

## Section 11



## CRYSTAL REPORTS

For SAP Business One

### Using Parameters



- Parameters prompt the user of a report to enter information. That information can determine what appears in the report or how the report processes.
- By using parameter fields in formulas, selection formulas, and in the report itself, you can create a single report that you can change as your user reporting needs change.
- A parameter field can be identified by French braces and a question mark before the parameter name.
  - For example {?parameter\_name}
- Parameter setup and usage is significantly different in Business One 8.8 vs. 2005/2007

The screenshot shows the 'Edit Parameter' dialog box. The title bar reads 'Edit Parameter: BPCode@Select CarCode from OCRD'. The main area contains the following fields and sections:

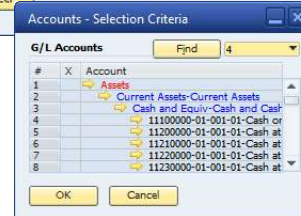
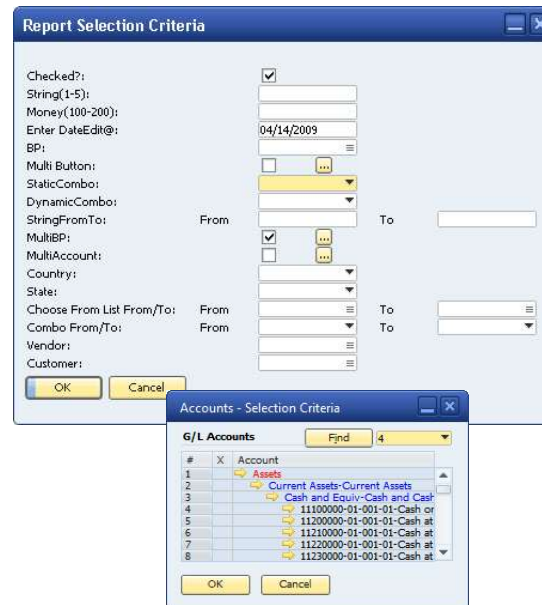
- Name:** BPCode@Select CarCode from OCRD
- Type:** String
- List of Values:** Static
- Value Field:** (None)
- Description Field:** (None)
- Value Options:** A table with columns 'Option' and 'Setting'.

Option	Setting
Show on (Newer) Panel	Editable
Prompt Text	Select Your Business Partner
Prompt With Description Only	False
Optional Prompt	False
Default Value	False

At the bottom of the dialog are 'OK', 'Cancel', and 'Help' buttons.

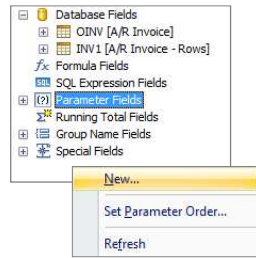
- Select Document Dates
- Select Business Partners
- Select Specific Document Numbers
- Select Salesperson
- Select specific or range of Accounts
- Conditionally print prices on a report
- .....

- Dialog creation during runtime that has the same look-and-feel as Business One system reports
- Parameter defined in reports and run in Business One will display familiar Business One User Interface (UI) controls
- The UI control displayed will vary based on your parameter definition



- In 8.8, it's possible to have Selection Criteria for your own reports. When loading the report from Business One, a Report Selection Criteria will be opened, the UI controls have the same look-and-feel as system report has.
- To have these selection criteria fields, in the Crystal Report designer, you need to define parameter fields following certain syntax and rules, which we called "token". 8.8 provides a number of tokens to create various UI controls in Selection Criteria window. The token details can be found in a how-to guide document named "Working with Crystal Report Integration"
- [demo 3]
- we will create a very simple report, the goal is help you understand
- how to create CR report with various new enhancements and tools provided in 8.8
- 1. load CR
- 2. connect to B1 using B1 CRDB
- 3. select OINV/ORCRD
- 4. add parameter
- 5. preview

- 6. save to b1
- 7. check in b1



**Create New Parameter**

Create a new parameter and list of values.

