

Retek® Price Management™ 11.0.3.1

Installation Guide

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Chapter 1 – Hardware and software requirements

RPM 11 is a client-server-server application. Its client side code runs in a WebStart Java Virtual machine instance, while its server side code runs in the WebSphere EJB Container and accesses an Oracle Database server.

Database server

General requirements for a database server capable of running RPM application include:

- UNIX based OS (Solaris 9, HP-UX 11.11 or AIX 5.2) certified with Oracle RDBMS 9i release 2 Enterprise Edition
- Oracle RDBMS 9i release 2 Enterprise Edition.

Application server

General requirements for an application server capable of running RPM application include:

- UNIX based OS (Solaris 9, HP-UX 11.11 or AIX 5.2) certified with IBM WebSphere 5.1.
- IBM WebSphere Application Server version 5.1.

Retek software dependencies

RPM 11.0.2 requires an existing installation of Retek Security Management (RSM) for authentication services, Retek Navigator for Single Sign On and Retek Integration Bus (RIB) for horizontal integration with other Retek Systems.

Client PC and Web browser requirements

Client PC requirements

- Operating system is Windows 2000 or XP
- Display resolution is 1024x768 or higher
- Processor is 1GHz or higher
- Memory is 512MBytes or higher;
- Networking is intranet with at least 10Mbps data rate
- Sun J2RE Runtime 1.4.2 or higher

Browser requirements

- Microsoft Internet Explorer 5.5 or higher

Chapter 2 – External JMS installation instructions

In order to optimize performance RPM 11.0.3 has incorporated Asynchronous processing to expedite the handling of pricing events. This new functionality enables the application to process pricing events “in the background”, allowing users to continue working with the application while pricing events are processed behind the scenes.

The following steps are necessary for installing the JMS that will be used by the asynchronous processing.

1. Log into the UNIX webserver where WebSphere 5.1 is installed as the retek user and determine where the RPM 11.0.3 application server file (rpm11.0.3-install.zip) will be installed. There should be a minimum of 250 MB disk space available for the application installation files.
2. Copy rpm11.0.3-install.zip located at CDROM/appserverunix to a newly created staging directory on the UNIX server. This location will be referred to as `INSTALL_DIR` for the remainder of this chapter.
3. Change directories to `INSTALL_DIR` and extract rpm11.0.3-install.zip. This will create an rpm11 directory, which contains the following files and directories:
 - `README`
 - `batch/`
 - `bin/`
 - `content_model_rpm.xml`
 - `lib/`
 - `rpm11.ear`
 - `template/`
 - `webstart/`
 - `jms-install.zip`
4. Copy jms-install.zip to a newly created staging directory on the UNIX server. This location will be referred to as `JMS_INSTALL_DIR` for the remainder of this chapter.
5. Change directories to `JMS_INSTALL_DIR` and extract jms-install.zip. This will create a jms_install directory, which contains the following files and directories:
 - `BindEGateJMSFactory.class`
 - `CreateJMSPorts.properties`
 - `configureSeeBeyondJMS.jacl`
 - `installJMS.ksh`
 - `jms.jar`
 - `jndi.jar`
 - `jta.jar`

6. Copy fscontext.jar, providerutil.jar and stjms.jar from \$WAS_HOME/rib-rpm to JMS_INSTALL_DIR.



Note: The RIBforRPM application may have been installed on a different physical server from the server where RPM is being installed. It is necessary to locate the \$WAS_HOME/rib-rpm directory prior to proceeding with the execution of the installJMS.ksh script as the jar files identified above **MUST** be copied to the JMS_INSTALL_DIR.

7. Update the CreateJMSPorts.properties file. The properties file uses the following entries in creation of the JMS:

definitionScope={ server|node|cell }

Defines the scope of the WebSphere definitions. Usually set to be "server".

cell=<cell name>

Name of the cell for which the configuration will be used.

node=<node name>

Name of the node for which the configuration applies.

serverName=<server name>

Name of the server for which the configuration applies. This must be specified even if the scope is at the node or cell level because listener ports are defined to be at the server level.

oracleJarPath=<Path to ojdbc14.jar>

Specify path to ojdbc14.jar file. The ojdbc14.jar is required for RPM 11.0.3. This file can be obtained from the Oracle Technology Network web site, and must be copied to a staging directory on the webserver where WebSphere 5.1 is installed.

