



MÄK Stealth 4.1-ngc Release Notes

This document provides the following release-specific information for MÄK Stealth 4.1-ngc:

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Systems Supported and System Requirements

This section describes platform support and system requirements for the Stealth. For the most up-to-date information about system requirements, see the Product Versions page on the MÄK web site at: http://www.mak.com/product_version.htm.

Stealth for UNIX

Stealth 4.1-ngc runs on the SGI IRIX and Linux operating systems.

SGI IRIX

Stealth 4.1-ngc is available for systems running IRIX 6.5 or later, with OpenGL and Performer 2.2.

The Stealth for SGIs requires 256 MB of RAM, 512 MB if you plan to use the complete dismounted infantry models, and approximately 640 MB of disk space.

Stealth 4.1-ngc for SGIs was built under IRIX 6.2 against OpenGL Performer 2.2 using the N32 ABI. The Stealth executables are statically linked with Performer, so you don't need to have Performer installed on your system in order to run the Stealth.

The smaller, *Stealth.dynamic* executable, is dynamically linked with Performer, and with the OpenFlight Performer loader. If you are using *Stealth.dynamic*, you need performer_eoe version 2.2 or a compatible version installed. You must also have a version of the MultiGen-Paradigm loader DSO (*libpfflt_ogl.so*) that is compatible with the *pfflt.h* header file that comes with Performer 2.2.



The loader DSO that comes with Performer 2.2 is a version 14.2 loader. In order to load files of more recent OpenFlight versions using the dynamically linked Stealth, you need to obtain a later version of the loader DSO (*libpfflt_ogl.so*) from MultiGen-Paradigm's FTP site ([ftp.multigen.com/pub](ftp://ftp.multigen.com/pub)), and install it in */usr/lib32/libpfd*, or some other location contained in your LD_LIBRARYN32_PATH environment variable.

Linux

Stealth 4.1-ngc supports Linux. It is built with Performer 2.4. The Stealth is statically linked with Performer, so the performer_eoe is not needed. The Stealth for Linux requires 256 MB of RAM, 512 MB if you plan to use the complete dismounted infantry models, and 580 MB of disk space.

Stealth for PCs

The Stealth for PCs requires the following:

- ♦ A Pentium-class PC (or higher) with a standard VGA or SVGA video board and CD-ROM drive.
- ♦ Windows NT 4.0 or Windows 95/98/2000.
- ♦ 580 MB of disk space. 540MB is for terrain databases and model files.
- ♦ 256 MB of RAM, 512 MB if you plan to use the complete dismounted infantry models.
- ♦ A 3D video card that has OpenGL, Direct3D, or Glide 3 drivers.
- ♦ A second monitor enhances ease-of-use with cards based on the Voodoo 1 and 2 chip sets and some Quantum 3D cards, and is highly recommended, but is not required.

Stealth Plug-ins

To create a Stealth plug-in, you must install VR-Link 3.7. See the VR-Link 3.7 Release Notes for compiler requirements for your platform.

3D Video Boards Supported

In general, Stealth 4.1-ngc should support any board that claims to support OpenGL, Direct3D (Windows 95/98 only), or Glide version 3. This version of the Stealth has been tested and is known to work with the following boards and configurations:



Due to Glide's current inability to support switching between 2-D desktop and 3D graphics view on a single monitor, this version of Stealth cannot support boards with the 3Dfx Voodoo3 chipset.

Recommended Boards and Configurations

Based on our testing, we recommend the following configurations:

- ♦ For Glide - Quantum3D Obsidian2-200SB
- ♦ For OpenGL - NVIDIA GeForce2 Ultra, GeForce3, or GeForce2 GTS
- ♦ For Direct3D - Dell Inspiron 8000 notebook.

Online Help Browser Requirements

The online help system included with this release of the Stealth is an HTML-based system. To view online help, you must have a web browser installed that supports Javascript and Java. Java and Javascript must be enabled.

Network Compatibility

HLA only

Stealth 4.1-ngc was built against VR-Link 3.7-ngc and is compliant with:

- ♦ RPR-FOM 0.5, 0.7, 0.8, 1.0, and 2.0
- ♦ MÄK RTI 1.3.5-ngc
- ♦ DMSO RTI NG v1, v2, v3.0, v3.1, v3.2, and 4.0.

Stealth 4.1-ngc is compatible with applications that use earlier versions of VR-Link if they support versions of the RPR FOM listed above.

DIS only

Stealth 4.1-ngc 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.

