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1 Overview

Relativity Performance Dashboard helps you monitor and analyze your Relativity environment in real time. Featuring a suite of reports and metrics, it provides you with greater insight into your environment to quickly assess potential areas of concern. Performance Dashboard is available for download through the Relativity Customer Portal.

The latest release of Performance Dashboard features a set of “Quality of Service” reports, allowing Infrastructure managers to view the performance of their Relativity environment through four key areas; user experience, infrastructure performance, recoverability & integrity checks, and uptime. Weekly and quarterly scores are calculated based on these areas, allowing you to gauge the performance of your Relativity environment. Problematic areas can be investigated further using the performance metrics for all workspaces and servers in your environment, such as long-running queries, user counts, user kick-outs, and CPU and RAM usage. Using this information, you can make adjustments to your environment on-the-fly, rather than waiting to find errors over time.

1.1 System requirements

Since PDB is an extension of Relativity, no unique system requirements apply.

1.2 Installation

See Installing Performance Dashboard for detailed installation instructions.

1.3 Upgrade

See Upgrading Performance Dashboard if you haven't run a previous Performance Dashboard upgrade to include the Performance Status column on the Application Performance website.

1.4 Performance Dashboard installation

The Performance Dashboard (PDB) application consists of components that work together to collect, store, process, and display performance information for the Relativity environment in which they are deployed.

These components include the following:

- **EDDSPerformance and EDDSQoS Databases** – reside on the Relativity database servers. EDDSPerformance will reside only on Relativity's primary SQL server and there will be an EDDSQoS database on each Relativity SQL server. These are used primarily as a repository for collected and aggregated performance data.
- **Performance Dashboard Agents** – reside on agent servers in the Relativity environment. They run in the background, kicking off processes that measure overall application health as well as the performance of different servers in the environment. They data they collect is stored in the databases.
PDB Web Application – resides on web servers in the Relativity environment and is accessed from the Home area of Relativity. It allows system admins access to performance data via a graphic user interface.

Performance Dashboard is installed through Relativity’s application deployment system (ADS). You first need to upload and install the PDB application to Relativity’s Application Library. You then need to create a workspace for PDB and install the application to that workspace. The last step is to add the Performance Dashboard agents to the Agents list and start them.

1.4.1 Installing to the Application Library

Perform the following steps to install PDB to Relativity’s Application Library:

1. Log in to Relativity as a system admin.
2. Navigate to the Application Library tab and click the Upload Application button.
3. Click the ••• button and browse to the .rap file for the PDB application.

**Note:** The PDB install package can be found on the Relativity Customer Portal.

4. Click Save. The application should now be added to the library.

1.4.2 Creating the Performance Dashboard workspace

To create a new workspace in Relativity:

1. Go to Home and click the Workspaces tab.
2. Click New Workspace.
3. Name the workspace Performance Dashboard.
4. Configure the remaining settings as desired.

1.4.3 Installing PDB to the Performance Dashboard workspace

You can install the PDB application to your new workspace from the Application Library tab from Home or from the Relativity Applications tab within the new workspace. Follow these steps to install the application from within the new workspace:

1. Access your Performance Dashboard workspace and navigate to the Relativity Applications tab.
2. Click New Relativity Application.
3. Under the Application Type section, select the radio button for Select from Application Library.
4. Click ••• to browse the application library.
5. Select the Performance Dashboard application and click Ok.
6. Click Import.

1.4.4 Adding the Performance Dashboard agents

When started, the Performance Dashboard agents will create the EDDSPerformance database and create the Performance Dashboard tabs visible from Home. Perform the following steps to install the agents:
1. Click on the name link to display the Home menu, then click Home.
2. Navigate to the Agents tab, and click the New Agent button.
3. Click ⬆️ next to Agent Type, select the radio button for Performance Dashboard - QoS Manager Agent, and click Ok.
4. Leave Number of Agents at 1
5. Click ⬆️ next to Agent Server and select the agent server where you want to install the new agent. Click Ok.
6. Leave all other settings as default and click Save and New.
7. Click ⬆️ next to Agent Type, select the radio button for Performance Dashboard - QoS Worker Agent, and click Ok.
8. Enter the number of agents you would like to deploy next to Number of Agents.
9. Click ⬆️ next to Agent Server and select the agent server where you want to install the new agent. Click Ok.
10. Leave all other settings as default and click Save and New.
11. Click ⬆️ next to Agent Type, select the radio button for Performance Dashboard - WMI Worker Agent, and click Ok.
12. Enter the number of agents you would like to deploy next to Number of Agents.
13. Click ⬆️ next to Agent Server and select the agent server where you want to install the new agent. Click Ok.
14. Leave all other settings as default and click Save.

The agents should now start up and begin performing their initial tasks. The kCura Relativity Web Processing web service will pick up the new custom pages for PDB and handle the creation of the web application in IIS.

15. Ensure that the custom pages are working properly by navigating to them under the Performance Dashboard tab visible from Home.

For installation troubleshooting information, see Installation troubleshooting.

1.4.5 Installing the script updates

The first time you open Performance Dashboard, you are prompted to enter system admin credentials. Performance Dashboard checks the credentials against all SQL servers in the environment, so the credentials you enter here must be able to access the Primary and any Distributed SQL servers. These credentials also must have the 'sysadmin' role on each Primary and Distributed SQL server in the environment.

**Note:** Do not enter the EDDSDBO account credentials as this account does not have the 'sysadmin' role assigned.
1.4.6 Configuring Performance Dashboard for Trust website

This section is only required of Best in Service partners. All Best in Service partners must add the Performance Dashboard - Trust Worker agent and configure the Trust settings. Other users can skip this section.

1.4.6.1 Add Performance Dashboard Trust agent

1. Click the name link to display the Home menu, then click Home.
2. Navigate to the Agents tab, and click New Agent.
3. Click next to Agent Type, select the radio button for Performance Dashboard - Trust Worker Agent, and click Ok.
4. Click next to Agent Server and select the agent server where you want to install the new agent. Click Ok.
5. Leave all other settings as default and click Save.

1.4.6.2 Configure Trust settings

1. From the Performance Dashboard tab, navigate to the Configuration tab.
2. Enter your Trust ID, which kCura provided to you.