WAS_HOME=<WebSphere install directory>

Typically, this is where the "root" of the WebSphere application server is installed. It should include the "AppServer" directory as the final component. (E.g. /u03/webplat/WebSphere/AppServer).

WAS_INSTANCE_HOME=<WebSphere Instance Home>

If deploying through WAS Network Deploy (ND)

WAS_INSTANCE_HOME will be the path of the remote Application Server that will act as a node to WAS ND. If not deploying through WAS ND WAS_INSTANCE_HOME will be the same value as WAS_HOME.

WAS_SOAP_PORT=<TCP Port Number>

This is the TCP/IP port of the deployment manager.

HOST_NAME=<WAS host>

Host name WebSphere Application Server is installed on.

WAS_CONN_TYPE={SOAP|none}

Specify "SOAP" if the deployment manager is available via SOAP. Alternatively, using "none" will cause the wsadmin.sh script to work on the local copy of the WAS configuration files. This requires the desired WAS to be locally installed.

externalProviderURL=<URL of External JNDI for SeeBeyond>

This entry specifies the URL for accessing the external JNDI from the WAS instance. Example:

file:///u03/webplat/rpm1103ml/appserverunix/jms_install/sbynjndi

externalJMSPClasspath=<list of classes needed for accessing the external jndi>

This entry is used by WAS to access the external JNDI. It must contain the following jars: stjms (a SeeBeyond jar file), providerutil.jar, and fscontext.jar. Note that each entry is separated by "\n".

Example:/u03/webplat/rpm1103ml/appserverunix/jms_install/stjms.jar\n/u03/webplat/rpm1103ml/appserverunix/jms_install/providerutil.jar\n/u03/webplat/rpm1103ml/appserverunix/jms_install/fscontext.jar

JMS_HOST=<JMS host name>

Host where the JMS runs.

JMS_PORT=<JMS port>

TCP port number of the SeeBeyond JMS.

qdestinationName<#>=<Queue name>

Each entry of this form, such as destinationName0, destinationName1,... specifies a JMS queue to create in the external jndi. These are used by the Asynchronous task engine. The value is the name of the Queue. The value must match the local properties and/or system properties file used by the task engine core service. The numbers must start at 0 and continue consecutively (0,1,2,3,...). These are optional entries and are not needed if the app server does not use the asynchronous task engine.

listenerPortNameForQDestinationName<#>=<Listener Name>

Each entry of this form specifies a Listener port used by an MDB. This name must match the deployment descriptor used by Task MDB. The numbers must start at 0 and continue consecutively (0,1,2,3,...) The Listener Name is typically referenced in the MDB deployment descriptor, and it is case sensitive. By default, this is the "TaskMDBPort". There must be one of these entries for each qdestinationName entry.

7. Change permission on all shell scripts in the JMS_INSTALL_DIR



Example: JMS_INSTALL_DIR> chmod -R 755 *.ksh

8. Execute installJMS.ksh passing the updated CreateJMSPorts.properties file as a parameter.



Example: JMS_INSTALL_DIR> ./installJMS.ksh CreateJMSPorts.properties

9. Verify the TaskMDBPort was created. Navigate to Servers->Application Servers-><server>->Message Listener Service->Listener Ports; the TaskMDBPort will be created.
10. Verify the external JMS was created. Navigate to Resources->Generic JMS Providers. Select the Node and Server where the external JMS was created; click Apply. Click on the newly created SeeBeyond JMS Provider.



Note: There is a known issue with WebSphere not accepting the newline characters (\n) that are passed in to the install guide to set the CLASSPATH property of the SeeBeyond JMS Provider. Click on the SeeBeyond JMS Provider and edit the CLASSPATH property. Remove the existing new line spaces for each directory path and press enter to recreate them.

