



•rayNET



RayVentory®
Release Notes

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Release Notes RayVentory

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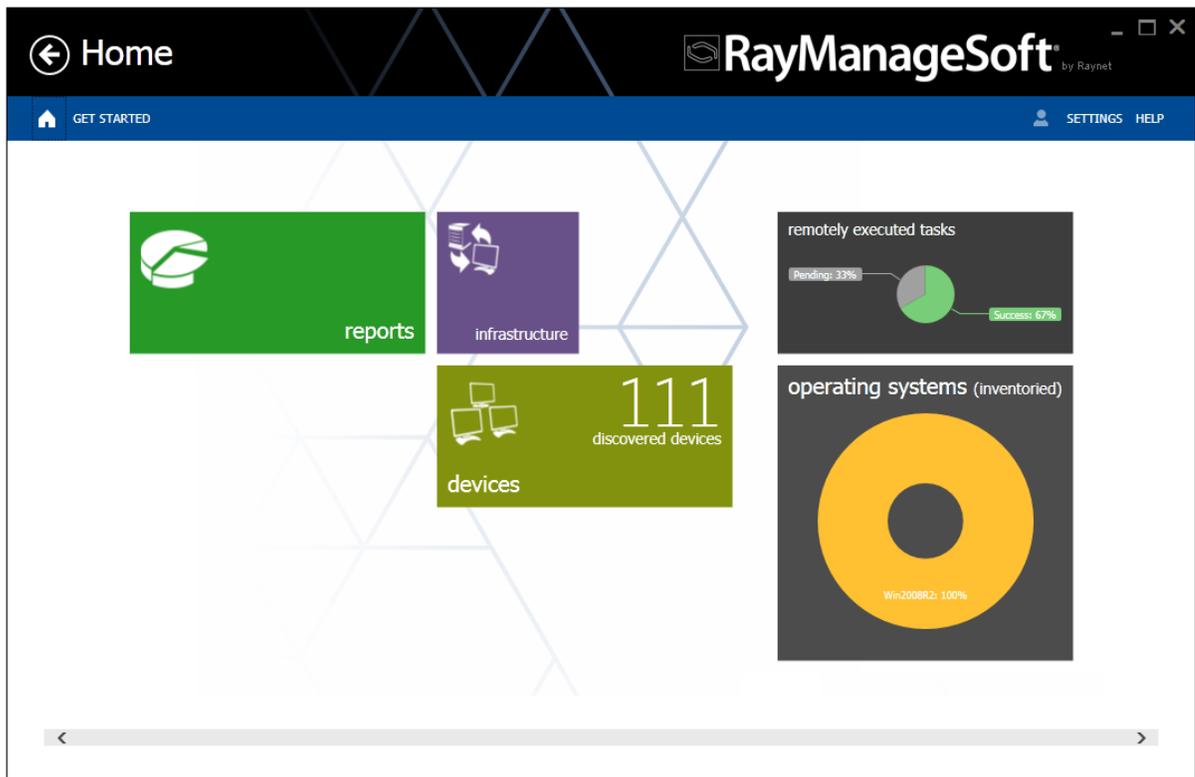
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Introduction

RayVentory provides a complete set of products for operating system (OS) inventory, as well as Oracle database and VMware vSphere / ESX inventory management. The software includes four components for discovering, performing inventory of the operating systems, Oracle databases and virtual infrastructure inventory as well as an easy to use self-service interface to trigger inventory collection on the client side. The RayVentory agent-less architecture provides flexibility for network administrators and IT managers with minimal impact on the existing infrastructure.



RayVentory Technical Specification

1) RayVentory Server

RayVentory Server is the centric component of RayVentory infrastructure. It acts as the data endpoint that holds the database and can be used as the initiator of the network discovery and remote trigger of the OS inventory collection (zero touch inventory).

RayVentory Server consists of core (application), database, and reporting server components. These components may be installed on one single operating system environment (OSE) instance or divided into two or three OSEs providing dedicated roles for application (core), database (SQL), and reporting services (IIS).

RayVentory Server is a Microsoft .NET client-server application, based on Microsoft SQL Server backend.

Distribution Server

Distribution Server is an optional component of RayVentory that acts as an intermediate end-point (like a proxy) for data collection in distributed networks, and it can be used as the initiator of the network discovery and to remote trigger the inventory collection (remote execution).

RayVentory Distribution Server is a Microsoft .NET client-server application.

