MÄK Data Logger 3.8-ngc Release Notes

This document provides the following release-specific information for MÄK Data Logger 3.8-ngc:

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Systems Supported

Logger 3.8-ngc is being released for the following platforms:

- PC with Windows 2000/XP/NT 4.0
- Red Hat Linux 8.0
- SGI IRIX 6.5 n32
- Sun Solaris version 2.8.

Logger API and Logger File API

You must have VR-Link 3.8.1 and its required compiler versions to use the Logger file library or the Logger API, but you do not need it to run the executables. See VR-Link documentation for information about required compiler versions.

You must have a VR-Link developer's license to compile plug-ins or applications that use the Logger API or Logger file API.

Qt Toolkit Compatibility

The Logger GUI is built using the Qt Toolkit, a cross-platform GUI toolkit. If you use the Logger API to change the GUI, you need to get a Qt license and install Qt. Logger 3.8-ngc was built with Qt 3.1.2.

RAM and Memory Requirements

To install and run the Logger on a PC, we recommend the following minimum configuration:

- Pentium class PC 400 MHz or above
- 52 MB disk space
- 64 MB RAM.

On UNIX systems, the Logger requires the following amount of disk space:

- Linux and Sun Solaris - 52 MB
- SGI IRIX - 70 MB.

Online Help Browser Requirements

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

Network Compatibility

HLA only

Logger 3.8-ngc was built against VR-Link 3.8.1-ngc and is compliant with:

- RPR-FOM 1.0 and a subset of 2.0 (draft 6 and 14)
- MÄK RTI 2.0.1-ngc
- DMSO RTI NG 6.

Logger 3.8-ngc is compatible with applications that use earlier versions of VR-Link if they support versions of the RPR FOM listed above.

DIS only

Logger 3.8-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

Logger 3.8-ngc works with the MÄK RTI 2.0.1-ngc and DMSO RTI NG v6.

Logger 3.8-ngc works with older versions of the MÄK RTI, but we recommend using it with release 2.0.1-ngc.

When using the MÄK Real-time RTI, remember to make sure that the Logger can find your FED file, and optional *rid.mtl,* file by either putting them in the directory from which you are running, or by setting the environment variable RTI_CONFIG to the directory that contains them.

FOM Support

Logger 3.8-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, Logger 3.8-ngc uses RPR FOM 1.0.

The keywords for specifying different versions of the RPR FOM with the `-f` startup option are:

- RPR FOM 0.5: `vlRPR05`
- RPR FOM 0.7: `vlRPR07`
- RPR FOM 0.8: `vlRPR08`
- RPR FOM 1.0: `vlRPR10`
- RPR FOM 2.0 darft 6: `vlRPR20006`
- RPR FOM 2.0 draft 14: `vlRPR20014`.

For information about FOM mapping and selecting the correct FOM mapper, see Configuring the Logger for HLA in Chapter 2, "Installing and Configuring the Logger", in *MÄK Data Logger User's Guide*.

New Features and Changes

- Support for HLA Time Management
- Support for asynchronous I/O in DIS
- Support for Logger files larger than 2GB
- New Logger control PDUs
- New and revised command line arguments and MTL parameters.

Support for Time Management

Logger 3.8-ngc supports HLA Time Management. Use of Time Management is optional. When you use Time Management, the Logger records as a time-constrained federate and plays back recordings as a time-regulating federate. For conceptual details about using the Logger with Time Management, see section 3.1.3, "Recording and Playback Using HLA Time Management," in *MÄK Data Logger User's Guide*.

Support for Asynchronous I/O

Logger 3.8-ngc supports asynchronous I/O in DIS through the `-I` startup option or **useAsynchIO** MTL parameter. Use asynchronous I/O if you have problems with dropped packets or entities timing out.

New and Revised Command Line Arguments and MTL Parameters

Logger 3.8-ngc has the following changes to command line arguments:

- The `-v` argument has been removed. Use the `-G` argument to determine the interface.
- The `-G` argument has been changed. To specify use of both the GUI and command line interfaces, use `b`, not `wt`.

