



**RAYVENTORY**<sup>®</sup>

The most comprehensive  
Solution for Discovery and  
Inventory of Software  
and Hardware

Release Notes RayVentry Scan Engine  
12.2

•rayNET

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## Release Notes RayVentory Scan Engine

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# Introduction

This new release 12.2 is a major upgrade to the previous release 11.4. It contains several new features, major product improvements and resolved issues. Simplified deployment, flexible configuration, and handful of different inventory methods wrapped in the user friendly interface of RayVentory Scan Engine to provide flexibility for network administrators and IT managers with minimal impact on the existing infrastructure.

RayVentory Scan Engine provides a complete set of products for operating system inventory, as well as Oracle database, VMware vSphere / ESX, Hyper-V and SNMP inventory. The data can be processed, visualized, and analyzed with DataHub component, and additionally enriched with help of the Catalog services. The Server component ensures, that complex architectures can be effectively scanned, using our "decentralized scanning" concept.

This software set includes components which have the following core functions:

- RayVentory Scan Engine Scan Engine
- RayVentory Scan Engine Server
- RayVentory Scan Engine Data Hub
- RayVentory Scan Engine Catalog

Additionally, a bundled edition of **EasyManual** is included to support any kind of documentation. With the intelligence and many automation possibilities, creating documentation has never been so easy and fast.

## Hardware Requirements

This section lists the minimal hardware requirements for devices running RayVentory Scan Engine.

### Minimal

- Screen resolution: 1024 x 768 pixels
- Color settings: 16 bit
- RAM: 2GB
- Disk space: 100MB

### Recommended

- Screen resolution: 1280 x 1024 pixels

- 
- Color settings: 32 bit
  - RAM: 4GB or higher
  - Disk space: 1GB or more

**Note:**

The installation of the RayVentory Scan Engine framework itself requires about 400MB of disk space. The amount of additional space needed depends on the size and number of incoming inventory results.

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## Software Requirements

### General Prerequisites

The following operating systems are supported for the installation and running of RayVentory Scan Engine at the time of release.

- Windows Vista
- Windows 7
- Windows 8
- Windows 8.1
- Windows 10
- Windows Server 2008 SP1-SP2
- Windows Server 2008 R2
- Windows Server 2012
- Windows Server 2012 R2
- Windows Server 2016
- Windows Server 2019

### Required Software

- .NET Framework 4.5.2

### Operating System Inventory

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The following systems are supported:

- Windows XP
- Windows Vista
- Windows 7
- Windows 8
- Windows 8.1
- Windows 10
- Windows Server 2003
- Windows Server 2003 R2
- Windows Server 2008
- Windows Server 2008 R2
- Windows Server 2012
- Windows Server 2012 R2
- Windows Server 2016
- Windows Server 2019
- Linux on x86, x86\_64, POWER, PowerPC and ARM architecture
  - RedHat Linux 8 and 9
  - RedHat Enterprise Linux 3, 4, 5, 6, 6.1
  - SuSE Professional/OpenSuSE 9, 10, 11
  - SuSE Enterprise Server (SLES) 9, 10, 11
  - CentOS 6.x, 7.x
  - Debian
  - Ubuntu
  - Fedora 21
- Mac OS X on x86\_64 and PowerPC, 10.8+
- Solaris on SPARC since 9, 10, 11
- Solaris x86\_64, since 8, 9, 10, 11
- AIX on POWER architecture since 5.3
- HP-UX on PARISC and Itanium architecture, since 11.00, 11i, 11i v2, 11iv3

#### Required Software

- Java SE Runtime Environment (build 1.6.0) (Mac OS X agent inventories only)

## VMware ESX/ESXi Inventory

The following platforms are supported:

- VMware ESX Server 3.0 and higher
- VMware ESXi Server
- VMware vCenter Server

## Oracle Inventory

The following database components are supported:

- Oracle Database 9i
- Oracle Database 10g
- Oracle Database 11g
- Oracle Database 12c
- Oracle Database 18c Enterprise
- Oracle Database 18c Standard
- Oracle Database 19c Enterprise
- Oracle Database 19c Standard
- Oracle Database 18c Standard Edition 2
- Oracle Database 19c Standard Edition 2

