

# Ericsson Catalog Manager and Ericsson Order Care

Realize Higher Consistency for Faster Time-to-Revenue

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## Sentinel RMS Licence Manager Server Installation and Configuration Guide



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# 1 Introduction

This document provides instructions on how to set up Sentinel RMS Licence Manager Server that is required for Ericsson Catalog Manager (ECM) and Ericsson Order Care (EOC) 14.0 and higher product software installation.

## 1.1 Purpose and Scope

The purpose of this document is to provide information on setting up the Sentinel RMS Licence Manager Server, activating the Sentinel licence, and deploying the licence to the RMS Server. Set up and activation of the Sentinel licence is required before you install the product software.

## 1.2 Reader's Guideline

This section describes the version syntax covered in this document and any additional, required information.

Commands that you enter on the command line appear in courier font, such as the following:

```
lslic -F <filename>
```

Document names and sections within documentation are set in italics, such as the following:

Refer to the *Installer User Guide's Installation Planning* section for details.

# 2 Overview

The ECM and EOC product software uses a licence that is managed by a centralized Sentinel RMS Licence Manager Server, which is required in the environment where the product software is running.

Installation of the product software includes the following steps:

1. [Install the centralized Sentinel Manager Server](#)
2. [Obtain a fingerprint of the licence Server machine](#)
3. [Activate the Sentinel RMS licence file](#)
4. [Deploy the licence file to the Sentinel Manager Server](#)
5. [Install the product software to connect to the licence server](#)

The licence is provided as a file containing a set of licenced feature codes (one line in the file for each feature code). The licence file needs to be imported to the Sentinel Manager Server using a GUI or command line tool



that is included in the Sentinel server distribution.

The fingerprint is embedded into each licence code so that it can be deployed only to that particular server.

The product licence contains two types of licence codes:

- Network—provided for AVM servers running under Web containers in a production or test environment. This type of licence requires 100% availability of the Licence Server in the network.
- Repository—used by Velocity Studio to allow developers working offline. When installing Velocity Studio, one repository licence is taken from the Licence Server and caches the licence locally, so that connection to the server is not required after the installation.

Both network and repository licences contain the same set of licenced features as defined in the product order. The only difference is that the repository licence contains all on/off (unlimited) features. The network licence has a limited capacity for some features (for example, number of concurrent users for the Catalog Designer application).

When ordering a licence, specify the following:

- Number of AVM servers running simultaneously (number of AVM network licences)
- Number of developer licences for Velocity Studio (that is, number of repository licences that can be obtained from the licence server.)

## 3 Sentinel Manager Server Setup

### 3.1 Server Installation

Sentinel Manager Server is bundled as part of the product software installation package.

#### 3.1.1 Sentinel Server Requirements

The product software requires that Sentinel RMS server version 8.5.1 is installed. For information on how to install Sentinel RMS for different platforms refer to the Sentinel Administration Guide:

<http://sentinelrms.safenet-inc.com/RMSDocumentation/SysAdmin/Default.htm>



The product software licence requires RMS server version 8.5.1. Supported operating systems are shown in the following matrix:

Operating System	Hardware Platform	Operating System	RMS Version
Windows 32/64 bit	X86/x86-64	Windows XP, 2003, Vista, 7, 2008, R2, 8, 2012, 8.1	8.5.1
Linux 64-bit	X86-64	Suse Linux Enterprise Server 10.x, 11.x, SP2 RedHat Enterprise 4.x-6.x Ubuntu 11.x	8.5.1
Solaris 64-bit	SPARC x86-64	Solaris 8, 9, 10, 11	8.5.1

RMS installation for Windows includes the Licence Server service binaries and GUI tools for obtaining the server fingerprint and managing the licence server. The Windows server manager tool, **WlmAdmin**, can connect and monitor remote Windows and Unix servers that are running in the same network and manage its licences.

Installation for Unix includes only command line tools. For Unix installation, SafeNet recommends installing GUI tools on a Windows machine for easier maintenance. To install the GIU tools simply copy `Admin.net` folder with the GUI tools from the product software installation package.

**Note:** Sentinel Client that is used by AVM and Velocity Studio also supports the following platforms in addition to Windows, Linux, and Solaris.

Operating System	Hardware Platform	Operating System	RMS Version
AIX 64-bit	IBM pSeries	AIX version 5.3, 6.x, 7.x	8.4.1
HP-UX 64-bit	PA-RISC	HP-UX version 11.1	8.4.1
	Itanium	HP-UX version 11i v3	8.4.1

For more information on supported product configurations, refer to the Certification Matrix in the *Ericsson Catalog Manager and Ericsson Order Care Installation Guide*.



