



IE3D 15.0 Release Highlights

Software Version 15.0

September 2010

© 2010 Mentor Graphics Corporation
All rights reserved.

This document contains information that is proprietary to Mentor Graphics Corporation. The original recipient of this document may duplicate this document in whole or in part for internal business purposes only, provided that this entire notice appears in all copies. In duplicating any part of this document, the recipient agrees to make every reasonable effort to prevent the unauthorized use and distribution of the proprietary information.

This document is for information and instruction purposes. Mentor Graphics reserves the right to make changes in specifications and other information contained in this publication without prior notice, and the reader should, in all cases, consult Mentor Graphics to determine whether any changes have been made.

The terms and conditions governing the sale and licensing of Mentor Graphics products are set forth in written agreements between Mentor Graphics and its customers. No representation or other affirmation of fact contained in this publication shall be deemed to be a warranty or give rise to any liability of Mentor Graphics whatsoever.

MENTOR GRAPHICS MAKES NO WARRANTY OF ANY KIND WITH REGARD TO THIS MATERIAL INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

MENTOR GRAPHICS SHALL NOT BE LIABLE FOR ANY INCIDENTAL, INDIRECT, SPECIAL, OR CONSEQUENTIAL DAMAGES WHATSOEVER (INCLUDING BUT NOT LIMITED TO LOST PROFITS) ARISING OUT OF OR RELATED TO THIS PUBLICATION OR THE INFORMATION CONTAINED IN IT, EVEN IF MENTOR GRAPHICS CORPORATION HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

RESTRICTED RIGHTS LEGEND 03/97

U.S. Government Restricted Rights. The SOFTWARE and documentation have been developed entirely at private expense and are commercial computer software provided with restricted rights. Use, duplication or disclosure by the U.S. Government or a U.S. Government subcontractor is subject to the restrictions set forth in the license agreement provided with the software pursuant to DFARS 227.7202-3(a) or as set forth in subparagraph (c)(1) and (2) of the Commercial Computer Software - Restricted Rights clause at FAR 52.227-19, as applicable.

Contractor/manufacturer is:

Mentor Graphics Corporation
8005 S.W. Boeckman Road, Wilsonville, Oregon 97070-7777.
Telephone: 503.685.7000
Toll-Free Telephone: 800.592.2210
Website: www.mentor.com
SupportNet: supportnet.mentor.com/

Send Feedback on Documentation: supportnet.mentor.com/user/feedback_form.cfm

TRADEMARKS: The trademarks, logos and service marks ("Marks") used herein are the property of Mentor Graphics Corporation or other third parties. No one is permitted to use these Marks without the prior written consent of Mentor Graphics or the respective third-party owner. The use herein of a third-party Mark is not an attempt to indicate Mentor Graphics as a source of a product, but is intended to indicate a product from, or associated with, a particular third party. A current list of Mentor Graphics' trademarks may be viewed at: www.mentor.com/terms_conditions/trademarks.cfm.

End-User License Agreement: You can print a copy of the End-User License Agreement from: www.mentor.com/terms_conditions/enduser.cfm.

Installation Information

The *Release Highlights* document provides a high-level summary of this release. It includes a summary of the new features in this release, any authorization code changes required, any major installation changes, and any transitional issues you should be aware of before installing. Additionally, this document includes any last minute issues found in the final stages of testing.

This document is located on the top level of the install media (CD or electronic download) and on SupportNet. Changes may be added to this document after the release. Refer to the *Release Highlights* documentation on SupportNet for the most up-to-date release information.

New Features

- Simulation throughput has been significantly improved. Many applications can expect throughput to double compared to previous versions.
- Implementation of Mentor Graphics License Scheme.
- Significant speed improvement on OpenMP multi-CPU support for the major processes in IE3D full-wave EM simulation engine.
- Implementation of automatic geometry connection for crossing 3D polygons.
- Integration of Physical Component Compiler Library (PCCL) for automatic geometry generation and simulations of parameterized vias, solder balls and wire bonds, etc. for both single-ended and differential structures.
- Implementation of 4-port differential via models into PCCL.
- Implementation of building wire bond structures using industrial standard profiles.
- Improvement of the User Defined Object in IE3DLibrary to provide users with more flexibility to build their own structures for EM tuning and optimization.