## Required Software

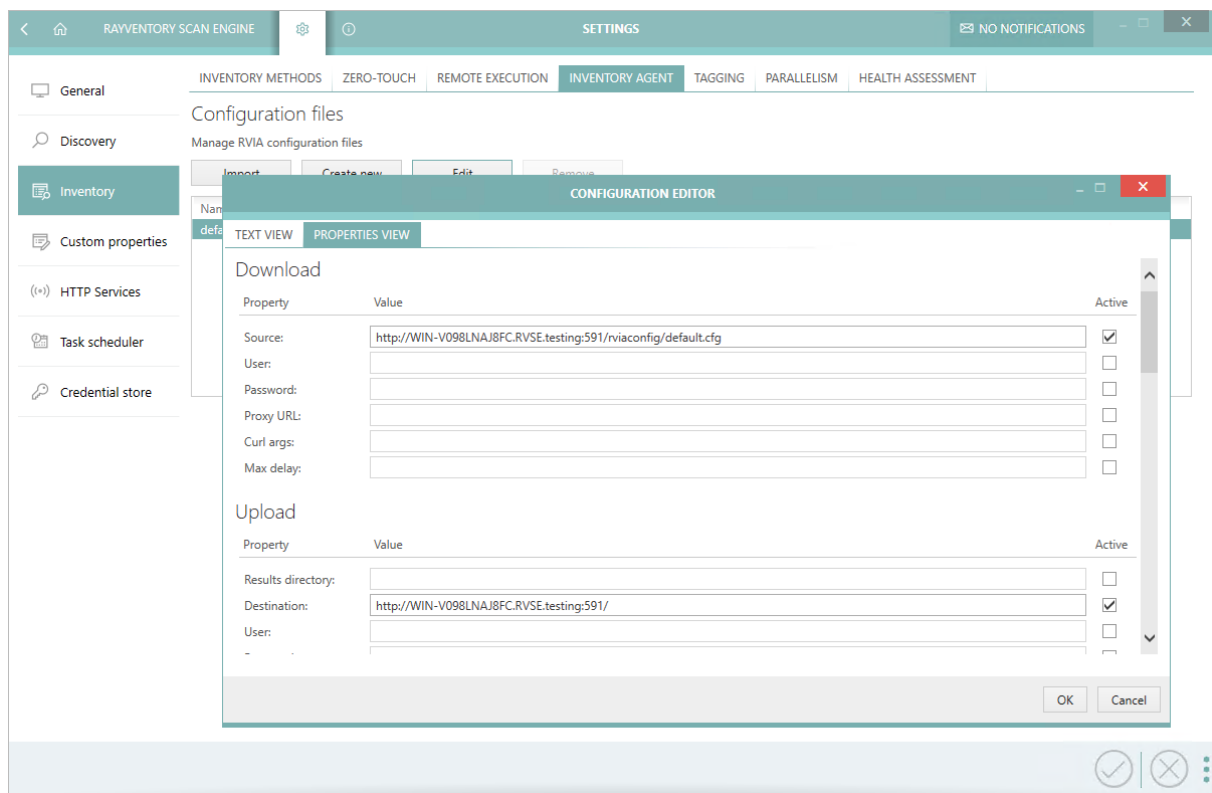
- Java Runtime 1.4.2 - Java 10
- Any operating system supporting Oracle JRE

# What's New?

## New RayVentory Inventory Agent RVP-983

There are several new and improved functions:

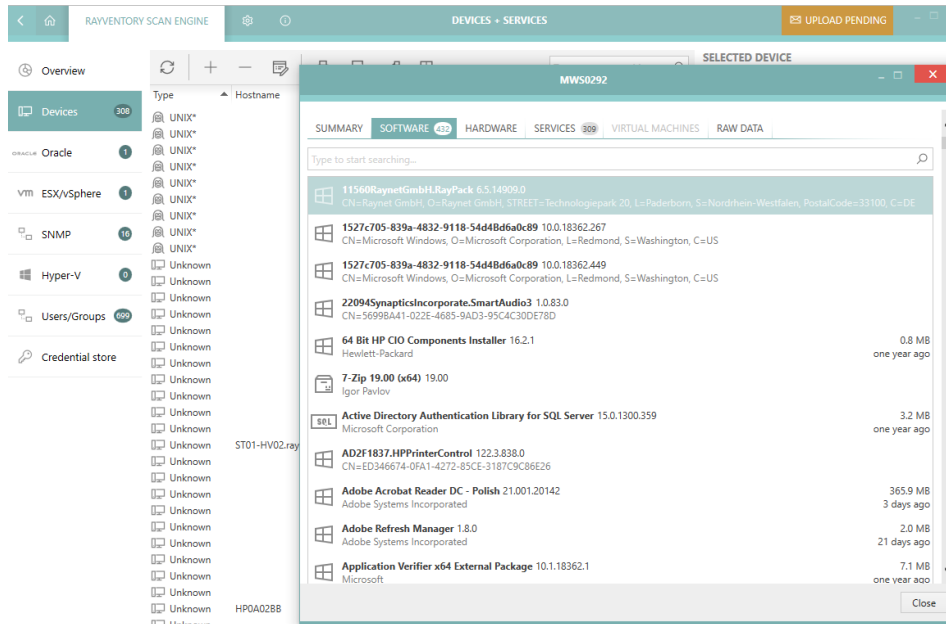
- Centralized/decentralized configuration through the Scan Engine
- New download option for configuration/schedule
- New UI for one or more configuration and schedule datasets
- New Usage Metering
- Citrix VDI Usage Plugin
- Improved SaaS discovery
- Terminal Server Usage
- XML-based configuration
- Certificate based authentication





