MICRO FOCUS

Micro Focus
VisiBroker-RT for C++
Version 6.0

Installation Guide

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Contents

Introduction

VisiBroker-RT for C++ allows you to develop and deploy distributed object-based applications, as defined in the Common Object Request Broker Architecture (CORBA) specification.

This guide describes how to install VisiBroker-RT for C++ and its associated components for application development and deployment environments. It includes installation instructions for VisiBroker-RT. It is written for system administrators who are familiar with the Windows or UNIX operating systems.

About VisiBroker-RT for C++

VisiBroker-RT for C++ is a complete CORBA 2.6 Object Request Broker (ORB) that supports the development, deployment, and management of distributed object applications across a variety of hardware platforms and operating systems.

In addition to VisiBroker-RT for C++ (the ORB), two other components are available with this product. They include

• Naming Service

• Event Service

The Naming Service allows you to associate one or more logical names with an object implementation and store those names in a namespace. It also lets client applications use this service to obtain an object reference using the logical name assigned to that object.

The Event Service provides a facility that decouples the communication between objects. It provides a supplier-consumer communications model that allows multiple supplier objects to send data asynchronously to multiple consumer objects through an event channel.

Included with VisiBroker-RT for C++

VisiBroker-RT is used in both the development and deployment phases. The VisiBroker-RT for C++ product includes the following components:

• Administration and Development tools

• VisiBroker Smart Agent (Available as a binary executable for the development host as well as a binary executable and runtime library for the target Operating System)

• Java Runtime Environment

• C++ header files

• VisiBroker-RT libraries

• Sample applications

Manual conventions

This section identifies the VisiBroker-RT for C++ *Installation Guide*'s typographical and platform conventions.

Typographic conventions

This manual uses the following conventions:

Convention	Used for
Boldface	Bold type indicates that syntax should be typed exactly as shown. For UNIX, used to indicate database names, file names, and similar terms.
italics	Italics indicates information that the user or application provides, such as variables in syntax diagrams. It is also used to introduce new terms.
`computer`	Computer typeface is used for sample command lines and code.
`bold computer`	In code examples, important statements appear in boldface
UPPERCASE	Uppercase letters indicate Windows file names.
[ ]	Brackets indicate optional items.
...	An ellipsis indicates the continuation of previous lines of code or that the previous argument can be repeated.
		A vertical bar separates two mutually exclusive choices.

Platform conventions

This manual uses the following conventions—where necessary—to indicate that information is platform-specific:

Convention	Used for
Windows	All Windows (Windows NT, Windows 2000, Windows XP) development hosts
WinNT	Windows NT development host platform
Win2000	Windows 2000/XP development host only
UNIX	All UNIX development host platforms including Solaris
Solaris	Solaris development host only
Tornado	VisiBroker-RT for C++ for Tornado only
C++	VisiBroker-RT for C++

VisiBroker Library conventions

This manual uses the following conventions—where necessary—to indicate that information is VisiBroker library specific or to indicate that VisiBroker interfaces are not supported in certain versions of the VisiBroker libraries.

Not Supported in the VisiBroker-RT Minimum Corba Library

Contacting Micro Focus

Old version has been replaced with the standard MF section.

Our Web site gives up-to-date details of contact numbers and addresses.

Further Information and Product Support

Additional technical information or advice is available from several sources.

The product support pages contain a considerable amount of additional information, such as:

- The *Product Updates* section of the Micro Focus SupportLine Web site, where you can download fixes and documentation updates.
- The *Examples and Utilities* section of the Micro Focus SupportLine Web site, including demos and additional product documentation.

To connect, enter http://www.microfocus.com in your browser to go to the Micro Focus home page, then click *Support*.

Note:

Some information may be available only to customers who have maintenance agreements.

If you obtained this product directly from Micro Focus, contact us as described on the Micro Focus Web site, http://www.microfocus.com. If you obtained the product from another source, such as an authorized distributor, contact them for help first. If they are unable to help, contact us.

Also, visit:

- The Micro Focus Community Web site, where you can browse the Knowledge Base, read articles and blogs, find demonstration programs and examples, and discuss this product with other users and Micro Focus specialists.
- The Micro Focus YouTube channel for videos related to your product.

Information We Need

However you contact us, please try to include the information below, if you have it. The more information you can give, the better Micro Focus SupportLine can help you. But if you don't know all the answers, or you think some are irrelevant to your problem, please give whatever information you have.

- The name and version number of all products that you think might be causing a problem.
- Your computer make and model.
- Your operating system version number and details of any networking software you are using.
- The amount of memory in your computer.
- The relevant page reference or section in the documentation.
- Your serial number. To find out these numbers, look in the subject line and body of your Electronic Product Delivery Notice email that you received from Micro Focus.