2) RayVentory Portal

RayVentory Portal is the user entry point, which allows an administrator to define one or several projects with specific end user configurations. The end user would access such a project through a custom URL and download a project package used to perform the actual inventory. RayVentory Portal may be installed on the same OSE instance as RayVentory Server.

RayVentory Portal is a web-based application, which consists of functions for building inventory projects, an administrative console and the actual portal.

An inventory project can include a selection of different modules like OS inventory module (including SQL and Hyper-V module), vSphere inventory, Oracle database inventory and configuration options like upload path for inventory data.

3) Network Discovery

The first phase after implementing RayVentory Server could be discovering or importing the devices that currently exist on a network. The following methods, interfaces, and technologies are supported:

- Import computer accounts from the Corporate Active Directory (multiple AD's are supported)
- Import of sites and subnets via import file (.csv)
- Direct scan of the entire network or defined subnets using these methods (can be combined):
 - Windows Browser Service (WINS, NetBios protocol)
 - DHCP discovery (queries DHCP servers)
 - Ping Sweep (TCP/IP port scan)
 - SNMP queries
 - AMT (Intel Active Management Technology)

- o Database server scan (combining port scan and WMI queries)

Details about discovered devices can be reported and used for executing remote inventory tasks.

Note: network discovery is not a prerequisite for executing Zero-Touch-Inventory modules.

4) Inventory Methods

Agent-based

Inventory agent is a client-server application, which may be installed on a device. This application includes a server-managed schedule (when to perform which step) and components which allow performing the inventory and updates of the agent itself, as well as, inventory plugins.

Zero Touch (Agent-less)

Every project defined in the RayVentory portal supports “zero-touch-inventory” (ZTI), because the executables do not need to be deployed or installed on any device, just executed “as is”.

Every inventory module is available as a ZTI solution.

If an inventory needs to be generated periodically then an inventory module can be scheduled; e.g. using Windows task scheduler, Cron job, or similar job schedulers.

Remote Execution

The GUI of RayVentory Server includes Remote Execution capabilities to execute discovery, inventory, and other tasks.

Accounts and passwords needed for remote execution via RayVentory server (or Distribution server) are stored in a password store that is encrypted on the server.

Additional accounts and passwords needed to query Oracle and vSphere servers are stored in encrypted files.

5) Inventory Modules

OS Inventory

OS inventory module is an executable component, which runs locally on a computer device and produces an inventory file. This inventory module can be triggered through a remote execution task by the RayVentory Server, one or more optional Distribution servers, or ran locally by a user/administrator.

This component collects hardware details via WMI on Windows or WBEM on compatible Unix operating systems. This collection includes but is not limited to details about hardware chassis (manufacturer, serial number), CPU (model of CPU, clock speed, amount of installed CPUs, cores, threads, sockets), storage details, etc.

The OS Inventory Module includes the following software inventory collecting native operating system package information:

- Windows: Add/Remove Program information (ARP) and Windows Installer (MSI)
- Linux: RPM (Red Hat Package Manager) used by a wide range of Linux distributions
- Mac OS: osx, pkg, mpkg
- Solaris: SMC and others
- All platforms: ISO 19770-2:2009 Software ID tags
- File header information (optional) like name, size, manufacturer, product, version, path, size, ...

The inventory module can run custom inventory scripts to collect additional hardware and/or software

information.

The OS inventory module can be executed directly on the target device (locally or remotely) or can be installed as a permanent agent. If agent-based installations are being used, the inventory module can monitor and gather software usage information.

Microsoft SQL Inventory

Microsoft SQL inventory module is a built-in plugin for the OS inventory module and collects details about installed Microsoft SQL Server components, which include version and edition of installed components and details about installed instances. The details are collected via WMI interface.

Microsoft Hyper-V Inventory

Hyper-V inventory module is a built-in plugin for the OS inventory module and collects details about local Hyper-V instance. Such detail includes which virtual machine runs on which host, details about assigned virtual resources (RAM, amount of CPUs), and whether the host is a part of a failover cluster. The details are collected via WMI interface.

Oracle Database Inventory

Oracle database inventory module is a component, which may run as a plugin to the OS inventory module or as a standalone component. This module may either self-discover installed databases or connect to a specific database with a provided hostname, service name or SID, and port details.

