



BeyondTrust

BeyondInsight 22.3 Analytics & Reporting

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BeyondInsight Analytics & Reporting

BeyondInsight contains a data warehouse solution with business intelligence and analytics. This module extracts data from the BeyondInsight database and then processes the data in Microsoft SQL Server Integration and Analysis Services. You can browse these cubes in BeyondInsight, Microsoft SQL Server Management Studio, or using tools such as Microsoft Excel.

Using BeyondInsight, you can:

- Run reports on your assets, Password Safe, Endpoint Privilege Management, or data from the BeyondInsight management console.
- Subscribe to reports on a schedule for automatic delivery to a network file share or through email.
- Save report views to easily reuse a report with predefined parameters.
- Create report snapshots to save static views of report data.
- Interactively explore data and create and save custom reports with a pivot grid.

Report Categories

- Account
- Asset
- Attack
- Clarity
- Configuration
- Console Reports
- Endpoint Privilege Management
- Licensing
- Organizational
- Password Safe
- PowerBroker Identity Services
- PowerBroker for Sudo
- PowerBroker for Unix & Linux
- Saved Report Views
- Scan



Note: Some report categories are visible only if certain product licenses are present or if certain permissions have been set in the management console. Administrators can view all reports.

Run Reports in BeyondInsight



Tip: To view reports in BeyondInsight, you can use Internet Explorer or Edge, Safari, Firefox, or Chrome. Only Internet Explorer enables you to print results directly. In other browsers, you must first create a PDF before printing.



Note: To make sure that all Analytics & Reporting features work properly, please set your browser's pop-up blocker to allow pop-ups from your BeyondInsight management console.



Note: A drill-through action that opens a new report is limited to 10,000 rows of data by design.



Note: In order to run a report, users must have read access to **Analytics & Reporting** and **Management Console Access** enabled.

Log in to your BeyondInsight management console and click **Analytics & Reporting**.

1. From the **All Reports** pane, locate a report using the report category folders, or search for a report using title or description keywords, and then select the desired report.

2. From the **Configure Report** pane:
 - Select the report parameters or leave them as default.
 - Click **View Report**.

CONFIGURE REPORT
◀

PARAMETERS
SAVED VIEWS
SUBSCRIPTIONS

OrganizationID
 Global ▼

Smart Group
 All Assets ▼

From
 Current Work Week ▼

Scanner Workgroup
 All workgroups ▼

Scanner
 All scanners ▼

Scan
 All scans in current scope ▼

Audit Group
 All Audits ▼

VIEW REPORT

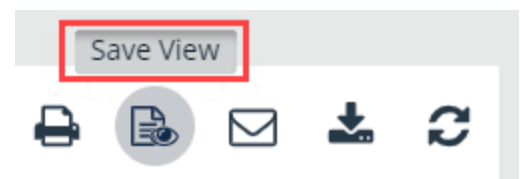


Tip: After viewing the report, you can create a subscription to it by clicking the envelope button. For more information, please see "Manage Subscriptions in BeyondInsight" on page 7.

Save a Report View

If you generate a certain report frequently and use the same parameters, you can save those parameters in a **Saved Report View**.

1. Select the report.
2. Select the report parameters.
3. Click the **Save View** button.
4. Enter a name and description for the report view, select an **Organization** from the list, and then click **Save Report View**. The name must be unique.
5. This view is now located in the **Saved Views** panel on the **Configure Report** pane when you select a report and in the **Saved**



Report Views folder on the **All Reports** page.

- When you select the saved view, the report loads automatically with the saved parameters.

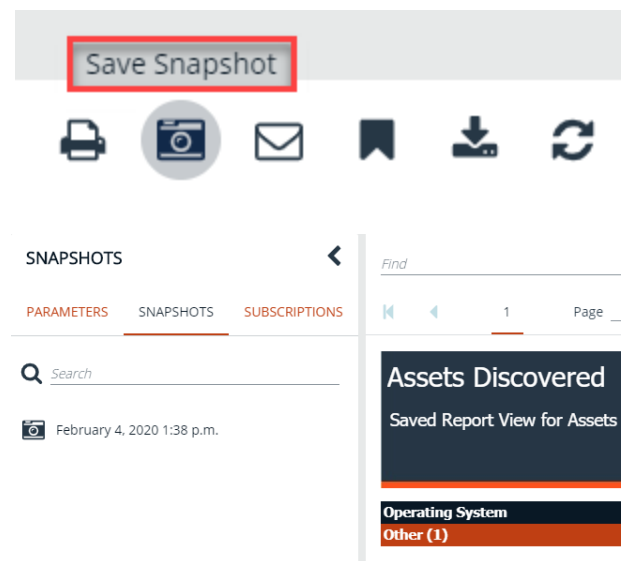


Note: Endpoint Protection reports have been removed, and any saved views of these reports cannot be used.