  **Note:** If you're a Best in Service partner and you haven't received a trust ID, contact kCura Client Services.

3. Enter your Partner name as you would like it to appear on Performance Dashboard reports.
4. Leave Send Scores Automatically set to On to have scores automatically pushed to the Trust website.
5. Set Send Notifications to On to have Trust notifications sent to an email address. Enter the email address where Trust notifications should be sent in the Recipient field.
1.4.7 Configuring Performance Dashboard when Relativity servers reside in a DMZ

Performance Dashboard requires WMI communication to be open between the Performance Dashboard agent and every other Relativity server in the environment. When there is a firewall between the agent and a server, most times the WMI communication is blocked. This will result in the error **RPC server is unavailable** in the Event Viewer on the agent server, and no data will be collected for that server. If WMI communication cannot be opened between the agent and the server, data can be collected by using a second Performance Dashboard agent that also resides behind the firewall (in the DMZ). This configuration requires the agent module of Relativity to be installed on a server in the DMZ.

Perform the following steps to configure PDB to work inside a DMZ:

1. Verify that an agent server resides in the DMZ
2. Add a second Performance Dashboard agent to the agent server in the DMZ
3. Follow steps 1 – 4 in [Adding the Performance Dashboard agents](#) to install the agent.

1.5 Performance Dashboard upgrade

This section describes the process to upgrade Performance Dashboard to version 9.2. If you're upgrading to a different build, contact Support for the correct guide.

1.5.1 Upgrading from PDB 8.2.x or later to PDB 9.2

**Note:** Please contact [support@kcura.com](mailto:support@kcura.com) for assistance upgrading from PDB 8.0.x and earlier.

1.5.1.1 Pre-upgrade steps

**Delete the previous Performance Dashboard agents**

Perform the following steps to delete the previous PDB agents:

1. Log in to Relativity as a system admin.
2. Navigate to the **Agents** tab.
3. Apply a filter on the **Application** column, filtering for “Performance Dashboard”.
4. Select all **Performance Dashboard** agents.
5. Select the **Delete** mass action and click **Go**.
6. Click **Delete Agents** button to confirm the deletion.

The agents will be deleted after they complete their current tasks. This may take a couple of minutes.

1.5.1.2 Upgrading the application

**Install to the application library**

Perform the following steps to install PDB to the application library:

1. Log in to Relativity as a system admin.
2. Navigate to the **Application Library** tab and click **Upload Application**.
3. Click **Browse** and select the .rap file for the PDB application.

   **Note:** Click **Yes** if prompted to upgrade all workspaces.

4. Click **Save**.
5. Click **Yes** when prompted to upgrade the existing application. The application is added to the library.

### Create the Performance Dashboard Workspace

If you still have your Performance Dashboard workspace from a previous installation or upgrade, skip to installing the application. To create a new workspace in Relativity:

1. From **Home**, navigate to the **Workspaces tab** and click **New Workspace**.
2. Name the workspace **Performance Dashboard**.
3. Configure the remaining settings as desired.

### Install the application to the workspace

You can install the Performance Dashboard application to your Performance Dashboard workspace from the Application Library tab from Home or from the Relativity Applications tab within the workspace. Follow these steps to install the application from within the workspace:

1. Navigate to the **Relativity Applications tab** and click **New Relativity Application**.
2. Under the Application Type section, select the radio button for **Select from Application Library**.
3. Click **Browse**, then select **Performance Dashboard** and click **Ok**.
4. Click **Import**.

### Add the Performance Dashboard agents

Perform the following steps to install the agents:

1. Click on the user drop-down menu and click **Home**.
2. Navigate to the **Agents tab**, and click the **New Agent** button.
3. Click [ ] next to **Agent Type**, select the radio button for Performance Dashboard - QoS Manager Agent, and click **Ok**.
4. Leave **Number of Agents** at 1.
5. Click [ ] next to **Agent Server**, select the agent server where you want to install the new agent, and click **Ok**.
6. Leave all other settings as default and click **Save and New**.
7. Click [ ] next to **Agent Type**, select the radio button for Performance Dashboard - QoS Worker Agent, and click **Ok**.
8. Enter the number of agents you would like to deploy in **Number of Agents**.
9. Click [ ] next to **Agent Server**, select the agent server where you want to install the new agent, and click **Ok**.
10. Leave all other settings as default and click **Save and New**.
11. Click [ ] next to **Agent Type**, select the radio button for Performance Dashboard - WMI Worker Agent, and click **Ok**.
12. Enter the number of agents you would like to deploy in **Number of Agents**.
13. Click 🔄 next to Agent Server, select the agent server where you want to install the new agent, and click Ok.

14. Leave all other settings as default and click Save.

The agents should now start up and begin performing their initial tasks. The kCura Relativity Web Processing web service will pick up the new custom pages for PDB and handle the creation of the web application in IIS.

Install the script updates

The first time you open the Performance Dashboard pages after an upgrade, you may need to enter system admin credentials. Enter the SQL credentials for any SQL login with the sysadmin role on all linked SQL servers. Optionally, you can use Windows Authentication if the current Windows account is a sysadmin in SQL.

**Note:** Do not enter the EDDSDBO account credentials as this account does not have the sysadmin role assigned.

![Performance Dashboard: Script Updates](image)

**1.5.1.3 Configuring Performance Dashboard for Trust website**

This section is only required of Best in Service partners. All Best in Service partners must add the Performance Dashboard - Trust Worker agent and configure the Trust settings. Other users can skip this section.

**Add Performance Dashboard Trust agent**

1. Click the name link to display the Home menu, then click Home.
2. Navigate to the Agents tab, and click New Agent.
3. Click 🔄 next to Agent Type, select the radio button for Performance Dashboard - Trust Worker Agent, and click Ok.
4. Click next to Agent Server and select the agent server where you want to install the new agent. Click Ok.
5. Leave all other settings as default and click Save.

Configure Trust settings

1. From the Performance Dashboard tab, navigate to the Configuration tab.
2. Enter your Trust ID, which kCura provided to you.

   Note: If you're a Best in Service partner and you haven't received a trust ID, contact kCura Client Services.

3. Enter your Partner name as you would like it to appear on Performance Dashboard reports.
4. Leave Send Scores Automatically set to On to have scores automatically pushed to the Trust website.
5. Set Send Notifications to On to have Trust notifications sent to an email address. Enter the email address where Trust notifications should be sent in the Recipient field.

1.5.1.4 Upgrading an Active Directory authenticated site

When completing this type of upgrade, the custom pages for Performance Dashboard are created in the default Forms authenticated Relativity website. If you access Performance Dashboard through an Active Directory (AD) authenticated site, the Performance Dashboard web pages won't load.

