# **Using Crystal Reports with Lucity**

### Intermediate - 1

The third of a seven-part series, this workbook is designed for Crystal Reports® users with some experience. By now you have many of the skills needed to modify existing reports. The main advantage to modifying existing reports is that the general format is already defined. This format helps create a uniform look and feel for your reports. It also helps save you the time it takes to set up the initial aspects of your reports. These include items such as page numbers, date fields, title placement, logos, lines, size, spacing, and boldness, just to name a few.

In this workbook, you'll learn that creating new reports uses many of these same techniques, but starts with a blank page. Through a series of step-by-step examples, we'll show you how to create a Crystal Report from scratch.

## **Table of Contents**

Creating Reports	2
Report Wizard	2
Bring in Tables	2
Bring in Fields	
Field Grouping	
Summaries	4
Group Sorting	4
Chart Addition	5
Record Selection	5
Template	6
Table Joins	9
Blank Report	10
Bring in Tables	11
Link Tables	11
Special Fields	
Conditional Formatting	16
Blank Lines	16
Mailing Labels	17

# **Creating Reports**

Before creating a report it is a good idea to have a general idea of what you would like the report to look like. You should know which tables, fields and calculations will be involved. You should know which module the report will be run from.

We would like a report to run from the Employees Setup module.

It will show the Name, Job Title, Department, Supervisor and Active.

It will group on Department.

It will count the number of Employees for the Department.

# **Report Wizard**

- 1. Open Work > Work Flow Setup > Employees.
- 2. Ctrl right click all fields to be used in the report.
  - Table Name: WKUEMP
  - Fields: Name: EM\_EMPL\_TY

Job Title: EM\_TITLETY

Department: EM\_DEPT\_TY

Supervisor: EM\_SUPR\_TY

Active: EM\_ACT\_FLG

- 3. Open Crystal Reports.
- 4. Click on Standard Report Wizard.

Getting Started		Register Your Produc
Resources ② Type a keyword for index Go Sample Reports Scheck for Updates	New Reports          Standard Report Wizard         Diame Report         Cross-Tab Report Wizard	Recent Reports  1. WOSum.rpt 2. PStationSum.rpt 3. CT_reqsworev.rpt 4. LCEx_WOSumRunTot&Sum.rpt 5. LCEx_WOSumRunTot.rpt
Show online resources	Mailing Label Report Wizard OLAP Cube Report Wizard	🖨 Open File

### **Bring in Tables**

- 5. Open Create New Connection >> ODBC (RDO) >> GBAWork001 >> Next >> Finish >> Tables
- 6. Move WKUEMP under Selected Tables (right-hand side).
- 7. Click Next.

## **Bring in Fields**

8. Select the fields you would like to have in the report and move them to the right-hand box titled *Fields to Display*.

Standard Report Creation Wizard		×
Fields Choose the information to display on the repo	ort.	
Available Fields:	Fields to Display:         Image: WKUEMP.EM_EMPL_TY         Image: WKUEMP.EM_TITLETY         Image: WKUEMP.EM_DEPT_TY         Image: WKUEMP.EM_SUPR_TY         Image: WKUEMP.EM_ACT_FLG	÷ •
Browse Data Find Field		
< Back Net	xt > Finish Cancel	Help

9. Click Next.

### **Field Grouping**

- 10. If you wish to group your data, select the grouping field and move it to the right side of the dialog under *Group By*.
  - Since we would like to group this report by **Department**, move the **EM\_DEPT\_TY** field to *Group By*.

Standard Report Creation Wizard			X
Grouping (Optional) Group the information on t	he report.		(8
Available Fields:	Group By:	+	+
Report Fields	WKUEMP.EM_DEPT_TY - A		

11. Click Next.

### **Summaries**

12. You may also choose fields to summarize.

- For our example, we'd like to count the number of Employees (EM\_EMPL\_TY).
- You'll need to select the type of summary from the drop-down box at the bottom of the dialog. For our example, we've chosen *Count*.

Standard Report Creation Wizard	23
Summaries (Optional) Add summary information t	to the report.
Available Fields: Report Fields WKUEMP.EM_ACT_FLG WKUEMP.EM_DEPT_TY WKUEMP.EM_SUPR_TY WKUEMP.EM_SUPR_TY WKUEMP.EM_TITLETY WKUEMP WKUEMP WKUEMP EM_AC_ID EM_ACCOUNT EM_ACCOUNT EM_ACT_FLG EM_ADRESS EM_ADRESS EM_ADRESS EM_ADRESS EM_ASGN EM_ASGN EM_BIRTH Browse Data Find Field	Summarized Fields:
< Back	Next > Finish Cancel Help

13. Click Next.

## **Group Sorting**

14. There is also a *Group Sorting* option. There is only one group so this is already in the sort box.

🗎 Standard Report Creation Wizard	3
Group Sorting (Optional) Sort the groups based on the summarized totals.	
Group that will be sorted:	
☑ WKUEMP.EM_DEPT_TY	
What kind of group ordering would you like to see?	
None	
Top 5 groups	
Bottom 5 groups	
Comparing summary values for the Top or Bottom groups:	
▼	

15. Click Next.

### **Chart Addition**

16. There is an additional option to add a chart. For our example, we will not put a chart in at this time.

Standard Report Creation Wizard	23
Chart (Optional) Include a chart on the report.	<b>[10</b> ]
What kind of chart would you like to see? No Chart O Bar Chart O Line Chart O Pie Chart	
Chart title:	
On change of:	-
Show summary:	-

17. Click Next

### **Record Selection**

- 18. In the following dialog, you'll see a *Record Selection* option. We'll use this option to view *Active Employees* only.
  - Move EM\_ACT\_FLG to the right side of the screen under *Filter Fields*.
  - Use the drop down box to choose the selection criteria. For our example, we've selected *is True*.

🖺 Standard Report Creation Wizard		23
Record Selection (Optional) Select a subset of information	ion to display.	5
Available Fields:	Filter Fields:         >                  is True.	
EM_BIRTH	-	

19. Click Next.

## Template

20. There are a number of *Templates* available to choose from. Typically, you would choose *No Template*.

Standard Report Creation Wizard	×
Template (Optional) Select a template for the report.	
Available Templates	Preview
No Template	
Block (Blue)	
Confidential Underlay	
Corporate - Page Sections Only	
Corporate (Blue)	
Corporate (Green)	
Double-Sided Page Headers/Footers	
Executive Summary or Title Page	
Form (Maroon)	
Gray Scale	
High Contrast	
Contrast Index	
Table Grid Template	
Browse	
<pre>Back Next &gt;</pre>	Finish Cancel Help

• The other options are worth looking at and playing with. It is easy to select one and preview the look.

Standard Report Creation Wizard			x
Template (Optional) Select a template for the re	port.		S
Available Templates		Preview	
No Template		Stylus	
Block (Blue)		T ( ) / Control Austroacceptor ( A 1)	
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Form (Maroon)		The second secon	
Gray Scale			
High Contrast			
Contrast Index		The sector of th	
Table Grid Template	-		

21. Select Finish when you are done.

The Report Wizard has created the following:

Star	t Page	Report1 ×				
Design	Prev	iew				
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RH	· <u></u>					
PH	Ф	print Daj				
		EM DEPT	EM EMPL	EM TITLET	EM SUPR	EM ACT F
GH1	Đ	Group #1 Name	1			
D	Ð	EM_DEPT_TY	EM_EMPL_TY	EM_TITLETY	EM_SUPR_TY	EM_ACT_FLG
GF1	D	Group #1 Name	] [f WKUEMP.EM_EM	IPL_TY		
RF	Ð	Grand Total:	f WKUEMP.EM_EM	IPL_TY		
PF	•					
	D					ge Number

### Preview

Start Page	Report1	×					
Design Preview ×	:						: 😪 🛓 🕷 🔺 🛛 6
- Report 1			· · · · · · · · · · · · · · · · · · ·	- 2 1 3		. 5 6	7 8
		-					
Adult Sp		·					
Commerc	PH	•					
Commun		•	3/2/2014				
Culture 8			EM DERT TY	EM EMPL TV	EM TITLETY	EM SUDD TY	EM ACT ELG
Develop	GH1						<u>Elli Act teo</u>
Facilities	Gill	•	Facilities Maintenance				
- Fire Ope	D	•	Facilities Maintenance	HONG MAN			True
- Fleet Ma	D		Facilities Maintenance	DICK CRISTOPH		JAMES WOOD	True
- Fleet Ma	D	· .	Facilities Maintenance	NICKWORTH		JAMES WOOD	True
Freeston	D	•	Facilities Maintenance	DYLAN OPAL			True
- Library F	D	-	Facilities Maintenance	ROBERTROTO		JAMES WOOD	True
McQuee	D		Facilities Maintenance	JORDAN SIMPLY		JAMES WOOD	True
Mesquite	D	· .	Facilities Maintenance	FRED KELLEY		JAMES WOOD	True
DADKC	D	2	Facilities Maintenance	JAMES WOOD		RYAN SEASON	True
Price & O	D	:	Facilities Maintenance	ADAM ADAMS		JAMES WOOD	True
Dublic M	GF1						
PUDIC W		-	Facilities Maintenance		9		
	GH1	•					
PW Field			Fire Operations				
Recyclin	D	<b>m</b>	Fire Operations	STEW TALLEY		RHETT BOSTON	True
Resident	D	•	Fire Operations	CLINT WEST		PHILLIP ALEXANDER	True
Resident	GF1						
- Riparian =			Fire Operations		2		
Risk Mar	GH1						

This report still needs modifications to make it presentable.

