



HyperLynx® DRC Release Highlights

Software Version 6.4

November 2016

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Introduction

This document provides a high-level summary of the HyperLynx DRC v6.4 release. Refer to the Release Notes on SupportNet for the list of specific known issues and workarounds.

This document includes a summary of the new features in this release. It also includes, if applicable, any authorization code changes required, any major installation changes, and any transitioning issues you should be aware of before installing. Additionally, any last-minute issues found in the final stages of testing are included.

Changes may be added to this document after the release. Refer to the Release Highlights documents on SupportNet for the most up-to-date release information.

New Features for HyperLynx DRC 6.4

Note: Some features below require additional HyperLynx DRC and Xpedition xPCB Layout products. For details, please consult with your Mentor sales representative or visit the Mentor web site.

HyperLynx DRC 6.4 - Summary

The HyperLynx DRC v6.4 release focuses on improved integration between HyperLynx DRC and Xpedition Enterprise VX.2.1 PCB flow release (X-ENTP VX.2.1). Users who don't own the Xpedition PCB flow, HyperLynx DRC v6.4 offers new features and includes a number of defect fixes and improvements.

HyperLynx DRC is a powerful and fast design rule checking tool that can run complex design rules that are not easily simulated, such as rules for EMI/EMC. HyperLynx DRC ships with 23 standard design rule checks (DRCs) (such as traces crossing reference plane splits, reference plane changes, and signal via quantities). This capability enables you to quickly identify locations on your board that may cause EMI/EMC, signal integrity, and power integrity issues.

HyperLynx DRC accesses database objects through the automation object model (AOM), and enables advanced geometrical operations on them. This provides detailed access to the design database and allows you to develop many types of DRCs. With support for VBScript and JavaScript, as well as thorough documentation of the AOM and DRC coding standards, and a built-in script debugging environment, you can quickly start writing your own DRCs.

Supported Flows

- Xpedition Flows: EE 7.9.4, EE 7.9.5, X-ENTP VX.1, VX.1.x, VX.2 and VX.2.1
- Board Station Flows: BSXE 7.9.4, BSXE 7.9.5 and BSXE V10
- PADS Flows: PADS VX.1, VX.1.1, VX1.2, VX.2 and VX.2.1

Analysis Client Control

One of the most significant enhancements is that you can run HyperLynx DRC rules from within the Xpedition xPCB Layout user interface by using the Analysis Control add-in. HyperLynx DRC reads design data from xPCB Layout, constraint data from Constraint Manager, and writes detailed rule violation locations to the xPCB Layout board viewer. When rule checking is complete, you can use Hazard Explorer to select the violations to display in the xPCB Layout board viewer.

Note: *Analysis Control in HyperLynx DRC v6.4 is only compatible with Xpedition xPCB Layout from X-ENTP VX.2.1* and both software installs must be either 32-bit or 64-bit, cross installations are not supported.

HyperLynx DRC v6.4 Platform Support Changes

No platform changes for HyperLynx DRC v6.4. ***However, this will be the last release where RHEL6.5 and prior versions will be supported.***

Licensing

The HyperLynx DRC v6.4 release updates the Mentor Standard Licensing to 2015_1. This version requires a FLEXnet license server running at version 11.13.1.2 or higher. If you use floating licenses and your license server is not at FLEXnet v11.13.1.2 or higher, you will need to update the license server. If you see an error message that says “vendor daemon too old,” that is usually an indicator that the license server needs to be updated to run this version of the client software. For additional information on licensing, refer to the Licensing Mentor Graphics Software manual.

Authorization Codes

To use HyperLynx DRC v6.4, you must purchase HyperLynx DRC licenses or be on support contracts for Quiet Expert as of November 2016. HyperLynx DRC will work with a current Quiet Expert license. For more information about "Exact Access" authorization code formats, see the explanation on SupportNet at:

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

For additional information on licensing, refer to the *Licensing Mentor Graphics Software* manual.

Installation Information

This release uses the new Mentor Graphics Standard Installation program. For additional information on installation, refer to Managing Mentor Graphics PCB Systems Software manual and the help system within the installation software. You can view this manual in the release_documents directory at the top level of the install download or DVD.