To upgrade an AD authenticated site, perform the following steps:

1. Locate the Custom Pages directory within the Relativity installation folder on your web server Forms site directory, usually C:\Program Files\kCura Corporation\Relativity\EDDS\CustomPages.
2. To copy all custom pages from the Forms site, copy the whole CustomPages directory to the EDDS folder within the AD site installation directory (for example, C:\Program Files\kCura Corporation\Relativity\AD\EDDS). If you copy the whole directory, skip to step 7.
3. Create a folder called CustomPages in the AD site's installation directory if it doesn't already exist.
4. Copy the folder 60a1d0a3-2797-4fb3-a260-614cbfd3fa0d from the CustomPages folder of the Forms site to the CustomPages folder of the AD authenticated site.
5. On your web server(s), locate the directory with the CustomPages folder for the Forms site and copy it to the CustomPages folder for the AD site.
6. Open the 60a1d0a3-2797-4fb3-a260-614cbfd3fa0d folder in the AD site.
7. Edit the web.config file by adding the following lines inside the <system.web> tags:
   
   ```xml
   <authentication mode = "Windows">
   </authentication>
   <authorization>
     <deny users="?" />
   </authorization>
   ```
8. Save the web.config file.

Creating the application and application pools for the AD site

Perform the following steps to create the application and application pools for the AD authenticated site.

1. Open IIS Manager.
2. Expand the Application Pools folder.
3. Create a new application pool called 60a1d0a3-2797-4fb3-a260-614cbfd3fa0dAD.
4. Set the .NET Framework Version to v4.0.
5. Set the Identity to the Relativity Service Account.
6. To make the PDB pages accessible through the website, convert the folder copies into applications using IIS:
   a. Expand the AD site folder, then expand the Relativity application > CustomPages folder.
   b. Right-click the folder for PDB's custom pages and click Convert to Application.
7. On the Add Application screen, select the application pool that corresponds to the custom page and click OK.

1.6 Accessing Performance Dashboard

To access the Performance Dashboard, perform the following steps:

1. In Relativity, click Home on the user drop-down menu.
2. Click the Performance Dashboard tab.

1.6.1 Quality of Service page

The Quality of Service page provides infrastructure admins a summarized report of their Relativity environment performance broken down into four categories:

- User Experience
- Infrastructure Performance
- Recoverability & Integrity
- Uptime

1.6.1.1 Overall score

The Overall score reflects the overall performance of a Relativity environment calculated as the average of the quarterly and weekly scores in the sample range for each of the four categories. The quarterly sample range is 90 active days before the end date in the sample range. If there are less than 90 days in the sample range then the quarterly score is based on the total days in the sample.

1.6.1.2 User Experience score

<table>
<thead>
<tr>
<th>Server</th>
<th>Quarterly Score</th>
<th>Weekly Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>KEBATSOLUH</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
The User Experience score is calculated as both a weekly and a quarterly score, and it reflects Relativity users’ experience when navigating views, running searches, and performing other operations in Relativity.

The table provides the details of the worst performing SQL Server including the hours that logged the lowest scores. This information is provided as a high level summary. More detailed information is included on the User Experience page. See User Experience page on the next page.

1.6.1.3 Infrastructure Performance score

The Infrastructure Performance score is also calculated as both a weekly and a quarterly score, and it reflects the performance of the Relativity SQL servers and web servers during periods of high activity.

The table provides the details of the worst performing SQL server or web server, including the hours that logged the lowest scores. This information is provided as a high-level summary. More detailed information is included on the Infrastructure Performance page.

See Infrastructure Performance page.

1.6.1.4 Recoverability and Integrity

The Recoverability & Integrity Checks score is calculated quarterly and weekly based on the ability of the infrastructure admin to complete SQL Backups and DBCC checks for all active Relativity databases.

The table provides the score of any gaps in either the SQL Backup jobs or the DBCC Checks. The table also shows the score for the maximum data loss and time to recover of the databases.

This information is provided as a high level summary. More detailed information is included on the Recoverability/Integrity page. See Recovery and Integrity page.
1.6.1.5 Uptime

The Uptime score is a weekly and quarterly score based on the uptime of the Relativity Agent servers.

The table provides the details of the total number of hours down during a month. This information is provided as a high level summary. More detailed information is included on the Uptime page.

See Uptime page on page 24.

1.6.2 User Experience page

The User Experience score is designed to provide a true reflection of the experience of Relativity users in an environment. It is based on the execution time of user functions including: simple and complex queries, document views and edits, Relativity scripts, imports and exports, and mass operations. Full details on the scoring system can be found in the Quality of Service Scoring Details document.

1.6.2.1 Page header

The top of the User Experience page includes two navigation buttons:

- Back takes you back to the previous page
- QoS Report takes you to the main QoS page
1.6.2.2 Server View Report

The User Experience Server View Report displays the hours used to determine the current quarterly and weekly user experience scores. The information can be displayed in a chart or list.

The chart will plot a line for each SQL server in the report. All collected workspace hours will be plotted on the line. Those hours included in the sample will be marked as such. Clicking in the chart will filter the results to the specific day that was selected.

Dates can also be filtered with the date picker in the top right corner of the page.

The table consists of the following columns:

- **Hour**
  - Aggregates are based on actions taken in the hour following the time indicated here (expressed in your local time zone)

- **Server**
  - The name and artifact ID of the server where the workspace resides

- **Score**
  - The server’s user experience score for a given hour, determined based on the number of active users and percentage of simple document searches that took longer than two seconds.

- **Workspace**
  - The name and artifact ID of the workspace that the queries were run in

- **Long-Running Queries**
  - The number of document searches exceeding the long-running threshold (two seconds for simple searches, eight seconds for complex)

- **Total Users**
  - The distinct number of users in the workspace for a given hour

- **Total Search Audits**
  - The number of document search audits collected by the QoS_WorkspaceAnalysis procedure (includes TOP and COUNT audits)
Total Non-Search Audits
- The number of audits collected by the QoS_WorkspaceAnalysis procedure of types other than document search

Total Audits
- The number of Relativity audits collected by the QoS_WorkspaceAnalysis procedure

Total Execution Time
- The sum of execution time for all actions expressed in milliseconds

Weekly Sample
- Indicates whether the given hour was included in the weekly sample set

From the Server View Report page you can navigate to the Hours View Report for a particular server. The page can be accessed by clicking on a row in either the Server or Workspace columns.

### 1.6.2.3 Hours View Report

The Hours View Report displays the searches performed on a particular server by hour. The table consists of the following columns:

- **Hour**
  - Aggregates are based on actions taken in the hour following the time indicated here (expressed in your local time zone)
- **Database**
  - The artifact ID of the workspace that the search was created in
- **Search**
  - The name and artifact ID of the search
- **Complex / Simple**
  - Indicates whether the search was classified as simple or complex based on its conditions
- **Total Run Time**
  - The total execution time of all runs of a search in the given hour expressed in milliseconds
- **Average Run Time**
  - The average execution time of all runs of a search in the given hour expressed in milliseconds
■ Total Search Audits
  ○ The number of times a search was run in the given hour
■ Weekly Sample
  ○ Indicates whether the given hour was included in the weekly sample set

From the Hours View Report page you can navigate to the Search Details Report for a particular workspace. The page is accessed by clicking on a row in either the workspace or search columns.