- 22. Remove the Active field (EM\_ACT\_FLG) since the report is selecting on this field.
- 23. Remove the **EM\_DEPT\_TY** field since it is the Group field.
- 24. Add a text object in the Page Header for the Title (Employees By Department).
  - Resize and center the *Title*.
- 25. Change the Column Headers (field headings) to match the fields.
- 26. Modify the Summary Fields.
  - a. Left align.
  - b. Reduce widths.
  - c. Remove the bottom borders.
- 27. Change the Group Option to Keep Group Together.

3/2/2014	Employees By Department									
	Name	Job Title	Supervisor							
Facilities Maintenance										
	NICK WORTH JAMES WOOD	COMM REFUSE SERVICE FACILITIES MANAGER	JAMES WOOD							
	FRED KELLEY HONG MAN	SECRETARY SENIOR CUSTODIAN WOF	JAMES WOOD							
	ADAM ADAMS DICK CRISTOPH	SENIOR MAINTENANCE W OFFICE SUPERVISOR	JAMES WOOD JAMES WOOD							
	ROBERT ROTO JORDAN SIMPLY	SENIOR CUSTODIAN WOR SENIOR CUSTODIAN WOR	JAMES WOOD JAMES WOOD							
	DYLAN OPAL	SENIOR MAINTENANCE W								
Facilities Maintenance	9									
Fire Operations										
	STEW TALLEY CLINT WEST		RHETT BOSTON PHILLIP ALEXANDER							
Fire Operations	2									

28. Finally, save the report with an appropriate name under the Work family of reports (LC\_EmpByDept.rpt).

Example 15

# **Table Joins**

Usually in Crystal's Database Expert the tables are linked with an outer join. When there is information in the first table then it looks to the table it is joined to with the outer join. This normally shows up with an arrow from the one to the other. (Sometimes in older versions of Crystal the arrow point doesn't show up, so the line looks like an inner join. You have to click on it to figure out the kind of join that is being made.)

### Left Outer Join:



There would need to be a work order before you would pull task information. There would need to be a task before the resource information would show up.

There are some cases within Lucity where an inner join is required. One example is where both Subsegment and Road share the same table (**STPVFLD**) for storing Inspection data. Chances are good that you would not use both Subsegment and Road so this shouldn't be an issue but if you do, then an inner join would be the way to handle the information.

Inner Join:



Now in order to see records both tables would need to have data where **FD\_SB\_ID** is equal to **SB\_ID**.

A similar case is how the Traffic Volume table (**STTVSEG**) connects to Segment and Roads. An inner join is again used.



# **Blank Report**

Reports can be made from a "blank slate". It will have the five sections open to add what you would like.

We will create a *Sewer Pipe* report with Lamping data. The Lamping data comes from a grid or child box. Usually there would be multiple lamping records to the one pipe, a one-to-many relationship. If pipe and lamping fields were brought into the same Detail section of a report then the line would show for every Lamping record which would also duplicate the Pipe information. This isn't a good way to present the data.

Alt Pipe ID:	US Structure:	DS Structure:	Lamp Date:	US or DS:
1000	113495	113497	3/1/2009	Up
1000	113495	113497	2/3/2008	Up
1000	113495	113497	2/9/2007	Down

Typically there would be at least one group on a field from the parent table and then at least one group on a field from the second table.

We would like a report to run from the Sewer Pipe Inventory module.

It will show the Alt Pipe ID, US Structure, DS Structure, Size and Length.

It will *show* Lamping Date Inspected (descending), Time (descending), US or DS, Cleaning and Deposition.

It will group on Alt Pipe ID, Lamping Date and Time.

It will show the most recent record (LP\_LATEST) Lamping Date in red if it is not within the last year.

- 1. Open Sewer > Inventory > Pipes
- 2. Control right click all fields to be used in the report to find the field names.
  - Table Name for Pipe: SWNET

Fields: Alt Pipe ID: NT\_NUMBER US Structure: NT\_USMAN DS Structure: NT\_DSMAN Size: NT\_DIA

Length: NT\_LENGTH

• Table name for Lamping: SWLAMP

Fields: Date Inspected: LP\_DT\_INSP

Time Inspected: LP\_TM\_INSP

US or DS: LP\_INMH\_TY

Cleaning: LP\_CLN\_TY

Deposition: LP\_DPO\_TY

3. Open Crystal Reports and click Blank Report.

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Resources Online			Search

### **Bring in Tables**

- 4. Next, open Create New Connection >> ODBC (RDO) >> GBASewer001 >> Finish.
- 5. Move the SWNET and SWLAMP tables to the Selected Tables section.
- 6. Click OK.

## **Link Tables**

- 7. This should bring you to the *Links* section where the two tables will be connected.
  - a. Sometimes the link has already been added this is Crystal's best guess and is usually incorrect, so delete it. Click and select *Clear Links*.
  - b. Find the common linking field. Typically this would be an ID field with a common part. If this isn't obvious, check the Detail report that is provided with the module and see how the tables are connected.

### NT\_ID links to LP\_NETID

- c. Typically it is good practice to have the main table (parent table, the table of the module you are running the report in) in the top left corner. Then additional tables are linked from there. The tables can be moved by clicking on the top bar of a table and dragging it to a new location.
  - Click on the Main ID of the parent table (NT\_ID), hold and drag to the connecting field of the other table (LP\_NETID), release.
    - > A line has been created.
  - Right click on the line and select *Link Options...*

- d. The Join Type by default is *Inner Join* (both table values are equal to see a record). The majority of the time this join should be *Left Outer Join* (It will show all records in the Parent table whether there are records in the linked table).
  - $\circ$   $\;$  Change to Left Outer Join.

Link Options		×
SWNET.NT_ID> SWLAMP.LP_	NETID	4
Join Type Inner Join Left Outer Join Right Outer Join Full Outer Join	Enforce Join <ul> <li>Not Enforced</li> <li>Enforced From</li> <li>Enforced To</li> <li>Enforced Both</li> </ul>	Link Type
	OK Cancel He	lp
○ OK		

e. When you click off the line, the line now has an arrow pointing from the parent table to the linked table.

	a units	bobbe	to the report		
Lin	king is needed to match record	s of one t	able with corres	ponding records of anothe	ertable
	SWNET		) (	SWLAMP	
	► NT_FTYP_TY			LP MOD DT	-
	NT_GOVT_CD			LP_MOD_TM	
	NT_GOVT_TY			LP_MOV_FLG	_
	NT_ID		┝───→	► LP_NETID	
	NT_IDM			LP_OFFSET	
	NT_IGNORE	-		LP_POSTTV	
				10.05110.00	

You now have a blank page to create a report.

Design		
RH		
	1	
PH		
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D		
RF		
	1	
PF		
	:	

- 9. Give the report a name. *File >> Save As*.
  - a. Make sure you save the report in the proper report file. For our example, select the **Sewer** file.
  - b. The name for this report will be LC\_SWPipeLamping.rpt.

The report can be created using any of the previously discussed techniques.

10. Insert a logo in the *Report Header*.

Design																						
		•	•	•	T	•	•	•	1	•	•	•	T	•	•	•	2	•	•	•	T	•
RH																						
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## **Special Fields**

- 11. In *Field Explorer*, open *Special Fields*. There are a number of preset fields which aid in the report design.
  - Drag in the **Page Number**, **Print Date**, and **Print Time** preset fields. (For a long report avoid the "Page N of M" option, it slows down the report run)
    - 🖻 🐨 🛣 Special Fields ----- Content Locale ---- Data Date ---- Data Time ---- Data Time Zone ----- File Author 🚥 File Path and Name 🚥 Group Number ------ Group Selection Formula 🚥 Horizontal Page Number ------ Modification Date 📼 Page N of M ----- Page Number --- Print Date 🚥 Print Time ------ Record Number 🚥 Record Selection Formula - Report Comments 🚥 Report Title 🚥 🚥 Total Page Count
- 12. Create a report title in the Page Header section.
  - a. Bring in a text object; we've titled this one, Sewer Pipe Lamping Summary Report.
  - b. Increase the field size and format to font 16, *Italic*.
- 13. Enter Column Titles with the *Insert Text Object* function.
  - a. Right align Size and Length.
  - b. Add guide marks.
  - c. Align tops of Column Titles.
  - d. Add a line to the bottom of the *Page Header* section.

Design		
		'ज़ॱॱॱॱॱ1`'ज़ऺॱॱॱ2```∀'``3```!```4```!`ज़ॱ5```!```6` ज़ॱ!```7```!``☆8`
RH	:	
	<u>.</u>	
	:	
L	<u> </u>	
PH	:	Sewer Pipe Lamping Summary Report
		Print Time
		Alt Pipe ID: US Structure: DS Structure: Size: Length:

- 14. Insert Group (NT\_NUMBER).
- 15. Drag the appropriate fields into the *Group Header 1* section.
  - Align top of fields.
- 16. Suppress the Group Footer 1 section.
  - Right click in left margin next to GF1, select Suppress.
- 17. Add an additional section to Group Header 1.
  - Right click in the left margin of *GH1*, select *Insert Section Below*.
- 18. Place Lamping Title and Column Titles in the Group Header 1b section.
  - a. Format Not Bold, Italic and Column Titles underlined.
  - b. Align Column Titles.

