MÄK Stealth 6.2 Release Notes

This document provides the following release-specific information for MÄK Stealth 6.2:

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Systems Supported and System Requirements

This section describes platform support and system requirements for the MÄK Stealth. 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.

The Stealth is available for the following operating systems:

Table 1: Platforms supported

Operating System	Compiler
Red Hat Enterprise Linux Workstation 4	GNU C++ (GCC) 3.4.4
Windows XP	Microsoft Visual C++ 7.1, 8.0

Stealth for Windows

The Stealth 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.
- 1 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.

Use of joysticks requires *dinput.dll*, which is part of DirectX 8.1 or later.

Compiler Compatibility on Windows

The HLA versions of the Stealth must run with an RTI compiled with Visual C++ 7.1.

Requirements for Creating Plug-Ins Using the Stealth Control Toolkit

To create a Stealth plug-in or use the Stealth Control Toolkit, you must install VR-Link 3.11.1 for Visual C++ 7.1. See the *VR-Link Release Notes* for compiler requirements for your operating system.

Vega Prime Compatibility

Stealth 6.2 was built with Vega Prime 2.2 and vpNet 2.2. If you have a previous version of Vega Prime in your path, the Stealth might not be able to load. The solution is to remove the path to the older version of Vega Prime from your path.

Vega Prime Plug-in Support

If you want to use Blueberry3D terrains with the Stealth, set the BB3D_LOCATE_RTE environment variable to point to the Blueberry Run Time Environment directory within your Bionautics installation. You must have a Blueberry runtime and a developers license from Multigen-Paradigm.

3D Video Boards Supported

In general, Stealth 6.2 should support any board that claims to support OpenGL 2.0. The Stealth has been tested with NVidia GeForce graphics cards.

Java Support for the Model Mapper

The Model Mapper is a Java application. To use it, you must install Java 1.4.1 or later.

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

Stealth 6.2 was built against VR-Link 3.11.1 and is compliant with:

- RPR-FOM 1.0 and a subset of 2.0 (draft 6, 14, and 17)
- MÄK RTI 3.2.

The Linux version of Stealth 6.1 is not compatible with MÄK RTI 3.1.1 or earlier. You must use MÄK RTI 3.1.2 or later.

DIS only

Stealth 6.2 supports DIS 2.0.4, IEEE 1278.1, 2.1.4, and IEEE 1278.1a, and can therefore interoperate with DIS applications of any of these versions.

FOM Support

Stealth 6.2 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, Stealth 6.2 uses RPR FOM 1.0.

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

For information about FOM mapping and specifying the FOM version to use, see *MÄK Stealth User's Guide*.

MÄK Terrain Database Tool Support

The Stealth includes the MÄK Terrain Database Tool (TDB Tool), a utility that you can use to convert various database formats to MÄK Terrain Format (GDB) for loading in the Stealth. The Stealth does not support the following features in the TDB Tool:

- Feature or vector support (DFAD/DFD/Shape).
- Multiresolution paper maps or tiled paper maps. (Only single images can be displayed).
- GDB soil types and polygon colors are ignored.
- Extent MTD files.
- Qt images files from MTD files.
- RpfPaperMapRecord records.
- Geodetic or geocentric GDB databases.

New Features and Product Updates

Stealth 6.2 has the following new features:

- You can now load point features from GDB databases.
- You can change the near clipping plane from the keyboard.
- Keyboard shortcuts for pivot mode and displaying the pivot model have changed.
- Some terminology has changed.
- Support for Qt 4.3.3.
- Support for FLEXlm 11.4.
- Object selection highlighting has changed.
- Tactical graphics are displayed using smaller models.
- A new terrain database, VR-Village, is included. A new demonstration recording that uses this terrain, *VR-Village-CarBombDemoDIS.lgr*, is included.
- New models for commonly used entities
- Changes to configuration parameters.

Loading Point Features

You can load point features from GDB terrain databases that correspond to the terrain loaded in the Stealth. You can load features from multiple databases. For details, please see Section 4.4, "Loading Vector Point Features from GDB Terrains".

Changing the Near Clipping Plane

You can now increase or decrease the near clipping plane by pressing **`Shift+)`** and **`Shift+(`**.

Object Selection Highlighting

In previous releases, selected objects were indicated by placing a shaded area around the object. Object selection is now indicated by drawing a box around the selected object.

Support for FLEXlm 11.4

Stealth 6.2 requires FLEXlm 11.4. You must replace the files in your license server directory with the files provided with this release. You do not have to change your license file unless it has expired.

Miscellaneous Changes

The keyboard shortcut for pivot mode, formerly **p**, is now **k**. The shortcut for displaying the pivot model, formerly **Shift**+**p**, is now **Shift**+**k**.

Trajectory histories are now called Track Histories.

