
Getting Started Guide

Your guide to starting out with the JBoss ESB



JBoss ESB Development Team with Community Contributions

Copyright © 2010 Red Hat, Inc..

The text of and illustrations in this document are licensed by Red Hat under the GNU General Public License, Version 2. A copy of this license is included in [Appendix A, GNU General Public License](#).

Red Hat, Red Hat Enterprise Linux, the Shadowman logo, JBoss, MetaMatrix, Fedora, the Infinity Logo, and RHCE are trademarks of Red Hat, Inc., registered in the United States and other countries.

Linux® is the registered trademark of Linus Torvalds in the United States and other countries.

All other trademarks are the property of their respective owners.

Abstract

A guide to the initial installation and configuration of the JBoss Enterprise Service Bus (ESB).

1. Downloading	3
2. Installation to the JBoss Application Server (not required for ESB Server)	3
3. Installation to the JBoss Application Server 5.1.0.GA	3
3.1. Windows script update for JBoss AS 5	4
3.2. Scoped Deployments in JBoss AS 5	4
3.3. Java 6	5
4. Installation to the JBoss Application Server 6.0.0.Final	5
4.1. Scoped Deployments in JBoss AS 6	6
5. ESB archive deployment strategies	7
6. The Hello World Quickstart	8
6.1. Components of the QuickStart	9
6.2. ESB Aware and Unaware Messages	10
6.3. QuickStart Sequence of Events	10

7. Running other QuickStarts	11
A. GNU General Public License	12
A.1. Preamble	12
A.2. TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION	13
A.2.1. Section 0	13
A.2.2. Section 1	13
A.2.3. Section 2	13
A.2.4. Section 3	14
A.2.5. Section 4	15
A.2.6. Section 5	15
A.2.7. Section 6	15
A.2.8. Section 7	15
A.2.9. Section 8	16
A.2.10. Section 9	16
A.2.11. Section 10	16
A.2.12. NO WARRANTY Section 11	16
A.2.13. Section 12	17
A.3. How to Apply These Terms to Your New Programs	17
B. Revision History	18

The quickest way to get started using JBoss ESB is by running one of the quickstarts in the samples/quickstarts folder. This will also perform a basic validation of your system. Before doing this however, be sure to check that your system meets the following minimum requirements:

1. JDK 6 (v1.6.0_21 recommended)
2. Ant (v1.8.1 recommended)
3. JBoss Application Server 4.2.x.GA or JBoss ESB Server 4.1010101010101010

There are two ways to run JBossESB. You can deploy it to JBossAS / JBossESB Server, or run standalone. This guide will concentrate on the JBoss Application Server / JBoss ESB Server scenario because these scenarios are the most common and provide the largest range of functionality to users. We suggest using the JBoss ESB Server for this guide.

The ESB components can also be deployed directly to the JBoss Application Server. If you require .EAR deployment or if you require EJB3, then you will want to use the JBoss Application Server. Below are the steps needed to install JBoss ESB to the JBoss Application server. If you plan to use the JBoss ESB Server, no additional installation is required.

The JBoss ESB Server is an application server that serves as a convenient and lightweight container to deploy to. It is a stripped down version of the JBoss application server that will deploy all of your WAR, SAR, but does not contain EJB3 libraries or deployers. The main advantage of using the ESB Server over using the JBoss ESB 4.10 Server is that it has a much quicker boot time than the JBoss Application Server, which is helpful during development.

1. Downloading

This document assumes you have Ant (1.6.5 or higher) and Java5 installed on your machine, and that you have a fresh copy of JBossAS. So now go and download the JBoss ESB 4.8 distribution from <http://labs.jboss.com/portal/jbossesb/downloads>. There are three corresponding distribution versions, jbossesb-server-{version}, jbossesb-{version} and jbossesb-{version}-src. The standalone JBossESB Server execution requires the jbossesb-server-{version} distribution while deployed execution requires the jbossesb-{version} distribution.

If you wish to use the JBoss Application Server, download the JBoss ESB 4.8 distribution from the above URL. Then download JBoss AS 4.2.3.GA from <http://labs.jboss.com/portal/jbossesb/downloads>. JBoss AS 5 is supported starting from version 5.1.0.GA and can be downloaded from the same location.