Support Information

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

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

If you do not have a SupportNet login, you can easily request one by filling out a short form:

<http://www.mentor.com/supportnet/quickaccess/SelfReg.do>

For phone support in the United States or Canada, please call 1-800-547-4303. For phone support in other locations, please contact your local sales office or distributor. All Customer Support contacts can be found on our web site at:

http://www.mentor.com/supportnet/support_offices.html

Additional Release Notes and Workarounds

For a detailed list of all other release notes and any workarounds for this release, refer to the HyperLynx DRC 6.4 Release Notes on SupportNet.

Supported Platforms

Overall Notes

- Specified patches below are minimum levels. Later versions of the patches are valid, supported configurations.
- Except as noted, all products are supported on all platforms.
- Processor and Memory requirements vary based on the mix of applications being used, the design complexity, and infrastructure requirements. Individual needs may vary from those published below.

Processor Note for Intel/AMD Processors

All Windows and Linux OS variants run on Intel or AMD x86 or x64 processors. In the past, the processor GHz speed determined the performance, but recent changes in the internal architecture of both Intel and AMD processors have made these comparisons difficult. Therefore, the following recommendations are being made for **all** Windows and Linux systems:

- Supported processors and systems are those manufactured since 2008 which conform to the subsequent requirements
- Intel Celeron processors are not recommended
- Minimum requirement is a dual-core (or dual processor) system. A quad core is recommended for improved overall system performance. A hyper-threaded processor should be considered a single processor, not a dual processor.
- For best results, maximize processor speed and L1/L2/L3 processor cache memory.
- Typically, cost is the best indicator of performance, and extra investment in processor capability returns better system performance.

HyperLynx-Specific Recommendations

The following are general recommendations, based on typical usage. Memory consumption varies significantly depending on the size and other details of your designs.

If you plan to use the following features, it is recommended that you install at least **8GB of RAM in your machine:**

- Simulation sweeps (if a large number of parameter variations are enabled simultaneously)
- DDRx batch simulation under certain circumstances (especially with the “power-aware” option enabled)

For these features, 8 GB and preferably 16 GB are recommended:

- Power-integrity analysis of post-layout designs in BoardSim
- 3D EM simulation in the HyperLynx Full-Wave Solver (from either LineSim or BoardSim)

For this feature, 16 GB and possibly 32 GB are recommended:

- “Advanced decoupling analysis” using the new 2.5D power-integrity engine

On a 32-bit Windows system, even basic signal-integrity analysis of large boards may require you to boot Windows in the “/3GB mode” (see Microsoft documentation for details), to force Windows to allow applications to access more than 2GB of the 4GB total memory. Advanced analysis features (like the power-integrity and 3D EM features listed above) are not likely to run at all; a 64-bit OS and the 64-bit version of HyperLynx are recommended instead.

In the sections below, the memory requirements do *not* assume use of these memory-intensive features.

Red Hat Enterprise Linux WS 6 (RHEL6)

This release supports both the 32-bit and 64-bit versions of RHEL6. Customers running AMD64-based systems or Intel Pentium4 or Xeon-based systems should use 64-bit operating systems together with 32-bit applications support.

Given the recent announcement from RedHat to end support for RHEL6 Update 5 and prior Update versions, we have adjusted our test and support strategy to support the following RHEL6 OS release versions:

- RHEL6.6
- RHEL6.7

Notice: We strongly urge you to make plans, if you have not already, to move forward to one of the supported RHEL OS releases *as this will be the last release where RHEL6.5 and prior versions will be supported*. In the meantime we have not changed our environment check routine to preclude you from running on the RHEL OS versions supported in our prior releases in order to provide you the time to migrate your environment forward.

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.

When OS updates are applied they may upgrade libraries to a newer, unsupported version. You are advised not to apply any OS updates until you know it will not directly or indirectly (through dependencies on other packages which may be automatically selected for installation) update the libraries required by Mentor Graphics applications. More details are available on SupportNet at this location: <https://supportnet.mentor.com/portal?do=reference.technote&id=MG591739>

OS Version:

```
$ uname -rs  
Linux 2.6.32-71      (RHEL6 Upd1 or newer up to Upd7)
```

Recommended Installation:

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

Install set - Software Development Workstation

IT Administration Notes:

Optionally disable firewall and SELinux.

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: Dual-core Intel or AMD processor minimum. See [Processor Note for Intel/AMD Processors](#) above.