Name:     Type:     List of Values:

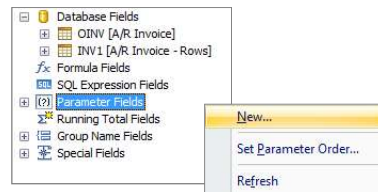
Value Field:     Description Field:

Value Options:

Option	Setting
Show on (Viewer) Panel	Editable
Prompt Text	Enter My Parameter:
Prompt With Description Only	False
Optional Prompt	False
Default Value	
Allow custom values	True
Allow multiple values	False
Allow discrete values	True
Allow range values	False
Min length	

Buttons:

- Right Click of Parameter Fields in the Field Explorer
- Select "New"
- In the Name field enter your "Token"
  - Tokens Consist of 3 components
  - Unique Name + "@" + "SQL Select Statement"
  - There is no space between your name and the @ symbol, or the SELECT keyword
  - SQL Select Statement is any valid Business One SQL Statement \*\*
- Choose your parameter Data Type (String, Boolean, Number, Date, Currency, ...)
- Keep the default "List of Values" setting as Static
- Select the Value Options you desire. The key ones for Business One ARE:
  - Prompt Text
  - Allow Multiple Values
  - Allow Discrete Values
  - Allow Range of Values



■ **SelectItem@Select \* from OITM**

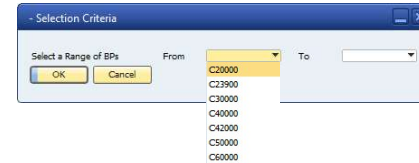
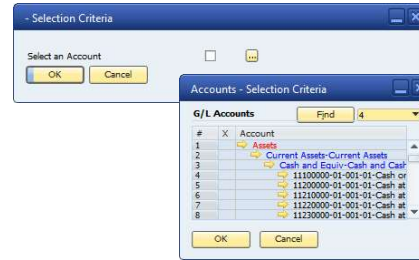
Value Options	Setting
Allow multiple values	False
Allow discrete values	True
Allow range values	False

■ **SelectAccount@Select \* from OACT**

Value Options	Setting
Allow multiple values	True
Allow discrete values	True
Allow range values	False

■ **SelectBPCode@Select CardCode from OCRD**

Value Options	Setting
Allow multiple values	False
Allow discrete values	False
Allow range values	True





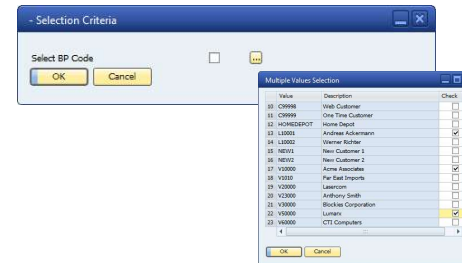
■ **SelectAccount@Select \* from OACT**

Value Options	Setting
Allow multiple values	False
Allow discrete values	True
Allow range values	False



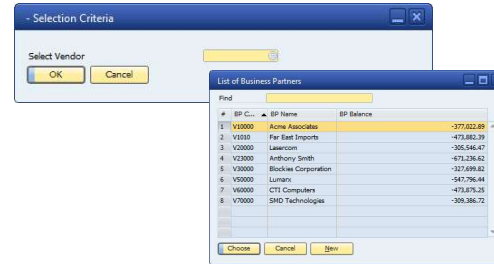
■ **SelectBPCode@Select \* from OCRD**

Value Options	Setting
Allow multiple values	True
Allow discrete values	True
Allow range values	False



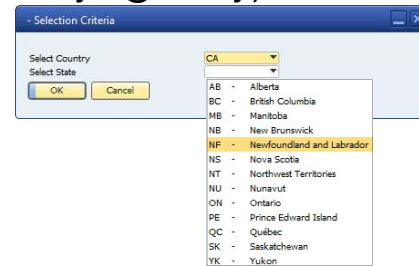
- **SelectVendors@SELECT \* from OCRD where CardType = 'S'**

Value Options	Setting
Allow multiple values	False
Allow discrete values	True
Allow range values	False



- **Country@SELECT distinct Country FROM OCST**
- **State@SELECT code, name FROM OCST WHERE (Country = '@Country')**

