



GGTools Documentation (Synced)

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1. GGTools 2020 Update 2.0

GoldenGate Tools 2020 Update 2.0 Documentation

GoldenGate Tools RFIC simulation analysis and verification solutions include a series of products aimed at the design of large-scale RFICs used in wireless communication product design. GoldenGate Tools provides industry-leading circuit simulation technology along with the leading 3-D planar electromagnetic (EM) simulator system-level simulation and design solution of the performance of the circuits. Advanced Design System (ADS) is also offered in some of the packages.

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You should be logged in the space to access [GoldenGate Tools 2020 Update 2.0](#) documents and links to more detailed information. Please login using your Knowledge Center login credentials.

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- [Release Notes](#)

2. Home

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If you do not have a login, you may **register for an account**.

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3. GGTools 2021

GoldenGate Tools 2021 Documentation

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- [GoldenGate Tools 2021 Release Notes](#)

3.1. GGTools 2019

GoldenGate Tools 2019 Documentation

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3.2. GoldenGate Tools 2021 Release Notes

GoldenGate Tools 2021 Release Notes

GoldenGate Tools is designed for use with GoldenGate or subsequent GoldenGate releases until a future GoldenGate Tools version becomes available. It enables certain tools and capabilities that are part of the ADS platform for use within Virtuoso. It allows users to:

- Launch RFPro and use Momentum to extract a model for a Cadence Virtuoso layout. Generate a schematic to run an EM/Circuit co-simulation with a circuit simulation tool such as GoldenGate.
- Launch ADS Data Display from within Cadence Virtuoso when the GoldenGate simulator is selected.
- Run System Testbench simulations within GoldenGate by providing a Ptolemy runtime environment.
- Export layout from Momentum Virtuoso for 3D simulation in EMPro. The 3D information is created from the layer definitions and the substrate.

Users can enable these capabilities by pointing to an ADS installation. There is no longer a separate GoldenGate Tools installer.

The GOLDENGATE_LICENSE_FILE environment variable must point to a valid license file. The ADS_LICENSE_FILE is no longer used in the GoldenGate Tools flow.

What's New

This release has enhancements made in the following areas:

- **RFPro**
- **Momentum**
- **FEM**
- **Substrate Editor**

RFPro

RFPro

- Analyze the impact of etch bias (over/under etch) and registration bias (layer misalignment) without the need for parameterizing the layout. For more information, see Process Variation section in **Full EM Extraction Analysis**.
- Simulation Service supporting cross-platform simulations. A Windows/Linux client can submit a simulation to a Linux cluster. In case you have an interest in trying out this new functionality, contact Technical support and guidance will be provided to configure this simulation service.
- Pilot introduction of native placement of 3D components (solver balls and bond wires) inside RFPro. Enable the Show Beta Functionality from the Tools > Options > General tab to gain access to this new capability.
- Momentum Generation 2. For more information, see **Advanced Simulator Setup** for Momentum.
 - Fast layout preprocessing.
 - Fast simulation of designs with large via arrays and patterned ground planes.
 - Enable Mesh Domain Optimization to speed up the simulation of a User-Defined EM Extraction analysis.
- FEM Generation 2. For more information, see **Advanced Simulator Setup** for FEM.
 - Supports the simulation of a layout containing EMPro 3D components and 3D components natively placed in RFPro.
 - Supports the simulation of a design with an encrypted substrate or containing an encrypted 3D component.
- New Create Reference Pin On Layer option to serve as an implicit reference in the I/O or Component Model port definition.
- New Create Delta Gap Port option to easily probe current in a design or tune a design.
- New Component Includes Area Pins In Net checkbox on Components to influence how component areas pins are processed
- Enhanced Component Model port editor facilitates the component port setup
- New Show S-Parameters/TDR Results context menu in the Setup pane upon a selection of multiple analyses, that allows to easily compare results.
- Layout Scale Factor: To allow improvements in future releases the layout scale factor must be defined with the technology (.ltd file). To help with the migration, eesofsubed has two new options:

- query whether the .ltd file has layout scaling defined,

```
eesofsubed -Q options <pathToLtdFile>
```

if no layoutScaleFactor is reported, it is not set

- add layout scaling to the .ltd file,

```
eesofsubed -E options [--out=<outPath>] --layoutScaleFactor=<value>
```

```
<pathToLtdFile>
```

if -out=<outPath> is not given, <pathToLtdFile> will be modified

if <value> is not given, the layoutScaleFactor option will be removed

To verify if the layout is scaled, right-click on the layout item of the design in the project palette and open the properties dialog.

If a layoutScaleFactor is defined it will be reported.

To display the future dialog where the layoutScaleFactor entries are removed, if started from Virtuoso, add the following to .cdsinit:

```
envSetVal("rfpro.envOpts" "layoutScalefactorBehavior" 'string "rUi")
```

Momentum

Momentum

- The 2022 release will unify the EM 3D viewers to benefit from the latest 3D viewing enhancements delivered in the RFPro platform. The legacy Momentum-Virtuoso 3D EM viewer will not be accessible starting GoldenGate Tools 2022.
- The material of the vertical cell of an edge pin on a thick conductor will be considered to be perfectly electrically conducting (PEC). This ensures that the pin's surface current can redistribute to all four sides of the thick conductor without excess resistance.

FEM

FEM

- The estimation of the calibration inductance no longer considers the portion of the impedance line path that passes along or through conductors.

subEdit

Substrate Editor

- Enhanced UI for importing ICT, iRCX, and ITF files. For more information, see [Converting Substrate Files to LTD Format](#).

Known Issues

RFPro

- Project load fails when a layout shape has a multi-bit net name (e.g. 'd<7:0>' or 'a,c,net1') with the error 'OccDesign::getNet: key not found'. There is no workaround.
- With McAfee Endpoint Security enabled, the Momentum surface current visualization hangs.

Workaround: Disable the "Enable Adaptive Threat Protection" flag in McAfee ENS.

