ExtremeCloud Business Insights for Venues

User Guide

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Welcome to ExtremeCloud Business Insights for Venues

ExtremeCloud Business Insights for Venues helps you see how your venue's wireless network is being used. You can choose from a variety of dashboards and charts that display client data usage over the Wi-Fi network during venue events.

Business Insights lets you:

- Select from existing historical, live, and comparative dashboards.
- Customize new dashboards with the data that you want to see.
- Create access point to location mappings to make it easier to track data usage at different venue locations.
- Select the applications that you want to track.
- Run pre-flight checks to test the network.

Related Topics

About the Interface

ExtremeCloud Business Insights for Venues uses dashboards and charts to display data usage by wireless clients during venue events.
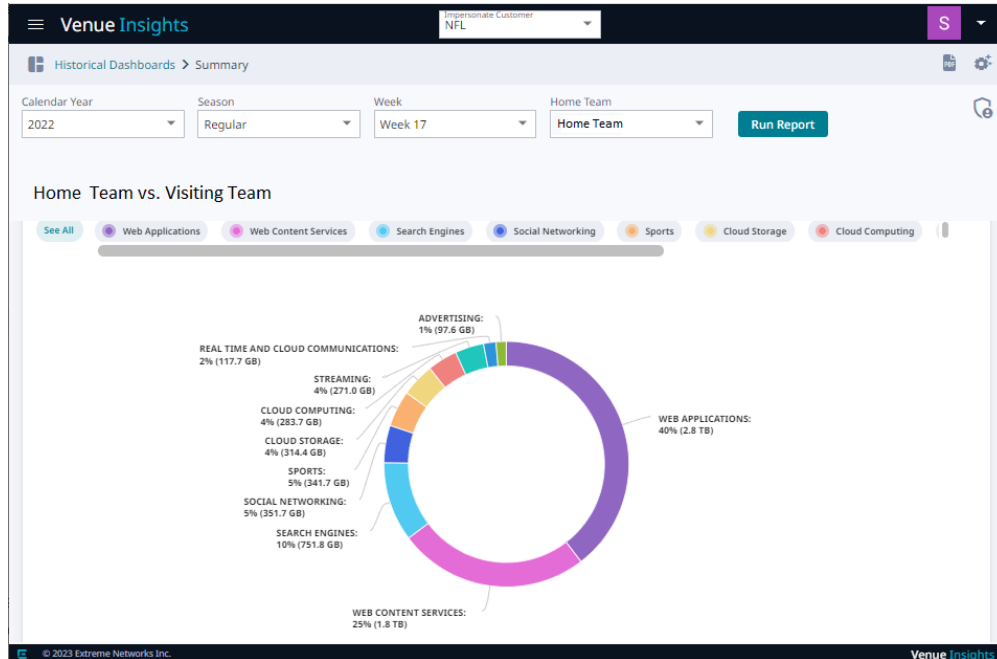
Figure 1: The Business Insights Desktop

To access the navigation menu, click the Business Insights navigation icon ▤. The
following menu items are available:

Dashboards on page 8

> Click this navigation item to display the following submenu items:
> - **Historical**—Dashboards that display data for a completed event.
> - **Live**—Dashboards that display data for an event that is currently taking place. For
>   live events, the data is updated in real time.
> - **Comparative**—Dashboards that compare data for multiple events. Includes the
>   Suites Engagement Dashboard.
> - **Custom**—Dashboards that you create and customize to display the data that you
>   want to see.

Locations on page 18

> Click this navigation item to display the following submenu item:
> - Mappings—Create labels to map your access points to venue locations.

Chart Library on page 21

> Browse hundreds of available charts. You can add any charts that you find useful to
> one of your custom dashboards.

User Management on page 21

> If you have the required Administrator permissions, use this menu to manage users
> on the system. You can add, update, or delete users. In addition, you can change
> passwords for users.

Custom Events on page 26

> View data for custom events that are outside the normal schedule. You can also add
> or delete custom events from the schedule.

Custom Markers on page 28

Upload a csv file or Excel spreadsheet with custom markers that you can apply to an event in order to mark important moments.

Pre Flight Checks on page 29

Run pre flight checks at a venue in order to test network readiness and to look for potential issues.

Tracked Applications on page 31

Select the applications for which data will be collected.

Schedule on page 32

View the calendar of events by month, week, or day.

Data Studio on page 32

Create and edit your own custom charts that get added to the Chart Library.

Preferences on page 35

Set up preferences for the Business Insights viewing environment.

> **Note**
> Some of the menu items are available only if you have Administrator permissions. For details, see "Permissions" under User Access on page 23.

Access the Application

Business Insights is a web-based application. To access the application:

1. Within a web browser, open the application URL that your administrator has provided.
2. Log in with your Business Insights credentials. If you don't have credentials, contact your administrator.

> **Note**
> If you see either of the following banners display in the interface, note the following:
>
> • *Please link your venue with your Extreme Portal account*—In this case, licensing has not been applied to your venue.
>
> • *License limit exceeded*—In this case, the venue's license usage has exceeded license capacity.
>
> In either case, contact your Extreme Networks representative or an administrator who has the **License** permission so that they can assign license capacity to the venue.
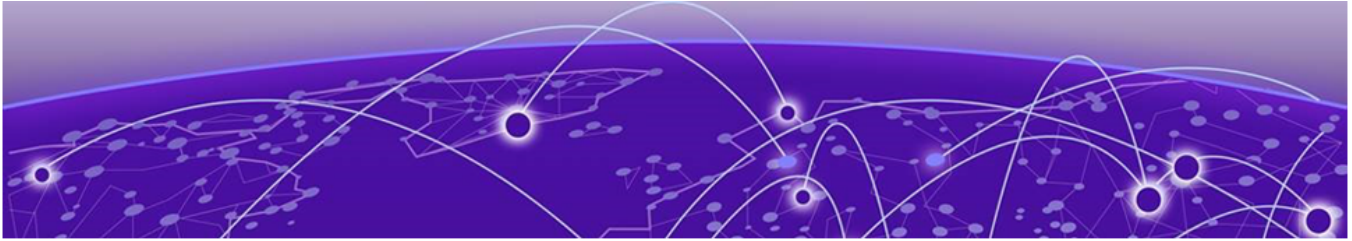
Dashboards

ExtremeCloud Business Insights for Venues displays event data in dashboards. Each dashboard contains charts and figures that show wireless client data usage during one or more events.

