ASTi HLA RTI Compatibility

Product Name: Telestra

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Revision history

Date	Revision	Version	Comments
11/29/2018	E	0	Added supported HLA RTIs for Red Hat 6.X and 7.X. Edit content for grammar, consistency, and style.
12/6/2018	E	2	Fixed minor typo in "Choose a compatible HLA RTI file."
5/14/2019	E	3	Added HLAe compatibility to "Supported HLA RTIs for Telestra 7.X."
2/6/2020	F	0	(7.5.0) Updated software version for "Supported HLA RTIs for Telestra 7.X". Organized sections for Telestra 4.X and earlier under "Legacy Telestra software." Clarified confusing statement in "Other supported Telestra 3.X series HLA RTIs." Fixed a minor typo in "Supported HLA RTIs for Telestra 4.X." Updated table styles, simplified section titles, and made minor formatting changes throughout document.
12/3/2020	F	1	(7.5.0) Updated "Supported HLA RTIs for Telestra 7.X" with Pitch RTI information.
1/11/2021	F	2	(7.9.0) Fixed incorrect Pitch RTI file name and added note to "Supported HLA RTIs for Telestra 7.X." Made minor edits to wording in "Choose a compatible HLA RTI file."
3/8/2023	F	3	Updated the Red Hat Enterprise Linux subscription statement in the front matter.
11/17/2023	G	0	(8.0.0) Added "Supported HLA RTIs for Telestra 8.X" and moved "Supported HLA RTIs for Telestra 6.X" to "Legacy Telestra software."

Contents

1.0 Choose a compatible HLA RTI file

Run-time infrastructure (RTI) is a middleware required for HLA implementation. This software coordinates federate operations and data exchange during a run-time execution. Each RTI has an associated RTI Initialization Data (.rid) or equivalent (e.g., .mtl, .settings) file that configures RTI-specific initialization parameters.

ASTi is involved with an ever-growing number of high-level architecture (HLA)-based communication simulations for a variety of programs throughout the U.S. and internationally. From experience, each HLA program has its own set of unique problems dependent on the equipment, software, and simulation deployed. Therefore, ASTi cannot guarantee there is zero risk of any issues arising with the currently supported set of run-time infrastructures (RTIs). No set of tests can verify all aspects of operation.

ASTi must test a complex set of variables together in their target environment under operational conditions:

- RTI operation, vendor, and software version

- RTI Initialization Data (.rid), MAK (.mtl), or .settings file configurations

- Network operation and conditions

- Simulation software

- HLA use in a network environment

1.1 Supported HLA RTIs for Telestra 8.*X*

Choose the proper RTI based on GCC compatibility and the requirements of your operating system(s) or other HLA-related software. If you are interested in an unlisted RTI, contact ASTi to discuss the possibility of expanding our HLA software. Minor version changes from the RTI vendor do not typically impact our software's ability to run the RTI major version.

Requirements: RTIs must be 64-bit, GCC 8.3, and HLA 1.3 or HLA Evolved (HLAe) compatible.

The current HLA functionality is based on HLA 1.3 and HLAe testing. The Telestra 8.*X* software series supports the following HLA RTIs:

Vendor	Version	File Name	Telestra Software
HLA 1.3 RTIs			
MAK	4.6b	makRti4.6b-linux64-rhe8-20220411.tar.gz	8.0.0 and later
RTI-s	D38E, GCC 8.3	rtis_D38E_x86_64_g++-8.3.tar.gz	8.0.0 and later
HLAe RTIs			
MAK	4.6b	makRti4.6b-linux64-rhe8-20220411.tar.gz	8.0.0 and later
RTI-s	D38E, GCC 8.3	rtis_D38E_x86_64_g++-8.3.tar.gz	8.0.0 and later
Pitch	5.5.1.0	prti1516e_5_5_1_0_linux64_b213.rpm	8.0.0 and later

Table 1: Telestra 8.X HLA RTI compatibility

1.2 Supported HLA RTIs for Telestra 7.*X*

Choose the proper RTI based on GCC compatibility and the requirements of your operating system(s) or other HLA-related software. If you are interested in an unlisted RTI, contact ASTi to discuss the possibility of expanding our HLA software. Minor version changes from the RTI vendor do not typically impact our software's ability to run the RTI major version.

Requirements: RTIs must be 64-bit, GCC 4.8, and HLA 1.3 or HLA Evolved (HLAe) compatible.