Documentation

- Mozilla Firefox and Google Chrome are recommended browsers for viewing the online help.
- On Windows, Printing directly from installed help generates non-readable output.
Workaround: Use PDF version of the document for printing purpose.
- From 2017 onwards, in the installed help when you open a page using the "Open a link in new tab" option the help does not open a page in a different tab by default. You need to set the preferences to open any link in a new tab.

To set the preferences:

1. From the 201x version of the installed help, Click **Edit > Preferences**.
The Preferences Dialog box is displayed.
2. Select the **Options** tab.
3. Under Appearance, select the **Show tabs for each individual page** option.

This is one time setting for a particular release of a product.

- While using the installed help, you may encounter issues like help not showing any content, it throws an error, it displays unexpected hierarchy in the Content tab, or it does not display any search results.

Workaround: Close the help, delete the contents of the following directory and open the help again.

- On Windows: `C:\Users\<Windows_Login_ID>\AppData\Local\Keysight\Help`

- On Linux: `$HOME/.local/share/Keysight/Help`

- The installed help search does not support [] or {} or any other text using these combinations.
- On Linux, Konqueror web-browser does not display the online help properly. It may not display help pages at all or may display them broken and with errors.

Workaround: Use Mozilla Firefox to view the online help.

ADS 2021 and GoldenGate Version/License Compatibility

GoldenGate	ADS Version	EEsof License Version	EEsof Codeword Version
2017 or later	2021	2020.02	2020.02

Platform Support for GoldenGate Tools

Supported Platforms (64-bit)	Native Build Platform (64-bit)	Platforms No Longer Supported
* RedHat Linux RHEL6		
• RedHat Linux RHEL7 • SuSe Linux SLES11 • SuSe Linux SLES12 - RedHat Linux RHEL6 RedHat Linux RHEL5		32-Bit Versions of Linux

Cadence IC Support for GoldenGate Tools

Supported Cadence Versions (64-bit)	Primary Test Cadence Version (64-bit)	Cadence Versions No Longer Supported
* IC 6.1.8		
• IC 6.1.7 • IC 6.1.6 • ICADV 18.1 • ICADV 12.3		

- ICADV 12.2
- ICADV 12.1 | - IC 6.1.8
- ICADV 18.1 | * IC 5.1.41
- IC 6.1.0
- IC 6.1.2
- IC 6.1.3
- IC 6.1.4
- IC 6.1.5 |

4. Current Release

Current Release

This is the current release of GoldenGate Tools:

You can find the list of previous releases on [**Previous Supported Releases**](#) page.

5. Previous Supported Releases

Documentation for Previous Supported Releases

Previous releases up to two main releases back from the current release are supported.

Supported Releases

5.1. GGTools 2019

GoldenGate Tools 2019 Documentation

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5.1.1. GoldenGate Tools 2019 Release Notes

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- Run System Testbench simulations within GoldenGate by providing a Ptolemy runtime environment.
- Export layout from Momentum Virtuoso for 3D simulation in EMPro. The 3D information is created from the layer definitions and the substrate.

Users can enable these capabilities by pointing to an ADS installation. There is no longer a separate GoldenGate Tools installer.

The following environment variable must point to a valid license file:

GOLDENGATE_LICENSE_FILE. The ADS_LICENSE_FILE is no longer used in the GoldenGate Tools flow.

GoldenGate Tools 2019 Release Notes

What's New

- **Substrate Editor**
 - More robust iRCX, ITF and ICT import
 - Encrypted substrates can now be opened in the substrate editor. Features that would disclose the technology details are disabled.
- **Momentum**
 - The surface impedance model has been enhanced to improve its accuracy towards DC.

- The RF scaling is more accurate for substrates with multiple or infinite silicon layers.
- **RFPPro**
 - First release of the new companion EM tool for RFIC designers. For more information, see [**RFPPro**](#).

Issues Addressed

- **Substrate Editor**
 - Metal bias tables are now fully editable

Known Issues

- **RFPPro**
 - Does not yet support multi-technology designs.

ADS 2019 and GoldenGate Version/License Compatibility

GoldenGate	ADS Version	EEsof License Version	EEsof Codeword Version
2019	2019	2018.04	2018.04

Platform Support for GoldenGate Tools

Supported Platforms (64-bit)	Native Build Platform (64-bit)	Platforms No Longer Supported
RedHat Linux RHEL6 RedHat Linux RHEL7 SuSe Linux SLES11 SuSe Linux SLES12	RedHat Linux RHEL6	32-Bit Versions of Linux RedHat Linux RHEL5

Cadence IC Support for GoldenGate Tools

Supported Cadence Versions (64-bit)	Primary Test Cadence Version (64-bit)	Cadence Versions No Longer Supported
IC 5.1.41 IC 6.1.5 IC 6.1.6 IC 6.1.7	IC5.10.41.6.140 IC06.1.5.505	IC 6.1.0 IC 6.1.2 IC 6.1.3 IC 6.1.4

5.2. GGTools 2019 Update1.0

GoldenGate Tools 2019 Update 1 Documentation

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5.2.1. GoldenGate Tools 2019 Update 1 Release Notes

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GoldenGate Tools 2019 Update 1 Release Notes

What's New

- **RFPro**
 - New

type allows to EM-simulate selected nets of a large design.

- The Dielectric Size Options context menu on a design provides control over the size of infinite dielectric layers for FEM simulations.
- The Far Zone Sensor settings under the analysis Options → Frequency Plans → Fields Storage allows enabling or disabling far field computations. The angular resolution of the 3D far zone sensor can be specified as well.
- **Substrate Editor**
 - Supports 5nm iRCX Import

Issues Addressed

- **RFPro**
 - Material Editors in RFPro have been made read-only. Material properties must be modified at their source.
 - Small shape display culling has been improved.
 - Virtual pin editing has been improved.
 - Advanced Simulator Options per Net are properly passed to the Momentum simulator.
 - The Far Field plot updates properly when the excitation is updated.
 - The Cell Role Recognition Rule can be customized.