1.6.2.4 Search Details Report

The Search Details Report page displays the searches performed in a particular workspace by hour. The table consists of the following columns:

■ Hour
  ○ Aggregates are based on actions taken in the hour following the time indicated here (expressed in your local time zone)
■ Search
  ○ The name and artifact ID of the search
■ User
  ○ The name and artifact ID of the user that ran the search
■ Percent Long-Running
  ○ Represents the percentage of the time this search was long-running for this user and hour
■ Complex / Simple
  ○ Indicates whether the search was classified as simple or complex based on its conditions
■ Total Run Time
  ○ The total execution time of all runs of a search by this user in the given hour, expressed in milliseconds
■ Average Run Time
  ○ The average execution time of all runs of a search by this user in the given hour, expressed in milliseconds
■ Total Runs
  ○ The number of times a search was run by this user in the given hour
- QoS Hour ID
  - A system identifier for this hour that can be used in EDDSPerformance table queries
- Weekly Sample
  - Indicates whether the given hour was included in the weekly sample set

By clicking on the name of the search you can view the query text. In order for this text to be run in SQL you will have to add the database and schema names to the statement.

1.6.3 Infrastructure Performance page

The Infrastructure Performance score shows the performance of the Relativity infrastructure during times of high activity. This is based on the CPU and RAM % used on all Web and SQL servers. The score is also based on SQL memory signal, SQL waits, virtual log files, and latency on all SQL servers in the Relativity environment. Full details on the scoring system can be found in the Appendix.

By default, the page shows the data for the lowest scoring hours at the top of the list. Change what data you see on the page using the toolbar at the top of the report.

1.6.3.1 Page header

The top of the Infrastructure Performance page includes two navigation buttons:

- Back takes you back to the previous page
- QoS Report takes you to the main QoS page
- Concurrency Report takes you to the User Experience Concurrency Report Page
1.6.3.2 Infrastructure Performance Report

The Infrastructure Performance report displays all the hours used to determine the current quarterly and weekly system load scores. The information can be displayed in a chart or list.

The chart will plot a line for each server in the report. All collected hours will be plotted on the line. Those hours included in the sample will be marked as such. Clicking in the chart will filter the results to the specific day that was selected.

Dates can also be filtered with the date picker in the top right corner of the page.

The table consists of the following columns:

- **Hour**
  - Aggregates are based on actions taken in the hour following the time indicated here (expressed in your local time zone)
- **Server**
  - The name and artifact ID of the server
- **Server Type**
  - The options are SQL or Web
- **Overall Score**
  - The server’s system load score for a given hour, determined based on CPU/RAM utilization and RAM paging. When the RAM utilization score is at least 80, paging is excluded from the overall score.
- **CPU Utilization Score**
  - The server’s average CPU utilization should be less than 60%. Points are deducted for higher utilization with a maximum deduction at 85%.
- **RAM Utilization Score**
  - Web Servers should have at least 1 GB of free memory on average. For SQL servers, at least 4 GB should be free. Points are deducted on a logarithmic scale for higher utilization.
- **SQL Memory Signal Score**
  - SQL servers are scored based on memory signal state and pageouts. Points are deducted based on the frequency of memory pressure. Pageouts during low memory periods will result in the loss of all
ponts.

- **SQL Waits Score**
  - SQL servers are scored based on the ratio of signal to resource waits and the presence of poison waits. The signal waits ratio should not exceed 10%. The presence of any poison wait type for one second within an hour will result in an overall score of 0 for that server and hour.

- **Virtual Log Files Score**
  - SQL servers are scored based on the maximum number of virtual log files across all databases. These should be kept to 10000 or fewer.

- **Latency Score**
  - SQL servers are scored based on file-level latency when PAGEIOLATCH_% waits are high. Read latency for data files should not exceed 100ms. Write latency for data and log files should not exceed 30ms and 10ms, respectively.

- **Weekly Sample**
  - Indicates whether the given hour is included in the weekly sample set.

From the Infrastructure Performance report, you can navigate to the Infrastructure Performance page for the specific day. You can access the page by clicking on a row in the Hour, CPU Utilization Score, RAM Utilization Score, or RAM Paging Score columns. You can also view system information for a particular server by hovering over the server name. The system information will list the CPU type, total installed RAM, and total free disk space for the primary disk.

### 1.6.3.3 SQL Waits Report

The SQL Waits report is accessed by clicking on a row in the SQL Waits Score column on the Infrastructure Performance page. This page will display all hours with SQL waits, and the Poison waits column will indicate if the wait is a poison wait or not.

The table consists of the following columns:

- **Hour**
  - Aggregates are based on actions taken in the hour following the time indicated here (expressed in your local time zone)

- **Server**
  - The name and artifact ID of the server

- **Waits Score**
  - The waits component of the SQL server score for a given hour, determined based on signal waits ratio and presence of poison waits.

- **Signal Waits Ratio**
  - The ratio of signal to resource waits for a given hour.

- **Processor Time Utilization**
  - The amount of processor time utilized in a given hour.

- **Wait Type**
  - The name of a resource SQL is waiting for.

- **Signal Wait Time (ms)**
  - The amount of time waiting on the runnable queue (waiting for CPU).
- **Wait Time (ms)**
  - The overall wait time for this type (including signal wait time).
- **Waiting Task Count**
  - The number of waits that occurred for the SQL server in a given hour.
- **Poison Wait**
  - Indicates whether the given wait type is classified as a poison wait. The presence of any poison wait for more than 1000ms in an hour will result in scores of 0 for that hour in all categories under Infrastructure Performance.
- **Weekly Sample**
  - Indicates whether the given hour is included in the weekly sample set.

### 1.6.4 Recoverability and Integrity page

Relativity workspace databases store all of the underlying metadata within Relativity. The databases include the entire work product and the reviewers coding decisions. Maintaining these critical databases is important to the integrity of the entire Relativity environment. This category analyzes the frequency and coverage of database backups and integrity checks (DBCCs). PDB bases the analysis on the length of time it takes to recover a database from a backup and the maximum potential data loss.

