



**CRYSTAL REPORTS**  
For SAP Business One

**Crystal Reports for SAP Business One**

Version 8.8 family, 9.0 family, and beyond

Carl Britton Lewis – Chief SAP Business One Ambassador



## Section 1



## CRYSTAL REPORTS

For SAP Business One

### Introductions and Course Overview



### ■ Carl Lewis

- Vision33 Chief SAP Business One Ambassador
- General Manager Vision33 TOTAL Care – (6 years)
- 15+ years experience with SAP Business One
- Founding Chairperson - SAP Business One Partner Advisory Committee (PAC)
- Founding Chairperson – ASUG SAP Business One Special Interest Group (SIG)
- 30 + years experience in non-profit, charitable organizations, and industry professions

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### ■ Course Objective

- An introductory course in building and modifying Crystal reports in the SAP Business One environment. This instructor led course will provide you with the core skills, tools and examples to start building your own SAP Business One reports and layouts within SAP Business One.

### ■ Assumptions

- You are an experienced SAP Business One user
- You have a basic understanding of the SAP Business One database
- You are comfortable and may have used other report writing tools against a database
- You are not an expert but are open to learning more about it
- You want to
  - Write your own reports
  - Customize existing reports to meet your specific needs

- Section 1 - Introductions and Course Overview
- Section 2 - Your Training Environment
- Section 3 - Overview of Crystal Reports in Business One 8.8
- Section 4 - Report Administration
- Section 5 - Understanding the Business One Data Model & Data Source
- Section 6 - Overview of the Reports Designer
- Section 7 - Using Formulas
- Section 8 - Filtering Report Data
- Section 9 - Grouping & Totaling Data
- Section 10 - Formatting your Report
- Section 11 - Using Parameters
- Section 12 - Sub Reports
- Section 13 - Editing Marketing Document Layouts
- Appendix B - Crystal Reports - Cross Tabs & Charts
- Appendix E - Crystal Reports - Resources

## Section 2



## CRYSTAL REPORTS

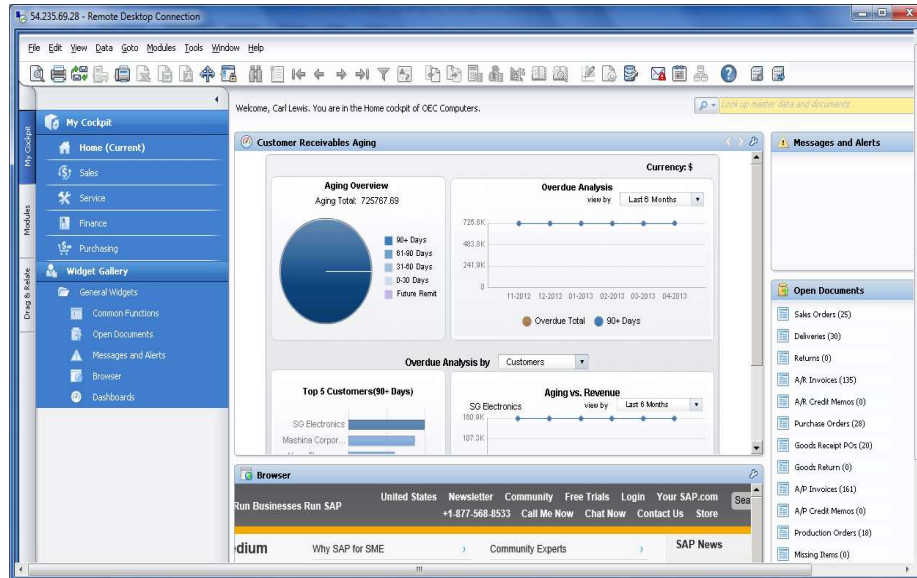
For SAP Business One

### Your Crystal Reports Designer Environment (basics)



*It is typical for Crystal Reports Designer to be installed and operationally validated by your implementation and consulting team. However, if you do not have Crystal Reports Designer installed the following are the basic steps. It is my recommendation that certified SAP Business One consultant perform these tasks. Procedures and processes change from time to time. Certified SAP Business One professionals are best equipped and informed to perform these tasks.*

