

MQA

MQA 2017 Update 2.0 Release Notes

Notices

© Keysight Technologies Incorporated, 2002-2018

1400 Fountaingrove Pkwy., Santa Rosa, CA 95403-1738, United States All rights reserved.

No part of this documentation may be reproduced in any form or by any means (including electronic storage and retrieval or translation into a foreign language) without prior agreement and written consent from Keysight Technologies, Inc. as governed by United States and international copyright laws.

Restricted Rights Legend

If software is for use in the performance of a U.S. Government prime contract or subcontract, Software is delivered and licensed as "Commercial computer software" as defined in DFAR 252.227-7014 (June 1995), or as a "commercial item" as defined in FAR 2.101(a) or as "Restricted computer software" as defined in FAR 52.227-19 (June 1987) or any equivalent agency regulation or contract clause.

Use, duplication or disclosure of Software is subject to Keysight Technologies' standard commercial license terms, and non-DOD Departments and Agencies of the U.S. Government will receive no greater than Restricted Rights as defined in FAR 52.227-19(c)(1-2) (June 1987). U.S. Government users will receive no greater than Limited Rights as defined in FAR 52.227-14 (June 1987) or DFAR 252.227-7015 (b)(2) (November 1995), as applicable in any technical data.

Portions of this software are licensed by third parties including open source terms and conditions.

For detail information on third party licenses, see [Notice](#).

Contents

Enhancements	4
Issues Fixed	4
Known Issues	4
Operating System Support	5
Licensing	5
Known Issues - Licensing	5

Enhancements

Simulators

- Supports the latest FineSim 2017.
- Supports the latest Analog FastSPICE (AFS) 2018.

Functions

- The **TightLoopWithMeasData** option is enhanced to support the benchmark rule.
- The **DataTable** option is enhanced by supporting the new **Model** column in a .csv file:

Model	W	L	SA	SB	SC	SD
NMOS1	5.00E-06	5.00E-06	5.00E-07	5.00E-07	5.00E-07	-5.00E-07
NMOS1	6.00E-06	6.00E-06	6.00E-07	6.00E-07	6.00E-07	-6.00E-07
NMOS2	5.00E-06	4.80E-06	5.00E-07	5.00E-07	5.00E-07	-5.00E-07
NMOS2	6.00E-06	6.20E-06	6.00E-07	6.00E-07	6.00E-07	-6.00E-07

- A new function is added to enable selecting data in a rule:
Syntax: NewTarget = Select(OldTarget, conditionstring)
 Example: Ids4 = Select(Ids, " Vgs > Vth") # select Ids when Vgs > Vth

Reporting

- Adds an option to export the **Setup** information to the final report.

Others

- Enables to specify the directory to save the simulation cache, log files, and other temporary files by adding the **MQA_TMPDIR** option in the mqa.ini file.
- Adds the full document for the **Constant Template** in Lib Explorer.
- Adds the explanation of the **CompareMode** option in Compare QA.
- Support for parsing and plotting the additional instances in a mdm data file, such as lot, wafer, die, block, and meascond.
- Allows to parse the additional information in the [Measured Data] section of a noise data.

Issues Fixed

- Fixed that in some cases the generated table may lose some column information.
- Fixed the wrong N/P correlation simulation results by giving the same random seed in NMOS's and PMOS's netlist for Monte Carlo simulation.
- Fixed that in a specific case MQA failed to run the accuracy check with a 3T subckt resistor model with Spectre on Linux.
- Fixed that in a specific case the Vth_gm simulation result was abnormal for Fast-Slow corner model under low temperature.
- Fixed the incorrect simulation results for N/P correlation plot with ET data, in the case NMOS and PMOS have different geometry.

Known Issues

- To display lot/wafer information correctly in a plot, we recommend using a reasonable lot/wafer name, for example, "ABC123" or "123ABC" . Then, MQA will fetch the numerical number (that is "123" in the example) as an unique ID for those wafer/lot.