Support Information

If you have questions about this software release, please log in to SupportNet. You may search thousands of technical solutions, view documentation, or open a Service Request online at:

<http://supportnet.mentor.com/>

If your site is under current support and you do not have a SupportNet login, you may easily register for SupportNet by filling out the short form at:

<http://supportnet.mentor.com/user/register.cfm>

All customer support contact information can be found on our web site at:

<http://supportnet.mentor.com/contacts/supportcenters/>

Installation Information

Refer to *IE3D Installation Instructions* (ie3d_15.0_install.pdf). You can view this manual at the top level of the CD and on SupportNet.

Supported Platforms

Red Hat Enterprise Linux WS 4 (RHEL4), x86

This release supports both the 32-bit and 64-bit versions of RHEL4. Customers running AMD64-based systems or Intel Pentium4 or Xeon-based systems with EM64T capabilities should use 64-bit operating systems together with 32-bit applications support.

Note: The version numbers of the packages shown below as output of the `uname` or `rpm` command are for the RHEL Update noted in parentheses, and are included as examples of the output. For RHEL Updates supported but whose package versions are not shown below, the version information may vary, but the package is required, and must be the version that is delivered with that RHEL Update.

OS Version:

```
$ uname -rs
```

Linux 2.6.9-67.EL #1 (Red Hat Enterprise Linux 4 Update 6) or later

Required File Sets:

Select the following options on the Package Groups offered from install:

Desktops Package Group: X Window System, GNOME Desktop Environment

Applications Package Group: Graphical Internet

Development Package Group: Legacy Software Development

System Package Group: Printing Support

Windowing System:

```
$ /bin/rpm -q -f /usr/bin/gdm
```

gdm-2.6.0.5-7.rhel4.15 (RHEL 4 Update 6) or later

```
$ /bin/rpm -q -f /usr/X11R6/bin/X
```

xorg-x11-6.8.2-1.EL.33 (RHEL 4 Update 6) or later

Minimum Required OS Patches: None

Processor: Intel Pentium 4 2+GHz Recommended

Memory: 2 GB Recommended

Swap Space: 2X the amount of RAM

Kernel Parameters: No changes required.

IT Administration Notes:

Enable TCP connections for X via the gdm.conf file using the following instructions:

1. From the desktop (after OS install), edit /etc/X11/gdm/gdm.conf and change the line that reads:

```
#DisallowTCP=true
```

to

```
DisallowTCP=false
```

2. Reboot the System

Optionally disable firewall and SELinux. (This option is needed for XtremePCB, and may be needed for other system level administrative activities.)

1. Applications->SystemSettings-> Security Level
2. Firewall Options tab select Security Level: Disable firewall

-
3. SELinux tab uncheck “Enabled (Modification Requires Reboot)”
 4. Reboot System

Red Hat Enterprise Linux WS 5 (RHEL5), x86

This release supports both the 32-bit and 64-bit versions of RHEL5. Customers running AMD64-based systems or Intel Pentium4 or Xeon-based systems with EM64T capabilities should use 64-bit operating systems together with 32-bit applications support.

Note: The version numbers of the packages shown below as output of the `uname` or `rpm` command are for the RHEL Update noted in parentheses, and are included as examples of the output. For RHEL Updates supported but whose package versions are not shown below, the version information may vary, but the package is required, and must be the version that is delivered with that RHEL Update.

OS Version:

```
$ uname -rs  
Linux 2.6.18-8.el5 (RHEL5 Base Version)
```

Required File Sets:

Select the following options on the Package Groups offered from install:

Desktop Environments: GNOME Desktop Environment

Applications Package Group: Graphical Internet

Development Package Group: Legacy Software Development, X Software Development

Base System: Base, X Window System, Legacy Software Support (add `openmotif22` rpm)

Separately add the `libXp` rpm (`libXp-1.0.0-8.i386.rpm` in RHEL5 Base version) after selecting the above file sets.

Windowing System:

```
$ /bin/rpm -q -f /usr/bin/gdm  
gdm-2.16.0.30.el5 (RHEL 5 Base Version)  
  
$ /bin/rpm -q -f /usr/bin/X  
Xorg-x11-server-Xorg-1.1.1-48.13.el5 (RHEL 5 Base version)
```

Configuration Verification:

```
$ /bin/rpm -qa | grep libXp-
```

```
libXp-1.0.0.8
```

```
$ /bin/rpm -qa | grep libstdc++-33
```

```
compat-libstdc++-33-3.2.3-61
```

```
$/bin/rpm -qa | grep openmotif22
```

```
openmotif22-2.2.2.3-18
```

IT Administration Notes:

Enable TCP connections for X via the gdm.conf file using the following instructions:

1. From the desktop (after OS install), edit /etc/X11/gdm/gdm.conf and change the line that reads:

```
#DisallowTCP=true
```

to

```
DisallowTCP=false
```

2. Reboot the System

Optionally disable firewall and SELinux (This option is needed for XtremePCB, and may be needed for other system-level administrative activities.)

