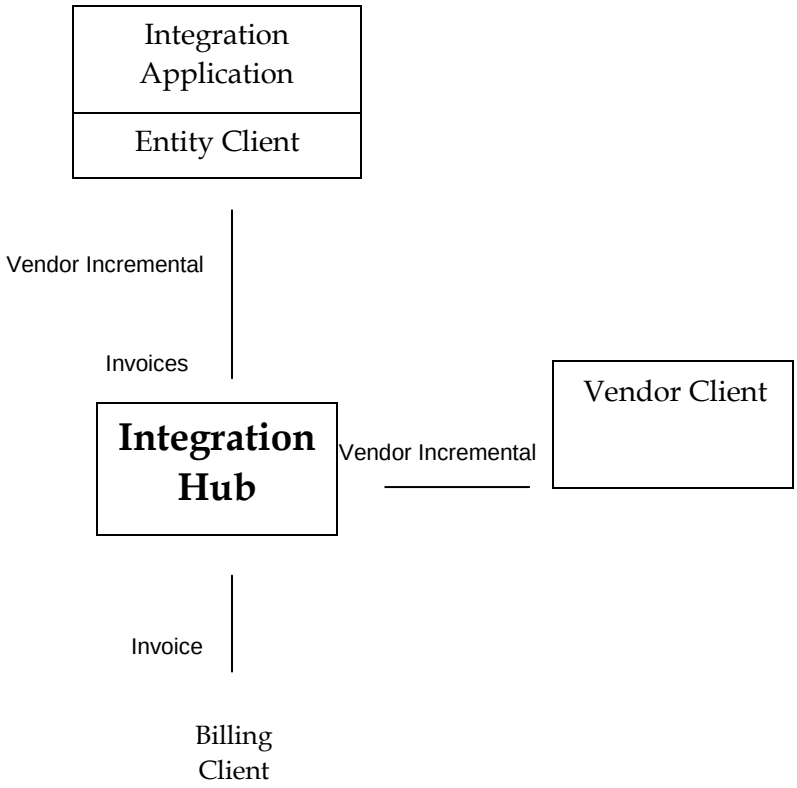
1 Entity Integration Client Overview

The Entity Integration Client is a component of a larger system that integrates the North Carolina E-Procurement Service with an Entity's financial system. The Entity Integration Client is a java application that runs on a machine at each Entity. The Entity Integration Client passes NC EProcurement invoices and vendors between E-Procurement and the Entity's financial system.

The following diagram describes the high-level architecture:



The Entity Integration Client receives vendor gXML files and writes the gXML files to the native file system's directory: **/u01/eicmgr/hubclient/messages/vendor/inbox**. A vendor transformation application (that resides on the Entity Client machine), is run each night to transform the vendor files into the proper format for processing by the entity's financial system. The transformed vendor files are written to the following system directory: **/u01/eicmgr/hubclient/messages/vendor/translated**. The Entity Financial System reads the vendors from this inbox and deletes each file when processing is complete.

The Entity Financial System also writes messages to the **/u01/eicmgr/hubclient**

/messages/invoice/input on the native file system. Similar to the vendor transformation, an invoice transformation process will convert the invoice input file to gXML files and delivers the translated file to the following directory: **/u01/eicmgr/hubclient /messages/invoice/outbox**. The Entity Integration Client checks this directory on an interval configurable by E-Procurement. When a file appears, the Entity Integration Client sends the contents to the Integration Hub and deletes the file. If the file does not validate to the gXML standard, the file is moved to the corresponding error box.

2 Installing the Entity Integration Client

The following instructions outline the steps that need to be taken to in order to install the Entity Integration Client. The steps will cover the following:

- Installing the Entity Integration Client
- Starting the Entity Integration Client service
- Stopping the Entity Integration Client service
- Switching from a QA installation of the Entity Integration Client to a production installation

In order to install the Entity Integration Client, the following files will be provided on a CD:

- Core Entity Client files
- BootStrap.xml and license.p12 for QA installation
- BootStrap.xml and license.p12 for production installation

System configuration assumptions:

- Java 1.4.1_03 will be installed using the 'root' user (installation packages provided on the CD)
- The Entity Integration Client will be installed and run with the same user. That user will not be root
- The root of the Entity Integration Client installation will be **/u01/eicmgr/hubclient**
- The root of the Java 1.4.1_03 installation will be **/u01/eicmgr/j2se**
- An bash-compatible shell will be used

