CAPLIN

Caplin Xaqua 1.0

Getting Started With The XMC

December 2009

Contents

1   Preface

1.1   What this document contains

This document describes how to configure the Caplin Xaqua Management Console (XMC).

The document assumes that the user has a Java Virtual Machine (JVM) version 1.5 or later installed and added to the classpath. This is the minimum requirement in order to run JMX monitoring.

About Caplin document formats

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◆   Portable document format (*.PDF* file), which you can read on-line using a suitable PDF reader such as Adobe Reader®. This version of the document is formatted as a printable manual; you can print it from the PDF reader.

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http://support.microsoft.com/kb/896054/.

1.2   Who should read this document

This document is intended for people who want to install and configure the XMC to monitor Caplin Xaqua components.

1.3   Related documents

◆   **Caplin Xaqua: Monitoring And Management Overview**

Describes the Caplin Xaqua Management and Monitoring solution and its place in the Caplin Xaqua architecture.

◆   **Caplin Xaqua: Customizing The XMC**

Describes how to customize the Caplin Xaqua Management Console.

◆   **Caplin Xaqua Management Console: API Reference**

The API reference documentation provided with the Caplin Xaqua Management Console.

◆   **Caplin Xaqua: Monitoring Socket Interface Specification**

Describes the commands and responses of the Monitoring Socket Interface.

◆   **Caplin Liberator: Administration Guide**

Describes how to install and configure Caplin Liberator.

1.4   Typographical conventions

The following typographical conventions are used to identify particular elements within the text.

Type	*Uses*
aMethod	Function or method name
aParameter	Parameter or variable name
/AFolder/Afile.txt	File names, folders and directories
`Some code;`	Program output and code examples
The `value=10` attribute is...	Code fragment in line with normal text
Some text in a dialog box	Dialog box output
`Something typed in`	User input – things you type at the computer keyboard
XYZ Product Overview	Document name
◆	Information bullet point
■	Action bullet point – an action you should perform

Note: Important Notes are enclosed within a box like this.
Please pay particular attention to these points to ensure proper configuration and operation of the solution.

Tip: Useful information is enclosed within a box like this.
Use these points to find out where to get more help on a topic.

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1.5   Feedback

Customer feedback can only improve the quality of our product documentation, and we would welcome any comments, criticisms or suggestions you may have regarding this document.

Please email your feedback to documentation@caplin.com.

1.6   Acknowledgments

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2　Server-side Configuration for Caplin Products

2.1　Configuring Caplin Liberator

As a prerequisite for using JMX Monitoring, the user needs version 4 (or later) of Caplin Liberator. Liberator is supplied with some predefined configuration files that need to be modified in order to use JMX Monitoring. The files that require modification are:

◆　*rttpd.conf* [4] – Caplin Liberator configuration file.

◆　*java.conf* [5] – Java configuration file.

◆　*jmx.conf* [6] – JMX Monitoring configuration file.

The Liberator will also need a *license file* [7] that allows monitoring to be enabled.

rttpd.conf

Some of the JMX Monitoring options are supplied with Caplin Liberator, but commented out by default. The user will need to uncomment the following line in this file, as highlighted below, in order to use JMX Monitoring.

```
## Monitoring #######################################################
#
#

monitor-moddir      %r/lib
#monitor-module     sockmon
monitor-module      jmx

# Username and password for accessing monitoring

add-monuser
    user    admin
    pass    admin
    addr    127.0.0.1
end-monuser

process-usage-period      10.0
```