11. Bounce the server for the above changes to take effect.

Chapter 3 – Application server configuration instructions

The RPM server tier is packaged as an EAR file – rpm11.ear. Install the rpm11.ear file on the J2EE application server according to the vendor's documentation.

The following are typical steps for deploying an ear file in WebSphere 5.1, assuming WebSphere Application Server (WAS) and IBMHttpServer have already been installed. It is also assumed Oracle has already been configured and loaded with the appropriate RMS/RPM Schema for your installation.



Note: The RPM 11.0.3 Installation Guide assumes RPM 11.0 has previously been installed in WebSphere. The RPM 11.0 application in WebSphere will need to be stopped and uninstalled prior to the installation of RPM 11.0.3. The existing data source and J2C Authentication Data Entry in WebSphere can be re-used for the RPM 11.0.3 install (assuming these values remain unchanged for the RMS/RPM schema). Any customizations made to RPM 11.0 will need to be manually replicated in RPM 11.0.3.



Note: The following RPM WebSphere installation configurations have been tested. It is required that one of these configurations is utilized for RPM deployment. Alternate configurations are not supported.

1. RPM and Rib for RPM installed on separate WebSphere instances on separate physical servers is a supported configuration. If applicable, Navigator must also be installed on a separate WebSphere server from RPM (Can be on the same WAS instance or on a different WAS instance)
2. RPM and Rib for RPM installed on separate WebSphere servers within a single WAS instance is a supported configuration. If applicable, Navigator must also be installed on a separate WebSphere server from RPM (Can be on the same WAS instance or on a different WAS instance)

UNIX (Sun Solaris/HPUX/AIX)



Note: IBM JVM 1.4.1+ is required for RPM (and is shipped with WebSphere 5.1).



Note: IBM recommends that the IBMHttpServer be configured to run as the front-end for WebSphere Application Server.



Note: ojdbc14.jar is required for RPM 11. This file can be obtained from the Oracle Technology Network web site, and must be copied to a staging directory on the webserver where WebSphere 5.1 is installed



Note: These installation instructions assume RPM 11.0.3 will utilize the same RMS/RPM schema as the previously installed RPM 11.0 application. Please refer to the RPM 11.0 Installation Guide for information regarding the RMS/RPM schema.

Deploy rpm11.ear in WebSphere Application Server 5.1

1. Change directories to `INSTALL_DIR/rpm11/bin` and change file permissions to read-write-execute for all shell scripts



Example: `INSTALL_DIR/rpm11/bin> chmod -R 755 *.sh`

2. Run `INSTALL_DIR/rpm11/bin/install.sh` to automatically configure the RSM and RIB interface parameters w/in the `rpm11.ear` file as well as the `jnlp` codebase and property name parameters w/in the `rpm11.jnlp` file.

The user will be prompted for the IIOP address (WebSphere server name and Bootstrap Port) and http url of the RPM installation as well as the IIOP address of the corresponding RIBforRPM and RSM installations. These IIOP addresses will be copied into the respective url parameters in the file `jndi_providers_rsm.xml`; this file will then be archived in the appropriate jar file.



Note: RIBforRPM and RSM are requirements for RPM 11, and the Bootstrap port for each application must be known at this time. RIBforRPM and RSM may reside in the same WebSphere instance as RPM 11, or in separate WebSphere instances.

The script also prompts the user for the RPM JMS Queue name. This information is necessary to support the asynchronous processing functionality existing in RPM. The RPM JMS Queue was created in Chapter 3 and can be found by navigating to Resources->Generic JMS Providers. From the Generic JMS Providers dialogue select the appropriate Node and Server, click Apply, and then click on the SeeBeyond JMS Provider. From the SeeBeyond JMS Provider dialogue select JMS Destinations. The JNDI Name listed should be provided as the RPM JMS Queue name.