The current HLA functionality is based on HLA 1.3 and HLAe testing. The Telestra 7.*X* software series supports the following HLA RTIs:

Vendor	Version	File Name	Telestra Software
HLA 1.3 RTIs			
MAK	4.5c	makRti4.5c-linux64-rhe7.tar.gz	7.3.0 or later
RTI-s	D35G, GCC 4.8	rtis_D35G_x86_64_g++-4.8.tar.gz	7.3.0 or later
HLAe RTIs			
MAK	4.5c	makRti4.5c-linux64-rhe7.tar.gz	7.3.0 or later
RTI-s	D36C, GCC 4.8	rtis_D36C_x86_64_g++-4.8.tar.gz	7.3.0 or later
Pitch	5.5.0.0	prti1516e_5_5_0_0_linux64_ b189.rpm *Note:* ASTi tested GCC 4.1 because GCC 4.8 was unavailable; however; these versions are compatible.	7.8.0 or later

Table 2: Telestra 7.X HLA RTI compatibility

1.3 Legacy Telestra software

This section discusses supported HLA RTIs for the following legacy Telestra software versions:

- Supported HLA RTIs for Telestra 4.X

- Supported HLA RTIs for Telestra 3.X

- Supported HLA RTIs for Telestra 2.X

- Supported HLA RTIs for Telestra 1.X

1.3.1 Supported HLA RTIs for Telestra 6.*X*

Choose the proper RTI based on GCC compatibility and the requirements of your operating system(s) or other HLA-related software. If you are interested in an unlisted RTI, contact ASTi to discuss the possibility of expanding our HLA software. Minor version changes from the RTI vendor do not typically impact our software's ability to run the RTI major version.

Requirements: RTIs must be 32-bit, GCC 3.4, and HLA 1.3 compatible. The current HLA functionality is based on HLA 1.3 testing.

The Telestra 6.*X* software series supports the following HLA 1.3 RTIs:

Vendor	Version
RTI-s	D33, GCC 3.4
RTI-s	D35, GCC 3.5

Table 3: Telestra 6.X HLA RTI compatibility

Note: *RTIs shown in Section 1.3.2, "Supported HLA RTIs for Telestra 4.X" below will likely work without issue; however, ASTi has not tested them for the 6.X release. Contact ASTi at* support@asti-usa.com *for more information.*

1.3.2 Supported HLA RTIs for Telestra 4.*X*

ASTi tested the Telestra 4.*X* platform with multiple versions of the MÄK and VTC RTIs. Current HLA functionality is based on HLA 1.3 testing.

Choose the proper RTI based on GCC compatibility and the requirements of your operating system(s) or other HLA-related software. If you are interested in an unlisted RTI, contact ASTi to discuss the possibility of expanding our HLA software. Minor version changes from the RTI vendor do not typically impact our software's ability to run the RTI major version.

The Telestra 4.*X* software series supports the following HLA RTIs:

- VTC NG Pro 5.0 RHEL 4.0, GCC 3.4.3 compiler
- VTC NG Pro 4.2.4 RHEL 4.0, GCC 3.4.3 compiler
- VTC NG Pro 4.0.4 RHEL 4.0 OS, GCC 3.4.3 compiler
- VTC NG Pro 3.0.4 RHEL 4.0 OS, GCC 3.4.3 compiler
- VTC NG Pro 2.04 Linux FC3, GCC 3.4.2 compiler
- MÄK 3.4/3.4.1 Enterprise 4, GCC 3.4.*X*[1]
- MÄK 3.3/3.3.1/3.3.2 Enterprise 4, GCC 3.4.*X*[1]
- MÄK 3.2 Enterprise 4, GCC 3.4.3
- MÄK 3.1 Enterprise 4, GCC 3.4.2
- MÄK 3.0/3.0.1 Enterprise 4, GCC 3.4.4
- MÄK 2.4.2 Enterprise 4, GCC 3.4.3
- MÄK 2.4 Enterprise 4, GCC 3.4.3
- RTI-s, HLA 1.3, D19 version, GCC 3.4.*X*[2]

- RTI-s, HLA 1.3, D33 version, GCC 3.4

- RTI-s, HLA 1.3 D35 version, GCC 3.4

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[1]ASTi has not performed any in-house testing on these HLA RTIs. However these versions are customer-fielded and tested; therefore, the inherent risk is relatively low. The RTI version is a minor increment in software revisions (e.g., 3.X to 3.X + 1) from one that was tested in house.

[2]ASTi tested a customer-proprietary version of this RTI, so variants or idiosyncrasies among RTI versions may exist.

1.3.3 Supported HLA RTIs for Telestra 3.X

The Telestra 3.X software series supports the following HLA RTIs:

Telestra Version	Supported HLA RTIs
3.31–1	DMSO 1.3NGv6 Red Hat 8.0 OS, GCC 3.2.2 compiler
	VTC NG Pro 2.0.2 Red Hat 9.0 OS, GCC 3.2.2 compiler
	VTC NG Pro 2.0.4 Red Hat 9.0 OS, GCC 3.2.2 compiler
	VTC NG Pro 3.0.4 Red Hat 9.0 OS, GCC 3.2.2 compiler
	VTC NG Pro 4.0.4[1] Red Hat 9.0 OS, GCC 3.2.2 compiler

Table 4: Telestra 3.X HLA compatibility

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[1]This HLA RTI supports MC02 Data Distribution Management (DDM). For more information, contact ASTi at support@asti-usa.com, or go to "DDM Status and Configuration" in the *Telestra 3.0 User Guide*. Not IEEE 1516 capable.

1.3.3.1 Other supported Telestra 3.X series HLA RTIs

The below RTIs were tested and certified under the Telestra 2.X series. Support for the Telestra 2.X series RTIs is available because the initial Telestra 3.X series HLA baseline code is based on the 2.X series. However, the 2.X series has not been tested specifically on the 3.X series. Therefore, some risk is associated with these RTIs.