2. Installation to the JBoss Application Server (not required for ESB Server)

1. Use jbossesb-{version}/install/deployment.properties.example as a template to create install.deployment.properties.
2. Edit your version of install/deployment.properties. Open this file and edit the following lines if needed to represent the directory where you have installed the JBoss application server and the server configuration you wish. Most users choose "default" for their configuration setting:

```
# application server root directory
org.jboss.esb.server.home=/jboss-4.2.3.GA
# the instance of jboss you are running(default)
org.jboss.esb.server.config=default
```

3. Run 'ant' (default target) from the install directory. This will deploy JBossESB to your JBossAS instance. It copies several .sar and .esb archives files and directories (jbossesb.esb, jbpmp.esb, jbrules.esb, smooks.esb, spring.esb, soap.esb) into the application server's deploy directory.
4. Start your server. There is a bin directory within the JBoss Application Server or the JBoss ESB Server (whichever you have chosen to use). Execute the run script (run.sh on Linux/Mac OS X/Unix, run.bat on Windows).
5. Verify the server you have chosen is running by visiting <http://localhost:8080> with your web browser.

3. Installation to the JBoss Application Server 5.1.0.GA

1. Download JBoss AS 5.1.0.GA from <http://www.jboss.org/jbossas/downloads/> and unzip it.

2. Follow the same steps as listed above for "Installation to the JBoss Application Server (not required for ESB Server)"

```
# application server root directory
org.jboss.esb.server.home=/jboss-5.1.0.GA
# the instance of jboss you are running(default)
org.jboss.esb.server.config=default
```



Note

Depending on whether you access certain application (like the jopr console) you might need to increase the memory settings when starting the server (in run.conf):

```
-Xms128m -Xmx512m -XX:PermSize=200m -XX:MaxPermSize=500m
```

3.1. Windows script update for JBoss AS 5

The run.bat script contains an error which prevents wise from compiling the webservice proxies. In order to fix the type you must edit the run.bat script and locate the following lines

```
if "x%JAVAC_JAR%" == "x" (
    set "RUNJAR=%JAVAC_JAR%;%JBOSS_HOME%\bin\run.jar"
) else (
    set "RUNJAR=%JBOSS_HOME%\bin\run.jar"
)
```

The fix involves switching the set statements so that they read as follows

```
if "x%JAVAC_JAR%" == "x" (
    set "RUNJAR=%JBOSS_HOME%\bin\run.jar"
) else (
    set "RUNJAR=%JAVAC_JAR%;%JBOSS_HOME%\bin\run.jar"
)
```

3.2. Scoped Deployments in JBoss AS 5

In ESB 4.x you can specify that a deployment be scoped by configuring this in deployment.xml:

```

<jbossesb-deployment>
  <depends>jboss.esb:test=server</depends>
  <depends>
    jboss.esb.qa.junit.destination:service=Queue,name=esb_gateway_channel_versioned
  </depends>
  <depends>
    jboss.esb.qa.junit.destination:service=Queue,name=esb_channel_versioned
  </depends>

  <loader-repository>
    org.jboss.soa.esb:loader=simple-scoped
    <loader-repository-config>java2ParentDelegaton=false</loader-repository-config>
  </loader-repository>

</jbossesb-deployment>

```

The AS5 deployers ignore this section of deployment.xml. Instead for a ESB 4.x scoped deployment, users will be required to create a META-INF/jboss-classloading.xml:

```

<classloading xmlns="urn:jboss:classloading:1.0" domain="simple-scoped"
  parent-first="false" />

```

3.3. Java 6

When using Java 6 the following jars are required to be available in <server_home>/lib/endorsed

- jaxb-api.jar
- jbossws-native-jaxrpc.jar
- jbossws-native-jaxws-.jar
- jbossws-native-jaxws-ext.jar
- jbossws-native-saaj.jar

4. Installation to the JBoss Application Server

6.0.0.Final

1. Download JBoss AS 6.0.0.Final from <http://www.jboss.org/jbossas/downloads/> and unzip it.
2. Follow the same steps as listed above for "Installation to the JBoss Application Server (not required for ESB Server)"

```
# application server root directory
org.jboss.esb.server.home=/jboss-6.0.0.Final
# the instance of jboss you are running(default)
org.jboss.esb.server.config=default
```



Note

Depending on whether you access certain application (like the jopr console) you might need to increase the memory settings when starting the server (in run.conf):

```
-Xms128m -Xmx512m -XX:PermSize=200m -XX:MaxPermSize=500m
```