Save a Snapshot

When you generate a report from a saved view, you can save the data in a snapshot. A snapshot is the saved report and results as they were when the snapshot was created. Time and date information is displayed with the snapshot.


- Open a saved view either from the **Saved Views** panel on the **Configure Report** pane in a report or from the **Saved Report Views** folder under **All Reports**.
- Once the report is displayed, click the **Save Snapshot** button.
- From the saved report view, you can view the snapshots from the left panel.



Note: Endpoint Protection reports have been removed, and any saved snapshots of these reports cannot be used.

Manage Subscriptions in BeyondInsight

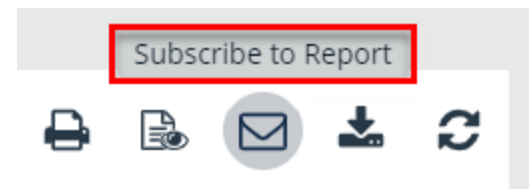
In addition to running reports on demand, you can set up a subscription to the report. With a subscription, you can set a schedule to run a report and deliver the report output in an email or to a shared folder.

 **Note:** SQL Server Reporting Services (SSRS) must be configured for email delivery. Use the **Reporting Services Configuration** tool to configure the SMTP server or gateway and verify that the **Report Server Windows** service account user is granted the **Send As** right.


Create a Subscription

After generating a new report or accessing a saved report view, you can subscribe to the report.

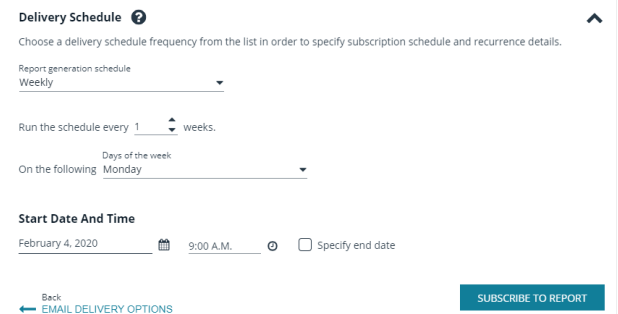
1. From the BeyondInsight home page, click **Analytics & Reporting**.
2. Under **All Reports**, select the folder that contains the report you want to subscribe to.
3. Select the report parameters and click **View Report**, or click the saved report view.
4. Once the report displays, click the **Subscribe to Report** button.
5. Select a delivery method:




- **Deliver the report through email:** After selecting this option, click **Next** and enter the email addresses to send the report to, as well as an email subject.
- **Deliver the report to a shared folder:** After selecting this option, click **Next** to enter the network information for the share, network credentials, report file format, and file overwrite options.

 **Note:** This email option is not available if SMTP is not configured in the **Reporting Services Configuration Manager**.

6. Click **Next**.
7. Select scheduling information.
8. Click **Subscribe to Report**, and then click **Close Wizard**.



The screenshot shows the 'Delivery Schedule' configuration screen. It includes a dropdown for 'Report generation schedule' set to 'Weekly', a field for 'Run the schedule every' set to '1' weeks, and a 'Days of the week' dropdown set to 'Monday'. Under 'Start Date And Time', the start date is 'February 4, 2020' and the time is '9:00 A.M.'. There is a 'Specify end date' checkbox which is unchecked. At the bottom, there is a 'Back' link, a 'SUBSCRIBE TO REPORT' button, and a link to 'EMAIL DELIVERY OPTIONS'.

 **Note:** If you have chosen to deliver the report output to a network share and the SSRS host server resides outside the domain, you must install a reporting services delivery extension file.