#### 1.6.4.1 Page header

The top of the System Load page includes 5 navigation buttons:

- **Back** takes you back to the previous page
- **QoS Report** takes you to the main QoS page
- **Backup/DBCC Report** takes you to the Backup/DBCC report page
- **Recovery Objective Report** takes you to the Recovery Objectives Report page
- **Reinstall Scripts** will redeploy the necessary scripts that require SQL sysadmin credentials.

#### 1.6.4.2 Recoverability/Integrity Report

The Recoverability/Integrity Report will list all hours used to determine the overall weekly and quarterly recoverability and integrity scores.

The page consists of the following columns:
- **Hour**
  - Indicates the time at which recoverability and integrity data was collected and scored.

- **Overall Score**
  - The effective recoverability and integrity score at a given hour based on backup/DBCC history and recovery objectives.

- **Backup Frequency Score**
  - All databases must have full or differential backups taken at least every ten days. Once this window is exceeded, points are deducted daily based on the largest gap.

- **Backup Coverage Score**
  - All databases must have full or differential backups taken at least every ten days. Once this window is exceeded, points are deducted based on the percentage of databases in violation.

- **DBCC Frequency Score**
  - All databases must be checked for corruption at least every ten days. Once this window is exceeded, points are deducted based on the largest gap.

- **DBCC Coverage Score**
  - All databases must be checked for corruption at least every ten days. Once this window is exceeded, points are deducted based on the percentage of databases in violation.

- **RPO Score**
  - To reduce the potential data loss in the event of a disaster or disruption, log backups should be taken frequently. Points are deducted based on maximum data loss over the last week.

- **RTO Score**
  - Any database should be recoverable within 24 hours in the event of a disaster or disruption. Points are deducted based on the maximum time to recover a single database.

### 1.6.4.3 Backup/DBCC Report

The Backup/DBCC page lists all the Workspaces in the Relativity instance along with the details of any missed days in the backup and DBCC schedule and the point deduction for these missed days.

The page consists of the following columns:

- **Server**
  - The server name and artifact ID where the database resides

- **Database**
  - The name of the database
- **Activity Type**
  - Indicates whether the row is for a backup or DBCC integrity check

- **Last Activity**
  - The last backup or DBCC - as indicated by the activity type - for this database. Full and differential backups are eligible for gap resolution

- **Gap Resolution Date**
  - If the gap has been resolved, this is the time of the backup/DBCC

- **Gap Size**
  - The number of days that have passed since the last activity.

### 1.6.4.4 Recovery Objectives Page

The recovery objectives page will list all hours used to calculate the RTO and RPO scores.

The page consists of the following columns:

- **Server**
  - The server name and artifact ID where the database resides

- **Database**
  - The name of the database

- **RPO Score**
  - To reduce potential data loss in the event of a disaster or disruption, log backups should be taken frequently. Points are deducted based on maximum data loss over the last week.

- **RTO Score**
  - Any database should be recoverable within 24 hours in the event of a disaster or disruption. Points are deducted based on the maximum time to recover a single database.

- **Maximum Data Loss (Minutes)**
  - The maximum potential data loss in minutes over the last seven days based on the timing of full, differential, and log backups.

- **Estimated Time to Recover (Hours)**
  - Time to recover this database after a disaster or disruption, estimated using the duration of backup operations along the recovery chain.
1.6.5 Uptime page

The uptime category tracks the user access readiness of the Relativity environment. It analyzes at the availability of the EDDS SQL server, agent servers, and web servers.

1.6.5.1 Uptime Report

The uptime report page will display all hours used to calculate the uptime score.

![Uptime Report](image)

The page consists of the following columns:

- **Hour**
  - Uptime and scoring information are calculated for the hour shown (expressed in your local time zone).
- **Score**
  - The environment uptime score for a given hour. This is based exclusively on the uptime percentage for that hour.
- **Status**
  - Indicates the status of Relativity in a given hour. When web, SQL, or agent downtime occurs, the server type with the highest impact is listed.
- **Uptime**
  - The percentage of uptime for a given hour. This is impacted when web servers are inaccessible or agent check-ins are interrupted due to SQL/agent server downtime.

1.6.6 Application Performance page

The Application Performance page consists of three primary areas:

- Page header on the next page
- Data grid on the next page
- Chart on page 27

And has two primary data views:

- Hourly View
- Daily View
By default, the Grid and Chart are toggled on and loaded with the performance data from the past 24 hours. The Start Date and the End Date will be empty. You can return to this default time range view by clicking Clear in the time range picker. The chart will be empty until a workspace is selected.

### 1.6.6.1 Page header

The Page header contains the name of the page, a subheading that indicates the time range captured in the dashboard, Grid and Chart toggle buttons, and Start Date and End Date fields.

You can change the Start Date and End Date of the time range for which performance data should be displayed.

You can also pick from five predetermined date ranges:

- Today
- Yesterday
- Past 7 days
- Past month
- Past 3 months

After selecting the desired dates in the date pickers, click Go to refresh the Grid and the Chart.

The Grid panel can be toggled on and off by clicking the Grid button. The Chart panel can be toggled on and off by clicking the Chart button.

### 1.6.6.2 Data grid

The data grid displays a list of workspaces available in your instance of Relativity, the workspace artifact ID, the SQL instance the workspace resides on, and the aggregated performance metrics.

### 1.6.6.3 Performance metrics

The metrics that are used to measure Application Performance include the following:

- **Long Running Queries (LRQs)**
  A combination of simple document queries that took longer than 2 seconds and complex document queries that took longer than 8 seconds to complete in the selected time frame. This calculation is based on the selected time frame and your local time.

- **Critical Errors**
  The total number of errors that occurred in the selected time frame. An error can be one of the following: Read Failed, Delete Failed, Create Failed, Update Failed, Object reference not set to an instance of an object, SQL statement Failed, Unable to connect to the remote server. This calculation is based on the selected time frame and your local time.

- **Peak Users**
  The average peak user count in the selected time frame. The peak user count is calculated per day. This calculation is based on the selected time frame and your local time.

These metrics are collected at intervals specified during configuration. Refer to the Relativity Performance Dashboard Configuration Guide for details.
Navigating grid data

If the number of workspaces in the environment exceeds the number of records displayed per page (10 by default), you can navigate the record set using the page navigation buttons.

- First page
- Back
- Forward
- Last page

The number of records in a set can be changed using the records-per-page drop-down menu.

Sorting grid data

Records in the grid can be sorted by clicking the name of the column in the column header. Clicking the same column header again reverses the sort order.

Filtering grid data

Records in the grid can be filtered by clicking the Show Filter link above the grid, specifying the filter criteria in the displayed filter fields, and clicking Apply Filters or pressing the Enter key.

The key icon to the right of the filter field can be used to change the type of filtering condition.