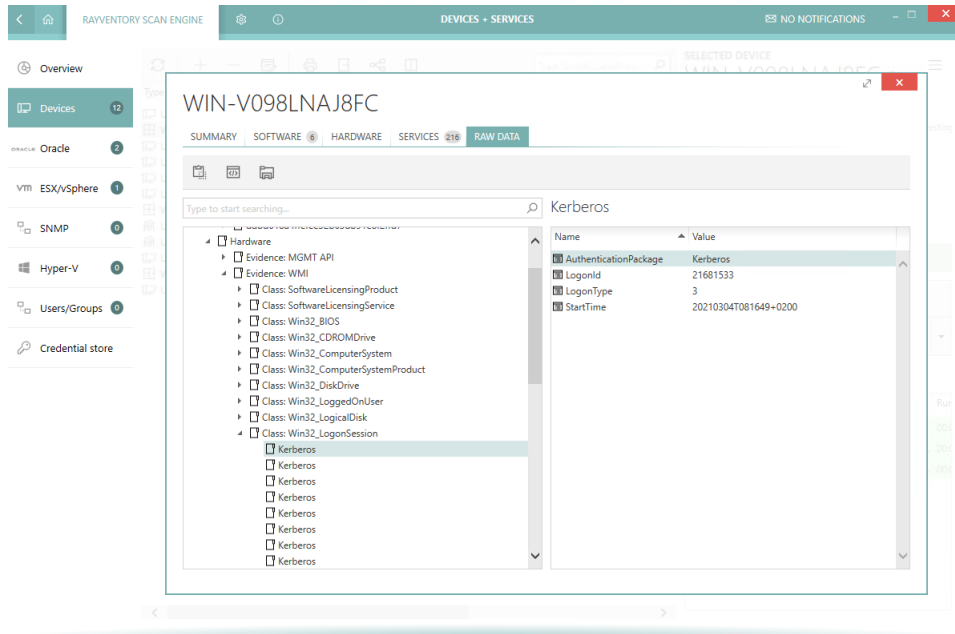
## Detection of MSIX products (RVP-471)

Zero-Touch Windows Inventory can now detect MSIX products.



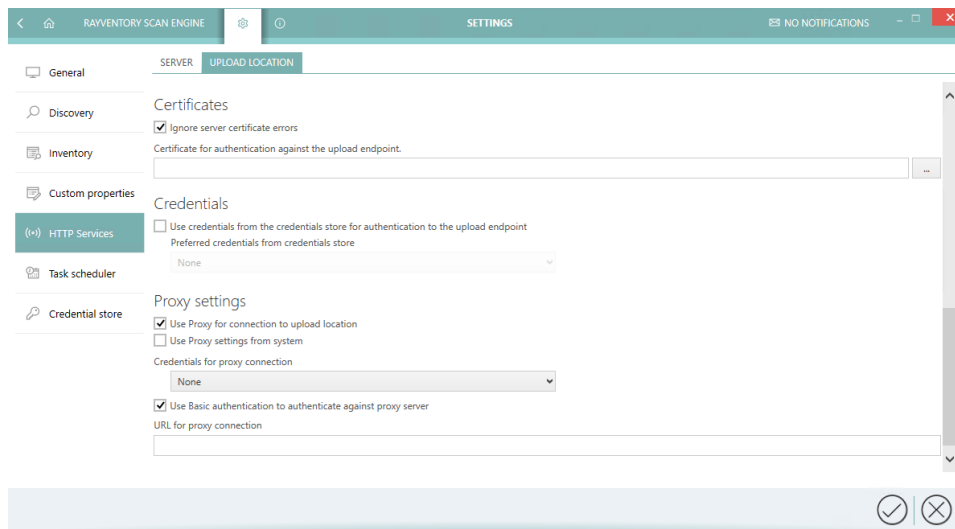
## Last login/session informations (RVP-924)

Zero-Touch scan on Windows can now collect information about the last login/session.



