Monitoring your Environment

Data Infrastructure Insights

NetApp
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Monitoring your Environment

Auditing

To identify changes both expected (for tracking) or unexpected (for troubleshooting), you can view an audit trail of the Data Infrastructure Insights system events and user activities.

Viewing Audited Events

To View the Audit page, click **Admin > Audit** in the menu. The Audit page is displayed, providing the following details for each audit entry:

- **Time** - Date and time of the event or activity
- **User** - The User who initiated the activity
- **Role** - The user's role in Data Infrastructure Insights (guest, user, administrator)
- **IP** - The IP address associated with the event
- **Action** - Type of activity, for example Login, Create, Update
- **Category** - The category of activity
- **Details** - Details of the activity

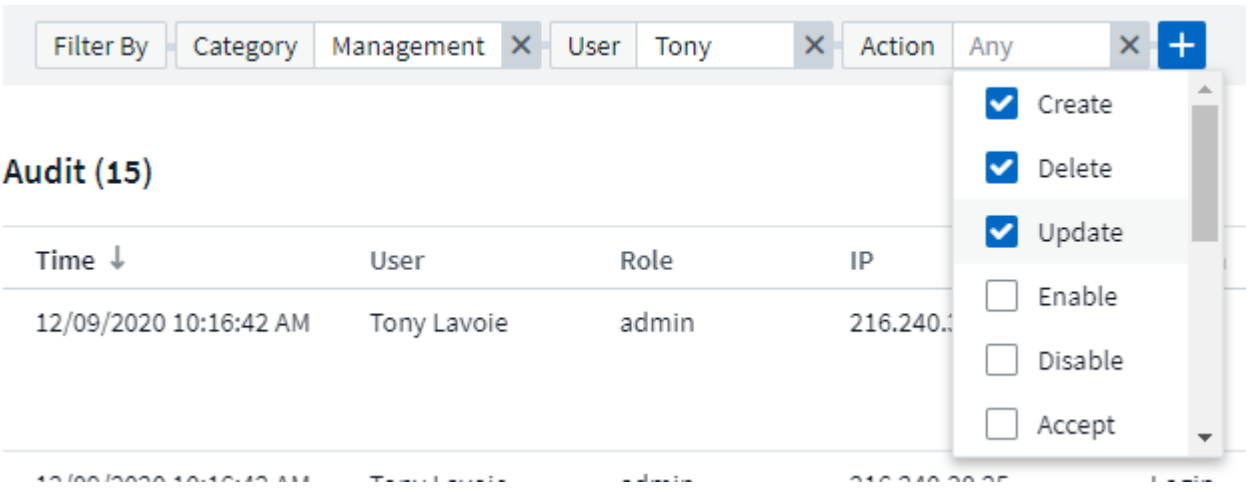
Displaying audit entries

There are a number of different ways to view audit entries:

- You can display audit entries by choosing a particular time period (1 hour, 24 hours, 3 days, etc.).
- You can change the sort order of entries to either ascending (up arrow) or descending (down arrow) by clicking the arrow in the column header.

  By default, the table displays the entries in descending time order.

- You can use the filter fields to show only the entries you want in the table. Click the [+] button to add additional filters.



More on Filtering

You can use any of the following to refine your filter:

Filter	What it does	Example	Result
* (Asterisk)	enables you to search for everything	vol*rhel	returns all resources that start with "vol" and end with "rhel"
? (question mark)	enables you to search for a specific number of characters	BOS-PRD??-S12	returns BOS-PRD***12***-S12, BOS-PRD***23***-S12, and so on
OR	enables you to specify multiple entities	FAS2240 OR CX600 OR FAS3270	returns any of FAS2440, CX600, or FAS3270
NOT	allows you to exclude text from the search results	NOT EMC*	returns everything that does not start with "EMC"
None	searches for blank/NULL/None in any field where selected	*None*	returns results where the target field is not empty
Not *	as with *None* above, but you can also use this form to search for NULL values in *text-only* fields	Not *	returns results where the target field is not empty.
""	searches for an exact match	"NetApp*"	returns results containing the exact literal string *NetApp**

If you enclose a filter string in double quotes, Insight treats everything between the first and last quote as an exact match. Any special characters or operators inside the quotes will be treated as literals. For example, filtering for "*" will return results that are a literal asterisk; the asterisk will not be treated as a wildcard in this case. The operators OR and NOT will also be treated as literal strings when enclosed in double quotes.