Text field conditions include the following:

- Begins with
- Contains
- Doesn't contain
- Ends with
- Equals
- Doesn't equal

Numeric field conditions include the following:

- Equals
- Doesn't equal
- Is less than
- Is less than or equal to
- Is greater than
- Is greater than or equal to

When you click the Show Filter link, the link switches to Hide Filter and vice versa. Click Hide Filter to hide the filter input fields that were displayed after clicking Show Filter.

Exporting grid data

Data loaded in the grid can be exported to one of the following formats by clicking the corresponding button.

- CSV - Comma Separated Values
- XLS - MS Excel 97-2003
Selecting records for display on chart

To display only certain workspaces on the chart, select the checkboxes to the left of their names. By default, if no workspaces are checked when the Chart button is clicked, the chart will have an empty display.

1.6.6.4 Chart

The Chart panel contains the following elements:

- Fit to Screen button
- Chart Type selector
- Show Columns selector

Fit to screen

Use this function to resize the chart to fit inside the visible area of the screen.

Chart type

Use this function to resize the chart to fit inside the visible area of the screen.

- Line Graph
- Bar Graph

Show columns

Use this function to select which metrics to display on the chart:
- LRQs
- Critical Errors
- Average Latency
- Active Users

1.6.7 Server Health page

The Server Health page consists of three primary areas:

- Page Header
- Data Grid
- Chart

It has two primary data views:

- Hourly View
- Daily View

By default, the Grid and Chart are toggled on and load with the performance data from the past 24 hours. The Start Date and the End Date will be empty. You can return to this default time range view by clicking Clear in the time range picker. The chart will be empty until a workspace is selected.

1.6.7.1 Page header

The Page header contains the title of the page, a drop-down menu selector for the type of performance metrics, a subheading which indicates what timeframe is captured in the dashboard, Grid and Chart toggle buttons, and Start Date and End Date pickers.

You can select which aspect of server performance to examine by selecting one of the options from the drop-down selector to the right of the Page Title:

- Memory (RAM)
- Processor
- Hard Disks
- SQL Server

You can change the Start Date and End Date of the time range for which performance data should be displayed. After selecting the desired dates in the date pickers, click **Go** to refresh the Grid and the Chart.

The Grid panel can be toggled on and off by clicking the **Grid** button. The Chart panel can be toggled on and off by clicking the **Chart** button.
1.6.7.2 Data grid

The Data Grid displays a list of server names available in your Relativity environment, the server type, and the aggregated performance metrics. The metrics used to measure Server Health depend on the option selected in the drop-down list next to the page title. These options include:

Memory (RAM):

- **Pages/sec** - This value is often confused with Page Faults/sec. The Pages/sec counter is a combination of Pages Input/sec and Pages Output/sec counters. This counter, however, is a general indicator of how often the system is using the hard drive to store or retrieve memory-associated data.
- **Page Faults/sec** - This is a combination of hard page faults and soft page faults. A page fault is generated and trapped whenever a program accesses a page that is mapped in the virtual address space, but it isn’t in physical RAM (the physical cards on the server). Servers and computers utilize a portion of the disk, called the swap file, or page file, for additional storage. In a soft page fault, the page actually is in memory but isn’t marked in the memory management unit as being active. These faults don’t provoke disk reads, so they’re less expensive than hard faults. Hard faults result in a read from disk from the page file.

Processor:

- **CPU Processor Time %** - This counter measures of how much time the processor actually spends working on productive threads and how often it was busy servicing requests. The processor can never be sitting idle waiting to the next task, so NT gives the CPU something to do when there’s nothing waiting in the queue. This is called the idle thread. The system can easily measure how often the idle thread is running as opposed to having to tally the run time of each of the other process threads. The counter simply subtracts the percentage from 100 percent.

Hard Disk:

- **Avg. Disk sec/Read** - The value for this counter is generally the number of seconds it takes to do each read. On less complex disk subsystems involving controllers that don’t have intelligent management of the I/O, this value is a multiple of the disk’s rotation per minute. The rotational speed of the hard drive is the primary factor in the value with the delays imposed by the controller card and support bus system.
- **Avg. Disk sec/Write** - The value for this counter is generally the number of seconds it takes to do each write. On less complex disk subsystems involving controllers that don’t have intelligent management of the I/O, this value is a multiple of the disk’s rotation per minute. The rotational speed of the hard drive is the primary factor in the value with the delays imposed by the controller card and support bus system.

SQL Server:
- **Page Life Expectancy** - The number of seconds a page will stay in the buffer pool without references.

These metrics are collected at intervals specified during configuration. See Configuration details.


### Navigating grid data

If the number of workspaces in the environment exceeds the number of records displayed per page (10 by default), you can navigate the record set using the page navigation buttons.

- first page
- 1 page back
- 1 page forward
- last page

Use the records-per-page drop-down menu to change the number of records in a set.

### Sorting grid data

You can sort the records in the grid can be sorted by clicking the name of the column in the column header. Clicking the same column header again reverses the sort order.

### Filtering grid data

You can filter the records in the grid by clicking the **Show Filter** link above the grid, specifying the filtering criteria in the displayed filter fields, and clicking **Apply Filters** or pressing the **Enter** key.

![Export to CSV, XLS, XLSX](chart.png)

You can use the key icon to the right of the filter field to change the type of filtering condition.

Text field conditions include the following:

- Begins with
- Contains
- Doesn't contain
- Ends with
- Equals
- Doesn't equal

Numeric field conditions include the following:
- Equals
- Doesn't equal
- Is less than
- Is less than or equal to
- Is greater than
- Is greater than or equal to

When you click the **Show Filter** link, the link switches to **Hide Filter** and vice versa. Click **Hide Filter** to hide the filter input fields that appear after clicking **Show Filter**.

### Exporting grid data

Data loaded in the grid can be exported to one of the following formats by clicking the corresponding button:

- CSV - Comma Separated Values
- XLS - MS Excel 97-2003
- XLSX - MS Excel 2007-2010

### Selecting records for display on chart

To display only certain workspaces on the chart, select the checkboxes to the left of their names. If no workspaces are selected when the Chart button is clicked, the chart displays all workspaces.

#### 1.6.7.3 Chart

The Chart panel contains the following elements:

- Fit to Screen button
- Chart Type selector
- Show Columns selector

**Fit to screen**

Use this function to resize the chart to fit inside the visible area of the screen.
Chart type
Use this function to switch between two types of graphs:

- Line Graph
- Bar Graph

Show Columns
Use this function to select which metrics appear on the chart (depending on the Server Health option from the drop-down menu next to the page title):

- Memory (RAM)
  - Pages/Sec
  - Page Faults/Sec
- Processor
  - CPU Processor Time (%)
- Hard Disks
  - Disk Avg Sec/Read
  - Disk Avg Sec/Write
- SQL Server
  - Page Life Expectancy

1.6.8 Configuration Page

1.6.8.1 Trust Settings
The configuration page contains a form to input Trust Settings for Best in Service partners participating in the Trust Website.