Known Issues

- **RFPro**
 - Project load fails when a layout shape has a multi-bit net name (e.g. 'd<7:0>' or 'a,c,net1') with the error 'OccDesign::getNet: key not found'.
 - With McAfee Endpoint Security enabled, the Momentum surface current visualization hangs.
Workaround: Disable the "Enable Adaptive Threat Protection" flag in McAfee ENS.
 - DirectX 9 as graphics driver is no longer supported. DirectX 11 driver is used by default. Run "diagdx" to verify the DirectX version that your system supports.
- **Momentum**

- In rare cases, when cumulating edge mesh and thick metals, the new conductor loss model introduced in ADS 2019 can lead to an overestimation of the resistance of the conductor when increasing frequency. The issue is scheduled to be addressed in ADS 2020.

5.3. GGTools 2020

GoldenGate Tools 2020 Documentation

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5.3.1. GoldenGate Tools 2020 Release Notes

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GoldenGate Tools 2020 Release Notes

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What's New

This release has enhancements made in the following areas:

- Documentation

Substrate Editor

- Specify the layout scale factor to be applied when simulating with Momentum-Virtuoso or opening a layout in RFPro.
- Specify the layer purposes to be excluded or included when simulating with Momentum-Virtuoso or opening a layout in RFPro.

RFPro

- The User-Defined EM Extraction analysis type allows to EM-simulate a combination of selected nets and components of a large design.
- Context menus have been added to pin(s) allowing to create a virtual pin on a layer.
- The S-Parameter > Save As dialog has a new flag to open a Data Display window after exporting the S-parameters to a dataset.
- 'Create Script' context menus have been added to an analysis allowing you to transfer an analysis setup to another view. The script can also serve as a starting point for learning how to define an analysis through a python script.
- The 2020 release is the last release with Python 2.7 as Python 2.7 is reaching its end-of-life. The 2021 release will be using Python 3.7. A pilot release with Python 3.7 is available for download. Contact Technical Support for further guidance.

Documentation

Documentation

Starting with the 2020 release, the online help gets a new user interface. The new UI improves overall online help usability by providing the following key benefits in addition to several other minor benefits:

- **Table of Contents Sidebar:** Displays collapsible Table of Contents for the entire documentation. The left-double-arrow icon collapses the sidebar, and the right-double-arrow icon displays the sidebar back again.

- **PDF Button:** Allows you to instantly generate PDFs of the latest documentation anytime, including current page's children pages. Currently, the PDF generation option is available only for ADS 2020 release. For other releases, you can switch to their Printing Manuals page and download the existing PDFs like earlier.
- **Product Release Switcher:** Allows you to view the current page in other supported releases listed in the drop-down menu. Once you select a release from the drop-down menu, the current page is updated to show the content applicable to the selected release. The Table of Contents is updated as well. With this, you bookmark URL of only one release and then switch to other releases from this drop-down menu.
- **Latest Documentation:** The documentation available in the new UI is always kept updated for all supported releases. These updates are available to you as soon as they happen at our end. This provides you 24×7 access to the most recent and technically accurate documentation.

For more details, see <https://archbee-team-jgkt8dcn.atlassian.net/wiki/display/undefined/How%20to%20Use%20Online%20Help>.

Issues Addressed

This release has issues addressed in the following areas:

Momentum

- Refinement of the AC-behavior of the new conductor loss model introduced in ADS 2019. When cumulating edge mesh and thick metals, it could lead to an overestimation of the resistance with increasing frequency. This issue has been addressed. The workaround setting MOM3D_USE_LOCALTHICKNESS = 0 is no longer recommended.

RFPro

- RFPro startup and Momentum surface current visualization issues due to missing xcb libraries on RHEL6 systems have been addressed.

Known Issues

RFPro

- Project load fails when a layout shape has a multi-bit net name (e.g. 'd<7:0>' or 'a,c,net1') with the error 'OccDesign::getNet: key not found'. There is no workaround.
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Workaround: Disable the "Enable Adaptive Threat Protection" flag in McAfee ENS.

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- On Linux: `$HOME/.local/share/Keysight/Help`
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5.4. GGTools 2020 Update 1.0

GoldenGate Tools 2020 Update 1 Documentation

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5.4.1. GoldenGate Tools 2020 Update 1 Release Notes

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- **PDF Button:** Allows you to instantly generate PDFs of the latest documentation anytime, including current page's children pages. Currently, the PDF generation option is available only for ADS 2020 release. For other releases, you can switch to their **Printing Manuals** page and download the existing PDFs like earlier. Note that with the introduction of PDF generation feature, the Printing Manuals page will not be available from next release onward.

- **Product Release Switcher:** Allows you to view the current page in other supported releases listed in the drop-down menu. Once you select a release from the drop-down menu, the current page is updated to show the content applicable to the selected release. The Table of Contents is updated as well. With this, you bookmark URL of only one release and then switch to other releases from this drop-down menu.
- **Latest Documentation:** The documentation available in the new UI is always kept updated for all supported releases. These updates are available to you as soon as they happen at our end. This provides you 24×7 access to the most recent and technically accurate documentation.

For more details, see [How to Use Online Help](#).

Issues Addressed

This release has issues addressed in the following areas:

Momentum

- Refinement of the AC-behavior of the new conductor loss model introduced in ADS 2019. When cumulating edge mesh and thick metals, it could lead to an overestimation of the resistance with increasing frequency. This issue has been addressed. The workaround setting MOM3D_USE_LOCALTHICKNESS = 0 is no longer recommended.

RFPro

- RFPro startup and Momentum surface current visualization issues due to missing xcb libraries on RHEL6 systems have been addressed.

Known Issues

RFPro

- Project load fails when a layout shape has a multi-bit net name (e.g. 'd<7:0>' or 'a,c,net1') with the error 'OccDesign::getNet: key not found'. There is no workaround.
- With McAfee Endpoint Security enabled, the Momentum surface current visualization hangs.

Workaround: Disable the "Enable Adaptive Threat Protection" flag in McAfee ENS.

