RAYVENTORY®

Technology Asset Inventory

Release Notes RayVentory Data Hub 12.3

raynet

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Introduction

This new release 12.3 is a major upgrade to the previous release 12.2. It contains several new features, major product improvements and resolves reported issues. This document describes important changes and feature highlights using the base 12.2 version for comparison. When migrating from an older release (12.0 or 12.1), refer to corresponding Release Notes for more information about changes and migration paths.

What's new

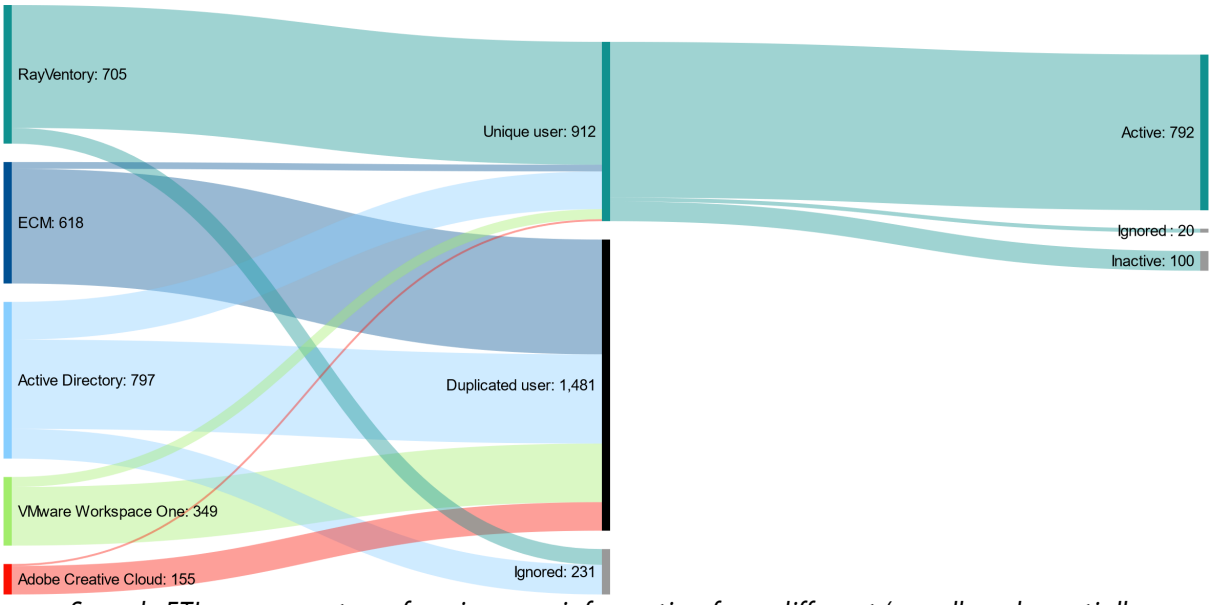
New and Updated Cloud Connectors

In this version, many new cloud and SaaS connectors have been added.

- *15Five*
- *Acquia Cloud Platform*
- *Acquire*
- *Adobe Captivate Prime*
- *Adobe Marketo*
- *Articulate Rise 360*
- *Asana*
- *Atlassian Cloudadmin*
- *Atlassian Opsgenie*
- *BambooHR*
- *Bloomfire*
- *Box*
- *Caspio*
- *ClickMeeting*
- *Cloud Academy*
- *Coupa*
- *cvent*
- *CyberArk*
- *Drift*
- *EasySoftware EasyProject*
- *Envoy*
- *ExaVault*
- *foreman*
- *Gainsight Px*
- *Help Scout*
- *HubSpot*
- *Jamf Pro*
- *Jetbrains Hub*
- *Malwarebytes Nebula*
- *Media Beacon*
- *Microsoft Azure Compute Inventory*
- *Microsoft Azure Consumption*
- *Microsoft Azure Log Analytics*
- *Microsoft Azure SQL*
- *Microsoft Graph Generic Query*
- *Microsoft 365 (renamed from Microsoft Office 365)*
- *Nulab Backlog*
- *okta*
- *Pipedrive*
- *Quip*
- *Salesforce SOQL*
- *SalesFusion Sugar CRM*
- *Sophos Central*
- *Tableau*
- *teamgantt*
- *TeamViewer*
- *Tibco Scribe*
- *TravelPerk*
- *Typeform*
- *twilio*
- *Vonage Contact Centers*
- *Workable*
- *Zeplin.io*
- *Zoho Books*

