



**WHEN YOU ARE
PASSIONATE ABOUT
MICROSOFT DYNAMICS NAV...**

27 & 28 Sept 2012, Antwerp (Belgium)



Dynamics NAV 2013 Reporting Story

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Data Set Designer

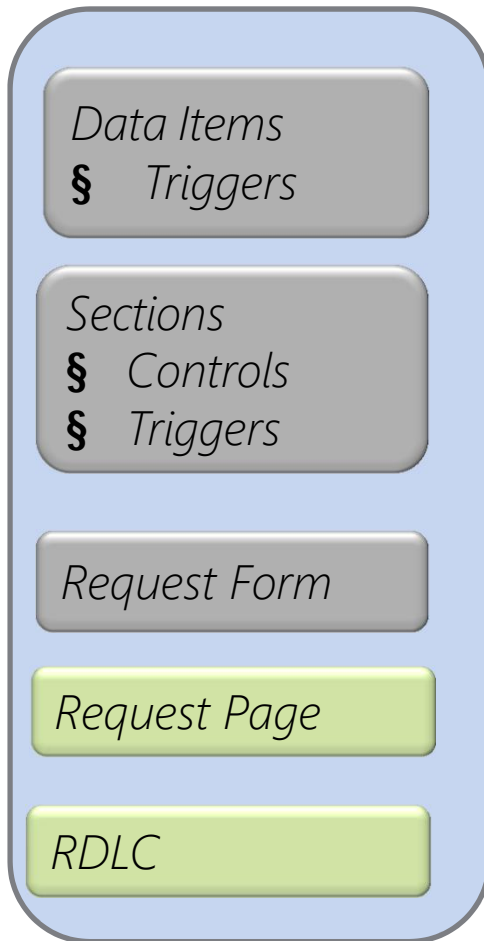
OVERVIEW

No more support for Classic/Hybrid

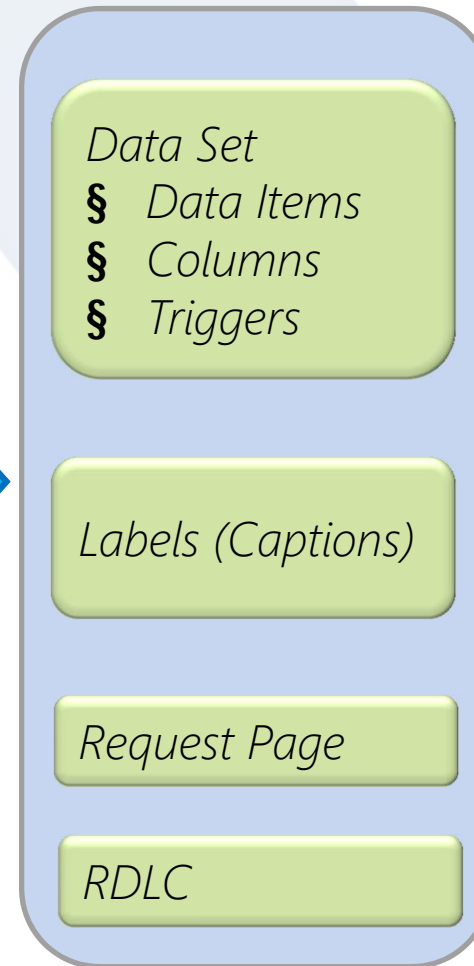
- There is no Classic fallback option in 2013
- CSIDE is only a designer, not a runtime
 - No support for hybrid reports
 - Only support for RDLC reports
- WHY?
 - Lower complexity of creating RDLC reports
 - Clarity in what is contained in a report
 - NO 2 tiered CSIDE in 2013