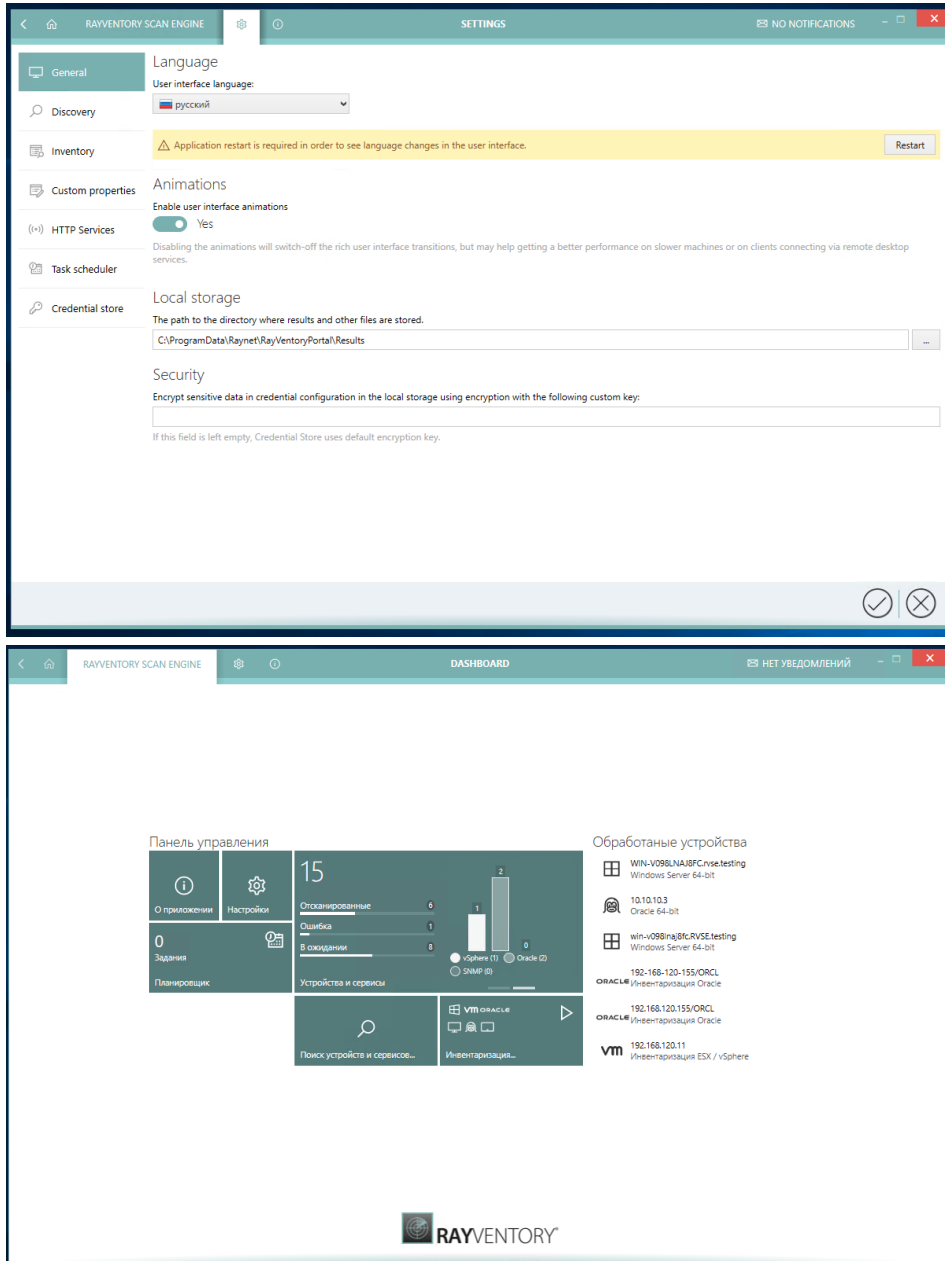
## Proxy support (RVP-954)

Proxy is now supported for uploads to the parent server.