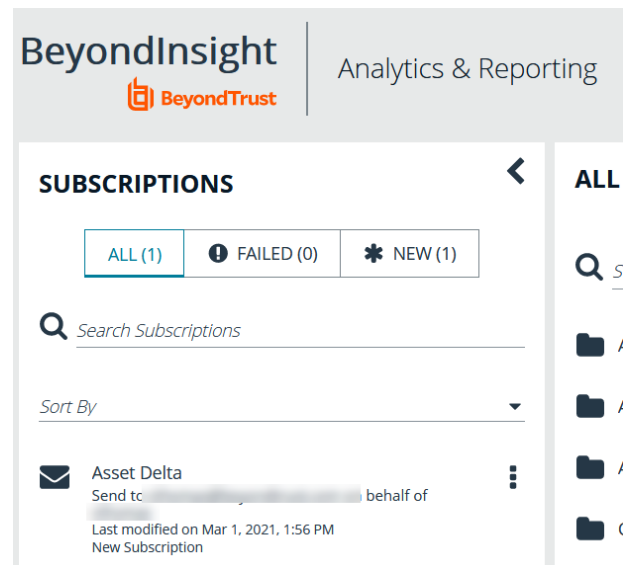
1. Install the following MSI file on the server hosting the SSRS server:
C:\Program Files (x86)\eEye Digital Security\Retina CS\Support\BeyondInsight-ReportingServicesExtensionsSetup.msi
2. Configure **Analytics & Reporting** with the SSRS server that is hosted on a server that is not a member of the domain.
3. Create a subscription that writes to a domain network share using domain credentials. The subscription is saved to the network share.

View, Edit, and Delete Subscriptions

You can view, edit, and delete subscriptions from the **Analytics & Reporting** page, from the **Configuration** page, or from the report where the subscription was created. Only subscription owners and administrators can edit or delete a subscription.

From the Analytics & Reporting Page

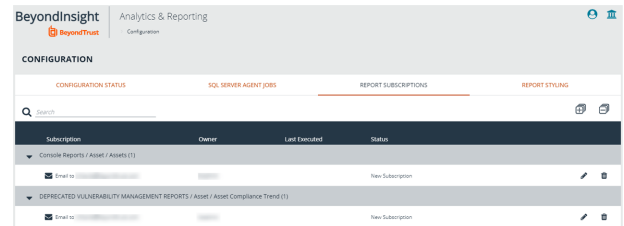
1. From the BeyondInsight home page, click **Analytics & Reporting**.
2. Click **Subscriptions**.
3. By default, all subscriptions are listed in the **Subscriptions** pane. Click **Failed** or **New** to filter the subscriptions.



4. To edit a subscription:
 - Select the subscription, and then click the vertical ellipsis button for the subscription.
 - Select **Edit Options**. The same wizard is displayed as when you create a subscription.
 - Change the settings as needed, and then click **Finish** to complete wizard.
5. To delete a subscription:
 - Select the subscription, and then click the vertical ellipsis button for the subscription.
 - Select **Delete**.
 - Click **Delete** on the confirmation message.

From the Configuration Page

1. From the BeyondInsight home page, click **Configuration**.
2. Under **Analytics & Reporting**, click **Configuration**.
3. Enter the administrative username and password to log in to the **Analytics & Reporting Configuration** pages.
4. Click **Report Subscriptions**.
5. To edit a subscription:
 - Click the report name or saved report view to expand its subscriptions.
 - On the subscription, click the **Edit** button. The same wizard is displayed as when you create a subscription.
 - Change the settings as needed, and then click **Save Changes**.
6. To delete a subscription, click the **Delete** button for the subscription.



From a Report or Saved Report View

1. Open **Analytics & Reporting**.
2. Select the folder where the report is located or select the **Saved Report Views** folder.
3. Select the report or saved report view.
4. Click **Subscriptions** in the left pane.
5. By default, all subscriptions are listed. Click **Failed** or **New** to filter the subscriptions.
6. To edit a subscription:
 - Select the subscription, and then click **Edit Options**. The same wizard is displayed as when you create a subscription.
 - Change the settings as needed, and then click **Save Changes** to complete wizard.
7. To delete a subscription:
 - Select the subscription, and then click the **Delete** button.
 - Click **Delete** on the confirmation message.



Note: Endpoint Protection reports have been removed. Any subscriptions to these reports cannot be used, and should be deleted.

Override the Owner of a Subscription

You might need to override a subscription owner if the creator no longer has a BeyondInsight account, as subscriptions tied to non-existent users fail. You can change the owner of a subscription only if you are a BeyondInsight administrator.

1. Edit the subscription you wish to take ownership of.
2. An **Override** check box displays on the first page of the subscription wizard if the administrator is not currently the owner. Check this box to set your user account as the owner of the subscription.

Edit Subscription ⓘ

You can subscribe to a report to allow it to be scheduled for automatic delivery. Reports can be delivered through email or posted to a shared folder on the network. You can choose from a range of rendering and scheduling options.