Finally the script prompts the user for the schema owner of the RMS/RPM schema that will be used by the application once it is installed.

```
> ./install.sh
```



Example: Please enter the IIOP url (Bootstrap address and port) for your RPM installation [iiop://localhost:9280]:

`iiop://server:2809`



Example: Please enter the http url for your RPM web server installation [http://localhost:80/rpm]:

`http://server:9081`



Example: Please enter the IIOP url (Bootstrap address and port) for your RSM installation [iiop://localhost:9800]:

`iiop://server:2810`




Example: Please enter the IIOP url (Bootstrap address and port) for your RIB installation [iiop://localhost:9801]:

`iiop://server:2811`



Example: Please enter the RPM JMS Queue name: [jms/Generic/Queue/RPMAsyncQueue]:


`jms/Generic/Queue/etTaskQueue`


 **Example:** Please enter the schema owner for your jdbc connection: [RPMUser]:


RMS11EN

“please wait...”


“Configuration updated successfully.” should appear when the script finishes running.


 **Note:** The install.sh script is a bash shell script and will therefore require that the bash shell reside in the user’s path.


 **Note:** Due to an outstanding defect it is necessary to manually update the rpm11.jnlp file located at INSTALL_DIR/rpm11/webstart. An ending quotation (”) should be added to the http address of the codebase parameter.

 **Example:** <jnlp codebase=”http://mspdev20:11081” spec=”1.0+” href=”rpm11.jnlp”>


3. Update the j2c.properties file located in the WAS_HOME/properties directory by adding an advanced-connection-properties property for the existing RPM Data Source.

 **Example:**
 <advanced-connection-properties
 connectionFactoryJNDIName=”jdbc/**RPMDataSource**”>
 <testConnection>true</testConnection>
 <testConnectionRetryInterval>5</testConnectionRetryInterval>
 </advanced-connection-properties>

 **Note:** The j2c.properties file is associated with a particular application server. This application server must be restarted before these changes will take effect.

 **Note:** Prior to proceeding to ear deployment it is necessary to inject the hibernate2.jar file into the rpm11.ear file. Due to open source licensing restrictions, clients are required to manually download and install hibernate2.jar. A utility for automatically validating the downloaded hibernate2.jar version and adding the jar to the rpm11.ear file may be obtained from the Retek Fulfillment Site. Supporting documentation is also included in the zip file.

4. Open the WebSphere Administrative Console that is to be used for administering the RPM 11 application – <http://<server>:<port>/admin>.
5. Click on Applications->Install New Application.
6. Under Preparing for the application installation, select the Server path radial button and set this field to INSTALL_DIR/rpm11/rpm11.ear (from step 3 above), and then click Next.

 **Example:** Server path: /u00/webasp/rpm11/rpm11.ear

7. Accept the default options for Steps 1 – 2; clicking Next until reaching “Step 3: Provide Listener Ports for Messaging Beans”.
8. Under “Step 3: Provide Listener Ports for Messaging Beans” provide the Listener Port created during the External JMS creation above. The default value for the Listener Port is TaskMDBPort. Click Next.

 **Example:** Listener Port: TaskMDBPort

9. Under “Step 4: Provide JNDI Names for Beans” select the default options and click Next.

10. Under “Step 5: Map modules to application servers”, select the server which will be used for deploying the application (default server is server1), check the checkbox in the header to update all Modules and click the Apply pushbutton. The server fields will be updated with the appropriate server. Click Next.
11. Under “Step 6: Ensure all unprotected 2.0 methods have the correct level of protection” select the default options and click Next.
12. Under “Step 7: Summary”, verify all installation information is correct and click Finish. This may take several minutes. Upon completion, the message “Application rpm11 installed successfully” should appear.
13. Click the [Save to Master Configuration](#) link when it appears.
14. Click the Save button in the Save to Master Configuration section. Following a successful save, you will be re-directed to the WebSphere Application Server Administrative Console.
15. Click on Applications->Enterprise Applications.
16. Click on the rpm11 application link to load the RPM 11 application configuration page.
17. Set the Classloader Mode property to PARENT_LAST, and then click the OK button.
18. Save to master configuration once again and start the rpm11 application.
19. At this point, the rpm11 application should have a solid green arrow indicating successful startup.
20. Prior to loading the rpm11.jnlp file it is necessary to resign all jar files in the INSTALL_DIR/rpm11/webstart/lib directory. Follow the directions provided in the Appendix to resign the jars