Changes to the reporting object

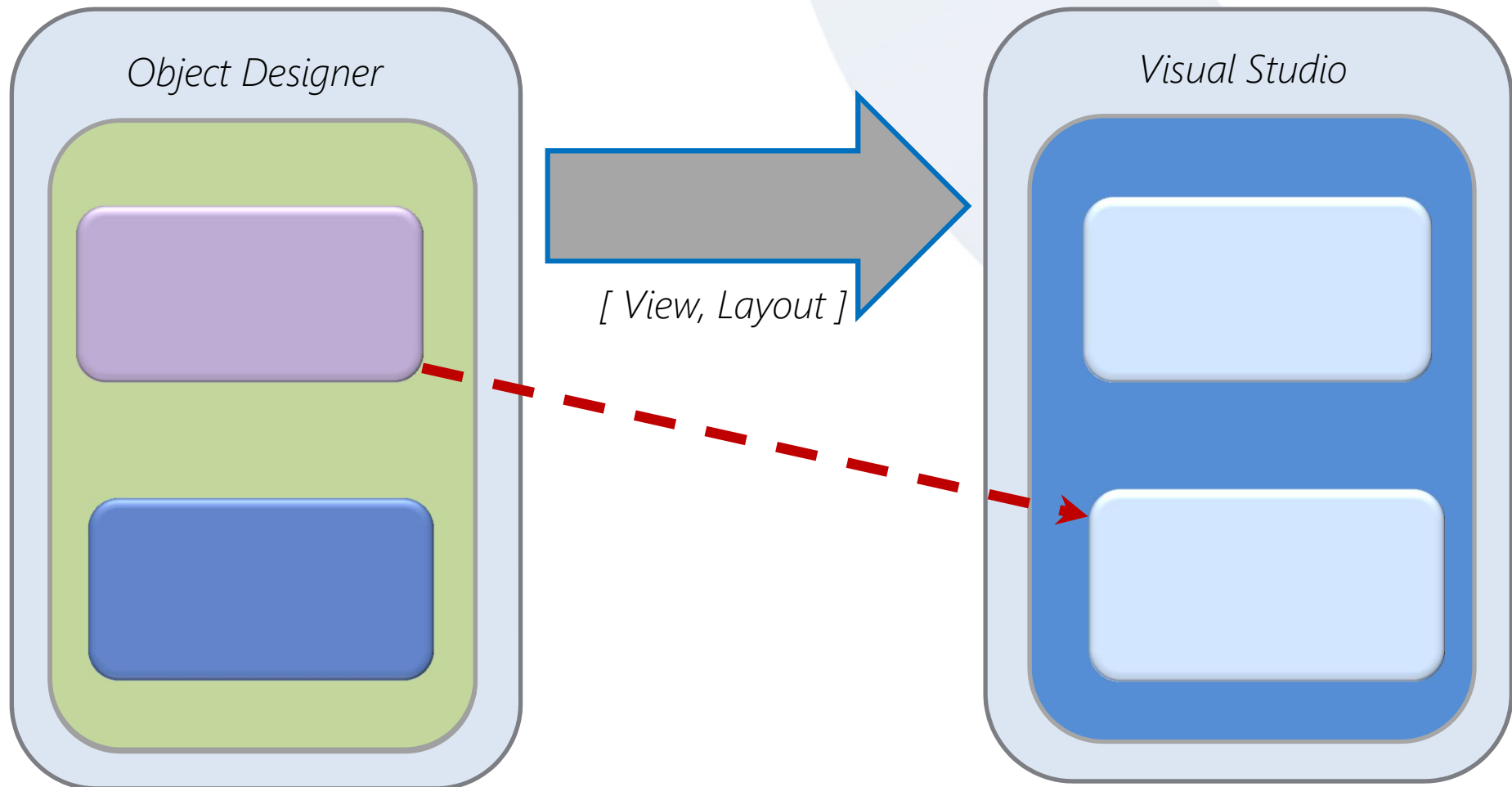
NAV 2009



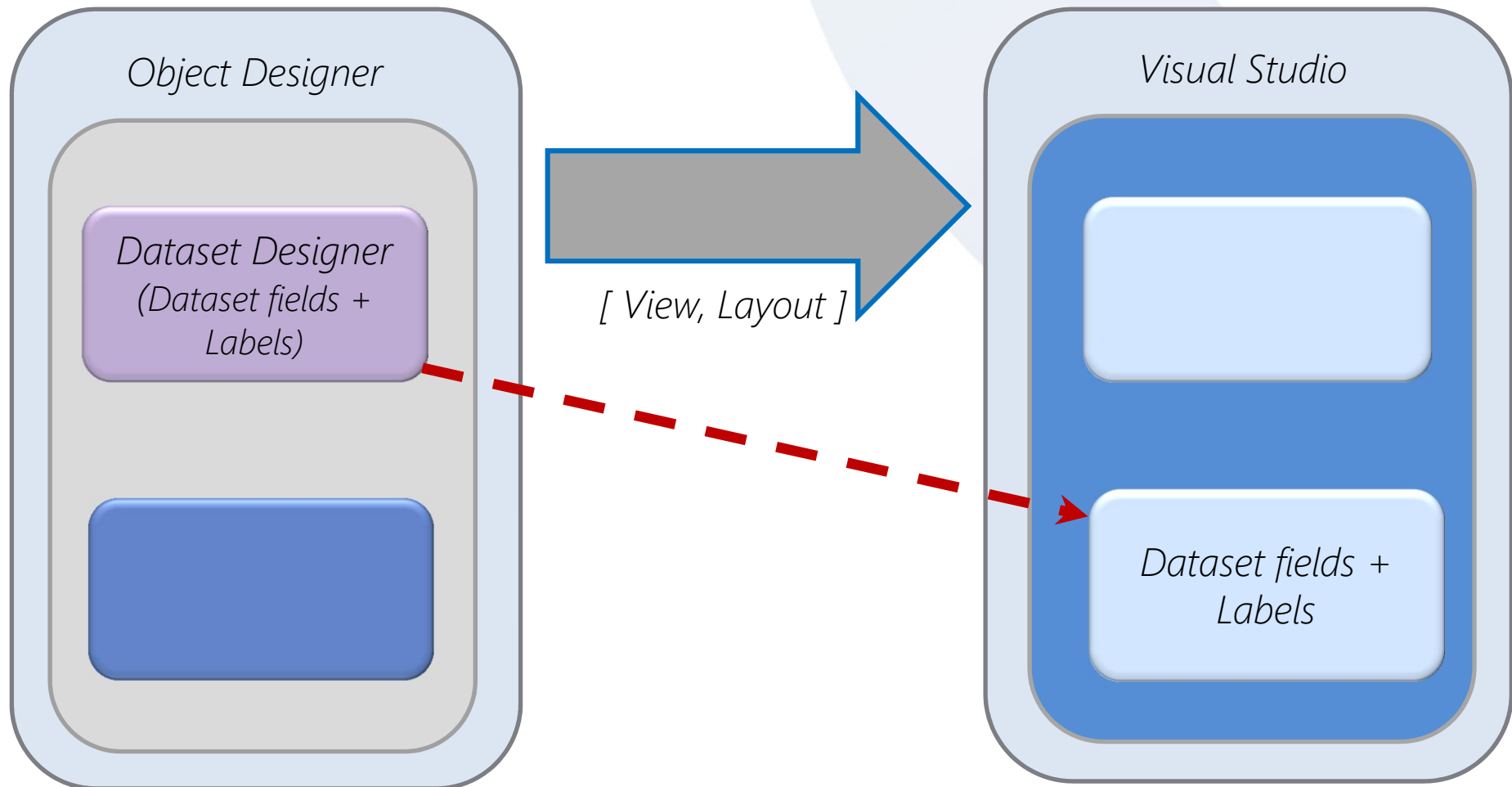
NAV 2013



Data Set Designer 2009

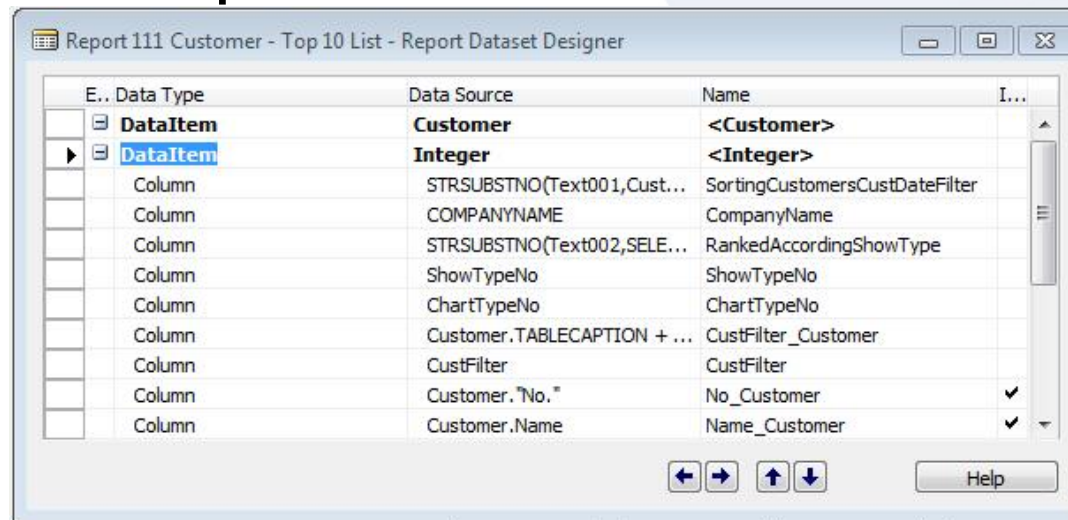


Data Set Designer 2013



Data Set Designer

- Simple List Report



- Rename Refactoring
 - Demo



Report Viewer 2010 and RDLC 2008

OVERVIEW

Report Viewer 2010

- We have upgraded from RV2008 to RV2010
 - RV2010 is the foundation for us to upgrade to RDLC 2008
 - Easy way to see if you are running RV2010 is to check that you can "Save As Word". This was not possible in RV2008

New controls in RDLC 2008

- New Tablix control. An advanced control which is a merge of the Table control and Matrix control in RDLC 2005.
- New Gauge control: we can now add Gauge to visualize KPI's in reports.
- New chart capabilities with the possibility to have custom colors on charts.

Enhancement for Text and HTML

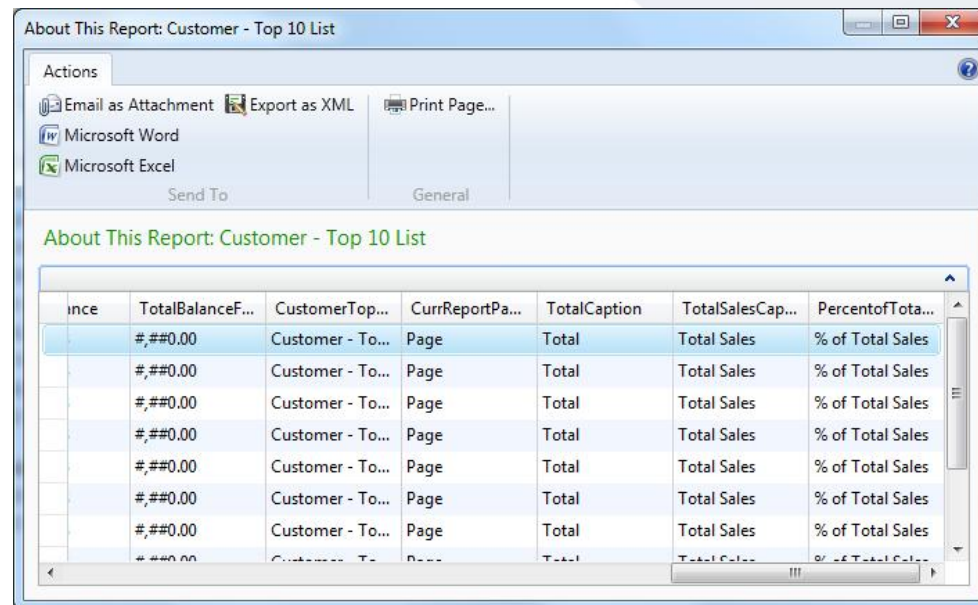
- Mix fonts, colour, styles.
- Mixing fixed literals with content from DB – placeholders
- Import HTML content to TextBox - Demo
- Store HTML formatter in one place and reuse in all reports. So modifications in formatting is only in one place.
e.g. HTML headers - create once, use everywhere.

An Introduction to Parameters

OVERVIEW

Labels in 2009

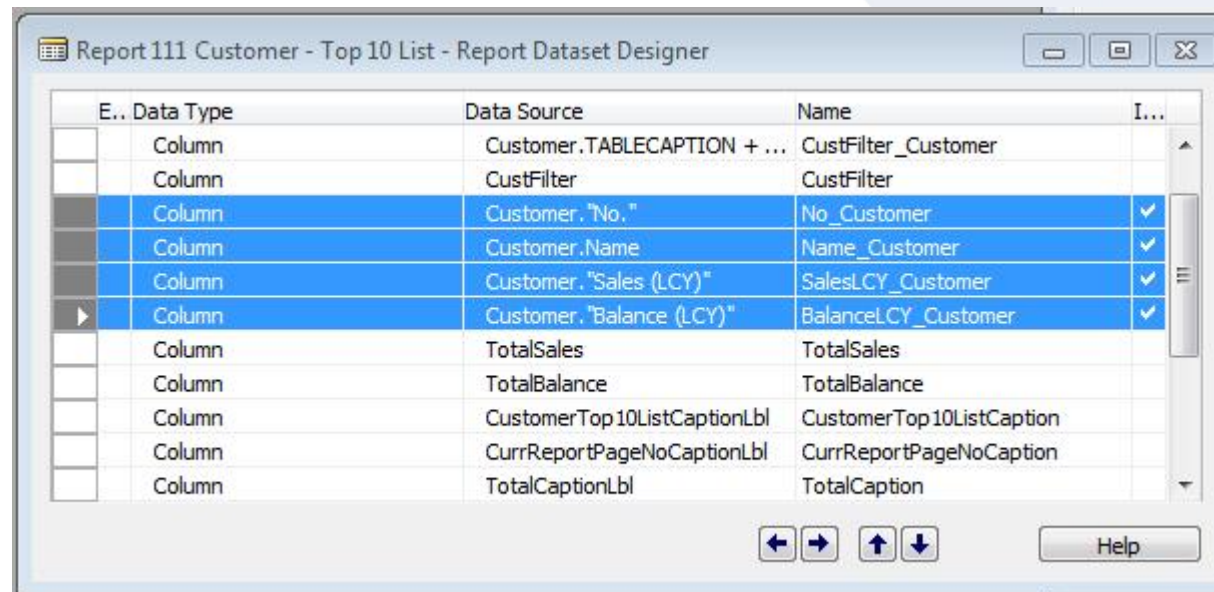
- Bound to data set, with duplicates on all lines for the scope
- Added to support line by line changing languages



| Ince | TotalBalanceF... | CustomerTop... | CurrReportPa... | TotalCaption | TotalSalesCap... | PercentofTota... |
|------|------------------|------------------|-----------------|--------------|------------------|------------------|
| | ###0.00 | Customer - To... | Page | Total | Total Sales | % of Total Sales |
| | ###0.00 | Customer - To... | Page | Total | Total Sales | % of Total Sales |
| | ###0.00 | Customer - To... | Page | Total | Total Sales | % of Total Sales |
| | ###0.00 | Customer - To... | Page | Total | Total Sales | % of Total Sales |
| | ###0.00 | Customer - To... | Page | Total | Total Sales | % of Total Sales |
| | ###0.00 | Customer - To... | Page | Total | Total Sales | % of Total Sales |
| | ###0.00 | Customer - To... | Page | Total | Total Sales | % of Total Sales |