Documentation

- Mozilla Firefox and Google Chrome are recommended browsers for viewing the online help.
- On Windows, Printing directly from installed help generates non-readable output.

Workaround: Use PDF version of the document for printing purpose.

- From 2017 onwards, in the installed help when you open a page using the "Open a link in new tab" option the help does not open a page in a different tab by default. You need to set the preferences to open any link in a new tab.

To set the preferences:

1. From the 201x version of the installed help, Click **Edit > Preferences**.
The Preferences Dialog box is displayed.
2. Select the **Options** tab.
3. Under Appearance, select the **Show tabs for each individual page** option.

This is one time setting for a particular release of a product.

- While using the installed help, you may encounter issues like help not showing any content, it throws an error, it displays unexpected hierarchy in the Content tab, or it does not display any search results.

Workaround: Close the help, delete the contents of the following directory and open the help again.

- On Windows: `C:\Users\<Windows_Login_ID>\AppData\Local\Keysight\Help`
- On Linux: `$HOME/.local/share/Keysight/Help`
- The installed help search does not support [] or {} or any other text using these combinations.

ADS 2020 and GoldenGate Version/License Compatibility

GoldenGate	ADS Version	EEsof License Version	EEsof Codeword Version
2017 or later	2020	2019.02	2019.02

Platform Support for GoldenGate Tools

Supported Platforms (64-bit)	Native Build Platform (64-bit)	Platforms No Longer Supported
RedHat Linux RHEL6 RedHat Linux RHEL7 SuSe Linux SLES11 SuSe Linux SLES12	RedHat Linux RHEL6	32-Bit Versions of Linux RedHat Linux RHEL5

Cadence IC Support for GoldenGate Tools

Supported Cadence Versions (64-bit)	Primary Test Cadence Version (64-bit)	Cadence Versions No Longer Supported
IC 6.1.8 IC 6.1.7 IC 6.1.6ICADV 18.1 ICADV 12.3 ICADV 12.2 ICADV 12.1	IC 6.1.8ICADV 18.1	IC 5.1.41 IC 6.1.0 IC 6.1.2 IC 6.1.3 IC 6.1.4 IC 6.1.5

5.5. GGTools 2020 Update 2.0

GoldenGate Tools 2020 Update 2.0 Documentation

GoldenGate Tools RFIC simulation analysis and verification solutions include a series of products aimed at the design of large-scale RFICs used in wireless communication product design. GoldenGate Tools provides industry-leading circuit simulation technology along with the leading 3-D planar electromagnetic (EM) simulator system-level simulation and design solution of the performance of the circuits. Advanced Design System (ADS) is also offered in some of the packages.

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To access the full on-line product documentation, click [here](#).

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You should be logged in the space to access [GoldenGate Tools 2020 Update 2.0](#) documents and links to more detailed information. Please login using your Knowledge Center login credentials.

Contents

- [Release Notes](#)

5.5.1. GoldenGate Tools 2020 Update 2.0 Release Notes

GoldenGate Tools 2020 Update 2.0 Release Notes

GoldenGate Tools is designed for use with GoldenGate or subsequent GoldenGate releases until a future GoldenGate Tools version becomes available. It enables certain tools and capabilities that are part of the ADS platform for use within Virtuoso. It allows users to:

- Launch RFPro and use Momentum to extract a model for a Cadence Virtuoso layout. Generate a schematic to run an EM/Circuit co-simulation with a circuit simulation tool such as GoldenGate.
- Launch ADS Data Display from within Cadence Virtuoso when the GoldenGate simulator is selected.
- Run System Testbench simulations within GoldenGate by providing a Ptolemy runtime environment.
- Export layout from Momentum Virtuoso for 3D simulation in EMPro. The 3D information is created from the layer definitions and the substrate.

Users can enable these capabilities by pointing to an ADS installation. There is no longer a separate GoldenGate Tools installer.

The GOLDENGATE_LICENSE_FILE environment variable must point to a valid license file. GOLDENGATE_LICENSE_FILE. The ADS_LICENSE_FILE is no longer used in the GoldenGate Tools flow.

What's New

Momentum

- The 'Loading Green Functions' step now runs multi-threaded.

RFPro

- Analyze the impact of etch bias (over/under etch) without the need for parameterizing the layout.
- Momentum
 - Pilot introduction of a faster Momentum preprocessor. Enable the 'Show Beta Functionality' from the 'Tools > Options > General' tab to have access to the 'Generation 2' as Advanced Simulator Setup option.
- FEM
 - The number of threads during the solve is no longer restricted to 8. All physical cores will be used when requested.
- The 2020 releases are the last releases with Python 2.7 as Python 2.7 is reaching its end-of-life. The 2021 release will be using Python 3.7. A pilot release with Python 3.7 is available for download. Contact Technical Support for further guidance.

Momentum Integration

- The application integration functionality behind Launch > Momentum has been deprecated by Cadence and may lead to undesired behavior in some Cadence versions.
- Tool integration (already used by RFPro) is now also available for Momentum. It can be activated by setting the environment variable MOM_INTEGRATION to tool.
When Momentum is integrated as a tool, start it using Launch > Plugins > Momentum
- In 2020 update 2 the application integration method is still the default, except for the Cadence versions known to have undesired behavior (where (getVersion) starts with ICADVM)

documentation

Documentation

Starting with the 2020 release, the online help gets a new user interface. The new UI improves overall online help usability by providing the following key benefits in addition to several other minor benefits:

- **Table of Contents Sidebar:** Displays collapsible Table of Contents for the entire documentation. The left-double-arrow icon collapses the sidebar, and the right-double-arrow icon displays the sidebar back again.

- **PDF Button:** Allows you to instantly generate PDFs of the latest documentation anytime, including current page's children pages. Currently, the PDF generation option is available only for ADS 2020 release. For other releases, you can switch to their **Printing Manuals** page and download the existing PDFs like earlier. Note that with the introduction of PDF generation feature, the Printing Manuals page will not be available from next release onward.
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For more details, see **How to Use Online Help**.