Report Name
Asset Item State

Owner
OnonAdmin Override

Please Choose A Report Delivery Option

- Deliver the report through email
You can choose to deliver the report through email. You can specify multiple recipients, the subject line, and add an optional comment if so desired.
- Deliver the report to a shared folder
This will deliver the report to a file share on the network, you can specify overwrite actions, the file name and the share path, and enter credentials for access to the share.

Work with Pivot Grids in BeyondInsight

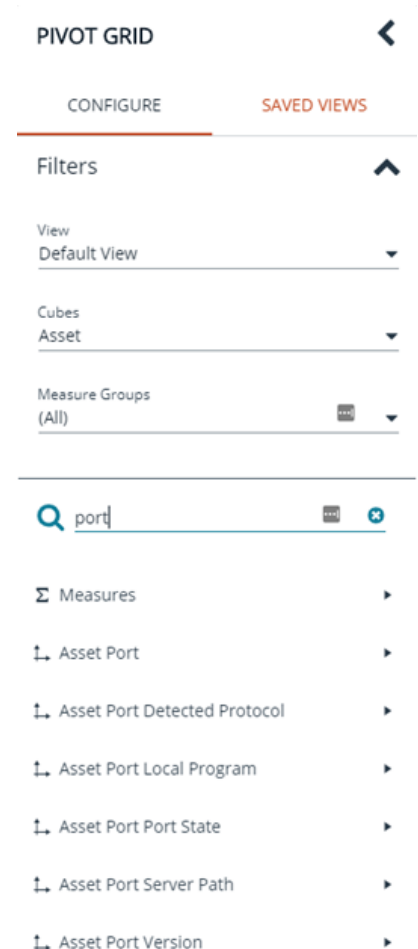
Using pivot grids, you can interact with multidimensional data from the BeyondInsight cube and can create custom views of the data. Pivot grids use standard analytical cube features:

- **Measures:** Provide the calculated data values that you want to view.
- **Dimensions:** Provide the filters, groups, and labels for the view.

Create a Pivot Grid

Using the measures and dimensions provided, you can build comprehensive pivot grid views to analyze your data.

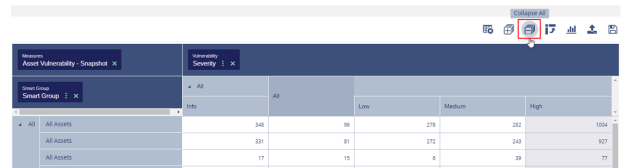
1. From the left menu in the BeyondInsight Console, click **Menu**.
2. Under **Analytics & Reporting**, click **Pivot Grid**.
3. In the **Configure** panel under **Filters**, select a **View**, a **Cube**, and a **Measure Group**. You can perform a keyword search to find measures and attributes that contain specific words.
4. Drag and drop measures and dimensions on indicated drop zones: **Measure Fields**, **Column Fields**, and **Row Fields**.
5. Drag and drop multiple dimensions to enable more options that you can drill down through.



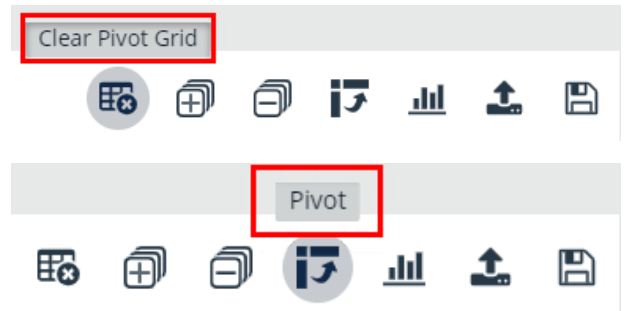
6. The available information populates the grid once the fields are selected. Use the **Expand Visible** and **Collapse All** buttons in the toolbar to show or hide all available data.



7. To completely clear the pivot grid and start over, click **Clear Pivot Grid** in the toolbar.



8. To pivot your data in the grid, click **Pivot** in the toolbar. This converts the rows to columns and the columns to rows.



Save Pivot Grid Views

Once you have created a pivot grid, you can save the selected filters, measures, and dimensions as a view for later use.

1. In the pivot grid toolbar, click **Save**, and then select **Save as View**.
2. Enter a **Name** and **Description**.
3. Select the appropriate group for **Allowed Access**.
4. Choose whether other BeyondInsight users can see the saved pivot grid.
5. Click **Save As View**.

Save Pivot Grid As A View ?

Specify a name, a category, and a description to save the pivot grid layout to a custom view.