The Oracle module can be executed on any platform supporting Java (JRE). It opens a local or a remote connection to an Oracle database, connects to the database with provided credentials, collects required details and stores them in an inventory file. The inventory file will be uploaded to the RayVentory Server.

vSphere Inventory

vSphere inventory module is a standalone component based on .Net 4.0 that collects inventory from either standalone VMware ESX servers or servers managed as a part of vSphere Infrastructure. Collected information includes, which virtual machine runs on which host, details about assigned virtual resources (e.g. RAM, amount of CPUs), and whether the host is part of a failover cluster. The details are collected via VMware connection

6) Common Features

Every inventory module creates an inventory file using XML format. By default, these files will be compressed and uploaded to the RayVentory Server (directly or via optional Distribution servers). Alternatively, inventory data files can be collected on any other type of medium like file share, USB stick, Web or FTP server, etc.

When using the agent based OS inventory, the agent can deliver full or delta inventory information. The wide range of features and functions help to overcome limitations in network infrastructures (Firewalls) or completely separate networks or even isolated computer devices.

RayVentory General Prerequisites

The following table describes the required permissions and network ports to perform a scan of Oracle, VMWare and the other Operating System.

Hint: The details for scanning Oracle and VMWare are described in the two following chapters of this document.

	Operating System			Oracle	VMWare
	Agent based (local)	Agentless (local)	Remote		
Permissions (OS)	<u>Windows:</u> Executing WMI, VBS and read registry (HKLM)	<u>Windows:</u> Executing WMI, VBS and read registry (HKLM)	<u>Windows:</u> Administrative User	Read access to system tables <u>hint:</u> we provide a script to set the permissions)	Read access to the virtual infrastructure*
	<u>Linux:</u> User	<u>Linux:</u> User	<u>Linux:</u> User		
Firewall (Ports)	Upload: 80		<ul style="list-style-type: none"> • RPC: 135 and ports above 1024 • Upload: 80 • File (SMB): 139 	Default: 1521	Default: 80/443

RayVentory Server

RayVentory Server is the centric component of RayVentory infrastructure. It acts as the data endpoint, holding the database and can be used as the initiator of the network discovery and remote trigger of the inventory collection (zero touch inventory).

Hardware requirements

RayVentory Server

- Minimum RAM: 2 GB
- Recommended RAM: 4 GB or higher
- Minimum disk space: 8 GB

Pre-requisite software

The table below describes the supported operating systems and software pre-requisites of RayVentory Server at the time of release.

Component	Operating system	Pre-requisite software
RayVentory Server	<ul style="list-style-type: none"> • Windows Server 2012 • Windows 2008 R2 Server x64 • Windows 2008 Server x86 SP2 • Windows 2008 Server x64 SP2 	<ul style="list-style-type: none"> • .NET Framework 3.5 • .NET Framework 4.0 • PowerShell 3 • SQL Server 2008 - 2014 Express or higher edition

Please note that Microsoft SQL Server Express allows 10 GB as maximum size of the database. This amount is roughly sufficient to hold inventory for up to 10.000 managed devices. Should the amount exceed 10.000 devices, higher edition of SQL Server such as Standard or Enterprise should be used.

RayVentory database can be hosted on an existing SQL Server.

Note: The RayVentory license does not include SQL Server.

RayVentory Server Sizing

The normal configuration will meet the needs for inventorying hardware and software for the given number of devices as referred to in the chart.

The performance of server and database disk space should be increased by 50% if inventory configuration would include file scan and software usage monitoring.

Number of managed devices	Hardware	Software
1 - 4.000 devices	<ul style="list-style-type: none">• Dual Core CPU• 8 GB RAM• 60 GB disk space for OS• 40 GB disk space for database	<ul style="list-style-type: none">• refer pre-requisites above
4.001 - 10.000 devices	<ul style="list-style-type: none">• Dual Core CPU• 16 GB RAM• 60 GB disk space for OS• 100 GB disk space for database	<ul style="list-style-type: none">• refer pre-requisites above

For larger environments or environments with complex infrastructures including many remote locations and/or bandwidth limitations please contact a Raynet consultant to define and create a suitable server and network design.

RayVentory Server centric component can be operated on one server or divided into any combination of application, database and reporting server. Additionally, distribution servers can be installed, as an option, to help collect data in widely distributed environments.

RayVentory Portal

RayVentory Portal is the user entry point, which allows an administrator to define one or several projects with specific end user configurations. End user would access such a project through a custom URL and download a project package, used to perform the actual inventory. RayVentory Portal may be installed on the same server instance as RayVentory Server.

Hardware requirements

RayVentory Portal

- Minimum RAM: 2 GB
- Recommended RAM: 4 GB or higher
- Minimum disk space: 2 GB

Pre-requisite software

The table below describes the supported operating systems and software pre-requisites of RayVentory Server at the time of release.