Issues Addressed

This release has issues addressed in the following areas:

Momentum

RFPro

Known Issues

RFPro

- Project load fails when a layout shape has a multi-bit net name (e.g. 'd<7:0>' or 'a,c,net1') with the error 'OccDesign::getNet: key not found'. There is no workaround.
- With McAfee Endpoint Security enabled, the Momentum surface current visualization hangs.

Workaround: Disable the "Enable Adaptive Threat Protection" flag in McAfee ENS.

Documentation

- Mozilla Firefox and Google Chrome are recommended browsers for viewing the online help.
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Workaround: Use PDF version of the document for printing purpose.
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ADS and GoldenGate Version/License Compatibility

GoldenGate	ADS Version	EEsof License Version	EEsof Codeword Version
2017 or later	2020 Update 2	2020.02	2020.02

Platform Support for GoldenGate Tools

Supported Platforms (64-bit)	Native Build Platform (64-bit)	Platforms No Longer Supported
RedHat Linux RHEL6 RedHat Linux RHEL7 SuSe Linux SLES11 SuSe Linux SLES12	RedHat Linux RHEL6	32-Bit Versions of Linux RedHat Linux RHEL5

Cadence IC Support for GoldenGate Tools

Supported Cadence Versions (64-bit)	Primary Test Cadence Version (64-bit)	Cadence Versions No Longer Supported
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6. Unsupported Releases

Unsupported Releases

Here is the list of unsupported releases:

You can find the other releases here:

- **Current Release**
- **Previous Supported Releases**

6.1. GGTools 2014.01

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To access the full on-line product documentation, click <https://archbee-team-jgkt8dcn.atlassian.net/wiki/display/ggtools201401/Home>.

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You should be logged in the space to access [GoldenGate Tools 2014.01](#) documents and links to more detailed information. Please login using your Knowledge Center login credentials.

https://archbee-team-jgkt8dcn.atlassian.net/wiki/display/undefined/GoldenGate%20Tools%202014_01%20Release%20Notes

6.1.1. GoldenGate Tools 2014_01 Release Notes

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To access the full on-line product documentation, click <https://archbee-team-jgkt8dcn.atlassian.net/wiki/display/ggtools201401/Home>.

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You should be logged in the space to access [GoldenGate Tools 2014.01](#) documents and links to more detailed information. Please login using your Knowledge Center login credentials.

GoldenGate Tools 2014.01 Release Notes

GoldenGate Tools 2014.01 is designed for use with GoldenGate 2013.10 or subsequent GoldenGate releases until a future GoldenGate Tools version becomes available. It is a subset of a complete ADS installation and enables certain tools and capabilities that are part of the ADS platform for use within Virtuoso. It allows users to

- Use Momentum to simulate layout views within Cadence Virtuoso to produce EM models for use within circuit simulation tools such as GoldenGate.
- Launch the 3D Viewer to view Momentum results
- Launch ADS Data Display from within Cadence Virtuoso when the GoldenGate simulator is selected.
- Run System Testbench simulations within GoldenGate by providing a Ptolemy runtime environment.
- Export layout from Momentum Virtuoso for 3D simulation in EMPro. The 3D information is created from the layer definitions and the substrate.

Users can enable these capabilities by either

- Pointing to an ADS installation
- Pointing to a GoldenGate Tools installation (smaller footprint)

In both cases, the following environment variables must point to a valid EEsof license file:

- GOLDENGATE_LICENSE_FILE
- ADS_LICENSE_FILE

What's New in GoldenGate Tools 2014.01

- GoldenGate Tools 2014.01 is designed for use with GoldenGate 2013.10 or subsequent GoldenGate releases until a future GoldenGate Tools version becomes available.
- GoldenGate Tools 2012.08 and ADS 2012.08 are no longer supported on 32-bit Linux OS versions. This is true even though GoldenGate 2012.10 will support 32-bit Linux versions. After GoldenGate 2012.10, neither GoldenGate nor GoldenGate Tools will support 32-bit Linux versions.

license

Licensing

- GoldenGate Tools 2014.01 requires: a) **version 2014.01** of the EEsof EDA licensing software, b) version **3.1** codewords to run, and c) **the licensing server software, Imgrd and agileesofd, to be upgraded to at least the same versions as what are included in EEsof EDA Licensing software 2014.01**. GoldenGate Tools 2014.01 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 2014.01, licensing vendor daemon (*agileesofd*) is upgraded to sync up with FlexNet FNP **11.11.1.2** version of FLEX license manager (*Imgrd*). GoldenGate Tools installer for the Windows platform will automatically set up these two new license server daemons by default for the local node-locked license users; for Linux, you need to follow the **Linux/Solaris Licensing Setup** instruction to complete the licensing configuration process. For more details, refer to **Licensing (For Administrators)**.
- A real-time and systematic license setup troubleshooting utility, **Diagnose**, is added to the **License Manager** tool. This utility produces a detailed health report of a user's currently configured licensing environment.
- A **My Support ID** utility is added to the **License manager** tool to allow a user to retrieve his/her Support ID required to contact Keysight EEsof Tech Support.

Enhancements and Improvements

- For simplified and robust licensing, PJC (Per Job Control) licenses are no longer checked out by GoldenGate Tools 2014.01.
- The **License Setup Wizard** no longer requires Administrator privilege on Windows to setup license files. Administrator privilege is only required to setup the windows service that will automatically start the license server upon system restart rather than on EEsos application startup.

Issues Addressed

Licensing

- On windows, a possible Administrator privilege issue preventing the automatic restarting of the FlexFNP license server program, **lmgrd** after the PC comes out of the hibernation mode has been fixed. The License Setup Wizard will automatically restart the server without any user intervention.

Known Issues

Licensing

- The new license server software packaged in the EEsos EDA License Tools version 2014.01 does not work on SuSE 10 platform. Use SuSE 11 or RHEL 5 or 6 instead as your Linux license server machine.
- 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 Flexera FNP 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.

Additionally, we also recommend you to 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.