Memory: 8 GB Minimum

Swap Space: 2X the amount of RAM

Kernel Parameters: No changes required

Red Hat Enterprise Linux WS 7 (RHEL7)

This release supports 64-bit version of RHEL7 (baseline version through Update 2). 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 2.7.xx-xx (RHEL7 baseline or newer up to Upd2)
```

Recommended Installation:

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

Install set - Software Development Workstation

Minimum Required OS Patches: None

Processor: Dual-core Intel or AMD processor minimum. See [Processor Note for Intel/AMD Processors](#) above.

Memory: 8 GB Minimum

Swap Space: 2X the amount of RAM

Kernel Parameters: No changes required

SuSE Linux Enterprise 11 (SLES 11.2 – 11.3)

OS Version:

```
$ uname -rs
Linux 2.6.16.32 (SuSE Linux Enterprise Server 11 or later)
Linux 3.0. (SuSE Linux Enterprise Server 11 or later)
```

Windowing System:

```
$ /bin/rpm -q gdm
gdm-2.24
$ /bin/rpm -q xorg-x11-server
Xorg-x11-server-6.9
Xorg-x11-server-7.4
```

RPMs Required

Gnome Desktop Mgr – RPM gdm-2.24 or higher
X Windows – RPM xorg-x11-server
32-bit Compat C++ Libraries (for 64-bit SLES11) – RPM libstdc++33-32bit
Compat C++ Libraries – RPM libstdc__33-3
Open Motif – RPM openmotif22
Libexpat0 Library – RPM libexpat0

NOTE: The OpenMotif and libexpat0 RPMs are not delivered with SLES11, and must be separately downloaded from opensuse.org.

Individual files required – These are provided by the above RPMs

32 bit libXm.so - /usr/lib/libXm.so

32 bit libexpat.so.0 - /usr/lib/libexpat.so.0

Minimum Required OS Patches: None

Processor: Dual-core Intel or AMD processor minimum. See [Processor Note for Intel/AMD Processors](#) above.

Memory: 4 GB Minimum, 8 GB Recommended

Swap Space: 2X the amount of RAM

Kernel Parameters: No changes required

Microsoft Windows 7 SP1

Microsoft Windows 7 SP1 (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

Processor: Dual-core Intel or AMD processor minimum. See [Processor Note for Intel/AMD Processors](#) above.

Memory: 4GB Minimum, 8GB recommended.

Swap Space: 2x the amount of RAM

Microsoft Windows 8.1

Microsoft Windows 8 (32 and 64 bit versions), Professional Edition, Ultimate Edition, and Enterprise Edition are supported.

Kernel Configuration: N/A

Processor: Dual-core Intel or AMD processor minimum. See [Processor Note for Intel/AMD Processors](#) above.

Memory: 4GB Minimum, 8GB recommended

Swap Space: 2x the amount of RAM

Microsoft Windows 10

Microsoft Windows 10 (32 and 64 bit versions), Enterprise Edition and Pro Edition are supported.

While there is no known issue with running Microsoft Windows 10.0 Home Edition or Educational Edition, the product has not been tested with these editions, and therefore is not supported.

Warning: The new Microsoft Edge Browser delivered with Windows 10 is not supported with HyperLynx. Users should continue to use the default browser Internet Explorer delivered with Windows 10, or download and install Firefox or Chrome Browsers.

Kernel Configuration: N/A

Processor: Dual-core Intel or AMD processor minimum. See [Processor Note for Intel/AMD Processors](#) above.

Minimum RAM: 8GB recommended

Swap Space: 2x the amount of RAM

Windows Server 2008 R2

Additional OS Patches (the following configurations are supported):

- Microsoft Windows Server 2008 R2, Standard Edition with all current updates via Windows Update, 64-bit version.
- While we expect no issues unique to Microsoft Windows Server 2008 R2, Enterprise Edition or Datacenter Edition, they have not been tested and therefore are unsupported.

Processor: Dual-core Intel or AMD processor minimum. See [Processor Note for Intel/AMD Processors](#) above.

Minimum RAM: 8GB for 64 bit, (per simultaneously logged in user)

Swap Space: 2X the amount of RAM

Windows Server 2012 & 2012 R2

Additional OS Patches (the following configurations are supported):

- Microsoft Windows Server 2012, with all current updates via Windows Update
- Microsoft Windows Server 2012 R2, with all current updates via Windows Update

Processor Minimum: Dual-core Intel or AMD processor minimum. See Processor Note for Intel/AMD Processors above.

Minimum RAM: 8GB for 64 bit, (per simultaneously logged in user)

Virtual Memory: 2X the amount of RAM