The Overlay is now called the Head-Up Display.

Changes to Configuration Parameters and Command-Line Options

The following configuration parameters have been removed from *params.mtl*:

- maxNumberOfTrailModels
- saveEnttiyDataAcrossFrames
- maxNumberOfEntityLabels
- labelStyle
- xrEnableTacticalGraphicsHeightLabels.

The following parameters have been added to *params.mtl*:

- isectorUpdateOrientationThreshold specifies the distance (in degrees) an entity needs to rotate before recalculating its ground clamped elevation and orientation.
- remoteDrawControlFlashInterval sets the interval at which flashing remote graphics flash.
- enableGroundClampRendering enables or disables rendering the VP isector used for ground clamping.
- screenCaptureName sets the root used to generate names for screen captures.
- language specifies the language to use.
- xrViewFloor sets the height, in meters, above the terrain in Absolute or Track mode, below which the eyepoint cannot go (in xr mode).
- checkProductVersionURL specifies the URL for the product version command on the Help menu.

The following command-line options have been added:

- `--startAltitude` sets a starting altitude when one is not set in an MTL file used to load a database. (The MTL setting would override the command line argument.) The default is to use the Z from startPosition or 100. m above the height of terrain at the starting point if no startPosition variable is set. This is useful if you want to start at the center of a database, but at a different altitude.
- `--startOrientation` sets a starting orientation when one is not set in an MTL file used to load a database. (The MTL setting would override the command line argument.) The default is 0.,350.,0. (headed north, pitched slightly down, no roll)

Documentation Updates

MÄK Stealth User's Guide has been updated.

Fixed Bugs

This release fixes the following bugs or restrictions that were present in Stealth 6.1:

- Displaying the Layers dialog box no longer crashes the Stealth.

Known Problems and Product Restrictions

- If you have sound enabled and your PC does not have a sound card, the Stealth may crash. Under some circumstances, even with a sound card, enabling sound make cause instability.
- By default, the Stealth loads terrains in a separate thread (asynchronous loading.) Sometimes, this load fails, even though the terrain paths are correct. To work around this problem, load terrains synchronously. Add the following line to the terrain's configuration file:

  ```
  (setq loadAsynchronous 0)
  ```

  Synchronous loading is often faster than asynchronous loading. However, during synchronous loading, the Stealth interface freezes until the terrain finishes loading.
- Tracked billboard models sometimes do not load. 3491
- If you try to use *vaportrail.flt* or *dusttrail.flt*, they do not rotate properly. Entity trails configured in the ACF file work correctly.
- You cannot select an emitter system from the 3D view.
- Sound is not supported on Linux.
- You cannot load OpenFlight files directly on Linux. You must load them through ACF, MTD or MTL files.
- In the Plug-in API, RotOffset() is not supported in *DtModel*.
- If saved views become invalid, no errors are reported. Saved views may become invalid if the view's attached entities do not exist.
- Terrain may disappear when selecting a preset view. There are two possible causes for this problem: either the terrain's lowest LOD has no geometry or the terrain does not fit in the current viewing frustrum. To work around the problem, try setting the LOD scale to something small (for example, 0.1) and try increasing the far clipping plane. Clouds and fog effects may hide the terrain when zoomed far out.
- Game controllers, such as joysticks, are not supported on Linux.

- Stealth licensing does not work in some cases. When running Stealth it is possible to encounter an error regarding a missing vsg_rtl license. This error occurs when Stealth is installed as one user, but run as an other user having different file permissions (for example, users belonging to different domains or having insufficient file privileges will not be able to run).
- Stealth crashes on close when using vpDiGuy with an invalid DI-Guy license.
- DI-Guy characters do not display color correctly for selection and XR mode. Selecting one DI-Guy character will color all DI-Guy characters having the same model. In XR mode, if the same model is used to represent friendly, opposing, or neutral entities, all entities will share the same color.
- With delayed model loading on, models may not always be visible in inset views.
- Stealth cannot load MTD files with tiled image sets.
- Stealth cannot load PNG images as part of a MAP file.
- In XR mode, the time of day may switch to night when loading a terrain. The time of day can be reset from the preferences dialog (under environment).
- If you have a Vega Prime development environment installed and you run the Stealth, Vega Prime will try to check out a Stealth run-time license (mak_rtl), which is included with Vega Prime. This has no effect on your ability to run the Stealth or on use of Stealth licenses supplied by MÄK. If you want to prevent Vega Prime from checking out the run-time license, disable the MPI_INSTALL_DEFAULT environment variable.
- Some keyboard commands to open and close the dockable toolbars do not work correctly under Linux. You can open windows through the View menu, which is on the main menu bar or on the middle mouse button.
- The Linux version of Stealth may crash on exit. This happens very late in the shutdown process, while closing the connection to the X server.