РН	:	Sewer Pipe Lamping Summary Report									
	-	Alt Pipe ID:	US Structure:	] [	S Structure:		Size	Length:			
GH1a		NT_NUMBER	NT_USMAN		NT_DSMAN		T_DIA	LENGTH			
GH1b	:	Lamping <u>Date</u>	<u>Tim e</u>	US or DS	Cleanin	a ]	Depos	sition			

- 19. Insert Group on Pipe Lamping Inspected Date (LP\_DT\_INSP). GH2
  - a. Select from drop box *In descending order*.
  - b. Click OK.
  - c. Suppress the Group Header 2 and Group Footer 2 sections.
- 20. Insert Group on Pipe Lamping Inspected Time (LP\_TM\_INSP). GH3
  - a. Set up like the Date group In descending order.
  - b. Suppress the Group Header 3 and Group Footer 3 sections.
- 21. Create formulas for the Lamping Date and Time fields.
  - Date({SWLAMP.LP\_DT\_INSP})
  - o Time({SWLAMP.LP\_TM\_INSP})
- 22. Bring into the Detail section the newly created Date and Time formulas. Bring in the other desired Lamping fields.
  - o Align

РН	•	Sewer Pipe Lamping Summary Report											
	-	Alt Pipe ID:		US Structur	e:]	DS Struct	ure:		Size:	Length:			
GH1a		NT_NUMBER		NT_USMAN		NT_DSMA	N	1	T_DIA	LENGTH			
GH1b	÷	Lamping Date	Tim e	- 	US or DS	- -	Cleaning	;	Depositi	ion			
GH2		Group#2/Name//////	////	///////////////////////////////////////	///////////////////////////////////////	///////////////////////////////////////	///////////////////////////////////////	//////	///////////////////////////////////////	///////////////////////////////////////	///////////////////////////////////////		
GH3		Group#3/Name///////	[[]]	///////////////////////////////////////	///////////////////////////////////////	///////////////////////////////////////	///////////////////////////////////////	//////	<u>/////////////////////////////////////</u>	///////////////////////////////////////	///////////////////////////////////////		
D	Ŀ	@LampDate	ĺ@ La	ampTime ]	LP_INMH_	TY	LP_CLN_T	Y	P_DPC	D_TY	1		
GF3		///////////////////////////////////////	////	///////////////////////////////////////	///////////////////////////////////////	///////////////////////////////////////	///////////////////////////////////////	//////	///////////////////////////////////////	///////////////////////////////////////	///////////////////////////////////////		
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GF1		///////////////////////////////////////	////	///////////////////////////////////////	///////////////////////////////////////	///////////////////////////////////////	///////////////////////////////////////	//////	///////////////////////////////////////	///////////////////////////////////////	///////////////////////////////////////		

## **Conditional Formatting**

- 23. Conditionally format the @LampDate field to show red if the latest date is over a year old.
  - a. Right click @LampDate, select Format Field...
  - b. Font Tab, click the formula box next to Color:.
  - c. Enter the following formula:
  - d. if ({SWLAMP.LP\_LATEST} and {@LampDate} < printdate 365) then crRed else crBlack
  - e. Save and close
  - f. OK

Alt Pi	pe ID:	US Structu	re:	DS Struc	ture:	Size:	Length:	
1000		113495		113497		8	170.80	
	Lam ping							
	Date	<u>Tim e</u>	<u>US or DS</u>		<u>Cleaning</u>	Depositio	n	
	3/1/2009	10:00 am	Up		No	N/A		
	2/3/2008	7:54 am	Up		Yes	Mud		
	2/9/2007	2:03 pm	Up		No	Rocks		
1001		113486		127237		8	412.00	
	Lam ping							
	Date	<u>Tim e</u>	<u>US or DS</u>		<u>Cleaning</u>	Depositio	n	
	8/3/2013	8:52 am	Up					
	2/23/2006	10:52 am	Up		Yes	Mud		
1002		113487		113486		8	401.40	
	Lamping							
	Date	<u>Tim e</u>	<u>US or DS</u>		<u>Cleaning</u>	Depositio	n	
	5/23/2004	11:08 am	Up		N/A	Mud		
1003		113493		113494		8	49.10	
	Lam ping							
	Date	<u>Tim e</u>	<u>US or DS</u>		<u>Cleaning</u>	Depositio	n	
1004		113625		113624		8	401.40	

## **Blank Lines**

In the previous example, Pipe 1003 shows the *Detail* section as empty space when there are no Lamping records. It also shows the Lamping Header Titles in *GH1b*.

These issues can be addressed in two ways.

• You could remove pipes that do not have Lamping records by changing the Table linking to Inner Join.

OR

- If you want to keep the pipes and will use the report to find pipes that have no lamping records then suppress the *GH1b* and *Detail* sections when there are no records.
  - a. Click on Section Expert 🔞.
  - b. Click on *Group Header #1b* to highlight.
  - c. Click on the formula box next to Suppress.
  - d. Enter the following formula:
  - e. isnull({SWLAMP.LP\_NETID})
  - f. Save and close (formula box is now red)
  - g. Click on *Details* to highlight.
  - h. In the right box click to check the box next to Suppress Blank Section.
  - i. OK

1002		113487		113486		8	401.40
	Lamping <u>Date</u>	<u>Tim e</u>	<u>US or DS</u>		<u>Cleaning</u>	<u>Deposition</u>	
	5/23/2004	11:08 am	Up		N/A	Mud	
1003		113493		113494		8	49.10
1004		113625		113624		8	401.40
						Ex	ample 16

# **Mailing Labels**

Another report option in Crystal Reports is a way to create a report for mailing labels. For our example, we will create a report for Work Order Billing labels.

- 1. Open Crystal Reports and click Mailing Label Report Wizard
- 2. Open Create New Connection.
- 3. Open ODBC(RDO).
- 4. Select the required table(s). (WKORDER)

(If you are going to filter or select on any fields that are not in **WKORDER**, even if they are not used in the body of the report, then you will need to select these other tables and link them as previously discussed.)

5. Select the fields to be displayed.

Mailing Labels Report Creation Wizard Fields		×
Choose the information to display on the m	eport.	
Available Fields:	Fields to Display:          Image: WKORDER.W0_BFIRST         Image: WKORDER.W0_BLAST         Image: WKORDER.W0_BADD11         Image: WKORDER.W0_BCITY         Image: WKORDER.W0_BSTATE         Image: WKORDER.W0_BPOSTAL	→
< Back	Next > Finish Cancel H	elp

6. Select the mailing label type from the drop down box.

💾 Mailing Labels	Report Creation Wizard				X
Label Choose the I	abel type.				
Mailing Label Type:					
Address (Avery 526	52)	•			
Label Size Width: Height:	4.000 in 1.333 in		Gap Between Labels: Horizontal: Vertical:	0.188	in in
Page Margins: —					
Top:	0.833 in		Bottom:	0.833	in
Left:	0.156 in		Right:	0.156	in
	_		Number of Labels:		
Across The	n Down		Across Page:	2	
U Down Then	ACIOSS		Down Fage.	7	
	< Back	Next >	Finish	Cancel	Help

• There are other options on this page to choose from.

7. Select *Next*. The next page allows you to select a filter field. After that step, the report will appear:

RH		
PH		
Da	DWO_BFIRST	WO_BFIRST
Db	DWO_BLAST	WO_BLAST
Dc	DWO_BADDR1	WO_BADDR1
Dd	DWO_BCITY	WO_BCITY
De	DWO_BSTATE	WO_BSTATE
Df	DWO_BPOSTAL	WO_BPOSTAL
RF		
PF	Q	

• The second column in gray is automatically created.

### Preview

Carol Smith	Jane Howe
123 O ak	456 Elm
Lenexa	Lenexa
KS	KS
66224	66225
City of Lenexa	George
789 Main	R ain
Lenexa	753 Willow
KS	Lenexa
66226	KS
	66223

- The fields were each placed in their own *Detail* section, thus stacking the information. You could move the fields around placing the Last name after the First and the State after the City; however, this frequently creates awkward spaces.
- 8. You would probably want to concatenate some fields by creating formulas to combine the two name fields and the City and State fields.

