets to the Touch 10 UI.**

Using U-Control

- **Using the Utelogy Configuration tool, you integrate with the widgets to respond to any kind of user interaction with the devices.**
- **Utelogy will update the widget's visual state based on feedback from the devices.**



In-Call Controls From Utelogy



Why Utelogy?

- **Easy customization**
- **Flexible, Feature-proof**
- **Scalable**
- **Enhances the user-experience because all devices can be managed from the control interface**
- **Analytics and management for all devices**



utelogy

Utelogy Third-Party Integration CLI



Education



Corporate



Government



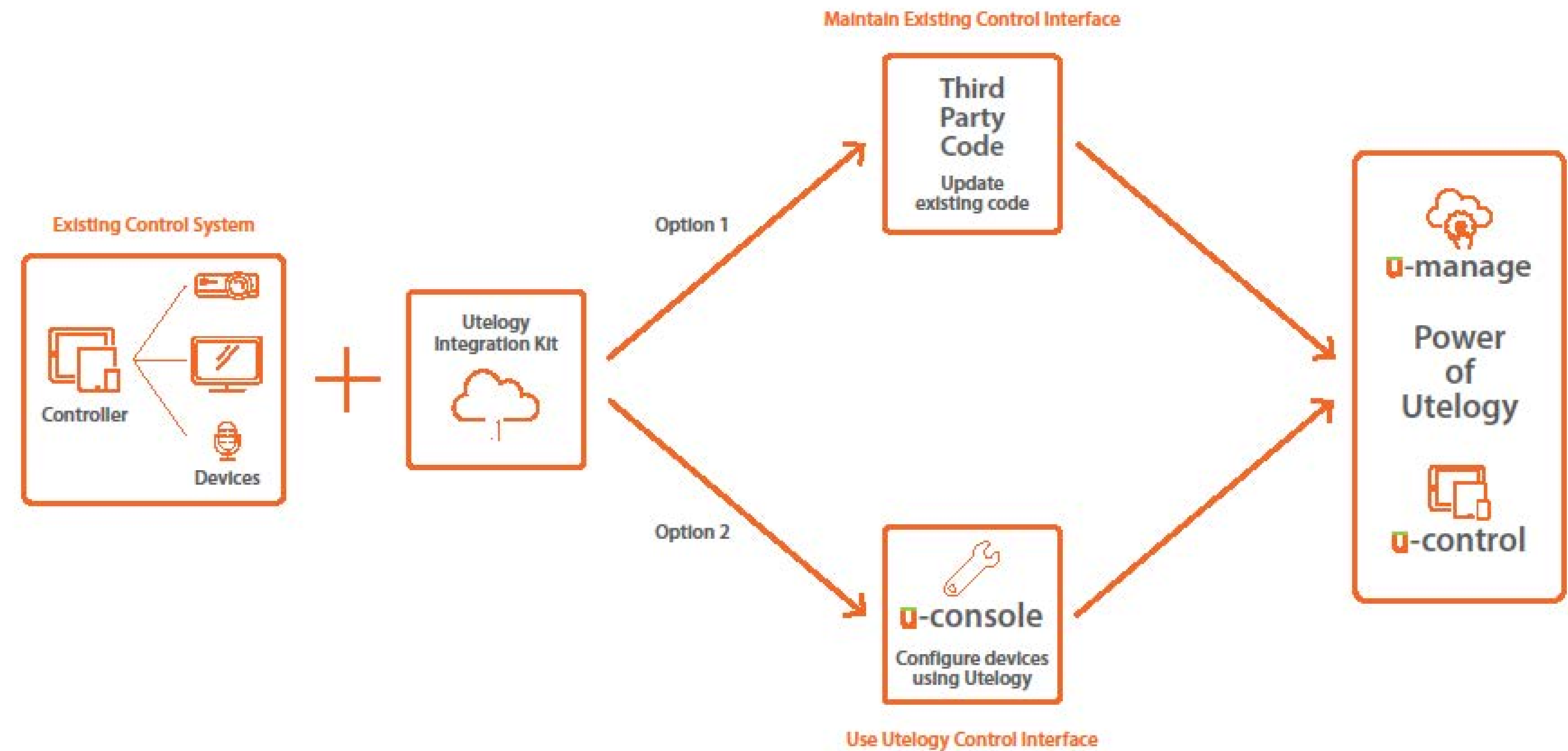
Why Integrate Utelogy to an Existing Control Environment?

- Leverage investments in existing control hardware
- Enable monitoring and analytics capability
- Freedom to choose hardware / technology for future room design
- Simplify maintenance and support environment

How It Works

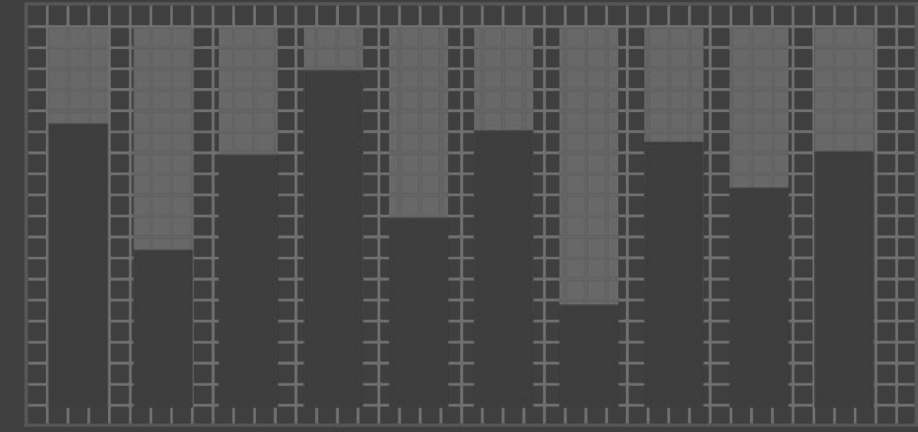
Flexible Approach:

- Option 1—Keep existing control interface
- Option 2—Use Utelogy U-control



Why Utelogy?

- **Solutions for multiple legacy control systems**
- **Economical, scalable, future-proof**
- **Extend analytics and management for all rooms and devices**



utology