No set of tests can verify all aspects of operation. RTI operation, .rid file settings, network operation and conditions, simulation software, and use of HLA in a network environment form a set of complex variables that must be tested together in their target environment under operational conditions.

ASTi supports the following additional HLA RTIs for the Telestra 3.X series:

- DMSO 1.3NGv6[1, 2]

- MÄK 1.3.7[1]

- MÄK 2.0[1]

- MÄK 2.0.1[1]

- MÄK 2.02[2]

- MÄK 2.03[2]

- VTC NG-Pro 2.0.2[1, 2]

- MÄK 2.4 RH version 9.0, GCC 3.2.2[3]

- MÄK 2.4.2 RH version 9.0, GCC 3.2.2[3]

All RTIs listed above must be compatible with the GCC 3.2.2 compiler.

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[1]These RTIs are available in versions compatible with the GCC 3.0.*X* compiler. More information is available on an individual basis from RTI vendors.

[2]These RTIs are available in versions compatible with the GCC 3.2.*X* compiler. More information is available on an individual basis from RTI vendors.

[3]This RTI was customer-fielded and tested. ASTi has not performed any testing on this RTI.

1.3.4 Supported HLA RTIs for Telestra 2.*X*

ASTi supports the following HLA RTIs for the Telestra 2.*X* series:

Telestra Version	Supported HLA RTIs	DACS Model Builder
2.4–5	DMSO 1.3NGv6[1, 2]	4.09 or later
	MÄK 1.3.7[1]	
	MÄK 2.0[1]	
	MÄK 2.0.1[1]	
	MÄK 2.02[2]	
	MÄK 2.03[2]	
	VTC NG-Pro 2.0.2[1, 2]	

Telestra Version	Supported HLA RTIs	DACS Model Builder
2.4–4	DMSO 1.3NGv6[1, 2]	4.09 or later
	MÄK 1.3.7[1]	
	MÄK 2.0[1]	
	MÄK 2.0.1[1]	
	MÄK 2.02[2]	
	MÄK 2.03[2]	
	VTC NG-Pro 2.0.2[1, 2]	
2.4–3	DMSO 1.3NGv6[1, 2]	4.09 or later
	MÄK 1.3.7[1]	
	MÄK 2.0[1]	
	MÄK 2.0.1[1]	
	MÄK 2.02[2]	
	MÄK 2.03[2]	
2.4	DMSO 1.3NGv6[1, 2]	4.09 or later
	MÄK 1.3.7[1]	
	MÄK 2.0[1]	
	MÄK 2.0.1[1]	
	MÄK 2.02[2]	
	MÄK 2.03[2]	
2.3[1]	DMSO 1.3NGv6[1, 2]	4.09 or later
	MÄK 1.3.7[1]	
	MÄK 2.0[1]	
	MÄK 2.0.1[1]	
2.2[1]	DMSO 1.3NGv6[1, 2]	4.09 or later
	MÄK 1.3.7[1]	
	MÄK 2.0[1]	
	MÄK 2.0.1[1]	

Telestra Version	Supported HLA RTIs	DACS Model Builder
2.1[1]	DMSO 1.3NGv6[1, 2]	4.09 or later
	MÄK 1.3.7[1]	
	MÄK 2.0[1]	
	MÄK 2.0.1[1]	
2.0[1]	DMSO 1.3NGv5	4.09 or later
HLA 1.6[3]	DMSO 1.3NGv4	4.06d or later
	MÄK 1.3.6a	
HLA 1.4[3]	DMSO 1.3NGv3.*X*	4.06d or later
HLA 1.2[3]	DMSO 1.3NGv3.*X*	4.04e or later
HLA 1.1[3]	DMSO 1.3NGv2	4.04e or later

Table 5: Telestra 2.X HLA compatibility

ASTi's HLA software is compatible with applications and libraries created with either GCC, Version 3.0 or GCC 3.2 compiler and supports a number of different RTIs, as listed in Table 5, "Telestra 2.X HLA compatibility" above. Choose the proper RTI based on the requirements and GCC compatibilities of their operating system(s) or other HLA-related software.

[1]These RTIs are available in versions compatible with the GCC 3.0.*X* compiler. More information is available on an individual basis from RTI vendors.

[2]These RTIs are available in versions compatible with the GCC 3.2.*X* compiler. More information is available on an individual basis from RTI vendors.

1.3.5 Supported HLA RTIs for Telestra 1.X

ASTi supports the following HLA RTIs for the Telestra 1.*X* series:

Telestra Version	RTI*	DACS Model Builder
Telestra HLA v1.6	DMSO 1.3NGv4	4.06d or later
	DMSO 1.3NGv3.*X*	
	MAK 1.3.5a	
Telestra HLA v1.4	DMSO 1.3NGv3.*X*	4.06d or later
Telestra HLA v1.2	DMSO 1.3NGv3.*X*	4.04e or later
Telestra HLA v1.1	DMSO 1.3NGv2	4.04e or later

Table 6: Telestra 1.X HLA compatibility