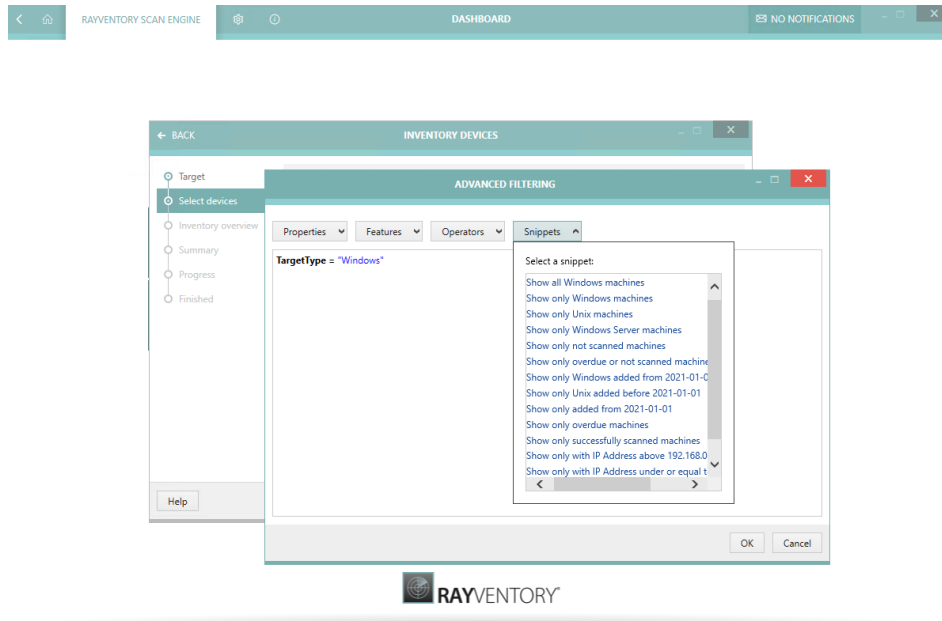
## New Language (RVP-986)

In addition to the available languages German and English, RayVentory Scan Engine supports Russian with the new version.



## Advanced filtering (RVP-1001)

New advanced filtering dialog, with easy condition editor, snippets and operators available for many places where filtering is involved.



## Further features and highlighted changes

- **RVP-458** NDI files received by the HTTP Server are now added to the Devices grid (as new devices or appended to existing ones, depending on the content).
- **RVP-991** RayVentory Scan Engine HTTP Server now accepts more types of files (including legacy RMS formats) in addition to already supported NDI/compressed NDIs.
- **RVP-1078** Zero-Touch UNIX file scanner now accepts file paths (previously, only directories were allowed).
- **RVP-638** Added support for DB2 discovery.
- **RVP-886** Inventory scanners now scan for running processes and return the information in the NDI file.

## Performance

In this version, several optimization have been introduced, which improve speed of the scanning and improved UI/UX experience thanks to lower UI latency and faster processing.

- **RVP-899** Improved performance of VMware inventory with option Populate devices from guests enabled.

- RVP-923 Improved performance of generic credential handling.
- RVP-956 The performance of general operations (loading, saving) of the Devices grid has been improved for very large datasets. The application should also start much faster (up to 5 times faster).
- RVP-997 Improved CPU and RAM usage of Zero-Touch UNIX Inventory.
- RVP-1061 Better performance of HTTP Server under heavy load.
- RVP-4756 Improved recognition of Tuning Pack on Oracle DB 19c.

## Other improvements and enhancements

- RVP-217 Improved determination of the installation directory for Scan Engine components.
- RVP-241 It is now possible to scan for services directly from the Devices view. The option is present in the context menu.
- RVP-243 It is now possible to define custom probing port for vSphere/vCenter discovery.
- RVP-404 It is now possible to use a custom SSH port for Zero-Touch UNIX scan.
- RVP-460 Scanning of the local machine from the wizard now creates or updates existing entity matching to the current host.
- RVP-523 Host name is now visible in the Inventory Wizard.
- RVP-828 It is now possible to rename sub-operations of the Composite operation.
- RVP-834 Zero-Touch inventory for Windows using PowerShell should terminate faster in case of errors.
- RVP-835 PowerShell automation module now uses own logging file, previously it was sharing the log file with UI.
- RVP-851 Improved notification in case of unsupported format of log file paths in the Settings screen.
- RVP-856 The UI validation of host name is now a bit stricter about the characters that could be accepted.
- RVP-861 A logical operator between host name and IP address match is now visible and configurable in the settings of scheduled inventory operations. Previously, the operation was only executed on devices matching both conditions.
- RVP-863 Added trimming of values like host names when entering values in the UI.
- RVP-871 General improvements of OracleDB scanner.