Logger 3.8-ngc has the following new command line arguments:

- `-B` *`recvBSz:sendBSz`* – Specifies the receive and send buffer size.
- `-c` *`file_name`* – Specifies a Logger configuration file (MTL file).
- `-D` – Allow file deletion by Logger Control messages.
- `-i` – Ignore HLA advisory messages.
- `-I` – Use asynchronous I/O.
- `-l` *`lookahead`* – Specifies the lookahead value for Time Management.
- `-n` *`notify_level`* – Specifies the notification level for informational messages.
- `-Q` – Run the Logger in 64 bit mode to support large files.
- `-u` – Use time-constrained mode while recording.
- `-U` – Use time-regulated mode during playback.

Logger 3.8-ngc has the following changes to MTL parameters:

- The `visible` parameter has been removed. Use the `interfaceType` parameter to determine the interface.

Logger 3.8-ngc has the following new MTL parameters:

- `recvBufferSize` *`size`* – Specifies the receive buffer size. Default: 64000. (DIS only.)
- `sendBufferSize` *`size`* – Specifies the send buffer size. Default: 64000. (DIS only.)
- `useAsynchIO` *`mode`* – If *`mode`* = 0, do not use asynchronous I/O. If *`mode`* = 1, use asynchronous IO. Default: 0. (DIS only.)
- `disPort` *`port`* – Specifies the UDP port for sending and receiving PDUs. Default: 3000. (DIS only.)
- `destAddr` *`address`* – Specifies the destination address. (DIS only.)
- `pathToSublistFile` *`path`* – Specifies the path of a subscription control file. (HLA only.)
- `interfaceType` *`type`* – Specifies the user interface. 1 = GUI; 2 = command line; 3 = both.
- `DtNotifyLevel` *`level`* – Specifies the level of verbosity for information messages.
- `useLargeFiles` *`mode`* – Specifies whether or not to support files larger than 2 GB.
- `fedLookahead` *`lookahead`* – Specifies the lookahead value for Time Management.

Support for Files Larger than 2GB

Logger 3.8-ngc can run in 32 bit mode (files up to 2GB) or 64 bit mode (files > 2GB). It runs in 32 bit mode by default. To run in 64 bit mode, start the Logger with the `-Q` startup option, or enable the **useLargeFiles** parameter in *logger.mtl*.

When using the Logger API, you can direct the Logger to use 64-bit file I/O by calling setUseLargeFiles() on the DtLogger object. If you are using the Logger File API, pass a value of 1 for the **useFD64** parameter when invoking either the constructors or the init() functions for *LtLoggerRecordFile* or *LtLoggerPlaybackFile*.

New Logger Control PDUs

Logger 3.8-ngc has two new Logger control PDUs - *DtLgrStateFlagPdu* and *DtLgrTotalStatePdu*. *DtLgrStateFlagPdu* lets you toggle use of HLA Time Management on and off, specify that the Logger use its own federate ambassador, and request a state update from the Logger. *DtLgrTotalStatePdu* is issued by the Logger in response to a request for a total state update. See section 6.2.3, “Getting the Logger’s State”, in *MÄK Data Logger User’s Guide* for more information.

Documentation Updates

MÄK Data Logger User's Guide and the HTML class reference have been updated.

Fixed Bugs

The following problem has been fixed:

- In previous releases, if you ran an recording in reverse, the Logger could not figure out when entities joined the exercise, so it could not remove them at their entry point when it went backward. Recordings made with Logger 3.8-ngc will be able to remove entities correctly when running in reverse. Recordings made with previous versions of the Logger will still be unable to properly remove entities.
- There is no longer a limit on the number of annotations you can add to a file.
- The Logger used to crash if you loaded an empty file and tried to skip forward. This no longer happens.
- The Logger used to crash if an HLA recording removed an object whose object name length was a multiple of 8. This no longer happens.
- Some memory leaks in the GUI have been fixed.

Known Problems

Logger 3.8-ngc has the following known problems:

- The Logger script feature is not supported in this release.
- In DIS, when you play a recording immediately after you have recorded it, the Logger displays the following error message:

  ```
  Tried to subtract InterestInPduKind to be lower than the number of
  callbacks for PDU kind #0.
  ```

  You can ignore this message.
- Skip time in HLA performs poorly if you try to skip a large amount of time or try to skip backwards in the recording.