MICRO FOCUS

Micro Focus
VisiBroker 8.5 SP4

Dual IPv4/IPv6 OSAgent Update
Release Notes

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Micro Focus VisiBroker 8.5.4 Dual IPv4/IPv6 OSAgent Update Release Notes

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This release updates VisiBroker 8.5 SP4. Before installing this release, you must have VisiBroker 8.5 SP4 installed.

Operating Systems Supported

At this release, the following platforms are supported:

- Microsoft Windows 7 with Visual Studio 2008
- Microsoft Windows Server 2008 with Visual Studio 2008
- Solaris 10.x (SPARC)
- Solaris 10.x (x86 and x64)
- Solaris 11.x (SPARC)
- Solaris 11.x (x86 and x64)
- Red Hat Enterprise Linux 5.x (x86 and x64)
- Red Hat Enterprise Linux 6.x (x86 and x64)
- Red Hat Enterprise Linux 7.x (x86 and x64)
- SUSE Linux Enterprise Server 10.x (x86 and x64)
- SUSE Linux Enterprise Server 11.x (x86 and x64)
- SUSE Linux Enterprise Server 12.x (x86 and x64)
- HP UX 11i v3/11.31 on Itanium
- AIX 6.x (32 or 64 bit)
- AIX 7.1 (32 or 64 bit)
- Montavista Linux CGE V4 (x64)

For a full list of platforms supported by VisiBroker 8.5 SP4, see
http://supportline.microfocus.com/prodavail.aspx

Installing the IPv4/IPv6 OSAgent Update

To install this release:

1. Download the release archive to your VBROKERDIR folder.

2. Unpack the archive in the same folder.

3. Patch the `vbj.config` file (or files) as described in Patching the vbj.config file.

4. Restart the application.

Patching the vbj.config file

This release introduces two new configuration environment variables: see [New Configuration Variables](#) for details.

For these variables to be effective for Java applications, or for VisiBroker services written in Java, a change must be made to any `vbj.config` files in use in your deployment. For more information regarding the default location of this file, and how alternate or additional files might have been configured in your application's environment, see the documentation for the argument `-VBJConfig`. This argument is listed under "General options", in the chapter *Programmer tools for Java* of the **VisiBroker for Java Developer's Guide** (https://supportline.microfocus.com/Documentation/books/VisiBroker/854/vb_javadg_854.pdf)

You can patch the requisite change into the default Java configuration file (`$VBROKERDIR/bin/vbj.config`). From a command shell configured with your application's normal VisiBroker environment values set, run:

```
vbj PatchVBJConfig
```

If you have a non-default configuration file, you must patch it by passing the location of the file to `PatchVBJConfig` as the value of the option `-VBJConfig`:

```
vbj -VBJConfig /opt/foo/bar.config PatchVBJConfig
```

Introduction

VisiBroker 8.5 SP4 supports ORB communications over IPv6. This means that, if so configured, object implementation methods can be invoked by client programs over IPv6. However, the Smart Agent (osagent) included with SP4 supports only IPv4, making it impossible to migrate VisiBroker applications that depend upon the Smart Agent to a pure IPv6 environment.

This VisiBroker 8.5 SP4 update enables Smart Agent communications over IPv6, in addition to IPv4.

See the C++ or Java editions of the **VisiBroker Developer's Guide** for more information about how to deploy the Smart Agent. This Release Note complements the information in the **Developer's Guide** and provides the additional information required to enable IPv6 Smart Agent communications.

Default Behavior

Once this update has been installed, the default behavior will still be for all Smart Agent communication to use IPv4 only. This means that the new Smart Agent behaves in the same way as the standard Smart Agent when deployed with the same configuration.

To use IPv6, you must enable it as described in [Enabling IPv6](#).

Compatibility

The Smart Agent included with this patch is not interoperable with the standard VisiBroker 8.5 SP4 Smart Agent, nor with its associated ORB libraries or .jar files. Because of this incompatibility, you must install and set up the new Smart Agent update

to all VisiBroker installations in the same Smart Agent 'domain' (that is, to all those installations using the same OSAGENT_PORT number).

New Configuration Variables

This release introduces two new configuration environment variables:

- `OSAGENT_IP_MODE`. This specifies whether the new Smart Agent should operate in IPv4, IPv6, or dual mode. See Enabling IPv6 for details.

- `OSAGENT_MULTICAST_ADDR`. If used, this specifies an IPv6 multicast address to override the default address. See Smart Agent Discovery for details.

Enabling IPv6

Once you have installed this update, you can enable IPv6, either exclusively or in dual mode.

To control the IP version in use, you can configure the Smart Agent to operate in one of the following three modes by setting the new OSAGENT_IP_MODE environment variable to the appropriate value:

OSAGENT_IP_MODE	Description
ipv4only	Smart Agent initializes itself to listen only on local IPv4 addresses. This is the default behavior.
ipv6only	Smart Agent initializes itself to listen only on local IPv6 addresses.
Dual	Smart Agent initializes itself to listen on both local IPv4 and IPv6 addresses. This allows it to be communicated with by VisiBroker ORBs that are themselves configured to operate in any of the three IP modes.

