IRIS 2020.01.h1

Release Notes

XPEEDIC
ACCELERATE YOUR IC DESIGN

1. Overview

Xpeedic IRIS provides accurate and fast 3D electromagnetic simulation for on-chip passives and interconnects in RF and analog IC designs. The accelerated 3D Method of Moments solver with both multi-core and distributed parallelization greatly reduces the EM simulation time thus improves the design efficiency. The seamless integration with Cadence Virtuoso not only enables designers to stay in the Cadence design environment to perform the EM simulation which avoids the manual and error-prone layout data conversion but also realizes the perfect convergence to front-end for design verification by automatic back-annotation. This design flow will greatly help IC designers to reduce the design cycles and achieve first-pass silicon success.

The Release Notes cover the following releases:

IRIS 2020.01

Release Date: July 3, 2020

The Release Notes present the latest information about IRIS Version 2020.01 in the following sections:

2. Supported Operating Systems

IRIS 2020.01 is available on 64bit Linux. Obtain the appropriate binary executable files for your operating system. The supported platforms for this release include:

- SUSE 13
- RHEL6
- RHEL7

3. New Features and Enhancements in IRIS 2020.01

IRIS 2020.01 provides new features and enhancements as described in the following sections.

- Improve MoM Solver simulation efficiency with 23.83% speedup, and reduce memory consumption by 7.91%.
- Improve MoM Solver simulation accuracy.
- Optimize modeling related algorithms, including via defeaturing and port identification.
- Support submitting simulation jobs to the cluster computing environment.
- Integrate IRIS to virtuoso Layout EXL.
- Support advanced process node.

- Support partial encrypted lyr format, only encrypt thickness、Dk/Df and elevation.
- Support IRIS model with internal ports exported to HFSS 3D Layout.
- Improve synthesis accuracy of passive devices with ML algorithm.
- Refactoring iModeler flow to improve usability and friendliness.
- Support S parameters comparison function in iVerify.

4. New Features and Enhancements in IRIS 2020.01.h1

- Improve MoM Solver simulation accuracy
- Optimize the flow of port identification.
- Optimize algorithm of via defeaturing to improve simulation accuracy of small inductor.
- Optimize the flow of iModeler.

5. Legal Notice

The source code used in IRIS comprises of both Open Source and proprietary software components.

The Open Source components used in IRIS are:

- Qt 5.13.2

  This software uses the Qt library, a multiplatform C++ GUI toolkit from Trolltech. See http://www.trolltechcom/qt/ for more information.

- Clipper 6.1.3

  Freeware for both open source and commercial applications (Boost Software License).

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- QtXlsx 0.3

  This software uses the Qt library, a multiplatform C++ GUI toolkit from Trolltech. See http://www.trolltechcom/qt/ for more information.

- GCC 4.8.2

  cpp (GCC): Copyright (C) 2003 Free Software Foundation, Inc.

- MPFR 2.4.2

  MPFR is free. It is distributed under the GNU Lesser General Public License (GNU Lesser GPL), version 3 or later (2.1 or later for MPFR versions until 2.4.x). The library has been registered in France by the Agence de Protection des Programmes under the number IDDN FR 001 120020 00 R P 2000 000 10800, on 15 March 2000. This license guarantees your freedom to share and change MPFR, to make sure MPFR is free for all its users. Unlike the ordinary General Public License, the Lesser GPL enables developers of non-free programs to use MPFR in their programs.

- MPC 0.8.1

  The library is built upon and follows the same principles as GNU MPFR. It is written by Andreas Enge, Mickaël Gastineau, Philippe Théveny and Paul Zimmermann and is distributed under the GNU Lesser General Public License, either version 3 of the licence, or (at your option) any later version (LGPLv3+). The GNU MPC library has been registered in France by the Agence pour la Protection des Programmes on 2003-02-05 under the number IDDN FR 001 060029 000 R P 2003 000 10000.

- GMP 4.3.2

The GMP Announcements mailing list is a read-only list for announcements regarding the GNU Multiple Precision Library (GMP).

- Boost 1.72

  Boost C++ Libraries http://www.boost.org is licensed under the `Boost Software License V1`http://www.boost.org/users/license.html

- CGAL 4.9

  CGAL is licensed under GNU LESSER GENERAL PUBLIC LICENSE (LGPL) Version 3.0. See GNU LESSER GENERAL PUBLIC LICENSE (LGPL) for a complete listing of the GNU LESSER GENERAL PUBLIC LICENSE.

- Eigen 3.3.7

  Eigen is Free Software. Starting from the 3.1.1 version, it is licensed under the MPL2, which is a simple weak copyleft license. Common questions about the MPL2 are answered in the official MPL2 FAQ.

  Earlier versions were licensed under the LGPL3+.

  Note that currently, a few features rely on third-party code licensed under the LGPL: SimplicialCholesky, AMD ordering, and constrained_cg. Such features can be explicitly disabled by compiling with the EIGEN_MPL2_ONLY preprocessor symbol defined.

  Furthermore, Eigen provides interface classes for various third-party libraries (usually recognizable by the <Eigen/*Support> header name). Of course you have to mind the license of the so-included library when using them.

  Virtually any software may use Eigen. For example, closed-source software may use Eigen without having to disclose its own source code. Many proprietary and closed-source software projects are using Eigen right now, as well as many BSD-licensed projects.

- FFTW 3.3.4

Free software, released under the GNU General Public License (GPL, see FFTW license). (Non-free licenses may also be purchased from MIT, for users who do not want their programs protected by the GPL. Contact us for details.)

- Python 3.7.6

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- Sklearn 0.21

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