### 3.1.1 System Requirements

The following tables list the minimum system requirements for Windows, Linux, and Solaris.

#### 3.1.1.1 Windows

Component	Minimum Requirement
Processors	x86 processors for 32-bit x86-64 for 64-bit
License Manager Host	32-bit versions of Windows Server 2008 64-bit version of Windows Server 2008 and 2008 R2
Client Computer	32-bit version of Windows 7 64-bit version of Windows 7
Monitor and its Settings	VGA monitor with 800 x 600 resolution (1024 x 768 resolution recommended)
Hard Disk Space	1150 MB free hard disk space
RAM	1 GB RAM

#### 3.1.1.2 Linux

Component	Minimum Requirement
Processors	x86 processors for 32-bit x86-64 processors for 64-bit
Operating Systems (for client and server)	Red Hat Enterprise Linux 6.x (Kernel Version 2.6.32)
Monitor and its Settings	VGA monitor with 800 x 600 resolution (1024 x 768 resolution recommended)
Hard Disk Space	200 MB free hard disk space
RAM	128 MB RAM





### 3.1.1.3

## Solaris

Component	Minimum Requirement
Processor	x86
Operating Systems (for client and Licence Manager)	For 32-bit applications: Solaris x86 2.8, 2.9, 2.10,2.11 For 64-bit applications: Solaris x86-64 2.8, 2.9, 2.10,2.11
Monitor and its Settings	VGA monitor with 800 x 600 resolution (1024 x 768 resolution recommended)
Hard Disk Space	100 MB free hard disk space
RAM	128 MB RAM

## 3.2

## Start the Licence Manager

### 3.2.1

## Windows

To install Sentinel Licence Manager Server on Windows:

1. Locate the \Sentinel RMS Server folder from the installation build folder and open it.
2. Run setup.exe from:  
Sentinel RMS Server\Windows\Server\Setup\setup.exe

Licence Server service binaries are installed into the following location:

```
C:\Program Files (x86)\Common Files\SafeNet
Sentinel\Sentinel RMS License Manager\WinNT\
```

Sentinel RMS for Windows includes the Licence Server service binaries and GUI tools for obtaining the server fingerprint and managing the licence server.

The loadls and lservnt utilities are located in the following location:

```
C:\Program Files (x86)\Common Files\SafeNet
Sentinel\Sentinel RMS License Manager\WinNT\
```

All other tools, such as echoid, Wechoid, lslic, lsmon, WlmAdmin are located in the following location:

```
\Sentinel RMS Server\Windows\Admin.net\ folder from
installation package (folder needs to be copied to
the Windows machine)
```



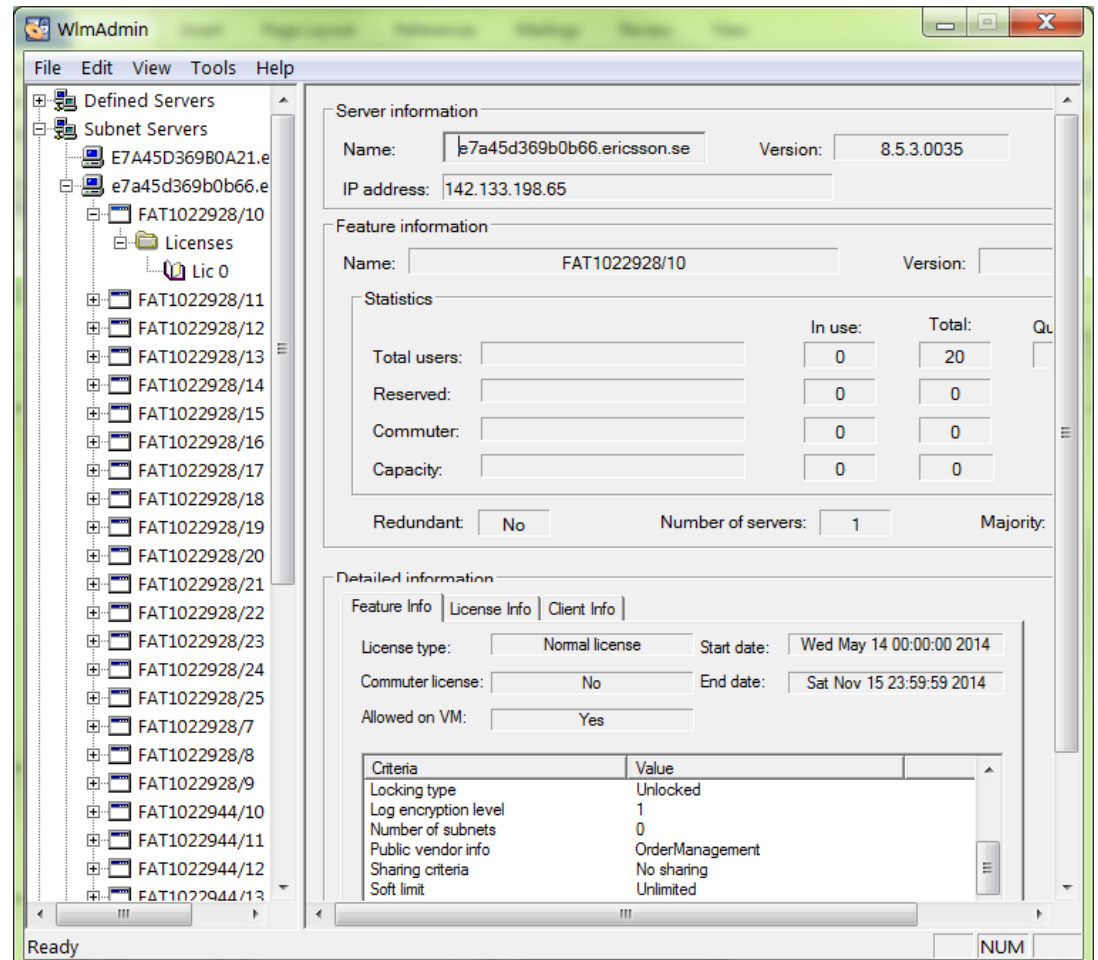
To install tools:

Copy the folder:

\Sentinel RMS Server\Windows\Admin.net\

to the Windows machine.

The Windows server manager tool, **WlmAdmin**, can connect and monitor remote Windows and Unix servers that are running in the same network and manage its licences.

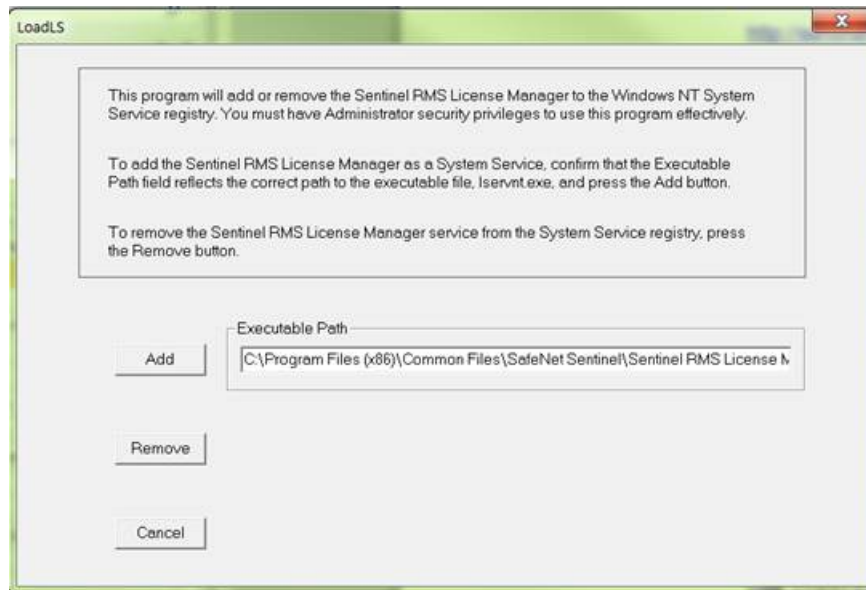


*WlmAdmin Tool*

### 3.2.1.1

### Start the Licence Manager using loadls

Use the `loadls` utility to install the Licence Manager Server as a service:



Once loaded, the Licence Manager can be configured and started from the **Control Panel > Services** group.

Select either **automatic** or **manual** Licence Manager startup:

- If **automatic** startup is selected, the Licence Manager is started automatically whenever Windows is started. The Licence Manager remains running until the Licence Manager is stopped using the **Control Panel > Services** group.
- If **manual** startup is selected, the Licence Manager must be started manually by using the **Control Panel > Services** group.

### 3.2.1.2 Start the Licence Manager using the Command Prompt

Use the `net start` command on the command prompt. The Sentinel RMS Licence Manager entry is shown if the Licence Manager is running.

Use the `lservnt -X start` command to start the Licence Manager.

## 3.2.2 Linux and Solaris

### 3.2.2.1 User Privileges

**Tip:** To run server binaries on 64-bit Linux, a 32-bit library support must be installed.

Log into root on Unix.



The same user who starts the Licence Manager may also configure the licence server. Only the same user who started the Licence Manager can stop the Licence Manager.