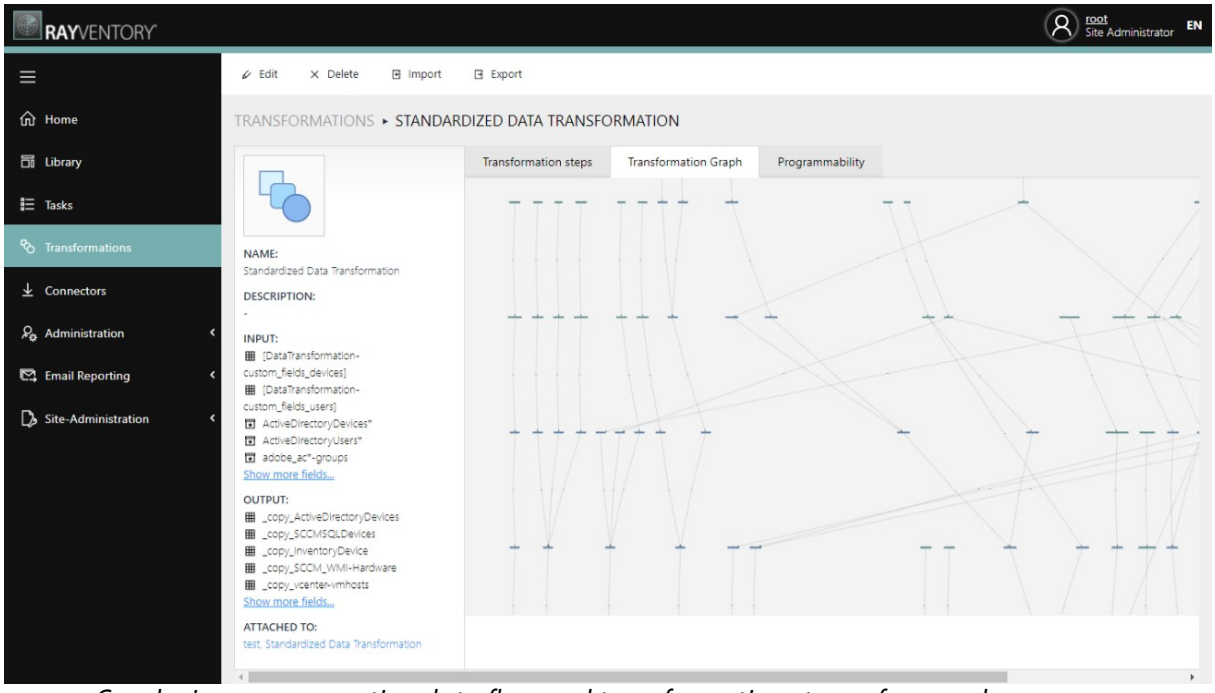
Integrated Transformation Capabilities

In this version, we added a new feature to handle data transformation. Whereas the previous releases of Data Hub had a was to achieve this task manually via JSON-based configuration, this version has fully featured UI-driven editor where all data operations can be defined without coding. `RR-1144`



Sample ETL use case - transforming user information from different (usually only partially compatible) sources.

The new editor is available form the newly introduced Transformation tab. Each data transformation operates on a set of input tables and produces one or more output tables. In the basic editing view, the user defines atomic operations like mapping, joining, deduplicating, filtering, etc. The connections between them are determined automatically by chaining input and output of each step.



Graph viewer representing data flow and transformation steps of a complex process.

The built in graph viewer helps to find out the data flow and to understand even the most complex transformation flows.

Custom functionality and advanced functions can be programmed as SQL macros and used directly by supporting action types.

Transformation supports the following basic operations:

- Mapping a table or multiple tables into a single table. Existing columns can be taken as-is, transformed, or discarded. New columns with auto-generated, fixed, or derived values can also be created.
- Filtering a table, using logical operators, conditions, and even SQL-snippets.
- Taking top X or bottom X rows from a table.
- Deduplicating a table based on some specific values and their combinations.
- Grouping rows in a table, aggregating columns, and counting elements.
- Joining two or more tables with custom join rules and wildcard support.