Chapter 4 – Client installation instructions

The following steps describe how the RPM 11 client would be configured to serve its files over the IBMHttpServer as configured to be the front-end to the WebSphere Application Server where the rpm11.ear file was installed and configured.

While the RPM 11 client may have already been configured and installed based on the RPM 11 installation, the following steps should be performed again before launching the RPM 11 client.



Note: Sun JRE 1.4.2+ must be installed on the client PC in order for the RPM 11 client to run. Any Sun JRE 1.4.2+ contains Java WebStart, which is used to distribute and update clients via HTTP. Sun JRE 1.4.2+ can be downloaded from the Sun site - <http://java.sun.com>.

1. On the webserver where WebSphere is installed, change directories the document root for IBMHttpServer. This location can be determined by examining the file IBMHttpServer/conf/httpd.conf; the value for the DocumentRoot directive in this file specifies the document root for IBMHttpServer.



Example: /u00/websp/IBMHttpServer/htdocs/en_US

2. Copy the modified rpm11.jnlp file from INSTALL_DIR/rpm11/webstart to the DocumentRoot (as determined in the previous step). This step will overwrite existing versions of these files (from the RPM 11 install) in the DocumentRoot. Copy the icon.jpg file from INSTALL_DIR/rpm11/webstart to the DocumentRoot. Copy the directory INSTALL_DIR/rpm11/webstart/lib to the DocumentRoot (if a lib/ directory already exists in the DocumentRoot, replace it with this one). The following directory and files should now exist in DocumentRoot: /lib, rpm11.jnlp, and icon.jpg.

```
/u00/websp/IBMHttpServer/htdocs/en_US> cp
INSTALL_DIR/rpm11/webstart/rpm11.jnlp .
```

```
/u00/websp/IBMHttpServer/htdocs/en_US> cp INSTALL_DIR/rpm11/webstart/icon.jpg .
```

```
/u00/websp/IBMHttpServer/htdocs/en_US> cp -rf INSTALL_DIR/rpm11/webstart/lib .
```

3. Edit the file IBMHttpServer/conf/mime.types by adding the jnlp MIME type application/x-java-jnlp-file jnlp to this file (the example below shows the jnlp MIME type addition in between the x-javascript and x-koan entries. This step should have been performed during the RPM 11 installation.



Example:	application/x-javascript	js
	application/x-java-jnlp-file	jnlp
	application/x-koan	skp skd skt skm

4. Reload the IBMHttpServer for the above changes to take effect.

5. Load the newly configured rpm11.jnlp file by entering the following url in a browser:

http://<server>:<http_port>/rpm11.jnlp

- server = name or IP address of the server where IBMHttpServer is running
- http_port = IBMHttpServer port as defined by the Port value in the file IBMHttpServer/conf/httpd.conf



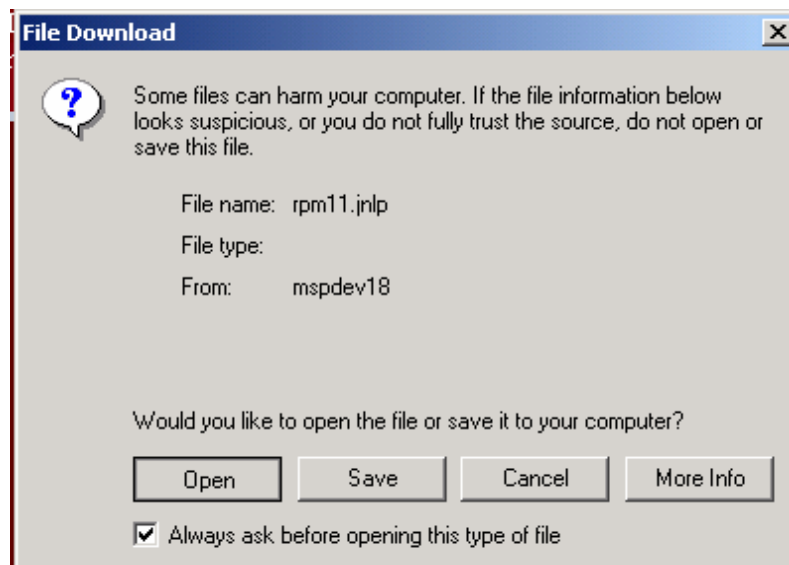
Example: <http://server:9081/rpm11.jnlp>