- On the Linux platform, `_LICENSE_FILE` needs to be correctly specified before starting GoldenGate Tools. Without that being set correctly, GoldenGate Tools would not start.
- 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 2014.01 and 11.9.0.0 or earlier when run at the same time.
- The "Check-in failed" message occurs in the license activity log occasionally can be ignored; the license mentioned in this message is actually properly returned.
- License Setup Wizard does not remove any previous user-configured FLEX Windows License Service installed using FlexNet's lmtools.

Workaround: You must remove the previous user-configured Windows License Service via lmtools.

- Run the lmtools.exe from `C:\Program Files\Agilent\EEsof_License_Tools\bin` to invoke the lmtools utility. The lmtools utility window is displayed.
- 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 GoldenGate Tools releases together, set `_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).

- If a license server is configured with two license versions, that is, version 2.8 and 2.9 node-locked license files, the license server may crash.

Workaround: You should combine the two license files into one file, instead of using them separately.

- For LSF style distributed simulations, in case of windows, ensure that the PATH points to the \$HPEESOF_DIR/EEsof_License_Tools/\$ 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 *Imutil*) gets picked up in the path before any older incompatible 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 _LICENSE_FILE.

Workaround: You can use ***_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.

- If GoldenGate Tools does not start after you reboot your 64-bit Windows computer, and a license denial message is displayed, then it might be caused by a spurious registry entry. Check to see if registry entry *HKEY_LOCAL_MACHINE\SOFTWARE\FLEXIm License Manager\EEsof EDA License Server* exists; if it does, remove it and restart GoldenGate Tools.
- 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.

GGTools and Dynamic Link

- Cadence IC 5.1.41 (and other Cadence versions without 64-bit MPS libraries) will not work for GGTools and Dynamic Link. The rfdemp (GGTools) and idfmp (Dynamic Link)

executable files are linked to Cadence 64-bit libraries. Only Cadence versions with 64-bit em_sh, mpvc_sh, cdsCommon_sh, and sman_sh libraries are supported.

Supported Cadence versions are listed in

\$HPEESOF_DIR/idf/supported_cadence_versions.txt.

Workaround: Use ADS 2013.06, 2012.08 or earlier versions of ADS for GGTools or Dynamic Link when using Cadence IC 5.1.41. Alternatively, Cadence IC 5.1.41 libraries can be converted to Cadence IC 6.1.4 or newer versions to use GGTools and Dynamic Link in ADS 2014.01.

GoldenGate Tools and Corresponding ADS Versions

GoldenGate Tools Version	ADS Version
	2013.06
2012.08	2012.08
2011.10	2011.10
2011.05	2011.05
2011.01	2011.01
4.4.0	2009U1
4.3.4	2009 + selected fixed issues
4.3.2	2009
4.3.0	2008 Update 2 + hotfix-20081008-rfde-momentum_332.401
4.2.2	2008 Update 1
4.1.2	2006 Update 1

GoldenGate Tools and GoldenGate Version/License Compatibility

GoldenGate Version	GoldenGate Tools Version	EEsof License Version	EEsof Codeword Version
2012.10	2012.08	2012.08	3.0

Platform Support for GoldenGate Tools

Supported Platforms (64-bit)	Native Build Platform (64-bit)	Platforms No Longer Supported
RedHat Enterprise 5 RedHat Enterprise 6 Novell SUSE SLES 10 Novell SUSE SLES 11	RedHat Enterprise 5	Solaris 32-Bit Versions of Linux RedHat Enterprise Linux 4 Novell SUSE SLES 9

Cadence IC Support for GoldenGate Tools

Supported Cadence Versions (32/64-bit)	Primary Test Cadence Version (64-bit)	Cadence Versions No Longer Supported
IC 5.1.41 IC 6.1.3 IC 6.1.4 IC 6.1.5 IC 6.1.6	IC5.10.41.6.140 IC06.1.5.505	IC 6.1.0 IC 6.1.2

6.2. GGTools 2015.01

GoldenGate Tools 2015.01 Documentation

GoldenGate Tools RFIC simulation analysis and verification solutions include a series of products aimed at the design of large-scale RFICs used in wireless communication product design. GoldenGate Tools provides industry-leading circuit simulation technology along with the leading 3-D planar electromagnetic (EM) simulator system-level simulation and design solution of the performance of the circuits. Advanced Design System (ADS) is also offered in some of the packages.

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KEYSIGHTBLOCK

To access the full on-line product documentation, click [here](#).

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You should be logged in the space to access [GoldenGate Tools 2015.01](#) documents and links to more detailed information. Please login using your Knowledge Center login credentials.

Contents

- [Release Notes](#)

6.2.1. GoldenGate Tools 2015_01 Release Notes

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KEYSIGHTBLOCK

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GoldenGate Tools 2015.01 Release Notes

GoldenGate Tools 2015.01 is designed for use with GoldenGate 2015.01 or subsequent GoldenGate releases until a future GoldenGate Tools version becomes available. It is a subset of a complete ADS installation and enables certain tools and capabilities that are part of the ADS platform for use within Virtuoso. It allows users to

- Use Momentum to simulate layout views within Cadence Virtuoso to produce EM models for use within circuit simulation tools such as GoldenGate.
- Launch the 3D Viewer to view Momentum results
- Launch ADS Data Display from within Cadence Virtuoso when the GoldenGate simulator is selected.

- Run System Testbench simulations within GoldenGate by providing a Ptolemy runtime environment.
- Export layout from Momentum Virtuoso for 3D simulation in EMPro. The 3D information is created from the layer definitions and the substrate.

Users can enable these capabilities by either

- Pointing to an ADS installation
- Pointing to a GoldenGate Tools installation (smaller footprint)

In both cases, the following environment variables must point to a valid EEsof license file:

- GOLDENGATE_LICENSE_FILE
- ADS_LICENSE_FILE

What's New

Licensing

_Whats New

Momentum

- Import iRCX file in Substrate Editor.
- New Sheet model for thick conductors. This is the recommended setting for metal shields when a thick conductor is mapped in the substrate. The Sheet model for a thick conductor leads to the same number of unknowns as a sheet conductor in the substrate, but it is more accurate because it takes the metal thickness into account in mutual coupling computations with other parts of the circuit.
- New solver option controls the compression level of the Direct Compressed solver.
- New solver option controls the maximum number of threads used during a Momentum simulation.