### Name Formula:

(If IsNull({WKORDER.WO\_BFIRST}) Then " " Else {WKORDER.WO\_BFIRST})&" "& (If IsNull({WKORDER.WO\_BLAST}) Then " " Else {WKORDER.WO\_BLAST})

### City/State Formula:

## (If IsNull({WKORDER.WO\_BCITY}) Then " " Else {WKORDER.WO\_BCITY})&", "& (If IsNull({WKORDER.WO\_BSTATE}) Then " " Else {WKORDER.WO\_BSTATE})

	D	///	<u> </u>	<u>/////////////////////////////////////</u>	<u>/////</u>
Da	D @Name		@Name		4
DЬ	▶ WO_BADDR1		WO_BADDR1	1	
Dc	🕞 @CityState		@CityState	-	
Dd	NO_BPOSTAL		WO_BPOSTAL	4	
RF	Ð	X//	///////////////////////////////////////	///////////////////////////////////////	//////

#### Notes:\_\_\_\_\_

Preview

Carol Smith	Jane Howe
123 Oak	456 Elm
Lenexa, KS	Lenexa, KS
66224	66225

City of Lenexa 789 Main	George Rain 753 Willow
Lenexa, KS	Lenexa, KS
66226	66223

9. If any changes need to be made to the layout of the report, click on the Section Expert.

10. Click *Details* and a *Layout* tab will appear.

11. Click on the *Layout* tab and make the necessary changes.

Section Expert		×
Sections: Insert Delete Merge 🛧 🗣	Common Layout	
Report Header Page Header Details Details a Details b Details c Details d Page Footer Report Footer	Detail Size:       width       in         Width       1.333       in         Height       1.333       in         Gap Between Details:       0.188       in         Horizontal       0.188       in         Vertical       0.000       in         Printing Direction:       •       •         • Across then Down       •       •         • Down then Across       •       •         Number of Details:       •       •         Across Page       2       •         Down Page       7       •	

## Notes:\_\_\_\_\_

# **Using Crystal Reports with Lucity**

### Intermediate - 2

The fourth of a seven-part series, this workbook is designed for Crystal Reports® users with some experience. Here, you'll learn how to add subreports. Specifically, we'll look at the Work Order Locations subreport and the module's Comment section. Both the general Comment sections and the Work Order/Request Comment sections will be addressed.

## **Table of Contents**

Subreports	2
Accessing Subreports	2
Inserting a Work Order Locations Subreport	2
Finding Tables and Fields	2
Inserting the Subreport	4
Formatting the Subreport	6
Subreport Links	8
Adding Fields to the Subreport	9
Copying a Subreport 1	0
Grid Data with Associated Data 1	2
Date Parameters to a Subreport 1	6
Adding a General Comments Section 1	8
Option 1 - Creating a Subreport from Scratch 1	8
Option 2 - Creating a Subreport with the Report Wizard 2	2
Adding a Comments Section to Work Orders and Requests and Dated Comments for Inventory	
Modules 2	3
Unlinked Subreports 2	7

# **Subreports**

Subreports are simply reports within other reports. They can stand alone or be linked. Lucity typically uses subreports to display information stored in the child records (shown in grids or dialogs), information from other related modules, and the Comments sections. Subreports can vary in size and can be placed wherever you wish. Typically, subreports are inserted into their own Detail section.

One issue with subreports is the data in a subreport does not receive the filter out in Lucity. If this is required, then try to use grouping as previously discussed.

A second issue with using subreports is that it is not possible to place a subreport within another subreport. Thus, it can be challenging to show the child of a child relationship. Usually this is handled with grouping in a subreport.

A third issue is that each subreport is seen as a separate report when the report is run. If there are many Web users running reports at the same time then the system can slow down.

# **Accessing Subreports**

A few Detail reports have subreports that may be minimized to a point where you cannot read the titles.

- 1. In the Reports Work file open the CatRes.rpt report.
- 2. The minimized sections below the Detail section contain subreports.

	-	Category Resource Report       Print De         ?Report Subtitle       Print Time	ntej n ej
GH1		@C at	_
D	. /		TX.
	$\equiv$		푶
			1
GF1a			

- 3. To view the subreport title, place the cursor over a subreport and the name will appear briefly (if the *Tooltips* are turned on). To open the subreport, simply double click on it.
- 4. It is also possible to navigate to a subreport using the *Report Explorer* <sup>11</sup>. Make sure the

Show/Hide Grids and Subreports is turned on 🧮. Then click on Expand 🔽. Subreports can
be opened from this section or from the subreport itself by right clicking on the subreport
name and selecting Edit Subreport.

# Inserting a Work Order Locations Subreport

The data in many of the grids in the Lucity modules can be connected to the parent report. In the following example, we'll demonstrate the use of a subreport to bring in the information from the *Work Order Location* grid in the **Work Orders** module to the **Aging Work Order Report**.

## Finding Tables and Fields

1. In the **Work Order** module open a record in the *Work Order Location* grid to find field definitions.

- a. Open the **Work>>Work Orders>>Standard** module and click on the *Location* tab.
- b. Open an existing record in the *Work Order Location* grid (right click *View Record*) or right click in the grid and select *Add Record*.
- c. Find the field definition of the *General Location* field by pressing Ctrl and right clicking on the field and selecting *Field Definition* or *Field Properties*. There, you'll see the following:
  - The table name is **WKORDERLOC**.
  - The field name is WL\_GENLOC.
- d. If you do the same thing to the second field of the Address, the field name will show up as WL\_ADR\_DIR. This is not the correct field name for the information in the box. It is only one of the fields that are joined to create the address in this box. Thus, a formula is needed to address all the fields in a concatenated formula. Not all of the modules use this special address that pulls from the General Address module, some allow you to manually type in the address and store it in a single field.

Work Location	IS
Location No	2
Address	821 S ROANOKE ST
Address 2	
General Location	

- 2. We will modify the Aging Work Order Report (WOsAging.rpt) from the Work module. In the Work report folder open LC\_WOsAgingLoc.rpt.
- 3. Open the new report and delete the **WO\_CAT\_TY** field.
- 4. Delete the **WO\_PROB\_TY** field.
- 5. Change the Category column header to Address.
- 6. Change the **Problem** column header to **General Location**.
- 7. Click the *Database Expert* button  $\square$ .

8. Open the *Links* tab and note where the "tree" of tables begins; most often it is the top table on the far left side (frequently, this is the table the subreport will link to).



• For example, this tree starts with the **WKORDER** table.

9. Close the Database Expert.

### **Inserting the Subreport**

- 1. Click Insert Subreport
  - a. You'll need to type in the *New report name*. For example, we've called this subreport, Location.

Insert Subreport	×
Subreport Link	
C Choose an existing report	
File name:	
Browse	
Create a subreport with the Report Wizard	
New report name:	
Location Report Wizard	
On-demand subreport (similar to a hyperlink)	
OK Cancel Hel	. 1

b. Then, select the Report Wizard.

- 2. Open Create New Connection > ODBC (RDO) > GBAWork001 (Finish key) > Tables.
  - a. Select the **WKORDERLOC** table and move it to the Selected Tables box on the righthand side of the screen.



- b. Click Finish.
- c. Click OK.
- 3. Place the subreport "box" in the *Detail* section with the left edge aligned with the left edge of the Address column header.
- 4. Resize the box to fit under the Address and General Location area.

Address	General Location
Location	

## Formatting the Subreport

Right click in the **Location** subreport box and click *Format Subreport*. Choose the formatting options that you prefer.

- For example, in the Format Editor dialog below, we've selected to center the report title. You can see a sample of your formatting selections at the bottom of the Format Editor dialog.
- The Keep Object Together option can cause issues with large blank spaces.

Format Editor		×
Common Border Font	Subreport	
Object Name: Tool Tip Text:	Subreport1	<u>x-2</u>
Read-only	Lock Position and Size	**
Can Grow	Maximum number of lines: (Enter 0 for no limit) 0	**
Horizontal Alignment:	Centered •	**
CSS Class Name:		<b>×2</b>
Repeat on Horizontal P	ages	×-2
Close Border on Page B	lreak	×-2
Sample:	Subreport	
	OK Cancel	Help

• Additionally, we've chosen to not use a predefined border.

Common Bo	rder Font	Subreport				
Line style: – Left: Right:	None	<ul><li></li></ul>	Top: Bottom:	None None	<ul><li>★</li><li>★</li><li>★</li></ul>	
🗖 Tight Ho	Tight Horizontal  Tight Horizontal  Drop Shadow					
Color:						
Border:		Black	-	]	×-2	
🗖 Backgrou	und:	White	7	]	<b>×</b> 2	

 $\circ$  For the subreport title we've chosen 10 point Arial for our font, and made the text red.

Common Border	Font Subreport	
Font:	🗓 Arial 👻	
Style:	Regular	
Size:	10 💌	
Color:	Red	<b>X-2</b>
Effects:		
🔲 Strikeout		
🗌 Underline		

 $\circ$   $\;$  Finally, we've chosen to Suppress Blank Subreports.

Common Border Font Subreport			
Subreport options :			
Subreport Name:			
Location			
On-demand Subreport			
On-demand Subreport Caption	<u>×-2</u>		
Subreport Preview Tab Caption	<u>×-2</u>		
Re-import When Opening			
Suppress Blank Subreport			

• Once you've finished selecting your formatting options, select OK.

Address	General Location	۲ د
<del>т</del> L	Location	

Note: Some of the formatting options are strictly for the creator of the report like having the title centered and red. When working on a report this is a quick visual as to which parts of the report are subreports. Some of the formatting will affect the user end of the report like the border lines, empty space or whether the subreport Can Grow.

### Subreport Links

Subreports can stand alone; however, typically they are linked to the main report. You'll need to find the correct table and field to link your subreport to. This will allow the main report and subreport to communicate effectively.

- 1. Right click in the Location subreport box and select Change Subreport Links.
  - The linked tables usually have an ID field with a common part; in this case it is WO.
- 2. Open the **WKORDER** table and move the **WO\_ID** field over to the *Field(s)* to link to box on the right-hand side of the screen.
- Click the arrow beside the field at the bottom-right of the screen and select the WL\_WO\_ID field.
- 4. Click OK.