- Enriching a table by adding missing information from other tables.
- Creating a split table from aggregated values.

These types of operations can be combined together and chained, so that even the most complex data flow can be seen as a breakdown of smaller, simple operations.

Note:

Default import comes with a preconfigured transformation layer which seamlessly joins various sources and creates data sources for integrated SAM, HAM, and IT Visibility reporting.

New Default Reports Structure

In this version, there is a new, better structured, and well organized default structure of standard reports and dashboards. Many of them have undergone significant changes, making sure that the data is presented in an optimal way. Also their visuals have been updated. `RR-1920`

Once all new reports are imported, the following folder structure will be created:

- **Data collection**
  All tasks and reports regarding raw, unprocessed data.
- **Data transformation**
  A scope for tasks. Its main purpose is to prepare the data for analysis and further processing. Reports and dashboards from this place can be used to control the quality and understand possible data gaps and other issues.
- **Data analysis**
  Based on the transformed data, the purpose of this section is to show interactive, business critical data in an inspiring and appealing form. Various different use cases are covered here, from IT professionals and system administrators to managers and license owners.

Be aware:

Your exisiting reports will not be migrated automatically. This change only affects newly imported reports.

Docker-Based Installation

As an alternative to the current MSI+IIS based installation, a Linux-based Docker image of the server component is available and can be pulled form the Docker Hub. `RR-2496`

More information about the installation of the Docker-based RayVentory Data Hub can be found in the following location: https://hub.docker.com/r/raynetgembh/rayventory-datahub.

Note:
The Agent is still a Windows application available in MSI format. It is bundled in both, the Docker and the MSI sources.

Catalog Software Recognition Now Suports Data from SCCM/ECM

The Catalog task has been extended with evidences from the System Center Configuration Manager. In addition to RayVentory, SCCM data is now enriched with key metrics such as end of life or release dates, business functionality, license classifications, and vulnerability information can be viewed through dashboards. `RR-2471`

For this, the process of how the software normalization step works has been changed. In previous versions, the Catalog connector performed direct queries on RayManageSofti (RMSi) / RayVentory database. In this release, it reuses the data from other, already executed tasks.

Software Information Now Has More Enriched Properties

We extended the number of extra information pulled for each recognized software coming from RayVentory Catalog. `RR-2462`

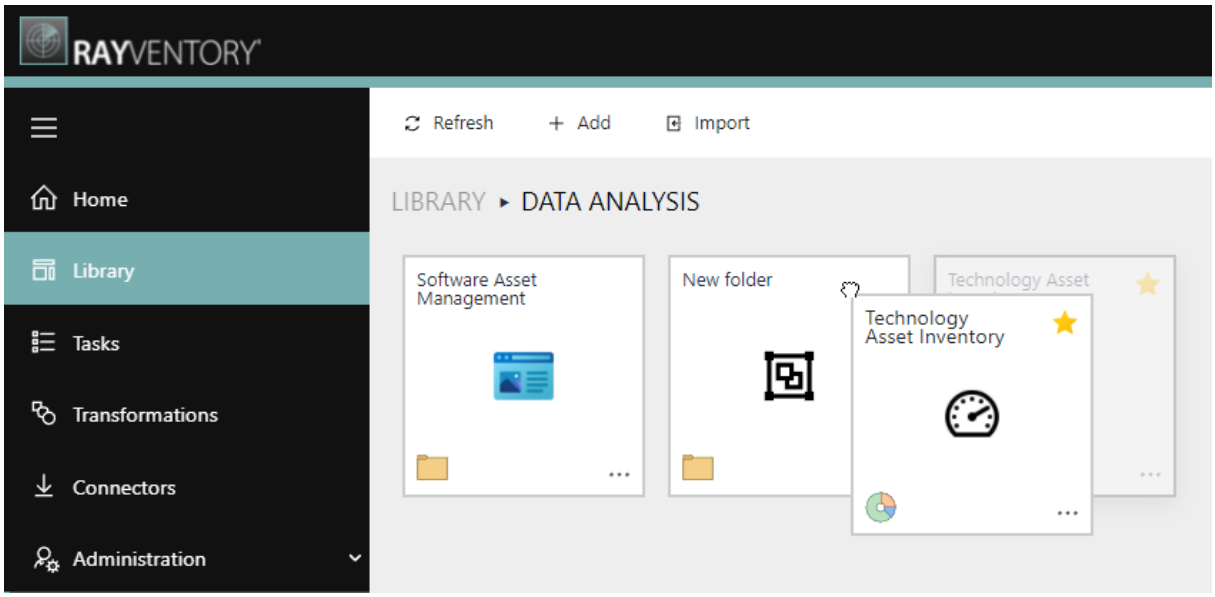
The following information is now available:

- Product edition
- Extended support EOL date
- Software classification based on UNSPCS taxonomy (class / commodity)

Ignored fingerprints are now also written for troubleshooting and reporting purposes.

Reordering Tasks with Drag and Drop Functionality

Tasks can now be moved between folders by a simple usage of drag and drop technique. `RR-1131` `RR-161`



Dragging an element to reorder or move to a sub-container is now possible.

Drag-and-drop functionality can be used to change the position of each item or to move items to

subfolders.

Getting Data from Catalog Is Now Much Faster and More Accurate

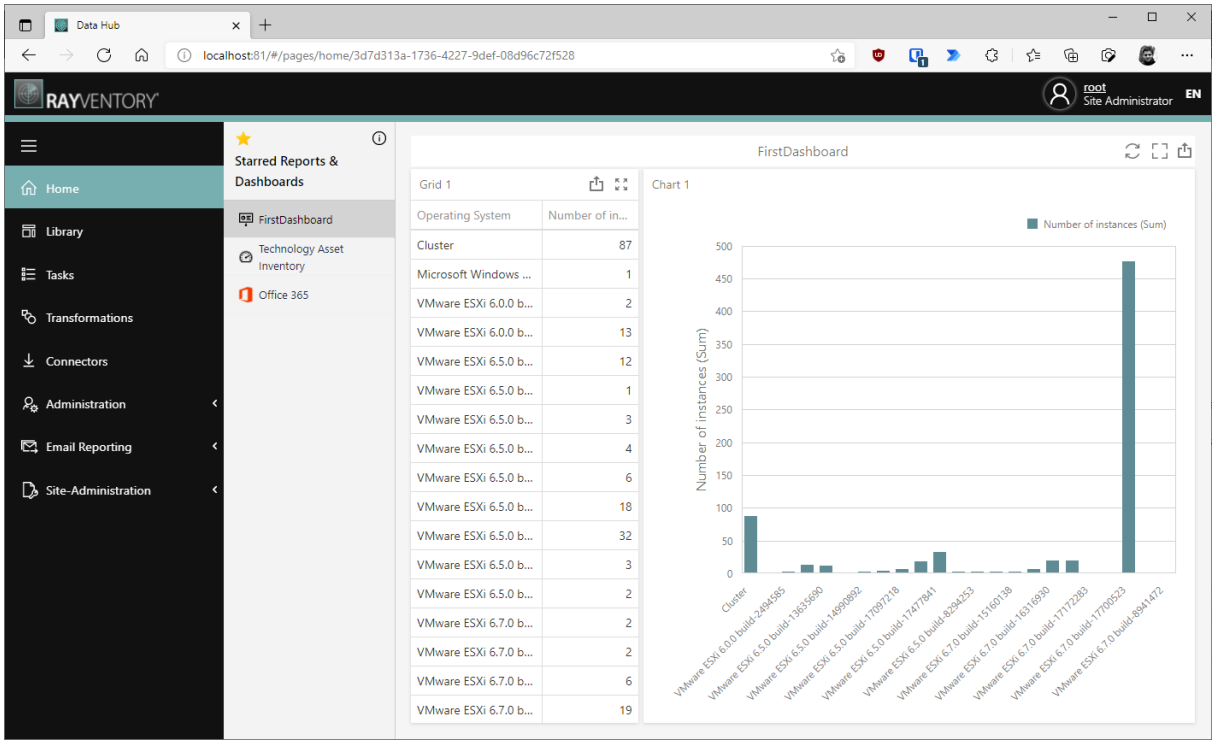
There are substantial changes in the catalog normalization algorithm, which - depending on the size of the data - bring huge performance improvements. The process runs much faster, shortening up lengthy hours-long operation into a matter of minutes. `RR-2471`