RTI Support

The MÄK RTI is included on all MÄK product CDs. It is link-compatible with the DMSO RTI NG. Stealth 4.1-ngc has been tested with DMSO RTI NG v1, v2, v3.0, v3.2, and 4.0.

If you use the MÄK RTI, be sure that the Stealth can find your FED file, and optional *rid.mtl* file, by putting them in the directory from which you are running, or by setting the environment variable RTI_CONFIG to the directory that contains them.

RTI Library Names

Stealth 4.1-ngc expects library names that match those of DMSO RTI NG v3.2. If you run Stealth 4.1-ngc with DMSO RTI NG v3.2, both the UNIX and PC versions work without any modification. If you want to run Stealth 4.1-ngc with DMSO RTI NG v1 or v2, you must make the following changes:

- ♦ For UNIX, you must use the libraries *libRTI-NGv2.so* or *libRTI-NGv1.so*, which are supplied by MÄK in the *.lib* directory. These libraries correspond to DMSO RTI NG v1 and v2. To use Stealth 4.1-ngc with RTI NG v1 or v2, copy the appropriate library to the DMSO RTI NG *lib* directory and rename it *libRTI-NG.so*. (You might want to rename the v3.x *libRTI-NG.so* library first.)
- ♦ For PCs, rename the libraries that come with RTI NG v1 or v2 to the names used by the RTI NG v3.2 libraries (*libRTI-NG.lib* and *libfedtime.lib*).

FOM Support

Stealth 4.1-ngc has built-in support for versions 0.5, 0.7, 0.8, 1.0, and 2.0 of the RPR FOM. It also supports VR-Link's ability to support alternative FOMs through the FOM Mapper. By default, Stealth 4.1-ngc uses RPR FOM 1.0.

For information about FOM mapping and specifying the FOM version to use, see section 8.2.2, "Specifying the FOM Version", in *MÄK Stealth User's Guide*.

New Features and Product Changes

This release of the MÄK Stealth has the following new features:

- ♦ Support for display of electromagnetic emissions (sensor volumes) on PCs
- ♦ New Stealth Control PDUs for controlling the display of Stealth options
- ♦ Dynamic loading of models
- ♦ Support for Elumens VisionStation
- ♦ Updated *MÄK Stealth User's Guide*
- ♦ Special instructions for installing the Stealth on UNIX from an archive file.

The new features are summarized in this section and fully described in the online help and the online (PDF) version of *MÄK Stealth User's Guide*.

Support for Display of Electromagnetic Emissions (Sensor Volumes) on PCs

Display of electromagnetic emissions works on PCs just as it has on SGI in previous releases.

New Stealth Control PDUs

New Stealth Control PDUs allow you to record changes made in the Stealth Options dialog box, such as the display of trailing effects, trajectory histories, and labels. You can also use the Stealth Control PDUs programmatically with VR-Link. The new class is *DtOptionsVCPdu*, in *VcPdu.h*. See VR-Link documentation for more information.

Dynamic Loading of Models

The Stealth now supports dynamic loading of entity models.

By default, the Stealth loads entity models when it starts up. This slows down startup time, but it enables the Stealth to display entities promptly when they enter an exercise. However, this method also uses memory for models that might not be needed, thereby potentially affecting performance.

If you would like to speed startup time and, possibly, save memory by loading fewer models, you can use dynamic model loading. With dynamic model loading, the Stealth does not load a model until it enters an exercise. However, if you have many models entering an exercise at the same time, performance may be affected, or the Stealth may drop some packets, and some entities might not be displayed.

You can control use of dynamic modeling with the `preloadModels` parameter. See *MÄK Stealth User's Guide* for details.

Support for Elumens VisionStation

The Stealth for PCs supports the VisionStation hemispherical display system from Elumens (<http://www.elumens.com>). Contact MÄK technical support (support@mak.com) for information about how to configure the Stealth for your display.

Updated MÄK Stealth User's Guide

MÄK Stealth User's Guide has been updated to reflect new features and is available in PDF format and in print.

Installing UNIX Versions of the Stealth



The Stealth archives for SGI and Linux must be extracted with the GNU gtar utility.

If you extract the files with tar, you will receive the following error when you run the Stealth:

```
iopen: bad magic in image file 0
```

The gtar utility is freely available from SGI at <http://freeware.sgi.com/>.



This is free software provided by SGI. Although we believe it to be harmless, MAK offers no warranties on this software, and neither does SGI (see http://freeware.sgi.com/legal_notice.html).