4.1. Scoped Deployments in JBoss AS 6

In ESB 4.x you can specify that a deployment be scoped by configuring this in deployment.xml:

```
<jbossesb-deployment>
  <depends>jboss.esb:test=server</depends>
  <depends>
    jboss.esb.qa.junit.destination:service=Queue,name=esb_gateway_channel_versioned
  </depends>
  <depends>
    jboss.esb.qa.junit.destination:service=Queue,name=esb_channel_versioned
  </depends>

  <loader-repository>
    org.jboss.soa.esb:loader=simple-scoped
    <loader-repository-config>java2ParentDelegaton=false</loader-repository-config>
  </loader-repository>
</jbossesb-deployment>
```

The AS6 deployers ignore this section of deployment.xml. Instead for a ESB 4.x scoped deployment, users will be required to create a META-INF/jboss-classloading.xml:

```
<classloading xmlns="urn:jboss:classloading:1.0" domain="simple-scoped">
```

```
parent-first="false" />
```

5. ESB archive deployment strategies

JBossESB is packaged and shipped with base services. A service should be deployed in an ESB archive consisting of an action code + configuration. The idea behind an ESB archive is that it is a deployable service unit. An ESB archive is simply a zip file with an .esb extension. You can deploy as many ESB archives as you please. You can influence the deployment order of archives using the deployment.xml, which specifies start-order dependencies.

Typically you would deploy an ESB archive to the 'deploy' directory. ESB archives should enable you to move services between servers simply by moving the corresponding ESB archive. An ESB archive file has the following structure:

```
#####META-INF
# #####jboss-esb.xml
# #####deployment.xml
# #####MANIFEST.MF
#####<java classes>
#####<jars>
#####<queue-service.xml>
```

- <jboss-esb.xml>: contains the service configuration (listener and actions), as well as provider configuration.
- <deployment.xml>: is optional, but can be used for 2 reasons:
 1. make this .esb archive depend on other archives, to specify classloading order.
 2. make the deployment of this .esb archive scoped.
- <java classes>: your custom action classes in standard package hierarchy.
- <jars>: additional jar archives your actions depend on.
- <queue-service.xml>: if the 'providers' section of the jboss-esb.xml references queues or topics, you can deploy their configuration in the ESB archive. Note that this is strictly a convenience and any other way to deploy these queues is fine too. We recommend this approach to keep your deployments as self-contained as possible therefore keeping dependency management simple.

JBossESB ships with a number of standard service archives:

jbossesb.esb

- <http://anonsvn.labs.jboss.com/labs/jbossesb/trunk/product/services/jbossesb/>

- Contains internal services like the DeadLetterService, <http://wiki.jboss.org/wiki/Wiki.jsp?page=JBossESBDeadLetterService>.

jbrules.esb

- <http://anonsvn.labs.jboss.com/labs/jbossesb/trunk/product/services/jbrules/>
- Needed for rules evaluation using Drools, <http://wiki.jboss.org/wiki/Wiki.jsp?page=JBossRules>
- Need for services like the Content-Based Router, <http://wiki.jboss.org/wiki/Wiki.jsp?page=JBossESBContentBasedRouting>.

jbpm.esb

- <http://anonsvn.labs.jboss.com/labs/jbossesb/trunk/product/services/jbpm/>
- Needed for default provider of Business Process Management jBPM, <http://community.jboss.org/wiki/jbpm>.

smooks.esb

- The default message transformation engine Smooks, <http://docs.codehaus.org/display/MILYN/Smooks+In+JBoss+ESB>.

These services are deployed by default, but you should be able to remove them if you don't need these service deployments.

6. The Hello World Quickstart

This QuickStart allows you get up and running with JBossESB, out of the box. It is located in the distribution under `samples/quickstarts/helloworld/`.

To run this QuickStart following [Running the Helloworld QuickStart](#).

Procedure 1. Running the Helloworld QuickStart

1. Start your Server in a way that allows you to view the output console. If you are on Windows, it is preferable not to run JBoss as a Windows Service for the purposes of this guide.
2. From a command terminal window, change directory into the `samples/quickstarts/helloworld` directory.
3. Make sure that `install/deployment.properties` has the correct configuration and home directory settings for your server.
4. Type "ant deploy" to deploy the helloworld .esb package archive to your application server.