The VisiBroker ORB may be configured to operate using the same IP modes, either by setting the OSAGENT_IP_MODE environment variable or by setting the `vbroker.agent.ipMode` property:

OSAGENT_IP_MODE/vbroker.agent.ipMode	Description
ipv4only	VisiBroker ORB will attempt to find and connect to Smart Agents using IPv4 only. This is the default behavior.
ipv6only	VisiBroker ORB will attempt to find and connect to Smart Agents using IPv6 only.
Dual	VisiBroker ORB will use both IPv4 and IPv6 when attempting to find and connect to Smart Agents.

Locating Smart Agents

Configuring Smart Agent Locations

The VisiBroker ORB can find Smart Agents automatically (see Smart Agent Discovery). However, if the addresses of one or more Smart Agents are already known, the clients and servers can be configured to try to connect to those addresses first.

To instruct VisiBroker ORB to try to connect to a Smart Agent at a single address, set either the OSAGENT_ADDR environment variable or the `vbroker.agent.addr` property:

```
OSAGENT_ADDR=<IP address>
vbroker.agent.addr=<IP address>
```

where *<IP address>* may be IPv4 or IPv6 and must be appropriate to the configured IP mode.

Alternatively if multiple Smart Agent addresses are known, you can specify these using an `agentaddr` file by setting the OSAGENT_ADDR_FILE environment variable or the `vbroker.agent.addrFile` property:

```
OSAGENT_ADDR_FILE=<path to agentaddr file>
vbroker.agent.addrFile=<path to agentaddr file>
```

The `agentaddr` file should contain a simple list of IP addresses (appropriate to the IP mode), with each address on a new line. The following example shows what the `agentaddr` file might look like if this Smart Agent was to run in IP mode 'dual'. There is one Smart Agent listening on an IPv4 address and another on an IPv6 address:

```
# Note comment lines may be included, using '#' as first character
10.120.2.6
fdb0:4000:f330:2:250:56ff:feb5:539a
```

VisiBroker will try each address in turn until a Smart Agent responds, at which point it will log into and use that Smart Agent from that point on for as long as it remains available.

Smart Agent Discovery

If the VisiBroker ORB is not able to connect to a Smart Agent using an address provided by either of the OSAGENT_ADDR or OSAGENT_ADDR_FILE methods, it will attempt to find a Smart Agent using IPv4 UDP broadcast and/or IPv6 UDP multicast (dependent on how the IP mode is set) using the port configured as OSAGENT_PORT. The first Smart Agent to respond is used. Similarly individual Smart Agents will use the same mechanisms, subject to the same configuration values, to discover other Smart Agents in the same OSAGENT_PORT domain which they will then communicate with to provide Smart Agent functionality.

The default IPv6 multicast address used is `ff05::1400`. This can be overridden by setting the new desired multicast address using either the OSAGENT_MULTICAST_ADDR environment variable (for both Smart Agent and ORB) or the `vbroker.agent.multicastAddress` property (ORB only). In order for a Smart Agent to be discovered using IPv6 multicast, both endpoints need to be using the same IPv6 multicast address. IPv4 multicast is not supported.

Controlling Local Addresses in Use

By default, the Smart Agent will listen on all available network interfaces (as appropriate to the IP mode). Alternatively, you can specify the network interfaces used. This is achieved through configuration of a `localaddr` file, which is specified via the OSAGENT_LOCAL_FILE environment variable.

The section "Specifying interface usage for Smart Agents" in both the **VisiBroker for C++ Developer's Guide** and the **VisiBroker for Java Developer's Guide** describes the format for the `localaddr` file that applied to versions of the Smart Agent prior to this update. However, the file format has been simplified for this new Smart Agent; there is no longer any requirement to specify subnet mask or broadcast address for each required interface. The new Smart Agent derives this additional information from the system. All that is required is a list of one or more local IP addresses that you wish the Smart Agent to listen on.

The following examples illustrate possible configurations for a host with multiple network interfaces:

```
# localaddr file appropriate for 'ipv4only' mode
10.120.2.55
10.120.3.101

# localaddr file appropriate for 'ipv6only' mode
fdb0:4000:f330:2:250:56ff:feb5:300
fdb0:4000:f330:3:250:56ff:feb5:1111

# localaddr file appropriate for 'dual' mode
10.120.2.55
10.120.3.101
fdb0:4000:f330:2:250:56ff:feb5:300
```

Note that `localaddr` files as configured for the previous versions of the Smart Agent (see "Specifying interface usage for Smart Agents" in the **Developer's Guide**s) will continue to be supported by this (and future) versions of the Smart Agent. Values for broadcast address and network mask will continue to be interpreted and used if present in the file.

Updates and SupportLine

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 WebSync service, where you can download fixes and documentation updates.
• The Knowledge Base, a large collection of product tips and workarounds.
• Examples and Utilities, including demos and additional product documentation.

To connect, enter https://www.microfocus.com in your browser to go to the Micro Focus home page.

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, https://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.

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