Additionally, it is now possible to add a maximum number of processed fingerprints for troubleshooting and quick runs. `RR-2381`

Thanks to many internal changes and optimizations, the standard recognition rate of installed software should also be higher in this new version. `CAT-1019` `CAT-1002` `RR-2463`

New Dashboard Screen

A new Home screen with the possibility to pin featured reports and dashboards and instantly access to them. `RR-2104`

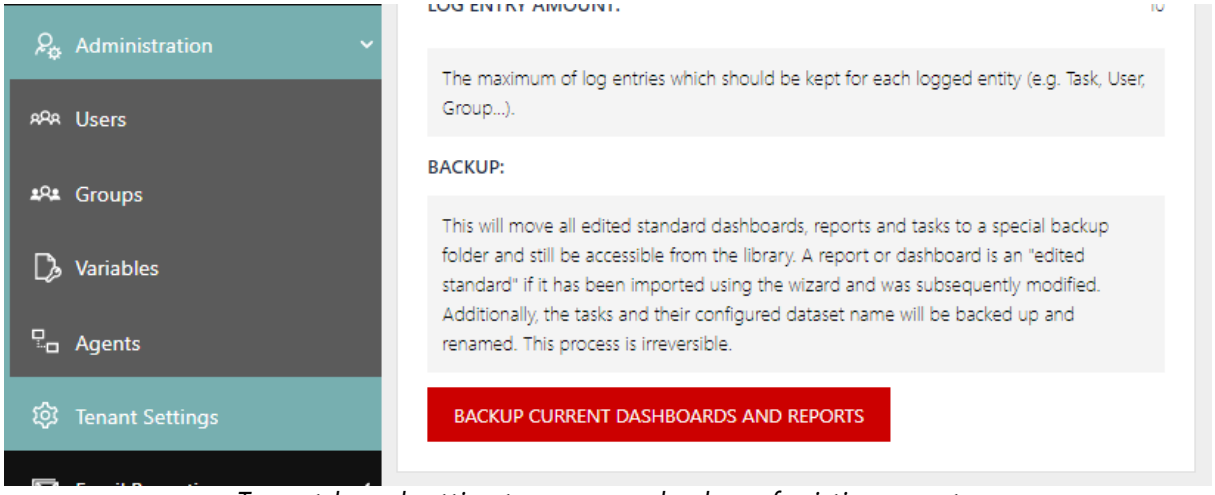


The dashboard with a list of favorite reports.

You can easily pin your favorite reports and dashboards and have them accessible from a single place directly in the Home screen. To start a dashboard or a report, simply add it to favorites list by pressing the star icon on its tile.

Easy Backup of Existing Reports, Dashboards, and Tasks

With a single click, the complete structure of current reports, dashboards, and their tasks can be moved to a separate folder. This feature can be used to quickly migrate from older versions of Data Hub by using all new dashboards and being able to move forward step-by-step with current, already customized, and modified versions of previous reports and dashboards. `RR-2402`

