hal Systems Corporation   **Tech Support Brief**
Designing Crystal Reports – Advanced Tutorial   **November, 2011**

The following is a script of the Crystal Reports Advanced training session. These tutorials should teach you how to use the following advanced features of Crystal Report

- Create a detail report with amount field totals using Crystal Reports outside of halFILE.
- Use the Report Wizard to make database connections and place fields on the report.
- Create user parameter prompts for selecting the data that will appear on the report.
- Create a summary report of the totals section from the detail report.
- Add the summary report as a subreport to the detail report.
- Add a report the halFILE's Administrative Reports menu and run the report

Tutorial 1:   Create a Lenders Report with Crystal Reports

This tutorial shows the user how to connect to halFILE databases and select fields for Lender Detail report using Crystal Report's report creation wizard.

1.   Go into Crystal Reports and click the new report icon.
2.   Select options to create the report using the Report Wizard and choose the Standard Wizard.
3.   Make the database connections and add the tables to use for the report as follows:
     a.   To add the main halFILE database to the report, click Create New Connection.
     b.   Click ODBC (RDO)
     c.   Select Find File DSN and browse to the …\halfile\dsn folder and select the dsn to your halFILE database (for example PCAHFWPR32.DSN). You will need to provide credentials for logging into the database.
     d.   Click on the + for the PCAHFWPR – dbo - Tables and add Primetable and Multi to the tables for the report.
     e.   To add the parameters database (for Instrument Type description) to the report, scroll back up and double click Make New Connection right under ODBC (RDO).
     f.   Click Find File DSN and browse browse to the …\halfile\dsn folder and select HFWParams.DSN. Again, you will need to provide credentials for logging into the database.
     g.   Click + beside HFWParams.
     h.   Click + beside dbo
     i.   Click + beside Tables
     j.   Select the Instrument Type table for inclusion on the report.
     k.   Click NEXT
4.   Link the database tables that were selected (you may first have to clear the links if Crystal tried to do them for you). Primetable.PRSERV links to Multi.PRSERV. Primetable.Instrument_Type field links to the Code field in the Instrument Types table from HFWParams. Click NEXT
5.   Add the Fields that you wish to include on the report. In this case, we will select Instrument_Type, Date_Filed, Grantee, and Consideration from primetable. Click NEXT.
6.   Select the field to group by. We want the report to group by Grantee so select that field and click NEXT.
7.   Select the field to summarize by.

       a. To summarize by Consideration, select that field and designate the summary type as "sum".

       b. Click NEXT.

8. On Group sorting, just click FINISH.

9. The report is built and processed against the entire database. You can click the square cancel icon to stop the process if needed.

Tutorial 2: Filter the data that appears on the report using user prompts

This tutorial shows how to create Parameter fields that can be used to prompt the user for information. Then, the content of the report is filtered using these parameter fields.

1. Now let's filter the report to include only records within a specified date range.

       a. On the Field Explorer windows (View-Field Explorer menu), right click on Parameter Field and select New.

       b. Enter the name of the Parameter (StartDate) and prompting text ("Enter the starting date for the report").

       c. Set the Value type to date and click OK to create the StartDate Parameter.

       d. On the Field Explorer windows (View-Field Explorer menu), right click on Parameter Field and select New.

       e. Enter the name of the Parameter (EndDate) and prompting text ("Enter the ending date for the report").

       f. Set the Value type to date and click OK to create the EndDate Parameter.

       g. We also want the report to only a select one Instrument Type value (like Mortgage). So create another parameter field called InstTypeReport with prompting text is "Select an instrument type for the report." To create a pick list of valid instrument types, click the Set default values button and select the description field from the Instrument Type table. Click the >> button to add all the values to the default values list.

       h. Save and Close the Record Selection Formula Editor.

       i. Now let's filter the report to include only documents within the date range. Select the Report – Selection Formulas – Record menu. Use the Report Fields tree to build the following statement for selecting records.

{PrimeTable.Filing_Date} >= {?StartDate} and {PrimeTable.Filing_Date} <= {?Enddate} and {?InstTypeReport} = {InstumentTypes.Description}

       j. Now that we have filtered the report by the date range and Instrument_Type, click the refresh icon (lightning bolt), prompt for new parameter values, and enter the date range. The report should now only include documents within the specified date range and the selected Instrument Type.