The MAK Product CD contains gtar, and the installation script is configured to use it automatically.

Documentation Updates

The online help and *MÄK Stealth User's Guide* have been revised and updated to document the new features in this release. The following changes took place after the manual went to press:

- ♦ Section 1.4, “Running the Stealth Demonstration,” references the *berkeleydemo.lgr* and *berkeleyDemoRPR10.lgr* files. These files were not shipped with versions of the MÄK Logger shipped prior to the release of Stealth 4.1-ngc. You can download these files from the MÄK web site. Point your browser at the URL www.mak.com/ftpout/stldemo.htm.
- ♦ In Section 1.4, “Running the Stealth Demonstration,” states that the demo scripts for UNIX will open the Berkeley demonstration. Since there is a known problem loading the Berkeley database, the demo scripts load the Monterey demo. If your system does not have a problem with the Berkeley database, you can run the Berkeley demo files manually.
- ♦ When you turn on sound in the Stealth Options dialog box, any entities that are already in the exercise will not have sounds associated with them. To ensure that all entities have sound files associated with them, enable sound before viewing an exercise.

Bug Fixes

This release fixes the following problems in earlier releases:

- Problems with articulated parts on some entity models have been fixed.

Known Problems and Product Restrictions

- The Berkeley database is large and may load slowly on PCs if you have a lot of models. On UNIX, the Stealth may have difficulty loading the Berkeley database if you have a lot of models. Increasing swap space should resolve this problem.
- The stealthCtrl utility is not included in this release. If you need a current version of this utility, please contact MÄK Technologies at support@mak.com.
- Some DirectInput joysticks do not work correctly with the Stealth for PCs.
- On UNIX, trailing effects do not work properly when dynamic scene origin is enabled. If you want to use dynamic scene origin, disable trailing effects. (Set **dynamicSceneOrigin** to 1 in *params.mtl* and **enableEntityTrailingEffects** to 0 in *TrailMap.mtl*.) (Dynamic scene origin is no longer used on PCs.)
- If the frame rate is unacceptably low, try disabling trailing effects.
- The sky setting does not work with asymmetric frusta. If you use asymmetric frusta, set the **ViewState > earthSkyMode** parameter to zero.
- The Voodoo3 chip set is not supported (see “3D Video Boards Supported” on page 3)
- The following diagnostic message is sent to the output file *Stealth.txt*:

```
'DtDcmDcmRotAxis warning: sign indicator near zero: 0.000000e+000'
```

This message may be repeated many times. This is a harmless message and can be ignored.

- In dual monitor mode, the OpenGL Stealth graphics output appears on the secondary display and is positioned in the lower left corner of the display. The Stealth viewport is the same size as the original OpenGL window (measured in pixels). However, it will usually be larger or smaller than the original unless the two display resolutions are made to be the same. You will need to resize the OpenGL 2D window if this is the case.
- In Windows 95/98, the 2-D OpenGL window prevents the graphics view from being enabled. You must press Ctrl-F9 to switch to the graphics view, even in dual monitor mode.
- In Windows NT, when you use the spaceball to move the eyepoint, there is a 'stuttering' phenomenon under certain conditions. The graphics view will stop getting updates for a noticeable period of time (< 1 second), then resume. This is a thread priority issue and the Windows function to remedy this does not work. However, you can solve the problem as follows:
 1. Open the Control Panel.
 2. Open the System applet.

3. Select the Performance tab.
 4. Move the slider for Application Performance all the way to the left (do not boost the performance of the foreground application).
- ♦ If you use Creative Technology's '3D Blaster', which uses NVIDIA's RIVA TNT2 Ultra processor, clouds have a tendency to change color spontaneously.
 - ♦ If you run the Stealth with a Direct 3D board, you must use the version of *q3dsd3.dll* that we ship with the Stealth (4.2.Q3D_VERINFO_PATH.0122-122 as reported in the Properties dialog box.)
 - ♦ The ability to draw into the scene using the Stealth plug-in API has not been thoroughly tested for all systems (most notably Glide and Direct3D).
 - ♦ On some systems, when you activate the on-line help, if you already have a web browser open, the online help does not open up. If this occurs, close your open browser, then activate online help again. It should open up the default browser and display the help file.
 - ♦ On Windows 98, using the preview option of the Model Mapper may hang the Stealth. To exit the Stealth, you need to press Control-Alt-Delete, select the Stealth in the list of applications, and click End Task.

