



## Getting Crafty with Crystal: Solving Stock Plan Reporting Issues with Crystal Reports

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## Materials

- Available for download:
  - <http://www.sos-team.com/PDFS/crystal.pdf>
- Please note: URL is case-sensitive.

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## Agenda

- The problem with spreadsheets
- Crystal
  - Who can use it?
  - Basics
  - Customizations
  - Database basics
  - Report Writing Tips
  - Demo
  - On-the-fly Customization
- Report Library

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## Good Spreadsheets Gone Bad?

- When are spreadsheet a problem?
- Passing data in XLS/CSV format is common and not a problem
- But... manipulating data in spreadsheets:
  - Wastes time
    - Manual entry is labor intensive
    - Avoid manipulating data in spreadsheets once exported
  - Risky!
    - Higher chance of error
      - Typos
      - Move a parenthesis – breaks a formula
      - Mis-sorting
    - SOX/Auditors don't like manual manipulation of data/spreadsheets

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## Spreadsheet Poll

- How much time do you spend manipulating data in Crystal outside your Stock Plan system (includes pulling in data from another source/report)?
  - None
  - Less than 2 hours a month
  - Less than 5 hours a month
  - Less than 10 hours a month
  - More than 20 hours a month
  - Not applicable (service provider)

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## Who Can Use Crystal to Customize Stock Plan Reports?

- Users of some popular in-house stock plan systems
  - Crystal used as report tool/platform
- Users of any in-house software
  - If you have access to the backend table, can produce Crystal report by “linking” to tables

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## Crystal Reports – the basics

- What is Crystal Reports?
- A generic report writing software created by SAP Business Objects
- A license for the report writer
  - May be included with software
  - May be purchased separately
- Different systems use different versions of Crystal
  - Don't use a version other than the one YOUR system uses to develop reports!

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## Crystal Reports – the basics

- Can be used to alter an existing report template
  - In some system can be added into or run from within the software
- In some in-house systems, can be used to create a totally new/custom template
- What can you do?
  - Add Wording (e.g. Legal Verbiage)
  - Add Additional Data (columns)
  - Add Parameters/Filters to Control Output
  - Change column orders
- For What Purpose?
  - Custom Statements, Letters, Agreements
  - Custom Printable Administrative, Executive Reports
  - Custom Extracts
  - Systems Integration

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## “Customizations” without Crystal

- In-house softwares allow:
  - Sorting
  - Grouping
  - Filtering
- Many users don't use existing capabilities to their full extent!

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## Common Customizations...

- Report Modifications:
  - Add Vesting Schedule Name
  - Add Corporate Logo
  - Add Legal/Instructional Wording
  - Add Code (e.g. Subsidiary, Cost Center Code, Country)
  - Change Nomenclature
  - Combining data from two or more reports
- New Reports:
  - In-the-Money Reports
  - Grant Agreements
  - Future Vesting by Line Item (Exportable)
  - Payroll Extracts (including W/H information)
  - DTA Balance Report
  - Quarter/Month-end Reports

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## Crystal / Access Poll

- Have you previously used Crystal to modify reports?
  - Yes
  - No
  - Not applicable (service provider)
- Have you previously used Access to modify reports?
  - Yes
  - No
  - Not applicable (service provider)

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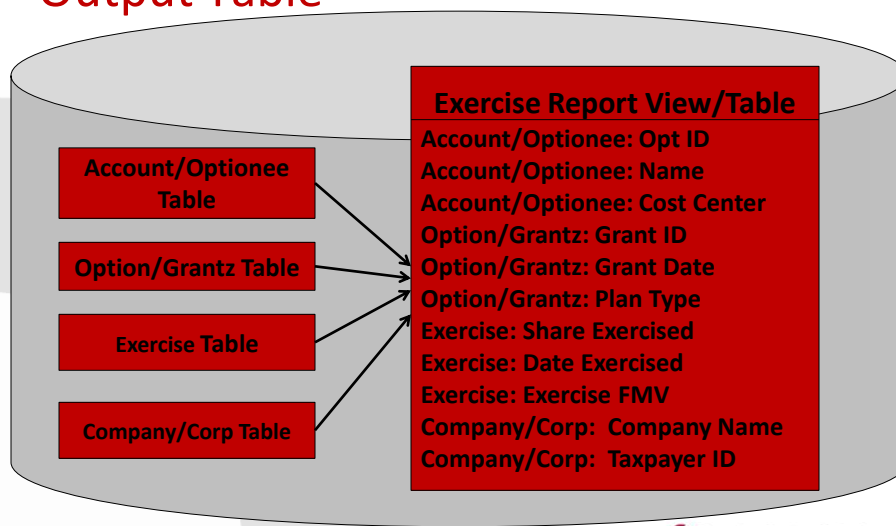
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## Database Structure...

- Tables vs. Views vs. Temporary Report Tables
  - A Table directly stores data and can be used on a report template.
  - A View reads data from other tables but does not directly store data. A single view can be used on a report template.
    - Consolidates data from multiple tables into one object
    - Eliminates the need to “link tables” in Crystal – one of the most challenging parts
    - Can make reports easier to customize!
    - Allows for more user-friendly names
      - » e.g. Social Security Number vs. soc\_sec

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## Database Structure: View / Report Output Table



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## How Do You Understand Fields in Tables?