Subreport Links	×
For subreport: Location	
Container Report field(s) to link to Available Fields: WKORDER WO_ID WO_NUMBER WO_SCHNO WO_CAT_CD VO_CAT_CD	
WKORDER.WO_ID field link Subreport parameter field to use:	
OK Cancel Help	

The linking creates a formula in the Subreport in the Select Expert.

{WKORDERLOC.WL\_WO\_ID} = {?Pm-WKORDER.WO\_ID}

Note: The Web reports require any linking formula to have the "?Pm-XXXX" type formatting. This is automatically created through Crystal when using the Subreport Links dialog box. Remember to use this format if creating manually.

### Adding Fields to the Subreport

The subreport is basically a report and so it has the various options of a report such as Select Expert, Section Expert, Grouping and Sorting.

1. Open the Location subreport by double clicking

OR right click and selecting Edit Subreport....

- 2. There will always be at least three sections; the Report Header, Detail and Report Footer. Suppress all sections other than the Detail section.
- 3. As mentioned earlier the address is a concatenated field. This formula will be borrowed from a standard report.
  - a. Open the Work Order Detail report (WODetail.rpt).
  - b. Locate the Locations.rpt subreport and double click on it.
  - c. Find the address formula within the report (@Addy). Right click on it and click Copy.
  - d. Close WODetail.rpt.
- 4. Go back to the LC\_WOsAgingLoc.rpt report.
- 5. Make sure you are in the Location subreport. Paste the address formula into the *Detail* section. Resize.
  - The address formula is shown below:

```
(If isNull((WKORDERLOC.WL_ADR_BDG))then "" else Trim(ToText((WKORDERLOC.WL_ADR_BDG),0,"","")))+" "+
  (If isNull((WKORDERLOC.WL_ADR_B2))then "" else Trim((WKORDERLOC.WL_ADR_B2))+" "+
  (If isNull((WKORDERLOC.WL_ADR_DR))then "" else Trim((WKORDERLOC.WL_ADR_DIR)))+" "+
  (If isNull((WKORDERLOC.WL_ADR_PT))then "" else Trim((WKORDERLOC.WL_ADR_PT)))+" "+
  (If isNull((WKORDERLOC.WL_ADR_STR))+" "+
  (If isNull((WKORDERLOC.WL_ADR_STR)) then "" else Trim((WKORDERLOC.WL_ADR_TY)))+" "+
  (If isNull((WKORDERLOC.WL_ADR_STR)) then "" else Trim((WKORDERLOC.WL_ADR_TY)))+" "+
  (If isNull((WKORDERLOC.WL_ADR_STR)) then "" else Trim((WKORDERLOC.WL_ADR_TY)))+" "+
  (If isNull((WKORDERLOC.WL_ADR_STR)) then "" else Trim((WKORDERLOC.WL_ADR_STR)))+" "+
  (If isNull((WKORDERLOC.WL_ADR_STR)) then "" else Trim((WKORDERLOC.WL_ADR_STR)))+" "+
  (If isNull((WKORDERLOC.WL_ADR_APT)) then "" else Trim((WKORDERLOC.WL_ADR_STR)))+" "+
  (If isNull((WKORDERLOC.WL_ADR_APT)) then "" else Trim((WKORDERLOC.WL_ADR_STR)))+" "+
  (If isNull((WKORDERLOC.WL_ADR_APT)) then "" else Trim((WKORDERLOC.WL_ADR_APT)))
```

- 6. Open Field Explorer > Database Fields > WKORDERLOC.
- 7. Drag the WL\_GENLOC field into the Detail section.

Design	Location × Preview
RH	. Print 0 st
D	@Addy WL_GENLOC
RF	

wo #	Status	Age Create Date	[Address ]	General Location	Action	Supervisor
WO_NUMBER	WO_STAT_TY	2 Age @WOCreate	l [ l	Location	WO_ACTN_TY	WO_SUPR_TY

#### Preview

Aging V	Aging Work Order Report 33/3/20 1:42								
WO #	Status	Age	Create Date	Address	General Location	Action	Supervisor		
2006-01129	New Work Order	2,909	3/16/2006			Residential Collections	KURT VONHOSSEN		
2006-01608	New Work Order	2,797	7/8/2008			Sewer Line Cleaning	SHIELA KAMDON		
2006-01610	New Work Order	2,797	7/8/2008	E CIVIC CENTER DR	by chipotle	SEWER OVERLFOW	SHIELA KAMDON		
2006-01611	New Work Order	2,797	7/8/2008	1564 E VALENCIA ST			SHIELA KAMDON		

8. Save and close the report.

Example 17

# **Copying a Subreport**

You can use an existing subreport or report in the same family (i.e. Work, Sewer, Storm, etc.) as long as you are careful with the linking. In our example below, we'll show you how to copy the more detailed Location subreport from the **Work Order Detail Report** and place it in the **Summary Report**.

- 1. Open WODetail.rpt.
- 2. Right click on the Location subreport and select Save Subreport As.
  - a. Make sure you are in the correct report file (Work).
  - b. Enter a *File Name* (LocationsSub.rpt).
  - c. Save the subreport and close the Detail report.
- 3. We will modify the **Work Order Summary Report (WOSum.rpt**) from the Work Order module. From the Work report folder open LC\_WOSumDetLoc.rpt.
- 4. Delete the Address column title.
- 5. Delete the Locations subreport.
- 6. Add a **new** section under *Group Footer 1a* and increase the size slightly to accommodate the new subreport.
- 7. Select Insert Subreport.
  - a. Click Choose an existing report.
  - b. Click Browse.
  - c. Locate the Reports\Work folder and double click on LocationsSub.rpt. You'll see the Insert Subreport dialog box.
  - d. Click OK.

Insert Subreport	X
Subreport Link	
Choose an existing report File name:	
C:\LucityServer\Lucity\Reports\Work\LocationsSub.rpt Browse	
○ Create a subreport with the Report Wizard	
New report name: Report Wizard	
On-demand subreport (similar to a hyperlink)	

- 8. Place the subreport "box" in the newly created Group Footer 1b section.
- 9. Choose the desired subreport formatting options discussed earlier.
- 10. Resize to fit the report.
- 11. Right click on the subreport and choose *Change Subreport Links*.

{WKORDERLOC.WL\_WO\_ID} = {?Pm-WKORDER.WO\_ID}

- 12. Open the subreport and delete any empty sections.
- 13. Open the *Select Expert* and delete one of the parameter formulas. Even though the correct formula existed in the subreport's *Select Expert*, the main report doesn't recognize it, so it needed to be linked correctly again.
  - {WKORDERLOC.WL\_WO\_ID} = {?Pm-WKORDER.WO\_ID} and

{WKORDERLOC.WL\_WO\_ID} = {?Pm-WKORDER.WO\_ID}

- You'll see a duplicate formula because the subreport was taken from a report with the same parent table. Delete one of the duplicate formulas or if they differ then keep the formula that reflects the correct linking, deleting the other.
- 14. Select Save and Close.

```
15. OK
```

wo #	Status	Status D ate	Category	Main Task
05-03-0008	Complete	3/9/2005	Meter Repair Calls	Adjust Meter Box/Vault To Grade
Work Order L Address	ocations	Ad	dress 2	
X Coord Y Co 803 RICHARD ST	<u>oord</u> <u>General Loca</u> t	<u>ion</u>		

Note: Do not use a subreport from one family of reports in another family, such as a Work subreport in a Sewer report.

Example 18

# Grid Data with Associated Data

There are several cases throughout the Lucity modules where you click on data in one grid and information associated to that record shows up in the lower grid. A good example of this is in the *Work Order* module where the Resources are listed for each Work Task.

	wo li	.ocation Assets	List/Events	Tasks/F	es Routing	Costs   B	illing   Relate	d   Req	uests/Tra	ck   Links
Γ.	Work I a	sks								
	No	Task	.Text ⊽		Task Sta	rt Date	Task End	Date	Statu:	s Text
	2 S	ewer Line Cleaning			07/07/2006		07/07/2006			F
	1 S	ewer Line Cleaning			07/06/2006	)	07/06/2006			F
	_									
	Group	Туре	Resource		Reso	urce Text		U	ОМ	Units
Π		Employee	3	FRED MASON			Hours		0.50	
Π		Employee	87	SHIEL	A KAMDON			Hours		0.50
		Employee	144	ZACH	TURTLE			Hours		0.50

The TaskRes.rpt subreport in the Work Order Detail report (WODetail.rpt) shows this relationship.

RHa	. ////////////////////////////////////
RHb	Tasks:Resourses
GH1	@Tsk
	Crew; WT_CREW_TY
GH2	WR_RTYP_TY
D	
ВFb	

The first group (GH1) is the Work Task and the second group (GH2) is the listing of the Resources associated with each Task.

Another example is in the *Fleet* module where the Sub-Components are associated with each Component.