Operating System Support

As previously announced, the Solaris (SUN OS) platform support has been discontinued and MQA 2013.01 is only supported on the LINUX Red Hat and Windows® operating systems.

For more information on supporting Operating System (OS), see [Supported Platforms](#).

Licensing

- MQA 2017 requires: a) the **version 2017.01** of the EEsof EDA licensing software, b) a minimum code-word version **2017.01 or above**, and c) the licensing server software, **lmgrd** and **agileesofd**, to be upgraded to at least the same versions as what are included in EEsof EDA Licensing software **2017.01**. MQA 2017 will not start if any of these requirements is not met. Refer to the [License Codeword Version Compatibility Table](#).
- In the EEsof EDA License Tools version 2018.04, licensing vendor daemon (**agileesofd**) is integrated with FlexNet FNP **11.13.1.4** version (Windows) and FlexNet FNP **11.13.1.3** version (Linux) of FlexNet license manager daemon (**lmgrd**). For the Windows platform, MQA installer will automatically set up these two new license server daemons by default for the local node-locked license users; for the Linux platform, you need to follow the [Linux/Solaris Licensing Setup](#) instruction to complete the licensing configuration process. For more details, refer to [Licensing \(For Administrators\)](#).
- The issue related to the vendor daemon **agileesofd** could sometimes crash while the License Manager and the Product Selector was running on a remote Windows 8 machine has now been fixed with the newer FlexNET publisher 2015 (also known as version 11.13.1) that is automatically installed by the MQA installer.

Known Issues - Licensing

- Dongle drivers for Flex-10 dongles on Linux are release specific. Installing the latest dongle drivers on Linux will function properly only for the most recent EEsof releases.
Workaround: Install and use dongle drivers as needed. If you need to run the most recent EEsof releases, use the latest Flex-10 dongle driver. If you need to use older releases, uninstall the latest dongle driver and re-install the older dongle driver
- FLO and EEsof License setup are writing server logs at different locations. However, the EEsof server log file location is updated in the License Manager > Environment tab.
- When multiple **same-named** INCREMENT lines **of different version** exist on the license server, few advanced FlexNet options to reserve/limit licenses may not work properly.
- Product Selector “Check Availability“ generates incorrect results (which leads to license failure) for older releases when multiple date base versions of like-named bundles exist in the license pool.
- In Linux, Product Selector **OK** and **Cancel** Buttons locations are reserved.
- Starting from FlexNet Publisher 2015 (also known as version 11.13.1), the adoption of the best practice of the least-privilege security therein results in the License Server related Windows Service to run with the LocalService Account privilege (instead of the LocalSystem privilege as before.) Running with the LocalService Account privilege, an executable can no longer access any files located in the per-user

specific type of folders. As a result, any license file placed in those folders can no longer be accessed by the License Server when the License Server is automatically started via the Windows Service upon each PC reboot. For the local node-locked license, this would not result in any disruption to the usage of EESof applications; however, for the license installed on a network PC that is accessed by multiple client PCs, this may cause EESof applications not to start after the network PC reboots

Workaround: Store your license files in the Windows folders that are accessible by the LocalService Account privilege. For example, C:\ProgramData or C:\users\public are both qualified choices. In general, any folder that has the "Users" group listed in its Properties > Security page and this "Users" group has the *read* permission enabled should work.

- Using the default port to connect to a license server may cause a delay when checking out licenses. If no port is given in the license file, Flexera scans ports 27000 to 27009 to find the port. Starting from FlexNet Publisher 2015 (aka version 11.13.1), the default timeout for the response from each port increased from .1 seconds to 3 seconds.

To avoid the delay, KSM now issues licenses with port 27009 instead of leaving this blank. The EESof License Setup Wizard (from Licensing 2017.01 onwards) handles some common situations such as: where it detects license file(s) without port, when users get a new license file with port 27009, or when all license files for a vendor daemon does not have same port.

NOTE

You will not be able to start the license server if all license files for a vendor daemon on a server does not have same port.