java.conf

The `rmi.client.port` is normally set to one higher than the `rmi-registry-port` in *jmx.conf*. Please refer to the **Caplin Liberator: Administration Guide** for further option details. In order to use JMX monitoring, you must uncomment some lines in this file as highlighted below.

```
## In Process JVM ###########################################################
#
#

# Set jvm-location as a fully qualified pathname to the preferred JVM
#
jvm-location        /usr/local/java/jre/lib/i386/libjava.so
#jvm-location        /usr/local/jre/lib/sparc/libjava.so

# Add any desired JVM startup options to jvm-options
#
jvm-options
   -Djava.naming.factory.initial=com.sun.jndi.rmi.registry.RegistryContextFactory

# uncomment the next line to enable remote debugging of the JVM
#jvm-options   -Xdebug -Xrunjdwp:transport=dt_socket,server=y,suspend=n,address=25090

# uncomment the next line to configure the address on which the jni client
# accepts connections
# jvm-options   -Djava.rmi.server.hostname=localhost

# Configure the rmi client port here
jvm-options   -Drmi.client.port=1100
```

```
## Java Classes   ###########################################################
#
#

# JARs required in the startup global classpath for the JVM
#
jvm-global-classpath    %r/lib/java/jmx-default-classloader.jar
jvm-global-classpath    %r/lib/java/javaauth.jar
jvm-global-classpath    %r/lib/java/common-jmx.jar

# Configurations for individual classes to be loaded,
# identified and referenced by the class-id option

# Required by JMX monitoring module
#
add-javaclass
    class-name  com.caplin.management.jmx.JMXController
    class-id    jmx
    classpath   %r/lib/java/jmx-child-classloader.jar
    classpath   %r/lib/java/common-jmx.jar
end-javaclass

# Example JavaAuth class
#
#add-javaclass
#    class-name   examples.OpenAuthenticator
#    class-id     authenticator
#
# JARs or paths may be added to the CLASSPATH,
# one per classpath option line
#    classpath    %r/lib/java/javaauth-examples.jar
#    classpath    %r/lib/java/javaauth.jar
#end-javaclass
```

jmx.conf

The user will need to configure this file as it tells the Caplin Liberator what options to use for the monitoring utility. This file is used to specify the monitoring port and other options that will be used by the XMC to connect to the Liberator. The only option that may need to be changed is the `rmi-registry-port` which needs to be a unique port that the XMC can connect to.

```
#
#   Example Config File for JMX Monitoring Module
#
#   $Id: //CDev/V-4_4/monmods/jmx/jmx-sample.conf#1 $
#

####################################################################
#
# Debug level
#
# One of either:
# CRIT, ERROR, NOTIFY, WARN, INFO, DEBUG
#
# (These are in descending order of importance and increasing order
# of logging detail)
#
####################################################################
debug-level    INFO


####################################################################
#
# Hash table size
#
# This value should be about twice the total number of mbeans that
# your system will create
#
####################################################################
jmxcache-hash-size 100000


#####################################################################
#
# Port number that the MX4J system listens on for HTTP connections
#
# This is only accessible from the loopback interface
#
# If set to -1 then it is disabled
#
#####################################################################
http-port         -1


#####################################################################
#
# Classid to use from the add-javaclass groups in the main configuration
# file.
#
# This defaults to jmx
#
#####################################################################
jmx-classid        jmx
```

```
#######################################################################
#
# Bind name of the registry
#
#######################################################################
registry-bind-name datasrc


#######################################################################
#
# Port number that MX4J exposes the monitoring interface on
#
#######################################################################
rmi-registry-port  1099
```

license file

You will also need a new license to enable Monitoring. This will require **jmx monitor** and/or **sockmon monitor** modules – please contact Caplin Support for a license file.

2.2   Configuring Caplin Transformer

As a prerequisite for using JMX Monitoring, the user needs version 4 (or later) of Caplin Transformer. Transformer is supplied with some predefined configuration files that must be modified in order to use JMX Monitoring. The files that require modification are:

◆   *transformer.conf* | 7 | (Caplin Transformer configuration file)

◆   *java.conf* | 7 | (Java configuration file)

◆   *jmx.conf* | 7 | (JMX Monitoring configuration file)

The Transformer will also need a *license file* | 8 | that allows monitoring to be enabled.

transformer.conf

This should be configured in the same way as the Liberator *rttpd.conf* | 4 | configuration.

java.conf

This should be configured in the same way as the Liberator *java.conf* | 5 | configuration.

jmx.conf

This should be configured in the same way as the Liberator *jmx.conf* | 6 | configuration.

license file

See the Caplin Liberator *license file* ⌐7⌐ requirements.