- **Methods:**
  - Data dictionary available for one software package
    - Listing of the tables and fields and what they do
  - Browse Feature
    - Look at the data to see what is in the field
  - Table names/structures often “transparent”
    - But not always, make sure you TEST!
    - Look at the existing RPTs to see how/where they are using the fields
  - Talk to other people who use your system
    - Network
    - Discuss your solutions, share their solutions
    - User groups? Forums from your provider?

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## Report Writing Tips

- **Building Calculations in Crystal**
  - The more complex your formulas... the slower the report
- **Allow for Modifications/Expanding Fields**
  - location, location, location
  - Size matters... paper size, that is...
  - What you can't fit, export
  - But... be careful with lining up fields/rows

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## More Report Writing Tips

- What is easy in Crystal?
  - Changing column headings, names, formatting, etc.
  - Reordering columns (but... tedious)
- Harder, but worth it!
  - Adding new columns (if already in the ROT/view)
    - How do I know if the value is in the ROT/view?
  - Save hours of time each month –investments really pay off
  - Adding new subtotals / new formulas
- Save, Save, Save and then Save!
  - Save early! Save often! Save Iterations!
  - Save custom templates as new file name!
  - Do not update default reports -- hard work lost upon upgrade
    - USE DIFFERENT FILE NAMES
      - Some systems require 8.3 file name

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## Formatting

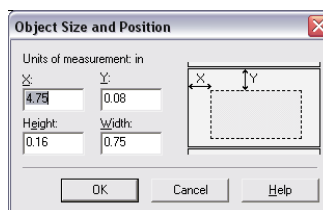
- Formatting Tips to Live By:
  - Design Report No Larger than Legal Landscape
  - Zoom-In to 400%!
  - Size fields the same
  - Use 'Fit Section' (Height) to Eliminate Unwanted Blank Space/Extra Rows
  - Beware Margins if Printing to PDF
  - Font Size No Smaller than Size: 7 / 8
  - Justification Settings for Column-based Reports in some versions of Crystal

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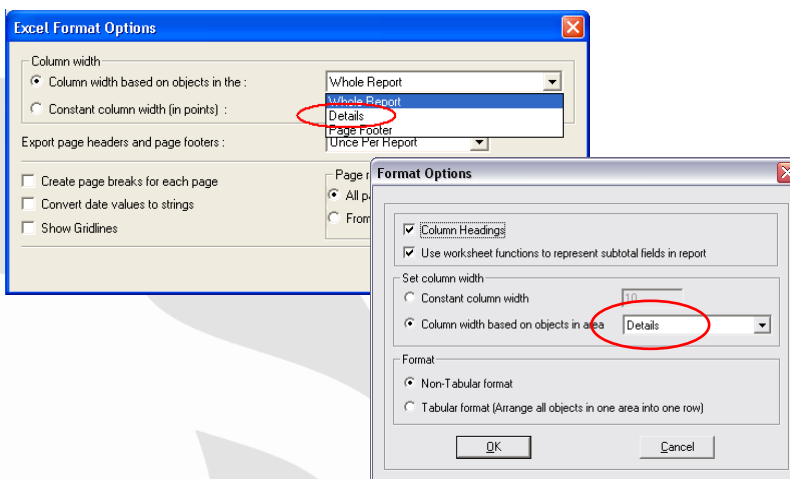
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## Exporting Tips & Tricks...

- Trying to export your data to Microsoft© Excel?
  - Column Headings, Data and Total Fields MUST be perfectly aligned to export cleanly to Excel
  - Use Grid Lines (Vertical & Horizontal) to help
  - Only what you need, extras gridlines can cause blank columns
  - Object Size and Position (to perfectly match) location of fields
- Font Type & Size
- Left Justify Everything!
- Grouping Effect on Export
- Excel Limit
  - 2003: Row 65.5K
  - 2007: 1M+
- CSV Alternative for Large Datasets
  - Headers and Data Only



## Exporting to Excel Tip from Stock Plan Software



## Demo & Discussion...

- Let's Look at Crystal:
  - Launch Crystal
  - Open Existing Template, Save as New File.
  - Insert a Logo and Basic Text
  - Insert a field
  - Insert a subtotal
  - Look at Formula & Formula Editor
  - Really Good Help System for Formula Syntax Help!
  - Look at Select Expert
    - Doesn't work on all systems/all reports

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## On-the-fly Customization

- Reformatting Options Granted report to export cleanly to a spreadsheet
  - Without extra rows and columns or merged fields
- Exercise report
  - Add country and cost center
  - Still fitting to one page
- Customizing Option/Award Agreement/Notice
  - Changing Text / Adding Logo

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## Report Catalog / Library

- Documentation, Documentation, Documentation!
  - When creating or purchasing custom report templates it is highly recommended to create a catalog of all custom templates.
  - Store the following information:
    - Who created it?
    - When was it created?
    - Why was it created? (What does it do?)
    - Where is it stored?
    - Which version of In-house was it originally created for?
  - Don't spend time ( or \$\$) creating or paying for a custom report that you already have!

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