However, only a user with the *root* user name can use *lsrvcdown* to shut down the Licence Manager.

### 3.2.2.2 Install Licence Manager Server on Linux and Solaris

All utilities are in the corresponding */bin/* folder:

```
/Sentinel RMS Server/Linux/bin/
```

```
/Sentinel RMS Server/Solaris/bin/
```

To install Manager Server on Linux or Solaris, copy the corresponding */bin/* folder to the server machine:

```
\Sentinel RMS Server\Linux\bin\
```

or

```
\Sentinel RMS Server\Solaris\bin\
```

**Tip:** GUI tools from *Windows/Admin.net/* folder can be used to manage any Unix Licence Server remotely from a Windows machine.

For more information how to install Sentinel RMS for different platforms, see the Sentinel Administration Guide, located in:

```
\Sentinel RMS Server\Windows\SysAdminHelp\Default.html
```

You can also view the Sentinel RMS Server online help at:

<http://sentinelrms.safenet-inc.com/RMSDocumentation/SysAdmin/Default.htm>

### 3.2.2.3 Start the Licence Manager

The Licence Manager, *lserv*, is placed in an appropriate directory and appropriate file permissions are set. The execution permission must be set so that only authorized users may execute the Licence Manager.

#### Notes:

- The Licence Manager must be granted read permission to the licence file and any other configuration files. The Licence Manager must also be granted read and write permission to any licence serve log files that have been enabled.
- The Licence Manager can be started automatically or manually.



- To start the licence server automatically when Unix is started, the command line to execute the Licence Manager should be added to one of the operating system startup files.
- To start the licence server manually, the command line can be issued at any time.

### 3.3 Obtain a Licence Server Fingerprint

The Server fingerprint for the product software includes obtaining a MAC address and CPU information. Sentinel provides a utility that collects this information and generates a locking code using a string, such as:

\*1YQEL65UX6YCWQ8

#### 3.3.1 echoid Utility

echoid utility is a command line utility provided for Windows and Unix. To use echoid utility there must be an echoid.dat file located in the same directory. This file contains the locking criteria for the fingerprint using criteria such as 0x1010 (for the MAC address and CPU information):

```
# Echo ID input
# ...
#define VLS_LOCK_ETHERNET          0x010
# ...
#define VLS_LOCK_CPU                0x200
# ...
0x1010
```

- To get the fingerprint, run echoid on the licence server machine.

```
C:\Docs\RMS\Win\Admin.net\Win32>echoid

Sentinel RMS Development Kit 8.5.3.0035 Host Locking Code Information Util.
Copyright (C) 2012 SafeNet, Inc.

Locking Code 1 : 1010-1FR CPHP G5L2 WYNJ

C:\Docs\RMS\Win\Admin.net\Win32>_
```

The fingerprint is the string code that follows after the 1010- token.

**Note:** The utility requires administrator rights to run, otherwise, no output appears.

#### 3.3.2 Wechoid Utility

Wechoid is the Windows interface of echoid (see the following screenshot). The utility is included in the package of Windows tools.



**Locking Criteria**

- ☐ IP Address: 142.133.198.22
- ☐ ID PROM:
- ☐ Disk ID: 0xE94CC77E
- ☐ Host Name: E7A45D369B0A21
- ☒ Ethernet Address: A4-5D-36-9B-0A-21
- ☐ Computer ID:
- ☐ Hard Disk Serial: 14170C182B5C
- ☐ Standard Custom:
- ☐ Processor ID:
- ☒ CPU Info String: GenuineIntel Intel(R) Core(TM) i7-3520M C
- ☐ UUID: A9CBE073-5262-11E3-B312-8E66B90080B
- ☐ Extended Custom:

**Locking Data**

☒ New Style    ☐ Old Style

Selector: 0x1010    Code: \*1FR CPHP G5L2 WYNJ

OK

*Wechoid utility*

To obtain a fingerprint, select the **Ethernet Address** and **CPU Info String** checkboxes.

## 4      Activate the Sentinel Licence

Once the server is installed and the fingerprint is obtained, contact the Ericsson Regional Manager and provide the fingerprint that you obtained. The Ericsson Regional Manager will provide you with the licence key file.

## 5      Deploy the Licence to the Sentinel RMS Licence Management Server

To add the licence to the Licence Management Server, the licence file must be imported using either the `lslic` command line tool or `wlmAdmin` GUI tool.



## 5.1 Islic Utility

The `lslic` utility installs or deletes a licence. `lslic` can run on a supported version of Windows and Linux and Solaris. Run `Islic` from the operating system command prompt by an administrative user on the Licence Manager computer.