Users who manually setup a license server or using EESof License Setup Wizard with older licensing bits may need to manually edit license files to comply with the following rules:

- a. All license files for a vendor daemon on a server must use the same port (or all be blank).
- b. Using the default port (blank) is allowed but may result in longer checkout times.
- c. If setting up a network server, select an unused port that is not blocked by a firewall.

Workaround: If the user cannot change the port, or wants to use the default Flexera ports, the environment variable FLEXLM_TIMEOUT can be set to .2 seconds (200000), to minimize the performance degradation. However, if the network latency is an issue in your environment, you may need to fine-tune this setting to minimize the general performance degradation while still accommodating the network latency.

- Installation of EESof EDA tools (such as, SystemVue 2016.08, Genesys 2017.XX, or ADS 2017.XX) may hang at 4% (percentage vary based on the products) for few hours or even more on some specific machines.

Workarounds:

- Disable Firewall setting in Anti-Virus Software installed on the PC.
or
 - Download and unzip process explorer from the below link and then invoke *procexp.exe*.
<https://technet.microsoft.com/en-us/sysinternals/processexplorer.aspx>
Right click on the *wusa.exe* process under <Product installer exe> and select KillProcess. Now it will continue the product installation.
- After installing EESof EDA tools (such as, SystemVue 2016.08, Genesys 2017.XX, or ADS 2017.XX) successfully and try to invoke the software or License wizard, you may encounter "api-ms-win-crt-runtime-l1-1-0.dll" missing error.

Workaround: Install the Update for Universal C Runtime in Windows . On Windows 64-bit system systems, the file to install is x64 version of the Microsoft hotfix KB2999226. A copy of the Windows6.1-KB2999226-x64.msu Microsoft 64-bit hotfix installer can be found under the C:\Program Files\Keysight\EESof_License_Tools\bin directory. The Microsoft hotfix KB2999226 can be found under the Update for Universal C Runtime in Windows page at <https://support.microsoft.com/en-us/help/2999226/update-for-universal-c-runtime-in-windows> as well.

- On a newly formatted RHEL system, the EEsof Licensing tools may fail to boot. This is because the FlexNet Publisher 2015 requires a certain rpm
Workaround: Under the EEsof product installation directory, there exists a utility script named "*Linux_sys_check.sh*" under the *bin* directory. Run this script to find out whether any rpm is missing; run this script with a "-y" command-line option to also have all the missing rpms automatically installed if you have the *sudo* or *root* privilege.
 - License server may stop recognizing Flex-10 dongle on some systems within a few hours after starting
Workaround: If you experience this problem, install the latest WibuKey drivers from [Wibu Systems](#).
 - Unable to install Flex-10 driver if Flex-9 dongle is already plugged into a machine
Workaround: Before installing a Flex-10 driver for the first time, unplug the Flex-9 dongle.
 - There is a known FlexNet Publisher issue, whereby mixing node-locked codewords and floating codewords in one license file can result in: a) Remote simulations not working or b) A second local simulation not working in case the license is node-locked and also has incorrect version.
Workaround: It is strongly recommended that you do not mix node-locked codewords and floating codewords in one license file nor in *any* configuration that ends up with node-locked codewords and floating codewords both available on the same server. In other words, put the node-locked license and the floating license on different servers, and point to the respective one based on what you need to run.
 - If a user simultaneously runs two instances of a product and has mixed different versions of the same codeword on one license server, extra licenses may be pulled and result in unexpected "Licensed number of users already reached for this feature" errors.
Workaround: We recommend you remove expired codewords, to separate out the new and the old versions of codewords into different files and different servers, and to point to the respective one based on what you need to run.
 - Not specifying the TCP/IP port for the license server during license setup may lead to unexpected behavior and/or license checkout failure on the Windows platform. We strongly recommend you to always explicitly specify the TCP/IP port associated with each license server.
 - A node-locked and floating bundle operating on Linux cannot be shared between products using EDA License Tools version older than 2014.01 when run at the same time.
 - License Setup Wizard does not remove any previous user-configured FLEX Windows License Service manually set up by a user using FlexNet's lmttools.
Workaround: You must remove the previous user-configured Windows License Service via lmttools.
 - Run the lmttools.exe from C:\Program Files\Agilent\EEsof_License_Tools\bin to invoke the lmttools utility. The lmttools utility window is displayed.
- CAUTION** If you have installed an EEsof product released before 1st August, 2014 on your system prior to installing an EEsof product released after 1st August, 2014 then the default EEsof Licensing tools path will remain C:\Program Files\Agilent\EEsof_License_Tools. On the systems that only have EEsof products released after 1st August, 2014 installed then the default EEsof Licensing tools path will be C:\Program Files\Keysight\EEsof_License_Tools.
- In the **Service/License File** tab, check the **Configuration using Services** option. All user-configured FLEX Windows License Services will be listed.
 - Select the service you wish to remove.
 - Select the **Config Services** tab and click the **Remove Service** button to remove the service.
 To ensure that the license service or *lmgrd* is running, click **View Log**. A log window appears that confirms whether *agileesofd* and *lmgrd* are up and running.
- While running multiple versions of prior MQA releases together, set MQA_MAXIMUM_BUNDLE_USAGE=ON in your environment so that all of them will use the same method to check out licenses. Otherwise, you might receive an error message, "Licensed number of users already reached".