1. Validate that SAP Business One is operational.
2. Crystal Reports Designer is a separate installation (it has it's own exe file for install purposes) and is not part of the SAP Business One Wizard. Locate this Crystal Reports Designer exe.
3. Execute the install exe file. It is recommended that this been done on your Remote Desktop Server in Administrative mode.
4. The program will check for these pre-requisites. If one or more are not found the install will fail. Please be certain all pre-requisites have been installed and repeat the installation process.
5. Install Crustal Reports Designer
6. Install the SAP Business One CR Addin (this is found in the packages folder of the expanded SAP Business One rar file (compression software).
7. Install the B1 Integration Component. (also found in the packages folder).
8. Make certain that the SAP Business One 32 bit DIAPI has been installed also.
9. Testing the install –
  1. Open Crystal Reports Designer
  2. Obtain ab SAP Business One Connection
  3. Validate that the CR Addin is operational





## Section 3

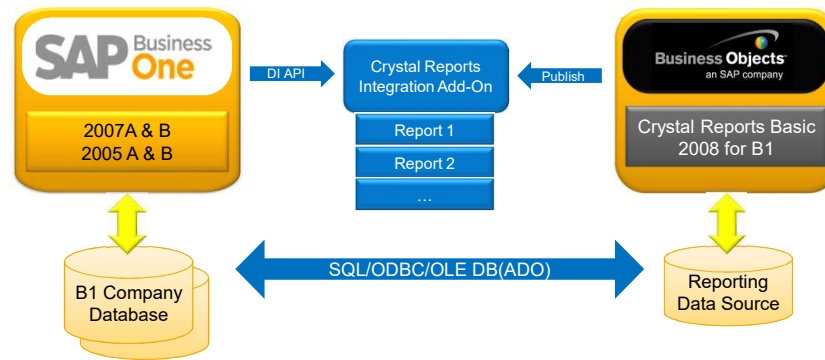


### CRYSTAL REPORTS For SAP Business One

Overview of Crystal Reports in Business One  
Along with some history...

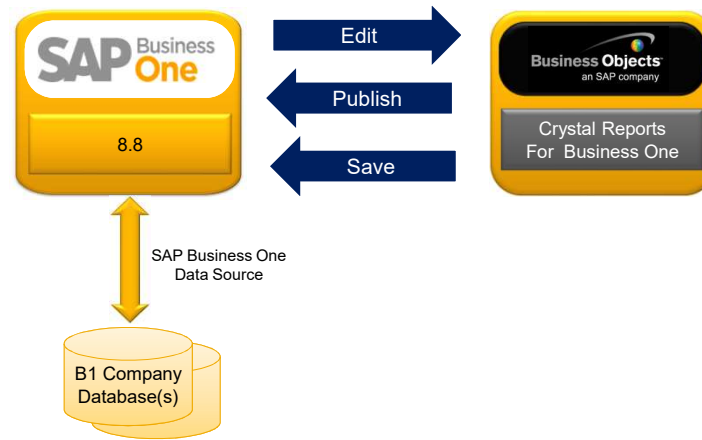


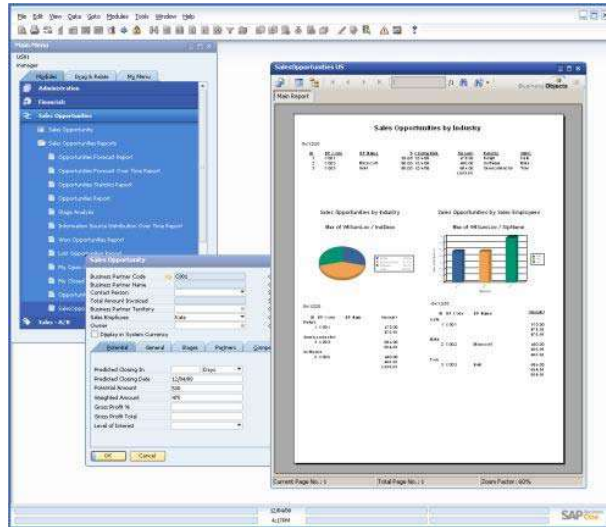
## Crystal Reports Integration in SAP Business One 2005 or 2007 (the early years)



- You may have seen this picture before, which presents the typical user scenarios of designing, publishing and using Crystal Reports designed reports in Business One.
- 1. To design reports, report designers need Crystal Reports software installed. Last year, SAP offered one free Crystal Reports 2008 basic license for each Business One customers. Either with basic license or standard CR license, report designer can connect Crystal Reports to Business One database through standard data source types, such as OLE DB. The final deliverable of report designing stage, is one or several RPT files.
- 2. While from end user side, after receiving PRT files from report designer, users need to use Crystal Reports Integration add-on to import RPT files, to publish reports, and to run the reports inside B1 application environment. This integration add-on is free for download on SDN. There are also several 3rd party integration solutions on the market.