To add a new licence file:

```
lslic -F <filename>
```

To add a single licence code (one line from the licence file):

```
lslic -a license-code
```

where `license-code` is a string wrapped in “ ”.

To remove a licence code from the Licence Server:

```
lslic -DL feature-name feature-version license-hash
```

where:

`feature-name` is a licenced feature name: `FAT102xxx/x`.

`feature-version` is not used in the product software. Specify an empty string.

`license-hash` can be obtained using the `lsmon` utility.

### Notes:

- Features can be removed only one option at a time. The `-removeall` option removes codes temporarily but does not remove them from the server licence file. Therefore, after startup, licences are restored.
- The utility does not allow to remove the repository (Velocity Studio) feature if at least one repository licence is checked out from the server. (See [Extend the Repository Licence Capacity](#))
- For a full list of command line options supported by the `Islic` utility, refer to the [Sentinel RMS System Administration Guide](#).

### 5.1.1 WlmAdmin Tool

WlmAdmin tool is a Windows program to monitor licence servers running in the network and can be used to manage licences locally or at remote servers.

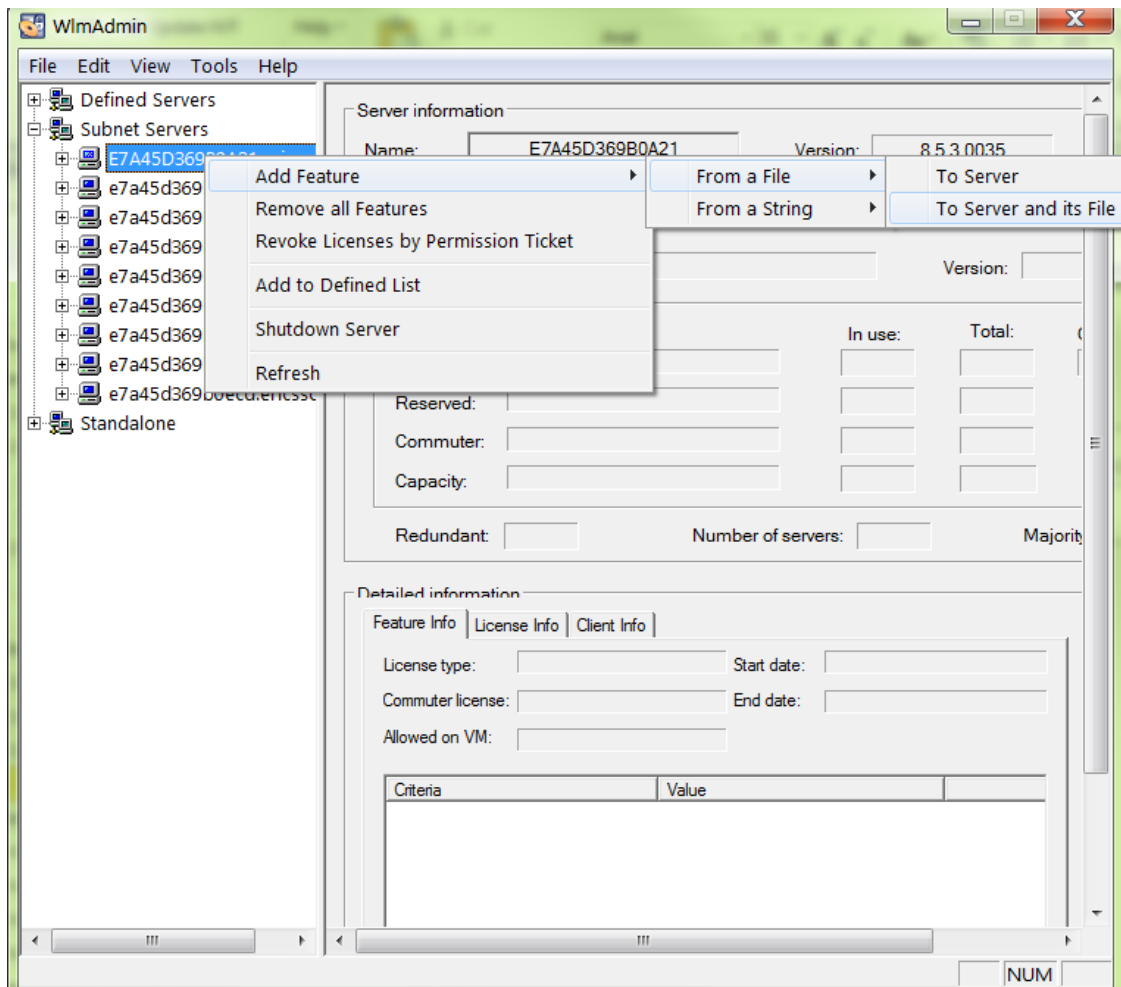
Use the right-click menu to add or remove licences at the Licence Server.