Name

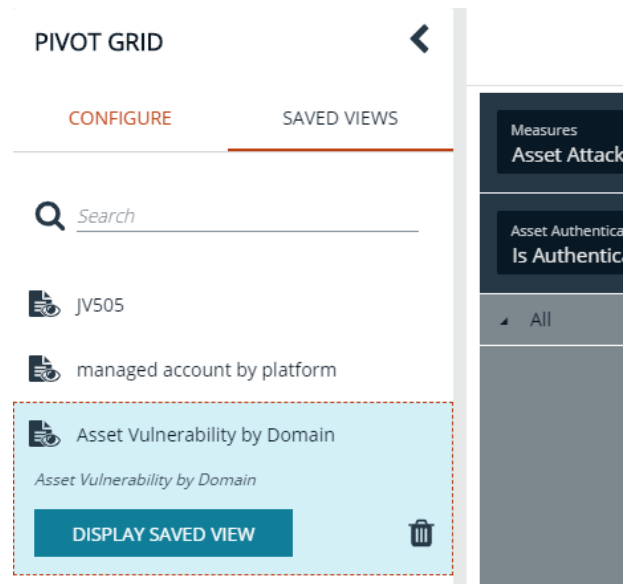
Description

Allowed Access

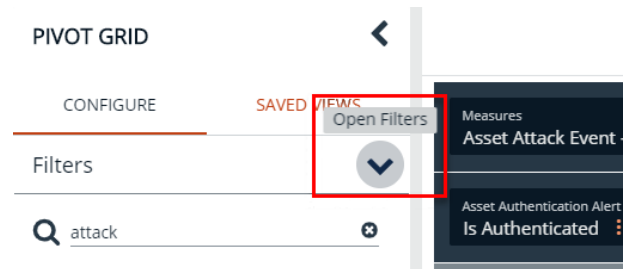
Allow other users to see this view?

SAVE AS VIEW

6. Your saved view is now listed under **Saved Views** in the left panel. You can also search to find views that contain the keyword.
7. Select the saved view, and then click **Display Saved View** to see the most current information for that pivot grid. The data is retrieved from the cube each time you select the saved view.
8. To delete the saved view, click the **Delete** button.



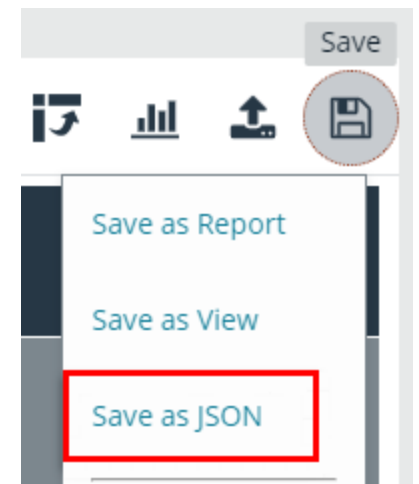
Note: You can collapse and expand the **Filters** section of the **Configure** panel using the arrow. Each time you open a saved view, the **Filters** section is either closed or open, depending on its state when it was saved.



Save Data to a File

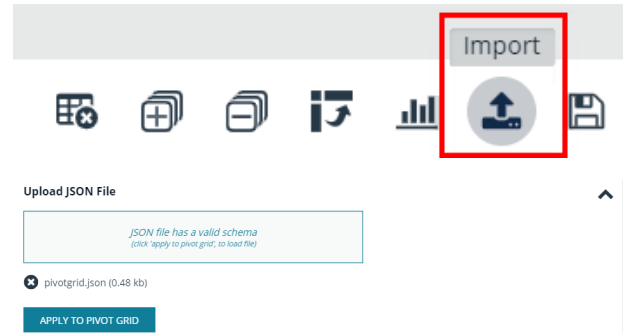
You can save the pivot grid data in JSON format and reload the data at a later time.

1. In the toolbar, click **Save**, and then select **Save as JSON**.
2. The file automatically saves to the default download location.



Import the JSON File

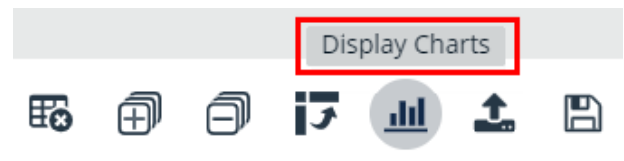
1. In the toolbar, click **Import**.
2. Locate the JSON file from the download location and drag the file into the drop box. Alternatively, click within the drop box to open a file browser to navigate to the JSON file to upload it.
3. Click **Apply to Pivot Grid**.



Display Data as a Chart

Once you have created a pivot grid, you can display the data as a chart.

