



MAK WebLVC Server

1.4 Release Notes

This release note provides release-specific information for MAK WebLVC Server Release 1.4.

System Requirements	2
Platforms Supported	2
Product Compatibility	2
Browser Compatibility	2
Third Party Library Dependencies	2
Compiler Compatibility on Windows	3
License Manager	3
Network Compatibility	4
RTI Support	4
Support for HLA Evolved	4
Brokers Provided	6
Additional Brokers	8
New Features and Updates	8
Bug Fixes	8

Copyright © 2018 VT MAK, 150 Cambridge Park Drive, Third Floor, Cambridge, MA 02140 All rights reserved. VR-Exchange™, VR-TheWorld™, VR-Vantage™, DI-Guy™, and DI-Guy Scenario™ are trademarks of VT MAK. MAK Technologies®, VR-Forces®, RTIspey®, B-HAVE®, and VR-Link® are registered trademarks of VT MAK.
Document ID: WVC-1.4-2-181003

System Requirements

This section lists supported platforms and software requirements.

Platforms Supported

MAK WebLVC Server 1.4 supports Microsoft Visual C++ 14.0 (64 bit) running on Windows 7, 8, and 10. This build is binary compatible with all MAK VC 15 products.

Product Compatibility

- ♦ VR-Link 5.4.
- ♦ MAK RTI 4.2 or later. Minimum version required for automatic FOM translation (see Extending WebLVC with automatic FOM translation.)
- ♦ VR-Forces 4.4 and later. Minimum version required for use with Close Air Support WebLVC Suite app.
- ♦ VR-Vantage 2.1 and later.

Browser Compatibility

- ♦ Chrome. Recent version
- ♦ Firefox. Recent version.
- ♦ Safari. Recent version.

Third Party Library Dependencies

MAK WebLVC Server 1.4 uses the following third party libraries:

- ♦ Qt 4.8.7.
- ♦ Qwt 6.0.1.
- ♦ Boost - 1.46.1.
- ♦ ICONV 1.8 - VC 12, Red Hat 6 (<http://www.gnu.org/software/libiconv/>.)
- ♦ ICONV 1.9.2 - VC 10.
- ♦ LIBXML2 2.6.22 (<http://www.xmlsoft.org/>).
- ♦ NodeJS 5.0.0 (<http://nodejs.org>).
- ♦ OpenSSL 1.0.2h (<https://www.openssl.org>).
- ♦ Poco 1.7.2 (<https://pocoproject.org>).
- ♦ JsonCpp 0.5.0 (<https://github.com/open-source-parsers/jsoncpp>).

Compiler Compatibility on Windows

MAK provides versions of product releases that have been compiled with different versions of Microsoft Visual C++. When you run MAK products together on the same computer, for example, the Logger and a VR-Vantage application, we strongly recommend that you run versions compiled with the same compiler. Mixing products compiled with different versions of the compiler on the same computer can result in program instability. The exception to this is that products built with VC 14 and VC 15 are binary compatible.

License Manager

To run the licensed version of MAK WebLVC Server, you must install license management software. MAK WebLVC Server 1.4 uses FLEXlm 11.13.0.2. If you are upgrading from a version of the MAK WebLVC Server that used an older version of FLEXlm, you must upgrade your license management files. You do not need a new license. Licenses are forward compatible.

The License Manager files are not part of the MAK WebLVC Server installer. You can download them at:

- ♦ Windows:
<http://ftp.mak.com/out/MAKLicenseManager-win-setup.exe> (for 32-bit systems)
<http://ftp.mak.com/out/MAKLicenseManager-win64-setup.exe>
- ♦ Linux: <http://ftp.mak.com/out/MAKLicenseManager-linux-setup.tar.gz> (for 32-bit systems)
<http://ftp.mak.com/out/MAKLicenseManager-linux64-setup.tar.gz>

License manager support is available at:

<http://www.mak.com/support/licenses>

Network Compatibility

HLA only

The MAK WebLVC Server 1.4 HLA brokers are compliant with:

- ♦ RPR-FOM 0.5, 0.7, 0.8, 1.0, and RPR FOM 2.0 (draft 6, 14, 17, 20)
- ♦ MAK RTI 2.x, 3.x, 4.x (HLA Evolved support is only with MAK RTI 4.0.4 or later)
- ♦ Pitch RTI 1.3 C++ interface.
- ♦ Pitch RTI HLA Evolved C++ interface.
- ♦ Other RTIs that support the HLA 1.3 specification, the SISO DLC HLA API 1516 version of the IEEE 1516 specification (SISO-STD-004.1-2004), or HLA Evolved.

To use an RTI with MAK WebLVC Server it must use the same operating system and be built with the same compiler.

DIS only

The MAK WebLVC Server 1.4 DIS broker supports DIS 4, 5, 6, and 7, and can therefore interoperate with DIS applications of any of these versions.

RTI Support

We recommend using the latest version of the MAK RTI. However, MAK WebLVC Server should work with other RTIs that conform to the HLA 1.3 specification, the IEEE 1516 SISO DLC API, or HLA Evolved and are built using the same compiler as your version of the MAK WebLVC Server.

When using the MAK RTI, remember to make sure that the MAK WebLVC Server 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 the directory that contains them.