# Crystal Reports Integration in SAP Business One 8.8 and all versions thereafter





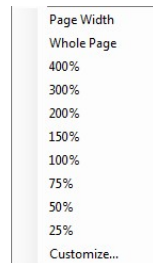
### Enhancements:

- Fully integrated in core application (No Add-on administration)
- Support marketing document print layouts
- SAP PLD is still compatible so migration to Crystal Reports is at your pace
- Report and Layout Management combined in one place
- Business One specific data source for Crystal Reports Designer (SAP Business One)
- Familiar selection criteria for users
- Drill down from reports to Business One data/transactions

## Integrated Crystal Reports Viewer

Vision33+  
TOTAL CARE

- Crystal Reports viewer will be loaded if a Crystal Reports designed layout is used
- Sorting, grouping, filtering and drill-down reporting
- Page navigation, text searching, zoom-in/zoom-out, exporting functions



Exercise7

Main Report

SAP Business One

Phone: (510) 756-7455 Invoice # 1  
Fax: (510) 948-8254 Invoice Date: 01/22/2008  
E-Mail: info@oec.com Invoice Due Date: 02/21/2008

OEC Computers  
1901 Maynesboro Drive  
Suite 205  
New York NY 10065  
USA

Bill To: Ship To:  
Norm Thompson 300 Billings Drive  
300 Billings Drive Suite 502  
Haverhill PA 19083 Haverhill PA 19083  
USA USA

Item Code	Description	Quantity	Discount %	Price	Total
A00001	IBM Infpriint 1312	5.00		\$ 600.00	\$ 3,000.00
A00002	IBM Infpriint 1222	5.00		\$ 300.00	\$ 1,500.00
A00003	IBM Infpriint 1226	5.00		\$ 450.00	\$ 2,250.00
A00004	HP Color Laser Jet 5	5.00		\$ 750.00	\$ 3,750.00
A00005	HP Color Laser Jet 4	5.00		\$ 600.00	\$ 3,000.00

Find Text

Find what:

Find Next

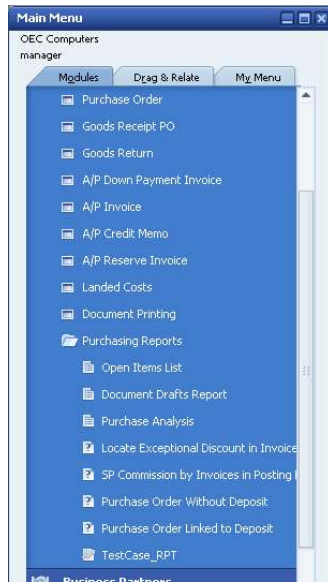
Cancel

Zoom Factor: Page Width



- As I mentioned, in 8.8, Crystal Reports can be used to design print layout for marketing documents. We are going to check how to use these Crystal Report designed layouts from the users perspective.
- First, the process of printing marketing document in 8.8 is very similar to the way it is done in current B1 releases. CR and PLD can be used in parallel with the same user interface. The way to check available print layouts, the way to do print and print preview are the same as current releases.
- If a Crystal Report designed layout is used, a Crystal Reports viewer will be loaded inside Business One. The viewer will display the final printout preview.
- In this viewer, you can do several actions like page navigation, text searching, zoom-in/zoom-out, export to static report.

# Menus & Report Parameter Selection



The 'Report Selection Criteria' dialog box contains the following fields and sections:

- Date:** Posting Date (dropdown), From: 04/01/2006, To: 06/08/2009
- Date:** Posting Date (dropdown), To: 24
- General:** Money, DateTime, Int, String, Country: US (dropdown), State (dropdown)
- Business Partner:** Single BP, Multi Customer (checkbox with ellipsis)
- Items:** Single Item, Multi Items (checkbox with ellipsis)
- Item Range List:** From (dropdown), To (dropdown)
- Multi Warehouse:** (checkbox with ellipsis)
- Accounts:** G/L Accounts, Multi Account (checkbox with ellipsis), Sales(A/R) (checkbox with ellipsis), Enter MYList: (checkbox with ellipsis)
- Buttons:** OK, Cancel