Contact information

Our Web site gives up-to-date details of contact numbers and addresses.

Additional technical information or advice is available from several sources.

The product support pages contain considerable additional information, including the *Product Updates* section of the Micro Focus SupportLine Web site, where you can download fixes and documentation updates. To connect, enter http://www.microfocus.com in your browser to go to the Micro Focus home page, then click *Support*.

If you are a Micro Focus SupportLine customer, please see your SupportLine Handbook for contact information. You can download it from our Web site or order it in printed form from your sales representative. Support from Micro Focus may be available only to customers who have maintenance agreements.

You may want to check these URLs in particular:

- https://www.microfocus.com/products/corba/visibroker/ (VisiBroker trial software)
- https://supportline.microfocus.com/login.aspx (Micro Focus support login)
- https://supportline.microfocus.com/productdoc.aspx. (documentation updates and PDFs)

To subscribe to Micro Focus electronic newsletters, use the online form at:

https://software.microfocus.com/en-us/select/email-subscription

Installation Planning

This guide describes installation and installation related tasks for VisiBroker-RT for C++ on Solaris and Windows development hosts.

Important

Go to https://www.microfocus.com/documentation/visibroker-rt/ for documentation updates and more information.

Note I am assuming the docs will be on a visibroker-rt page, not hung off the main VisiBroker page.

Package contents

If you have received a physical installation package, it contains the VisiBroker-RT DVD. Your package may include additional products that ship with VisiBroker-RT.

You may alternatively have downloaded the installation.

System Requirements

VisiBroker-RT for C++ development host system requirements are listed in the following sections.

For the latest information on platforms supported by VisiBroker-RT for C++ and for JDK requirements, see https://supportline.microfocus.com/prodavail.aspx.

Note I've changed the link above

In addition to platform-specific requirements, VisiBroker-RT for C++ components use TCP and UDP Broadcast services to communicate. Even if you are running the components on a single machine you must have TCP and UDP services available.

JDK

The installer installs JDK versions JDK 1.4.2 on UNIX and Windows platforms. The VisiBroker-RT for C++ infrastructure and tools use JDK 1.4.2.

HTML Browser

In addition to the platform-specific requirements listed below, VisiBroker-RT for C++ also requires a web browser to view HTML files:

• Microsoft Internet Explorer, version 5.0 or later

• Google Chrome

• Mozilla Firefox

The original has Netscape Navigator, which seems a little dated ... What minimum versions should we specify here - or do we even need to?

UNIX

To install on UNIX, Micro Focus recommends the following:

- Solaris 2.8 operating system (or greater)
- A CD ROM drive
- Tornado 2.2/VxWorks 5.5

Windows

To install on Windows, the following is recommended:

- Windows 2000 or greater
- A CD ROM drive
- Tornado 2.2/VxWorks 5.5

Checking the Release Notes

Make sure that you read the *Release Notes*. This document contains important product information relevant to the particular development host and deployment target systems which are supported.

Installing VisiBroker-RT

This chapter explains how to install VisiBroker-RT for C++ on Solaris and Windows platforms.

Introduction

By following the instructions in this chapter you will be able to install or uninstall VisiBroker-RT for C++. However, before you begin the installation, make sure that you read the instructions in this chapter.

The original continue "and in Chapter 4, "Configuring VisiBroker-RT for C++." Both chapters will provide you with the information you need to correctly set your environment settings and configure VisiBroker-RT for C++." But in fact there is no such chapter - Chapter 4 is about License Manager and the only mention of environment settings is one line in the last table. Is there something missing here?

You should also review the *Release Notes*, which contain the latest information about product installation.

Important

Go to https://www.microfocus.com/documentation/visibroker-rt/ for documentation updates and more information.

Installing VisiBroker-RT for C++

The following instructions tell you how to install VisiBroker-RT for C++ on your specific platform.

Before Installing on a UNIX Platform

Mounting the DVD (Solaris)

If it's not downloaded, I presume the product would now be supplied on DVD not CD (the original says CD)?

If you install the VisiBroker-RT for C++ from DVD rather than downloading it, and if you install on a system that is running Volume Manager, you will not need to mount the DVD. If the system is not running Volume Manager (`vold`) or if Volume Manager is turned off, you will need to mount the VisiBroker-RT CD. This section shows you how to mount the CD on the Solaris operating system.

For information on mounting the CD on other versions of UNIX, see the documentation that came with your operating system.

To mount the CD on Solaris:

1 Login to your workstation.

You need superuser privileges to mount the CD in Step 5 if the Volume Manager is not running.