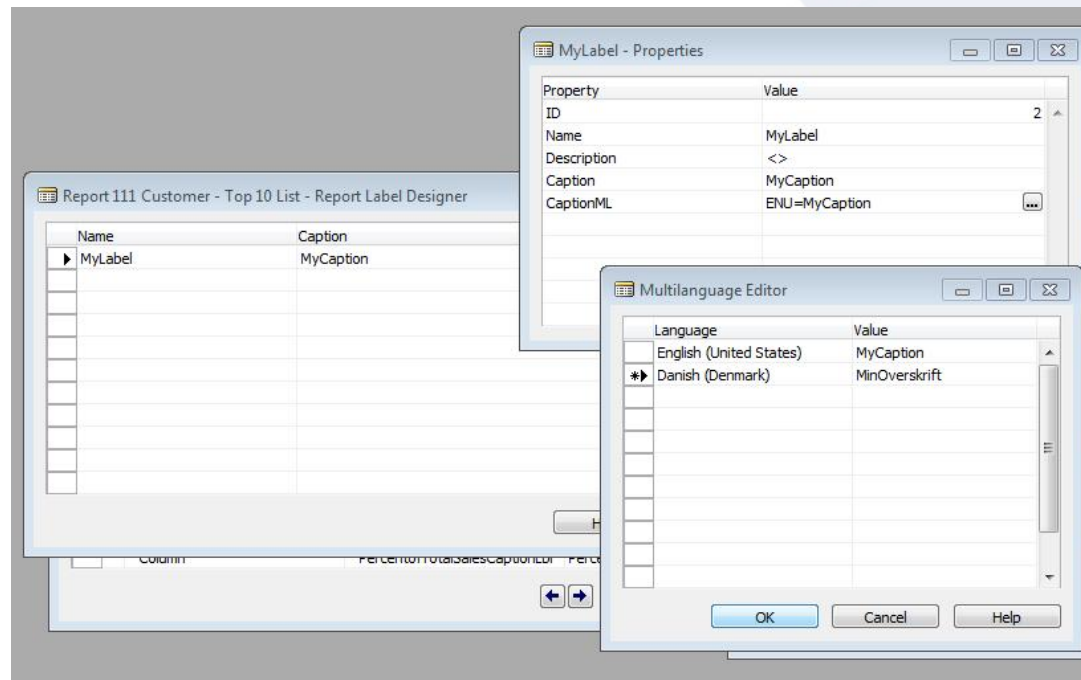
Parameters in 2013

- IncludeCaptions on Record Fields
 - Captions Per Report

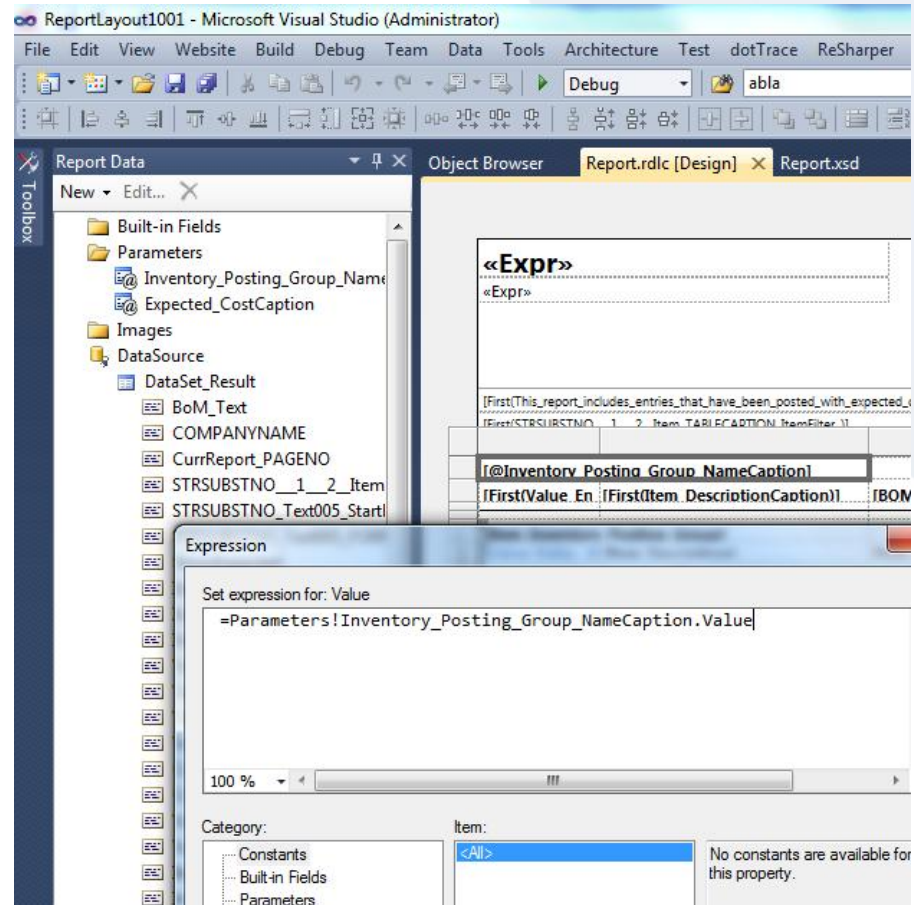


Parameters in 2013

- Labels Designer
 - Captions Per Report



How to use Parameters in RDLC?



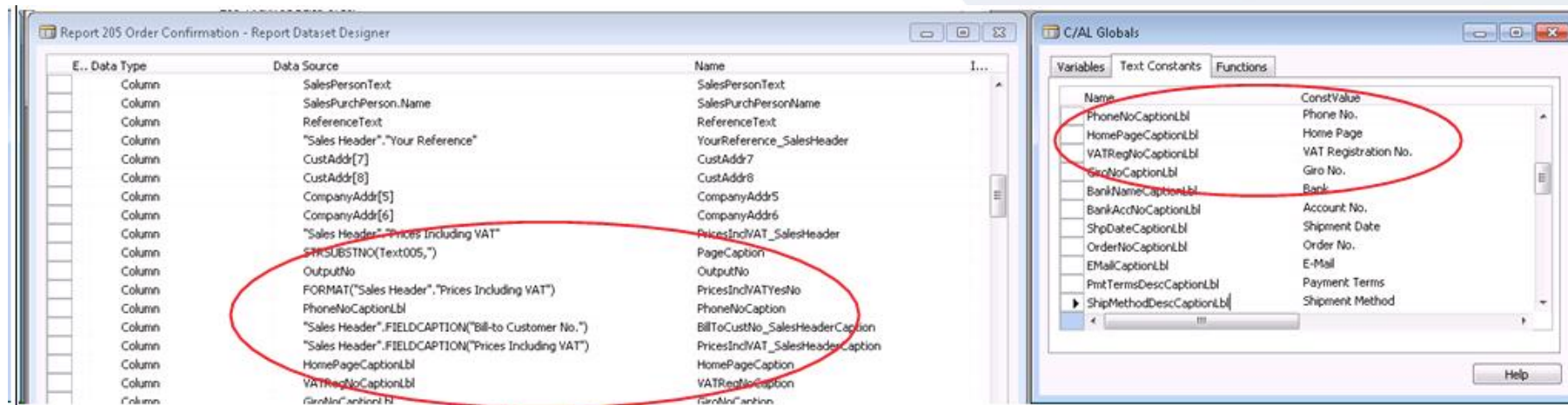
Parameters cannot be used for?

- Labels which are dynamic
 - E.g. Multiple Languages in the same report run
- For grouping
- For conditional visibility
- Parameters are not for dynamic information.



Need Dynamic Labels?

- Use TextConstant as a column
- DataItem.FieldCaption(FieldName) as a column
 - CaptionClass is respected (2013 feature)

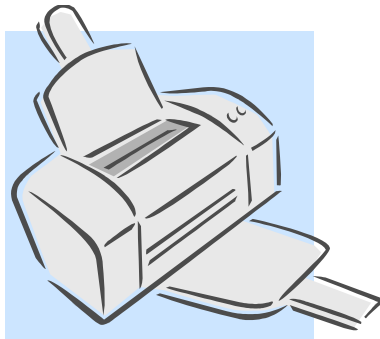


Other new features

OVERVIEW

Server Side Printing

- Can be used for Heavy reports – 64 Bit Memory Allocation



How:

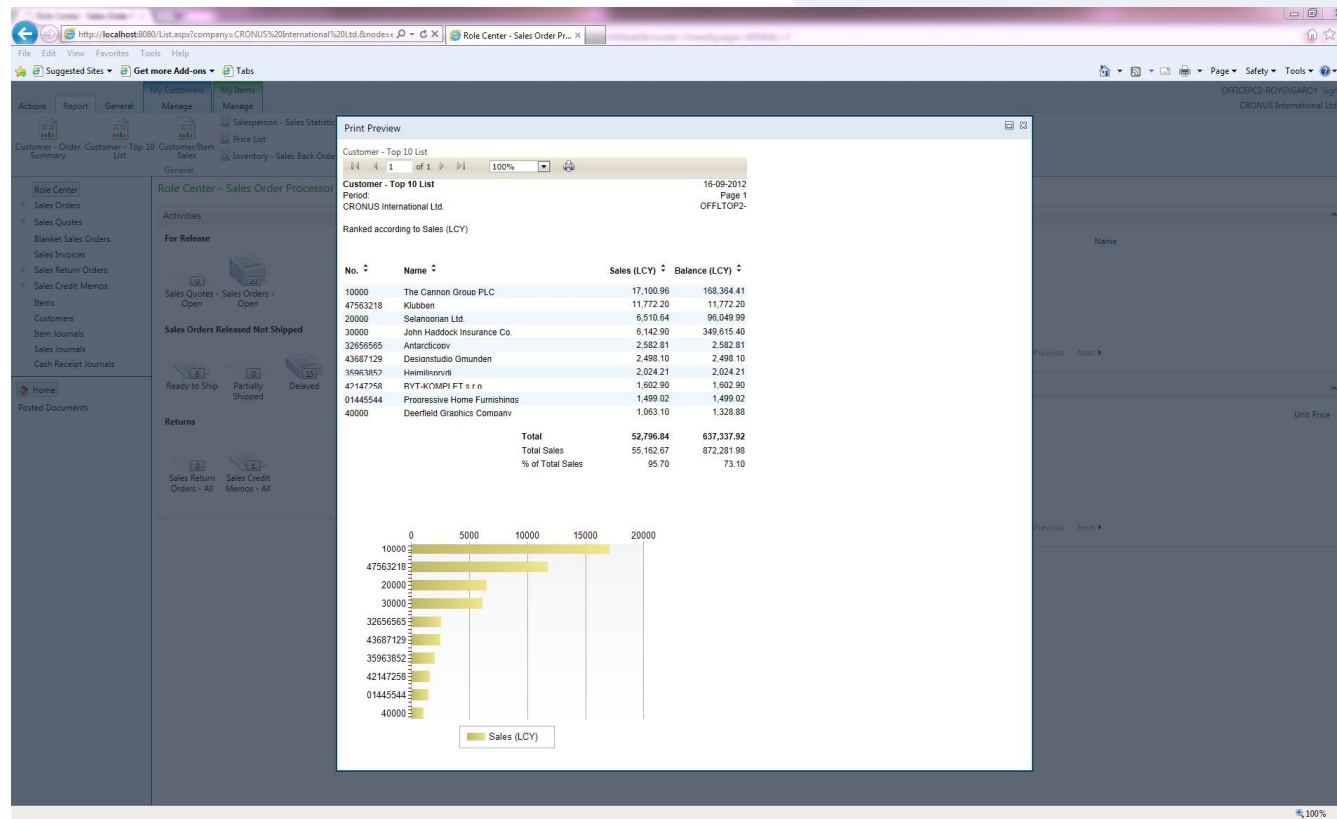
- StartSession – Print on a Background Session
- NAS – Run over NAS
- JobQueue
- Printer Selection is respected

Server Side Printing

- Things to remember:
 - NST to be started using a domain account for access to network printer.
 - Track using Session Event table.
 - Server side printing should not request any user interaction. (E.g. XPS printer prompt for file save)

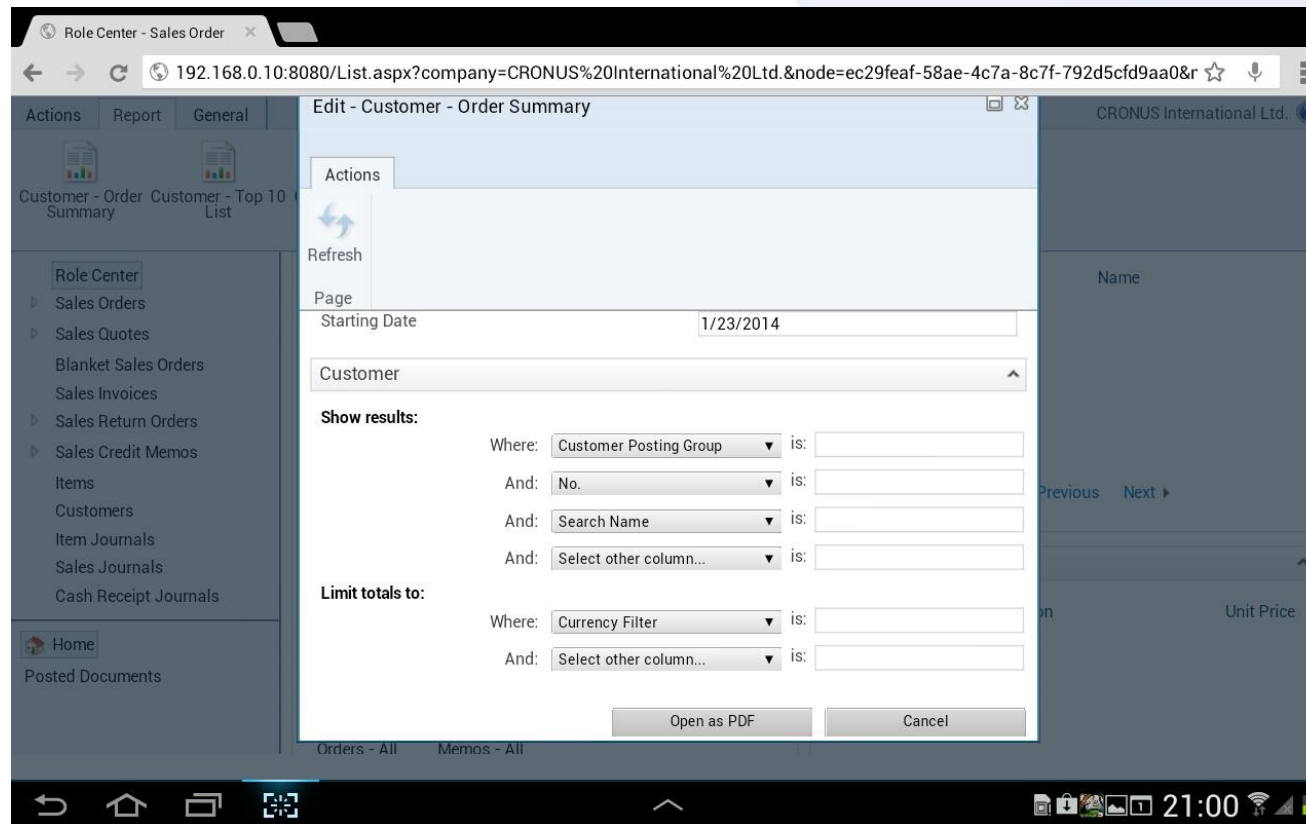
Printing on WebClient and SharePoint Client

- Internet Explorer - Preview and SaveAsPDF



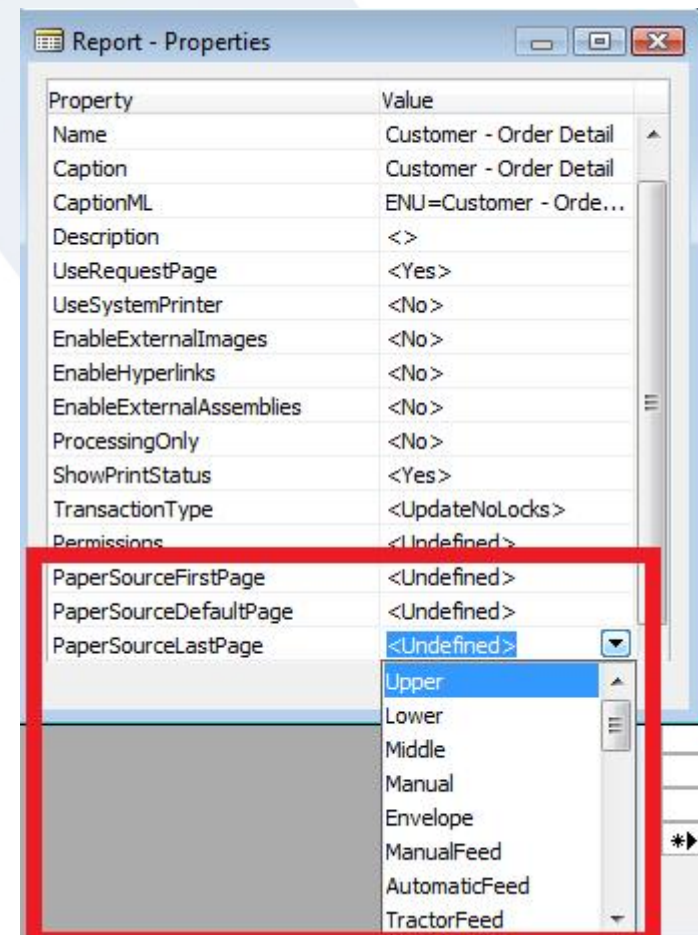
Printing on WebClient and SharePoint Client