- Link-to Arrows let users jump directly from reports to Business One records

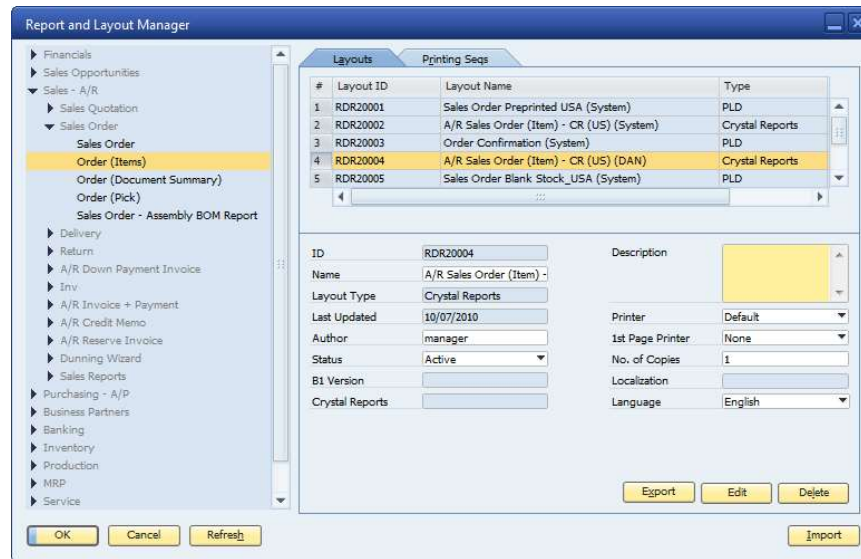
The screenshot shows two SAP windows. The 'Item Master Data' window on the left displays details for item A00001, 'IBM Infoprint 1312'. The 'Invoice Stock' window on the right shows a list of items with 'Link-to' arrows (yellow arrows with a right-pointing arrow) next to the first six items. A yellow circle highlights these arrows in the 'Invoice Stock' window, and another yellow circle highlights the item description 'IBM Infoprint 1312' in the 'Item Master Data' window. A yellow arrow points from the first 'Link-to' arrow to the item description in the 'Item Master Data' window.

Item Number	A00001	Bar Code	
Description	IBM Infoprint 1312		
Desc. in Foreign Lang.			
Item Type	Items		
Item Group	IBM Printers		
Price List	Base Price	Unit Price	400.00 \$

ITEM NO.	Description	QTY ORDER	Backorder	QTY ship
A00001	IBM Infoprint 1312	1,00	0,00	1,00
A00002	IBM Infoprint 1222	1,00	0,00	1,00
A00003	IBM Infoprint 1226	1,00	0,00	1,00
A00004	HP Color Laser Jet 5	1,00	0,00	1,00
A00005	HP Color Laser Jet 4	1,00	0,00	1,00
A00006	HP 800 Series Inc	1,00	0,00	1,00

#	Whse ...	Whse Name	Locked	In Stock	Committed	Ordered	Available	Min. Inventory	Max. Inventory	Req. Inv. Level	Item Cost
1	01	General Warehouse	<input type="checkbox"/>	796	38	190	950				304.34
2	02	West Coast Warehouse	<input type="checkbox"/>	64			64				388.46
3	03	Dropship Warehouse	<input type="checkbox"/>								
4	04	Consignment Warehouse	<input type="checkbox"/>			300	-300				
5			<input type="checkbox"/>								
				862	338	190	714				

- Administration → Setup → General → Report and Layout Management



- In 8.8, we use “Report and Layout Management” window to manage all reports and layouts, either in Crystal Reports format or PLD format.

- You can access this window following menu path...

- With this central interface, you can perform various administrator tasks, such as:

1. Import and export report and layout
2. Publish report to certain menu path
3. Active or de-active report or layouts
4. Set user access permission for reports
5. Set default printer and number of copies for each report or layouts
6. Define printing sequences



■ Administration >System Initialization >Authorizations >General Authorization

The screenshot displays two SAP windows. The 'Report and Layout Management' window shows the configuration for report 'Item Sales Analysis' (ID: RCR10004). The 'Authorizations' window shows a list of users and a table of report authorizations. A red box highlights 'Item Sales Analysis' in the report list, and a red arrow points to the 'Set Authorization' button in the first window.