- RVP-880 Changed default status names for the Inventory Health (30-90 days = Overdue, 90+ days = Outdated).
- RVP-893 Improved SNMP scanner.
- RVP-910 In Settings UI, there is now a button to test the correctness of a network path for Scan Engine tools for Remote Execution.
- RVP-951 Zero-Touch File Scan for UNIX is now configurable in the UI.
- RVP-956 The Devices grid is now updated automatically if background changes happen, for example by the scheduled task.
- RVP-969 In the scheduled operation editor, it is now possible to import the list of targeted devices from a file.
- RVP-988 It is now possible to configure WMI enumeration timeout.
- RVP-1017 Extended default examples for WMI settings.
- RVP-1024 It is now possible to edit the LDAP filter when importing users and groups from Active Directory.
- RVP-1045 Scheduled tasks now have an extra information about the runtime length.
- RVP-1055 Added a routine which deletes firewall rules, created during the original installation.
- RVP-1064 Updated bundled SSH.NET library to version 2020.0.0.
- RVP-1068 Changed NDI format for AD groups assignment for a more robust processing by RMSi/RVS data base importer.
- RVP-1070 Changed how the inventory wizard works when no device is selected. Previously, no selection was interpreted as all devices. In this version, the button will be blocked until at least one device is selected.
- RVP-1071 It is now possible to define the address for HTTP Upload Server listener. Previously, all addresses were listened on.
- RVP-1076 WMI registry scanner for the software now queries all users from `HKEY_USERS` node. The default example uses a dollar sign '\$' as a placeholder for the username.
- RVP-1077 The default port of HTTP Upload Server has been changed from 8099 to 591.
- RMS-4661 Improved detection of SQL Reporting Service.

# Resolved Issues

The following issues have been resolved in RayVentory Scan Engine in 12.2.

- **RVP-61** Several labels and fields were named inconsistently in the SNMP device sidebar. The issues have been fixed in this version.
- **RVP-167** Fixed an issue with the discovery, which was reporting a wrong log of `ERROR` type in case of failed IP lookup. The correct type is `WARNING`.
- **RVP-225** Fixed rare errors when using Zero-Touch VMware scanner.
- **RVP-367** Fixed failed software inventory on macOS devices.
- **RVP-804** Fixed an issue with the Settings screen, where it was not possible to cancel the changes done to the Health Assessment settings.
- **RVP-815** Fixed an issue with the Scheduled Tasks view, where the statue of Enable/Disable button was not consistent in case of mixed selections.
- **RVP-816** Fixed an issue with auto-refreshing of Scheduled Tasks view, which was interfering with the normal usage.
- **RVP-820** Fixed various typos in scan setting descriptions.
- **RVP-822** Fixed an issue with saving of Java executable path not respecting the user response to the prompt.
- **RVP-823** Fixed an issue with dragging of the column "Last run", which - when dropped outside of the table - was generating a `NullReferenceException`.
- **RVP-824** Fixed an issue with too verbose output printed in PowerShell console when using automation DLL.
- **RVP-825** Fixed an issue with schedule interval editor, where it was not possible to save the changes for the value of "31" in the monthly recurring trigger.
- **RVP-826** Fixed wrong alignment of the column "Port" in the scheduled inventory operation editor.
- **RVP-827** Fixed the confirmation dialog for removal of targets from the scheduled task editor which was showing IP address instead of the host name.
- **RVP-829** Fixed an issue with hidden last inventory results of Hyper-V connections.
- **RVP-852** Fixed import of devices from specific formats of CSV files.
- **RVP-853** Fixed an issue with not working disabling and enabling of multi-selected tasks.
- **RVP-854** Fixed incorrect behavior of the uploader module, which was deleting all pending NDI files on upload error. In this build, only successfully uploaded files are deleted.