🖶 I	Fleet - No Filte	er -					
	a 🛛 🖌 -	<mark>🖓 • 🗈 • 🖻 </mark> 🔊			◇ ୬ 🖗 🖫		🧟 - 🍋
	Fleet ID	BGB0532	2001 CHEVRO	DLET 1500		_	1
	Operating Status	0perational		Class	165 Pickup	1/2 Ton	
	Manufacturer	1 Chevr	olet			Mode	
	General W0/PM	Travel Log Tracking	] Tasks Fueling Items	Specs Purchase	Costs Eval Re	eset Custom Comm	ents
	Fleet Parts/Comp	onents					
	Component A	Component Text	Description	Manufacturer Text	Model	Serial Number	Status
	1	Base Unit					
	<						]
L	Floot Ports /Sub C	'emperante					^
							0 0
	Material ID A	Material Lex	t Manufacturer Lex	Model	Serial Number	Status Lext	Quantity
	0002022492	BRACKET					
	00055721	TEMPERATURE GA	UGE, F				

In the Fleet Detail report (**FLDet.rpt**) a subreport (Items-Components) groups on the Components (GH1) and shows the subcomponents in the Detail section.

	Design	Iter	ms - Components ×
			$\cdots \leftrightarrow \cdots \cdots \leftrightarrow \cdots \rightarrow \cdots \rightarrow$
	RHa		
Ш	RHb	•	Fleet Parts/Components
II		<u> </u>	<u>Component:</u> <u>Description:</u> <u>Manufacturer: Model:</u> <u>SN:</u> <u>Status:</u> <u>Quantity:</u>
Ш	GH1a	<u>.</u>	[\$`#C_PC_COMP_TY ] PC_DESC ] PC_MAN_TY ] PC_MODEL ] PC_SERIAL ] PC_STAT_TY ] PC_QUA}
Ш	GH1b		[Sub] Mat ID; Material: ] Manufacturer: ] Model: ] SN: ] Status: ] Qty;]
Ш	п	_	MT_MAT_MT_MAT_TY
lŀ		$\equiv$	
	RFb		×/////////////////////////////////////

There is an additional type of grid association. Within the *Work Order* module, *Links* tab, you'll see a *Daily Inspections* grid. Within each Daily Inspection record there are several grids containing information.

🖼 Work Orders - No Filter					
Work Order # 20	06-01610		Cat	tegory	
Status	Status 2 New Work Ord			Problem	
Status Date 07	Status Date 07/06/2006 💌 10:23 AM			n Task 🛛 🚺 🗗	
WO Location Assets List/Events Tasks/Res Routing Costs Billing F					
Daily Inspections					
Inspection Date 🛆	Report #	Master Pr	oject ID	Master Pro	
08/31/2009	1				

Daily Inspections - Unnamed Filter Set
▤▤◙◪-ᄝ-▣-▯◙▯◼×◈◢◢≻▶▶⇒҂▨▬■◈
Daily Inspect Rec #         10         Work Order #         2006-01610           Inspection Date         Image: 08/31/2009 Temployee         Image: 1mm Plane         RICK HONAS
General Contractors Staff/Equipment Construction Activity Field Work Custom Comments
Staff
Type ∠ Type Text Quantity
1 Foreman 1
3 Labor 2
Equipment
Equipment Equipment Description In Use Quantity Model
BGS0385 1998 CHEVBOLET SILVEBADO No
PDP0293 2005 FORD CROWN VIC No

### Notes:\_\_\_\_\_

At first glance, it would appear the only way to show this data would be a subreport within a subreport; however, this is not possible at this time. Sometimes it is possible to link the grid table and group. The following Inspection subreport shows the Equipment associated with each Inspection date.



The report groups on the Inspection Date (*GH1*) and then lists the Equipment for that Inspection record in the *Detail* section.

Design	Inspections ×
	···
RHa	
RHb	Daily Inspections
	Insp Date Report # Master Project ID Master Project Name Sub-Project ID Sub-Project Name Rec Lock
GH1a	. @InspDt DI_NUM]DI_MP_NUM ]DI_MP_NAME ]DI_PJ_NUM ]DI_PJ_NAME ]DI_LO
GH1b	. Equipment
D	. pq_code ]pq_desc ]
GF1	
RFb	

# **Date Parameters to a Subreport**

Frequently subreport records need to be selected for a date range. If the main report and subreports are using the same date range then the date parameter should be created in the main body of the report and linked to the subreport(s). If only the subreport requires the date selection then the parameters can be created within the subreport.

The **Fleet Cost Report** (**FleetCost.rpt**) passes the parameters from the main body to both the **fuel** subreport and the **Work Order** subreport.

First the date parameters were created in the main body of the report.

Edit Parameter: Start				
Name:	Туре:			
Start	Date	~		
ict of Volumer				
	Dynamic Description Sight			
	(None)			
📸 Insert 🗶   🛧 🔸   Actions 👻				
Value	Description			
Click here to add item				
Options:				
Option	Setting	_		
Prompt Text	Begin Date Range of WO End Date			
Prompt With Description Only	False			
Allow custom values	True			
Allow multiple values	False	False		
Allow discrete values	True	True		
		Ø		
# Edit Parameter: End				
Name:	Туре:			
End	Date	~		
List of Values:	Dypamic			
	Dynamic Describites Field			
(None)	(None)			
🖄 Insert 🗙 🛛 🛧 🔸 🛛 Actions 👻				
Value	Description			
Click here to add item				
Options:				
Option	Setting			
Prompt Text	End Date Range of WO End Date			
Prompt With Description Only	False			
Default Value				
Allow custom values	True			
Allow multiple uplues	Esles			
Allow multiple values	False			

Within the **Fuel** subreport the date formula that will be used with the parameter dates was placed in the body of the report.

RHa	
RHb	
D	//////////////////////////////////////
D RFa	

The parameter fields were brought to the subreport in the subreport linking.

Subreport Links			
For subreport:	fuel	~	
Available Fields:	ds ET.FL_VEH_CD ET.FL_VEH_TY ET.FL_DEPT_CC ET.FL_DEPT_TY ET.FL_ID	Field(s) to link to: EFFLEET.FL_ID ?Start ?End	
?Start field link Subreport parameter ?Pm-?Start	r field to use:	Select data in subreport based on @date	field:



The linking process set the fields up in an "=" formula. This was changed in the Select Expert in the subreport.

• Formula Crystal created:

{@date} = {?Pm-?Start} and {@date} = {?Pm-?End}

• Changed to:

{@date} in [{?Pm-?Start} to {?Pm-?End}]

The date parameters were brought to the Work Order subreport in a similar manner.

It is a good practice to make sure formulas and parameters have unique names within the report. There should not be duplication of names from the main report to the subreports. The web reports will not support duplicate parameter names.

Our Web code looks for parameters that start with "Pm-", it assumes these are subreport linking parameters and does not ask the user to provide this data. If you do not follow this convention our software will prompt you for the parameter values instead of letting Crystal automatically set those values. Example 19

# **Adding a General Comments Section**

### (Not Valid for Dated General Comments in Work Orders or Requests)

The system handles Comment grids differently than other types of grids in Lucity. For these grids, the information is stored in a **MEMO** table. The parent table communicates with this **MEMO** table to retrieve the Comment information. Typically in the Field Definition for the Comment section the field name will be MEMO1 or MEMO2 and the table shows as the parent table of the module you are currently in. This is misleading because the field is not in this table.

In the example below, we'll show how to add the **Comment** field for the **Storm Conduit Inventory** module to the **Conduit Physical Data Check Report** (**SMcnphck.rpt**). These same steps are used to add Comment sections to all modules other than the Work Orders and Requests comment section. It will work for the Memo type fields in Work Order like **Comment From Request** or in Request like the **Information for Work Order** memo fields.

## **Option 1 - Creating a Subreport from Scratch**

- 1. First we'll locate the field definition information for the Comment section.
  - a. From Storm open the Conduit Inventory module and click on the Comment tab.
  - b. Use the Ctrl + right click function to view the field definition. Make a note of the table name (SMVCONDT) and field name (CN\_MEMO1). The SMVCONDT table is NOT where the data is stored. The data is in the SMMEMO table. All Storm comments are stored in this table.
- 2. We will modify the Conduit Physical Data report (SMcnphck.rpt) from the Storm Conduit Inventory module. From the Storm reports folder open LC\_SMConChkCom.rpt.
- 3. Right click in the margin to the left of the *Details* section and select *Insert Section Below*.

- 4. Increase the size of the new section slightly to accommodate the new Comment subreport.
- 5. Click Insert Subreport 🖽 .
  - a. Type in the New report name (Comment).
  - b. Select Report Wizard.
- 6. Open Create New Connection > ODBC (RDO) > GBAStorm001 (Finish key) > Tables.
  - a. Select SMMEMO and move it to the right-hand box, Selected Tables.
  - b. Click Finish.
  - c. Click OK.
- 7. Place the "box" in the *Details b* section.
- 8. Right click in the **Comment** subreport box and click *Format Subreport*. Choose the formatting options that you prefer.
- 9. Select OK.
- 10. Resize the subreport box.
- 11. Right click in the **Comment** box and select *Change Subreport Links*. The Field to link to will be the **ID** field for the table referenced when checking for the field name in step 1, **SMVCONDT**.
  - a. Open SMVCONDT and move the CN\_ID field over to the *Field(s) to link to* box on the right-hand side of the screen.
  - b. Click on the arrow beside the box at the bottom-right of the dialog and select the CO\_REC\_ID field.