2.1 Installing the Entity Integration Client in the QA environment.

1. Confirm Java 1.4.1_03 is installed.[1]
2. Copy the **UECUEntityClient.tar.gz** to the machine upon which the Entity Integration Client will be installed.
3. Log into the Integration Client Machine using the same user the application will run under, but not the 'root' user.
4. Unzip the **UECUEntityClient.tar.gz** file using the following command:
   $ gunzip UECUEntityClient.tar.gz
5. Extract the files from the tar file using the following command:
   $ tar xfv UECUEntityClient.tar

[1] To check the current java version: type "java –version" on the command prompt. This command will return the java version in the directory path. Multiple java versions may be installed on a machine. The version that will be "active" is the version first found in the directory path.

The tarfile contains the following files:
UECUEntityClient.tar
UECU_QA.tar
UECU_Prod.tar

6. Extract the files from **EntityClient.tar** to the **/u01/eicmgr** directory using the following commands:
$ cd /u01/eicmgr
$ tar xfv ~/EntityClient.tar
The **hubclient** subdirectory is included in the tar file.
7. Extract the files from **UECU_QA.tar** to the **/u01/eicmgr** directory using the following commands:
$ cd /u01/eicmgr
$ tar xfv ~/UECU_QA.tar
The **hubclient** subdirectory is included in the tar file.
8. Set **JAVA_HOME** environment variable using a command similar to this:
$ export JAVA_HOME=/u01/eicmgr/j2se
The **JAVA_HOME** environment variable must be set to the Java 1.4.1_03 root directory. The target directory will differ depending on the root of the Java 1.4.1_03 installation on a particular machine.
9. Change directories to the root Entity Integration Client directory using the following command:
$ cd /u01/eicmgr/hubclient
10. Initialize the Entity Integration Client using this command:
$ bin/icinit.sh
This process will take several minutes to complete. This needs to be run only once during the install. This forces the deployment of all files for the integration client. Each time the client starts; the client checks the Hub for updates to these files and downloads them as needed.

Once the installation is complete, you will need to start the Entity Integration Client.

1. Log into the Integration Client Machine using the same user the application will run under.
2. Set **JAVA_HOME** environment variable using the following command: **$ export JAVA_HOME=/u01/eicmgr/j2se**
The **JAVA_HOME** environment variable must be set to the Java 1.4.1_03 root directory. The target directory will differ depending on the root of the Java 1.4.1_03 installation on a particular machine. You may also add the **export** to the **.profile** file for the user so you don't have to execute this step in the future.
3. Change directories to the root Entity Integration Client directory using the following command:
$ cd /u01/eicmgr/hubclient
4. Start the Entity Integration Client using the following command:
$ nohup bin/ic.sh start &

2.2 Installing the Entity Client into the Production Environment

When it is time to switch from the QA installation to a production installation, the following steps will need to be completed.

1. Log into the Entity Integration Client Machine.
2. Confirm Java 1.4.1_03 is installed.[2]
3. Copy the **UECUEntityClient.tar.gz** to the machine upon which the Entity Integration Client will be installed.
4. Log into the Integration Client Machine using the same user the application will run under, but not the 'root' user.
5. Unzip the **UECUEntityClient.tar.gz** file using the following command:
   $ gunzip UECUEntityClient.tar.gz
6. Extract the files from the tar file using the following command:
   $ tar xfv UECUEntityClient.tar
   The tarfile contains the following files:
   EntityClient.tar
   UECU_QA.tar
   UECU_Prod.tar
7. Extract the files from **EntityClient.tar** to the **/u01/eicmgr** directory using the following commands:
   $ cd /u01/eicmgr
   $ tar xfv ~/EntityClient.tar
   The **hubclient** subdirectory is included in the tar file.
8. Extract the files from **UECU_Prod.tar** to the **/u01/eicmgr** directory using the following command:
   $ cd /u01/eicmgr
   $ tar xfv ~/UECU_Prod.tar
   The **hubclient** subdirectory is included in the tar file.
9. Start the Entity Integration Client using the following command:
   $ nohup bin/ic.sh start &

[2] To check the current java version: type "java –version" on the command prompt. This command will return the java version in the directory path. Multiple java versions may be installed on a machine. The version that will be "active" is the version first found in the directory path.