- RVP-860 Fixed an issue with not updating executions counter in the Scheduled Tasks sidebar.
- RVP-862 Fixed an issue with constants timeout when using Zero-Touch scan on macOS devices.
- RVP-865 Added missing multi-value settings for NDTRACK.
- RVP-866 Fixed an issue with the OK/Apply buttons not being refreshed after changing the filter in the Active Directory scheduled operation settings editor.
- RVP-870 Fixed scanning of UNIX machines having multiple IP addresses for a NIC.
- RVP-874 Fixed an exception thrown by sorting, if the date were formatted in non-invariant culture.
- RVP-877 Restored correct messages for tooltips in tracker options.
- RVP-878 Fixed log file of scheduler, which was only showing the first operation even for multiple operations.
- RVP-884 Fixed wrong display of number of CPUs for vCenter hosts.
- RVP-885 Fixed an issue with missing "Created" date for devices that were added manually.
- RVP-890 Fixed a crash to desktop when opening tabs in the Hyper-V inventory.
- RVP-891 Fixed some edge cases where the inventory methods were not properly cancelled even though the task being cancelled by the user.
- RVP-896 Fixed a rare crash after adding a new scheduled task.
- RVP-898 Fixed a possible exception when starting the Start-DeviceInventory command let.
- RVP-925 Fixed an issue with missing associations of VMware guests with existing devices.
- RVP-926 Fixed an issue with the global timeout being not respected when pinging a machine.
- RVP-938 Fixed an issue with failed uploads to a HTTP location with TLS1.2.
- RVP-955 Fixed crash when cancelling uploading pending files when the certificate was invalid.
- RVP-960 Fixed an issue with WMI file scanner not respecting the maximum accepted size.
- RVP-971 Fixed failed startup of ndtrack.sh on macOS 10.15.
- RVP-998 Fixed file scanner on UNIX devices to respect timeout settings.
- RVP-1000 Fixed an issue with importing of group object, where a `byte[]` value was imported instead of a text.
- RVP-1013 Fixed an issue with corrupted scheduler.xml after forced restart of the server.
- RVP-1019 Resolved some edge cases, which could lead to wrong scan targets for scheduled operations.



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- RVP-1023 Fixed WMI scanning, which was not respecting timeout settings for specific queries.
  - RVP-1027 Fixed issues with auto-refreshing of the Devices screen.
  - RVP-1030 Fixed rare errors thrown when ordering by IP address.
  - RVP-1038 Fixed crashes when using invalid control characters in DNS names.
  - RVP-1039 Fixed crashes when using invalid control characters in connection settings.
  - RVP-1050 Fixed an issue with refreshing of the Action Center after uploading to the parent server.
  - RVP-1075 Fixed an issue with resolving of IP addresses, which sometimes ended up with an `IndexOutOfRangeException`.
  - RVP-1087 Fixed an issue with device discovery when no IP address was entered.
  - RMS-4743 Fixed an issue with startup of `ndtrack.sh` on AIX.

# Migrating from RayVentory Portal

## Preconditions

- The user must be an administrator
- Powershell version 3.0 or newer must be installed (information about the current version is contained within the `$PSVersionTable` variable)

## Steps

1. Install RayVentory Scan Engine Scan Engine 12.2
2. Copy the migration script (see below) to a location where it can be started from a local system.
3. Open Windows PowerShell or Windows Terminal as administrator
4. Navigate to the folder where a local copy of migration script exists.
  - In case the execution of PowerShell scripts is restricted on the current system, execute additionally the following command to allow it temporarily:  

```
Set-ExecutionPolicy -ExecutionPolicy RemoteSigned -Scope Process
```
  - In case the script is blocked by your system, unblock it with the following command:  

```
Unblock-File -Path .\MigrateRVPToRVSE.ps1
```
5. Execute the script  

```
.\MigrateRVPToRVSE.ps1
```
6. [Optional] Check if hard-coded values in configuration nodes of `config.xml` file are set to relative paths:
  - OracleTrackerFolderPath
  - NdtrackExecutablePath
  - RIWClassesFile