1. To display the data as a chart, click **Display Charts** in the toolbar, and then select a chart type from the menu. The following chart types are available:
 - Area
 - Category
 - Line
 - Spline
 - Spline Area
 - Step Area
 - Step Line
 - Waterfall
2. The chart displays above the grid, showing data that is currently expanded in the pivot grid.
3. Chart series data can be enabled or disabled by clicking the corresponding data in the legend.



Note: If you save a pivot grid as a view while a chart is displayed, the chart is displayed each time the saved view is loaded.



4. In the toolbar, click **Save**, and then select either **Save Chart as PDF**, **Save Chart as PNG**, or **Save Chart as SVG**.
5. The file automatically saves to the default download location.

Create a Custom Report

Once you have created a pivot grid, you can create a report based on the fields selected in the grid.

1. In the pivot grid toolbar, click **Save**, and then select **Save as Report**.
2. Enter a **Name** and **Description**.
3. Select the appropriate group for **Allowed Access**.
4. Optionally, select a **Category**.
5. Click **Publish as Report**.

Publish Pivot Grid To Report ⬆

Specify a name, a category, and a description to save the pivot grid layout to a custom report.

Name
My Report 🗑

Description
My Report

No Chart will be saved with this pivot grid report.

Allowed Access
Everyone ▼

Category
<Blank> ▼

PUBLISH AS REPORT

6. The report is saved in the **Custom** folder on the **All Reports** page.

Example Measures in the Asset Cube

You can use the following table as a guide for commonly used measures in the **Asset** cube.

To filter on...	Select this measure...
Inventory (rolling count) of discovered assets	Measures > Asset Discovery - Snapshot
Inventory (rolling count) of open ports on assets. Can be used to find which ports are open on which machines	Measures > Asset Port - Snapshot
Inventory (rolling count) of services on assets	Measures > Asset Service - Snapshot
Inventory (rolling count) or shares on assets	Measures > Asset Share - Snapshot
Inventory (rolling count) of software on assets	Measures > Asset Software - Snapshot
Inventory (rolling count) of local user accounts on assets	Measures > Asset User Account - Snapshot

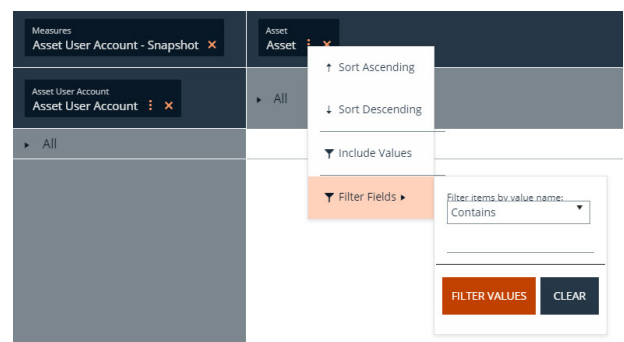
Sample Usage Scenarios

To see the count of assets:

- In **Measure Fields**, place **Measures > Asset Discovery - Snapshot**.
- In **Row Fields**, place **Dimensions > Asset > Asset.Asset**.

To see the count of user accounts on an asset:

- In **Measure Fields**, place **Measures > Asset User Account - Snapshot**.
- In **Row Fields**, place **Dimensions > Asset User Account**.
- In **Column Fields**, place **Dimensions > Asset.Asset**.

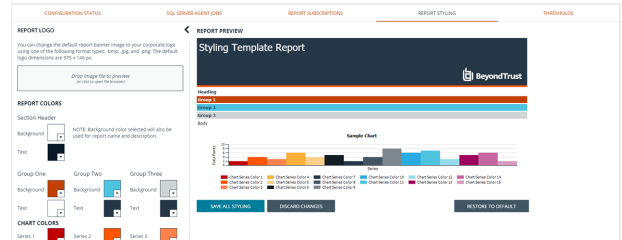


Configure BeyondInsight Analytics & Reporting

Configure Report Styles

You can customize the colors of the report, including chart colors, header and description components, and horizontal bar components. You can change the default image to your corporate logo, with a file type of PNG, JPEG, or BMP. The default size is 975x146 pixels.

1. In the console, click **Configuration**.
2. Under **Analytics & Reporting**, click **Configuration**.
3. Enter administrative credentials.
4. Click **Report Styling**.
5. To change the report banner logo, drop an image file onto the box in the **Report Logo** section. You can also click inside the box to browse to the image.
6. To change **Report Colors** or **Chart Colors**, click the square you want to change, select the new color, and then click the square again.
7. You can click **Discard Changes** to reverse the most recent change.
8. Once satisfied with the color and logo changes, click **Save All Styling**.
9. To reset all changes to the default, click **Restore to Default**, then click **Reset**.