Business Insights groups dashboards under four categories that are available under the **Dashboards** navigation item:

- **Historical**—Dashboards that display data for a completed event.
- **Live**—Dashboards that display data for an event that is currently taking place. For live events, the data is updated in real time.
- **Comparative**—Dashboards that compare data for multiple events. Includes the Suites Engagement Dashboard.
- **Custom**—Dashboards that you create and customize to display the data that you want to see.

> **Note**
> By default, Business Insights reports event data in one-minute intervals.

Dashboard and Chart Requirements

Many dashboards and charts have extra requirements. For example, many dashboards and charts require you to deploy ExtremeCloud IQ Controller.

To view requirements, hover your mouse over the **Dashboard Description** or **Chart Description** tooltip icon ⓘ for the applicable dashboard or chart.

If a dashboard or chart shows no data, you may not meet the requirements for that data. Review the requirements in the tooltips. If the chart or dashboard still does not work, check with an Extreme Networks representative to ensure that your network meets the minimum requirements.

Common Dashboard and Chart Icons

While working in dashboards, use the following icons and controls to customize how your dashboard and charts display.

Table 1: Common Dashboard and Chart Icons

Icons	Description
ⓘ	The tooltip provides dashboard descriptions (where available) and chart descriptions. For the description, hover your mouse over the tooltip that appears within a dashboard label or within a chart.
⚙⁺	**Dashboard Settings**—Use this icon to change the dashboard layout. Within a dashboard, click this icon and then select the desired layout.
+	**Create New Dashboard**—Within the Custom Dashboards page, click the plus (**+**) icon to create a new custom dashboard.
📄PDF	**Download Dashboard (PDF)**—Click this icon to download the displayed dashboard in PDF format.
⋮	**Chart context menu**—Click this icon in the top right of a chart and select from a list of available actions, for example you can: • Print the chart • Download the chart (in pdf, jpg, png, or svg file format) • Download chart data (in csv or xls file format) • **View As Bar Chart**—For time series charts, select this option to view the chart data as a bar chart over the event timeline. Click **Play** to start the timeline viewer and to watch the data usage during the event. Click **Pause** or click on the timeline to stop the viewer at specific moments in time. Click **Close** to close the bar chart.
See All	**See All**—Within applicable charts, click and unclick this label to display or hide all categories from the chart display. **Note:** You can also display and hide individual categories from the chart using either of these methods: • Hover your mouse over a specific chart category to highlight the graph entry for that category. • Click and unclick specific chart category labels to add or remove those categories from the chart display.
🗑	**Delete**—Click the trashcan icon to delete a custom dashboard or event.

Related Topics

Historical Dashboards

Historical dashboards display data for completed events, for example games that were played last weekend. Each dashboard consists of one or more charts.

To access a historical dashboard, go to **Dashboards** > **Historical**. From the **Historical Dashboards** landing page, you can view a specific dashboard by doing either of the following:

- Select the panel for that dashboard.
- Type the name of the dashboard into the search bar and press **Enter**.

Related Topics

Run a Historical Dashboard Report

1. Click the Business Insights navigation icon ☰ and select **Dashboards** > **Historical**.
2. Click the dashboard that you want. For example, the **Summary** dashboard.
3. Choose a specific event by selecting values that match the event from the drop-down menus across the top.
4. Click **Run Report**.

   The charts in the dashboard populate with data for the selected data points.

   > 📝 **Note**
   >
   > The following options are available:
   >
   > - To change the dashboard layout, click ⚙ (Dashboard Settings) and select the layout.
   >
   > - To download the dashboard to PDF, click 📄 (Download Dashboard (PDF)).
   >
   > - To show or hide graph categories from the display, click and unclick the graph labels. You can also click and unclick the **See All** label to show or hide all categories from the display.
   >
   > - To take an action on a specific chart, click ⋮ (Chart context menu) and select the action. For example, you can:
   >   - Print the chart
   >   - Download the chart (png, jpg, pdf or svg format)
   >   - Download the chart data (csv or xls format).

Related Topics

Live Dashboards

Live dashboards display data for events that are currently taking place. The charts in the dashboards are refreshed regularly to show data in real time. The Live dashboards

option contains the same basic set of dashboards as the default historical dashboards, except that the data is refreshed regularly with live, real-time data.

You can access live dashboards from the navigation menu by choosing **Dashboards** > **Live**. To open a specific live dashboard, from the **Live Dashboards** landing page, do either of the following:

- Click on the applicable dashboard panel.
- Type the name of the dashboard into the search bar and press **Enter**.

Related Topics

Run a Live Dashboard Report

1. Click the Business Insights navigation icon ☰ and select **Dashboards** > **Live**.
2. Select the dashboard type. For example, **Live Social Media**.
3. From the **Venue** drop-down, select the venue for which you want to view live data.

   📒 **Note**
   You can choose only from events that are currently taking place.

4. Select **Run Report**.

   The charts in the dashboard populate with data for the selected event. Data in the charts is refreshed regularly.

   📒 **Note**
   The following options are available:

   - To change the dashboard layout, click ⚙ (Dashboard Settings) and select the layout.

   - To download the dashboard to PDF, click 📄 (Download Dashboard (PDF)).

   - To show or hide graph categories from the display, click and unclick the graph labels. You can also click and unclick the **See All** label to show or hide all categories from the display.

   - To take an action on a specific chart, click ⋮ (Chart context menu) and select the action. For example, you can:
     ◦ Print the chart
     ◦ Download the chart (png, jpg, pdf or svg format)
     ◦ Download the chart data (csv or xls format).

Related Topics

Comparative Dashboards

Comparative dashboards contain dashboards and charts that compare data for more than one event, including:

- Dashboards and charts that compare data for different events under the same team (for example, different games played by the same team at the same venue or all of a team's home games during a given season)
- Dashboards and charts that compare events that fall under different teams or venues (for example, all games under a specific customer in the same week).

