



MÄK VR-Forces 2.0.3-ngc Release Notes

MÄK VR-Forces 2.0.3-ngc fixes problems found in VR-Forces 2.0, 2.0.1, and 2.0.2. There are no new features in this release. This release note contains the following release-specific information for VR-Forces Release 2.0.3-ngc:

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Systems Supported

VR-Forces 2.0.3-ngc is available for the platforms listed in [Table 1](#). For toolkit users, application code must be built with the indicated compilers in order to link to VR-Forces libraries.

Table 1: Platforms supported

Platform	Compiler
SGI IRIX6.5	MipsPro7.2.1 C++ compiler (available from SGI)
PC with Red Hat Linux 6.0 (Linux 2.2.16-3)	GNU C++ (g++) distributed with Red Hat distribution. The command: <code>g++ -v</code> returns: gcc version egcs-2.91.66 19990314/Linux (egcs-1.1.2 release)
PC with Red Hat Linux 7.1	gcc version 2.96
PC with Windows NT/2000	Microsoft Visual C++ 6.0, Service Pack 5

System Requirements for PCs

Minimum system requirements are:

- ♦ Microsoft Windows NT 4.0/2000
- ♦ Intel Pentium compatible CPU, 300 Mhz or better
- ♦ RAM: 128MB. 256-512 recommended. VR-Forces loads a copy of the terrain database for each front-end and back-end loaded.
- ♦ Hard disk space - Approximately 160 MB for complete installation of application and toolkit. Approximately 90 MB for application alone. Most of this is for the terrain databases shipped with VR-Forces. The class reference documentation for the toolkit uses 59 MB. You may need considerably more space depending on the databases you plan to use.
- ♦ Two or more multiples of the amount of RAM for virtual memory. Running VR-Forces in HLA may require increased amounts of virtual memory.

Linux Support

VR-Forces will run on Red Hat Linux 6.0 and 7.1. To recompile VR-Forces on Linux 7.1, you need to get the Linux 7.1 version of VR-Link and you need to use the Linux compiler's backward compatibility flag. Versions of VR-Forces built against Linux 7.1 are not compatible with the DMSO RTI NG.

Online Help

The online help is in HTML format and uses the default browser for your computer. For all online help features to work, you must enable Java and Javascript in your browser.

Network Compatibility

HLA only

VR-Forces 2.0.3-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.

VR-Forces 2.0.3-ngc is compatible with applications that use earlier versions of VR-Link if they support versions of the RPR FOM listed above.

DIS only

VR-Forces 2.0.3-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.

RPR FOM Versions Supported

VR-Forces 2.0.3-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, VR-Forces 2.0.3-ngc uses RPR FOM 1.0.

If you are building an application with the VR-Forces toolkit and you want to specify a version of the RPR FOM through code, pass the version number (0.5, 0.7, 0.8, or 2.0) to the *DtRprFomMapper* constructor and pass the resulting object to the *DtExerciseConn* constructor. Also, make sure you are using a federation execution name that corresponds to the right FED file. For example:

```
DtExerciseConn conn("VR-Link08", "MyApp", new DtRprFomMapper(0.8));
```

RTI Support

The MÄK RTI is included on all MÄK product CDs. It is link-compatible with the DMSO RTI NG. VR-Forces 2.0.3-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 VR-Forces 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

VR-Forces 2.0.3-ngc expects library names that match those of DMSO RTI NG v3.2. If you run VR-Forces 2.0.3-ngc with DMSO RTI NG v3.2, both the UNIX and PC versions work without any modification. If you want to run VR-Forces 2.0.3-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 VR-Forces 2.0.3-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*).

Bug Fixes

The following problems have been fixed:

- ♦ Entities assigned a move-along route task were starting at the nearest vertex. Now they start at the beginning of the route, as documented.
- ♦ VR-Forces was not able to load MAP, FLT, or CTDB files.
- ♦ The sample batch file used the entity parameters database instead of the object parameters database.
- ♦ The front-end was sending incorrect site ID values for new entities.
- ♦ Location coordinates for lifeforms were not displayed.
- ♦ Conditional statements did not properly evaluate when all members of an aggregate were destroyed. The condition is now tested properly.
- ♦ Newly created entities could not be deleted.
- ♦ Fixed-wing entities can now follow routes.