Support for HLA Evolved

The MAK WebLVC Server 1.4 HLA Evolved broker is compatible with MAK RTI 4.0.4 or later, VR-Link 4.0.4 or later, and the HLA Evolved specification. A full discussion of this issue is as follows:

The HLA Evolved libraries included with the MAK RTI 4.0 through 4.0.3 were unintentionally built against one of the last draft versions of the HLA 1516-2010 specification header files. Between the version of the header files used by the MAK RTI and the final version of the specification there was one change. The HLA Evolved API has three functions for createFederationExecution. In the version originally used by the MAK RTI there was an ambiguity. Due to optional parameters, two of these functions could be invoked in such a way that it was not clear which one was being used. Here are the functions as they used to be:

```
// variation 1
virtual void createFederationExecution (
    std::wstring const & federationExecutionName,
    std::wstring const & fomModule,
    std::wstring const & logicalTimeImplementationName = L"");

// variation 2
virtual void createFederationExecution (
    std::wstring const & federationExecutionName,
    std::vector<std::wstring> const & fomModules,
    std::wstring const & logicalTimeImplementationName = L"");

// variation 3
virtual void createFederationExecution (
    std::wstring const & federationExecutionName,
    std::vector<std::wstring> const & fomModules,
    std::wstring const & mimModule,
    std::wstring const & logicalTimeImplementationName = L"");
```

Variation one is unambiguous. However, consider the following code:

```
createFederationExecution( L"FedExName", vectorOfFomModules, L" );
```

It is not clear whether you are using variation two or three, and the compiler would throw an error.

To fix this ambiguity, the final version of the HLA Evolved API renamed the third version of the function to `createFederationExecutionWithMIM`. However this revision did not make it into the header files used by the MAK RTI. MAK RTI 4.0.4 corrects this and uses the final version of the HLA Evolved header files. As a result, we recommend that anyone using the MAK RTI with HLA Evolved upgrade to this version. Because the API has changed between RTI 4.0.3 and 4.0.4, any HLA Evolved federates built against previous MAK RTI versions will need to be recompiled against the new version.

Because VR-Link's HLA libraries are built against the MAK RTI, this issue also exists in previous versions of VR-Link that supported HLA Evolved. We recommend that anyone using VR-Link with HLA Evolved upgrade to version 4.0.3, which is built against the latest RTI and uses the renamed function.

This problem affects MAK products built against the MAK RTI and VR-Link that support HLA Evolved, such as MAK WebLVC Server 2.0. MAK WebLVC Server 2.0.1 has been built against VR-Link 4.0.4 and is now compliant with the final version of the standard.

As a general rule, any version of MAK WebLVC Server is compatible with any version of the RTI that supports the same platform. However, due to this header file change, previous versions of MAK WebLVC Server and the MAK RTI will not be compatible when using HLA Evolved. This change does not affect compatibility between MAK WebLVC Server and the MAK RTI when using HLA 1.3 or 1516-2000.

Brokers Provided

MAK WebLVC Server 1.4 includes brokers for:

- ♦ HLA 1.3 RPR FOM 1 and 2.
- ♦ HLA 1516 RPR FOM 1 and 2 (SISO Standard DLC C++ API for IEEE 1516).
- ♦ HLA Evolved RPR FOM 1 and 2.
- ♦ DIS, versions 4-7.
- ♦ WebLVC.

[Table 1](#) lists the translators for each broker.

Table 1: Broker translators

Translator	HLA	DIS	WebLVC
Acknowledge	X	X	
Action Request	X	X	
Action Response	X	X	
Active Sonar	X	X	
Additional Passive Activities	X	X	
Aggregate	X	X	X
Areal Object	X	X	
Collision	X	X	
Comment	X	X	
Create Entity	X	X	
Data	X	X	X
Data Query	X	X	
Designator	X	X	
Detonation	X	X	X
Emitter System	X	X	
Entity State	X	X	X
Environment Process	X	X	X
Event Report	X	X	
Fire	X	X	X
Gridded Data	X	X	
IFF	X	X	
Linear Object	X	X	
Logger Control	X	X	
Point Object	X	X	
Propulsion Noise	X	X	

Table 1: Broker translators

Translator	HLA	DIS	WebLVC
Radio Receiver	X	X	X
Radio Signal	X	X	X
Radio Transmitter	X	X	X
Remove Entity	X	X	
Repair Complete	X	X	
Repair Response	X	X	
Resupply Cancel	X	X	
Resupply Offer	X	X	
Resupply Received	X	X	
Service Request	X	X	
Set Data	X	X	
Start	X	X	X
Stop	X	X	X
Transfer Control	X	X	X



VR-Exchange can translate environmental processes. However, it cannot convert custom data inside these PDUs. Therefore, it is recommended that you disable environmental process translation if you are using VR-Forces and translating between DIS and HLA.

Additional Brokers

The following brokers are available on request. Please contact your MAK salesperson for details.

Brokers:

- ♦ AFMSTT
- ♦ ERF
- ♦ MATREX (Version 7.1)
- ♦ DDS (RH5, RH6, RH7, VC8, VC10, VC12).
- ♦ TENA 5.2.2 (32-bit RH5, VC7, VC8).
- ♦ MRF (Version 6.2 / 7.1).

Experimental Brokers (These brokers support a subset of the FOM):

- ♦ ADS-B Broker
- ♦ AviationSimNet Broker (Version 3.4)
- ♦ COT Broker.

New Features and Updates

MAK WebLVC Server 1.4 has the following new features:

- ♦ Support for VR-Forces 4.6 and 4.6.1.
- ♦ Support for VR-Vantage 2.3 and 2.3.1.
- ♦ Support for VR-Link 5.4.
- ♦ Support for MSVC++ 14.

Bug Fixes

MAK WebLVC Server fixes the following problems that were present in previous releases:

- ♦ Enabling/disabling VRF Data Translator no longer enables/disables Data Translator. 61759
- ♦ The number of 2525C symbols supported by most of the examples has been greatly expanded. 54563
- ♦ Fixed multiple problems in the Commander app.
- ♦ The Simple Publisher now uses MILSTD icons. 51901
- ♦ Enabling or disabling VRF Data Translator no longer enables or disables Data Translator. 61759