- On some Windows 7 machines, when more than one definition of an Ethernet adapter exists (duplicates), license checkouts may appear to hang up.
Workaround: Disable the duplicate network card definitions in your network settings: **Control Panel > Network and Internet > Network Connections**. This issue has been acknowledged by Flexera and they have created a bug report (SIOC-000103097).
- For LSF style distributed simulations, ensure that the PATH on the client computer points to the \$HPEESOF_DIR/EEsof_License_Tools/\${architecture} directory that corresponds to the EEsof release being used. This needs to be done in order to ensure that the proper version of the Flexera utilities (like *lmutil*) gets picked up in the path before any older in-compatible versions (that may also be installed on a users' system.)
- **License Setup Wizard (*aglmwizard.exe*)**, which is used to set up and record the license path would not work if you already have an environment variable set for MQA_LICENSE_FILE.
Workaround: You can use MQA_LICENSE_FILE variable to point to license file or refer to **Licensing (For Administrators)**.
- The License Setup Wizard will exit or not properly configure a license server, if the server has all of its licenses currently in use.
Workaround: Wait for a license on the server to become available as you normally would before launching the product.
- Unable to set license in case unicode characters are used either in path or license file name because the Flex License Service does not support these characters.
- The Product Selector tool will be unable to display the license server status properly when connected to older license server.
Workaround: Upgrade your license server to the latest version.
- EEsof Licensing Tools installer can hang on systems with McAfee LiveSafe installed and running the default firewall settings.
Workaround: Prior to installing EEsof Licensing Tools, temporarily turn off the McAfee LiveSafe firewall.
- Licensing setup steps on systems with McAfee LiveSafe installed can fail.
Workaround: Under the McAfee LiveSafe firewall settings, under Port and Settings, allow the use of port 27001 for lmgrd.exe under the EEsof Licensing Tools installation bin directory. Under Internet Connections for Programs, enable lmgrd.exe, aglmmgr.exe and aglmwizard.exe for all devices and turn off monitoring.
- On Windows, EEsof product releases prior to 2014 can have boot time issues with licensing if a newer EEsof product is installed prior to installing the older product. For example, if a users installs Advanced Design System 2017 and then installs Advanced Design systems 2014.01, the user can have boot time errors with ADS 2014.01.
Workaround: For Advanced Design System users, set a system environmental variable named ADS_LICENSE_FILE under the Control Panel/ System, and Security / System / Advanced system settings and under the "environmental variables". Add an System variable named ADS_LICENSESE_FILE and the value will be the path to your local license file or the **port@host** setting for your site.

