

## Synopsys CVD License Verification Checklist

This document summarizes the license file verification methodology for Synopsys licenses in the combined vendor daemon (cvd) format used by Synopsys Common Licensing 10.9.x. This document contains these sections:

- **Overview of Synopsys Secure Server Technology**
- **Verifying New Keys Obtained from Synopsys**
- **Verifying Existing Keys (after starting SCL)**
- **Managing Temporary Keys**
- **Troubleshooting SSS / sssverify problems**

### Overview of Synopsys Secure Server Technology

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Synopsys Secure Server, or SSS, is a security technology that is incorporated into SCL binaries that requires a valid license file security feature name (SSS or SSST) in every Synopsys license file using the standard combined vendor daemon (cvd) format. This technology is designed to ensure that customers use only the most recent licenses received from Synopsys, without any additions or subtractions.

All regular (release) keys must have a valid SSS key. Temporary keys require an SSST feature.

A license file should never contain more than one SSS feature, but may have more than one SSST feature if multiple temporary licenses have been issued. A missing or invalid SSS (or SSST) key makes the license file invalid and will result in license checkout denials. To avoid possible license denials by the SCL license server, the following instructions must be followed:

- Use the complete license file as received from Synopsys or as retrieved from the SmartKeys system. DO NOT add, remove or modify any INCREMENT lines within the license file. As new transactions occur (maintenance renewals, remixes, updates, rehosts, etc.), the entire license file is regenerated and again must be used as is without any modifications.

**Exception:** If you receive temporary keys from Synopsys, you can append them to the existing revenue license file. However, it is recommended that you maintain a separate server for temporary keys. See the “Managing Temporary Keys” section of this document for details.

Verify the Synopsys licenses using the procedure below. (Legacy-format licenses need not be verified in this manner. Legacy-format keys do not have the “AUTH” string that is part of every cvd-format license file.) Every time a license file is changed in any way,

follow these procedures again.

1. **Verify New Keys Obtained from Synopsys**
2. **Verify Existing Keys (after starting SCL)**

## **Verifying New Keys Obtained from Synopsys**

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### **Validate any new license keyfiles received from Synopsys**

Before using any new keyfile received from Synopsys, run the “`sssverify`” utility on the license file to identify any errors before starting the server. (`sssverify` is included with SCL 10.9.x.) For example:

```
% scl_root/sparc64/bin> sssverify -v
```

```
Synopsys Corporate Licensing (SCL) Release: version SCL_10.9.2, Build 4; Label:  
SCL_10.9.2; Built on Apr 25 2007 at 01:54:13
```

(The SCL version must be SCL 10.9.2 or later; ignore the Build number.)

```
% scl_root/sparc64/bin> sssverify /path/to/synopsys.lic
```

The “`sssverify`” utility verifies the integrity of the license file and detects any formatting errors in the file. If there are no errors in the license file, you will see a message like the one below:

```
% sssverify synopsys.lic
```

```
Integrity check report for license file “synopsys.lic”.
```

```
Report generated on 24-Jan-2008
```

```
-----
```

```
Checking the integrity of the license file...
```

```
Valid SSS feature found.
```

```
License file integrity check PASSED
```

```
-----
```

```
You may now use this license file to start the license server.
```

As indicated in this message, it is safe to use the license file if there are no SSS errors.

If the license file is corrupt, you will receive one of the following errors:

- If the SSS (or SSST) key is missing or corrupt, you will receive this message:

*Integrity check report for license file "synopsys.lic".  
Report generated on 24-Jan-2008*

-----  
*Checking the integrity of the license file...  
No SSS or SSST features were found in the license file.  
All revenue keys ("SN=RK:..." on feature line) have been excluded.  
License file integrity check FAILED!*

-----  
*This is an INVALID license file. You SHOULD NOT use this license file.  
Please use the license file as received from Synopsys, Inc.*

- If you have removed any features from the license file, you will see this message:

*Integrity check report for license file "synopsys.lic".  
Report generated on 24-Jan-2008*

-----  
*Checking the integrity of the license file...  
Valid SSS feature found. Invalid license file fingerprint.  
3 features are missing from this file.  
License file integrity check FAILED!*

-----  
*This is an invalid license file. You should not use this license file.  
Please use the license file as received from Synopsys, Inc.*

- If you have added any features to the license file, you will see the message below:

*Integrity check report for license file "synopsys.lic".  
Report generated on 24-Jan-2008*

-----  
*Checking the integrity of the license file...  
Valid SSS feature found. Invalid license file fingerprint.  
You have added 2 new features to this file*

<i>Feature Name</i>	<i>Expiry Date</i>	<i>Serial Number</i>
<i>1) Design-Compiler</i>	<i>31-may-2008</i>	<i>SN=RK:2661-0:696294:763456</i>
<i>2) Formality</i>	<i>31-may-2008</i>	<i>SN=RK:2661-0:696294:344556</i>

*License file integrity check FAILED!!*

-----  
*This is an invalid license file. Do not use this license file. Use the license file as received from Synopsys, Inc.*

As indicated in the above error messages, if the integrity check fails, the license file SHOULD NOT be used to start the license server.

**Note:**

Do not run sssverify on a license file that has only uncounted nodelocked licenses. (Uncounted nodelocked licenses have a quantity of “0” or “Uncounted.”)