- Non-IE browsers - SaveAsPDF only



Tray selection – Fixed

- First/Default/Last
- Only on direct printing
- Not as in Classic



Tray selection – Dynamic

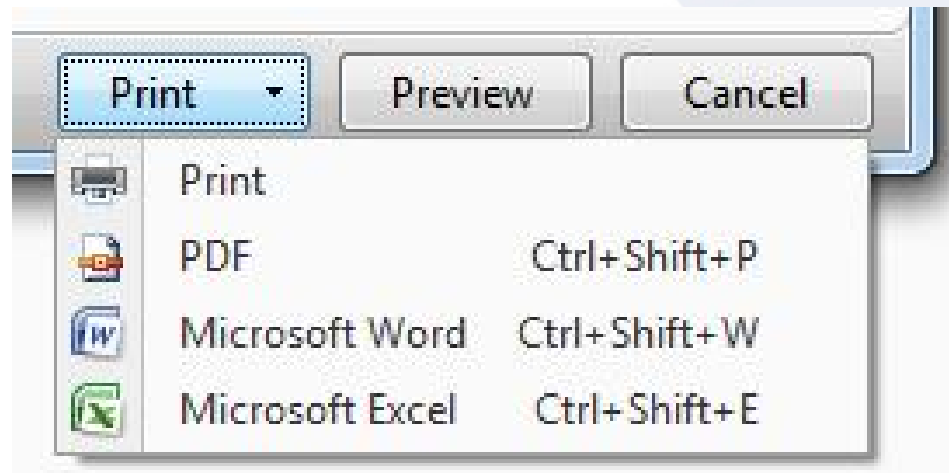
- New codeunit 1 trigger for dynamic selecting paper tray. Trigger ID 75

```
PROCEDURE GetPaperTrayForReport@75(  
    ReportID@1000 : Integer;  
    VAR FirstPage@1001 : Integer;  
    VAR DefaultPage@1002 : Integer;  
    VAR LastPage@1003 : Integer);  
BEGIN  
    IF ReportID = XYZ THEN BEGIN  
        FirstPage := 1;  
        DefaultPage := 2;  
        LastPage := 3;  
    END;  
END;
```

- Lets say that you need last page to be a check

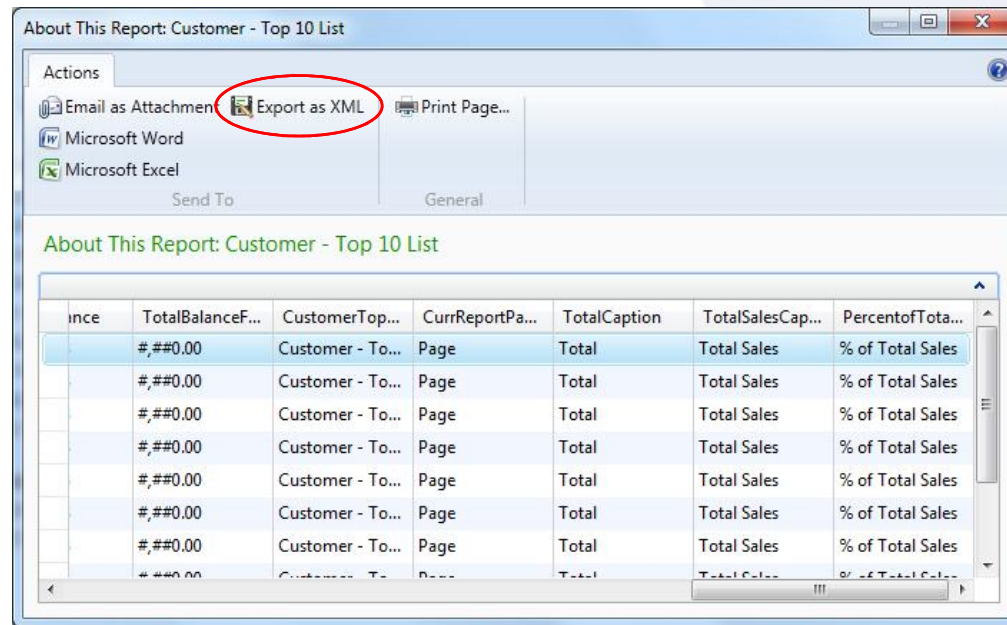
SaveAs on Request Page

- Persisting your print as files directly from Request Page



About the Report

- Save your data set from within About the report



- Offline rendering of reports - Demo



Changes in Designing Reports for NAV 2013

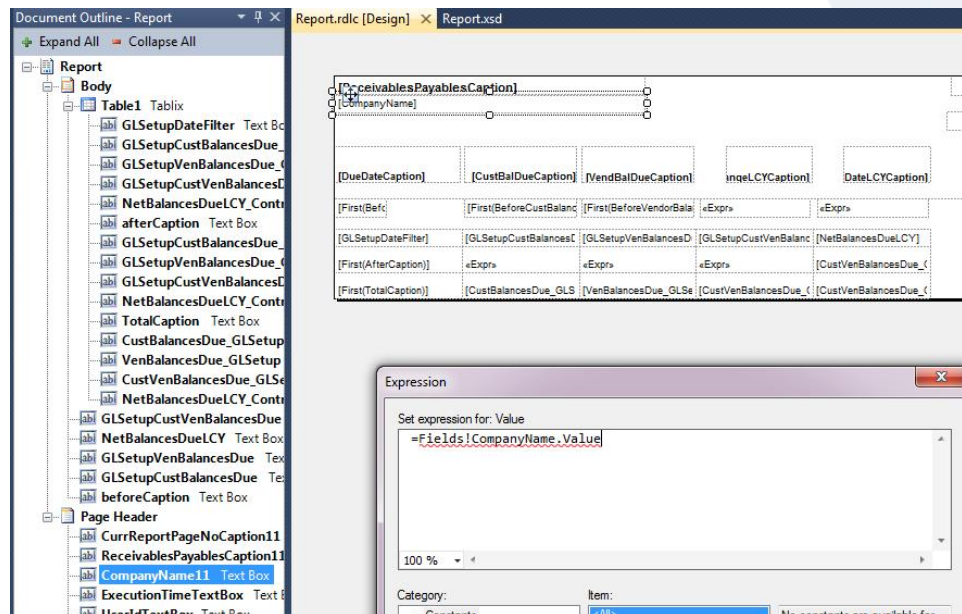
OVERVIEW

Auto-Refresh of Dataset

- NAV 2009 R2 Productivity Feature
 - Add and save dataset changes in C/SIDE dataset designer while VS Report Designer is open.
 - Refresh Dataset in VS Report Designer without closing and see the changes.

Changes for RDLC 2008

- Direct field/parameter reference from headers.



- So hidden fields used in RDLC2005 can be removed with some exceptions.

Changes for RDLC 2008

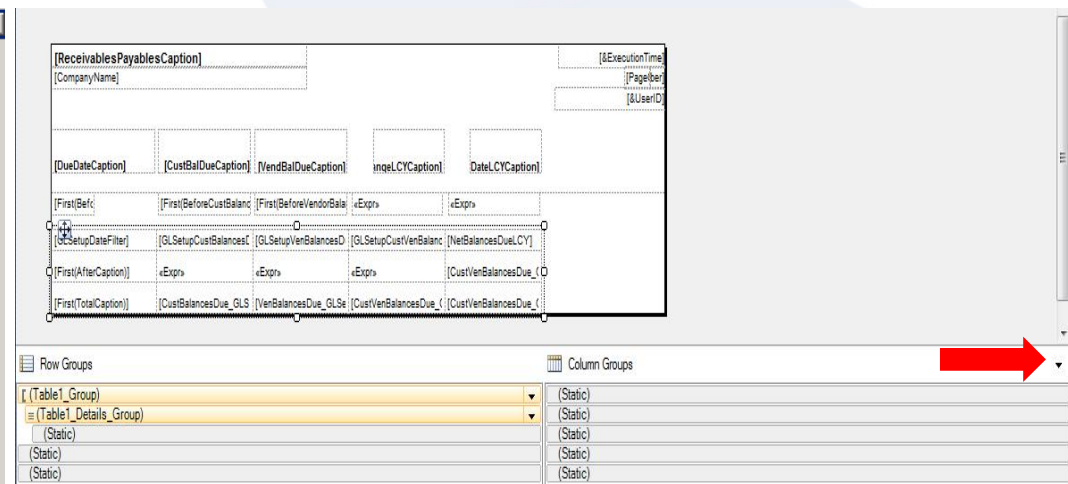
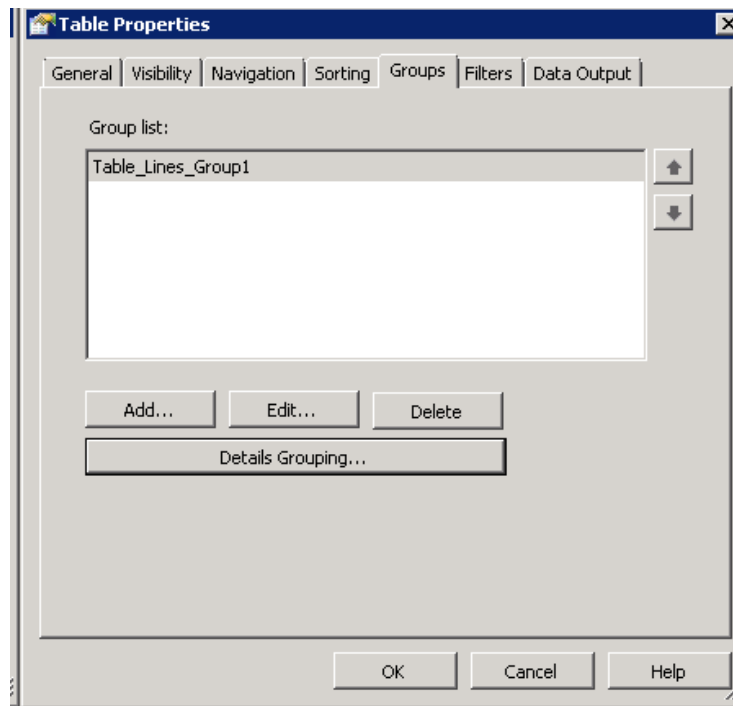
- Direct field reference from the header cannot be used for dynamics headers.
 - Multiple Documents in the same report run
 - Multiple Languages in the same report run
- Headers are not aware of grouping information within the controls in the body region.