Component	Operating system	Pre-requisite software
RayVentory Portal	<ul style="list-style-type: none"> • Windows 2012 Server x64 • Windows 2008 R2 Server x64 • Windows 2008 Server x86 SP2 • Windows 2008 Server x64 SP2 	<ul style="list-style-type: none"> • .NET Framework 4.0

RayVentory Portal may be installed on the same server instance as RayVentory Server or operated separately. In addition, multiple RayVentory Portals can be installed, if end users can't access a central RayVentory Portal.

Please contact a Raynet consultant to define and create a suitable server and network design in case when a central (corporate) RayVentory Portal isn't possible or doesn't fit.

RayVentory for OS Inventory

OS inventory is the component of RayVentory that collects Hardware and Software inventory of the computer operating environment (COE).

System Requirements

Pre-requisite Software

The table below describes the supported operating systems and software pre-requisites of RayVentory at the time of release.

Component	Operating system	Pre-requisite Software
Agent-less inventory	<ul style="list-style-type: none"> • Windows 2012 Server • Windows 2008 R2 Server Core • Windows 2008 R2 Server • Windows 2008 Server Core • Windows 2008 Server • Windows 2008 Server Core x64 • Windows 2008 Server x64 • Windows 2003 R2 Server • Windows 2003 R2 Server x64 • Windows 2003 Server SP2 • Windows 2003 Server x64 SP2 • Windows 2000 Server • Windows 8 • Windows 8 x64 • Windows 7 • Windows 7 x64 • Windows Vista • Windows Vista x64 • Windows XP Professional • Windows XP Professional x64 • Windows XP Home • Windows 2000 	<ul style="list-style-type: none"> • None

Component	Operating system	Pre-requisite Software
	<ul style="list-style-type: none">• Windows 98• Windows NT 4.0 Server• Windows 95• RedHat Linux 8 and 9• RedHat Enterprise Linux 3, 4, 5, 6, 6.1• CentOS 4, 5, 6• Fedora 6 - 11• SuSE Professional/OpenSuSE 9, 10, 11• SuSE Enterprise Server (SLES) 9, 10, 11• Solaris 9, 10, 11 (Intel)• Solaris 8, 9, 10, 11 (SPARC)• Mac OS X 10.3, 10.4, 10.5, 10.6, 10.7• AIX 5.2, 5.3, 6.1, 7.1• HP-UX 11.00, 11i, 11i v2, 11i v3	

RayVentory for vSphere Inventory

RayVentory for vSphere Inventory is the component which allows inventory of VMware vSphere infrastructure, such as VMware ESX/ESXi or vCenter servers.

Pre-requisite software

The table below describes the software pre-requisites of RayVentory for vSphere Inventory at the time of release.

Component	vSphere Components	Pre-requisite Software
RayVentory for vSphere Inventory	<ul style="list-style-type: none">VMware ESX Server 3.0 and higherVMware ESXi ServerVMware vCenter Server	<ul style="list-style-type: none">.NET Framework 4.0

Configuration

To allow such access, in the virtual center on the top level of the hierarchy (datacenter) assign the Read-Only role to that account. For more information on configuring virtual centres, access rights and roles follow the link below:

http://www.vmware.com/pdf/vi3_vc_roles.pdf

RayVentory for Oracle Inventory

RayVentory for Oracle Inventory is the component which allows inventory of Oracle databases and database components.

Pre-requisite Software

The table below describes the software pre-requisites of RayVentory for Oracle Inventory at the time of release.

Component	Database Components	Pre-requisite Software
RayVentory for Oracle Inventory	<ul style="list-style-type: none"> Oracle Database 9i Oracle Database 10g Oracle Database 11g Oracle Database 12c 	<ul style="list-style-type: none"> Java Runtime 1.4.2 – Java 8 Any operating system supporting Oracle JRE

Configuration

The Oracle database inventory requires read-only access to several system tables and views.

