ENTERPRISE LICENSE
SERVER COLD SWAP
PROCEDURE
SUMMARY:
This document describes the proper procedure for replacing a defective Enterprise License Server (ELS) with the same type of hardware.

Note: This procedure is subject to change and currently applies to software versions 7.1 and 7.2.

PRE-REQUISITES:
Few things to be ready of before proceeding with the cold swap:

- Replacement should be the same hardware model and same software release/build.
- Ensure availability of latest binary configuration files (system and user) from the defective or to-be-replaced ELS system, because without those being backed up regularly, the license server will have to be rebuilt from scratch and all the license members manually reconfigured.

Recommendation:
- It is recommended that permanent replacement hardware via RMA process be obtained as soon as possible. License generation for the new device by way of RMA will always need the Licensing Hardware ID, so license transfer will have to wait. If the intention is to use a spare unit while waiting for the RMA unit, then you do not have to deal with licensing for now and just work with existing temporary licenses after import.

Note: License generation using the “Generate Replacement Licenses for RMA devices” or with the assistance of Pulse Secure Customer Care does require the RMA number.

SWAP PROCEDURE:
Restoration of ELS from cold spare involves few simple steps as follows:

Step1: Prepare the replacement unit (if already done in advanced, go to Step2)

Procedure:

1. Perform initial configurations of the replacement and you are in production network, you can use the same IP as the old ELS server if that server is already down, else use a different IP.

2. Login and get hardware ID of the system and generate all the licenses for that new hardware using LMS or with help from Pulse Secure Customer Care Licensing team (not necessary if this is temporary swap until RMA unit arrives and can be done at a later time after everything is restored).

3. You are now ready to swap out the server (proceed to Step2).
Step 2: Install and configure replacement unit

Procedure:

1. Install the hardware to the same network as the old ELS server (if you have not done so while preparing in Step 1).

2. Login to Admin UI and confirm that all connectivity to other clients by doing a quick ping of their internal ports IP's; troubleshoot if needed.

3. Import Main-ELS License server system configuration.

4. Import Main-ELS License server user configuration.

5. Check the license server status after import including the licenses and the clients configured in the server. When both configuration files are imported, you will notice the warning label that license will expire in 91 days:

   "Manage license members" - license will expire in 91 days and 0 hours.  
   1 subscription license key has a mismatched Machine ID.

   ![License Configuration Screen]

   Note: Above shows that the subscription license is expired. This is expected and is by designed.

Step 3: Install the replacement licenses (not applicable if temporary replacement only until RMA arrives)

Procedure:

1. Go to Admin UI of the server and in licensing page, enter each license that were generated via LMS or given by customer care, one at a time. As each license is added, the red errors “Incorrect Licensing Hardware ID:xxxxxxxxxxxx” should go away and license is changed to “Permanent” or “Expires: xxxx days xx hours”.
After license installation:

![Image of license management interface]

**POST SWAP PROCEDURE:**

After server restoration, testing for leasing should be tested and confirmed working. Following are some tests that can be performed:

**Step 1: Validate that clients can pull license**

**Procedure:**

1. From server, go to a configured client and edit one of the licenses (increased reserved count to 200).
2. Go to client 17222149127 and check the license (note that the original 140 is still the reserved count, this is before the Pull). Then click on "Pull State from Server". Observe results.

Before pull:

![Before pull license details]

After pull:

![After pull license details]

The above indicates that the new server (ELS) is now operational.

Expected events log messages during successful leasing/pull of license/s are as follows:

Client 17222149127 events log indicating successful pull:

```
LIC30503 2012-02-07 13:09:55 - stu - [127.0.0.1] System[] - Leased 200 units of 'Concurrent Users' to 17222149127 - reserved 200 maximum: 300
```

Server 17222149111 events log indicating successful pull by client 17222149127:

```
Info LIC30503 2012-02-07 13:09:55 - stu - [127.0.0.1] System[] - Leased 200 units of 'Concurrent Users' to 17222149127 - reserved 200 maximum 300
Info LIC30503 2012-02-07 13:09:55 - stu - [127.0.0.1] System[] - Lease request (Lease Query) received from client 17222149127
```

Step 2: Validate that client/s can recall/surrender license (if you have any license that you can test to surrender to the server)

**Note:** Previously surrendered license disappears from the server after restore of cold spare, below is the recovery procedure.
Procedure:

1. If the surrendered licenses do not show in the server page as below, go to the client and attempt to recall the license first and then re-surrender:

Client side license page that indicates previously surrendered license to the server:

![Client side license page]

Server side license page that indicates previously surrendered license is missing on the server:

![Server side license page]

Client 100 user license to be recalled from the server (click “Recall”):

![Client 100 user license page]

Client event log indicating successful license recall:

```
 Miner LIC30632 2012-02-07 13:56:58 - iwe - [127.0.0.1] System[] - Client 17222149127 has successfully surrendered license: Add 100 simultaneous users to SA 4000 key: 'speech authority mayor hockey wedge media mountain' to server 172.22.149.111
```
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Server event log indicating successful license recall:

Client 100 user license to be surrendered to the server (click “Surrender” after checking on license):

Click on confirmation to surrender to server:

Server license page indicating successful client surrender of 100 users:

Client event log indicating successful surrender:

Server event log indicating successful surrender:

Step3: After confirming the “Pull State from Server” and “Surrender” and “Recall” works, then it is confirmed that the ELS server is fully back to normal operations. You should backup the current configurations before use.