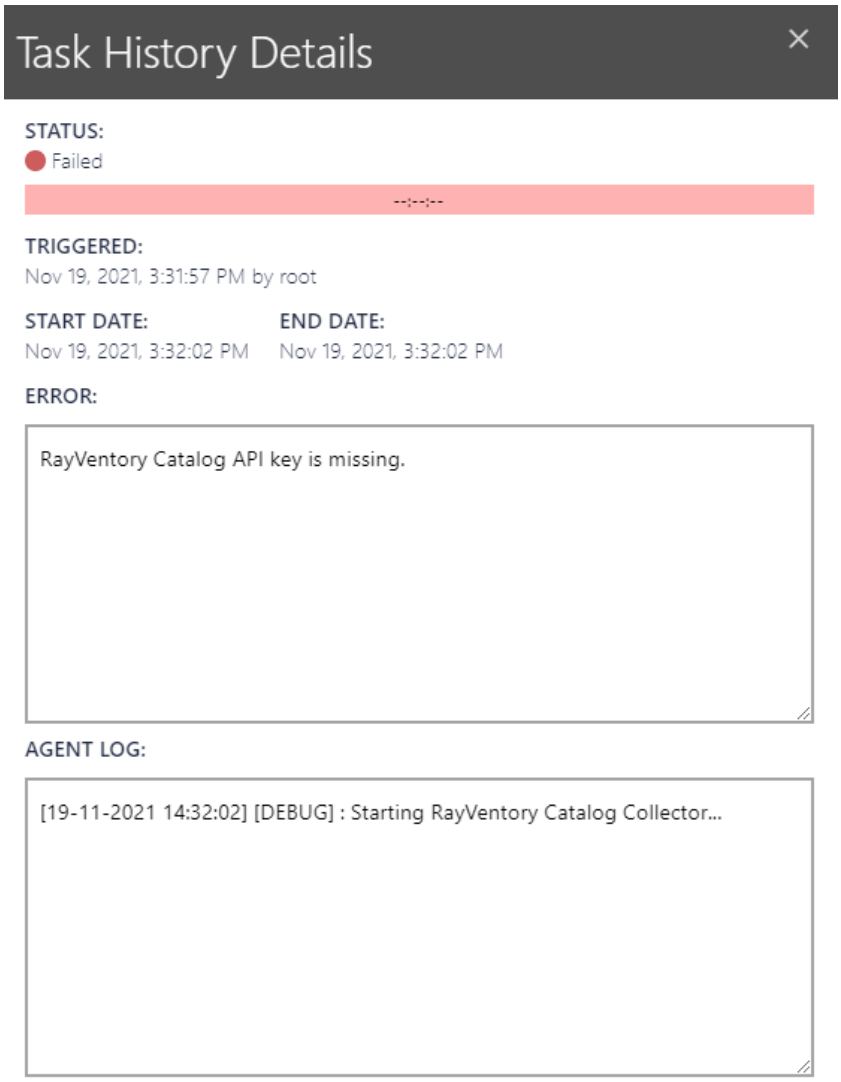


Tenant-based setting to prepare a backup of existing reports.

Better Task Progress

The sidebar with information about each task received a substantial update, so that it is now more compact and provides only the information relevant for the current state (depending on whether a task is running, pending, or finished). `RR-1376`

Additionally, in case of a failure during the data collection, an excerpt of the log is now sent and shown in order to better understand the cause of issues. `RR-2411`



An example of a failed task with extra log information and precise messages.

Russian Translation

The multi-language Data Hub Server UI is now also available in Russian (next to already being available in English and German). `RR-2840` `RR-2725`

Performance Improvements

In this version, several areas were optimized for a better performance and stability.

- Server backend has been improved to handle large data and process it faster. `RR-1945`
- Improved performance of parallel import of data from agents. `RR-1843`

Security Improvements

Note:
The following security improvements have already been released as hotfixes for affected installations.

- Fixed the security vulnerability CVE-2021-44228. In this version, `log4j` is not used anymore and it was removed from the bundle. **RR-2696** **RR-2704**
- Fixed an issue where debug logging could put out sensitive information in log files for SaaS connectors. **RR-2717**

Other Improvements

- Added WMI-based capabilities to the SCCM collector. **RR-1616**
- Ability to create a new task directly from the Collectors page. **RR-1823**
- In the Import wizard it is possible to overwrite previously imported reports. **RR-1918**
- Increased the upper limit of lengths of variables to handle large strings. **RR-1944**
- Improved resolving of variable placeholders containing special characters. **RR-2075**
- Changed SMTP port for TLS/SSL from `465` to `587` in email notification. **RR-2088**
- Email notification now supports SMTP mail servers with NTLM authentication mechanism. **RR-2089**
- Enable sorting of the "Last run" column of the Task-Table in the Tasks-View. **RR-2103**
- Improved the detection of the installed `java.exe`. Specific registry entry search is now also done for *OpenJDK* and *Microsoft JDK* installations. **RR-2124**
- Extended configuration of proxy settings. **RR-2145**
- New type of task - to the already existing Container and Data collection types, a new type Transformation has been added for data transforming purposes. **RR-2165**
- Added icons representing types (dashboard, report, or folder in the Library screen. **RR-2605**
- It is now possible to clean the target existing tables without dropping them. **RR-2845**