To access the **Comparative Dashboards** landing page, select **Dashboards** > **Comparative** from the navigation menu. To access a specific comparative dashboard, from the landing page, do either of the following:

- Click on the applicable dashboard panel.
- Type the name of the dashboard into the search bar and press **Enter**.

> **Note**
>
> The scope of data that is available within a dashboard or chart depends on your user type. For example, a user for a specific team and venue can compare data only for events that fall under both the team and venue whereas a customer-level user can compare event data for all teams under that customer. For more detailed information, see User Access on page 23.

Related Topics

Run a Comparative Dashboard Report on page 12
Suites Engagement Dashboard on page 13
Run the Suites Engagement Dashboard Report on page 14

Run a Comparative Dashboard Report

1. Click the Business Insights navigation icon ▤ and select **Dashboards** > **Comparative**.
2. Select the comparative dashboard type. For example, **Network Summary**.
3. Using the drop-down menus across the top of the window, select the criteria for comparison (for example, games played during a season by a given team).

4. Select **Run Report**.

   The charts in the dashboard populate with data for the selected events.

   > **Note**
   >
   > The following options are available:
   >
   > - To change the dashboard layout, click ![icon] (Dashboard Settings) and select the layout.
   > - To download the dashboard to PDF, click ![icon] (Download Dashboard (PDF)).
   > - To show or hide graph categories from the display, click and unclick the graph labels. You can also click and unclick the **See All** label to show or hide all categories from the display.
   > - To take an action on a specific chart, click ![icon] (Chart context menu) and select the action. For example, you can:
   >   - Print the chart
   >   - Download the chart (png, jpg, pdf or svg format)
   >   - Download the chart data (csv or xls format).

Related Topics

Suites Engagement Dashboard

Large venues offer box suites for rent where fans can enjoy the game in a private setting. The **Suites Engagement Dashboard** demonstrates the value of a box suite by illustrating how these suites are being used. This dashboard can be found under **Dashboards** > **Comparative** and tracks a number of metrics for different suites at the venue, including:

- Suite Utilization
- Occupancy (ratio of connected devices to seating capacity)
- Dwell time (ratio of device dwell time to game duration, expressed as a percentage)

The Dashboard displays a variety of figures and charts that illustrate occupancy and dwelling time at different events in a season, at different suites in the venue, and across seasons as well.

Related Topics

Run the Suites Engagement Dashboard

Run the Suites Engagement Dashboard to view utilization information for a specific venue suite.

1. Click the Business Insights navigation icon ▤ and select **Dashboards** > **Comparative**.
2. Select **Suites Engagement**.
3. Select the venue **Home Team** from the drop-down menu and then select **Run Report**.
4. In the **Suite Utilization** area, click on the table cell that corresponds to the data that you want. For example, click the table cell that matches the specific suite (row) and season (column) for which you want to view data.

   The dashboard pulls up historical figures and charts for that suite during that season.

   📒 **Note**
   The following options are available:

   - To change the dashboard layout, click ⚙ (Dashboard Settings) and select the layout.

   - To download the dashboard to PDF, click 📄 (Download Dashboard (PDF)).

   - To show or hide graph categories from the display, click and unclick the graph labels. You can also click and unclick the **See All** label to show or hide all categories from the display.

   - To take an action on a specific chart, click ⋮ (Chart context menu) and select the action. For example, you can:
     ◦ Print the chart
     ◦ Download the chart (png, jpg, pdf or svg format)
     ◦ Download the chart data (csv or xls format).

Custom Dashboards

Use **Custom Dashboards** to create your own dashboards with the charts and data that you want to see. Populate your dashboard with the charts that you want using either of these methods:

- Add any of the hundreds of existing charts that are available in the **Chart Library**.
- If there are no charts with the data that you want, use the **Data Studio** to create a custom chart with the metrics that you want.

Once your custom dashboard is created, run a dashboard report on any new events that arise to view your customized dashboard for that event.

Related Topics

Create a Custom Dashboard

Create a custom dashboard that displays the charts and data that you want to see. You can use the dashboard to run a report on any event.

Before You Begin

- Browse the Chart Library on page 21 to preview existing charts that you may want for your dashboard.
- If there are no charts with the data that you want, use the Data Studio on page 32 to create a new custom chart.

To create a custom dashboard:

1. Click the Business Insights navigation icon ▤ and select **Dashboards** > **Custom**
2. Click the (**+**) icon to create a new dashboard.
3. In the **Create Dashboard** popup, complete the following fields:
   - **Dashboard Name**—Enter a dashboard name.

     > **Note**
     > If you use the *Venue Analytics SDK*, this name will be used for the dashboard.

   - **Dashboard Title**—Enter the dashboard title that displays in the interface for the dashboard. The title must be alphanumeric and cannot have spaces or special characters.
   - **Dashboard Description**—Enter a text description that will display if you do a mouseover of the dashboard's tooltip on the main **Custom Dashboards** screen.
   - **Edit Dashboard**—Check this check box to open the new dashboard in edit mode immediately. Otherwise, if you leave this check box unchecked, the new dashboard gets created and added to your Custom Dashboard list, but you will need to complete the dashboard setup later.
   - **Dashboard Type**—From the drop-down select the type of dashboard that you want to create (historical data or live data).
4. Click **Create**.
   - If you checked **Edit Dashboard**, the new dashboard is created and opens in edit mode right away. Go to the next step.
   - If you left **Edit Dashboard** unchecked, you can use the Edit an Existing Custom Dashboard on page 16 procedure later to add charts to the dashboard.
5. For each chart that you want to add, click and drag the chart onto the dashboard page.

   > **Note**
   > To remove a chart from the dashboard, click the trashcan icon 🗑 in the top right of the chart.

6. Click **Save**.

Related Topics

Live Dashboards on page 10

Run a Custom Dashboard Report

Run a report for a specific event using an existing custom dashboard.

1. Click the Business Insights navigation icon ☰ and select **Dashboards** > **Custom**.
2. Select the dashboard that you want to view.
3. Choose a specific event by selecting values that match the event from the drop-down menus across the top.
4. Click **Run Report**.

   The charts in the dashboard populate with data for the selected event.