Value Options	Setting
Allow multiple values	False
Allow discrete values	True
Allow range values	False



## ■ MyDate@

- Parameter Type "Date"

Value Options	Setting
Allow multiple values	False
Allow discrete values	True
Allow range values	False

## ■ OFPRDate@SELECT \* FROM OFPR

- Parameter Type "Date"

Value Options	Setting
Allow multiple values	False
Allow discrete values	False
Allow range values	True

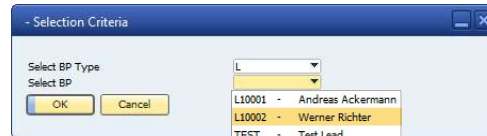
The screenshot shows a 'Selection Criteria' dialog box with an 'Enter Date' field. Below the field is a calendar for October 2010. The date 15 is highlighted in yellow, indicating it is the selected date.

The screenshot shows a 'Selection Criteria' dialog box with 'Select From and To Dates' fields. The 'From' and 'To' fields are empty, and the 'OK' and 'Cancel' buttons are visible.

The screenshot shows a 'List of Posting Periods' dialog box. It contains a table with columns for '#', 'Period Code', and 'Period Name'. The list includes periods from 2006-01 to 2006-10. The 'Choose', 'Cancel', and 'New' buttons are at the bottom.

#	Period Code	Period Name
1	2006-01	2006-01
2	2006-02	2006-02
3	2006-03	2006-03
4	2006-04	2006-04
5	2006-05	2006-05
6	2006-06	2006-06
7	2006-07	2006-07
8	2006-08	2006-08
9	2006-09	2006-09
10	2006-10	2006-10

- Parameter names must start with an alphanumeric character or an underscore “\_”
- The at sign @ must follow the parameter name with no space between them.
- An SQL statement usually follows the at sign @, with no space after the at sign @
- The general syntax for creating SAP Business One tokens is:
  - <Parameter Name>@SELECT ... FROM ... WHERE
- The SELECT command is not always mandatory for all SAP Business One tables
- A Token may include another parameter name. This means that a second parameter may depend on a first parameter
  - BPType@SELECT Distinct CardType from OCRD
  - SelectBPs@SELECT CardCode, CardName from OCRD WHERE (CardType ='@BPType')



- **Titles** - You can assign a “title” token to label a group of selection criteria. Place the text that you want to appear in the title, in the Value Options “Prompt Text” field

- <parameter\_name>@title

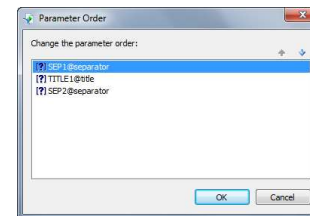
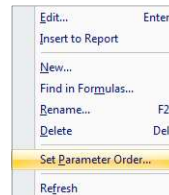
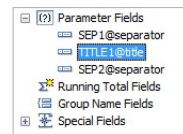
Value Options	Setting
Prompt Text	This is Title 1

- **Separators** - separators are horizontal lines that span the width of a selection criteria window

- <parameter\_name>@separator



- To define your parameter order, select a parameter in the Field List (e.g. “SEP1@separator”) and click on “Set Parameter Order...”. Then use up and down arrows to position each parameter



- **Value Lists** – Build your own list of “static” values for the user to select from
- In the Edit Parameter window, in the Value list, enter a list of valid values
  - <parameter\_name>@




Value Options	Setting
Allow multiple values	False
Allow discrete values	True
Allow range values	False

- **DocKey@**
- The DocKey@ token is mandatory in a report that you want to use as a document Layout. The DocKey@ token contains the current active document number in Business One. Use this token in your report Select Expert to restrict the data to just this document. Example for a Invoice layout: {OINV.DocEntry}={DocKey@}
- If the DocKey@ token does not exist, create a new parameter with the following settings:
  - In the Name field, enter DocKey@
  - In the Type dropdown list, select Number
  - In all other fields, leave the default settings
- **ObjectId@**
- The ObjectId@ token is recommended when you want to use the Layout as a Master Layout for multiple marketing documents. The ObjectId@ token will contain a numeric value that identifies the current document type. (13 = Invoices, 17= Sales Orders) See BoObjectTypes Enumeration in the SDK help File or a complete list of ObjectID values
- If the ObjectId@ token does not exist, create a new parameter with the following settings:
  - In the Name field, enter ObjectId@
  - In the Type dropdown list, select Number
  - In all other fields, leave the default settings