**Note:** To add a licence to the server, always use the **Add feature to server and its file** action (`-F` option of `lslic`).



The difference between **Add Feature > To Server** and **Add Feature > To Server and its file** is the same as the `-f` and `-F` options for the `lslic` utility:

- **Add feature to server (-f)** – adds the licence to the Licence Manager only. The change is *temporary* until the Licence Manager is restarted.
- **Add feature to server and its file (-F)** – adds all the licence codes in the supplied file to the Licence Manager's licence file (`lservrc`) and communicates the new information to the contacted Licence Manager.



*Adding a licence to Licence Manager with WlmAdmin*

### 5.1.2 Ismon Utility

`lsmon` retrieves information about all features that are currently licensed by Sentinel RMS Licence Manager, including licences and clients.

To run the `lsmon` utility on Windows, use `lsmon [ Server-host ]`.  
To run the `lsmon` utility on Unix, use `lsmon [ Poll-interval_in_seconds ]`.





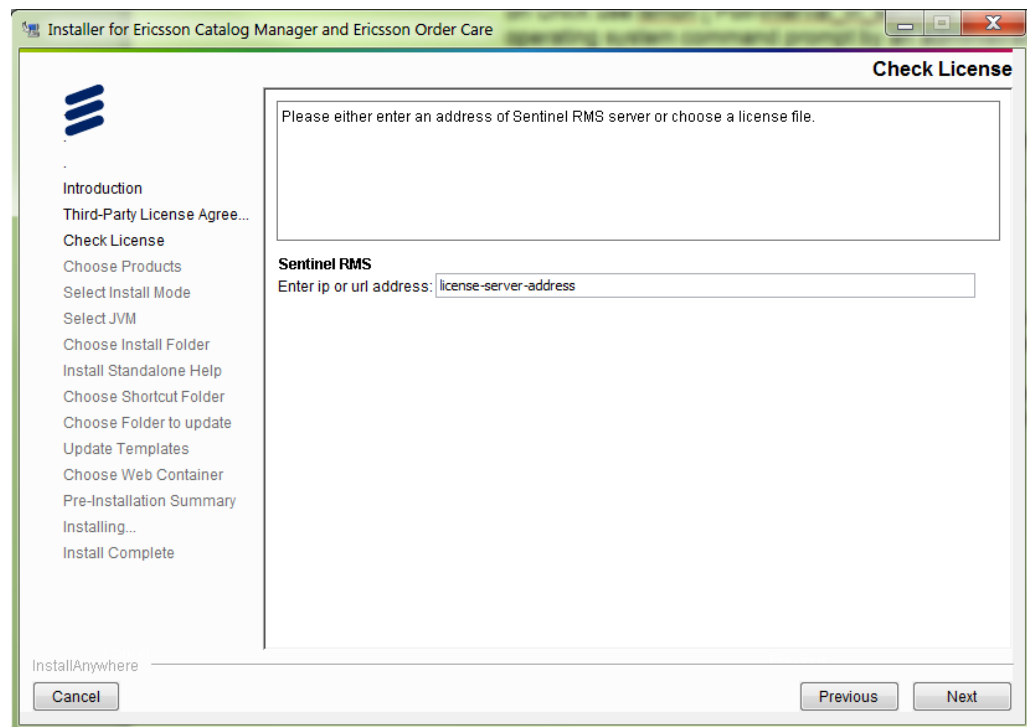
Run lsmon from the operating system command prompt by an administrator or application user on a stand-alone, client, or Licence Manager computer.

## 6 Install the Product Software using Sentinel

The product software is installed using an Installation wizard. This section contains information on specifying the Sentinel RMS server address. For information on installing all the components of the product software, see the *Installation Wizard* section in the *Installer User guide*.

