Tips

Fine Tunning Elixir Server

The time taken for report generation depends on various factors such as the report complexity, type of datasource, generation format and hardware configuration as well as the network traffic.

In another words, the response time of the report generation will be longer if the network traffic is high. Also, the very first report generation will take considerably longer time than subsequent ones, as the system needs to initialize the ReportRuntime object and warm up the JVM hotspot engine.

Here are some of the areas that you can work on to optimize the report response time:-

1. Java Virtual Machine

   - Check with your JVM Vendor for the options that are available for optimizing the performance. For example, SUN JDK provides a *-server* option to improve the performance of HotSpot. The JDK also provides a *java.awt.headless* option to reduce the heap size required for the JVM.

   - Ensure that the right JVM is being used for the hardware platform. For example, if your hardware platform is 64 bits, you will need to use a 64 bit JVM.

2. Optimizing SQL Statements

   - To optimize the query performance in your database while generating the reports, do not use complex SQL statements or joins on the client side. Instead, you can make use of the server side (database server) to manage these complexities and enhance the performance.

     Stored procedure is one of the few methods that can be used. Elixir Report allows you to pass a stored procedure with parameter to the database server and receive a return result.

     For more information, refer to the User Manual that is shipped together with the product.

     - Tune your SQL Statement

     - Instead of using *Select * from Table*, you should only select the columns that are required for the report.

     -Use the simple calculation field at the database level instead of the report level.

     - Sorting and grouping is a resource-intensive process especially for a large recordset.

To improve the response time for the report generation, do not Sort and Group at the report template level.
Instead Sort the data at your database level and select **Already Sorted** while creating the grouping in the report template.

3. Optimizing the Report Template

- Avoid writing lengthy business logic at the template level
- Always store images in the local file system instead of loading them through the network
- Reduce the size of the image to be the actual size that is required for display in the report, instead of reading a large image.