For more information on these new solver options, see [Simulation Options](#).

Issues Addressed

Momentum

- The vertical cell at a thick conductor edge port is no longer assumed to be perfect conducting. This could lead to an incorrect current path.
- A 'random', non-convergence versus changing mesh density behavior when using the direct compressed solver has been fixed.
- A bug was fixed that could cause unexpected high surface currents in floating metal shapes depending on its mesh.
- A bug was fixed in the AFS algorithm that caused slow convergence in cases where many frequency samples are needed.

Known Issues

Licensing

_Known Issues

GGTools and Dynamic Link

- Cadence IC 5.1.41 (and other Cadence versions without 64-bit MPS libraries) will not work for GGTools and Dynamic Link. The rfdemp (GGTools) and idfmp (Dynamic Link) executable files are linked to Cadence 64-bit libraries. Only Cadence versions with 64-bit em_sh, mpvc_sh, cdsCommon_sh, and sman_sh libraries are supported.

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GoldenGate Tools and Corresponding ADS Versions

GoldenGate Tools Version	ADS Version
2015.01	2015.01
2014.01	2014.01
2012.08	2013.06
2012.08	2012.08
2011.10	2011.10
2011.05	2011.05
2011.01	2011.01
4.4.0	2009U1
4.3.4	2009 + selected fixed issues
4.3.2	2009
4.3.0	2008 Update 2 + hotfix-20081008-rfde-momentum_332.401
4.2.2	2008 Update 1
4.1.2	2006 Update 1

GoldenGate Tools and GoldenGate Version/License Compatibility

GoldenGate Version	GoldenGate Tools Version	EEsof License Version	EEsof Codeword Version
2012.10	2012.08	2012.08	3.0

Platform Support for GoldenGate Tools

Supported Platforms (64-bit)	Native Build Platform (64-bit)	Platforms No Longer Supported
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Cadence IC Support for GoldenGate Tools

Supported Cadence Versions (32/64-bit)	Primary Test Cadence Version (64-bit)	Cadence Versions No Longer Supported
IC 5.1.41 IC 6.1.3 IC 6.1.4 IC 6.1.5 IC 6.1.6	IC5.10.41.6.140 IC06.1.5.505	IC 6.1.0 IC 6.1.2

6.3. GGTools 2016.01

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Contents

- [Release Notes](#)

6.3.1. GoldenGate Tools 2016_01 Release Notes

GoldenGate Tools 2016.01 Release Notes

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- Launch the 3D Viewer to view Momentum results
- Launch ADS Data Display from within Cadence Virtuoso when the GoldenGate simulator is selected.
- Run System Testbench simulations within GoldenGate by providing a Ptolemy runtime environment.
- Export layout from Momentum Virtuoso for 3D simulation in EMPro. The 3D information is created from the layer definitions and the substrate.

Users can enable these capabilities by pointing to an ADS installation. There is no longer a separate GoldenGate Tools installer.

The following environment variables must point to a valid EEsof license file:

- GOLDENGATE_LICENSE_FILE
- ADS_LICENSE_FILE

What's New

From ADS 2016.01, GoldenGateTools installer is no longer supported. For using momentum, DDS and Ptolemy with GoldenGate inside Virtuoso, you need to point to the ADS installation:

Set `HPESOF_DIR` to `ADS` Installation

Set `ADS_LICENSE_FILE`

Momentum

- Enhanced via simplification.
 - The simplification is done as part of the simulation process and works on a hierarchical layout. It is no longer required to perform the via simplification before the simulation on a flattened layout view.
 - The simplification setup no longer requires IC process specific skill code. To maintain backwards compatibility, the legacy via simplification driven by the user will remain active when such process specific skill code is found.
- The EM simulation flow has been enhanced to account for the effect of dummy metal fills more efficiently. A new, fast equivalent dielectric layer approach is provided which accounts for the dominant effect of the metal fill. Besides, the Momentum simulation performance of a rigorous analysis of the metal fills has been improved.
- Enhanced Import iRCX file in Substrate Editor.

Issues Addressed

Momentum

- The DC point in the adaptively sampled dataset ('<name>_a.ds') will be an exact copy of the simulated DC result (no longer based on the rational fit). The low frequency sampling will generate at least 5 samples per decade from 10 kHz to 1 GHz to improve the interpolation accuracy, and all actually simulated frequencies will be part of this dataset.
- An issue has been fixed in the microwave mode where low frequency results of a design containing TML calibrated ports didn't match the RF mode results.

Known Issues

GGTools and Dynamic Link

- Cadence IC 5.1.41 (and other Cadence versions without 64-bit MPS libraries) will not work for GGTools and Dynamic Link. The rfdemp (GGTools) and idfmp (Dynamic Link) executable files are linked to Cadence 64-bit libraries. Only Cadence versions with 64-bit em_sh, mpssc_sh, cdsCommon_sh, and sman_sh libraries are supported.

Supported Cadence versions are listed in

\$HPEESOF_DIR/idf/supported_cadence_versions.txt.

Workaround: Use ADS 2013.06, 2012.08 or earlier versions of ADS for GGTools or Dynamic Link when using Cadence IC 5.1.41. Alternatively, Cadence IC 5.1.41 libraries can be converted to Cadence IC 6.1.4 or newer versions to use GGTools and Dynamic Link in ADS 2014.01.