2.3   Configuring Caplin DataSource

As a prerequisite for using JMX Monitoring, the user needs version 4 (or later) of Caplin DataSource. The DataSource is supplied with some predefined configuration files that need to be modified in order to use JMX Monitoring. For example, the files that will require modification for DataSource for Triarch are:

◆   *sslsrc.conf* ⌐8⌐ (Caplin DataSource configuration file)

◆   *java.conf* ⌐8⌐ (Java configuration file)

◆   *jmx.conf* ⌐8⌐ (JMX Monitoring configuration file)

The DataSource will also need a *license file* ⌐8⌐ that allows monitoring to be enabled.

sslsrc.conf

This should be configured in the same way as the Liberator *rttpd.conf* ⌐4⌐ configuration.

java.conf

This should be configured in the same way as the Liberator *java.conf* ⌐5⌐ configuration.

jmx.conf

The user will need to modify this file as it tells the Caplin DataSource what options to use for the monitoring utility. By default, the only difference between this file and the *jmx.conf* ⌐6⌐ file used in the Caplin Liberator or Caplin Transformer configuration section is the `rmi-registry-port`, which needs to be different if Caplin Liberator or Caplin Transformer are executing on the same physical machine as the Caplin DataSource.

license file

See the Caplin Liberator *license file* ⌐7⌐ requirements.

3   Client-side Installation

In order to run the Caplin Xaqua Management Console (XMC) the user will require JVM 1.5 or later.

3.1   Starting the XMC

The XMC is supplied as an executable Java Archive (JAR) file which can be run in two ways.

1.   Double click on the file called *xmc.jar* which is located in the XMC installation directory. This will start the XMC (assuming **javaw** is the default handler for executable JAR files).

2.   The user can type the following command in an executable shell at the location in which the XMC was installed.

```
$ java –jar xmc.jar
```

This will start the XMC and a splash screen will load. If the XMC is configured to use KeyMaster authentication, then the user will be prompted to enter a username and password. A blank initial screen is then displayed.
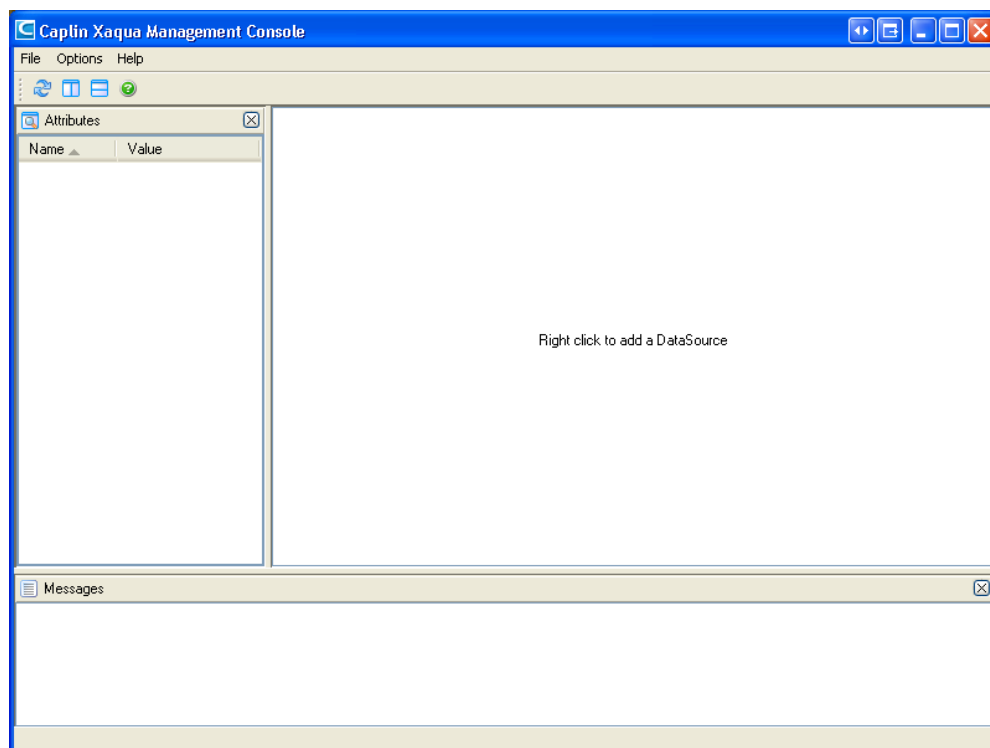
Initial Screen

This is the overview screen of the XMC.