- **UserCode@**
- The UserCode@ token contains the currently logged on Business One user code, such as “manager”. The parameter type is String. This token is only available for layouts; you cannot use it in reports.
- **FolioPref@ and FolioNum@**
- These parameters are optional tokens in layouts in which you want to display a Folio prefix and a Folio number. Business One populates them with the Folio prefix and Folio number you assign to the document for the first printing. Folio's and therefore these tokens are available only in the Mexico, Chile, Costa Rica, and Guatemala Business One localizations



# Crystal Reports for Business One Value Options and Settings

Value Option	UI Control Type	Description
Show on (Viewer) Panel	N/A	Do not show/Editable/Read Only - No Impact in Business One UI
Prompt Text	N/A	Enter Text - The text appears in the B1 Selection Criteria window as a Prompt
Prompt With Description Only	N/A	True/False - No Impact in Business One UI
Optional Prompt	N/A	True/False - When set to True, the user does NOT have to provide a value for the parameter in Business One
Default Value	N/A	Enter Value - No Impact in Business One UI
Allow custom values	N/A	True/False - No Impact in Business One UI
Allow multiple values	Browse Button	True/False - Creates a Browse Button in Business One UI 
Allow discrete values	Drop Down List	True/False - Creates Choose From List or Drop Down Selection depending on SELECT statement   If the SQL statement does not specify columns B1 provides a field with a standard Choose from List icon that opens a window with a default list. If the SQL statement specifies columns, B1 provides a dropdown list control. If multiple columns are specified, the first one is used as dropdown list's key, and the second column is used as descriptions for the dropdown list.
Allow range values	From /To Fields	True/False - Creates 2 (From & To) Choose From List or Drop Down Selection depending on SELECT statement 

# Crystal Reports for Business One Parameter Types

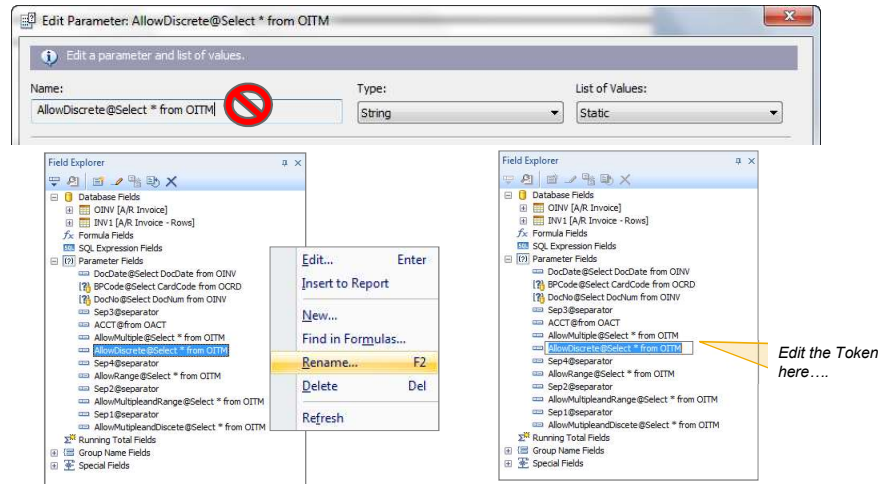
Parameter Type	UI Control Type	Values
Boolean	Checkbox	True/False
Currency	Edit Box with Calculator	Only currencies
Date	Calendar Date Picker	Only dates
Date Time	Calendar Date Picker	Note: Because SAP Business One does not have a time control, this parameter provides a default time of 00:00
Number	Edit Box with Calculator Calculator	Only Numbers
String	Edit Box	Alphanumeric,
Time	Not Supported	NA

