



Setup of RepriseLM with failover support

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References

Please refer to Reprise Software for more general information on configuring and managing a RLM server. Links of interest for the scope of this document are:

- http://www.reprisesoftware.com/RLM_Enduser.html
- <http://www.reprisesoftware.com/blog/2011/10/failover-license-servers-why-cant-i-have-3/>

RLM provides the capability for a license server to take over the license complement of another server which has gone down. This server which takes over the license load of the failed server is called the *failover license server*. The server whose licenses are being taken over is called the *primary server*. During the time that the failover server is serving the licenses, no *roaming* operations are permitted on the licenses.

The strategy to setup failover capability is to run the primary license server node unchanged, with the primary key, and run the failover server node with 2 license keys: the primary key and the failover key:

Node	Licenses
Main node	The main license
Failover node	The failover license AND a copy of the main license

Failover license file details

The format of the license for failover host is:

- one **HOST** line containing *hostname*, *hostid* and *port* of the failover node
- one **LICENSE** line with:
 - the *ISV* name which is *nice* in this case,
 - feature name **rlm_failover_server** and a positive number (e.g. 1)
 - the *hostid* of the failover license server node (returned by running **rlmhostid** on the failover node)
 - the **_failover_host** parameter specifying the port and the host name (*port@hostname*) of the primary host

Example

In this example, the node `lic02.asti.nice` is the failover node, and `lic01.asti.nice` is the primary node:

```
HOST lic02.asti.nice 002185c490a3 5053
ISV nice
LICENSE nice rlm_failover_server 1.0 permanent 1 hostid=002590201240
  _failover_host=5053@lic01.asti.nice _ck=f02ffc7765 sig="X"
```

Note: beginning in RLM v9.2, the `_failover_host` keyword has been replaced with the `_primary_server` keyword. `_failover_host` will continue to work, but new software installations should use `_primary_server` instead. In fact, regardless the keyword in use, the value must refer to the node running the primary RLM server.

Installing Failover RLM License Servers

When you receive the `rlm_failover` license file, do the following to install your failover license server:

1. Copy the `rlm` binary and the `nice.set` binary in the same directory, on the failover license server node.
2. Copy all license files from the primary server, to a directory on the failover server. Be sure all license file names ended in `.lic` or will not be loaded.
3. Edit the failover license file to put the `hostname` of the primary server and the `hostname` of the failover host.
4. Start RLM on the failover server and give the directory containing the `.lic` file as argument. Check in the log files that it's actually processing all the installed license files (the failover one and the ones copied from the main server).

Configuring DCV server nodes

Each DCV Server must be configured file to point to the licence primary/failover servers:

1. Modify DCV configuration file to specify a list of 2 `port@host` for primary and then failover license nodes; separated by `:` on Linux, and sepatated by `;` on Windows. If you omit this step, the failover license server will take over, but DCV will not be able to check out a license from the failover server.

DCV configuration file `/opt/nice/dcv/conf/dcv.conf` - Linux example:

```
[License]
license_file = 5053@lic01.asti.nice:5053@lic02.asti.nice
```

DCV configuration file `<Program Files>\NICE\dcv\conf\dcv.conf` - Windows example:

```
[License]
license_file = 5053@lic01.asti.nice;5053@lic02.asti.nice
```

IMPORTANT: notice the difference in the separator `:` vs `;` between Linux and Windows platforms.

Please note that the failover server check every 2 minutes if the primary server is still alive and so there may be a short time period where the license server is not available after the main server fails. This time period is not configurable.

Please note that since the current version of DCV checks for license availability only at application startup, running applications are not affected by failures of the license server. In DCV 2012.2, users

will notice the failure since an error is reported by dcvconfig dialog.

Startup

Here is an example of command that starts the RLM server:

```
/opt/nice/dcv/license/rlm/rlm -c /opt/nice/dcv/license/ -nows -dlog +/opt/nice/dcv/var/
```

For debug purposes, you can run it interactively:

```
/opt/nice/dcv/license/rlm/rlm -c /opt/nice/dcv/license/ -nows
```

NOTE: all the license `.lic` files must be placed in the `/opt/nice/dcv/license/` directory.

Here is the output from the example above:

```
05/31 06:27 (rlm) RLM License Server Version 9.3BL2
    Copyright (C) 2006-2012, Reprise Software, Inc. All rights reserved.
05/31 06:27 (rlm) License server started on viz.asti.nice
05/31 06:27 (rlm) Server architecture: x64_l1
05/31 06:27 (rlm) License files:
05/31 06:27 (rlm)     /opt/nice/dcv/license//license.lic
05/31 06:27 (rlm)     /opt/nice/dcv/license//e4.lic
05/31 06:27 (rlm)
05/31 06:27 (rlm) Using TCP/IP port 5053
05/31 06:27 (rlm) Starting ISV servers:
05/31 06:27 (rlm)     ... nice on port 45636
05/31 06:27 (nice) RLM License Server Version 9.3BL2 for ISV "nice"
05/31 06:27 (nice) Server architecture: x64_l1
    Copyright (C) 2006-2012, Reprise Software, Inc. All rights reserved.
    RLM contains software developed by the OpenSSL Project
    for use in the OpenSSL Toolkit (http://www.openssl.org)
    Copyright (c) 1998-2008 The OpenSSL Project. All rights reserved.
    Copyright (c) 1995-1998 Eric Young (eay@cryptsoft.com) All rights reserved.
05/31 06:27 (nice) Supporting FAILOVER of server 5053@e4
05/31 06:27 (nice)
05/31 06:27 (nice) Server started on viz.asti.nice (hostid: 002185c490a3) for:
05/31 06:27 (nice) (No valid licenses found)
05/31 06:27 (nice)
05/31 06:27 (nice) License files:
05/31 06:27 (nice)     /opt/nice/dcv/license//license.lic
05/31 06:27 (nice)     /opt/nice/dcv/license//e4.lic
05/31 06:27 (nice)
```

When the failover hosts detect the main server is down, you should see this:

```
05/31 06:28 (nice) DENIED: (1) dcv_linux v2012 to paolob@viz.asti.nice
05/31 06:28 (nice)     License server does not support this product
05/31 06:28 (nice) DENIED: (1) dcv v2012 to paolob@viz.asti.nice
05/31 06:28 (nice)     License server does not support this product
05/31 06:28 (nice) DENIED: (1) dcv_linux v2012 to paolob@viz.asti.nice
05/31 06:28 (nice)     License server does not support this product
05/31 06:28 (nice) DENIED: (1) dcv v2012 to paolob@viz.asti.nice
05/31 06:28 (nice)     License server does not support this product
```

```
| 05/31 06:31 (nice) "5053@e4" now DOWN - rereading licenses
| 05/31 06:31 (nice) ==== Reread request by state change @ failover host ====
| 05/31 06:31 (nice) Supporting FAILOVER of server 5053@e4
| 05/31 06:31 (nice)
| 05/31 06:31 (nice) Re-reading license files, supporting products:
| 05/31 06:31 (nice)     dcv_windows_vm dcv_windows dcv_linux
| 05/31 06:31 (nice)
| 05/31 06:31 (nice) License files:
| 05/31 06:31 (nice)     /opt/nice/dcv/license//license.lic
| 05/31 06:31 (nice)     /opt/nice/dcv/license//e4.lic
| 05/31 06:31 (nice)
```

This topic: Knowledge > [RepriseRlmFailoverLicenses](#)

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