Resolved issues

The following issues have been resolved in this build:

- Fixed an issue where direct file import was not writing the correct table names in case of multi-table import. `RR-1816`
- Fixed an issue with the setting "ignore duplicates" not working when performing a direct file import. `RR-1826`
- Fixed the message informing the user about the minimum database version in case of missed or incorrectly performed database migration. `RR-1828`
- Fixed an issue with an error caused by the internal scheduler. `RR-1831`
- Fixed an issue with import wizard, where referenced variables from the configuration tab were not shown. `RR-1844`
- Fixed importing of RPA files with sections. `RR-1854`
- Fixed an issue with direct file import, where the ignoring of duplicates was not correctly respected. `RR-1859`
- Fixed incorrect parsing of attributes for custom AD queries. `RR-1898`
- Fixed an issue with wrong handling of integer values from auto-suggestion configuration fields in the task configuration. `RR-1911`
- Fixed an issue with improper conversation of string values, resulting in some connectors returning an invalid case exception. `RR-1912`
- Improved logging, which should output less warnings in case of disabled SSL validation. `RR-1916`
- Fixed an issue with the Active Directory connector returning incomplete results for the "Users and group mapping" sub-task. `RR-1930`
- Fixed an issue with the length of some task configuration fields, which were not accepting more than a few hundred characters and rendered some longer strings truncated. `RR-1944`
- Fixed the behavior of tooltips on IE11. `RR-1990`
- Fixed the handling of decimal values with custom scale/precision in the ODBC Data Connector. `RR-2039`
- Fixed a problem with timout of 30 seconds with long-running SLQ queries. `RR-2063`
- Fixed some log messages not being logged properly, regardless of the log level selection. `RR-`

RR-2087

- Fixed direct file import of CSV, XLS files, where some rows could be skipped. RR-2095
- Fixed an issue where SQL tasks might fail due to newline operators within string values. RR-2132
- Fixed an issue where task configuration could not be edited and saved if an input field was of the type array. RR-2139
- Fixed an issue with duplicated group names in the Active Directory collector. RR-2149
- Fixed an issue with insufficient escaping of special characters in LDAP strings. RR-2150
- Fixed an issue with a wrong default value of the `ActiveDirectoryGroups` task, which could lead to unnecessary extraction of nested groups. RR-2153
- Fixed an issue where the data import could skip some entries depending on the maximum number of allowed tables. RR-2172
- Removed dependency on ASP.NET Core from Data Hub Agent. RR-2396
- Fixed an issue with incorrect message in the Report if a required parameter was not set. RR-2647
- Fixed an issue with wrongly rendered line breaks in tooltips for cloud connectors. RR-2687
- Fixed a critical issue where only 10,000 rows could be returned by the agent when using target type SQL in the Task Agent Settings. RR-2815
- Fixed an issue with protected variables not being properly masked with a placeholder. RR-2819

Breaking Changes and Known Issues

- RayVentory Data Hub 12.3 requires the following components to be installed:
  - Installation of the Aspera Connector 12.3.0.11566 is required. Previous versions of connectors are unable to deliver the required data.
  - JDK 11 or higher is now required for cloud connectors. Having the previously supported JDK 8 will result in failing tasks.
- When upgrading from previous version of the Data Hub Server, on some machines the web application does not start and ends with an error `50x`. This can be fixed by repairing the MSI installation (right click the `.msi` file, and from the context menu select Repair). **RR-2826**
- Important changes for users migrating from version 12.2 (without Service Packs)
  - We have changed the way the report table name resolution works. The previously used separator (dot) is not used anymore in favor of a minus sign.
  - This means that the tables created by 12.2 extraction tasks followed the following naming convention `dataset.tablename`, whereas the new one puts out `dataset-tablename`. The migration script included in this build should be able to convert your existing reports to the new format, but the data will only be available once all tasks are restarted. You may also do the renaming on your own.

Migration from previous versions

- This version is backward incompatible with release 12.0.
- For versions 12.1 and 12.2, there is automated migration, which ensures that both the server and the agent can be migrated, together with user data

For detailed information about the migration process, refer to the **Installation Guide**.