Next add a monitorable Caplin Product. This is done by right clicking in the center of the main window and selecting Add New DataSource.
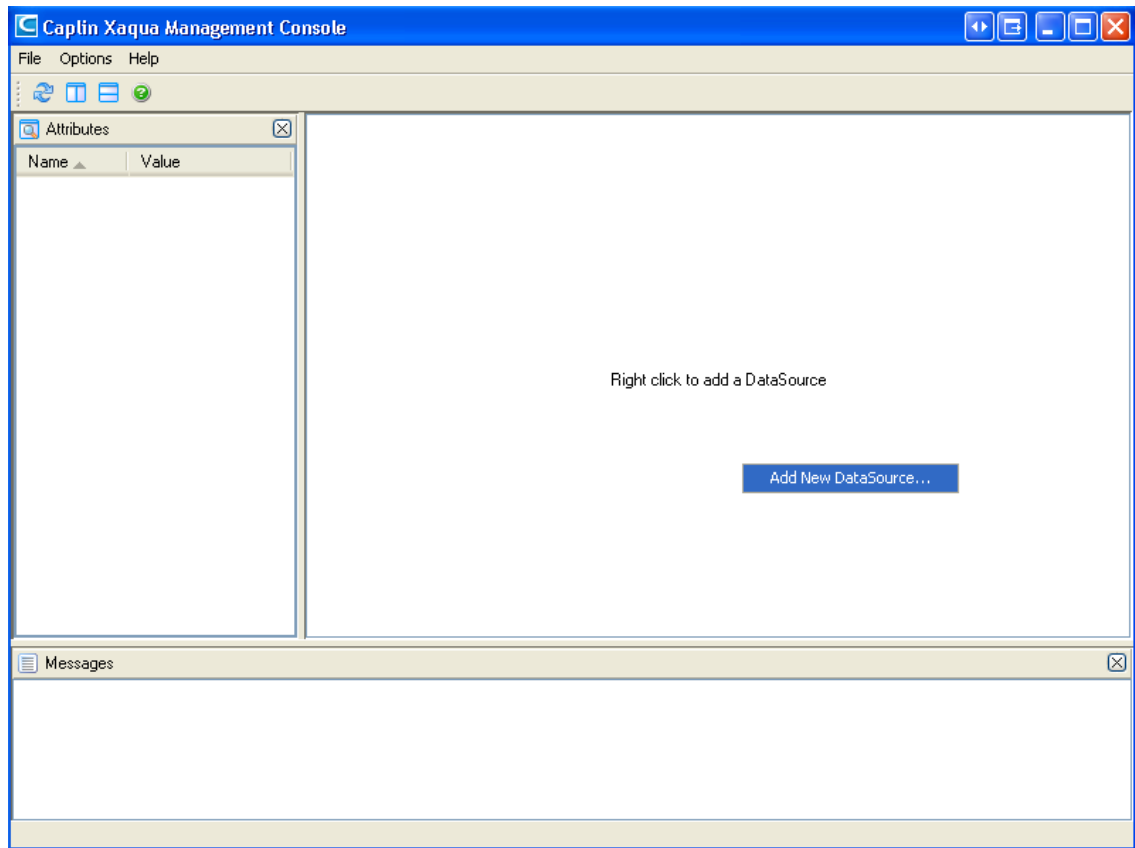
Adding a new DataSource

Confirmation dialog

3.2   Configuring the XMC

When the user right-clicks on the center screen, a new window will appear which will allow the user to enter the details of a new monitorable Caplin Product (see the [Confirmation dialog] 10). The user should enter a meaningful name for the product. Then add the IP address or DNS name of the machine that the product is running on. Below that the user must enter the port that JMX Monitoring has been set up on. This will correspond to the `rmi-registry-port` property that was set in the *jmx.conf* configuration file when setting up the server side product (that is, Caplin Liberator, Caplin Transformer, Caplin DataSource).

Finally the user needs to choose their authentication method. If local authentication is chosen, then the user must specify a user name and password that the XMC can use to access the monitoring. If global authentication is chosen, then one of the configured global authentication methods must be selected.

These authentication methods need to be configured in the configuration file for the Caplin Product (*rttpd.conf* 4 , *transformer.conf* 7 or the DataSource configuration file *sslsrc.conf* 8).