   > **Note**
   >
   > The following options are available:
   >
   > - To change the dashboard layout, click ⚙ (Dashboard Settings) and select the layout.
   > - To download the dashboard to PDF, click 📄 (Download Dashboard (PDF)).
   > - To show or hide graph categories from the display, click and unclick the graph labels. You can also click and unclick the **See All** label to show or hide all categories from the display.
   > - To take an action on a specific chart, click ⋮ (Chart context menu) and select the action. For example, you can:
   >   - Print the chart
   >   - Download the chart (png, jpg, pdf or svg format)
   >   - Download the chart data (csv or xls format).

Related Topics

Edit an Existing Custom Dashboard

Apply edits to an existing custom dashboard, for example you can add or remove charts from the dashboard.

1. Click the Business Insights navigation icon ☰ and select **Dashboards** > **Custom**.
2. For the dashboard that you want to edit, click the ⋮ icon in the top right of the dashboard label and select **Edit Dashboard**.

   The dashboard opens in edit mode.
3. Make any edits that you want to the dashboard:

   - To add a chart, click and drag the chart onto the dashboard.

- To remove a chart, click the trashcan icon 🗑 in the top right of the chart. and select **Delete**.

4. Click **Save**.

> 📝 **Note**
> You can also delete a custom dashboard from the **Custom Dashboards** page.
>
> For the dashboard that you want to delete, click the ⋮ icon in the top right of the dashboard label, select **Delete Dashboard**, and then click **Delete**.
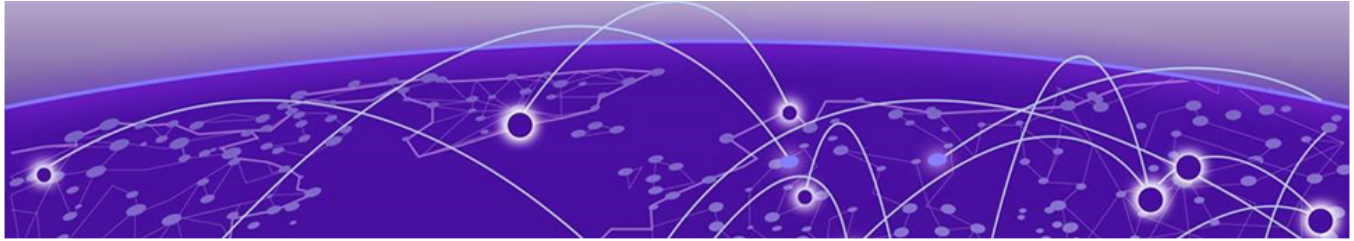
Locations

The **Locations** page provides a mapping of venue access points and their location in the venue. You can use this page to create human-readable labels and then apply that label to a group of access points. Data for each access point in the group gets categorized under the access point group.

The **Locations** page contains the following tabs:

- **Mappings**—Lets you create labels that group your access points by venue location. See the subsequent procedure for a description of how to create a mapping.
- **Inferred Locations**—Displays access points that are assigned to a location via a regular expression or pattern.
- **Unmapped Locations**—Displays access points that are provisioned for the venue, but which are not assigned a location. As access points get assigned to locations, they get removed from this tab.

> **Note**
> To use Locations with ExtremeCloud Business Insights for Venues, you must deploy ExtremeCloud IQ Controller.

Related Topics

Create Access Point to Location Mapping

Use this procedure to create labels that map your venue access points to human-readable locations.

1. Click the Business Insights navigation icon ☰ and select **Locations** > **Mappings**.
2. From the **Venue** drop-down menu, select the venue.
3. Click the **Mappings** tab.
4. Expand the category to view existing mappings in that category. For example, **Sections** or **Suites** may be categories.

   > **Note**
   > To add a new category, click **Add Category**, select the category, and click **Add**.

5. To create a new mapping, click the (**+**) icon to add a new line and enter the following:

    • **Label**—Enter a readable label to identify the mapping. For example, `Lower Bowl`
      `- Southwest.`

    • **Regular Expression**—Enter either a regular expression to identify a range of
      access points or list each access point separated by the `|` symbol. For example,
      `AP2300|AP2301|AP2302.`

6. To add a new access point under an existing label, edit the **Regular Expression** field
    to include the access point as per the rule in the previous step.

7. Repeat steps 4 and 5 to create as many labels as you need for your access points.

8. Click **Save**.

> **Note**
>
> • To delete a location mapping, click the adjacent ✕ icon.
>
> • To view of list of access points to which a location mapping applies, click
>   the ◉ (Show matched Access Points) icon that is adjacent to the location
>   mapping.

Administration Options

ExtremeCloud Business Insights for Venues includes the following pages, which let you create customizations for charts and dashboards, administer user and event lists, set preferences, and test the network.

- Chart Library on page 21—Browse hundreds of charts to see which charts provide the data you need. You can add particularly useful charts to a custom dashboard.
- User Management on page 21—Add and manage the list of users who can access the system. Assign administrator permissions to any users who will administer the systems.
- Custom Events on page 26—View data for custom events that are outside the normal schedule. You can also add or delete custom events.
- Custom Markers on page 28—Upload a csv or excel spreadsheet with customized indicators that mark important moments such as scoring plays or intermissions. The markers will display in time series charts for the event.
- Pre Flight Checks on page 29—Run checks to test network readiness and to troubleshoot potential issues.
- Tracked Applications on page 31—Use Tracked Applications to select the list of applications for which you want to collect data.
- Schedule on page 32—View your venue's event schedule.
- Data Studio on page 32—Create customized charts that show the data that you want to see. You can use the Chart Library to view the customized chart and can also add the chart to a custom dashboard.
- Preferences on page 35—Use preferences to set the default landing page, color palette and chart type.

Chart Library

The **Chart Library** page contains hundreds of charts that you can access to view data usage for a specific event using a range of different parameters. You can browse through the hundreds of charts that are available and can add any chart that you find useful to a custom dashboard so that you can access the chart quicker.

1. Click the Business Insights navigation icon ☰ and select **Chart Library**.
2. Select a specific event by choosing values from the drop-down menus that match that event and venue.
3. Click **Run Report**.
4. In the left navigation bar, check the adjacent check boxes for each chart that you want to view.

   The selected charts display in the view.