Changes for RDLC 2008

- SetData and GetData was used for printing headers on multiple pages.
 - Direct reference of fields from the header à removal of SetData and GetData.
 - Otherwise SetData/GetData stays.
- SetPicture and GetPicture can be replaced with direct dataset references.

Changes for RDLC 2008

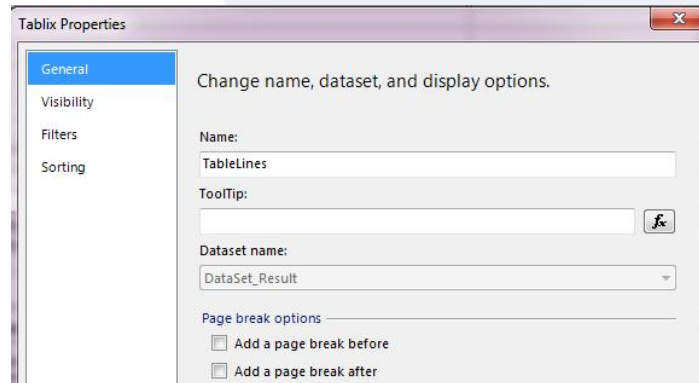
- Groups and Statics – Advanced Mode
- Before Now



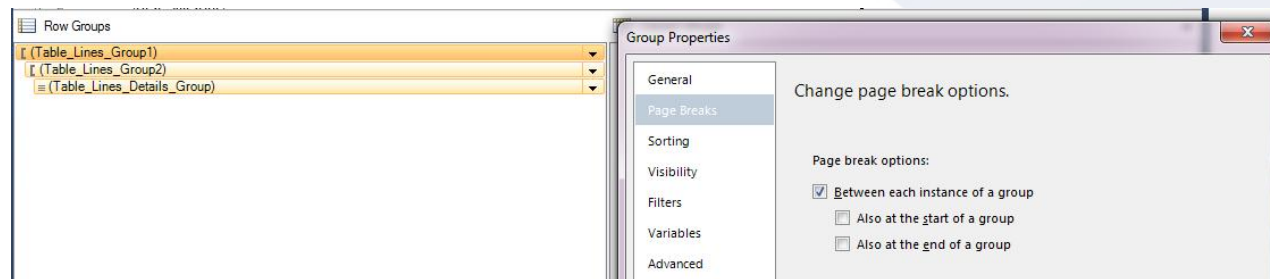
How to create a page break?



- In RDLC
 - Tablix properties



- Create groups for a Tablix & define pagebreaks.



- Controlled by C/AL code:
 - Use a counter and send it as part of the dataset.
 - Group based on the counter.



Upgrading Reports to NAV 2013

OVERVIEW

Which CSIDE reports are used

§ You can find reports used by the customer with 5.0/6.0 classic HF

Dynamics NAV 5.0: [KB2575296](#)

Dynamics NAV 2009: [KB2558650](#)

- Create new trigger with ID=120 in CU1:
OnReportRun(ReportID@1000 : Integer)

§ Runs before first report trigger ,No auto-commit

§ Blog Post: [How To Log Report Usage?](#)

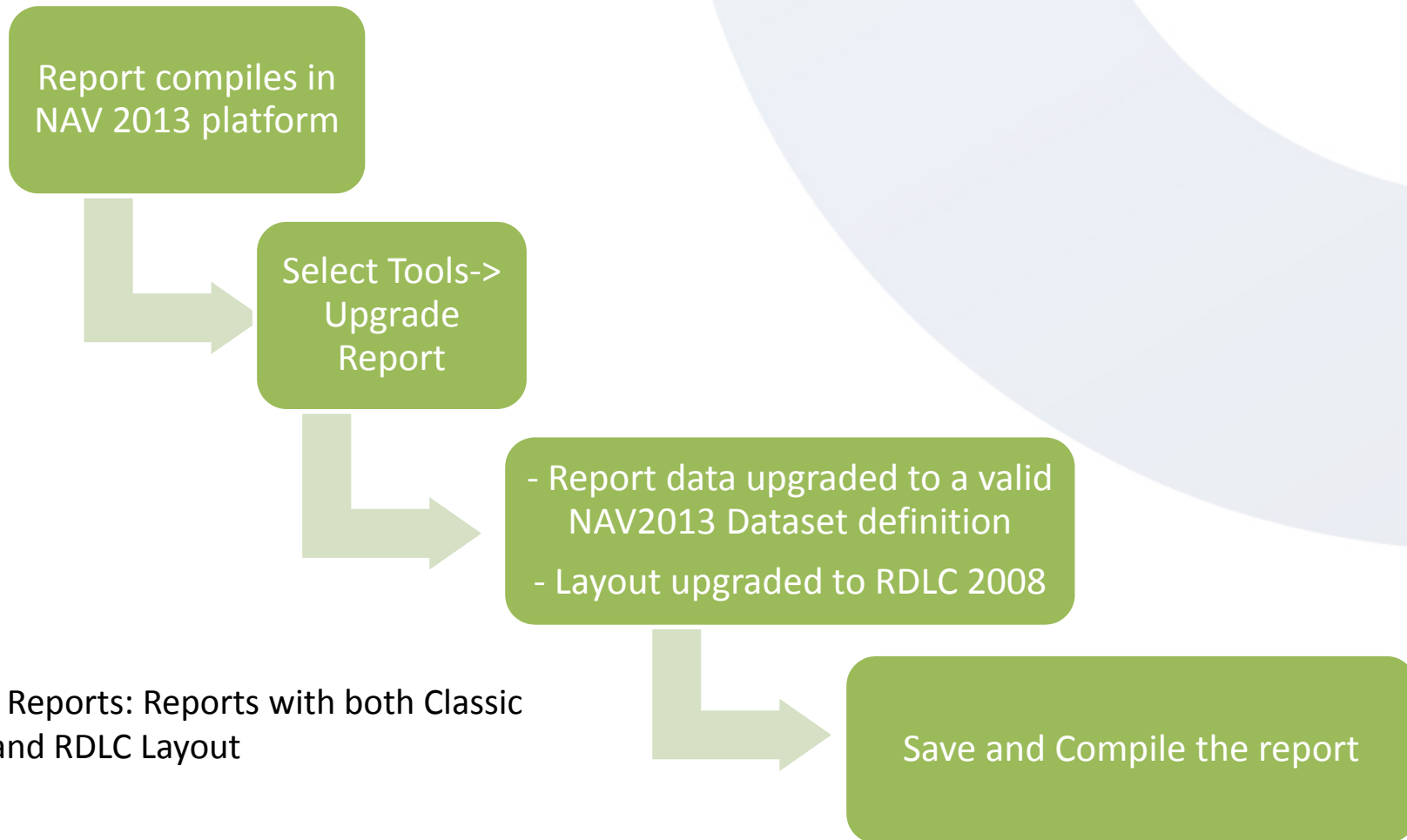
Overview Upgrade

- Upgrading reports is an automated process that extracts dataset information and deletes unnecessary Classic report components from the report object:
 - The Classic report layout and the request form are deleted
 - The field information from report sections is converted to a dataset definition that is valid for Microsoft Dynamics NAV 2013 reports.
- Fully automated one-time upgrade process from Microsoft Dynamics NAV 2009 RDLC reports to Microsoft Dynamics NAV 2013 dataset reports.
 - Upgrade is 100% of data and 99% of layout

What happens during upgrade

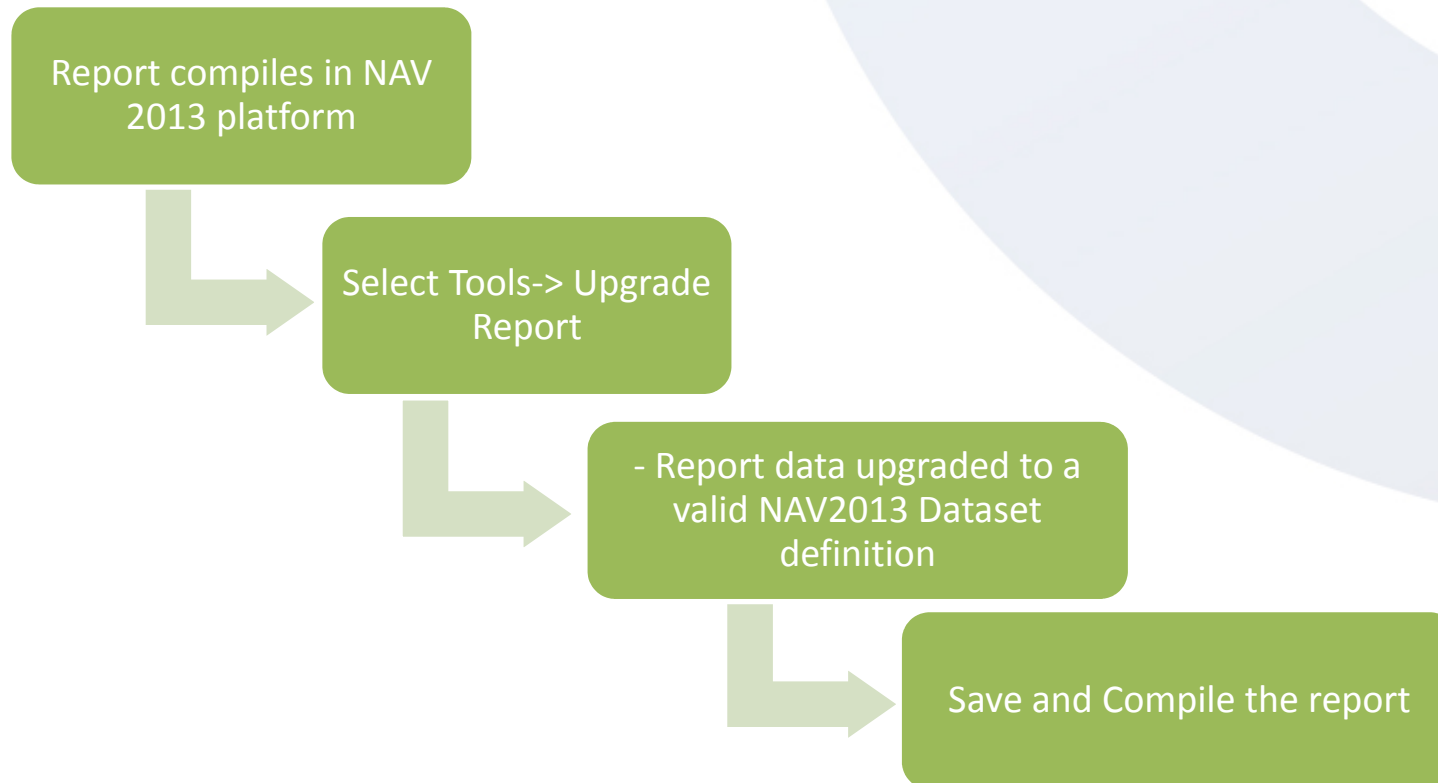
- Section/Triggers
 - Section TextBoxes into Columns
 - Section Triggers DELETED
- Relational Columns like DataItemLinkView and Keys
 - Becomes explicit columns, no more columns for free
- Labels
 - Becomes a Column and a TextConstant
- CaptionClass properties on TextBoxes
 - Becomes Columns CAPTIONCLASSTRANSLATE(<Expr>)
- Auto create layout suggestion
 - During upgrade from 2009 into 2013 we will run the standard tranformation logic as used in 2009