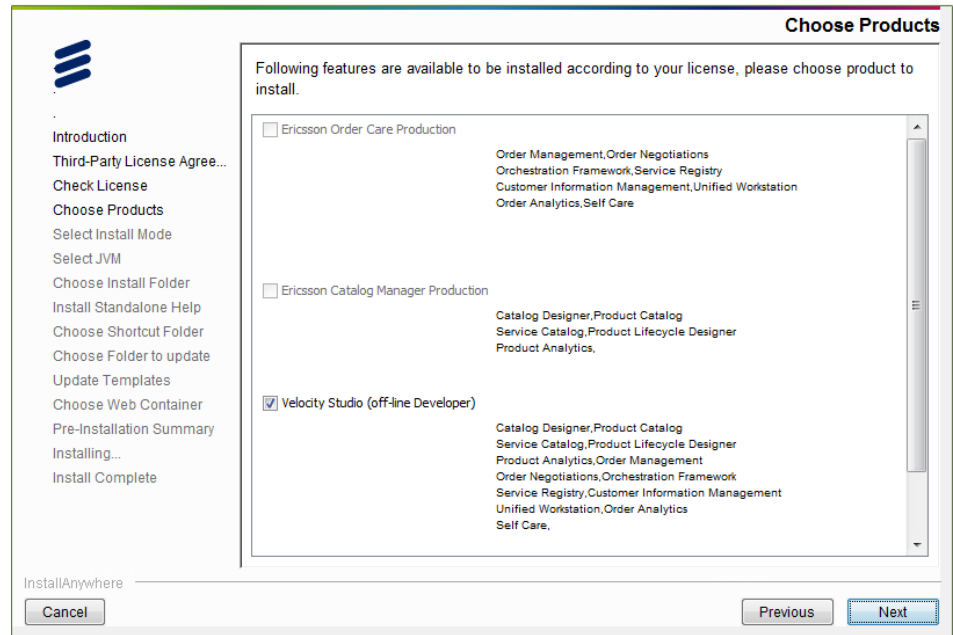
### 6.1 AVM Tools and Velocity Studio

When installing the product software, you need to enter the Licence Server address:

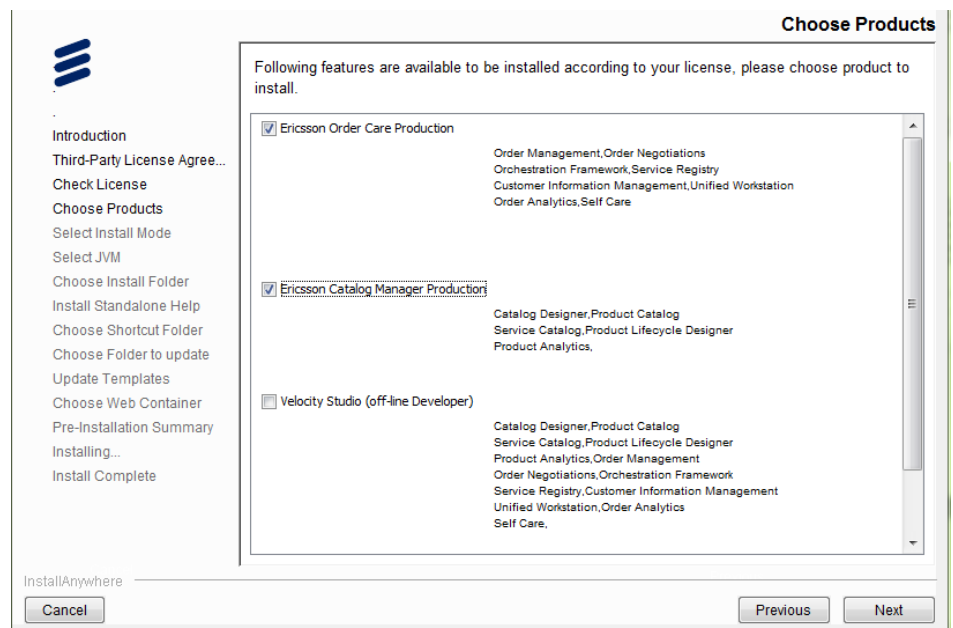


After connection to the server has been established, options are displayed according to the licence deployed to the licence server:

- If the Velocity Studio option is selected, then the installer takes a repository licence from the licence server so that it does not require connection to the server after the installation is completed.



- If the Velocity Studio option is cleared, the product software is installed using the network AVM server licence. In this case, all command line tools will request connection to the Licence Server when called. The AVM network licence is used only for the period while running the tool.



The installer creates a licence configuration file `license.cfg` located in the folder: `<installation_directory>/designer/env/`

The file contains the following licence server names and a list of mapping files used for the licence:

- `oc_14_r.ini` and `cm_14_r.ini` for offline (repository) licence



- `oc_14_n.ini` and `cm_14_n.ini` for network type of licence

## 6.2 Run AVM under a Web Container

When running an AVM-based application under a Web container, only the network licence can be used.

