Expand Your IBM Case Manager System
- Integrating with Cognos Real-Time Monitor

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The Document Author is authorized to make the following types of changes to the document.

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</tbody>
</table>
Table of Contents

1. Brief Introduction .......................................................................................................................... 3
2. Architecture ...................................................................................................................................... 4
3. Software Requirement .................................................................................................................. 4
4. Steps to configure RTM .................................................................................................................. 5
  4.1 Installing RTM ............................................................................................................................ 5
  4.2 Ensure WebSphere Supplement is installed .................................................................................. 5
  4.3 Setting the keystore file ............................................................................................................... 6
  4.4 Set the Classpath ......................................................................................................................... 6
  4.5 Set the jvm argument .................................................................................................................. 7
  4.6 Install DB2 and create databases used by RTM .............................................................................. 8
  4.7 Creating and configuring the metadata connection on WebSphere: ............................................. 9
  4.8 Deploy the RTM application in WAS .......................................................................................... 10
  4.9 Configure IBM HttpServer and WebSphere Application Server to handle both static and
dynamic content ........................................................................................................................................ 10
    4.9.1 On the web server, if the conf.d directory does not already exist, you must create the conf.d
directory at the same level as the conf directory ............................................................................ 10
    4.9.2 Copy the realtime.conf file, which is located in the c10_location/realtime/configuration directory,
to the conf.d directory ..................................................................................................................... 10
    4.9.3 Edit the file copied .................................................................................................................. 10
    4.9.4 Make sure you have deployed the EAR file on your IBM WebSphere Application Server. .... 11
    4.9.5 Update Global Web Server Plug-in .................................................................................... 11
    4.9.6 Copy the configuration file to the remote server .................................................................... 11
  4.10 Test the configuration of static and dynamic content .............................................................. 11
5. Procedure to configure RTM to integrate CA .................................................................................. 11
  5.1 Prerequisite: ................................................................................................................................ 11
    5.1.1 IBM Case Manager 5.1.1 is available .................................................................................. 11
    5.1.2 Connection Point should be Case Analyzer enabled ............................................................. 11
    5.1.3 Case Analyzer is available .................................................................................................. 12
  5.2 Enable SQL Server to be accessed ............................................................................................. 13
  5.3 Configure JDBC driver ............................................................................................................... 13
  5.4 Create J2C authentication data to connect SQL Server used by Case Analyzer ....................... 15
  5.5 Import the IBM FileNet Case Monitor project .......................................................................... 16
6. Result of integration .......................................................................................................................... 18
7. Useful Links ...................................................................................................................................... 18

1. Brief Introduction.

IBM Case Manager (refer as ICM in this article) unites information, process, and people to provide a 360-degree
view of case information and achieve optimized outcomes.

Once ICM is deployed in a production environment and used for some time, there will be a large amount of data created including the cases, work items, etc. Creating the report from different perspective will become necessary. IBM Cognos Real-time Monitoring (refer as RTM in this article) is an operational business intelligence solution designed to provide easy access to consistent data so you can react quickly to revenue and cost-saving opportunities. RTM features self-service, interactive dashboards with operational key performance indicator (KPI) measures for frontline business users, executives, managers and analysts.

In general, since ICM 5.1.1 is based on the P8CE/PE 5.1, all of the data will be stored into FileNet P8 CE/PE, integrating ICM 5.1.1 with RTC is just integrating RTM with FileNet P8 CE/PE.

2. Architecture

Below are the architecture integration IBM Case Manager with Real-Time Monitor. IBM Case Manager is based on FileNet Content Engine (refer as CE in this article) and FileNet Process Engine (refer as PE in this article). All contents including solutions, cases, tasks, etc. are stored and managed by CE and PE. Case Analyzer can capture the events of CE and PE. These events record the change of content in CE and PE. CA will store these events in the CADB (a database of SQL Server). RTM is an application deployed on WebSphere, it will access the data in the CADB and display and even reorganize the data to visually display the data to satisfy the different requirement of the user.