Upgrade Hybrid* Reports

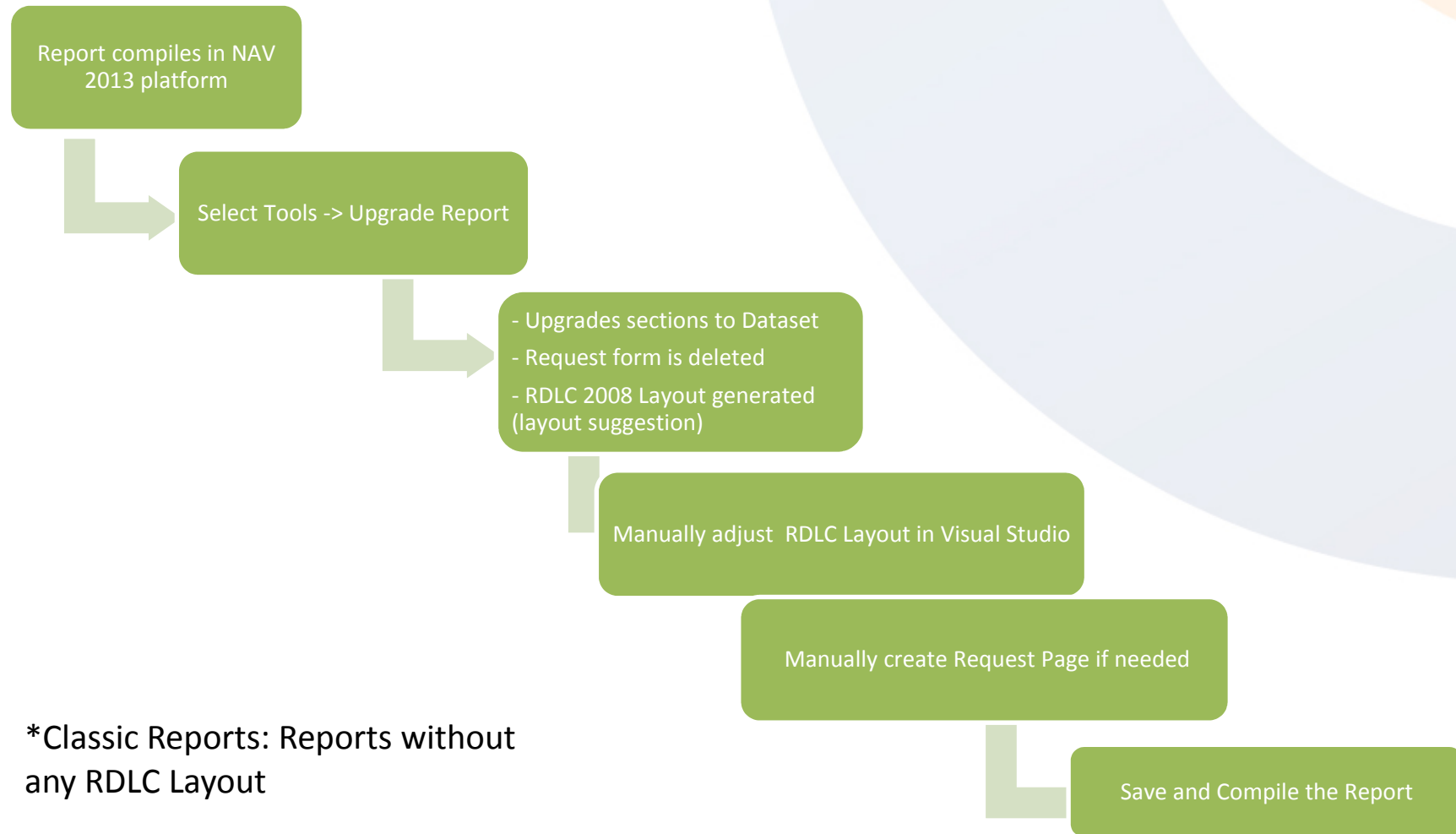


*Hybrid Reports: Reports with both Classic Layout and RDLC Layout

Upgrade Processing Only Reports



Upgrade Classic* Reports



*Classic Reports: Reports without any RDLC Layout

Upgrade - Stages

- Report upgrade is part of the entire application upgrade:
[http://msdn.microsoft.com/en-us/library/hh997139\(v=nav.70\).aspx](http://msdn.microsoft.com/en-us/library/hh997139(v=nav.70).aspx)
- Cannot design a NAV2009 report in NAV 2013 until you upgrade
- Cannot upgrade reports until you can compile in NAV 2013



Upgrade – Step 1

Open your database in NAV 2009 Classic Client.

Delete all Dataports and Forms

Export all objects in txt format

Run TextFormatUpgrade2013 tool

Create a new database in NAV 2013 Development Environment

Import all converted objects

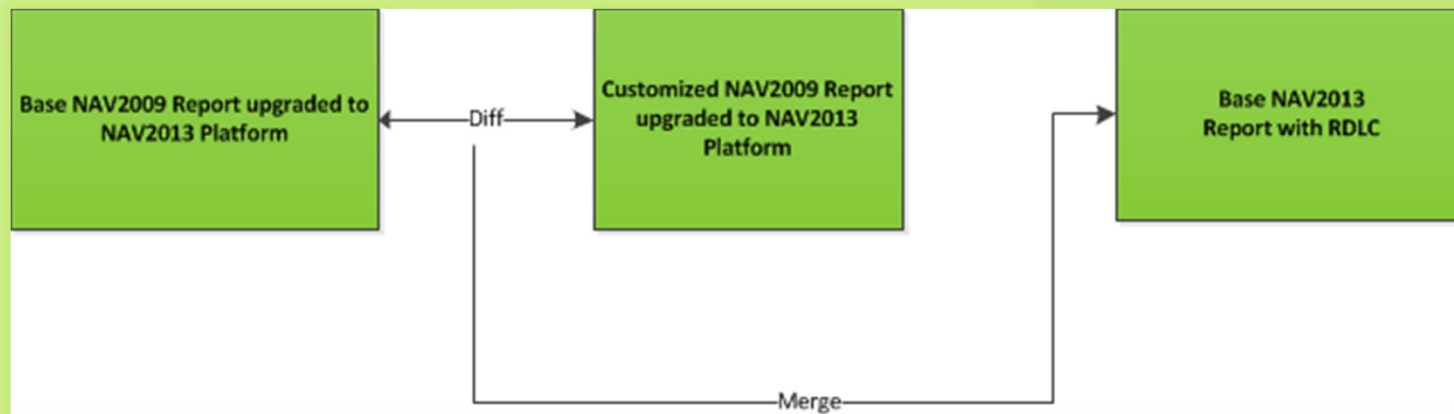
Compile all objects

Upgrade and Compile all Reports

Output of this step:
NAV 2009 reports which are
compilable and editable in
NAV 2013 platform

Upgrade - Step 2

- Import reports into NAV 2013 application – fix issues, compile and cleanup.
- Merging your customizations:




What to do after upgrade - Must Do



- Need to move SetData into Visibility expression. SetData function should return a boolean TRUE.
- Might need to reposition some elements manually if report sections are getting cut after printout. (Tablix control and RDLC2005 control mismatch).
- Recommended to use Aggregate methods(e.g. Sum) instead of using global variables to aggregate using code behind. (Report Viewer optimizations might lead to errors)

What to do after upgrade - Can Do

- Cleanup and Performance Optimizations 
 - Column names renaming – Use rename refactoring feature and suggested FieldPicker names
 - PageNumber and UserId – Use from SSRS
 - Remove Unused columns
 - Remove Duplicate columns (Same Parent, Same Source Expression)
 - Report Header Refactoring – Direct reference
 - SetData, GetData, SetPicture and GetPicture refactoring

What to do after upgrade - Can Do

- Cleanup and Performance Optimizations (contd.)
 - Send only dataset rows which are needed for printing and skip the ones which are only used for processing in C/AL
 - Use parameters where possible
- Fix reports using UI guidelines
- Use new RDLC 2008 controls and features



Remove CreateTotals

- Unsupported
- No impact on dataitem fields
- Resets Global variables (part of classic functionality)
- Please remove CreateTotals in your code, especially on variables.