2 Insert the VisiBroker CD into the drive.

3 Enter the following command to determine if the Volume Manager is running:

```
/usr/bin/ps -ef | grep vold
```

Look for a response similar to the following to see a list of all running processes:

```
root 247 1 0 July 30? 0:/00 /usr/sbin/vold
```

4 If the Volume Manager is running, proceed to Step 6.

5 f the Volume Manager is not running, enter the following commands to mount the DVD:

```
mkdir /cdrom/vb_prod_cd
```

```
/usr/sbin/mount -f hsfs -r /dev/dsk/device /cdrom/vb_prod_cd
```

where *device* is the device name of the DVD.

6 Enter the following command to change to the DVD directory.

```
cd /cdrom/vb_prod_cd
```

Before Installing on Windows

If you are installing the Windows 2000 or Windows XP development host version of VisiBroker-RT for C++, make sure that you close all active Windows applications before you begin the installation.

Installing on a Unix Platform

The following instructions describe how to install the distribution package from the VisiBroker-RT for C++ DVD to your hard drive and then complete the installation process.

Note

We recommend uninstalling any previous versions or evaluation versions of VisiBroker-RT for C++, or installing the new version to a different location, on a different install path.

1 The top level of the CD-ROM contains the "`install.bin`" program. To run the "`install.bin`" program:

Double-click on the **install.bin** icon in the DVD's File Manager window;

Alternately, from a shell window invoke the command:

```
prompt> <mounted DVD>install.bin
```

2 Follow the steps through each screen of the installer.

Installing on a Windows Platform

The following instructions describe how to install the distribution package from the VisiBroker-RT for C++ DVD to your hard drive and then complete the installation process.

Note

We recommend uninstalling any previous versions or evaluation versions of VisiBroker-RT for C++, or installing the new version to a different location, on a different install path.

1 The top level of the CD-ROM contains the "install.exe" program.

To run the "install.exe" program:

Double-click on the **install.exe** icon in the CD-ROM's File Manager window.

Alternately, from a shell window invoke the command:

```
prompt> <mounted CD ROM>install.exe
```

2 Follow the steps through each screen of the installer.

Finishing the Installation

After you have installed VisiBroker-RT for C++, be sure to read the *Release Notes*, which contain the latest information on VisiBroker-RT for C++ release.

Configuring the VisiBroker-RT License Manager

This chapter describes the VisiBroker-RT Evaluation License Manager (vblm) and how to configure the vblm, which will allow you to work with the evaluation version of VisiBroker-RT for C++. The license manager must be started before you can run an instance of the VisiBroker-RT for C++ ORB on your embedded target platform.

The VisiBroker License Manager (*vblm*) requires a evaluation license file. You can obtain such a license from Micro Focus.

Important

A trial download of VisiBroker-RT for C++ requires two licenses. You will receive two separate emails containing each of these licenses when the product is downloaded:

1 One email will contain a license for the Evaluation License Manager (*vblm*).

2 The second email will contain a Product Registration Serial number, which is then used to obtain a Registration License file. Product registration can be achieved in one of two ways:

   • During Installation you will prompted to Register the product

   • Alternatively, running `lmadm` to register the product.

For more details on Product Registration please licensing, go to:

   http://www.borland.com/devsupport/visibroker_rt/faq/licensing

Obviously not a working link, but I am not sure what we should say here!

Overview

The Evaluation License Manager (vblm) runs on your development host and communicates with the deployment "target" systems that run the VisiBroker-RT for C++ runtime. Upon starting, vblm will read a license file which contains a license key. This license key specifies the evaluation period. After this period is expired you can no longer use the VisiBroker-RT for C++ target runtime. Please contact Micro Focus if you need an extension or if you decide to obtain the official product version.

Starting the Evaluation License Manager

The Evaluation License Manager can be started by running vblm. The vblm executable resides in <install location>/VisiBrokerRT60/bin, where <install location> is the directory where VisiBroker-RT for C++ was installed.

By default vblm will attempt to read the license file "license.txt" located in the local directory (i.e. the result of running "pwd"). To start vblm with the defaults:

You can start the vblm License Manager with the following Windows DOS command.

```
C:\> vblm
```

From a UNIX shell prompt, you can start the vblm License Manager with the following command:

```
prompt> vblm &
```

Upon the program being ready to communicate with your targets it will print out the message:

```
"License server ready."
```

You should keep this program running throughout the testing period. If necessary, it can be stopped and then restarted if the evaluation period has not expired.