If both the XMC and the relevant Caplin Product have been configured correctly, then the Caplin Product will turn blue, and if the user left-clicks on it a list of attributes will appear in the left hand column.
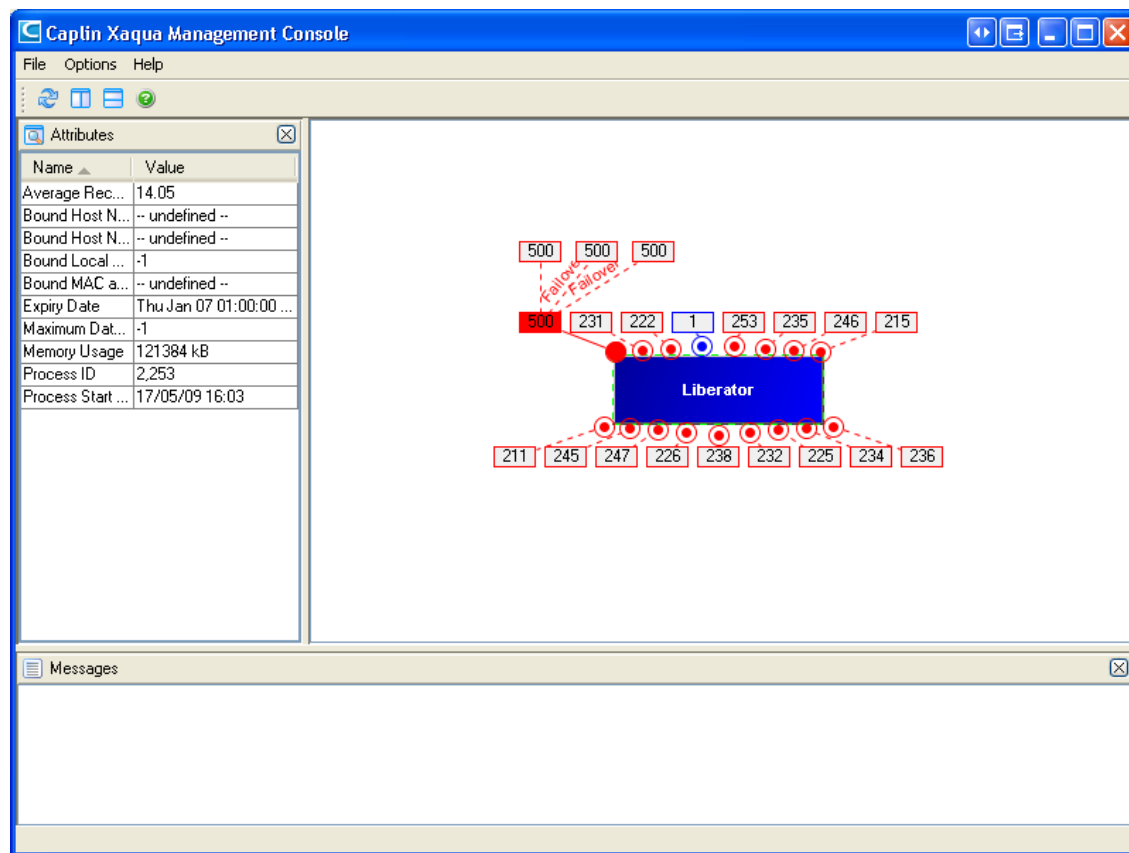
Attribute list