BTU	Subject	Authorization
bob	Item Master Data	
brad	Item Management	
donna	Inventory Transactions	
doris	Price Lists	
Fred	Pick and Pack	
james	Inventory Reports	
Jim	Item Sales Analysis	
John	Production	
linda	MRP	
manager	Service	
michael	Human Resources	
sophie	Reports	
	User Authorization	

- Once a report has been published, the system will automatically add a corresponding entry in General Authorization form. The same menu path and name will be used. From here, administrator can set which users can access certain reports.

- Enables a user to print a set of related documents (layouts) when a specific marketing document is printed.
- Multiple sequences can be defined

The screenshot displays two windows from the Vision33+ software. The 'Report and Layout Manager' window shows a tree view of reports and layouts, with 'Order (Items)' selected. The 'Sequence Details' window shows a table with columns for Object, Layout, Co., Printer, and 1st Page Printer. A context menu is open over the 'Print Sequence...' option.

#	Object	Layout	Co...	Printer	1st Page Printer
1	Sales Orders	A/R Sales Order (I)	1	Fax	(None)
2	Sales Quotatio	A/R Sales Quotatio	1	Microsoft XPS Docum	(None)
3		(Default)	1	(Default)	(None)

The context menu includes the following options:

- Close
- Save as Draft
- Page Setup...
- Preview...
- Preview Layouts...
- Print... Ctrl+P
- Select Layout and Print...
- Print Sequence...**
- Send
- Export
- Launch Application...
- Lock Screen
- Exit Ctrl+Q

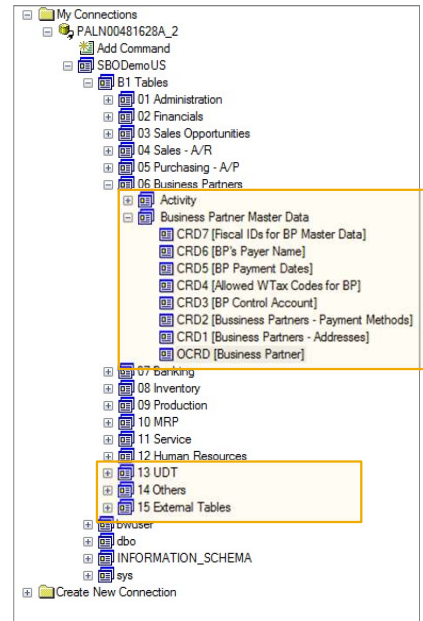
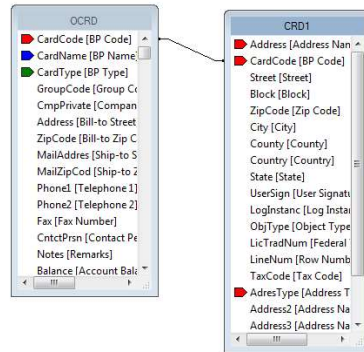
# Override Default Layout for Print or Preview

The screenshot shows the SAP Business One interface with a 'Packing List - CR (US)' report. The report displays customer information for 'OEC Computers' and 'Microships', along with a table of packages. A context menu is open over the report, with 'Preview Layouts...' selected. A 'Choose Layout' dialog box is also open, showing a list of available layouts. The 'Packing List - CR (US) (System)' layout is highlighted in the dialog box.