Additionally the License Manager (vblm) may be started with a variety of options. The usage description of the vblm command is given below.

vblm

```
vblm [arguments]
```

Description

vblm will start a License Manager process on your host machine.

```
vblm -f myLicenseFile.txt &
```

Table 1   VBLM command line options

Arguments	Description
-h	Prints the help message.
-a	Prints the about message.
-f *file*	Uses the given file name as the license input file, instead of "./license.txt".
-p *port*	Overrides the default port number (15050) for communication with the target(s) with the given number.
-v	Verify license only. Prints out license information and exits.

Using the VisiBroker-RT Evaluation License Manager

Differences Between The Evaluation And The Non-Evaluation VisiBroker Versions?

Both distributions are functionally equivalent.

You do **not** need to perform any extra steps in the application software you develop for the VisiBroker-RT for C++ ORB. The only difference you might see is during the initialization stage of the ORB on the target (i.e. ORB_Init), while communications between the vblm License Manager and the target is established.

Can I Run Multiple Targets During My Tests?

Yes. They all will communicate with the same Evaluation License Manager and initialize properly as long as the evaluation license is valid.

Can I Test Different Target Operating Systems and VisiBroker Versions At The Same Time?

The evaluation license is issued on a per Development Host/Target_CPU combination (e.g Solaris/x86, Windows/x86). Since a License Manager (*vblm*) reads a single license, you will have to start one *vblm* License Manager for each evaluation License. To do this you **must** choose a different host and/or different port number for each License Manager. The target systems where VisiBroker-RT for C++ is running will also need to specify the same host and/or port number.

Setting Up The Environment On The VxWorks Target

The evaluation version of VisiBroker-RT for C++ will try to communicate with the License Manager during the ORB initialization phase.

Specifying a host where VBLM is running

In order for this communication to be successful, the VxWorks target ORB will need the development host name or IP address where the *vblm* is running. You must use the "VHL_LICENSE_HOST" VxWorks environment variable for this:

```
->putenv("VHL_LICENSE_HOST=101.101.10.1")
```

(You must have ENV_VARS as part of VxWorks Kernel)

If the License Manager is running on a development host that has an entry in the VxWorks target's host table, that host name can also be specified:

```
->putenv("VHL_LICENSE_HOST=myhost")
```

(You must have ENV_VARS as part of VxWorks Kernel)

Specifying a port number where VBLM is running

Since the License Manager can be started on a different port number than the default, the VisiBroker-RT runtime must be capable of communication with the License Manager on this new specified port number.

The VisiBroker-RT runtime can be directed to look for the License Manager on a specific port number by specifying a PORT via a VxWorks environment variable from Tornado WindShell:

```
->putenv("VHL_LICENSE_PORT=21000")
```

(You must have ENV_VARS as part of VxWorks Kernel)

Troubleshooting

Table 2   Trouble Shooting vblm on the host

Error message/Log message	Possible problem/solution
`vblm: Error: This program requires vbj to exist in your PATH`	The program `vbj`is located in `<install location>/VisiBrokerRT60/bin`, where *<install location>* is the directory where VisiBroker-RT for C++ was installed.
	This directory must be in your environment variable PATH.
	Make sure you have added to PATH the full path name where *vblm* resides.
`Could not find license file!`	The Evaluation License Manager cannot find the file `license.txt` in the current directory. If you specified a license file with the `-f` option, make sure that the license file exists.
	You must acquire a evaluation license key. Please contact Micro Focus to obtain a valid evaluation license.
`Exception in thread "main" cryptix.CryptixException: ...`	The Evaluation License Manager code needs to run with JAVA1.
	Make sure your PATH variable does not pick up any JAVA2 executables.
`Illegal license text!` `Block sizes wrong!`	The wrong license file is being used or the license file has been edited/changed so it is no longer valid. Please make sure to store the license information **verbatim** in the license file.
`This license has expired!`	The Evaluation period for your current license key has expired. Please contact your Micro Focus representative to obtain a valid evaluation license.

Table 3   Trouble Shooting Evaluation Licensing problems with VisiBroker-RT on the target system

Error message/Log message	Possible problem/solution
`ORB.eval_noconnect`	Make sure the environment variables are set correctly:
	• VHL_LICENSE_HOST: Host IP or name where 'vblm' is running.
	• -VHL_LICENSE_PORT: Port number used in a non-standard setup.
	Also, make sure the Evaluation License Manager program is actually running.
`ORB.eval_expired`	The Evaluation period for your current license key has expired. Please contact Micro Focus Support.
`ORB.eval_invalid`	You are using the wrong license file for your target system. Please contact your Micro Focus representative to obtain a valid evaluation license. If you have multiple licenses, make sure your target setup points to the correct Evaluation License Manager.