5. Type "ant runtest".
6. Switch back to your application server's console. You should soon see a "Hello World" message appear in your application server's console.
7. That's it! The QuickStart ran successfully. Your environment is properly configured for JBossESB.

You can find more detailed directions on how to setup the quickstart examples by running "ant help-quickstarts" under any of the specific quickstart directories. To get information on how to run a particular quickstart under different deployment scenarios, change directory to the specific quickstart and type "ant help".

6.1. Components of the QuickStart

The following diagram illustrates the sequence of events that take place in this QuickStart. It touches on a number of the key concepts within JBossESB.

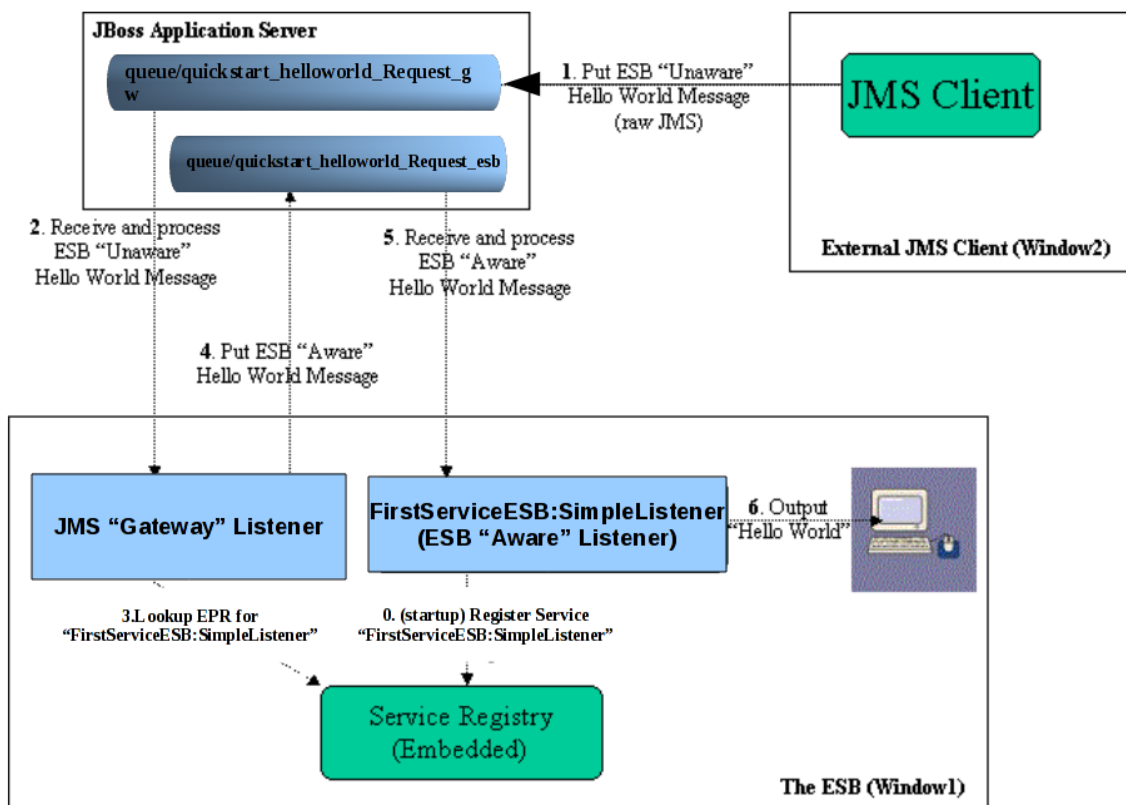


Figure 1. HelloWorld QuickStart Sequence of Events

Window1 shows each of the main "ESB" components used in this sample:

1. Service Registry: This is a JAXR Registry implementation. In this QuickStart, the registry uses RMI based communication. See [docs/services/RegistryConfiguration.pdf](#) for more details on the Registry Service.

2. JMS Gateway Listener: A "Gateway Listener" is one of the key architectural components within JBossESB. This listener type is, as its name would suggest, the gateway to the ESB from endpoints outside the domain of the ESB. In this case, we're using a JMS Gateway.
3. The ESB Aware Service Listener: The "FirstServiceESB:SimpleListener" ESB Aware Service Listener listens for "ESB Aware" messages on "queue/quickstart_helloworld_Request_esb". This introduces you further to the concept of ESB "Aware" and "Unaware" messages. We will touch on these next.