Subreport Links	×
For subreport: Comment	✓
Container Report held(s) to link to     Available Fields:	Field(s) to link to:
Report Fields     SMVCONDT.CN_BASIN     SMVCONDT.CN_US_S     SMVCONDT.CN_DS_S     SMVCONDT.CN_DIA     SMVCONDT.CN_WIDT	SMVCONDT.CN_ID
SMVCONDT.CN_ID field link Subreport parameter field to use:	Select data in subreport based on field:
?Pm-SMVCONDT.CN_ID	SMMEMO.CO_REC_ID
	OK Cancel Help

c. Click OK.

- 12. Double click on the **Comment** subreport box. You are now within the subreport.
- 13. Click on the Select Expert 🜌
  - a. Click on the *New* tab.
  - b. Click on the CO\_FIELD and then OK.
  - c. Click on the down arrow within Select Expert and select "is equal to".
  - d. Click on the down arrow for the right hand drop down box. Select "CN\_MEMO1". (The comment field name, CN\_MEMO1, was previously found using the Field Definition.) The field is only available in the drop down box if there is a record that has the Comment field populated with data. Otherwise, type in the field name.

Select Expert	
SMMEMO.CO_FIELD       SMMEMO.CO_REC_ID <new>         is equal to       CN_MEMO1</new>	New Delete Browse
OK Cancel Help S	ihow Formula >>>

- e. Click OK.
- f. To view the formulas created within the Select Expert, click on Select Expert and then Show Formula>>>.

{SMMEMO.CO\_REC\_ID} = {?Pm-SMVCONDT.CN\_ID} and

{SMMEMO.CO\_FIELD} = "CN\_MEMO1"

Note: The CO\_REC\_ID and CO\_FIELD are the same for all general Comment subreports; however, the linking table and the field name in quotations changes for each module. The **XXMEMO** table name also changes depending on which suite of modules you are working in. For example, Street is **STMEMO**, Water is **WTMEMO** etc.

- 14. Suppress Report Header a and b and Report Footer a and b.
- 15. Create a "Comments" text object field in the Detail section.
- 16. Drag in the **CO\_TEXT** field from *Field Explorer* and resize the field.
  - It is important that the CO\_TEXT field be able to grow, so remember to check the Can Grow option within Format Field. Right click on the field and select Format Field>>Common (tab)>>Can Grow (checked)>>OK.

Design	Cor	nmer	nt																																																													
		1	• •	Т	• •		1	÷	÷	•		•	•	2		1				•	•	÷	3	÷	•		1				- 4	4	•	÷	÷	I.	÷	÷	÷	5	•			1	1			6	3	•	÷	÷	I.	÷	÷	÷	7	÷	÷	•	1	1		•
RHa		11	///	///	11	//	//	77	77	//	//	77	//	1	//	7	//	7	1	7	7	1	7	7	1	7	1	//	7	1	7	1	//	7	//	7	1	7	//	//	7	1	//	//	7	7	1	7	7	//	7	//	7	1	7	1	//	7	//	7	2	7	7	7
RHb	÷	Fin	Øø	4											/		//	1		/						1		/	1				/		//			/		//					/	1		7					/				/						7	7
D		Co	mm	ent	s:	сc	)_T	Έ>	т																																																						_	Т
RFa		11	///	///	//	//	//	77	//	//	//	//	//	1	//	/	//	7	//	//	/	//	//	/	2	//	1	//	7	//	//	//	//	7	//	//	//	//	7	//	7	//	//	7	//	7	//	7	/	//	7/	//	7	//	//	1	//	7	//	//	//	//	7	$\mathbb{Z}$
RFb	÷																																																															7//

17. Click on the *Design* tab and then the *Print Preview* button

	-	Conduit Physical Data Report Subtitle	Check Repor	t			[Print Date] Print Time]
	-	Basin US Structure DS Structure	Dia/Height Width	Length Slope (%)	' Manning,	USRim DSRim	US Invert DS Invert
Da		CN BASIN " CN 119 STP "		LENGTH	โมมเมล์	ร้อยเลือดด้	5 1 1 2 1007
	-	EN_DS_STR	іси_сиз, į́и_w ютн]	N_SLOPE	giana na Og	ÇN_DS_RIM	2N_DS_INV
DЬ	- <u>-</u>	[ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [	<u>р width;</u>	N_SLOPE Comment	Suu In Q	ÇN_DS_RIM	2N_03_INV

### Preview

Condu	uit Physical Data	a Check Repor	t			8/31/2010
	,					8:52:57AM
Basin	US Structure	D ia /H eight	Length	Manning	US Rim	US Invert
	DS Structure	Width	Slope (%)		D S Rim	DS Invert
250	1120	15	97.30	2.00	22.00	21.00
	1119	6	0.01		11.00	11.00
Commen	<b>ts:</b> comment for conduit 1	120 1119				
1645	1121	15	50.60	2.00	24.00	24.00
	1122	6	0.00		15.00	15.00
Commen	<b>ts:</b> Comment for 1121 to '	1122				
5615	1124	15	127.00	2.00	40.00	43.00
	1123	8	0.00		33.00	34.00
654135	1126	18	553.00	1.00	45.00	44.00
	1125	8	0.00		33.00	33.00

18. If you had tried to Preview the report while still in the subreport, something similar to the following would appear:

🖺 Enter Values	X
Pm-SMVCONDT.CN_ID	Pm-SMVCONDT.CN_ID(Comment)
	OK Cancel

19. Press *Cancel* and then go to the report *Design* tab to run the report.

- 20. After reviewing the report, further modifications may seem necessary to make it easier to read.
  - $\circ$   $\;$  In our example, a line should be added below the Comments line.
- 21. Add a *Detail* section below *Detail* b.
- 22. Add a line to *Detail c*.
- 23. Format the line to silver.
- 24. Even when a record has no comments, the space for the **Comments** subreport will still appear. This space can be removed as follows:
  - a. Click Section Expert 🔁.
  - b. Click Detail b and select the Suppress Blank Section option.
  - c. *OK*.

### Preview

Condu	iit Physical Data	a Check Repor	t			8/31/2010
	,					8:56:23AM
Basin	US Structure	D ia /H eight	Length	Manning	USRim	US Invert
	DS Structure	Width	Slope (%)		D S R im	DS Invert
250	1120	15	97.30	2.00	22.00	21.00
	1119	6	0.01		11.00	11.00
Comment	<b>ts:</b> comment for conduit 1	120 1119				
1645	1121	15	50.60	2.00	24.00	24.00
	1122	6	0.00		15.00	15.00
Comment	<b>ts:</b> Comment for 1121 to	1 122				
5615	1124	15	127.00	2.00	40.00	43.00
	1123	8	0.00		33.00	34.00
654135	1126	18	553.00	1.00	45.00	44.00
	1125	8	0.00		33.00	33.00

### **Option 2 - Creating a Subreport with the Report Wizard**

- We will modify the Conduit Physical Data report (SMcnphck.rpt) from the Storm Conduit Inventory module. From the Storm reports folder open LC\_SMConChkCom2.rpt.
- 2. Add a *Detail* section.
- 3. Click Insert Subreport.
  - Name it **Comment**, and click *Report Wizard*.
- 4. Open Create New Connection > ODBC > GBAStorm001 > Next > Finish > Tables.
- 5. Move SMMEMO to Selected Tables. Then click Next.
- 6. Move CO\_TEXT to Fields to Display. Then click Next.
- 7. There will be no grouping, so select *Next* in the *Grouping* dialog box.

- 8. In *Record Selection*, move the **CO\_FIELD** to the *Filter Fields*.
  - Using the drop down box, select *is equal to*.
  - Using the next drop down box, select CN\_MEMO1. Then, click Next.
- 9. Select No Template and Finish.
- 10. Select the Link tab.
  - Set this up as described in **Option 1**.
- 11. Select OK and drop the new subreport box in the new Detail section.
- 12. Set up and format the subreport as described in Option 1.

Example 20

# Adding a Comments Section to Work Orders and Requests and Dated Comments for Inventory Modules

The *Comment* tab within **Work Orders** and **Requests** is formatted differently than the *Comment* sections in other modules. For this example, we'll add a Comment subreport to the **Work Order Summary Report**.

- 1. First, we'll find the field definition for the Work Order Comment section.
  - a. Open the **Work Orders Standard** module. Click on the *Comments* tab.

	Recorded By $\triangle$	Recorded Date	Recorded Time	Comment	
I	GBA	04/09/2007	08:53 PM	This is also a special type of memo	
I					

- b. Right click in the grid.
- c. Select Add Comment or View Details for an existing comment.
- d. Ctrl + right click in the large comments box to view the field definition. Note that the table name is **WKGDMEMO** and the field name is **GM\_MEMO**.
- e. Close the comment dialog.

Note: This Comment section does not hit the **WKMEMO** table. Instead, it uses the **WKGDMEMO** table.

- We will modify the Work Order Summary Report (WOSum.rpt) from the Work Order module. From the Work report folder open LC\_WOSumComment.rpt.
- 3. Right click in the left margin of the Group Footer 1a section and select Insert Section Below.
- 4. Click Insert Subreport 🖽
  - a. Type a name for the subreport (Comment) in the New report name section.
  - b. Click Report Wizard.