Java Web Start should launch the RPM 11 client.

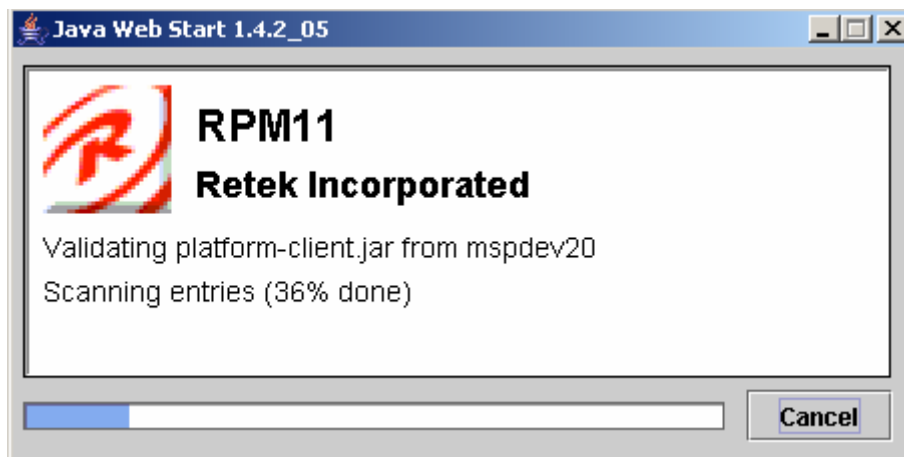


Note: Depending on whether or not the RPM 11 client has already been installed on the client machine, the following download/warning/etc windows may or may not be presented when the RPM 11 client is launched.

If a File Download window similar to the following appears, this means that Java Web Start was not installed as the requirement, along with a JRE 1.4.2+ (the browser cannot handle the jnlp mime type). Install JRE 1.4.2+ before continuing.



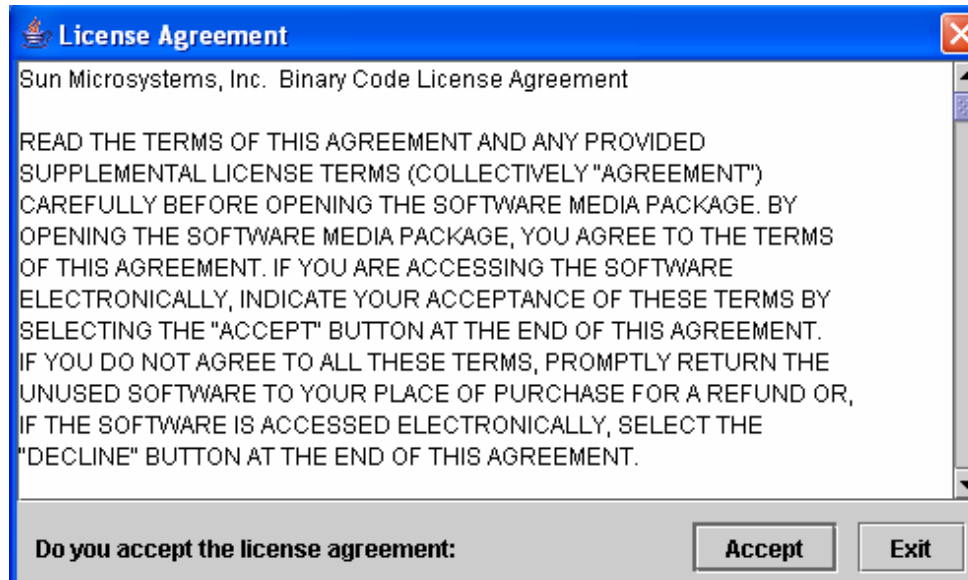
A Java Web Start window similar to the following should appear the first time the rpm11.jnlp file is accessed per PC if a JRE 1.4.2+ and Java Web Start were installed as required. This window displays the RPM11 install on the client PC.