## Verifying Existing Keys (after starting SCL)

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**Note:**

This needs to be performed after starting a license file for the first time. It should also be performed any time a modification is made to a license file.

### Check the Debug Logfile

As a precaution, check your cvd-format license server debug logfiles for SSS error. For example, below is an SSS warning from a debug logfile without a valid SSS key:

```
-----  
6:40:07 (snpslmd) WARNING: SSS errors.  
6:40:07 (snpslmd) Use the sssverify utility to check the integrity of your license file.  
6:40:07 (snpslmd) The license file should be used exactly as received from Synopsys, Inc.  
-----
```

**IMPORTANT:**

If the license server log file has the above error message, it indicates that the file is corrupt. If the problem is not corrected, users will see license denials. An example of a denial message is below.

```
-----  
8:35:58 (snpslmd) ERROR: SSS feature is required!  
8:35:58 (snpslmd) DENIED: hspice - excluded by SSS. Server is unstable.  
-----
```

## Managing Temporary Keys

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As of February 25, 2008, all temporary keys (except for temporary keys issued for a legacy daemon or pre-cvd file format) require an SSST feature.

**Note:**

A license file should never contain more than one SSS feature (for production, or revenue, licenses), but may contain more than one SSST feature if multiple temporary licenses have been issued.

## Maintain a separate server for temporary keys

By design, an on-support “revenue” key will void a temporary key with the same feature name and a prior issued date. If possible, keep your temporary keys and production keys separated, by hosting them on separate servers. This will endure that the temporary keys are not voided by later production (revenue) keys.

## Temporary keys must be added or removed as a block, not individually

Since temporary keys are issued in “blocks” of two or more, they may never be removed individually. Instead, they must be added or removed as blocks, where all the keys in the block contain the same transaction ID. For example, consider these keys:

```
INCREMENT SSST snpslmd 1.0 28-Apr-2008 1 0DB62FEB8D74757952F2 \
  VENDOR_STRING="a88b1 297ef b3e2c e314e 15518 a3784 a5314 e1551..." \
  NOTICE="Licensed to XYZ Corp. [DO NOT DELETE/MODIFY SSST...]" \
  SN=TK:0:0:593733 ISSUER="Synopsys Inc. [3/28/2008 21:09:09 1234]" \
  START=28-Mar-2008
INCREMENT PrimeTime snpslmd 2007.12 28-apr-2008 1 ISSUED=28-mar-2008 \
  ck=36 SN=TK:3222-0:229054:593733 START=28-mar-2008 AUTH={ \
  snpslmd=( LK=6D48B13764E3B921D8D9)}
INCREMENT PrimeTime-SI snpslmd 2007.12 28-mar-2008 1 \
  ISSUED=28-mar-2008 ck=11 SN=TK:3222-0:229054:593733 \
  START=28-mar-2008 AUTH={ snpslmd=( LK=6D7881C7D0A033B1E33E)}
```

In this example, the INCREMENT lines are temporary keys (SN=TK) that contain the same transaction ID (593733). Thus, these keys must be added to or removed from the license file only as a block.

Note:

Only temporary keys may be added or removed from a license file.

Whenever modifying any Synopsys license file, sssverify must be run again before restarting or rereading the server. For more details on adding or removing temporary keys from a license file, see <https://solvnet.synopsys.com/retrieve/023020.html>

## Troubleshooting SSS / sssverify Problems

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### sssverify fails

The following three steps resolve at least 95% of sssverify problems.

1. Download the latest license file from SmartKeys at <http://www.synopsys.com/keys>
2. Make sure the SCL version is 10.9.2 or later. (You can determine the snpslmd version with the command “snpslmd -v”.) If necessary, upgrade to the latest version of SCL.

3. Do not add or remove any keys to the license file. The only exception is for temporary keys, which may be added or removed as a block (that is, all the temporary keys issued at one time may be added, or they may all be removed). See the section titled “Managing Temporary Keys” for details.

Note:

If production keys have expired, do not remove them. Instead, obtain a new license file from SmartKeys.

Other things to look for:

- Remove any keys for third-party daemons and licenses from the license file.
- Make sure all comment lines start with # and do not wrap.
- Make sure all INCREMENT keywords are at the beginning of the line.
- An INCREMENT key may only wrap after a space and a continuation character (“\”).
- When adding temporary keys to a production license file, make sure the hostid matches and remove duplicate SERVER or VENDOR lines
- Rarely, blank lines and duplicate USE\_SERVER lines may cause problems; remove them.

### **sssverify passes, but the debug logfile has SSS errors**

- Check the license server debug logfile to make sure that the SCL version is 10.9.2 or later. If necessary, upgrade to the latest version of SCL.
- Restart the license server

If you are not able to rectify the sssverify errors (or SSS error messages in debug logfile) then open a case with the Synopsys Support Center. You may open a case on the Web at <https://solvnet.synopsys.com/EnterACall>. (To route the call to the correct application engineer, choose “Keys” or “Synopsys Common Licensing” as the product.)

Alternately, you may call (800) 245-8005 or send e-mail to support\_center@synopsys.com. If you are located outside North America, contact your local Synopsys Support Center.