6.2. ESB Aware and Unaware Messages

JBossESB has a well defined concept of what a message is. This is defined fully in xml/message.xsd. This construct makes it possible to pass decorated messages payloads between components of the ESB. The message payload is typically stored in the message "Body" (see the Programmers Guide).

This makes a lot of sense from the point of services within the ESB domain being able to collaborate effectively. However, it is not practical to expect endpoints outside the domain of a JBossESB deployment to be "aware" of these internal ESB constructs. For this reason, JBossESB has the concept of ESB Aware and Unaware Messages and Endpoints, with the Gateway acting as the bridge (adapter) between the two worlds.

6.3. QuickStart Sequence of Events

After starting the ESB in Window1 and before any "Hello World" messages are put on the bus, the "FirstServiceESB:SimpleListener" Service is registered with the Registry Service.

The sequence of events in the Hello World QuickStart are as follows:

- ESB Unaware JMS Client endpoint puts an ESB Unaware "Hello World" Message (plain String Object) into JMS Queue "queue/quickstart_helloworld_Request_gw".
- The JMS Gateway Listener receives the ESB Unaware message. The Gateways Job is to adapt this message by making it an ESB Aware Message for consumption by an ESB Aware Endpoint.
- The JMS Gateway Listener uses the registry to lookup the Endpoint Reference (EPR) for "FirstServiceESB:SimpleListener" Service. This works out to be JMS Queue "queue/quickstart_helloworld_Request_esb".
- The JMS Gateway Listener "adapts" the message into an ESB Aware message and places it into JMS Queue "queue/quickstart_helloworld_Request_esb".
- "FirstServiceESB:SimpleListener" Service receives the message.
- "FirstServiceESB:SimpleListener" Service extracts the payload from the message and prints it to the console.

7. Running other QuickStarts

Once you have successfully run the Helloworld QuickStart and understand the concepts involved, there are many other Quickstarts to try. Please note that the Quickstarts have different requirements which are documented in their respective readme.txt, and that not all of the Quickstarts will run in every deployment. Below is a suggested map of Quickstarts to follow in order.



Warning

The groovy_gateway Quickstart does not work when the server is running in 'headless' mode. The SOA Platform runs in this mode by default due to the requirements of other components. More details regarding this can be found online at <http://jira.jboss.org/jira/browse/SOA-906>.

Quickstarts Trailmap

1. helloworld
2. helloworld_action
3. custom_action
4. helloworld_file_action
5. helloworld_ftp_action
6. simple_cbr
7. fun_cbr
8. business_service
9. business_rules_service
10. scripting_groovy
11. transform_CSV2XML
12. transform_XML2POJO
13. transform_XML2XML_simple
14. transform_XML2XML_date_manipulation
15. aggregator

16bpm_orchestration1

17bpm_orchestration2

18webservice_consumer1

19webservice_producer

A. GNU General Public License

A.1. Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software - to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps:

1. copyright the software, and
2. offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making

the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

A.2. TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

A.2.1. Section 0

This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

A.2.2. Section 1

You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

A.2.3. Section 2

You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of [Section 1](#) above, provided that you also meet all of these conditions:

- a. You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.
- b. You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

- c. If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: If the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

A.2.4. Section 3

You may copy and distribute the Program (or a work based on it, under [Section 2](#) in object code or executable form under the terms of [Sections 1](#) and [2](#) above provided that you also do one of the following:

- a. Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
- b. Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
- c. Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it

contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

A.2.5. Section 4

You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

A.2.6. Section 5

You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

A.2.7. Section 6

Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

A.2.8. Section 7

If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

A.2.9. Section 8

If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

A.2.10. Section 9

The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and “any later version”, you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

A.2.11. Section 10

If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

A.2.12. NO WARRANTY Section 11

BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT

WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

A.2.13. Section 12

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

A.3. How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the “copyright” line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.> Copyright (C) <year>
<name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type "show w". This is free software, and you are welcome to redistribute it under certain conditions; type "show c" for details.

The hypothetical commands "show w" and "show c" should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than "show w" and "show c"; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program "Gnomovision" (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989 Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

B. Revision History

Revision History

Revision 1

Fri Jul 16 2010

DavidLe

Sage<dlesage@redhat.com>,

DarrinMison<dmison@redhat.com>

Initial conversion from OpenOffice ODT files.