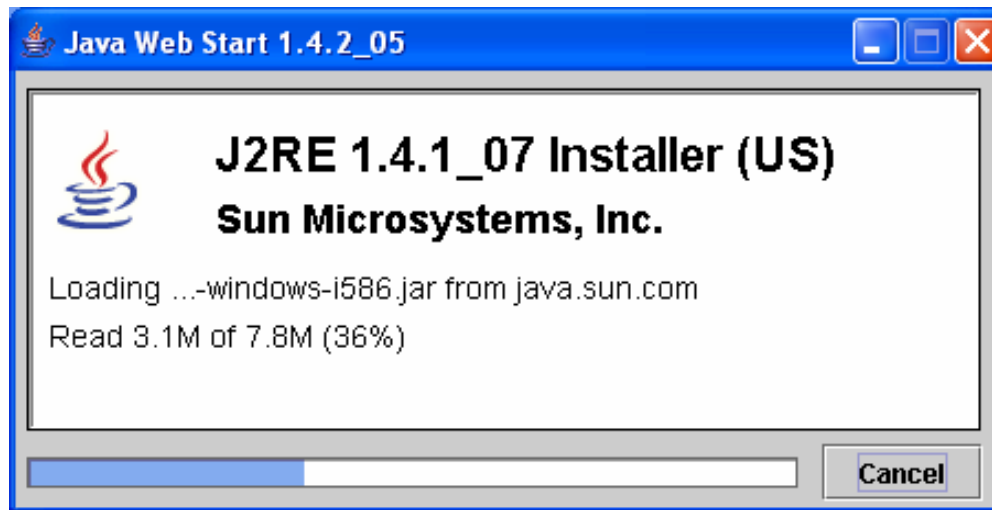
A Security Warning window similar to the following may appear. The warning can be disregarded and the Install button should be clicked so that Java WebStart can be installed.



A Sun Microsystems License Agreement window similar to the following may appear. Click Accept to accept the agreement and continue installing the client.



JRE 1.4.1_XX will continue to be installed at this point.



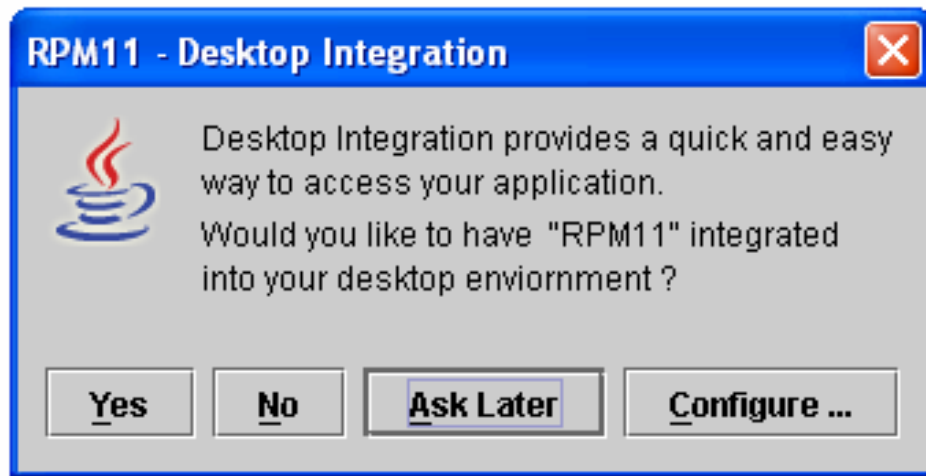
A Security Warning window similar to the following may appear. The warning can be disregarded and the Start button should be clicked so that the RPM 11 client can be launched



An additional Security Warning window similar to the following may appear. Again, even though the window recommends not to install and run this code, the warning can be disregarded and the Install button should be clicked so that the RPM 11 client can be launched.