Integration ICM 5.1.1 with RTM 10.1.1 will involve below software:

IBM Cognos Real-Time monitor 10.1.1
SQL Server 2008.
DB2
IBM Case Analyzer 5.0.0
4. Steps to configure RTM

This section will focus on deploying the RTM application to WebSphere and configure the application. RTM installation package will lay down the files including the application file (*.ear file) to the local drive, you will need to deploy and configure the application manually.

4.1 Installing RTM

To install RTM, just click the issetup and follow the wizard.

Ensure you select all these components:

![RTM Installation Wizard]

4.2 Ensure WebSphere Supplement is installed.

RTM will use the WebSphere Http Server as the web server, so you must install and configure supplement. After installing, copy the configurewebserver1 in the WebSphere plugin ‘bin directory to the WebSphere/AppServer/bin,
then run configurewebserver1.bat.

4.3 Setting the keystore file
Setting the keystore file, modify the /opt/ibm/cognos/c10_64/realtime/configuration/realtime.properties or
`c:\ibm\cognos\c10_64\realtime\configuration \realtime.properties` if you deploy RTM application on windows
platform, uncomment below line:

Admin\ keystore\ Location= …, it should point to `c:\ibm\cognos\c10_64\realtime\configuration\keystore`

4.4 Set the Classpath
Add the obiProperties.jar file to the classpath. You can add it to the classpath from the WebSphere console. To do it,
Log in WAS, navigate to Environment->Shared Libraries, add a shared libraries the obiProperties.jar as the shared
libraries:

![Shared Libraries](image)

Then, add the shared library to the class loader of server1, to do this,
navigate to Servers->Server Types->WebSphere Application Servers->server1->Java and Process Management->
Class loader, click New button, below screen will be shown:
4.5 Set the jvm argument.

Ensure that the com.cognos.obi.bootstrap.envpropname property is set to BOOTPROPS and that the JVM property BOOTPROPS points to the realtime.properties file you edited during your preparation for installation, please refer below:

```
-DBOOTPROPS=<c10_location>/realtime/configuration/realtime.properties
-Dcom.cognos.obi.bootstrap.envpropname=BOOTPROPS
```
<c10_location> specifies the location of the realtime.properties file that contains the bootstrap properties.

Set the file encoding type to UTF8.

-Dfile.encoding=utf8

Below are the full generic jvm argument, please refer:

DBOOTPROPS=C:/IBM/cognos/c10_64/realtime/configuration/realtime.properties
Dcom.cognos.obi.bootstrap.envpropname=BOOTPROPS -Dfile.encoding=utf8 -Danonymousaccessenabled=true

4.6 Install DB2 and create databases used by RTM

RTM uses several databases to store information, such as metadata about objects that have been created within the system. So DB2 is needed. The version I used is db2 9.7 v4.

After db2 is installed, edit the WebSphere variable called DB2UNIVERSAL_JDBC_DRIVER_PATH to point to the directory where the DB2 Universal JDBC Driver (db2jcc.jar) is located. For example: /home/db2inst1/sqllib/java if you install db2 on linux.

Create dedicated databases for metadata, operational data, and geography data. In addition, create a dedicated user account for these databases, where the user has the authority to create tables and query tables.

For your reference, I list commands of db2 here to create database for these data:

Db2 create database GEO.
Db2 create database META
Db2 create database OPER

Create JAAS as below:
Create a new JAAS alias with the following values and then click OK.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alias</td>
<td>Any value. (DB2JAAS in this article) This will be used to configure a JDBC provider.</td>
</tr>
<tr>
<td>User ID</td>
<td>Valid user ID for the selected database.</td>
</tr>
<tr>
<td>Password</td>
<td>Valid password for the user ID.</td>
</tr>
<tr>
<td>Description</td>
<td>Optional text description.</td>
</tr>
</tbody>
</table>

Create datasource in WebSphere for these databases, please refer below picture:
4.7 Creating and configuring the metadata connection on WebSphere:

Create a new JAAS alias with the following values and then click OK.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alias</td>
<td>Any value. This will be used to configure a JDBC provider.</td>
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<tr>
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<td>Valid user ID for the selected database.</td>
</tr>
<tr>
<td>Password</td>
<td>Valid password for the user ID.</td>
</tr>
<tr>
<td>Description</td>
<td>Optional text description.</td>
</tr>
</tbody>
</table>

Configure and create the new JDBC provider, select Connection pool data source. If you use WAS 7 ND and DB2.
V9.7, please use db2jcc4.jar, modify it to db2jcc.jar

Add below to the JVM argument:
- DBOOTPROPS=/opt/ibm/cognos/c10_64/realtime/configuration/realtime.properties
- Dcom.cognos.obi.bootstrap.envpropname=BOOTPROPS
- Dfile.encoding=utf8
- Danonymousaccessenabled=true

4.8 Deploy the RTM application in WAS.
The ear file is located in $RTM_INSTALL_DIR/realtime/bin64/Realtime.ear, please select Generate Default Bindings. Keep the default, then jump to the final step and click finish.

4.9 Configure IBM HttpServer and WebSphere Application Server to handle both static and dynamic content
4.9.1 On the web server, if the conf.d directory does not already exist, you must create the conf.d directory at the same level as the conf directory.

4.9.2 Copy the realtime.conf file, which is located in the c10_location/realtime/configuration directory, to the conf.d directory.

4.9.3 Edit the file copied:
Append following lines: WebSpherePluginConfig
Change the Alias to point to the correct web content
For example: Alias /cognos/realtime "C:/Program Files/ibm/cognos/c10_64/realtime/webcontent"

Change the ProxyPass and ProxyPassReverse to point to the correct application server host and port:


Please ensure you change all entries.

Add below line to the http.conf

Include conf.d/*.conf

4.9.4 Make sure you have deployed the EAR file on your IBM WebSphere Application Server.

4.9.5 Update Global Web Server Plug-in
Go to the administrative console of the IBM® WebSphere Application Server and select Environment in the left tree and click Update Global Web server Plug-in configuration. The IBM WebSphere Application Server updates the plug-in file to enable the web server to serve static content. The web server can now pass dynamic URIs for servlets and JSPs back to IBM WebSphere.

4.9.6 Copy the configuration file to the remote server
Copy the plug-in configuration file to the remote web server. The configuration file is 

Include conf.d/*.conf

4.10 Test the configuration of static and dynamic content
Launch an internet explorer and input below URL:

http://<your rtm host>/

If the web browser navigate you to the login page of RTM, your configuration is successfully.

5. Procedure to configure RTM to integrate CA

5.1 Prerequisite:

5.1.1 IBM Case Manager 5.1.1 is available.
Since article focus on integration of ICM with RTM, establishing the ICM will not be addressed in this article. Please refer Useful Links section for how to establish the ICM env.

5.1.2 Connection Point should be Case Analyzer enabled
Login WorkplaceXT, Click Tools->Administration->Process Configuration Console, right click the process engine node, select Properties… pop menu, switch to Runtime Option tab, check Case Analyzer:
5.1.3 Case Analyzer is available.

Please refer to the Case Analyzer’s role in section 2 Architecture. Case Analyzer is responsible to grasp data from ICM (actually from Content Engine and Process Engine since the data of ICM is stored in Content Engine and Process Engine.). Below are screenshot of correct CA which can grasp data from ICM:
5.2 Enable SQL Server to be accessed
If you install Case Analyzer on a same machine with SQL Server, there is nothing to do. If you install them on different machine. You need to enable the SQL Server to be accessed remotely.

5.3 Configure JDBC driver
Create below websphere variable:
MICROSOFT_JDBC_DRIVER_NATIVEPATH
MICROSOFT_JDBC_DRIVER_NATIVEPATH
MICROSOFT_JDBC_DRIVER_PATH
Please refer to below screen shot:
You can refer below screen to configure JDBC driver for SQL Server.