Package Number	Package Type	Total Weight
	Item Code	Item Description
	Total	kg

Current Page No.: 1      Total Page No.: 1      Zoom Factor: Page V

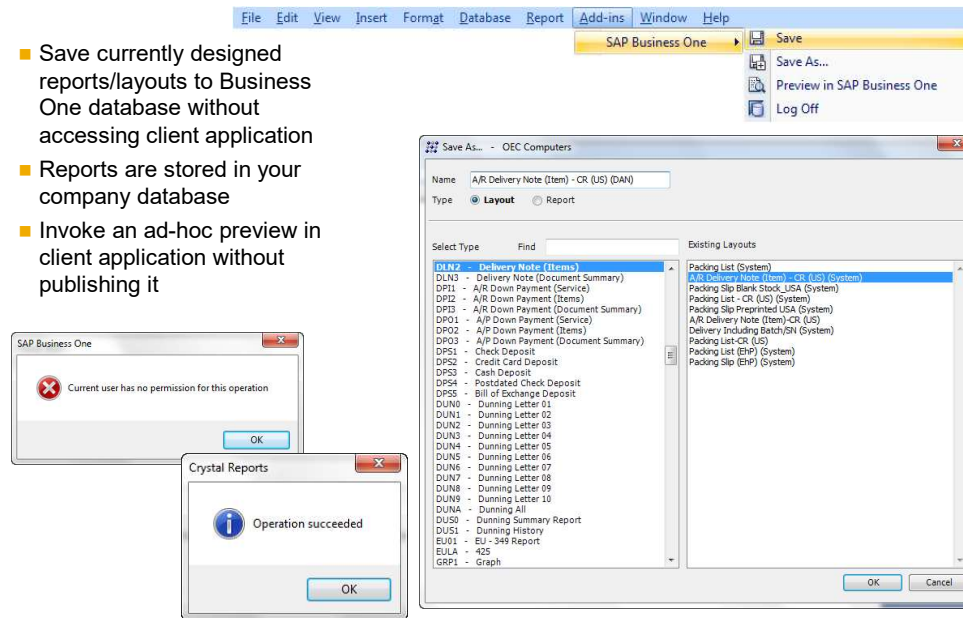
- Tables display in a hierarchy tree sorted like Business One modules
- Table described in native language
- Default join between tables selected are automatic
- UDT/UDF and Add-on tables are now included in the data source(category 13, 14 & 15)



- If you are familiar with using Crystal Reports, you should know Crystal Reports designer connects to database via supported data source.
- To work with current B1 releases, report designers normally use OLE DB/ADO data source to connect Crystal Report designer with b1 database. You need to have a good knowledge on Business One database schema since under ADO data view, all B1 database tables are listed and sorted by alphabetic order. If your report involves multiple tables, you also need to understand the underlying relationships among tables.
- Now in 8.8, report designers have a new option to connect CR with B1 database – a new Data Source specific for SAP Business One is provided. Once you connect CR data expert with B1 database by using this data source, the B1 tables will be displayed by functional modules, which is quite similar to the main menu structure in B1 application.
- Table description in native languages are also used to help report designer to recognize the tables much more easier.
- Another nice feature is the default join. If you select several tables in CR data expert, SAP Business One data source will make default foreign key joins between tables.

- For SSP/ISV partners, UDT and ISV tables can be located under category 13 and 15.

- Save currently designed reports/layouts to Business One database without accessing client application
- Reports are stored in your company database
- Invoke an ad-hoc preview in client application without publishing it



- In the CR designer, there is a new add-in for SAP Business One.
- The “save” and “save as...” function can help you save the report you’ve designed to SAP Business One database. In the previous administrator perspective section, we discussed how to publish Crystal Report designed reports in Business One by using “Report and Layout Management” interface. This add-in provides an alternative way of publishing report. And it doesn’t require B1 client up and running.
- If you have B1 client running, the “Preview in SAP Business One” function can help execute the report you’re currently designing inside SAP Business One client environment, it will save your time for importing and publishing RPT files inside Business One.

## Section 4



## CRYSTAL REPORTS

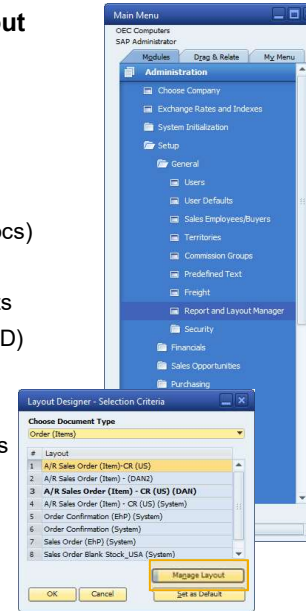
For SAP Business One

### Report Administration



## ■ Administration>Setup>General>Report and Layout Manager

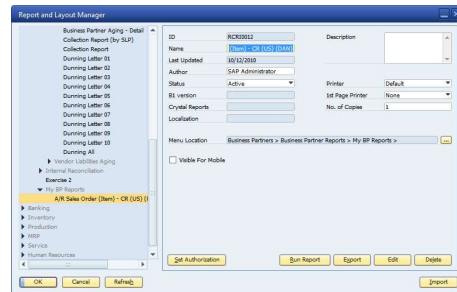
- Run Crystal reports
- Import Crystal reports and Crystal layouts
- Export Crystal reports and Crystal layouts
- Create report folders in the Business One Main Menu
- Create and manage report printing sequences (\*Mktg Docs)
- Set user authorizations for running Crystal reports
- Set printing options for Crystal reports and Crystal layouts
- View print settings for “standard” reports and layouts (PLD)
- Delete Crystal reports and layouts \*
- Launch the Crystal designer to create and edit reports
- Launch the Print Layout Designer to edit standard reports