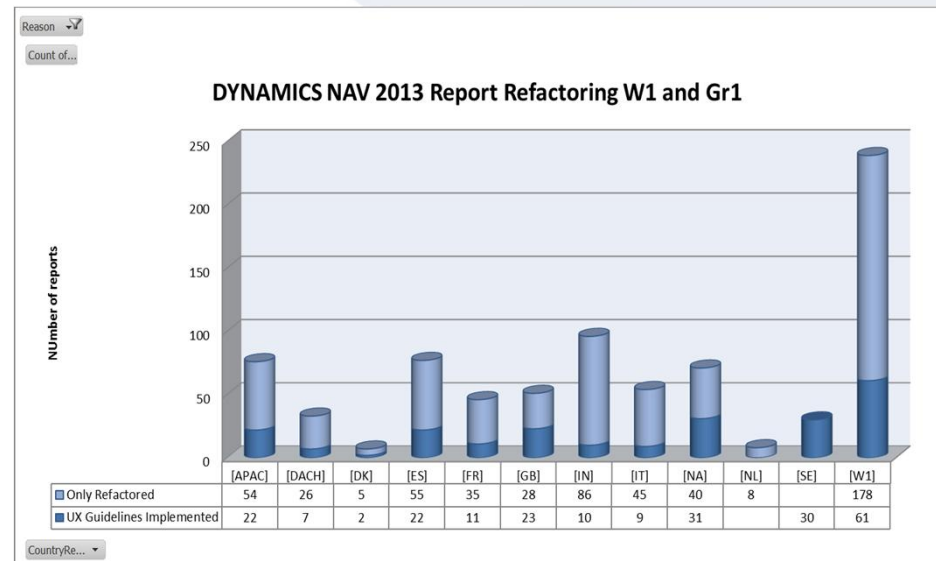
What did we change on our side?

Applied UX Guidelines on
228 reports

Cleaned Up a total of
788 reports

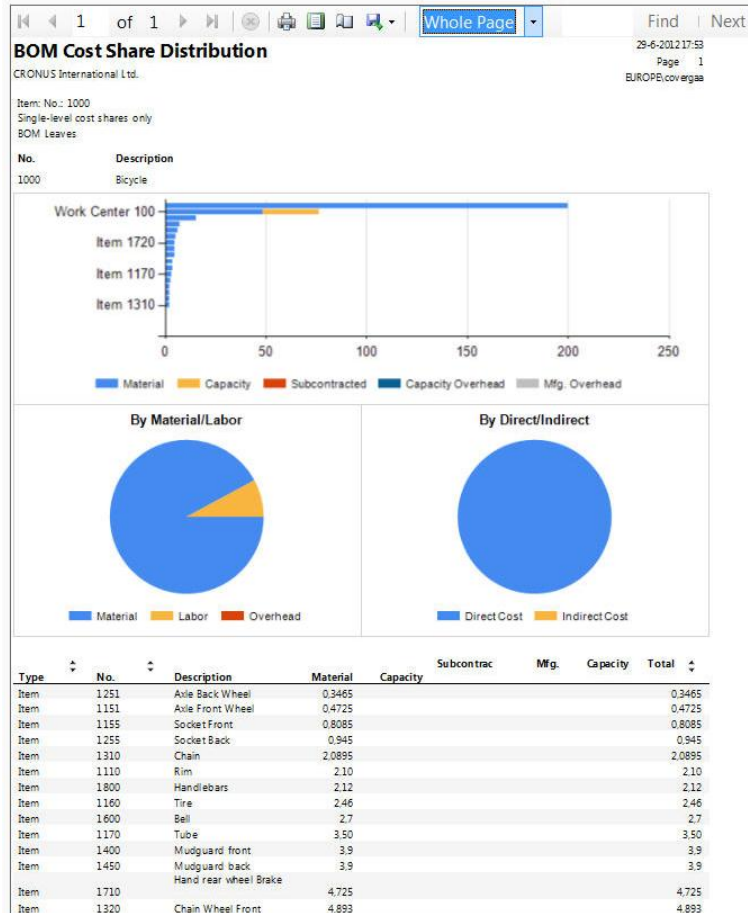
Enhanced reports with the
capabilities that RDLC2008 offers

- Graphs
- Interactive sorting
- Drill through reports to another report
- Expand and collapse
- Document Maps



Some examples

BOM Cost Share Distribution



Customer Detailed Aging

29 6 2012 16:19
Page 1
EUROPE/covergaa

Customer Detailed Aging
As of 23 01 14
CRONUS International Ltd.

Customer Detailed Aging

- 10000 The Cannon Group PLC
- 20000 Selangorian Ltd.
- 30000 John Haddock Insurance Co.
- 32656565 Antarcticopy
- 40000 Deerfield Graphics Company
- 50000 Guildford Water Department

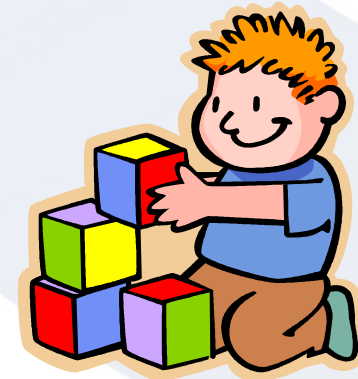
| Posting Date | Document No. | Description | Due Date | Months Due | Currency Code | Remaining Amount | Remaining Amt. (LCY) |
|---|--------------|---------------------------|----------|------------|---------------|------------------|----------------------|
| 10000 The Cannon Group PLC | | | | | | | |
| Phone No. | | | | | | | |
| Contact Mr. Andy Toal | | | | | | | |
| 12 01 14 | 104001 | Credit Memo 104001 | 12 01 14 | 0 | | 292.84 | 292.84 |
| | | | | | | -292.84 | -292.84 |
| 20000 Selangorian Ltd. | | | | | | | |
| Phone No. | | | | | | | |
| Contact Mr. Mark McArthur | | | | | | | |
| 31 12 13 | 00 8 | Opening Entries Customers | 09 01 14 | 0 | | 48,845.77 | 48,845.77 |
| 12 01 14 | 103008 | Order 103004 | 22 01 14 | 0 | | 787.40 | 787.40 |
| | | | | | | 49,633.17 | 49,633.17 |
| 30000 John Haddock Insurance Co. | | | | | | | |
| Phone No. | | | | | | | |
| Contact Miss Patricia Doyle | | | | | | | |
| 31 12 13 | 00 4 | Opening Entries Customers | 03 01 14 | 0 | | 33,852.33 | 33,852.33 |
| 31 12 13 | 00 7 | Opening Entries Customers | 06 01 14 | 0 | | 76,167.75 | 76,167.75 |
| | | | | | | 110,020.08 | 110,020.08 |
| 32656565 Antarcticopy | | | | | | | |
| Phone No. | | | | | | | |
| Contact Michael Zeman | | | | | | | |
| 15 01 14 | 103010 | Order 101003 | 20 01 14 | 0 | EUR | 3,744.29 | 2,582.81 |
| | | | | | EUR | 3,744.29 | 2,582.81 |
| 40000 Deerfield Graphics Company | | | | | | | |
| Phone No. | | | | | | | |
| Contact Mr. Kevin Wright | | | | | | | |
| 09 12 13 | 103019 | Invoice 1001 | 09 01 14 | 0 | | 1,328.88 | 1,328.88 |
| | | | | | | 1,328.88 | 1,328.88 |
| 50000 Guildford Water Department | | | | | | | |
| Phone No. | | | | | | | |
| Contact Mr. Jim Stewart | | | | | | | |
| 01 12 13 | 103020 | Invoice 1002 | 15 12 13 | 1 | | 666.75 | 666.75 |

Building a Document Style Report

OVERVIEW

Building a Document Report

- Build it in steps
 - Build the basic dataset structure
 - Make the header work
 - Add the “document lines” section
 - Add other related sections
 - Add groups, subgroups, totals, filters, visibility, row visibility etc.



DEMO

Where to learn more?

NAV 2013

- *Training material:*
Will be available soon after RTM.
- *Online help and Walkthroughs:*
[http://msdn.microsoft.com/en-us/library/dd338686\(v=nav.70\).aspx](http://msdn.microsoft.com/en-us/library/dd338686(v=nav.70).aspx)
- *NAV Team Blog with several tips & tricks:*
<http://blogs.msdn.com/b/nav/archive/tags/reporting/>
- *Directions HOL material (NAV 2013):*
Available on PartnerSource

Books

- *Learning SQL Server 2008 Reporting Services:*
<http://www.packtpub.com/learning-sql-server-2008-reporting-services/book>
- *Microsoft® SQL Server® 2008 Reporting Services Step by Step:*
- <http://www.microsoft.com/learning/en-us/book.aspx?ID=13346&locale=en-us>



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Questions & Answers

NAV TechDays 2012 Aftercare

- Follow up questions & comments?
 - Post them in the [NAV TechDays 2012 Sessions](#) forum on [mibuso.com](#)
 - Will be reviewed by presenters from R&D
- Attend online meetings (organized by MDCC)
- Recorded sessions will be made available for download on [mibuso.com](#)



Thank you
for your attention

NAVtechdays²⁰¹²

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Coffee break

**See you back
in 30 minutes**