1. Applications->SystemSettings-> Security Level
2. Firewall Options tab select Security Level: Disable firewall
3. SELinux tab uncheck "Enabled (Modification Requires Reboot)"
4. Reboot the system

Minimum Required OS Patches: None

Processor: Intel Pentium 3 900MHz Minimum, Intel Pentium 4 2+GHz Recommended

Memory: 2 GB Recommended

Swap Space: 2X the amount of RAM

Kernel Parameters: No changes required.

SuSE Linux Enterprise 10 (SLES 10)

OS Version:

```
$ uname -rs
```

```
Linux 2.6.16.21-0.8-default (SuSE Linux Enterprise Server 10)
```

Windowing System:

```
$ /bin/rpm -qa | grep gdm
```

```
gdm-2.8.0.7-57.14 (SLES 10)
```

```
$ /bin/rpm -q -f /usr/X11R6/bin/X
```

```
Xorg-x11-server-6.9.0-50.14 (SLES 10)
```

Configuration Verification:

```
$ /bin/rpm -q -f /usr/X11/lib/libMrm.so.3
```

```
openmotif-libs-2.2.4-21.2
```

```
$ /bin/rpm -q -f /usr/lib/libstdc++.so.5
```

```
compat-libstdc++-5.0.7-22.2
```

Minimum Required OS Patches: None

Processor: Intel Pentium 3 900MHz Minimum, Intel Pentium 4 2+GHz Recommended

Memory: 2 GB Recommended

Swap Space: 2X the amount of RAM

Kernel Parameters: No changes required.

Windows XP Professional

Additional OS Patches:

Either of the following two configurations is supported:

-
- Microsoft Windows XP Pro Service Pack 2 or Service Pack 3 (optionally load all current updates via Windows Update)

Processor: Intel Pentium 3 900MHz Minimum, Intel Pentium 4 2+GHz Recommended

Virtual Memory: 2X the amount of RAM

Windows Server 2003

Additional OS Patches:

The following configurations are supported:

- Microsoft Windows Server 2003, Standard Edition Service Pack 2 with all current updates via Windows Update, both 32-bit and 64-bit versions.
- Microsoft Windows Server 2003, Enterprise Edition or Datacenter Edition have not been tested and therefore are unsupported.
- Windows Server 2003 for Itanium-based Systems are not supported.

Processor: Intel Pentium 4 2+GHz Recommended

Minimum RAM: 2GB, 4GB recommended.

Virtual Memory: 2X the amount of RAM

Microsoft Windows Vista (32 and 64 bit versions), Ultimate Edition, Business Edition, and Enterprise Edition

While there is no known issue with running Microsoft Windows Vista Home Basic Edition and Microsoft Windows Vista Home Premium Edition, the product has not been tested with these editions, and therefore is not supported.

Kernel Configuration: N/A

Minimum RAM: 2GB, 4GB recommended.

Swap Space: 2x the amount of RAM.

Microsoft Windows 7

Microsoft Windows 7 (32 and 64 bit versions), Professional Edition, Ultimate Edition, and Enterprise Edition are supported.

While there is no known issue with running Microsoft Windows 7 Starter Edition and Microsoft Windows 7 Home Premium Edition, the product has not been tested with these editions, and therefore is not supported.

Kernel Configuration: N/A

Minimum RAM: 2GB, 4GB recommended.

Swap Space: 2x the amount of RAM.

Windows Server 2008

Additional OS Patches:

The following configurations are supported:

- Microsoft Windows Server 2008, Standard Edition with all current updates via Windows Update, both 32-bit and 64-bit versions.
- While we expect no issues unique to Microsoft Windows Server 2008, Enterprise Edition or Datacenter Edition, they have not been tested and therefore are unsupported.
- While we expect no issues with Microsoft Windows Server 2008 R2 (64-bit only), it has not been tested and is therefore unsupported.
- Windows Server 2008 for Itanium-based Systems are not supported.

Processor: Intel Pentium 4 2+GHz Recommended

Virtual Memory: 2X the amount of RAM