The tables and views listed below contain only database internal information and do not contain any end-user application data / customer

Table /Views	Description
CONTENT.ODM_DOCUMENT	Feature usage statistics
DMSYS.DM\$MODEL	Feature usage statistics
DMSYS.DM\$OBJECT	Feature usage statistics
DMSYS.DM\$P_MODEL	Feature usage statistics
DVSYSDBA.DV_REALM	Feature usage statistics
LBACSYS.LBAC\$POLT	Feature usage statistics
MDSYS.ALL_SDO_GEOM_METADATA	Feature usage statistics
MDSYS.SDO_GEOM_METADATA_TABLE	Feature usage statistics
ODM.ODM_MINING_MODEL	Feature usage statistics
ODM.ODM_RECORD	Feature usage statistics

Table/Views	Description
OLAPSYS.DBA\$OLAP_CUBES	Feature usage statistics
SYS.DBA_ADVISOR_TASKS	Displays information about all tasks in the database
SYS.DBA_AUDIT_TRAIL	Displays all audit trail entries
SYS.DBA_AWS	Feature usage statistics
SYS.DBA_CUBES	Describes all OLAP cubes in the database
SYS.DBA_ENCRYPTED_COLUMNS	Maintains encryption algorithm information for all encrypted columns in the database
SYS.DBA_FEATURE_USAGE_STATISTICS	Displays information about database feature usage statistics
SYS.DBA_LOB_PARTITIONS	Feature usage statistics
SYS.DBA_LOB_SUBPARTITIONS	Feature usage statistics
SYS.DBA_LOBS	Displays the BLOBs and CLOBs contained in all tables in the database
SYS.DBA_MINING_MODELS	Feature usage statistics
SYS.DBA_OBJECTS	Describes all objects in the database
SYS.DBA_RECYCLEBIN	Container for dropped objects
SYS.DBA_REGISTRY	Displays information about the components loaded into the database
SYS.DBA_SEGMENTS	Describes the storage allocated for all segments in the database
SYS.DBA_SQL_PROFILES	Displays information about SQL profiles currently created for specific SQL statements
SYS.DBA_SQLSET	Feature usage statistics
SYS.DBA_TAB_PARTITIONS	Feature usage statistics
SYS.DBA_TAB_SUBPARTITIONS	Feature usage statistics
SYS.DBA_TABLES	Describes all relational tables in the database
SYS.DBA_TABLESPACES	Describes all tablespaces in the database

Table/Views	Description
SYS.DBA_USERS	Describes all users of the database
SYS.DUAL	A table in the data dictionary that Oracle Database and user-written programs can reference to guarantee a known result
SYS.GV_\$INSTANCE	Displays the state of the current instance
SYS.GV_\$PARAMETER	Displays information about the initialization parameters
SYS.MODEL\$	Feature usage statistics
SYS.USER_ROLE_PRIVS	Describes the roles granted to the user
SYS.USER_SYS_PRIVS	Describes system privileges granted to the user
SYS.V_\$ARCHIVE_DEST_STATUS	Displays runtime and configuration information for the archived redo log destinations
SYS.V_\$BLOCK_CHANGE_TRACKING	Displays the status of block change tracking for the database
SYS.V_\$CONTAINERS	Displays information about PDBs and the root associated with the current instance
SYS.V_\$DATABASE	Displays information about the database from the control file
SYS.V_\$INSTANCE	Displays the state of the current instance
SYS.V_\$LICENSE	Displays information about license limits
SYS.V_\$OPTION	Feature usage statistics
SYS.V_\$PARAMETER	Displays information about the initialization parameters that are currently in effect for the session
SYS.V_\$SESSION	Displays session information for each current session
SYS.V_\$SESSION_CONNECT_INFO	Displays information about network connections for all currently logged in sessions
SYS.V_\$VERSION	Displays version numbers of core library components in the Oracle Database
SYSMAN.MGMT_ADMIN_LICENSES	Management pack usage statistics

Table/Views	Description
SYSMAN.MGMT_LICENSE_CONFIRMATION	Management pack usage statistics
SYSMAN.MGMT_LICENSE_DEFINITIONS	Management pack usage statistics
SYSMAN.MGMT_LICENSES	Management pack usage statistics
SYSMAN.MGMT_TARGETS	Management pack usage statistics

Furthermore in the Oracle ERP system read access to the following objects needs to be granted to the service user account:

- applsys.fnd_app_servers
- applsys.fnd_nodes
- applsys.fnd_product_installations
- applsys.fnd_application_tl
- applsys.fnd_user
- applsys.fnd_responsibility
- apps.fnd_user_resp_groups

As an example the following script would grant the required access rights to the user RVUSER. Feel free to adjust the script to your environment.