Audited Events and Actions

The events and actions audited by Data Infrastructure Insights can be categorized in the following broad areas:

- **User account**: Log in, log out, role change, etc.

  Example: *User **Tony Lavoie** logged in from **10.1.120.15**, user agent **Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/85.0.4183.121 Safari/537.36**, login method(s) **BlueXP Portal Login***

- **Acquisition Unit**: create, delete, etc.

  Example: *Acquisition unit **AU-Boston-1** removed*.

- **Data Collector**: add, remove, modify, postpone/resume, change acquisition unit, start/stop, etc.

  Example: *Datasource **FlexPod Lab** removed, vendor **NetApp**, model **ONTAP Data Management Software**, ip **192.168.106.5***.

- **Application**: add, assign to object, remove, etc.

  Example: *Internal Volume **ocisedev:t1appSVM01:t1appFlexVol01** added to application **Test App***.

- **Annotation**: add, assign, remove, annotation rule actions, annotation value changes, etc.

  Example: *Annotation value **Boston** added to annotation type **SalesOffice***.

- **Query**: add, remove, etc.

  Example: *Query **TL Sales Query** is added*.

- **Monitor**: add, remove, etc.

  Example: Monitor *Aggr Size - CI Alerts Notifications Dev* updated

- **Notification**: change email, etc.

  Example: Recipient *ci-alerts-notifications-dl* created

Exporting Audit Events

You can export the results of your Audit display to a .CSV file, which will allow you to analyze the data or import it into another application.

Steps

1. On the Audit page, set the desired time range and any filters you want. Data Infrastructure Insights will export only the Audit entries that match the filtering and time range you have set.
2. Click the *Export* button in the upper right of the table.

The displayed Audit events will be exported to a .CSV file, up to a maximum of 10,000 rows.

Retention of Audit Data

The amount of time Data Infrastructure Insights retains Audit data is based on your Edition:

- Basic Edition: Audit data is retained for 30 days
- Standard and Premium Editions: Audit data is retained for 1 year plus 1 day

Audit entries older than the retention time are automatically purged. No user interaction is needed.

Troubleshooting

Here you will find suggestions for troubleshooting problems with Audit.

Problem:	Try this:
I see Audit messages telling me that a monitor has been exported.	Export of a custom monitor configuration is typically used by NetApp engineers during development and testing of new features. If you did not expect to see this message, please consider exploring the actions of the user named in the audited action or contact support.

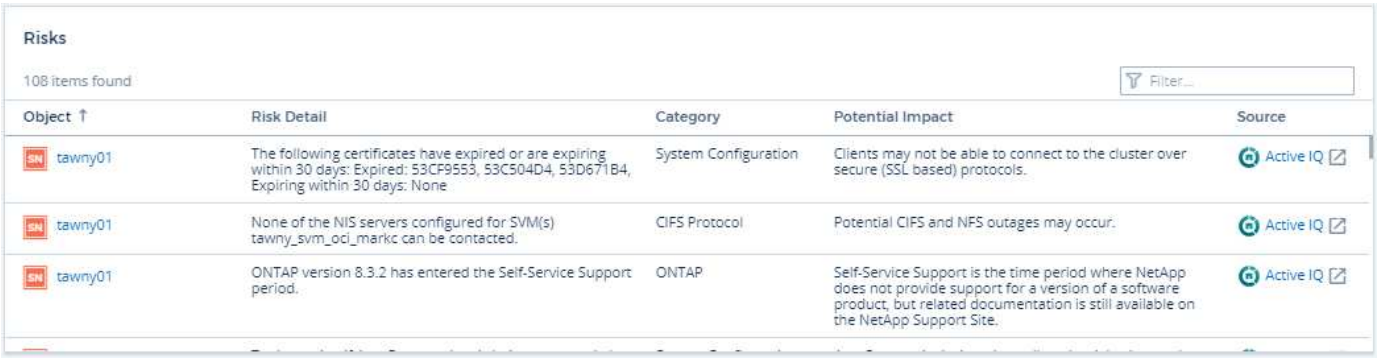
Active IQ

NetApp Active IQ provides a series of visualizations, analytics, and other support-related services to NetApp customers for their hardware / software systems. The data reported by Active IQ can enhance troubleshooting of system problems and also provide insight into optimization and predictive analysis related to your devices.