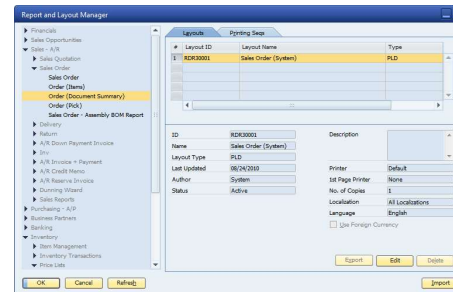
## Report

- Must be a Crystal report
- Imported to Business One as a “report”
- Not “linked” to a Business One screen
- Can prompt for report parameters
- Cannot have a print sequence defined



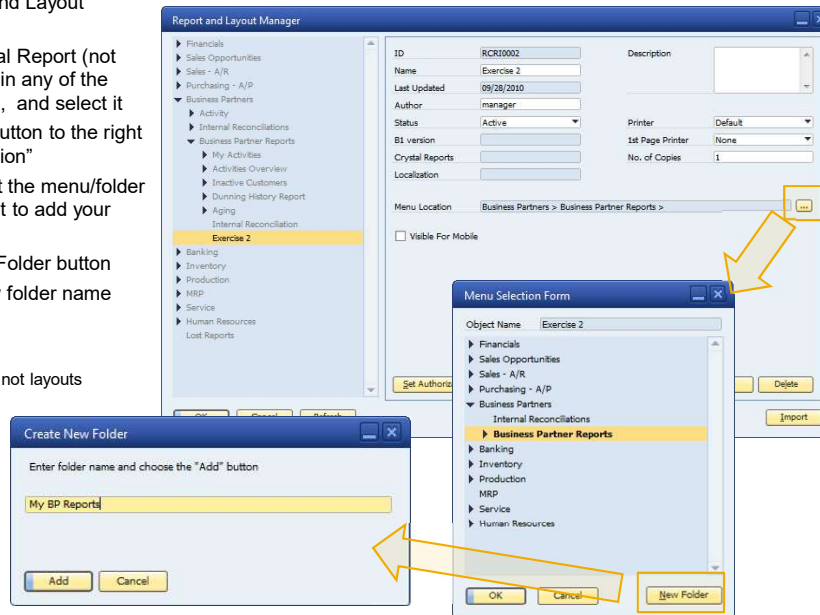
## Layout

- Can be a Crystal or PLD report
- Imported into Business One as a “Layout”
- Must be assigned to a Business One document type (Menu Option)
- Get their primary source data from that Business One screen/document
- Before Crystal all reports were layouts



## Creating New Report Folders

- Open Report and Layout Manager
- Find any Crystal Report (not PLD or layout) in any of the existing folders, and select it
- Click the button to the right of "Menu Location"
- Find and select the menu/folder where you want to add your new folder
- Click the New Folder button
- Enter your new folder name
- Click Add
- \* Only for reports not layouts



## Report & Layout Import Wizard

- Click on the Import button from Report and Layout Manager
- Select at File Location to import from (Local or Network)
- Select a Package or Report file
  - .b1p report package contains multiple .rpt files
  - .rpt Crystal reports definition file
- Select the report Content Type
  - Layout - Report linked to a Business One Document or Screen
  - Report - Standalone report
- For Reports select a Folder destination in Business One
- For Layouts select the document type
- If the report has already been imported you have the chance to overwrite or rename
- Import summary give final status and details of the import

Report and Layout Import Wizard

Select Import File

To specify a file for import, choose the "Browse" button.

File Location: C:\Users\B12032\Desktop\CrystalReportsforBusinessOne [Browse]

Select a content type for the specified file, then choose the button to specify a destination:

Content Type

Layout

Report

Financials > Financial Reports > Class > [...]

To continue, choose the "Finish" button.