Figure 2: Example script to grant required Oracle access

```
-- USER SQL
CREATE USER RVUSER IDENTIFIED BY RayVentory01;

-- SYSTEM PRIVILEGES
GRANT CREATE SESSION TO RVUSER ;

-- VIEW PERMISSIONS
GRANT SELECT ON CONTENT.ODM_DOCUMENT TO RVUSER ;
GRANT SELECT ON DMSYS.DM$MODEL TO RVUSER ;
GRANT SELECT ON DMSYS.DM$OBJECT TO RVUSER ;
GRANT SELECT ON DMSYS.DM$P_MODEL TO RVUSER ;
GRANT SELECT ON DVSYS.DBA_DV_REALM TO RVUSER ;
GRANT SELECT ON LBACSYS.LBAC$POLY TO RVUSER ;
GRANT SELECT ON MDSYS.ALL_SDO_GEOM_METADATA TO RVUSER ;
GRANT SELECT ON MDSYS.SDO_GEOM_METADATA_TABLE TO RVUSER ;
GRANT SELECT ON ODM.ODM_MINING_MODEL TO RVUSER ;
GRANT SELECT ON ODM.ODM_RECORD TO RVUSER ;
GRANT SELECT ON OLAPSYS.DBA$OLAP_CUBES TO RVUSER ;
GRANT SELECT ON SYS.DBA_ADVISOR_TASKS TO RVUSER ;
GRANT SELECT ON SYS.DBA_AUDIT_TRAIL TO RVUSER ;
GRANT SELECT ON SYS.DBA_AWS TO RVUSER ;
GRANT SELECT ON SYS.DBA_CUBES TO RVUSER ;
GRANT SELECT ON SYS.DBA_ENCRYPTED_COLUMNS TO RVUSER ;
GRANT SELECT ON SYS.DBA_FEATURE_USAGE_STATISTICS TO RVUSER ;
```

```

GRANT SELECT ON      SYS.DBA_LOB_PARTITIONS      TO RVUSER      ;
GRANT SELECT ON      SYS.DBA_LOB_SUBPARTITIONS  TO RVUSER      ;
GRANT SELECT ON      SYS.DBA_LOBS              TO RVUSER      ;
GRANT SELECT ON      SYS.DBA_MINING_MODELS      TO RVUSER      ;
GRANT SELECT ON      SYS.DBA_OBJECTS           TO RVUSER      ;
GRANT SELECT ON      SYS.DBA_RECYCLEBIN        TO RVUSER      ;
GRANT SELECT ON      SYS.DBA_REGISTRY          TO RVUSER      ;
GRANT SELECT ON      SYS.DBA_SEGMENTS          TO RVUSER      ;
GRANT SELECT ON      SYS.DBA_SQL_PROFILES      TO RVUSER      ;
GRANT SELECT ON      SYS.DBA_SQLSET           TO RVUSER      ;
GRANT SELECT ON      SYS.DBA_TAB_PARTITIONS     TO RVUSER      ;
GRANT SELECT ON      SYS.DBA_TAB_SUBPARTITIONS TO RVUSER      ;
GRANT SELECT ON      SYS.DBA_TABLES           TO RVUSER      ;
GRANT SELECT ON      SYS.DBA_TABLESPACES       TO RVUSER      ;
GRANT SELECT ON      SYS.DBA_USERS            TO RVUSER      ;
GRANT SELECT ON      SYS.DUAL                 TO RVUSER      ;
GRANT SELECT ON      SYS.GV_$INSTANCE         TO RVUSER      ;
GRANT SELECT ON      SYS.GV_$PARAMETER        TO RVUSER      ;
GRANT SELECT ON      SYS.MODEL$              TO RVUSER      ;
GRANT SELECT ON      SYS.USER_ROLE_PRIVS      TO RVUSER      ;
GRANT SELECT ON      SYS.USER_SYS_PRIVS      TO RVUSER      ;
GRANT SELECT ON      SYS.V_$ARCHIVE_DEST_STATUS TO RVUSER      ;
GRANT SELECT ON      SYS.V_$BLOCK_CHANGE_TRACKING TO RVUSER      ;
GRANT SELECT ON      SYS.V_$CONTAINERS        TO RVUSER      ;
GRANT SELECT ON      SYS.V_$DATABASE          TO RVUSER      ;
GRANT SELECT ON      SYS.V_$INSTANCE         TO RVUSER      ;
GRANT SELECT ON      SYS.V_$LICENSE          TO RVUSER      ;
GRANT SELECT ON      SYS.V_$OPTION           TO RVUSER      ;
GRANT SELECT ON      SYS.V_$PARAMETER        TO RVUSER      ;
GRANT SELECT ON      SYS.V_$SESSION          TO RVUSER      ;
GRANT SELECT ON      SYS.V_$SESSION_CONNECT_INFO TO RVUSER      ;
GRANT SELECT ON      SYS.V_$VERSION          TO RVUSER      ;
GRANT SELECT ON      SYSMAN.MGMT_ADMIN_LICENSES TO RVUSER      ;
GRANT SELECT ON      SYSMAN.MGMT_LICENSE_CONFIRMATION TO RVUSER      ;
GRANT SELECT ON      SYSMAN.MGMT_LICENSE_DEFINITIONS TO RVUSER      ;
GRANT SELECT ON      SYSMAN.MGMT_LICENSES     TO RVUSER      ;
GRANT SELECT ON      SYSMAN.MGMT_TARGETS      TO RVUSER      ;

-- Oracle ERP only
GRANT SELECT ON applsys.fnd_app_servers TO RVUSER;
GRANT SELECT ON applsys.fnd_nodes TO RVUSER;
GRANT SELECT ON applsys.fnd_product_installations TO RVUSER;
GRANT SELECT ON applsys.fnd_application_tl TO RVUSER;
GRANT SELECT ON applsys.fnd_responsibility TO RVUSER;
GRANT SELECT ON applsys.fnd_user TO RVUSER;
GRANT SELECT ON apps.fnd_user_resp_groups TO RVUSER;

-- 11gR2 ONLY GRANT NETWORK ACL
BEGIN
  DBMS_NETWORK_ACL_ADMIN.create_acl (
    acl          => 'rv_access_acl.xml',
    description  => 'ACL access for RVUSER',
    principal    => 'RVUSER',
    is_grant     => TRUE,
    privilege    => 'resolve',
    start_date   => NULL,
    end_date     => NULL);

  COMMIT;
END;