Getting data for USU ITSM Overview

This chapter describes how to get the data for the newly added USU ITSM connector. These steps should be executed after the update of the server instance to the newest version.

1. Start the import wizars "Import > From template..."" in the library view.
2. Select dashboard "USU-ITSM-Overview" under Connectors section and enter the necessary data for a new task:
   - `USUVALUEMATION_PNP_MATCHINGTABLE_URL = "http://www.linux-usb.org/usb.ids.gz"`
   - `USUVALUEMATION_INVENTORY_DATA_TABLESTART = "Inventory"`
   - `USUVALUEMATION_INVENTORY_DATA_CONNECTION = "Data Source=(local);Initial Catalog=[DataHub];Integrated Security=True`
   - `USUVALUEMATION_DISPLAYNAME_FQDN = 1`
   - `USUVALUEMATION_DEVICE_IMPORTID = 1`
3. Add the variable `USUVALUEMATION_PNP_MATCHINGTABLE_URL` with value `http://www.linux-usb.org/usb.ids.gz` manually, if it is not shown in Wizard
4. Run 5 tasks in "TASKS > USU > ITSM > IMPORT" folder to generate import data.
5. Run all 22 tasks in "TASKS > USU > ITSM > EXPORT" folder to generate export CMP data.

Breaking changes and important notes

- Default RayVentory tasks have now dependency on stored procedures, installed with *Aspera Connector* version **12.2.0.11458**. The version may be installed as a part of RayVentory server installation or separately (as a SQL file). The new version of the connector is required to use the newly added USU ITSM connector tasks.
- Some tasks and reports might need to be re-imported to benefit from changes and fixes brought by this release. This is especially valid for SQL-based tasks, where the logic is encapsulated as a SQL script in the *Task Configuration.*

- The server should be always installed with the matching version of the agent. Mixing versions (for example 12.3 Data Hub and 12.1 Data Hub Agent) is not recommended and may lead to unexpected issues.

System requirements

Hardware requirements

RayVentory Data Hub

Requirements when SQL Server and RayVentory Data Hub are installed on the same machine:

- Min. 4 CPU cores
- Min. 8 GB of RAM
- Min. 20 GB of disk space

Requirements when only RayVentory Data Hub is installed on the machine:

- Min. 4 CPU cores
- Min. 4 GB of RAM
- Min. 10 GB of disk space

RayVentory Data Hub Agent

- CPU: Intel Core i5
- RAM: 4GB
- Disk space: 500 MB

Software requirements

The following are the minimum software requirements for the installation and running of RayVentory Data Hub Server:

- Microsoft Windows Server 2012 R2 or higher
- IIS 8 or higher
- Microsoft .NET Core 3.1 – Windows Server Hosting Bundle (https://dotnet.microsoft.com/download/dotnet-core/3.1)
- Microsoft SQL Server 2016 or SQL Server Express 2016

Note:

In order to run hosting bundles, the "Universal C Runtime" is required. Modern Windows Servers should already have it, but it may be required to download for older ones. The oldest supported OS is currently Windows Server 2012 R2. More information can be found here: https://support.microsoft.com/en-us/help/2999226/update-for-universal-cruntime-in-windows

The following are the minimum software requirements for the installation and running of RayVentory Data Hub Agent:

- Windows Vista SP2 / Windows Server 2008 R2 or newer
- .NET Core 3.1 Runtime (https://dotnet.microsoft.com/download/dotnet-core/3.1)
- Java / OpenJDK version 11 or newer is required to execute data collection from SaaS platforms

Supported web browsers

- Microsoft Internet Explorer version 9.0 and newer
- Microsoft Edge version 80 and newer
- Mozilla Firefox version 74 and newer
- Google Chrome version 80 and newer

Additional Information

Visit www.raynet.de for further information on RayVentory Data Hub, and take a look at the additional resources available at the Knowledge Base: http://raynetgmbh.zendesk.com/.

Raynet is looking forward to receiving your feedback from your RayVentory Data Hub experience. Please contact your Raynet service partner or use our Support Panel to add your ideas or requirements to the RayVentory Data Hub development roadmap!

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