Step 1 [Cancel] [Back] [Next] [Finish]

#	Report Type	Type Name
162	INV1	A/R Invoice (Service)
163	INV2	A/R Invoice (Items)
164	INV3	A/R Invoice (Document Summary)
165	IPF1	Landed Costs
166	IPF2	Landed Costs Details
167	IQP2	Stock Posting
168	ITL1	Inventory Posting List (by Items)
169	ITL2	Inventory Posting List (by BP)
170	ITL3	Inventory Posting List (by Other)
171	ITM1	Items List

[Choose] [Cancel]

Menu Selection Form

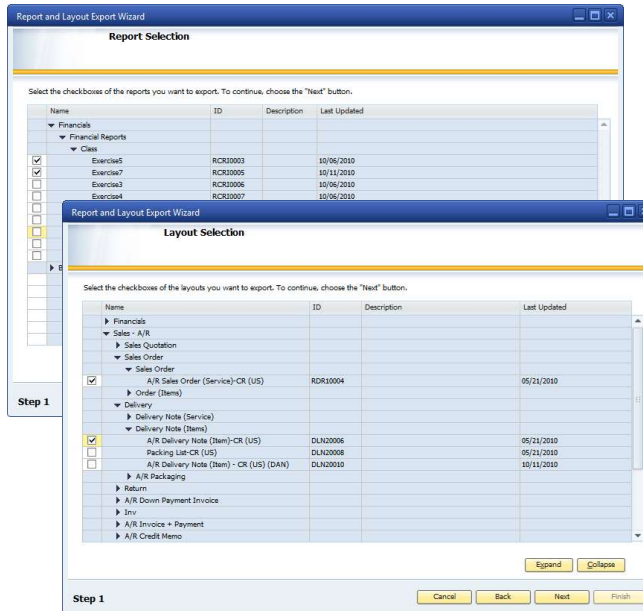
Object Name: Accountant

- Financial Reports
  - Accounting
  - Financial
  - Companion
  - Budget Reports
- Class
- Sales Opportunities Reports
- Sales Reports
- Banking Reports
- Business Partner Reports
- Banking Reports
- Inventory Reports
- Production Reports
- Service Reports
- Human Resources Reports

[OK] [Cancel] [Folder]

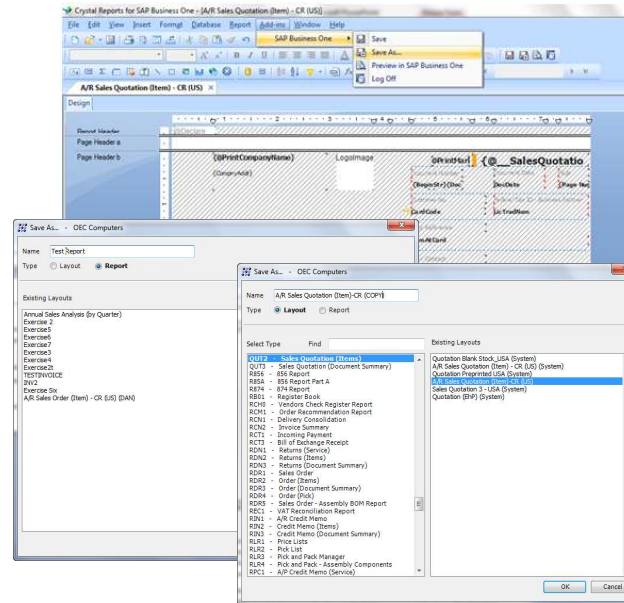
## Report & Layout Export Wizard

- Select a Crystal report in the Report and Layout Manager
- Click the Export button
- Depending on what report was highlighted when you started, you either get the Layout Selection or the Report Selection screen next. *(Note: You can't export both types of reports (layouts & reports) in one wizard run)*
- Select one or more Crystal Layouts or Reports to export
- Click the Next button
- Enter a name for the Report Package you will be creating
- Select a folder location to save the Report Package.
- Click Finish
- The Export summary screen will give final status and details of the export



## “Copy” a Crystal Report?

- No “Copy” function or button
- Select the Crystal report or Crystal Layout you want to copy in the Report and Layout Manager
- Click the Edit button
- This will launch the Crystal Designer in a new window
- From the Add-Ins menu select SAP Business One>Save As
- Enter the new name in the name field and Hit OK
- The Type radio selector will be set based on the type of report (report or layout) you selected to edit
- This will save the report or layout back to the Business One database.
- Hit the Refresh button in the Report and Layout Manager and you will see the report with your new name



Report & Layout Manager  
Import & Export



### Exercise Objectives

- Import reports and Business One Report Packages into the SAP Business One main menu
- Move a report to a different folder
- Change document name and more
- Create new Report folders
- Export Crystal Reports
- Run Crystal reports from SAP Business One
- “Copy” a System Crystal reports layout

Crystal Reports for SAP Business One  
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Carl Britton Lewis – Chief SAP Business One Ambassador

