



VR-Vantage 1.4 Release Notes

This document provides the following release-specific information for VR-Vantage™ 1.4:

Systems Supported and System Requirements.....	2
Third Party Library Support.....	2
VR-Vantage for Windows.....	2
3D Video Boards Supported.....	3
Operating System.....	2
Compiler Compatibility on Windows.....	3
FLEXIm Support.....	3
Using Libraries and Binaries Built with Visual Studio 2005 and Later.....	3
Patch Required for AMD Dual-processor Windows PCs.....	4
Network Compatibility.....	4
FOM Support.....	5
Backwards Compatibility.....	5
New Features and Product Updates.....	5
Documentation Updates.....	6
Fixed Bugs.....	6
Known Problems and Product Restrictions.....	6

Copyright © 2012 VT MÄK, 68 Moulton St., Cambridge, MA 02138 All rights reserved.
VR-Exchange™ and VR-Vantage™ are trademarks of VT MÄK. MÄK Technologies®, VR-Forces®, RTIspy®, B-HAVE®, and VR-Link® are registered trademarks of VT MÄK.
Document ID: VRV-1.4-3-120126

Systems Supported and System Requirements

This section describes platform support and system requirements for VR-Vantage. For the most up-to-date information about systems supported, see the Product Versions page on the MÄK web site at: <http://www.mak.com/support/productversions.php>.

VR-Vantage is available for the following operating systems:

Table 1: Platforms supported

Operating System	Compiler
Windows XP	Microsoft Visual C++ 8.0, 9.0 (32 and 64 bit), 10.0 (64 bit)
Windows Vista	
Windows 7	
Red Hat Enterprise Linux 5.0. (32 bit and 64 bit libraries)	default compiler

Third Party Library Support

VR-Vantage uses the indicated versions of the following libraries:

- VR-Link 4.0.3
- Qt 4.7.3 (MSVC++ 10), Qt 4.6.3 (MSVC++ 8 and 9)
- OpenSceneGraph 3.0.1
- Boost 1.45
- FreeGlut 2.4.0
- GL-Studio 4.2.3.

MÄK will provide modified source code for OSG and osgEarth upon request, as per the OSGPL license. Please contact support@mak.com for download links.

VR-Vantage for Windows

VR-Vantage for Windows requires the following:

- A Pentium-class PC (or higher) with minimum 2 GHz processor
- An OpenGL 2.0-compliant graphics card with 256 MB or more of memory.
- Windows XP SP2, Windows Vista, or Windows 7.
- 10 GB of disk space.
- 1 GB of RAM; more is desirable depending on the size of the terrain database and the number of models to be loaded.

3D Video Boards Supported

In general, VR-Vantage 1.4 should support any board that claims to support OpenGL 2.0. VR-Vantage has been tested with current versions of NVidia graphics cards. There are known problems with ATI graphics cards (in particular, the ATI Radeon X1950 Pro).



You should always try to use the latest drivers available for your video board.

Compiler Compatibility on Windows

MÄK provides versions of product releases that have been compiled with Microsoft Visual C++ 7.1, 8.0, 9.0, and 10.0 (some products are not available on all compilers). When you run MÄK products together, for example, the Logger and a VR-Vantage application, we strongly recommend that you run versions compiled with the same compiler. Mixing products compiled with different versions of the compiler on the same computer can result in program instability.

FLEXIm Support

VR-Vantage 1.4 uses FLEXIm 11.8.

Using Libraries and Binaries Built with Visual Studio 2005 and Later

All MÄK products built with Microsoft Visual Studio require the C Runtime Library to function. The C runtime libraries have always been available from Microsoft for download, they are also installed on a user's machine when a Microsoft compiler is installed. The C runtime libraries are not part of the normal Windows installation.

Unfortunately, the C Runtime Libraries required by Microsoft Visual Studio 2005 (MSVC++8.0) and later cannot just be copied into the *bin* directory of an application. The libraries need to be installed correctly into Windows system folders. (The process is actually a little more complicated, a manifest file needs to be created to tell Windows where to find the libraries.)

To accommodate this change, MÄK distributes the Windows installer for the C runtime libraries with all MÄK products released for MSVC++8.0 and later. The 32-bit installer is named *vc redistrib_x86.exe*; the 64-bit installer (if supported) is named *vc redistrib_x64.exe*. They are in the base directory of any installed MÄK product that requires them.

For more information see this Microsoft URL:

<http://msdn2.microsoft.com/en-us/library/ms235299.aspx>



You must ensure that the preprocessor defines `_SECURE_SCL=0`, and `_HAS_ITERATOR_DEBUGGING=0` are set for MSVC++8.0 and MSVC++9.0 builds. If these are not set, random crashes and assertions may be encountered during runtime. The MSVC++ 10.0 version uses the default values for these flags.

Patch Required for AMD Dual-processor Windows PCs

VR-Link-based products use a high resolution counter for time calculations on Windows PCs. Customers who are running Windows on PCs with multiple AMD Athlon 64-bit processors may notice clock jitter, which may cause time in MÄK products to run backwards. This occurs when the Windows scheduler changes the CPU the MÄK process is using. If the high resolution counters on each processor are not synchronized, the application may witness a decrease in the high resolution counter value stored in the processor causing an incorrect time calculation. To fix this problem customers, apply the AMD Dual-Core Optimizer patch provided by AMD. You can get the patch at:

http://www.amd.com/us-en/Processors/TechnicalResources/0,,30_182_871_9706,00.html



If you get an error when you try to access this URL, reload the page.