2. Let's add a percentage of the total for each Lender on the report. Right click on the Consideration field on the report details section and select the Insert-Summary menu.

       a. For Summary location select Group #1 (the group level you want the percentage to appear).

       b. Check the Show as percentage of box and select Grand Total: Sum of Consideration.

       c. Click OK and then drag the summary box to the desired location in the Group Footer section.

       d. Click preview and we now have a nice looking Lenders Report.

3. Add headers to the report.

a. Select the Insert-Text Object menu and add a report header.
b. From the field explorer, add StartDate and EndDate with a " thru " text object in between.
4.   Save the Report as LenderDetail.rpt (be sure to uncheck Save Data with Report).

Tutorial 3:   Create a Lenders Summary Report

This tutorial shows how to create a Lender Summary Report from the Lender Detail Report we created in the prior tutorials. It also shows the user how to create a bar chart and place it at the end of the report.

1. The summary report only should print the Page Header, Group #1 footer, Grand Total, and Report Footer sections. To suppress the remaining sections:
   a. Right click on Group Header #1 and select hide.
   b. Right click on Details and select hide.
   c. Right click on Page Footer and select suppress.
   d. Save the report as LenderSummary.rpt so we do not accidentally overwrite our detail report.
2. The report looks pretty good except we do not need the border lines in the Group Footer #1 section. The header section also needs some clean up.
   a. Right click on the Consideration field and select Format Field. Go to the Border tab and set the Top and Bottom borders to none.
   b. Remove the headings which are not applicable to the summary report by clicking on them and pressing the delete key. Change the other report headers as needed.
   c. Refresh the report and you now have a nice looking summary report.

Tutorial 4: Insert the summary report in the report footer section of the Detail Report

This tutorial shows the user how to add a summary report to the end of a detail report using Crystal's subreport feature.

1.   Close and save the LenderSummary report.
2.   Re-open the LenderDetail report.
3.   Select the Insert – Subreport menu.
4.   Select choose a report and find LenderSummary.rpt.
5.   Click OK and drag and place the report into the report footer section.
6.   Refresh the report and you should now have the summary report at the bottom.
7.   To make the summary report start on a new page, right click on report footer section and select insert section below. This will add a "Report footer b" section. Drag the summary report into this section then right click and go into Section Expert and set Report footer b to start on a new page (New Page Before).
8.   Now that the summary report has been inserted into the detail report, you can make changes to it inside the detail report by click on the LenderSummary.rpt tab. Change made here do not affect the saved LenderSummary.rpt.

Tutorial 5: Linking parameters to subreports.

This tutorial shows how to link report parameters that the user enters to the subreport to avoid having to enter them twice.

1. Right click on the subreport.
2. Select Change Subreport Links
3. Select the parameter fields InstTypeReport and at the bottom check the "select data in subreport" option and select the Description field from the Instrument_Type table.
4. Unfortunately, you cannot pass a date field to the subreport.
5. Change the Record selection formula to use {?Pm-?InstTypeReport} instead of {?InstTypeReport}. You can then remove the InstTypeReport parameter from the subreport.

Tutorial 6: Add the finished Lender Report to the halFILE Administrative Reports menu

1. Go into the halFILE Administrator
2. Select the Tools-Options menu and go to the Administrative Reports tab.
3. Click Add a Report and enter the report name.
4. Highlight the Lender Report you added and click the Change Report Settings box.
5. Use the browse button to find and select the Lenders.rpt file.
6. Use the browse button to find and select the file DSN to the halFILE database for the report (PCAHFWPR32.dsn in the halfile\dsn folder.
7. Click Save Changes then Ok to exit the Tools-Options screen.
8. Under the Report menu of the Administrator, the new report has been added and can be selected for processing.

Tutorial 7: Set up the Lender Report

1. Login to halFILE for Windows as a user with ADMIN rights (i.e., super). Then go into the **Administrator** select the **Tools-Options** menu.
2. Click the Administrative Reports tab.
3. Click the Add Report button and set up a new report named the Lender Report. Then Change Report Settings.
4. The Report file box should point to LendersDetail.rpt.
5. The File DSN box should point to DSN file for the halFILE database (ex: PCAHFWPR32.DSN).
6. Click Save Changes to save the report setup and close.

Tutorial 7: Running the Lenders Report

1. Go into the halFILE Administrator
2. Select the Report menu and the Lenders Report that you added.
3. Answer YES to the questions about processing the report.
4. The Report Printing Utility is run for report Preview or Printing.
5. When you preview or print, you will be asked to enter the Starting Date and Ending dates for the main report and subreport. You must also select the Instrument Type for the both reports from the list provided.