SQL Server Agent Jobs

BeyondInsight uses a SQL Server agent job to retrieve data from sources and process the data into the analysis cube.

1. In the console, click **Configuration**.
2. Under **Analytics & Reporting**, click **Configuration**.
3. Enter administrative credentials.
4. Click **SQL Server Agent Jobs**.
5. Select a job type from the left navigation: **Process Daily**, **Process Full**, or **Process Full (OLAP only)**.



Note: During normal operation, you do not need to manually start the **Process Daily** job. The job is designed to run automatically each day during off-peak hours. However, the job can be started from **SQL Agent Jobs > Analytics & Reporting**.



Note: For SQL Analysis Services, the Server mode must be set to **Multidimensional**. Please refer to Microsoft documentation on how to set or change the SSAS mode.



IMPORTANT!

Running a **Process Full** job erases all historical data and refreshes the Analytics & Reporting database with only active data from the management console. This job should not be run under normal circumstances.

6. Review the status showing the result of the last run. Expand a job to show the job history and diagnose issues that may prevent the job from running.
7. Click **Download logs** to save diagnostic information and job history details in a zip file.
8. Click **Refresh** to update the view.

Configure Clarity Analytics

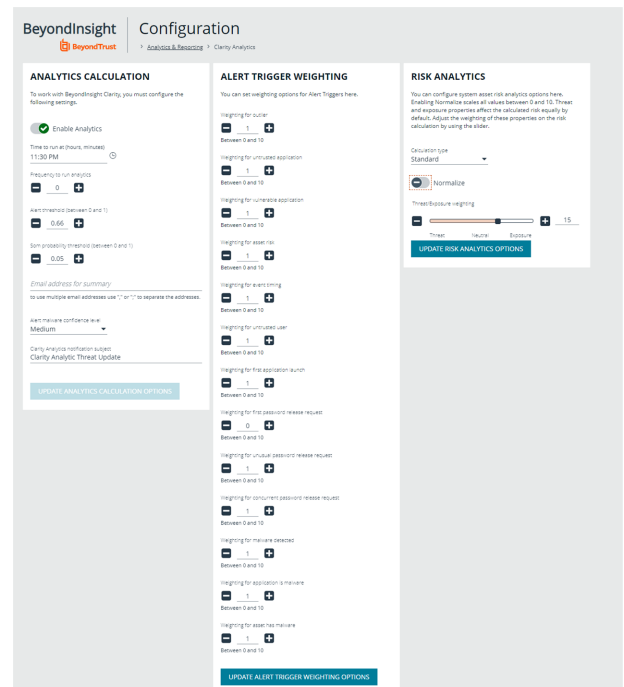
To work with BeyondInsight Clarity, you must configure settings in the BeyondInsight management console.



Note: Malware and attack vulnerability risk detection features have been deprecated in BeyondInsight and no longer function. Options relating to malware and attack risk data are being removed in a future release.

Configure the Analytics Calculation

1. In the console, click **Configuration**.
2. Under **Analytics & Reporting**, click **Clarity Analytics**.
3. From the **Analytics Calculation** section, you can:
 - Toggle **Enable Analytics** to turn on the feature.
 - Select the hours and minutes for **Time to run at**.
 - Select the frequency for running analysis.
 - Set the **Alert Threshold** for flagging explicit alerts. The higher the value, the higher the sensitivity and the fewer flagged alerts. The range is from **0** to **1**. The default value is **0.65**.
 - Set the **Som Probability Threshold** for flagging pattern alerts. The lower the value, the higher the sensitivity and the fewer flagged alerts. The range is from **0** to **1**. The default value is **0.05**.
 - Enter an email address to send notifications to.
 - Set the notification subject.
4. Click **Update Analytics Calculation Options**.



Set Alert Trigger Weighing

From the **Alert Trigger Weighing** section, you can configure Clarity to prioritize or weigh specific alerts. If an alert with a higher weight is triggered, the alert appears more prominently in the Clarity analysis. This allows you

to quickly see and react to critical alerts.

To configure a weight for an alert, click the minus and plus buttons to modify its numeric value, ranging from **0** to **10**. When you are satisfied with your selections, click **Update Alert Triggering Weighing Options** to finalize.

Configure Risk Analytics

Using the risk analytics values, you can focus the results data on the highest risk assets.

