

RLM Troubleshooting Tips

A white paper

Reprise Software, Inc.

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RLM Version Hints

The rlm license server (rlm.exe on Windows, and the rlm binary on Unix) is compatible with older versions of the ISV server and licensed applications. This means that if there is a new feature or bug fix in a later version of rlm that you're running, you can download the latest version and run it, and it will be compatible with the other components. See the “For License Administrators and Users” page at www.reprisesoftware.com/admin/software-licensing.php – look for the *Downloads* link. Also included in the License Administration Bundle are the latest versions of the command line utilities (like rlmstat), the License Administration manual and a performance evaluation tool.

RLM Troubleshooting Tools

These are some tools which are useful when diagnosing RLM problems.

- **RLM and ISV debug logs**

The debug logs are written by rlm and the ISV server. By default, the logs are written to standard out, so when you run rlm in a window on your desktop, the log information goes to that window. In production, rlm typically runs as a Windows service or a daemon. In that case, the debug information is written to files.

On Unix systems when rlm is run as a daemon, the rlm and ISV debug logs are unified in one file, written to the file specified on the command line via shell output redirection, eg, “rlm > debuglog”.

On Windows, when rlm is run as a service, you must supply the “-dlog <logfile-path>” argument when installing the service. This specifies the path to the rlm debug log. The path to the ISV debug log may be specified explicitly or may be defaulted. To specify the path explicitly, use the DEBUGLOG option in the ISV options file. If defaulted, the name will be <isvname>.dlog. Prior to RLM v8, if a relative path is specified for either the rlm or ISV debug logs, the path will be relative to \WINDOWS\system2. In RLM v8 and later the path will be relative to the folder where rlm.exe resides.

- **RLM Web Interface**

You can connect a browser to a running rlm server and get status and license usage information, among other things. By default, the rlm web server listens for connections on port 5054 (was port 9000 prior to RLM v6).

Information that can be gathered from the Web interface includes:

- Version numbers of rlm and ISV servers
- Hostids of the server system
- Which ISV servers are running
- Which licenses are being served
- Which users are using licenses
- Recent debug log activity for both rlm and ISV servers

The web interface is good for gathering information about the current state of the license server, whereas the debug logs are good for gathering historical information.

◦ **RLM Diagnostics (first in RLM v8)**

In RLM v8 and later, a new facility exists for diagnosing problems both on the client and server sides of RLM.

On the client side, setting the environment variable `RLM_DIAGNOSTICS=diag-file` causes the RLM client library to log diagnostic information to *diag-file* the next time the client is run. This information includes (but is not limited to) the RLM environment variable settings in the client, the hostids of the client machine, the license files the client has read, the licenses in those license files, and the license servers the client is aware of.

On the server side, the diagnostics file is created via the Diagnostics button in the RLM web interface. The user specifies a file to receive the diagnostic output. Information logged includes (but is not limited to) the RLM environment variable settings in the server, the hostids of the server machine, the license files the server has read, the licenses in those license files, and usage information for each license, as well as recent debug log information.

Note that on both the client and server, the diagnostics file is overwritten each time diagnostics are run.

Troubleshooting Checklist

- **Can the client find the license file?** With RLM v8, `RLM_DIAGNOSTICS` is a good way to find out, because it will display the names of the license files the client is aware of. Check the application's license directory if it has one, and check the settings of `RLM_LICENSE` and `<isv>_LICENSE` environment variables. Note that your Software Publisher can establish a license directory pretty much anywhere, and there's no way to know where it is short of asking the individual Publisher.