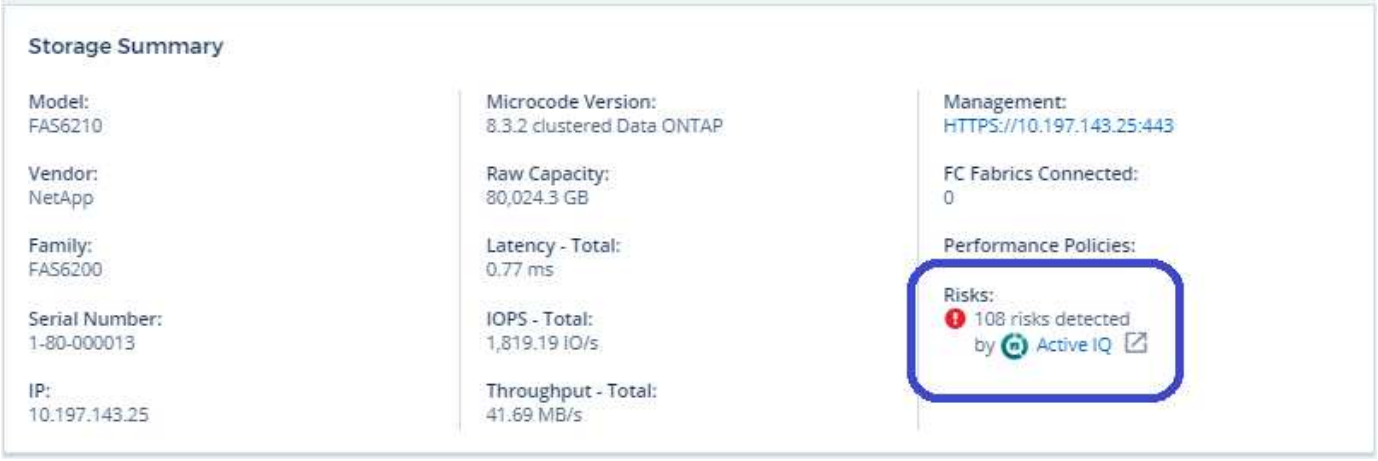
Data Infrastructure Insights collects the **Risks** for any NetApp Clustered Data ONTAP storage system that is monitored and reported by Active IQ. Risks reported for the storage systems are collected automatically by Data Infrastructure Insights as part of its data collection from those devices. You must add the appropriate data collector to Data Infrastructure Insights to collect Active IQ risk information.

Data Infrastructure Insights will not show risk data for ONTAP systems that are not monitored and reported by Active IQ.

The risks reported are shown in Data Infrastructure Insights on the *storage* and *storage node* asset landing pages, in the "Risks" table. The table shows Risk Detail, Category of risk, and Potential Impact of the risk, and also provides a link to the Active IQ page summarizing all risks for the storage node (NetApp Support account sign-in required).



A count of reported risks is also shown in the landing page's Summary widget, with a link to the appropriate Active IQ page. On a *storage* landing page, the count is a sum of risks from all underlying storage nodes.



Opening the Active IQ page

When clicking on the link to an Active IQ page, if you are not currently signed in to your Active IQ account, you must perform the following steps to view the Active IQ page for the storage node.