- 5. Open Create New Connection > ODBC > GBAWork001 (Finish) > Tables.
  - a. Move the WKGDMEMO table to Selected Tables.
  - b. Click Finish.
  - c. Click OK.
- 6. Insert the **Comment** "box" into the *Group Footer 1b* section.
- 7. Choose subreport formatting options and resize the box.

	-	<b>Work</b> ?Report	<b>Order Summary F</b> Subtitle	Report			Print Date Print Time
	7	wo #	Status	] Status Date ] Category	) Main Task	Address	*Total Cost
GH1	G	itoup#1/Na	фе////////////////////////////////////		///////////////////////////////////////	///////////////////////////////////////	///////////////////////////////////////
D	. 1	///////////////////////////////////////	///////////////////////////////////////				
GF1a		WO_NUN	BER WO_STAT_TY	]@ StatusDats WO_CAT_TY	WO_ACTN_TY	Locations	.rpt OCostTot@WOCost
GF1b	•	[			Comment		}

- 8. Next, right click within the **Comment** box and select *Change Subreport Links*.
  - a. Select fields so it looks like the following:

Subreport Links	X
For subreport: Comm.rpt	
Container Report field(s) to link to Available Fields:	Field(s) to link to:
Report Fields     WKORDER.WO_NUMB     WKORDER.WO_STAT_     WKORDER.WO_STAT_     WKORDER.WO_STAT_     WKORDER.WO_STAT_     WKORDER.WO_CAT_T	WKORDER.WO_ID
WKORDER.WO_ID field link Subreport parameter field to use:	Select data in subreport based on field:
?Pm-WKORDER.WO_ID	WKGDMEMO.GM_PAB_ID
	OK Cancel Help

- b. Click OK.
- 9. Double click on the **Comment** box. You are now in the **Comment** subreport.
  - a. Click Select Expert and click the New tab.
  - b. Click and highlight **GM\_PARENT**.
  - c. Click OK.
  - d. With the drop down arrow select *is equal to*.

- e. With the right drop down box select **WKORDER**. (This will only show as a choice if there is at least one record with a comment. Otherwise type **WKORDER**.)
- f. Click OK.

{WKGDMEMO.GM\_PAR\_ID} = {?Pm-WKORDER.WO\_ID} and

{WKGDMEMO.GM\_PARENT} = "WKORDER"

Note: The formula in Requests would look like this:

{WKGDMEMO.GM\_PAR\_ID} = {?Pm-WKREQ.RQ\_ID} and

{WKGDMEMO.GM\_PARENT} = "WKREQ"

- 10. Add column titles. You'll want to make the titles **bold** and <u>underlined</u> in order to make them distinct.
- 11. Drag in the appropriate fields.
  - You'll need to create formulas before you can add the Date and Time fields.
- 12. Increase the size of the GM\_MEMO field and format it so it Can Grow.
- 13. Place a box around the **Comment** subreport to separate it from the rest of the data. Make sure the bottom of the box is in the Report Footer section so the box will grow to accommodate the Memo field if necessary.
  - a. Add a title for the box (Comments).
  - b. Format the **Comments** text box with a *white background* (Format Editor > Border tab > Color: Background checked with White).

Report Header a		///////////////////////////////////////	//////	///////	/////	//////	//////	///////////////////////////////////////	///////////////////////////////////////	<u>/////////////////////////////////////</u>
Report Header b	÷	Comments Recorded By:	•	Date:	•	Time:	1	Comment:	7	
Details	Ŀ	GM_REC_BY		@Date		@ Time	1	GM_MEMO		
Report Footer b		///////////////////////////////////////	//////	///////	/////	//////	/////	///////////////////////////////////////		///////

- 14. Click the *Design* tab.
- 15. Click the Section Expert button.
  - a. Select Group Footer1b and the Suppress Blank Section option.
  - b. Select *Group Footer 1* and the *Keep Together* option.
  - c. OK

wo #	Status	Status D	ate Category	Main Task
98-000027	Complete		Administrative	General Office
Comme	nts			
<u>Recorded By:</u>	<u>D ate:</u>	<u>Time:</u>	<u>Comment:</u>	
GBA	4/16/2007	2:33:00PM	This is a comment for 98-000027	
98-000028	Complete		Administrative	General Office
Comme	nts			
<u>Recorded By:</u>	<u>D ate:</u>	<u>Time:</u>	Comment:	
GBA	4/16/2007	2:34:00PM	This is a comment for 98-000028	
98-000029	Complete		P avem ents	Asphalt Preparation
98-0000055	Completed		Pavem ents	Mudjacking
98-000030	Complete		Pavements	Repair Potholes

## Work Order Summary Report

The Inventory modules have a second grid in the Comment tab with Dated Comments. The table will be obvious from the field definition and should reflect the suite of modules. For Storm - **SMGDMEMO**, for Sewer - **SWGDMEMO** etc. The setup would be similar to the Work/Request comment setup.

Example 21

Notes:\_\_\_\_\_

# **Unlinked Subreports**

There are times when the subreports do not need to be linked.

- This can be used when running individual reports as subreports in one document. This can be useful in a Year End Report.
- In Lucity Detail reports the Custom User field captions are brought in by setting up variables in an unlinked subreport and passing these values into the main report. (More on variables in the Advanced 2 section)

In *Lucity* software the button captions may be altered to suit individual needs. These field captions may be reflected in the report by one of the following methods:

- Add or Edit the appropriate text object in the report as discussed in the related Beginning Crystal workbooks.
- Pull the value that is stored in the database and display it on the report using an unlinked subreport with variables.

Lucity uses this type of unlinked subreport in many of the Detail reports. It is hidden in a Report Header subreport. It contains a formula declaring variables that are associated with the User button captions in the Custom tab.

			•	-		-
RHa		///////////////////////////////////////	///////////////////////////////////////	///////////////////////////////////////	///////////////////////////////////////	////
RHb	•					////
	1					
	_		<u> </u>	<u> </u>	<u> </u>	<u>///.</u>
D		ØstoleliserØt	k\$//////	///////////////////////////////////////	<u>/////////////////////////////////////</u>	////
RFa		///////////////////////////////////////	///////////////////////////////////////	//////////////////////////////////////	<u>/////////////////////////////////////</u>	////
RFb	·	///////////////////////////////////////		///////////////////////////////////////	///////////////////////////////////////	////

The **@StoreUserBtns** formula appears on the following page. Note that this is only part of the formula. We've included this to make you aware of what happens behind the scenes.

Any line starting with // is just a comment; it is not part of the formula.

The formula for each User button caption looks something like this:

```
WhilePrintingRecords;
Shared StringVar strUser1;
strUser1
```

```
//The subreport that this formula belongs to must contain the following
//Select Expert statement:
//{WTFIELDS.FieldName} like ["BD USE*"]
//The Fields table reference should match your database. The two character
//data field prefix and suffix must be changed for each report.
//You must also enter your specific Fields Table name in the "IF" statements
//found below (e.g. - WTFIELDS):
WhilePrintingRecords;
//Enter two-character field prefix here (e.g. - 'BD'):
StringVar ModPrefix:='BD';
StringVar strUser1Field:=ModPrefix+' USER1CD';
StringVar strUser2Field:=ModPrefix+' USER2CD';
StringVar strUser3Field:=ModPrefix+' USER3CD';
StringVar strUser4Field:=ModPrefix+' USER4';
StringVar strUser5Field:=ModPrefix+' USER5';
StringVar strUser6Field:=ModPrefix+'_USER6';
StringVar strUser7Field:=ModPrefix+' USER7';
StringVar strUser8Field:=ModPrefix+' USER8';
StringVar strUser9Field:=ModPrefix+' USER9';
StringVar strUser10Field:=ModPrefix+' USER10';
StringVar strUser11Field:=ModPrefix+' USER11';
StringVar strUser12Field:=ModPrefix+' USER12';
StringVar strUser13Field:=ModPrefix+' USER13';
StringVar strUser14Field:=ModPrefix+' USER14';
StringVar strUser15Field:=ModPrefix+' USER15';
Shared StringVar strUser1;
Shared StringVar strUser2;
Shared StringVar strUser3;
Shared StringVar strUser4;
Shared StringVar strUser5;
Shared StringVar strUser6;
Shared StringVar strUser7;
Shared StringVar strUser8;
Shared StringVar strUser9;
Shared StringVar strUser10;
Shared StringVar strUser11;
Shared StringVar strUser12;
Shared StringVar strUser13;
Shared StringVar strUser14;
Shared StringVar strUser15;
If {WTFIELDS.FieldName} = strUser1Field then
    If not IsNull ({WTFIELDS.UserName}) and {WTFIELDS.UserName} <> '' then
    strUser1:={WTFIELDS.UserName}+':'
    Else strUser1:={WTFIELDS.DefaultName}+':';
If {WTFIELDS.FieldName} = strUser2Field then
    If not IsNull ({WTFIELDS.UserName}) and {WTFIELDS.UserName} <> '' then
    strUser2:= {WTFIELDS.UserName}+':'
    Else strUser2:= {WTFIELDS.DefaultName}+':';
If {WTFIELDS.FieldName} = strUser3Field then
    If not IsNull ({WTFIELDS.UserName}) and {WTFIELDS.UserName} <> '' then
    strUser3:= {WTFIELDS.UserName}+':'
    Else strUser3:= {WTFIELDS.DefaultName}+':';
```