The form contains the following fields:

- Trust ID
  - Provided by kCura
- Partner
  - The name you would like displayed on reports
- Send Scores Automatically
  - Turn on to have the Performance Dashboard - Trust Agent send scores automatically to the Trust website
- Send Notifications
  - Turn on to enter an email address to send Trust notifications to
- Last Sent
  - The date that scores were last sent to the Trust website
- Score Date
  - The date that the weekly score was last compiled

If scores can also be manually exported with the Export button. The exported file can then be emailed to kCura for posting to the Trust website.

### 1.6.9 DBCC Settings

The configuration page provides options to configure database DBCC monitoring.

If DBCC monitoring is disabled, you'll see the following message on the configuration page:

![DBCC Settings](image)

To enable DBCC monitoring, change the toggle switch next to **Enable DBCC Monitoring** to **ON**.

![DBCC Settings](image)

Once DBCC Monitoring is enabled you have to choose between View-Based or Command-Based Monitoring.

- View-Based Monitoring
  - Performance Dashboard will look for DBCC history in views deployed to linked SQL servers. Click here to configure monitoring targets.
Command-Based Monitoring
- Performance Dashboard will monitor DBCC history using built-in SQL commands. Elevated credentials will be required to enable this method.

Enabling View-Based Monitoring
1. Change the toggle switch next to View-Based Monitoring' so that is says 'ON'.
2. Click on the "Manage DBCC Targets" button at the top of the page

This brings up the DBCC Target Details page. In order to use view-based DBCC monitoring, at least one SQL server target must be activated. For each monitored server, specify the database containing your DBCC log table. Manual installation of the eddsdbo.QoS_DBCCLog view may be required for custom maintenance solutions.

The DBCC history view (eddsdbo.QoS_DBCCLog) will be deployed to the database listed under Target Database for the server in the Target Settings section. The default view requires that Ola Hallengren's dbo.CommandLog table is present in the target database and eddsdbo has SELECT permissions on the table. If an existing view with the same name is present, it will not be replaced.

If the CommandLog table already exists in a different database, e.g. the master database, then you will have to edit and deploy the view manually.

Option 1: Deploy the QoS_DBCCLog view automatically

This option relies on the CommandLog table existing in the same database as the selected Target Database. If the location is different than you will have to use option 2.

1. Find the server you want to enable view-based monitoring for and click the 'Edit' button.
2. Enter the name of the database where the QoS_DBCCLog view will be deployed or leave the default location of EDDSQoS.
3. Change the toggle switch under 'Monitoring Enabled' to 'ON'.
4. Click save.

Option 2: Deploy the QoS_DBCCLog view manually

1. Take Note of where the CommandLog table is located on each SQL server.
2. Click on the 'Install View Manually' button at the top of the Performance Dashboard: DBCC Target Detail page.
3. Copy the text for the CREATE VIEW statement.
4. Paste into SSMS.
5. Update the view to reference the correct location for the CommandLog table.
6. Deploy the view to each SQL server, preferably to the EDDSQoS database.
7. Ensure the eddsdbo has SELECT permissions on the CommandLog table on each SQL server.
8. Back on the Performance Dashboard: DBCC Target Details page find the server you want to enable view-based monitoring for and click the 'Edit' button.
9. Enter the name of the database where the QoS_DBCCLog was deployed.
10. Change the toggle switch under 'Monitoring Enabled' to 'ON'.
11. Click save.

**Enabling Command-Based Monitoring**

1. Change the toggle switch next to Command-Based Monitoring' so that is says 'ON'.
2. Click 'Save' at the top of the page.

This brings up the Script Updates page. Some scripts used by Performance Dashboard must be installed with SQL sysadmin privileges. The provided user account must be a sysadmin for all active SQL servers registered with Relativity. Your credentials will not be stored.

1. Change the toggle switch next to 'Use Windows Authentication' to 'ON' to use a domain account. Leave off to use a local SQL account, e.g. sa.
2. Enter the credentials for a local SQL account if needed.
3. Click 'Run'

**1.6.9.1 Manage Alerts**

A number of different alerts can be sent by Performance Dashboard to notify you of scores, alerts, & configuration changes.

Alerts are set up on the Performance Dashboard Email Notifications page:

1. Click on the 'Manage Alerts' button at the top of the page.
2. Enter the single or group email address to send notifications to in the 'Recipient Email Addresses' field.
3. Choose the alerts to be sent by setting the toggle switch for each alert to 'ON'
   - Weekly Score Alerts (Hourly)
     - When the weekly score for any server falls below the threshold specified here, this will trigger a recurring hourly alert
   - Quarterly Score Alerts (Daily)
     - When the quarterly score for any server falls below the threshold specified here, this will trigger a recurring daily alert
   - Quarterly Score Status (Weekly)
     - Once every week, Performance Dashboard will send a report of the current quarterly and weekly scores.
   - Backup/DBCC Alerts (Daily)
     - Once every day, Performance Dashboard will send a warning email if monitoring suggests backups or consistency checks have been missed for at least seven days.
   - Trust Delivery Alerts
     - When the Trust worker agent delivers new scores, it will send a confirmation email indicating the reported score. If scores are not delivered, Performance Dashboard will send a recurring daily notification indicating this failure
   - Configuration Change Alerts
     - When Performance Dashboard configuration settings change, this will trigger an email auditing all changes.
2. Click 'Save'

1.6.10 Backfill Console

The Backfill Console shows the current status of the Looking Glass call to collect hourly metrics. From this page you can also backfill up to 90 days of metrics.

**Note:** A manual backfill of data should only be performed after contacting kCura Client Services.

The Backfill console consists of two sections; the Overview and the Backfill Progress.

The Overview has the following fields:

- Sample Range
  - The date range from the first run of Looking Glass to the last time it ran
- Status
  - The status of the current run of Looking Glass
- Last Run Start
- Last Check-in
  - The last time Looking Glass wrote to the GlassRunLog table
- Run Duration
The Backfill Progress consists of:

- **Hours in Discovery Phase**
  - These hours are currently being checked for workspace-level audits. Hours with activity will move to the analysis phase.