Otherwise the Caplin Product will be red in color and the attribute column will also be empty. This specifies that the XMC was unable to connect to the Caplin Product. A brief explanation of what is wrong is available as a tool-tip which can be viewed by hovering over the Caplin Product using the mouse for a few seconds.
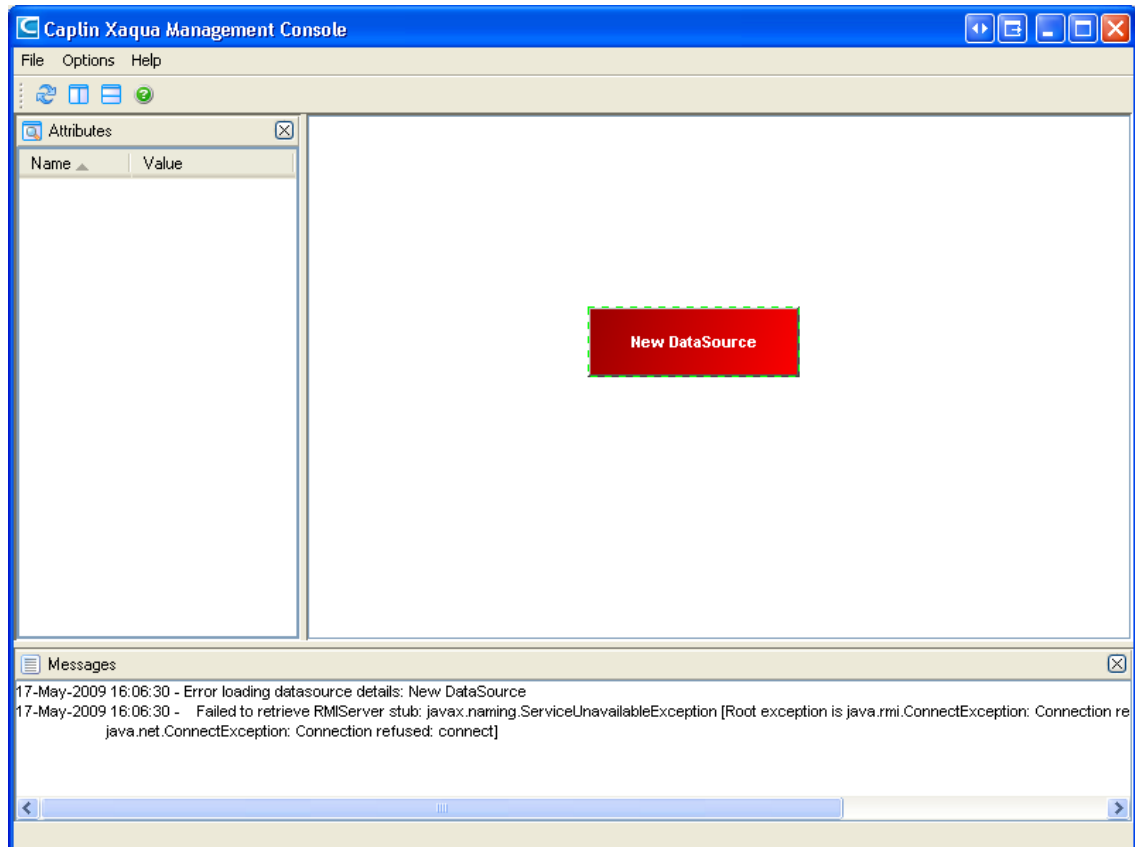

XMC unable to connect to a DataSource

The user can add as many Caplin Products as required by following the above procedure for each one. The XMC will automatically detect that two Caplin Products are linked to one another (for example, that a DataSource is connected to a Liberator) and link the two together.
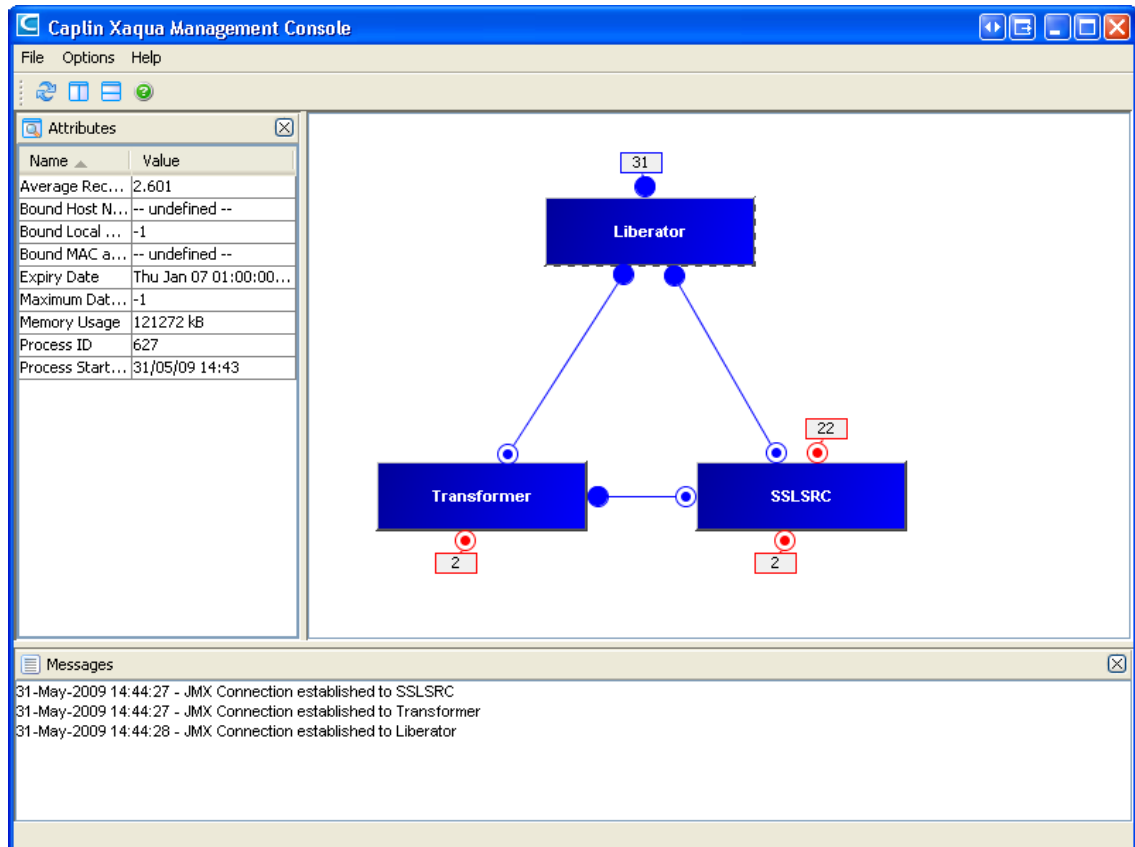
Linked products