```

```
BEGIN
  DBMS_NETWORK_ACL_ADMIN.assign_acl (
    acl      => 'rv_access_acl.xml',
    host     => '*',
    lower_port => NULL,
    upper_port => NULL);
  COMMIT;
END;
--
```

Prerequisites for Microsoft SQL Server

Pre-Requisites

Microsoft SQL Server plugin requires read-only access to the `sys.databases` view.

Configuration

Plugin has two modes of operation, connection using SYSTEM credentials or a connection using an SQL user.

If your SQL Server isn't configured to allow connections made by SYSTEM user, you will need to create a SQL Server user.

You may create the user using the following script:

```
CREATE LOGIN [test] WITH PASSWORD=N'test', DEFAULT_DATABASE=[master],  
CHECK_EXPIRATION=OFF, CHECK_POLICY=OFF  
  
GRANT SELECT ON sys.databases TO [test]
```

Installation

Compatibility

- RayVentory Server cannot be installed on the machine if RayManageSoft 10.x server components are installed.
- RayVentory Portal may be installed on RayManageSoft Server version 10.x to extend RayManageSoft with RayVentory functionality (Portal, OS, vSphere and Oracle Inventory). RMS license file must include RMS and RayVentory license terms.
- RayVentory Server cannot be installed on an Active Directory domain controller.

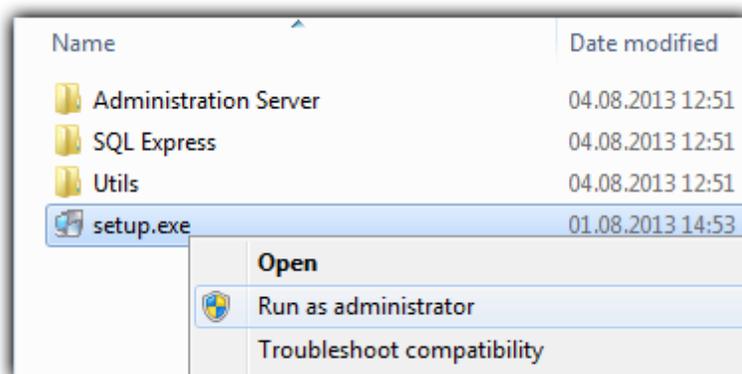
Pre-installation Tasks RayVentory Server

Install the following prerequisites:

- .NET 3.5: <http://www.microsoft.com/en-us/download/details.aspx?id=21>
- .NET 4.0: <http://www.microsoft.com/en-us/download/details.aspx?id=17718>
- PowerShell: <http://technet.microsoft.com/en-us/library/hh847837.aspx>

Installation of RayVentory Server

To install RayVentory for OS inventory please run `setup.exe` with enhanced privileges.