3 Maintaining the Entity Integration Client

Once the Entity Integration Client has been installed, there should be little maintenance by the System Administrator. However, there will be times when the System Administrator will be requested to perform some actions on the Entity Integration Client. The following are the types of requests that the System Administrator may get concerning the Entity Integration Client:

- Starting the Entity Integration Client
- Stopping the Entity Integration Client
- Sending logs to the North Carolina E-Procurement Team

To start the Entity Integration Client:

1. Log into the Entity Integration Client Machine
2. Set **JAVA_HOME** environment variable using the following command:
   $ export JAVA_HOME=/u01/eicmgr/j2se
   The **JAVA_HOME** environment variable must be set to the Java 1.4.1_03 root directory. The target directory will differ depending on the root of the Java 1.4.1_03 installation on a particular machine. You may also add the **export** to the **.profile** file for the user so you don't have to execute this step in the future.
3. Change directories to the root Entity Integration Client directory using the following command:
   $ cd /u01/eicmgr/hubclient
4. Start the Entity Integration Client using the following command:
   $ nohup bin/ic.sh start &

To stop the Entity Integration Client:

1. Log into the Entity Integration Client Machine.
2. Set **JAVA_HOME** environment variable using the following command:
   $ export JAVA_HOME=/u01/eicmgr/j2se
   The **JAVA_HOME** environment variable must be set to the Java 1.4.1_03 root directory. The target directory will differ depending on the root of the Java 1.4.1_03 installation on a particular machine. You may also add the `export` to the **.profile** file for the user so you don't have to execute this step in the future.
3. Change directories to the root Entity Integration Client directory using the following command:
   $ cd /u01/eicmgr/hubclient.
4. Shutdown the Entity Integration Client using the following command:
   $ bin/ic.sh stop
   Stopping the process will take 30 seconds to one minute.

To send logs to the E-Procurement team:

The NC E-Procurement @ Your Service Help Desk may make a request for files in this folder. The logs are located in the **/u01/eicmgr /hubclient/logs/** folder. These files can be e-mailed to the NC E-Procurement @Your Service Help Desk. If the HTTP port on the firewall is open the log files can be sent to E-Procurement automatically.

1. Log into the Entity Integration Client Machine.
2. Set **JAVA_HOME** environment variable using the following command:
   $ export JAVA_HOME=/u01/eicmgr/j2se
   The **JAVA_HOME** environment variable must be set to the Java 1.4.1_03 root directory. The target directory will differ depending on the root of the Java 1.4.1_03 installation on a particular machine. You may also add the `export` to the **.profile** file for the user so you don't have to execute this step in the future.
3. Change directories to the root Entity Integration Client directory using the following command:
   $ cd /u01/eicmgr/hubclient
4. Send the logs using the following command:
   $ bin/LogUploader.sh

To run the vendor transformation:

- Log into the Entity Integration Client Machine
- Set **JAVA_HOME** environment variable using the following command:
  $ export JAVA_HOME=/u01/eicmgr/j2se
- The **JAVA_HOME** environment variable must be set to the Java 1.4.2_13 root directory. The target directory will differ depending on the root of the Java 1.4.2_13 installation on a particular machine. You may also add the export to the .profile file for the user so you don't have to execute this step in the future.
- Change directories to the root Entity Integration Client directory using the following command:
  $ cd /u01/eicmgr/hubclient
- Run the Vendor Transformation using the following command:
  $ bin/uecuVendorTransform.sh

To run the invoice transformation:

- Log into the Entity Integration Client Machine
- Set **JAVA_HOME** environment variable using the following command:
  $ export JAVA_HOME=/u01/eicmgr /j2se
- The **JAVA_HOME** environment variable must be set to the Java 1.4.2_13 root directory. The target directory will differ depending on the root of the Java 1.4.2_13 installation on a particular machine. You may also add the export to the .profile file for the user so you don't have to execute this step in the future.
- Change directories to the root Entity Integration Client directory using the following command:
  $ cd /u01/eicmgr/hubclient
- Run the Invoice Translation using the following command:
  $ bin/ncepInvoiceTransform.sh