VR-Vantage 1.6 Release Notes

This document provides the following release-specific information for VR-Vantage™ 1.6:

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 (32 bit only) Windows Vista Windows 7	Microsoft Visual C++ 10.0 (32 and 64 bit)
Red Hat Enterprise Linux 6.0. (64 bit libraries)	default compiler

Third Party Library Support

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

- VR-Link 4.0.9d
- Qt 4.7.4
- OpenSceneGraph 3.0.1
- Boost 1.46.1
- FreeGlut 2.4.0
- GL-Studio 4.2.3
- DI-Guy 12.5.

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 Cards Supported

VR-Vantage 1.6 supports NVIDIA graphics cards that support OpenGL 2.0. VR-Vantage does not support AMD (formerly ATI) graphics hardware.

Some laptops have an NVIDIA graphics card and an Intel graphics card. You must configure your computer to use the NVIDIA card. To do so:

1. Open the NVIDIA Control Panel (in the System Tray).

2. Select Manage 3D Settings.

3. Select Global Settings.

4. Select Preferred Graphics Processor.

5. Select High-performance NVIDIA Processor.

i 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.

FLEXlm Support

VR-Vantage 1.6 uses FLEXlm 11.11.

VR-Vantage 32-bit Does Not Support Some Large Terrain Databases

The 32-bit versions of VR-Vantage cannot support large terrain databases whose use results in exceeding the memory capabilities of 32-bit applications and operating systems. For example, the 32-bit versions of VR-Vantage may have problems displaying exercises that use the *VR-TheWorld Online - MAK Earth.mtf* terrain, which has a highly detailed terrain of Honolulu, Hawaii.

Running 32-bit Applications on 64-bit Windows 7

Windows 7 has a bug that causes applications to crash when running a 32 bit application on 64 bit Windows with large addresses enabled (which allows 32-bit applications to use more than 2 GB of memory). This bug affects VR-Link-based applications, such as VR-Vantage. Microsoft has a hotfix that fixes this problem. For details and the hotfix download, please go to http://support.microsoft.com/kb/2588507.

Using MÄK Products on Virtual Machines

In general, MÄK products run on virtual machines without any problems. The exception to this statement is that applications that use 3D graphics, such as VR-Vantage and the VR-Forces front-end, may not work properly. This is due to lack of support for NVIDIA drivers by virtual machines. We continue to investigate ways to resolve this problem.

Network Compatibility

HLA only

VR-Vantage 1.6 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 1.6 supports DIS 4, 5, and 6, and can therefore interoperate with DIS applications of any of these versions.

FOM Support

VR-Vantage 1.6 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 1.6 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 1.6 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 1.6 application cannot control a VR-Vantage 1.4 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 1.6 has the following changes and new features:

- ◆ Support for dynamic ocean effects. This includes, waves, swell, chop, underwater visibility, and entity buoyancy. For details, please see:
  – Section 10.12, "Displaying Wakes and Spray Effects", in *VR-Vantage Users Guide*.
  – Section 10.13, "Enabling Buoyancy for Surface Entities", in *VR-Vantage Users Guide*.
  – Section 5.5, "Configuring Marine Conditions", in *VR-Vantage Users Guide*.
  – Section 5.6, "Displaying Screen Splash Effects", in *VR-Vantage Users Guide*.
  – Section 3.5, "Adding a Dynamic Ocean Layer", in *VR-Vantage Configuration Guide*.

- ◆ Support for dynamic lighting and shading, including:
  – Ocean planar reflections
  – Lens flare
  – Sun rays (crepuscular rays).

  For details, please see Chapter 16, *Lighting Effects*, in *VR-Vantage Users Guide*.

- ◆ Shader-based effects maps – normal maps, specular maps, ambient occlusion maps, and reflection maps. For details, please see Section 3.6, "Using Shader-based Effects Maps", in *VR-Vantage Configuration Guide*.

- ◆ Support for weather conditions and improved configuration of wind, precipitation, and cloud cover. For details, please see Chapter 5, *Scenes and Environmental Effects*, in *VR-Vantage Users Guide*.

- ◆ Support for DI-Guy 12.5 and skinned characters.

- ◆ Support for SpeedTrees on geocentric terrains.

- ◆ Support for absolute timestamps.

- ◆ Support for Red Hat Enterprise Linux Workstation 6.

> **!**   YOU MUST INSTALL THE VR-VANTAGE DATA PACKAGE.
>
> It is not optional. It contains data that is required by VR-Vantage applications.

Documentation Updates

Documentation has been updated for this release.

Section 5.7 in *VR-Vantage Users Guide* describes how to display remote environmnet settings. Changes to fog height or color in VR-Forces do not get sent to VR-Vantage.

Fixed Bugs

VR-Vantage 1.6 fixes the following problems that were present in previous releases:

- The default orbit and linear speed values were too slow.
- If an entity with an intervisibility line attached to it moved, the range and bearing labels did not update. 48854
- Intervisibility fans were not displayed correctly when using VR-TheWorld. 44190
- If you changed the size of the arrow in a freehand line in a 3D projection, it did not update. 49578
- Range and bearing labels were incorrect. 49528
- Getting too close to a track history made it disappear. 47202
- You cannot connect to a remote display engine running on Linux from a VR-Vantage application running on Windows. 45176
- Semi-transparent objects, such as X trees, had halos. 49966

Known Problems and Product Restrictions

VR-Vantage has the following known problems:

- If you load the MAK Earth terrain after you have loaded other terrains, it does not page in the highest LODs. 51151
- If you connect to a terrain server and then connect to it again without first closing the connection, the terrain becomes unusable. 51044
- Some environmental effects do not work well if you have multiple observers.
- If you attach the observer to an entity that is displaying communications lines and you turn off communications lines, VR-Vantage crashes. 51120
- Restoring CameraFX sensors to factory settings breaks the sensors. 51159
- GL Studio (and therefore cockpits) is not supported on Linux.
- Sound effects are not supported on Linux.
- When precipitation is enabled, it is visible inside buildings. 50497
- If precipitation is enabled and you open an inset window, it may stop. 50480
- Elevation coloring and contour lines do not work unless you disable advanced lighting and shading. 50620
- VR-Vantage may crash on exit on Linux if your Linux installation is not at the latest version of *libselinux* (as of the date of this release).
- If you restore factory settings on the Sensor Settings page, CamerFX sensors no longer work. To restore them, copy everything in *./factory/settings/stealth* back to *./appData/settings/stealth*. 49914
- If sensors are enabled and you open more than one inset window, VR-Vantage may crash. 49469

- The Linux version of VR-Vantage crashes intermittently when connecting to or disconnecting from a running exercise. 47690

- Some strings in the graphical user interface are not included in the translation files. 47806

- The exampleExtendDialogByAddition and exampleExtendDialogByDeriving examples do not work in Linux. 47639, 47638

- The tutorialDistributedSimulations tutorials do not work in Linux. 47644

- 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.

- If you install VR-Vantage and view online help, then reinstall VR-Vantage and try to view online help again, no content is displayed in the help viewer. To work around this problem, delete the help cache directory. On Windows XP, it is *C:\Documents and Settings\<user>\Local Settings\Application Data\MAK\VR-VANTAGE1.4.1*. On Windows Vista and Windows 7, it is *C:\Users\<user>\AppData\Local\MAK\VR-VANTAGE1.4.1*. On Linux, it is */home/vrv/.local/share/data/MAK/VR-VANTAGE1.4.1*. 47721.

- Changing the hierarchy of raster map layers may cause a crash in VR-Vantage Stealth. 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.