Known Problems

VR-Forces Release 2.0.3-ngc has the following known problems:

- ♦ The Go To Next and Go To Previous options on the Map Navigation menu don't work with aggregates. If you have a mixture of aggregates and individual entities, using these menu options works fine if there is a series of contiguously listed individual entities. Once the selection moves to an aggregate (11:1:0 ...) the entity list window loses a selection and the view in the Simulation View window doesn't change.
- ♦ Aggregates composed of fixed-wing entities do not carry out tasks as an aggregate.
- ♦ If you are using VR-Forces on a multi-processor computer, set the affinity to single-processor. VR-Forces does not currently take advantage of multiple processors.

- ♦ In the class reference documentation, the header file comments for the `DtMissileStateRepository::place()` function are incorrect. They are correct in the actual header file.
- ♦ The `world.gdb` file is based on a DTED database. If you use this database, some entities may not execute tasks. Some entities will not display properly.
- ♦ If you open a non-GDB database, you cannot save it to GDB format when you save the scenario. To convert a non-GDB database to GDB, use the `tdbtool`.
- ♦ If lead members of an aggregate get destroyed, and reorganization is enabled, the aggregate gets reorganized properly. However, the task being executed by the aggregate may not be properly passed along to the new aggregate leader.
- ♦ Batch scenarios do not record to MÄK Logger files.
- ♦ The User's Guide states that when you load a scenario, VR-Forces begins executing set data requests and conditional statements in a plan until it reaches the first task. It does this even before you press Start. This is no longer the case. Plans are not executed until you start a simulation. Furthermore, because of delays caused by the need to transmit plan message between front and back-ends, entities may begin acting before set statements are implemented. For example, if a plan starts by setting rules of engagement to "hold fire" an entity may fire on hostile entities until this statement is executed. You can reduce this problem by putting brief wait statements at the start of each plan in which you want set data requests to be executed before the entity takes any actions.
- ♦ When you aggregate a set of aggregates into a higher-echelon aggregate using the "Aggregate As" menu item, make sure that the aggregates being combined have been collapsed to their highest level. Failure to do so will aggregate the entities at the level they are currently displayed. For example, suppose that you want to aggregate two teams of two tanks each into a platoon. If at the time of the "Aggregate As" operation, one of the teams is expanded, displaying its constituent tanks, while the other team is collapsed, displaying a single team icon, the resulting platoon will be composed of two individual tanks and a team, instead of two teams.
- ♦ Phase line labels are displayed in the middle of the phase line rather than the beginning. To determine which side of a phase line is "left" for the purpose of the `EntLeftOfLine` condition, you will need to remember where you started each phase line.
- ♦ The missile icon may flash briefly in the lower left-hand corner of the display when a missile is fired.
- ♦ Moving in reverse does not work for ground vehicles. If you set speed to a negative value, the entity does not move.
- ♦ A wait task entered as an initial statement in a plan may appear to take too long. This is due to the fact that it takes time for the plans to be delivered to the appropriate back-end for execution.
- ♦ Surface and lifeform entities are not configured to fire weapons or be fired upon. You can customize the parameter database entries to enable this.

- ♦ Repeated attempts to toggle the intervisibility fan will result in multiple intervisibility fans displayed on top of one another. It will not turn them off.
- ♦ The waypoint icon is currently being displayed centered on its location. According to MIL-STD-2525B it should be positioned with the lower tip of the positioned at the waypoint's location.
- ♦ Rotary wing entities fly back to their original position when you tried to move them to a new location by dragging.
- ♦ If you record a VR-Forces simulation with the MÄK Logger, then play the recording and try to view it in VR-Forces, VR-Forces may crash.
- ♦ Conditional statements such as Entity Destroyed allow you to select the option “Any” to specify any entity in the chosen hierarchical level. However The selection list does not include the Force level entity, so you cannot specify Any entity within a force.
- ♦ The Abandon Plan menu command does not work.
- ♦ The ground database in the MÄK Stealth and the ground.gdb file in VR-Forces are not synchronized.
- ♦ If you create and save a scenario without creating any entities, a blank .omp file is written out. If you try to load the scenario when running separate front and back ends, the front-end will crash.
- ♦ The hostile SSBN entity shoots at the hostile frigate entity.
- ♦ SSNs shoot torpedoes at entities that are on land.
- ♦ The DIS site/application number address is being over-specified.