Type:
 

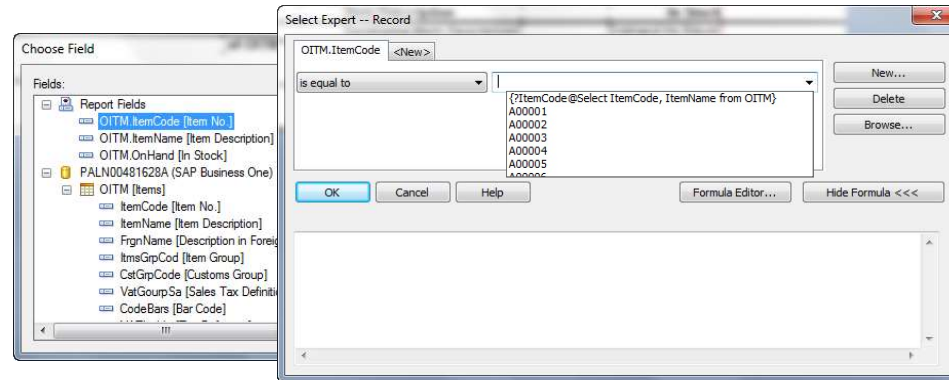
- String
- Boolean
- Currency
- Date
- Date Time
- Number
- String
- Time

 List of Values:

- You can't edit a Parameter Name from the Edit Parameter window once it has been added.
- You need to select the Parameter name in the Field Explorer and Right click,
- Select "Rename F2" from the pop up menu



- Once you have defined your parameter/token you can use it with the Select Expert to allow your user to filter the report data
- Menu: Report>Select Expert>Record
- Choose the field to select on
- Choose the comparison operator
- Click the drop down and select your ?parameter



- It builds the selection formula below
- You can add multiple selection criteria with ANDs and ORs between them
- Click OK to Save

Select Expert -- Record

OITM.ItemCode	<New>
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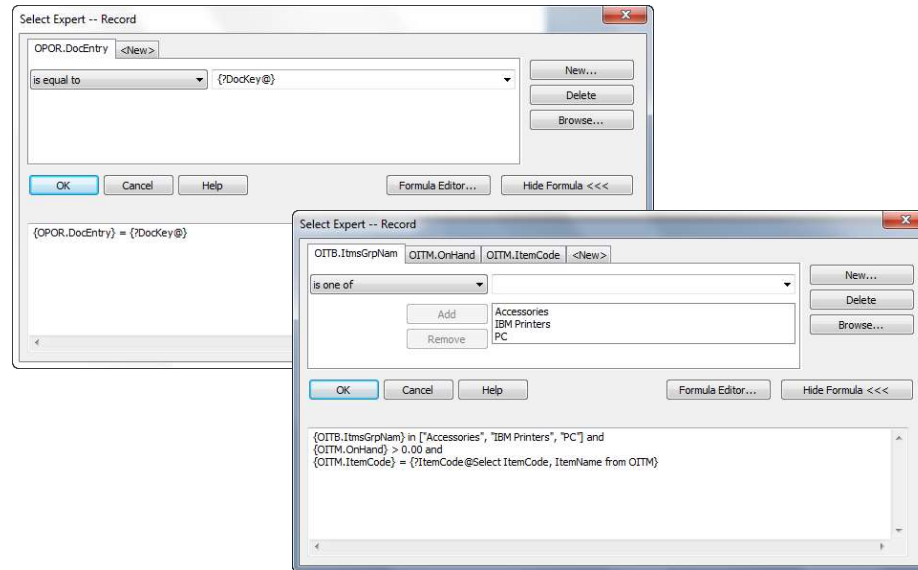
is equal to      {?ItemCode@Select ItemCode, ItemName from OITM}

New...  
Delete  
Browse...

OK    Cancel    Help    Formula Editor...    Hide Formula <<<

{OITM.ItemCode} = {?ItemCode@Select ItemCode, ItemName from OITM}

## ■ Examples



**Sales Report Grouped by Sales Employee  
with Parameters**