5. Optional. To take action on a chart, click the ⋮ icon in the top right of the chart and select the action. For example, you can:

   - Print the chart
   - Download the chart (in pdf, png, jpg, or svg formats)
   - Download the chart data (csv or xls format)

   > **Note**
   >
   > For a **Chart Description**, hover your mouse over the tooltip ⓘ that displays in the top right corner of a given chart. The description also includes any extra chart requirements. For example, many charts require you to deploy ExtremeCloud IQ Controller.

   > **Note**
   >
   > To sort or filter the chart list, click the ⨅ (**Sort/Filters**) icon and do one of the following:
   >
   > - To sort the list, select **Sort** and choose **Ascending** or **Descending** order.
   > - To filter the list to display only charts of a specific type (for example, line charts), select **Filter** > **Chart Type** and select the chart type.

What to do Next

If you don't see charts with the data that you want, use Data Studio to create your own custom chart. For details, see Create a Custom Chart on page 33.

User Management

The **User Management** page lists all user accounts in the system. To sort a column alphabetically, select the column heading.

Use the widgets below the list to control the number of accounts displayed and to scroll up and down. By default, 20 users are displayed.

Use the icons at the top of the page to:

[+user icon] — **Add User**

Add a new user. See Add User on page 22.

[edit user icon] — **Edit User**

Change a user's attributes or permissions. See Edit or Update a User on page 23.

[delete user icon] — **Delete User**

Remove a user's account. See Delete a User on page 23.

[password icon] — **Change Password**

Change a user's password. See Update Password on page 23.

[refresh icon] — **Refresh**

Refresh the User list.

For general information about user types and access permissions, see User Access on page 23.

Add User

To add a new user:

1. Click the Business Insights navigation icon [menu icon] and select **User Management**.
2. Select the [add user icon] (Add User) icon.
3. Select the user type:

    - **User for a Customer (All Venues)**—Creates a user that associates to a specific **Customer**, for example the NFL.
    - **User for a Customer (Specific Venue)**—Creates a user that associates to a specific **Venue**, for example Arrowhead Stadium.
    - **User for a Customer (Specific Venue and Team)**—Creates a user that associates to a specific **Team**, for example Chiefs.

4. Select **Continue**.
5. Enter the user's attributes. Note the following:

    - If you are defining a user for a specific venue or team, you select those attributes here.
    - **Sign On Type** can be **Single Sign On** or **Local**. If you select **Local**, you are prompted to create a password for the user. There are no restrictions on required characters or password length.

6. In the boxes to the right, select the user's permissions. For example, a user can have permission to add and update users but not delete them. Leave all the boxes cleared to create a user with no special permissions.

7. Select **Create**.

Edit or Update a User

To edit or update a user:

1. Click the Business Insights navigation icon ≣ and select **User Management**.
2. Select a user in the User list.
3. Select the ⚏ (Edit User) icon.
4. Update the user attributes as needed. You can change the user display name, email address, and permissions.
5. Select **Update**.

Delete a User

To delete a user:

1. Click the Business Insights navigation icon ≣ and select **User Management**.
2. Select one or more users in the User list.
3. Select the ⚏ (Delete User) icon.
4. Select **Delete** to confirm the deletion.

Update Password

To update a password for an existing user:

1. Click the Business Insights navigation icon ≣ and select **User Management**.
2. Select the user whose password you want to update.
3. Select the ⚏ (Update Password) icon.
4. Enter a new password for the user. There are no restrictions on required characters or password length.
5. Enter the password again to confirm it.
6. Select **Update**.

User Access

Business Insights uses user types and permissions to determine what users can access:

- User types govern which events a user can access along with the scope of data that is available.
- Permissions govern which Business Insights navigation menu items and User Management icons are available to a user.

User Types

Each user must be assigned as one of three user types. The user type determines the event access (which events a user can access) and scope of data (the data that is

available for those events). The following table summarizes the three user types and the level of event access and data scope for each user type.

Table 2: User Types in Business Insights

| User Type	Description of User Access

User for a Customer (All venues)	On the **User Management** page, users with this user type get listed in the **Customer** column. The following access applies:
	• **Event Access**—Has access to all events that are associated to that customer, irrespective of which venue hosts the event and which team is playing. For a league, this user has access to all events at league venues including non-league events (for example, concerts).
	• **Data Scope:**—Has access to data for all venues and teams under that customer. For example, this user can use comparative charts to compare results for all teams in the league. With the required permissions, this user can see:
	  ◦ Within User Management, can see all users under the customer.
	  ◦ Within Locations, can see location mappings for all venues under the customer.
	  ◦ Locations data within charts and dashboards for all venues.

User for a Customer (Specific venue)	On the **User Management** page, users with this user type get listed in the **Venue** column. The following access applies:
	• **Event Access**—Has access to all customer events that are associated to that venue including both league events and non-league events such as concerts. If the venue houses two teams, this user can access events for both teams. The user does not have access to events that take place at other league venues, including events where the venue's home team is visiting another team's stadium.
	• **Data Scope:**—Has access to data from a specific venue only. This user cannot see data from other venues, unless the data is part of a customer-published figure (for example, league averages). If this user has the required permissions, they can see:
	  ◦ Within User Management, this user can see only users for that venue or users for that venue's team.
	  ◦ Within Locations, can see locations mappings for their own venue only.
	  ◦ Locations data within charts and dashboards for all events at the venue.

User for a Customer (Specific venue and team)	On the **User Management** page, users with this user type get listed in the **Team** column. The following access applies: • **Event Access**—Has access to all customer events for a specific team that take place at a specific venue. For a league, this user can access events only for the specified team that take place at the specified venue. The user cannot access: ◦ Events for other teams that play at the same stadium.

Table 2: User Types in Business Insights (continued)

User Type	Description of User Access
	◦ Events where the specified team is visiting another team's stadium. ◦ Non-league events such as concerts. · **Data Scope**—Has access to data that pertains to that team and venue only. This user cannot access data for other events at the venue (for example, if the venue houses two teams, the user can access data for their team only). With the required permissions, this user can see: ◦ Within User Management, the user can see other users for that team only. This user cannot see users at the venue level, customer level, or users for other teams under the customer. ◦ Within Locations, this user cannot see Locations mappings for their venue. However, they can see locations info for the venue within charts for team events.