- **Is the desired license in the license file?** Check things like start date, expiration date, hostid, and platform=<platform list> on the license, to make sure the license is valid on this machine at this time.
- **If the license is being served by a license server:**
 - **Is the server system up and running?**
 - **Is the client aware of the server?** Check that the HOST line in the license file has the correct server hostname and port number. Also check RLM_LICENSE and <isv>_LICENSE for the correct [port@host](#).
 - **Can the client system ping the server system by the name on the HOST line and/or [port@host](#)?**
 - **Do the port numbers agree across client and server?** Check the port number the server is listening on (in the rlm debug log or the web interface) against the port the client side is using (from the HOST line of the license and/or port@host from the environment variables). Note that the rlm server listens on 2 ports – one port for client connections (by default 5053), and a second port used for connecting to the web server (by default 5054). It is the first port that needs to agree with the port the client is using.
 - **On the license server system:**
 - **Is rlm up and running?** Check the task manager / ps.
 - **Is the ISV server up and running?** Check the rlm debug log to see if it was started successfully, and if not, the reason why not (may have to look at the ISV debug log to see the text explanation of why not). Check the task manager / ps for the process. If the ISV has shipped a settings file instead of an executable ISV server, its process name will also be “rlm” – i.e., you’ll see 2 rlm’s running.
 - **Is it serving the desired license?** Check the ISV debug log. The list of license served is logged at startup, along with any licenses not served because of problems. The list of licenses being served is also available in the RLM Web interface and the RLM_DIAGNOSTICS log.
 - **Are any of the desired licenses available?** Check the license’s usage in the web interface.

Typical Problems and Solutions

- The rlm license server will not start up because of a port already in use, for example:

```

$ rlm
02/09 16:17 (rlm) RLM License Server Version 8.0BL3

        Copyright (C) 2006-2010, Reprise Software, Inc. All
rights reserved

02/09 16:17 (rlm) License server started on vmxp32
02/09 16:17 (rlm) Server architecture: x86_w2
02/09 16:17 (rlm) License files:

```

```
02/09 16:17 (rlm)      example.lic
02/09 16:17 (rlm)
02/09 16:17 (rlm) Web server starting on port 5054
02/09 16:17 (rlm) Port 5053 in use, waiting...
02/09 16:17 (rlm) Port 5053 in use, waiting...
02/09 16:18 (rlm) Port 5053 in use, waiting...
```

Some other program, very likely another copy of rlm, is already using this port (5053 in this example).

- If there is another instance of rlm running, determine if it is intentional or not. For example, you might have 2 software products licensed with RLM and with license servers hosted on this machine, and the license files sent from the two Software Publishers specify the same port on the HOST line in the license file. In this case, you're running 2 instances of rlm intentionally.
- If the other instance is not intentional, shut it down.
- If the other instance is intentional, then the 2 instance will need to use separate ports. This is easily accomplished by editing the license file of one of the instances, and changing the port number on the HOST line. Note that the web interface ports will also conflict if allowed to default, so one of the instances can be started with the “-ws <port>” argument on the rlm command line. If you change the server's port, you will have to make sure that all applications which use that server now use the new port # as well.
- If the existing user of the port is not another RLM instance, then either the other port user or rlm will need to be configured to use a different port. To configure rlm to use a different port, edit the license file and change the port number on the HOST line (don't forget to update all the client license files or environment variables as well). It is likely that if the port conflict is not with another RLM, the web server port will not have a conflict.
- You get a warning in the debug log saying that there are no license files for this host, for example:

```
02/09 16:38 (demo) WARNING: No license file for this host (vmxp32)
02/09 16:38 (demo)      The hostname in the license file(s)
02/09 16:38 (demo)      may be incorrect
```

This simply means that the hostname in the license file doesn't match the hostname of the machine. It is not a fatal error – the license server keeps running – rather it is informing you that there's an inconsistency you may want to fix. You can do so by editing the license file and changing the hostname on the HOST line to match the name of the machine running the license server.

- On Windows, you get repeated errors in the ISV server debug log about select(), getsockname() or "communications (socket) problems", and the ISV server fails to start. This is a condition caused by a registry corruption (not caused by RLM) and is fixed with the command “netsh winsock reset”. There is a FAQ about this

on the Reprise web site in the License Administrator and User FAQ section:
www.reprisesoftware.com/admin/software-licensing-faq.php

Resources

- License Admin FAQ:
www.reprisesoftware.com/admin/software-licensing-faq.php
- License Admin Issues:
www.reprisesoftware.com/admin/software-licensing-issues.php
- Your Software Publisher's support infrastructure

About Reprise Software

Reprise Software was founded in 2006 by the creators of FLEXIm. We develop software licensing products, and software licensing products only. Benefit from our 28+ years of experience in the field of license management to have an 'it just works' experience. At Reprise we constantly focus on making our products easier to install and use, so you can have licensing as a benefit - not as an obstacle - to your daily work. Reprise Software is driven to make RLM the best software licensing system available while helping lower the total cost of ownership of licensed applications for both software vendors and their customers.

Rev 1.3 August 2016