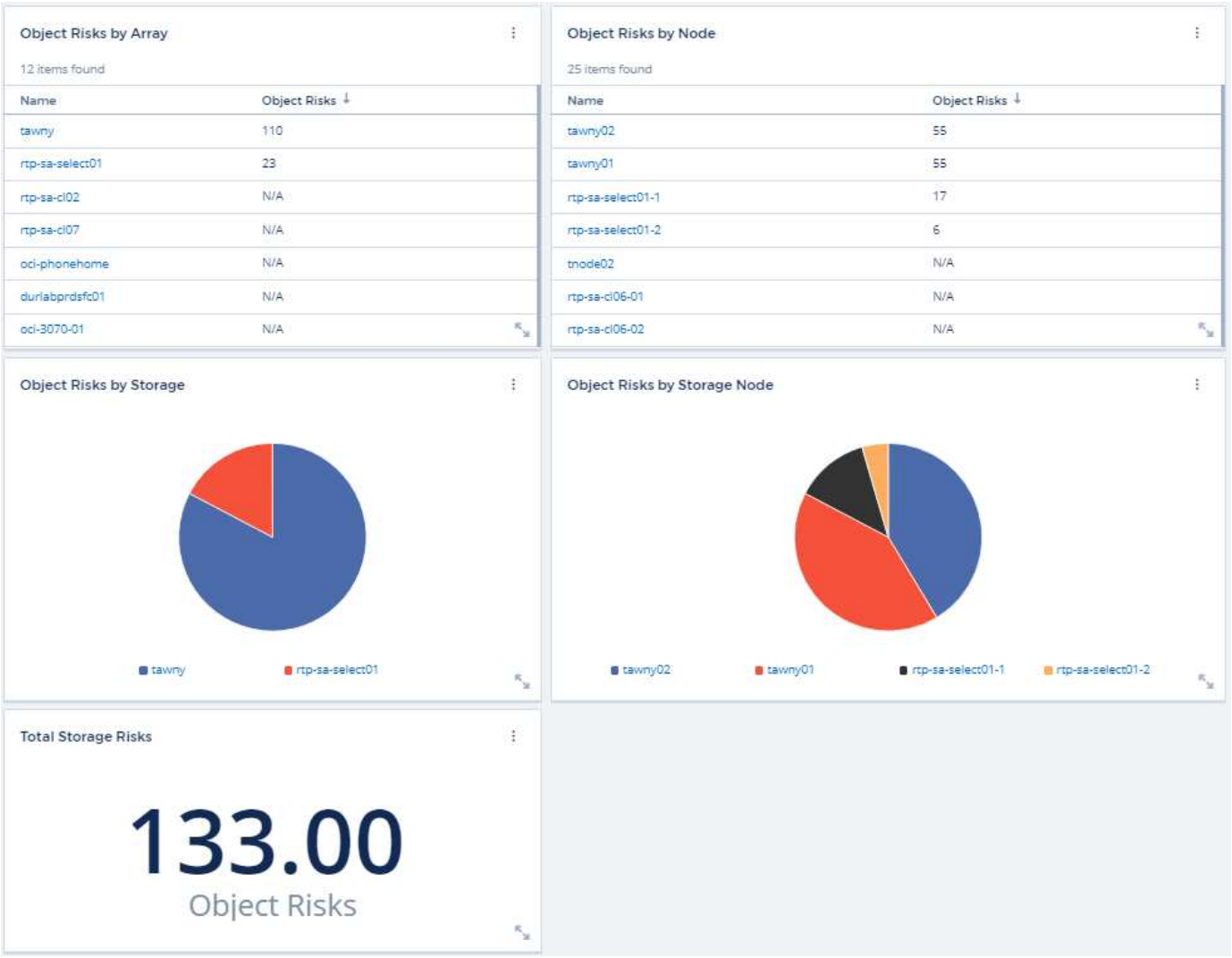
1. In the Data Infrastructure Insights Summary widget or Risks table, click the "Active IQ' link.
2. Sign in to your NetApp Support account. You are taken directly to the storage node page in Active IQ.

Querying for Risks

In Data Infrastructure Insights, you can add the **monitoring.count** column to a storage or storage node query. If the returned result includes Active IQ-Monitored storage systems, the monitoring.count column will display the number of risks for the storage system or node.

Dashboards

You can build widgets (e.g. pie chart, table widget, bar, column, scatter plot, and single value widgets) in order to visualize object risks for storage and storage nodes for NetApp Clustered Data ONTAP systems monitored by Active IQ. "Object Risks" can be selected as a column or metric in these widgets where Storage or Storage Node is the object of focus.



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