Next the user should double click on the Product they wish to view. This action will open up the XMC view. This window contains all the information available about this particular Caplin Product. The views available (one view is assigned to one tab) will depend on the type of Caplin Product being viewed. The XMC will determine the type of Caplin Product being viewed by using an MBean attribute contained within each Caplin Product. The following picture shows a typical view for a Caplin Liberator.
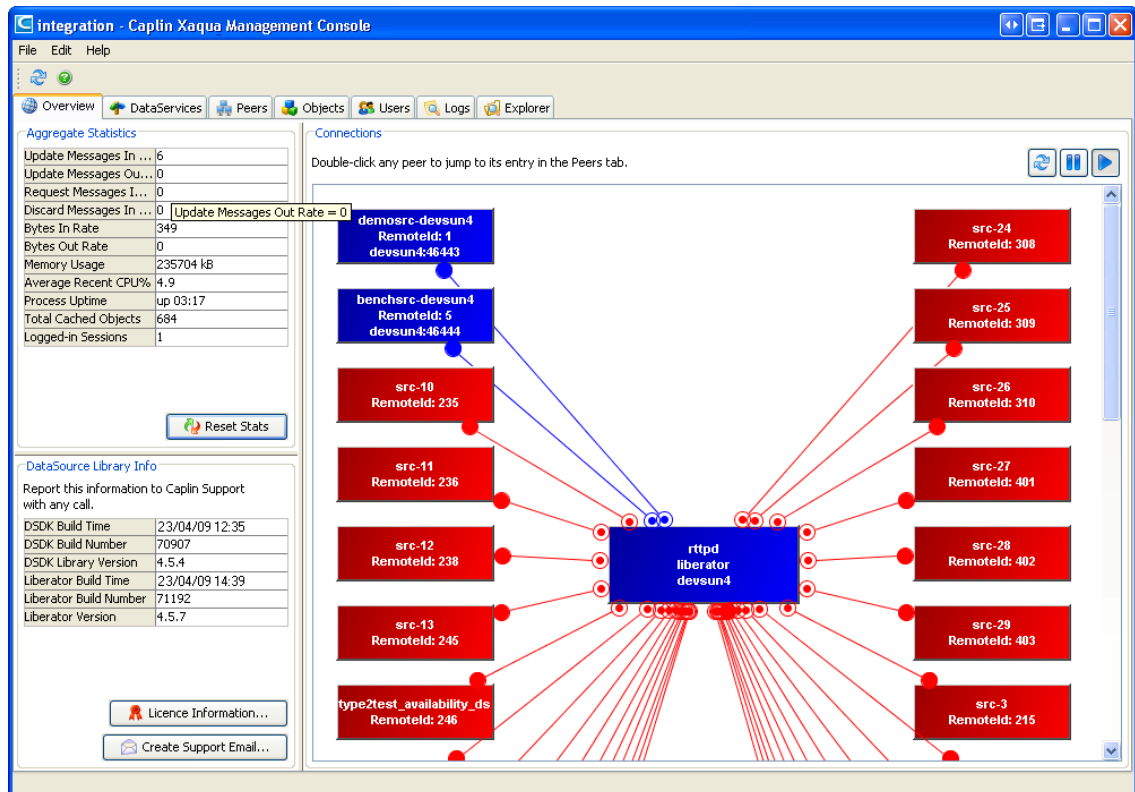
Typical Liberator view