The following image illustrates event data scope for different user levels. Each block represents the event data that is available for users at that level.
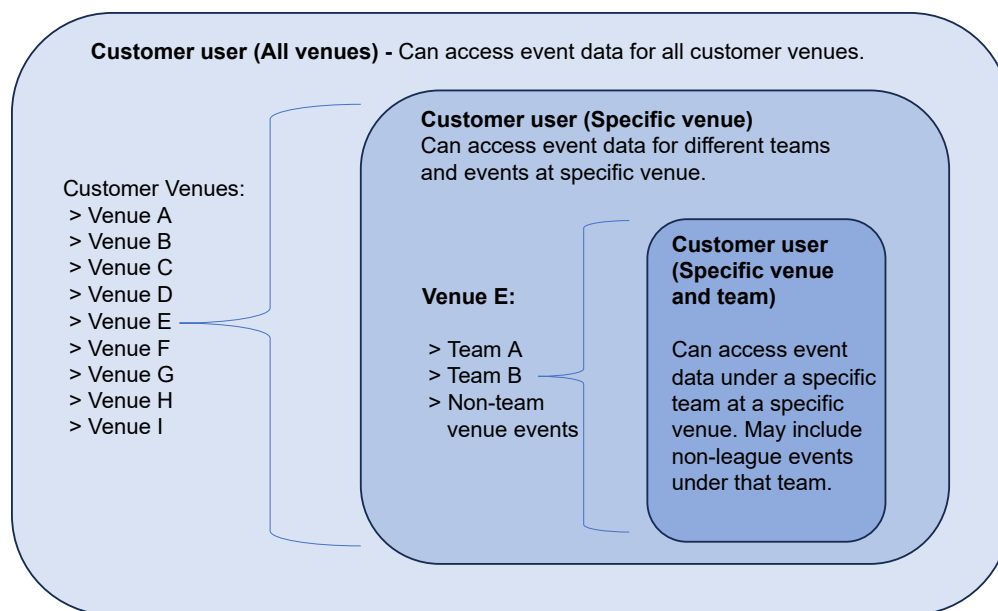
Figure 2: Event Data Scope for Different User Levels

Permissions

Permissions govern which Business Insights menu items and action icons display regardless of the user type. A default user with no permissions can access the following pages:

· Dashboards
· Schedule
· Data Studio

To increase a user's access, you can assign any of the permissions in the following table. Each permission that you assign gets added to the default access to which the user is entitled. You can assign multiple permissions to a single user.

Table 3: Permissions in Business Insights

Permission	Description
Administrator	Provides user access to all menu items in the Business Insights navigation menu. This permission is required to be able to access the **User Management** page.
Add User	Provides user access on the **User Management** page to add a user to Business Insights.
Delete User	Provides user access on the **User Management** page to delete a user from Business Insights.
Update User	Provides user access on the **User Management** page to update a user in Business Insights.
Change Password	Provides user access on the **User Management** page to change a password for another user.
License	Provides user access to the **License** page in Business Insights. This user can assign license capacity for all venues and teams to which their user type provides access.

> **Note**
> When managing users, administrators cannot exceed the scope that their user type provides. For example, an administrator for a Specific Venue cannot manage users at the All Venues level. However, the Specific Venue administrator can manage users at the Specific Venue and Team level who are under the same venue as the administrator.

Custom Events

The **Custom Events** page lists all custom events that are defined in the system. Custom events are events that do not get added automatically by the customer API. You can use the user interface to add or delete custom events. For a sports venue, custom events may include non-league events such as concerts.

Click the column headings if you want to sort entries alphabetically or chronologically according to the entries in that column. Use the widgets at the bottom of the page to control the number of events that display and to scroll up and down. By default, 20 events are displayed.

Click the following icons to:

+ — **Add Event**

Add a new custom event. See

■ — **Delete Event**

Remove a custom event. See Delete Custom Event on page 27.

⟳ — **Refresh**

Refresh the Custom Events list.

⧉ — **Open Dashboard**

Open dashboards for a custom event. See Open Dashboards for Custom Event on page 28.

Add Custom Event

Add a custom event to the venue event schedule.

1. Click the Business Insights navigation icon **☰** and select **Custom Events**.
2. Select the **+** (Add Event) icon.
3. In the **Create Event** window:
   - Enter a name for the event.
   - Select the event venue from the drop-down list. The time zone is calculated automatically, based on the venue you selected.
   - Enter the starting date and time for the event, in the format `mm/dd/yyyy,` `hh:mm:ss`. Use 24-hour format, for example `17:00:00` for 5:00 p.m.

   > **💡 Tip**
   >
   > Select **📅** , to the right of the **Event Start Time** field, to specify the starting date and time using calendar and clock widgets.

   - Specify the event's duration – the amount of time for which you want to collect data – in days, hours, or minutes.
4. Select **Create**.

Delete Custom Event

To delete one or more custom events:

1. Click the Business Insights navigation icon **☰** and select **Custom Events**.
2. Select one or more events in the Custom Events list.
3. Select the **■** (Delete Event) icon.
4. Select **Delete** to confirm the deletion.

   > **📝 Note**
   >
   > When you delete an event, ExtremeCloud Business Insights for Venues preserves the event's data so that you can use it again.

Open Dashboards for Custom Event

You can use the **Custom Events** page to open historical or live dashboards for any custom event. Optionally, use the **Compare** feature to open two dashboards side by side for that event.

1. Click the Business Insights navigation menu ▤ and select **Custom Events**.

   Depending on your user type, the page displays all custom events under the customer or only the events from a specific venue or team.

2. For the applicable event, click the adjacent ⬈ (Open Dashboard) icon.
3. From the **Dashboard** drop-down, select the dashboard that you want to open.
4. Optional. From the **Compare** drop-down menu, select a second dashboard to view. The second dashboard opens on the same page beside the first dashboard.
5. To close the dashboards, click **Close**.

   > **Note**
   >
   > Click 📄 (Download to PDF) if you want to download the dashboard data to a PDF file.

   > **Note**
   >
   > If you want to view a custom dashboard for a custom event, you must use the **Custom Dashboards** page. See Run a Custom Dashboard Report on page 16.