To enable a network licence:

1. Create a new `license.cfg` file or copy and modify the one from the installation. It is a simple properties file with the following data:

```
#License configuration
server=<RMS_server_IP>
mapping=cm_14_n.ini,oc_14_n.ini
```

2. Copy `license.cfg`, `cm_14_n.ini`, `oc_14_n.ini` files (can be found in the `/designer/env/` installation directory) to the licence directory specified for the Web application. The licence directory can be set by a Java system parameter:

```
-Dcom.conceptwave.licenseDir=/home/appserv/cwlic
```

If not set, the licence directory is the current working directory of the Web container. As an example, if the application running under jBoss:

```
<...>/jboss-eap-6.1/bin/
```

**Note:** When starting the application for the first time, it extracts Sentinel Client libraries for the client API into the Web container working directory (for example, the `/bin/` directory). The user starting the Web server must have writing privileges for the folder.

### AVM Licence Lifecycle

Each time the AVM server instance is started under a Web container, it requires connection to the Sentinel server to capture an AVM network licence. Each new instance of AVM (including command line tools) requires a separate AVM licence token, even if it is running on the same server and on the same Web container.

On server shutdown, the AVM token is released back to the licence server. The lifetime of the licence token is 5 minutes. AVM has a heartbeat thread that keeps the connection alive. If the AVM server stops abnormally or connection is lost, the token is released automatically after 5 minutes.

### Lost Connection Mode

If the AVM server was started successfully, but the connection to the server is lost, the AVM server keeps running for grace period of 30 days. Licence error is reported to the Event Log and log files.

**Note:**

- To restart the server, connection is required.
- The lost connection mode only works for on/off and capacity features. Concurrent user features such as the Catalog Designer CCU feature requires a licence connection to log in as a new user.

Once the network connection is available, the connection to the licence server is restored automatically.

## 6.3 Return the Velocity Server Licence to Server

The Velocity Studio repository licence can be returned to the licence server in two ways:

1. Call the `checkInLicense` script from the `\desgner\env\` installation folder.
2. Use the product software uninstaller and select the **Check in license** option.

When returning the licence to the server, connection to the server must be available. The licence can only be returned to the server where the licence was obtained.

After the licence is returned, the licence is removed from the local storage so that Velocity Studio cannot be used.

If you are using the `checkInLicense` command, you can obtain the new repository licence from the server again by calling the `checkOutLicense` script.

## 7 Upgrade Features and Licence Capacity

Ericsson generates an *exclusive* type of Sentinel licence. To upgrade to an exclusive licence on the Licence Manager Server, all old feature codes must be removed before the new licence can be imported.

### 7.1 Add New Features

The Licence file comprises of a set of licence codes. Each line represents a feature code. The licence code has readable vendor information with the feature name, such as AVM, Order Management, and Unified Workstation.

Repository codes for Velocity Studio have the same names with an *R* at the end (for example, AVMR, OrderManagementR, UnifiedWorkstationR, etc.)



New network features can be easily extracted from the licence file and added by calling the `lslic` command:

```
lslic -A license-code
```

where the `license-code` is the corresponding string line from the licence file.

You can also use the right-click menu, **Add Feature > From a String** in the WlmAdmin tool.

## 7.2 Upgrade Network Licences

If only network features needs to be upgraded (for example, the extend number of AVM servers), do the following:

1. Shut down AVM servers or temporarily disconnect the licence server from the network. All RMS network clients need to be disconnected.
2. Remove network features from the server using the `lslic` command or the WlmAdmin tool and then add the new licence to the server.
3. Start up the AVM servers or restore the network connection.

## 7.3 Extend the Repository Licence

Sentinel Server does not allow for the removal of the repository licence, if at least one repository token is checked out. This is a known issue that will be addressed in a future release.

However, you can use the following options to extend the repository licence.

- If only a new repository Velocity Studio feature needs to be added:
  1. Add new features to the licence server.
  2. Upgrade the product using the product software installation wizard or use the `checkOutLicense` command if you only need to update the local licence.
- If you need to extend the licence for Velocity Studio:
  1. All Velocity Studio licences that are taken must be returned (checked in) to the licence server.
  2. After all licences are returned, old repository feature codes can be removed and the new licence with an extended capacity can be added to the server.



3. Developers should use the `checkOutLicense` command to obtain the new licence from the licence server.

**Note:** If there are repository tokens that are stuck on the server and cannot be returned, the administrator must perform a special server cleanup procedure. In this case, please contact the Product Support Team for details.

## 8 Acronyms

AVM – Application Virtual Machine

ECM – Ericsson Catalog Manager

EOC – Ericsson Order Care

MAC – Media Access Control

RMS – Sentinel Licensing Server

## 9 Reference List

The following is a list of documentation for reference:

- *Ericsson Catalog Manager and Ericsson Order Care Installer User Guide*
- *Catalog Installer User Guide*



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