- **Hours in Analysis Phase**
  - In this phase, QoS Worker agents process audits for all active hours. To accelerate analysis, create additional QoS Worker agents. As each hour's analysis completes, it moves into the scoring phase.

- **Hours in Scoring Phase**
  - Once every hour, the QoS Manager agent cycles through hours ready for scoring. The agent gathers analysis results, determines sample eligibility, and generates scores.

- **Hours Scored**
  - Performance Dashboard has completed scoring for these hours. Once all hours are scored, the backfill is complete.

1.6.11 Environment Check page

The Environment Check page shows the results of a script that runs to check SQL Server and Relativity configuration values. It will only return items that are flagged as potentially problematic or non-default. The environment check is informational only and will not have any direct impact on scoring in PDB. It is intended to help monitor and optimize environment configuration.

The system check will display results for SQL Server configurations. The report consists of the following columns:

- **Server Name**
  - The name of the SQL server analyzed.

- **Name**
  - The name of the configuration value.

- **Value**
  - This is the value currently set for the configurable setting.

- **Value in Use**
  - This is the value currently being used by SQL Server for the system setting.

- **Description**
  - Explanation of the setting in question.

- **Is Dynamic**
  - Indicates whether the setting in question is dynamic.

- **kIE Value**
  - This is the kCura recommended value for the setting.
- Status
  - This indicates the severity assigned to the configuration discrepancy between the current and recommended values.

- kIE Note
  - Provides further details about the system setting.

The Relativity check will display results from the analysis of the Configuration table in Relativity’s EDDS database. The report consists of the following columns:

- Section
  - This is the section from the Configuration table assigned to the setting.

- Name
  - Name of the value checked.

- Actual Value
  - This is the value currently being used for the setting.

- Default Value
  - This is Relativity’s default value for the setting.

- Status
  - This indicates the severity of the discrepancy between the value in use and the recommended or default value.

- Recommendation
  - Explains recommendations for the setting.

- Machine Name
  - This is the name of the machine for which the indicated setting applies. This will be blank for some settings.

- Description
  - Contains the description of the setting as it exists in the Configuration table.

1.6.12 Environment Check report

The Environment Check report shows information and recommendations for improving your system. It lists a priority, server, context (called Section), name, description, current value, and recommendation. To manually run the Environment Check report, click Manually Run. To the left of this button is a timestamp for the last Environment Check.

1.7 Performance Dashboard troubleshooting

1.7.1 Installation troubleshooting

Three main types of errors can occur when installing PDB:

- Server connection errors
- Workspace connection errors
- Web Page connection errors
1.7.1.1 Server connection errors

These errors are found in the Event Viewer of the agent server where the Performance Dashboard Agent is installed. These errors are usually one of two types: an ‘Access is denied’ error, or an ‘RPC server is unavailable’ error.

The Access is denied error indicates the agent service does not have DCOM access to the remote server. The IP address is listed in the error.

To resolve this error:

1. Ensure DCOM is enabled.
2. Run DCOMCNFG.exe.
4. Right-click My Computer and select Properties.
5. Click Default Properties in My Computer Properties.
6. Select Enable Distributed COM on this computer.
7. Make sure the PDB service account is a system admin on the remote server.

The RPC server is unavailable error indicates the Windows service cannot find the remote server. The IP address is listed in the error.

To resolve this error:

1. Make sure the remote server is powered on and accessible.
2. Check for any DNS conflicts.
3. Try to connect via WMI to the remote server.
4. Make sure WMI or port 135 isn’t blocked in a firewall rule.
5. Check if the remote server is listening on port 135.
   a. From the remote server run NETSTAT -a | find “:135”.
6. Copy the installation directory to the AD site and convert the directory to an application.

1.7.1.2 Workspace connection errors

Workspace connections errors are found in the Windows Event Viewer on the server where the Performance Dashboard Agent is installed.

The following error indicates the database is in single-user mode:

Message: GetPerformanceMetrics Called - Failure. Details: Database 'EDDS1017071' is already open and can only have one user at a time.

1.7.1.3 Web page connection errors

Web page connection errors can occur in Internet Explorer when trying to access the Application Performance or Server Health web pages.

The following error is a generic error. Log in to a web server where PDB is installed and log in to Relativity using localhost. Try to open up the web page again to get a more specific error.

Object reference is not set to an instance of an object
1.7.2 Recoverability & Integrity score troubleshooting

If you have a lower Recoverability & Integrity score than you were expecting, please check the following:

1. Make sure you are following kCura best practice for backups and corruption prevention. Here is what we recommend for a score of 100:
   1. Transaction log backups: Every 15 minutes
   2. DBCC Checks: Every day
   3. Full backups: Every week
2. Go to your SQL Server and check the status of your maintenance plans. Are there logs where you can see if they are running as expected?
3. Ask kCura support for our RPO troubleshooting script. It can be executed in your SQL Server and will show the time between all backups in the past 7 days.

1.7.3 Uptime score troubleshooting

If you have a lower Uptime score than you were expecting, please check the following:

1. Make sure the SQL Server Agent service is running or was running when the downtime occurred.
2. Make sure you are using the most current version of Performance Dashboard.
3. If Uptime is not being recorded, navigate to the Recoverability & Integrity tab and click the 'Reinstall Scripts' button to install Admin scripts.
4. Check to make sure there has been no downtime on any servers. Performance Dashboard is designed to allow 10 hours of downtime after an upgrade and 2 hours of downtime to upgrade the OS on your Primary SQL Server.

1.7.4 Trust Scores are not sending

If Trust scores are not being sent to the Trust site, check the following:

1. Has the Backfill on the Backfill Console tab in Performance Dashboard completed successfully?
   a. Check to see whether the Backfill is stuck in a pending state. If that is the case, The Last Run Start and Last Check-in timestamps will not be current, and there will be no Export button at the top of the page.
   b. Take note of the numbers on the Backfill Console page. If the Backfill starts running again, you will want to check back after each of the following steps to see if the numbers are changing. You will know it's running successfully when the Run Status percentage starts advancing toward 100% and the Backfill Progress numbers decrease towards 0. This may run slowly, but that is expected behavior if your environment has a lot of records.
   c. Go to the Agents tab and uninstall/reinstall all the PDB agents. This can take a few minutes to complete.
      i. Go to the Agent server where the PDB agents are installed and restart the Relativity services.
      ii. Check the Event Viewer on the same Agent server for error messages.
2. Is port 443 blocked outbound from the Agent server where the Trust Worker agent is installed to the Trust site?
3. Is the Trust Worker agent installed on the Agents tab?
4. When was the last time this worked successfully?
   a. In the primary SQL server, look at the TrustSendLog table in the EDDSPerformance database for error messages.
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