Custom Markers

Custom Markers let you add timestamped indicators to time series charts for an event so that you can view data usage at that moment in time. For example, you can use Custom Markers to mark the kickoff, scoring plays, intermissions, and other notable moments that you want to highlight.

1. Click the Business Insights navigation icon ▤ and select **Custom Markers**.
2. From the drop-down menus across the top, select an event and click **Select Event**.
3. Do either of the following:

   • Click and drag your upload file from your desktop to the Business Insights desktop.
   • Click **Select CSV/Excel file** then browse to your upload file and click **Open**.

4. Click **Submit Markers**.

   > **Note**
   >
   > For information on supported upload file formats, see Supported File Formats for Custom Marker Upload on page 29.

Supported File Formats for Custom Marker Upload

Business Insights supports Excel spreadsheets or CSV files for Custom Marker uploads. The upload file must contain the following fields: **ts**, **group**, and **title**. The following table provides field descriptions:

Table 4: Field Definitions for Custom Marker Upload Files

Field	Description
ts	A timestamp that represents the moment in time where the marker gets inserted in the event to which the upload file applies. The times must be in 24-hour format. Supported formats are: • MM/DD/YY HH:MM (for example, 12/23/22 23:01) • MM/DD/YY HH:MM:SS (for example, 12/23/22 23:01:13) **Note:** The times are specific to the timezone where you are located currently. During uploading, the times get converted from the uploader's local timezone to the event timezone. For example, if the uploader timezone is UTC -0400 and the event venue timezone is UTC -0700, the uploaded marker values get converted -0300 hours back (12/23/22 23:01 to 12/23/22 20:01).
group	The group column represents a group name (e.g., Quarters/Scoring Plays/Periods). All markers with the same group name are grouped together.
title	The title column represents a display name of the marker (for example, kickoff).

Excel Spreadsheet Example

ts	group	title
10/21/22 20:00	Periods	Start of match
10/21/22 20:11	Scoring Plays	Home team scores (1-0)
10/21/22 20:18	Scoring Plays	Visiting team scores (1-1)
10/21/20:48	Periods	End of first half (1-1)

CSV File Example

```
ts,group,title
10/21/22 20:00, Periods, Start of match
10/21/22 20:11, Scoring Plays, Home team scores (1-0)
10/21/22 20:18, Scoring Plays, Visiting team scores (1-1)
10/21/22/20:50, Periods, End of first half (1-1)
```

Pre Flight Checks

Pre flight checks let you test a venue's network readiness prior to a live event. Pre flight checks are run on the day of the event. They may be run after the venue has started tracking live data for the event, but prior to the scheduled start time of the event. However, you can also run pre flight checks during the scheduled event.

To run a check:

1. Click the Business Insights navigation icon ▤ and select **Pre Flight Checks**.
2. Select the appropriate venue. You can enter the venue name in the **Search** box or scroll to the appropriate venue.
3. To configure the Pre flight check, click the ⚙ (Configuration) icon for the venue and do the following:

   a. Under **Enabled Checks**, check the tests that you want to run.
   b. Under **AP Check**, enter the IP address targets that you want to target for the check. Insert a comma between each address.

   > 📒 **Note**
   > We recommend that you don't run AP checks during a scheduled event as some checks may take the AP offline.

   c. Expand the Location categories and check each location that you want to include in the check.
   d. Click **Save**.

4. To run the check, click the ▶ (Start Pre Flight Check) icon for that venue.

The results display in the window. Refer to the following sections for more information on the checks that are run and the results that are returned.

> 📒 **Note**
> - To download the results in a PDF file, click the 📄 (Download Pre flight Check) icon for that venue.
>
> - To delete the check results, click the 🗑 (Clear Pre flight Check) icon for that venue.

Types of Checks

Pre flight checks includes the following types of checks:

Table 5: Pre Flight Checks

Check Type	Description
Next scheduled event times	Checks that the Start and End times for upcoming scheduled events are displayed.
Traffic Sensor data ingestion	Verifies that the Traffic Sensor is configured and operational.

Table 5: Pre Flight Checks (continued)

Check Type	Description
XIQC data ingestion	Verifies that ExtremeCloud IQ Controller is configured.
Diagnostic Checks: • Charts run endpoint • Live selectors • Event selectors endpoint • Event timezone endpoint	Pre flight checks include a variety of diagnostic checks. Diagnostic checks are run only for scheduled live events and are intended for development support. If you see an issue with a diagnostic check, notify the development team.

Check Results

The following table provides a description of the check results.

Table 6: Check Results

Field	Description
Check Type	Lists the checks that Business Insights completes on this venue.
Status	Status of the check. Valid values are: • Success • Failure • Info
Start	Start time for the check.
End	End time for the check.
Message	A message that provides details about the check results.

Tracked Applications

On the **Tracked Applications** page, you can select which applications you want to track data for using the Selected Application dashboards. Data usage for the applications that you select is available on the noted dashboards.

> **Note**
> This page can be edited at the customer level only. Updates on this page apply to all venues under the customer.

1. Click the Business Insights navigation menu icon and select **Tracked Applications**.

   The **Tracked Applications** displays the list of applications by category. Business Insights tracks data for the applications that are checked.
2. Check the applications that you want to track.

3. Click **Save**.

> **Note**
> - Click the 👁 (View Selected Applications) icon to view a summary of only the applications that you are tracking.
> - Click the 🗑 (Clear all Selected Applications) icon to clear your current list of applications.

Schedule

To view a calendar schedule of events for all venues, click the Business Insights navigation icon ☰ and select **Schedule**.

By default, Business Insights displays events by calendar month. Use the following buttons to adjust the view:

- Click **Month**, **Week**, or **Day** buttons to limit the display to the desired range.
- Click **Previous** or **Next** to move to the previous or subsequent calendar entry.

To search for a specific event, enter text in the **Search** box.

> **Note**
> The **Schedule** page displays both standard events and custom events:
> - Standard events get added or deleted from the schedule automatically by the customer API. For a sports league, standard events include the league schedule.
> - Custom events can be added or deleted from the schedule using the Business Insights interface. For a sports league, custom events may include concerts. To add or remove a custom event from the schedule, see Custom Events on page 26.