## Migration script

The following migration script is also available online:  
<https://raynetgmbh.zendesk.com/hc/en-us/articles/360045755511-RVY200601-Migrating-RayVentory-Portal-to-RayVentory-Scan-Engine-12-0->

```
<#
@Title = A script to migrate from RayVentory Portal to RayVentory Scan Engine
@Author = Raynet GmbH
@Version = 0.1
@Description = This script is supposed to adjust Config.xml files to fix obsolete
hardcoded paths
#>

# Setting up logging
Write-Host "Starting migration script"
$tempFilePath = [System.IO.Path]::Combine($env:TEMP, "RVPTtoRVSEmigration.log")
Start-Transcript -Path $tempFilePath -NoClobber -Append

Write-Host "PowerShell information"
$PSVersionTable
Write-Host ""

try {
    # Extraction of RVP appdata storage from Registry
    $appdataPath = [string]::Empty;
    $programFilePath = [string]::Empty;
    if ([Environment]::Is64BitProcess) {
        $appdataPath = Get-ItemProperty -Path "HKLM:\SOFTWARE\WOW6432Node\Raynet
\RayVentoryPortal" -Name "AppDataPath" | Select-Object -ExpandProperty "AppDataPath"
        $programFilePath = [Environment]::ExpandEnvironmentVariables("%
ProgramFiles(x86)%")
    }
    else {
        $appdataPath = Get-ItemProperty -Path "HKLM:\SOFTWARE\Raynet\RayVentoryPortal"
-Name "AppDataPath" | Select-Object -ExpandProperty "AppDataPath"
        $programFilePath = [Environment]::ExpandEnvironmentVariables("%ProgramFiles
%")
    }

    # Checking if configuration values are in place
    if ([string]::IsNullOrEmpty($appdataPath)) {
        Write-Warning -Message "RayVentory Portal configuration registry is missing.
No migration will be done."
        [System.Environment]::Exit(1)
    }

    $configFilePath = [System.IO.Path]::Combine($appdataPath, "Raynet",
"RayVentoryPortal", "Config", "Config.xml");
    if (!(Test-Path($configFilePath))) {
        Write-Warning -Message "Configuration file not found. No migration will be
done."
        [System.Environment]::Exit(1)
    }
    else {
        # Updating hardcoded paths
        Write-Host "Updating hardcoded paths"

        [xml]$configContent = Get-Content -Path $configFilePath -Encoding UTF8
        $oracleTrackPath = $configContent.Configuration.OracleTrackerFolderPath;
        $ndtrackPath = $configContent.Configuration.NdtrackExecutablePath;

        $isRiwClassesEmpty = $false;
        $riwClassesPath = $configContent.Configuration.RIWClassesFile;
        if ([string]::IsNullOrEmpty($riwClassesPath)) {
            $isRiwClassesEmpty = $true;
        }
    }
}
```

```
$isContentChanged = $false

if (!(Test-Path $oratrackPath) -and !($oratrackPath -eq ".\Contrib\Oratrack"))
{
    Write-Warning "OraTrack configuration is invalid : $oratrackPath. Will be
reset to default: .\Contrib\Oratrack"
    $oratrackPath = ".\Contrib\Oratrack";
    $configContent.Configuration.OracleTrackerFolderPath = $oratrackPath;
    $isContentChanged = $true;
}

if (!(Test-Path $ndtrackPath) -and !($ndtrackPath -eq ".\Contrib\ndtrack
\ndtrack.exe")) {
    Write-Warning "NdTrack configuration is invalid : $ndtrackPath. Will be
reset to default: .\Contrib\ndtrack\ndtrack.exe"
    $ndtrackPath = ".\Contrib\ndtrack\ndtrack.exe";
    $configContent.Configuration.NdtrackExecutablePath = $ndtrackPath;
    $isContentChanged = $true;
}

if (!$isRiwClassesEmpty -and !(Test-Path $riwClassesPath) -and !
($riwClassesPath -eq ".\example.xml")) {
    $riwFileName = [System.IO.Path]::GetFileName($riwClassesPath);
    if ([string]::Equals($riwFileName, "example.xml")) {
        Write-Warning "Zero-Touch custom inventory configuration file path is
invalid: $riwClassesPath. It will be reset to default: .\example.xml"
        $riwClassesPath = ".\example.xml";
        $configContent.Configuration.RIWClassesFile = $riwClassesPath;
        $isContentChanged = $true;
    }
    else {
        Write-Warning "Zero-Touch custom inventory configuration file path is
invalid. Please manually adjust the configuration."
    }
}

if ($isContentChanged) {
    # Making a backup of configuration file
    $configBackupPath = $configFilePath + ".old";
    $nameNum = 1;
    $fullConfigBackupPath = $configBackupPath
    while (Test-Path $fullConfigBackupPath) {
        $fullConfigBackupPath = $configBackupPath + $nameNum;
        $nameNum += 1;
    }

    Write-Host "Making a backup of Config.xml: $fullConfigBackupPath"
    Copy-Item -Path $configFilePath -Destination $fullConfigBackupPath

    Write-Host "Writing changes back to Config.xml: $configFilePath";
    Remove-Item -Path $configFilePath -Force
    $configContent.Save($configFilePath)
    Write-Host "Migration process was performed successfully"
}
else {
    Write-Host "No changes made to a configuration. Nothing will be written."
}
}
}
catch {
    Write-Warning "Migration failed. Check the log file."
    Write-Warning $_
}
```

---

```
}  
finally {  
    Stop-Transcript  
}
```

## Additional Information

Visit [www.raynet.de](http://www.raynet.de) for further information on RayVentory Scan Engine, 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 Scan Engine experience. Please contact your Raynet service partner or use our [Support Panel](#) to add your ideas or requirements to the RayVentory Scan Engine development roadmap!

RayVentory Scan  
Engine  
is part of the  
RaySuite

More information online  
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