Remark

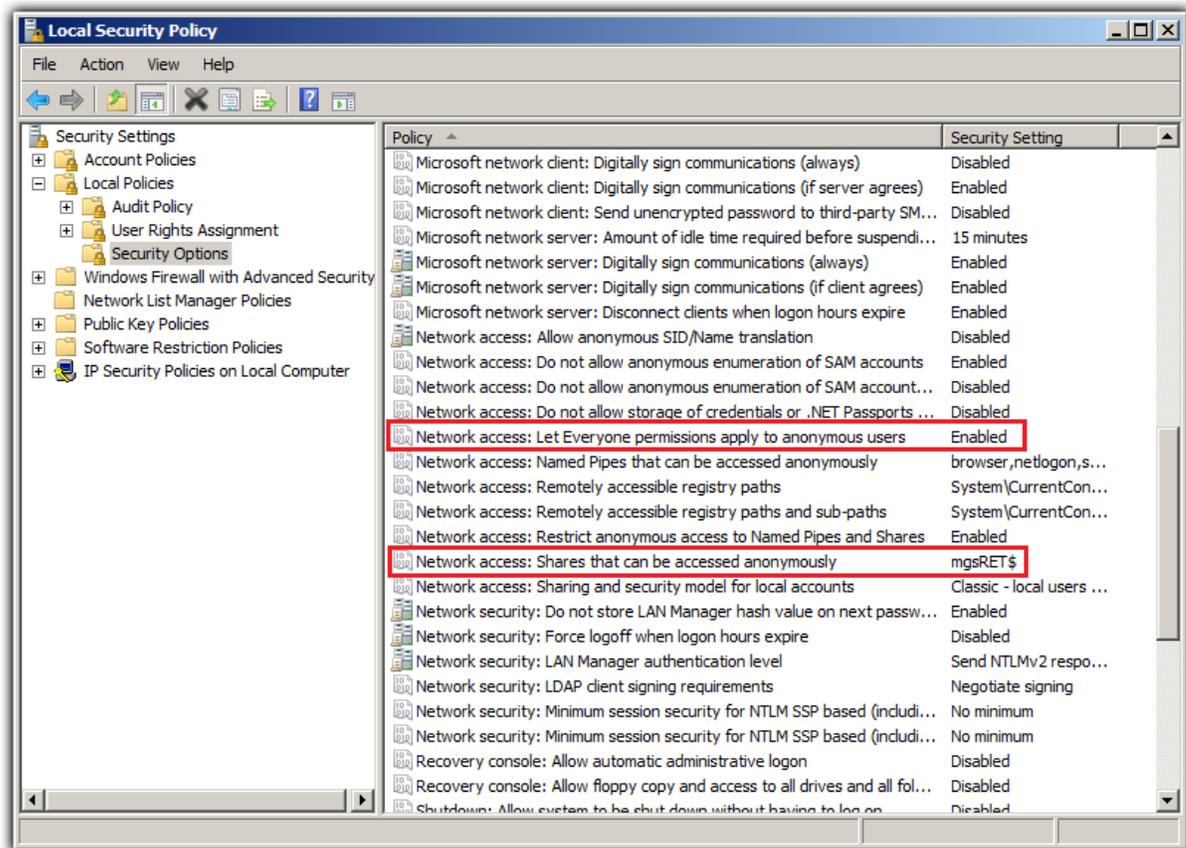
The setup installs the following third party products:

- Microsoft Internet Information Server depending on the operating system of the machine
- SQL Server 2014 Express
- RayVentory Portal

Post-installation tasks

If necessary, configure following settings in Group Policy:

- “Shares that can be accessed anonymously: mgsRET\$”
- “Let everyone permission apply to anonymous users: Enabled”



About Raynet

Raynet GmbH is a leading and innovative service and solution provider in information technology and specialized in the architecture, implementation and operation of all tasks within "Application Lifecycle Management". Raynet's Headquarters is in Germany and presently has more locations in Germany, USA, Poland, UK and Belgium.

For over 15 years, Raynet has supported hundreds of customers and partners with its products and solutions for enterprise application management projects worldwide. These include license management, software packaging, software deployment, migrations, client engineering and much more. Additionally, Raynet maintains and cultivates strong partnerships with leading companies in Application Lifecycle Management.

Raynet products and solutions are unique in design and functionality. Their development is highly driven by our customers and partners who play a big role in the development of our products and are a key reason why our products are always cutting edge. Whether you want to introduce a new deployment tool or to start a SAM project, whether you want to plan a packaging factory or do a migration – Raynet is the choice for best-of-breed-practices in services, products, and solutions for Application Lifecycle Management.

Next Steps

For more information, please visit our website: www.raynet.de or contact our sales team on +49 5251 54009-0 or sales@raynet.de



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