### WebSphere Variables

Use this page to define substitution variables. Variables specify a level of indirection for some system-defined values, such as directories. Variables have a scope level, which is either server, node, cluster, or cell. Values at one scope level can differ for levels. When a variable has conflicting scope values, the more granular scope value overrides values at greater scope levels. Variables override node variables, which override cluster variables, which override cell variables.

**Scope:** Select scopes

Scope specifies the level at which the resource definition is visible. For detailed information on what scope is and how it works, see the scope settings help.

- **All scopes**

**Preferences**

<table>
<thead>
<tr>
<th>Select</th>
<th>Name</th>
<th>Value</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MICROSOFT_JDBC_DRIVER_NATIVEPATH</td>
<td>Cell=ecrmwgt2Node01Cell</td>
<td></td>
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<tr>
<td></td>
<td>MICROSOFT_JDBC_DRIVER_NATIVEPATH</td>
<td>C:/installers/sqljdbc_2.0/enu</td>
<td>Node=ecrmwgt2Node01</td>
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<td>C:/installers/sqljdbc_2.0/enu</td>
<td>Node=ecrmwgt2Node01</td>
</tr>
</tbody>
</table>
One tip you can refer: If you encounter JDBC driver problem when configure J2C or datasource from WebSphere, you can change the JDBC driver **4.jar to **.jar.

### 5.4 Create J2C authentication data to connect SQL Server used by Case Analyzer

You need to login WebSphere console to create a J2C authentication data to connect SQL Server db.
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5.5 Import the IBM FileNet Case Monitor project

1. Copy the CaseMonitor.jar file from your Case Analyzer Server (=<CaseAnalyzerInstallRootNode>/CaseMonitor/CaseMonitor.jar) to your RTM Server
2. Log on to IBM Cognos Real-time Monitoring Workbench (Navigate to http://<rtmServer>/cognos/realtime and click on Administer real-time content), the default user is rtmadmin and default password is manager.

The above steps will enable RTM to connect database of SQL Server.

3. Click Administration Console, and then click Import/Export.
4. In the Metadata Import/Export dialog, click the Operation drop-down list and select Import Metadata from a
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5. Click Browse, and navigate to the location where you copied the CaseMonitor.jar file from the Case Analyzer server to the client system that is running IBM Cognos Real-time Monitoring Workbench. For example, C:\Program Files\IBM\FileNet\Case Analyzer Engine\Case Monitor of your client system, Select CaseMonitor.jar to import the objects. Optionally, you can import it from CA server directly, please refer to below screenshot:

   ![Import/Export dialog](image)

   **Import/Export**

   Select an operation and choose a directory on the server from which to import or to which to export.

   - **Operation**: Import metadata from a JAR file on the server
   - **Server Location**: C:\Program Files\IBM\FileNet\Case Analyzer Engine\Case Monitor\CaseMonitor.jar
   - **Import into Folder**: / (Optional)
   - **Import Mode**: Overwrite

   **Note**: For selective export, use Activities->Export objects in the Workbench tab.

   Please wait...

   ![Metadata Import/Export](image)

6. Click OK and wait while the data is imported. The Metadata Import/Export dialog closes when the import operation is complete.

7. Last, you may need to manually enable all things individually if they are not enabled by default. For example: you can check “Case Cube” is enabled or not in the below screenshot.

   ![Case Cube](image)
6. Result of integration

Navigate your browser to below link:
http://9.115.196.181/cognos/realtime/login/commonlogin.htm?logout=y&app=dashboard, use rtmadmin/manager to logon. Then you can select the dashboard you want to monitor, below are a screenshot when you select case dashboard screenshot where you can monitor cases.

7. Useful Links

1. RTM 10.1.1 Information Center:
   http://publib.boulder.ibm.com/infocenter/crtm/v10r1m0/topic/com.ibm.swg.im.cognos.install.10.1.0.doc/install.html
2. RTM 10.2 Information Center:
3. ICM 5.1.1 Information Center:
4. IBM Case Analyzer Information Center:
   http://publib.boulder.ibm.com/infocenter/casemgmt/v5r1m0/topic/com.ibm.casemgmt.installing.doc/acmcp008.htm