The RPM11 – Desktop Integration window similar to the following should appear, asking whether to add the RPM11 shortcut on the PC desktop. The RPM11 client will automatically launch no matter which button is clicked.



Once a button is selected, the RPM front-end should appear.

The following Retek Login screen will appear. For the initial login to RPM to be possible, the RPM database user must also be a valid user in the organization's LDAP Directory Server. Click Login after entering the Username and Password.



Example: User Name: Abby.Dawkins
Password: retek



The final configuration step for RPM 11 is to save the system options data to the database. This is accomplished by clicking on the System Options task in the left action pane and then clicking on System Options Edit. The default system options will be displayed. Click the Save button to save system options. RPM 11 installation/configuration is now complete.

Chapter 5 – Online help installation instructions

In order to access online help through the RPM application, the helpfile zip file (rpm11help_<lang>.zip) must be copied to the document root of IBMHttpServer and extracted.

Extract RPM help (rpm11help_<lang>.zip)

1. On the Webserver, change directories to the document root for IBMHttpServer. This location can be determined by examining the file IBMHttpServer/conf/httpd.conf; the value for the DocumentRoot directive in this file specifies the document root for IBMHttpServer.



Example: /u00/webasp/IBMHttpServer/htdocs/en_US

2. Create the directory /rpmhelp in the document root.
3. Copy the rpm11help_<lang>.zip (where <lang> represents the language in which the application is being installed) from /INSTALL_DIR to the newly created /rpmhelp directory in the document root.
4. Extract rpm11help_<lang>.zip.
5. Validate that RPM online help can now be accessed through IBMHttpServer with the RPM online help url:

http://<server>:<http_port>/rpmhelp/start.htm



Example: <http://server:9081/rpmhelp/start.htm>



Note: This url will be used for configuring the client_master.properties file

6. Verify Help has been successfully installed by accessing the application and selecting RPM Help -> RPM Help. The help dialogue is displayed.

Appendix A – Re-signing JAR files

In order for the RPM application to be delivered via WebStart, all client libraries must be signed cryptographically. Initially, all client JAR files are signed by the standard valid Retek signing certificate. If modifications to a client JAR are made, all client JAR files must be re-signed with the client's certificate. This is required so that all client JAR files are signed with the same certificate. Once all JAR files have been re-signed with the client's certificate (valid or self-signed), subsequent modification of client JAR files will only require that the modified JAR file itself be re-signed.

To create an example key called “foo”, the following command can be run:



Note: JAVA_HOME/bin must be in the PATH variable

```
keytool -genkey -alias foo
```

This command will prompt you for a keystore password along with organizational info. Once complete, the keystore alias will reside in the default location in the user's home directory (ie ~/USER_NAME/.keystore).

The resign.sh script in INSTALL_DIR/rpm11/bin was created to re-sign all client libraries (after removing the Retek signature. Consult the “jarsigner” documentation from Sun for further information on the JAR signing process.



Note: resign.sh syntax -> resign.sh <alias>

- Alias – keystore alias of the signing certificate



Example: resign.sh foo

Enter the keystore password when prompted. This script resigns all jar files in the directory INSTALL_DIR/rpm11/webstart/lib. Once all jar file have been resigned with your keystore certificate, copy the entire INSTALL_DIR/rpm11/webstart/lib directory to the IBMHttpServer DocumentRoot directory(this will replace the existing lib directory). The DocumentRoot directory can be identified by looking in the IBMHttpServer's http.conf configuration file.