Data Studio

Use Data Studio to build queries that create custom charts that display the data that you want to see. After you build your query, preview how the chart looks before you save it. After you create a new chart, the chart gets added to the **Chart Library** and becomes available for custom dashboards. Later on, you can use Data Studio to edit any existing custom chart.

Related Topics

Create a Custom Chart

Use Data Studio to create a custom chart that displays the data that you want to see.

1. Click the Business Insights navigation icon ▤ and select **Data Studio**.
2. Click **Create Chart**.
3. Under **Chart Details**, select values from the following drop-down fields:
    *   **Chart Type**—Select **Time Series**, **Bar** or **Pie**.
    *   **Data Source**—Select the source of the data. Choose from **Access Point Table**, **Mobile Unit Table** or **Application Table**.

        > **Note**
        > Data for the Access Point and Mobile Unit tables are sourced from the controller that you deploy. Data for the Application Table is sourced from traffic sensor data.

    *   **Metric**—Choose the aggregation logic to display for the selected measurement, for example maximum, minimum, or mean.
    *   **Metric Operation**—Choose the aggregation logic to display for the selected measurement, for example maximum, minimum, or mean.
    *   **Group By**—Choose how to organize the data, for example by access point name or operating system.

        > **Note**
        > The actual values under each drop-down may change slightly depending on which options you select and on your implementation of Business Insights.

4. Select **Open Query Builder** and construct a query.

    A query is a set of conditions, associated by AND or OR operators. For example, you might want to collect data for the set of APs with a particular name AND IP address, OR with the same manufacturer.

    The following image shows a sample query being defined in the Query Builder.

Figure 3: Query Builder Example

- Click **+ Rule** to define a condition, for example `Location != Concourse`. Click within the boxes and choose the criteria (like `Location`) and operations (like `!=`) to add to the rule.
- To define additional conditions, click **+ Rule** again, define the new conditions as you defined the first condition. Associate the conditions with each other using **AND** or **OR**.
- To create a group of conditions, select **+ Ruleset** and define rules within the ruleset. Then use **AND** or **OR** to associate the rules within the ruleset, and to associate the ruleset with other rules and rulesets you have defined.

5. When you are finished building the query, select **Apply** to save it.
6. Select a specific event on which to run a preview report:
   a. Choose an event by selecting appropriate values from the drop-down menus across the top of the main window.
   b. Click **Run Report**.

      ExtremeCloud Business Insights for Venues applies your query to the selected event and then builds a chart based on the criteria that you selected in step 3. If you are not satisfied with how the chart looks, modify chart details and run new reports until you are satisfied with the chart.
7. Click **Save** and enter the following details:
   - **Chart Name**—Enter the Chart Name that identifies the chart within the ExtremeCloud Business Insights for Venues SDK.
   - **Chart title**—Enter the title that displays at the top of the chart.
   - **Chart Description**—Enter a chart description for the custom chart.
8. Click **Save**.

The new chart gets added to the **Chart Library** and can be added to any of your custom dashboards.

Related Topics

Edit an Existing Custom Chart

Use Data Studio to edit an existing custom chart.

1. Click the Business Insights navigation icon ☰ and select **Data Studio**
2. Click **Edit Charts**.
3. For the chart that you want to edit, click the **Chart Actions** icon ⁝ within the chart label and select **Edit Chart**.

   If there are no charts with the data you want, search for the chart by entering the chart name in the **Search** box.
4. Under **Chart Details**, edit any of the drop-down options that you want to change.
5. If you want to edit the query, click **Open Query Builder** and do the following:

   a. Edit any rules and rulesets to which you want to apply changes. You can edit, add or remove rules and rulesets.

   b. Click **Apply**.
6. Preview how the chart looks:

   a. Select an event by choosing appropriate values from the drop-down windows across the top of the right window.

   b. Click **Preview Chart**.
7. Click **Save**.

   > **Note**
   > You can also use the Edit Charts options within Data Studio to delete an existing custom chart. In step 3 above, click the Chart Actions icon ⁝ for the applicable chart and select **Delete Chart**.

Preferences

Use the **Preferences** page to set the following:

- Default landing page after login
- Default Chart Type
- Color Palette for charts

1. Click the Business Insights navigation icon ☰ and select **Preferences**.
2. Select the **User Preferences** tab.
3. Set the **Default Landing Page** by selecting one of these options:

   - **Default**—Use the system default landing page.
   - **Custom**—Choose a specific dashboard page as default. From the **Dashboard Type** and **Dashboard** drop-downs, select a specific page. For example, choose Historical and Social Media to set Social Media historical dashboard as default.

4. Click **Save**.

5. Select the **Chart Preferences** tab.

6. From the **Chart Type** drop-down, select the default chart type (for example, Line charts, stacked charts, pie charts, bar chart).

7. For the **Chart Color Palette**, select one of these options:

   • **Default**—System default colors apply.

   • **Custom**—Customize the color palette. Click on a color category on the left of the page. In the popup, click the color that you want to assign to the category or enter the hexadecimal color value. Repeat for each category that you want to customize.

8. Click **Save**.

Assign Licenses

Use the **License** page to link the venue account to the Extreme Licensing Portal and to assign license capacity for a venue.

> **Note**
> • Only administrators who have the **License** permission can view and use the **License** page.
> • Administrators with the **License** permission can access venue licensing information based on the user type of the administrator. For example, an administrator at the **Customer** level can view and update licensing for all venues under that customer whereas an administrator at the **Venue** level can view and update licensing for a specific venue only.
> • To assign license capacity, you must have purchased licenses already.
> • To link the venue account to the Extreme Licensing Portal, you need a user account with sign in access to the portal.
>
> Contact your Extreme Networks representative if you need help with any of these requirements.

1. Click the Business Insights navigation menu ☰ and select **License**.

2. If the venue status displays *Account not linked* do the following to link the account to ExtremeCloud IQ:

   a. Click **Link to Extreme Portal**.

   b. Sign in to the Extreme Licensing Portal using credentials for a user account that has access to the portal.

   After the linkage is complete, the venue status displays *Account linked* within Business Insights.

3. In the Business Insights interface, assign license capacity by editing the **Capacity** setting for the venue.

4. Click **Update**.

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