Enabling **Normalize** scales all values between 0 and 10. When you choose to normalize the data, the asset at the highest risk is assigned the highest rating. All other assets are rated and organized below the highest risk asset. Normalizing the results provides a way to distribute the assets in a more meaningful way to analyze the data.

Threat and exposure properties affect the calculated risk equally by default. Adjust the weighting of these properties on the risk calculation by using the slider. You can change the results to emphasize risk levels based on exposures or threats. For example, if you move the slider to **Exposure**, asset exposure risk factors are given greater weighting in the final risk calculation and increase an asset's risk score.

Connect Excel to the SQL Analysis Cube in BeyondInsight

You can connect Microsoft Excel to your BeyondInsight SQL Analysis Services cube to create custom data views, build custom reports, use Excel filtering and graphing features, and use formulas to calculate custom metrics.

On the server hosting the SQL Analysis Services cube:

1. Create a local user account with the same username and password as their domain account.
2. Start SQL Management Studio, and connect to **Analysis Services**.
3. Right-click the server name in the tree and select **Properties**.
4. Click the **Security** tab.
5. Add the new local user created in the first step.

On the computer where Excel is installed:

1. Start Excel.
2. Select the **Data** tab.
3. Select **Get Data > From Other Sources > From Analysis Services**.
4. Enter the server name or IP address, making sure **Use Windows Authentication** is selected.
5. Select the **Vulnerabilities** cube.
6. Keep the default values for the remaining pages of the wizard, and then click **Finish**.
7. On the **Import Data** dialog, select to create a pivot table or a pivot chart and pivot table.
8. Click **OK**.
9. From the **Show fields related to** list, select **Asset Vulnerability**.

You can now build reports in Excel based on asset and vulnerability data.

Integrate BeyondInsight and Microsoft SharePoint

Using BeyondInsight subscriptions, you can directly integrate into SharePoint either by emailing reports to a SharePoint SMTP mail daemon or by publishing the reports to a Universal Naming Convention (UNC) share for directory-based and file-based publishing.

Begin by creating a new subscription or editing an existing subscription. Continue by choosing an email integration or a UNC share integration.

i For more information, please see "[Manage Subscriptions in BeyondInsight](#)" on page 7.

Email Integration to SharePoint

You can enable the receipt of SMTP email through SharePoint and set the appropriate permissions to receive EML content. To avoid internal spam and misuse, use only security settings that permit postings from BeyondInsight or other security tools.

1. For the subscription delivery method, select **Deliver the report through email**.
2. Click **Next**.
3. In the delivery options, enter information including the SharePoint email address.
4. Click **Next**.
5. Select the recurring schedule for the report, and complete the setup.
6. The subscription generates a new report and emails it to SharePoint for publication.

Report Delivery Options (Email) (1 subscription found for this report)

Subscribing to a report allows you to specify a schedule for the report to be aut email addresses for the recipients of the report subscription.

Use semicolons (;) to separate multiple e-mail addresses.

To:
sharepoint@mycompany.com

CC:

BCC:

Reply-To:
trash@mycompany.com

UNC Share Integration to SharePoint

By default, you can access SharePoint document libraries through a UNC share, assuming the system is properly set up. An important consideration for shares is their visibility. For an additional layer of security, you may want to create shares to be hidden by suffixing the share name with a \$.

i For more information, please see [Connecting Web Sites to UNC Network Shares](https://docs.microsoft.com/en-us/previous-versions/tn-archive/cc768023(v=technet.10)) at [https://docs.microsoft.com/en-us/previous-versions/tn-archive/cc768023\(v=technet.10\)](https://docs.microsoft.com/en-us/previous-versions/tn-archive/cc768023(v=technet.10)).

1. For the subscription delivery method, select **Deliver the report to a shared folder**.
2. Click **Next**.
3. In the delivery options, enter information including the report title, UNC address, file format for the report, credentials, and overwrite options.
4. Click **Test Access** to verify that files can be copied to the UNC share with the given settings.
5. Click **Next**.
6. Select the recurring schedule for the report, and complete the setup.
7. The subscription automatically writes the report to SharePoint for publication.

Report Delivery Options (Shared Folder) (1 subscription found for this report)

Specify the report delivery options, such as the file share and exporting format.


Subscription file name
Audit Viewer Add a file extension when the file is created



Network share path
\\sharepointserver01\security\executivereports
Please enter a valid UNC path to use for delivering the report.

File format
PDF

Overwrite options
Increment file names as newer versions are added

Credentials Used To Access The File Share

 mycompany\serviceaccount

  TEST ACCESS