ADS 2016.01 and GoldenGate Version/License Compatibility

GoldenGate	ADS 2016.01 Version	EEsof License Version	EEsof Codeword Version
2016.01	2016.01	2015.05	3.2

Platform Support for GoldenGate Tools

Supported Platforms (64-bit)	Native Build Platform (64-bit)	Platforms No Longer Supported
RedHat Enterprise 5 RedHat Enterprise 6 Novell SUSE SLES 11	RedHat Enterprise 5	Solaris 32-Bit Versions of Linux RedHat Enterprise Linux 4 Novell SUSE SLES 9 Novell SUSE SLES 10

Cadence IC Support for GoldenGate Tools

Supported Cadence Versions (64-bit)	Primary Test Cadence Version (64-bit)	Cadence Versions No Longer Supported
IC 5.1.41 IC 6.1.4 IC 6.1.5 IC 6.1.6	IC5.10.41.6.140 IC06.1.5.505	IC 6.1.0 IC 6.1.2 IC 6.1.3

6.3.2. GoldenGate Tools 2016.01 Release Notes

GoldenGate Tools 2016.01 Release Notes

GoldenGate Tools is designed for use with GoldenGate or subsequent GoldenGate releases until a future GoldenGate Tools version becomes available. It enables certain tools and capabilities that are part of the ADS platform for use within Virtuoso. It allows users to

- Use Momentum to simulate layout views within Cadence Virtuoso to produce EM models for use within circuit simulation tools such as GoldenGate.
- Launch the 3D Viewer to view Momentum results
- Launch ADS Data Display from within Cadence Virtuoso when the GoldenGate simulator is selected.
- Run System Testbench simulations within GoldenGate by providing a Ptolemy runtime environment.
- Export layout from Momentum Virtuoso for 3D simulation in EMPro. The 3D information is created from the layer definitions and the substrate.

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Issues Addressed

Momentum

- The DC point in the adaptively sampled dataset ('<name>_a.ds') will be an exact copy of the simulated DC result (no longer based on the rational fit). The low frequency sampling will generate at least 5 samples per decade from 10 kHz to 1 GHz to improve the interpolation accuracy, and all actually simulated frequencies will be part of this dataset.
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Known Issues

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ADS 2016.01 and GoldenGate Version/License Compatibility

GoldenGate	ADS 2016.01 Version	EEsof License Version	EEsof Codeword Version
2016.01	2016.01	2015.05	3.2

Platform Support for GoldenGate Tools

Supported Platforms (64-bit)	Native Build Platform (64-bit)	Platforms No Longer Supported
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Cadence IC Support for GoldenGate Tools

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6.4. GGTools 2017

GoldenGate Tools 2017 Documentation

GoldenGate Tools RFIC simulation analysis and verification solutions include a series of products aimed at the design of large-scale RFICs used in wireless communication product design. GoldenGate Tools provides industry-leading circuit simulation technology along with the leading 3-D planar electromagnetic (EM) simulator system-level simulation and design solution of the performance of the circuits. Advanced Design System (ADS) is also offered in some of the packages.

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KEYSIGHTBLOCK

To access the full on-line product documentation, click [here](#) .

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You should be logged in the space to access [GoldenGate Tools 2017](#) documents and links to more detailed information. Please login using your Knowledge Center login credentials.

Contents

- [Release Notes](#)

6.4.1. GoldenGate Tools 2017 Release Notes

GoldenGate Tools 2017 Release Notes

GoldenGate Tools is designed for use with GoldenGate or subsequent GoldenGate releases until a future GoldenGate Tools version becomes available. It enables certain tools and capabilities that are part of the ADS platform for use within Virtuoso. It allows users to

- Use Momentum to simulate layout views within Cadence Virtuoso to produce EM models for use within circuit simulation tools such as GoldenGate.
- Launch the 3D Viewer to view Momentum results
- Launch ADS Data Display from within Cadence Virtuoso when the GoldenGate simulator is selected.
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- Export layout from Momentum Virtuoso for 3D simulation in EMPro. The 3D information is created from the layer definitions and the substrate.

Users can enable these capabilities by pointing to an ADS installation. There is no longer a separate GoldenGate Tools installer.

The following environment variables must point to a valid EEsof license file:

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- ADS_LICENSE_FILE

What's New

Momentum

- Substrate Editor
 - New

An LTD substrate definition can be generated by importing a Synopsys® ITF (Interconnect Technology Format) file. Together with the Cadence technology

file, an ITF file provides most information to create a substrate file

- New

An LTD substrate definition can be generated by importing a Cadence® ICT (Inter-Connect Technology) file. Together with the Cadence technology file, an ICT file provides most information to create a substrate file.

- Enhanced

. Creates an LTD substrate file from a TSMC plain text or encrypted iRCX file. Conductor resistance temperature coefficients and INDIE_TABLE metal bias data is additionally read from the iRCX file.

- New

for a conductor to model its temperature dependence.

- New

for a conductor to model the

effect. This is the effect whereby the actual conductor width depends on the drawn width and space to other conductors.

Performance improvement of the substrate computation which runs on multiple threads now.

- New

: simulation temperature. The conductor resistance adjusts for temperature.

- Enhanced overlap extraction considers lateral overlap between sidewalls of thick conductors. This improves the accuracy for momcap simulations with default mesh

settings. It is no longer required to use very dense meshes

Issues Addressed

Momentum

- An issue with short vias giving negative inductance has been fixed.
- An issue with the substrate generation of a TSMC 16nm substrate has been fixed. It could cause unphysical results. You must recompute the substrate! From the Momentum Virtuoso Window, in the Simulation Options dialog, select to 'Stop After Calculating Substrate'. A simulation with this option set will force Momentum to recompute the substrate.

Known Issues

GGTools and Dynamic Link

- Cadence IC 5.1.41 (and other Cadence versions without 64-bit MPS libraries) will not work for GGTools and Dynamic Link. The rfdemp (GGTools) and idfmp (Dynamic Link) executable files are linked to Cadence 64-bit libraries. Only Cadence versions with 64-bit em_sh, mpvc_sh, cdsCommon_sh, and sman_sh libraries are supported. Supported Cadence versions are listed in \$HPEESOF_DIR/idf/supported_cadence_versions.txt.

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2017	2017	2017.01	2017.01

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Cadence IC Support for GoldenGate Tools

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