At the top of the window the user has a number of tabs available. Each tab describes a different view of Liberator.

The final tab is the Explorer tab which shows every MBean available in the Liberator.
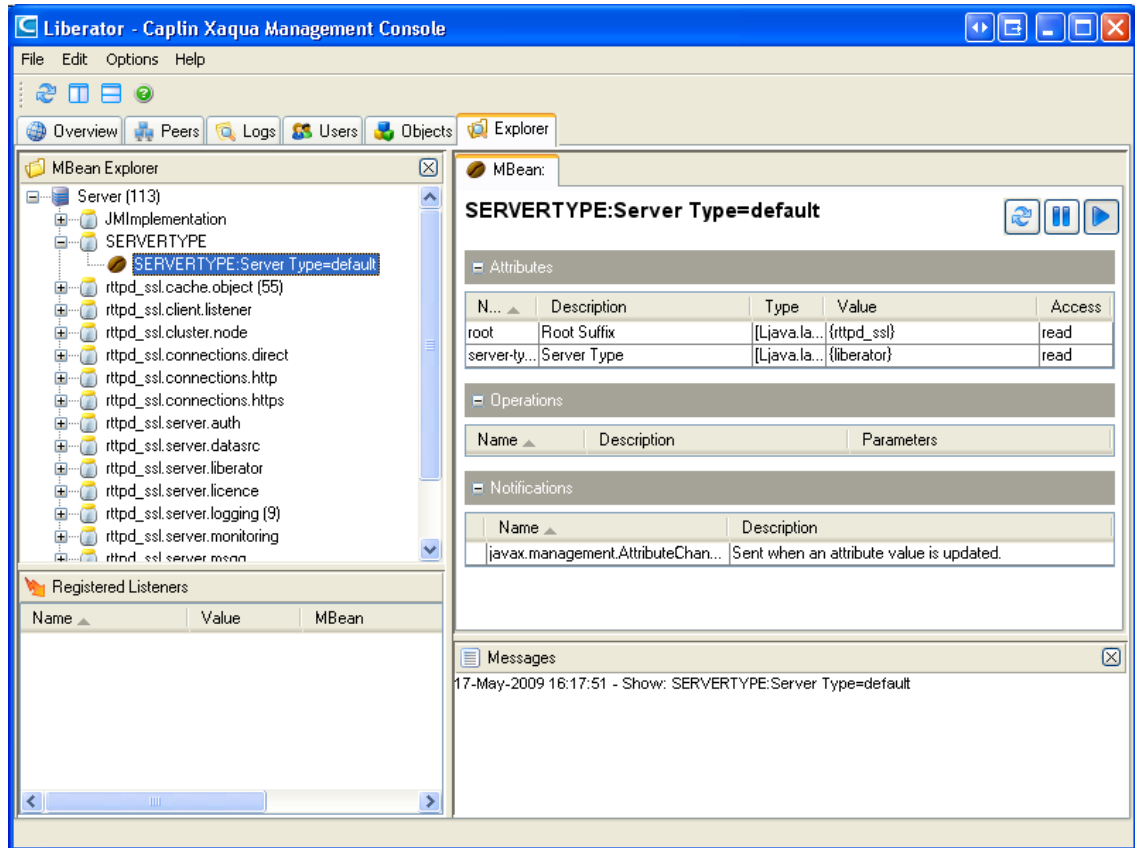
Typical Explorer tab view

The user can browse through the explorer tree on the left hand side. The user can perform operations on an MBean if the MBean has any operations that can be performed on it. The user may wish to view the SERVERTYPE MBean first, as this will confirm the type of Caplin product that is being viewed.

| **Tip:** | Please refer to the **Help** section of the XMC for further information. |

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