Network Compatibility

HLA only

VR-Vantage 1.4 is compliant with:

- ♦ RPR-FOM 0.5, 0.7, 0.8, 1.0, and a subset of 2.0 (draft 6, 14, and 17)
- ♦ MÄK RTI 2.x, 3.x, 4.x
- ♦ Pitch RTI 1.3 C++ interface.

Other RTIs that support the HLA 1.3 specification, the SISO DLC HLA API 1516 version of the IEEE 1516 specification (SISO-STD-004.1-2004), and HLA Evolved. To use an RTI with VR-Vantage it must use the same operating system and be built with the same compiler.

DIS only

VR-Vantage 1.4 supports DIS 4, 5, and 6, and can therefore interoperate with DIS applications of any of these versions.

FOM Support

VR-Vantage 1.4 has built-in support for versions 0.5, 0.7, 0.8, 1.0, and 2.0, drafts 6, 14, and 17, of the RPR FOM. It also supports VR-Link's ability to support alternative FOMs through the FOM Mapper. By default, VR-Vantage 1.4 uses RPR FOM 1.0.

If you want to use VR-Vantage with VR-Forces 3.9 or later and RPR FOM version 2, draft 17, use the *VR-Link20017-1.fed* file.

Backwards Compatibility

VR-Vantage 1.4 applications and some files are not backwards compatible. Specific incompatibilities are as follows:

- ♦ Applications from a given release cannot control display engines from a different release. (In other words, a VR-Vantage 1.4 application cannot control a VR-Vantage 1.3 display engine.)
- ♦ Plug-ins built against one version cannot be used with the other.
- ♦ Model files (MEDF and MEIF) built with one version do not work with the other.

New Features and Product Updates

VR-Vantage 1.4 has the following new features:

- ♦ Space Follow attach mode. This attach mode is designed to provide reasonable views when the observer is attached to satellites. For details, please see [Section 10.2.5, "Space Follow Mode"](#), in *VR-Vantage Users Guide*.
- ♦ Linear model scaling (VR-Vantage XR). This new scaling method scales all entities by a scale factor. For details, please see [Section 15.4, "Exaggerating the Scale of 3D Entity Models"](#), in *VR-Vantage Users Guide*.
- ♦ The DIS Connections page and the HLA Connections pages have new connection parameters and the pages have been slightly redesigned. For details, please see [Section G.2, "Configuring Connection Settings"](#), in *VR-Vantage Users Guide*.
- ♦ Support for HLA Evolved (IEEE 1516-2010).
- ♦ Support for using bitmaps for 2D icons.
- ♦ The Objects Count Panel has been added. It lists the number of entities and VR-Forces control objects that are in the simulation. For details, please see [Section 11.17, "Viewing Object Counts"](#), in *VR-Vantage Users Guide*.
- ♦ Support for MS Visual C++ 10.0.
- ♦ Vsync is now enabled by default. The `--vsync` command-line option has been removed. The `--noVsync` option allows you to disable vsync.
- ♦ The Server Settings page has moved from the Display Settings dialog box to the Terrain Settings dialog box.
- ♦ The File Caching Settings page has moved from the Display Settings dialog box to the Application Settings dialog box.



YOU MUST INSTALL THE VR-VANTAGE DATA PACKAGE.

It is not optional. It contains data that is required by VR-Vantage applications.

Documentation Updates

VR-Vantage documentation has been updated for release 1.4. Due to reorganization of some dialog box pages, some screen captures do not show the exact same set of dialog box pages as the final versions of these dialog boxes.

Fixed Bugs

VR-Vantage 1.4 fixes the following problems that were present in previous releases:

- ♦ Nimbostratus clouds did not work in geocentric terrains. 45767
- ♦ Adding a cloud layer crashed VR-Vantage. 45768
- ♦ The fixed frame rate command line option hung VR-Vantage IG. 45872
- ♦ Class documentation inheritance diagrams did not load. 46175
- ♦ When opening a terrain in VR-Vantage PVD or Plan View mode in VR-Vantage XR, the observer was zoomed out a great distance 46245
- ♦ If you zoomed out from a ground clamped entity, ground clamping was disabled, but when you zoomed back in it was not re-enabled. 46428
- ♦ The OSG GLUT_STENCIL option was not enabled. 46429

Known Problems and Product Restrictions

VR-Vantage has the following known problems:

- ♦ The TerraSimSampleUrbanMetaFlight terrain is not initially visible when loaded in VR-Vantage PVD or in PVD mode in VR-Vantage XR. To see the terrain, press **e** to zoom in. This problem potentially exists for all paged terrains whose page-in distance is less than the default observer distance in PVD mode.
- ♦ You cannot connect to a remote display engine running on Linux from a VR-Vantage application running on Windows. 45176
- ♦ Changing the hierarchy of raster map layers may cause a crash in VR-Vantage Stealth or VR-Vantage FreeView. 44498
- ♦ If a graphics card does not support shaders, you may receive the following error message when you load a terrain that uses them:

```
Shader [Branches] validation failed
```

To work around this problem, set the SpeedTree Performance Profile to Disabled, as follows:

- a. Choose **Settings** → **Display**. The Display Settings dialog box opens.
 - b. Select the SpeedTree Settings page.
 - c. In the Performance Profile drop-down list, select Disabled.
- ♦ On Linux, when an application linked with Qt 4 such as the embeddedExample loads the DI-Guy plug-in, it crashes. The DI-Guy plug-in has a dependency on Qt 3. The crash is due to Qt 3 initialization calling functions that are defined by Qt 4 in the main application.

To work around this problem, do not use Qt 4 in the main application. If necessary write the Qt 4 user interface in a separate plug-in, or disable loading the DI-Guy plug-in (by explicitly adding it to the excluded plug-in files in the *DtVrvApplicationConfiguration*, or by removing the file from the *./plugins/release* directory).

