



## **MANAGEMENT OVERVIEW**

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**A GUIDE TO THE BENEFITS OF USING  
BUSINESS LOGIC EXTRACTION**

# **Business Logic Extraction with X-Analysis**

The Business Logic Extraction tool set extends to the X-Analysis and the Data Model Extraction tool set. The Business Logic Extraction tool set is responsible for automatic extraction of the explicit business rules and UI-meta-data from a RPG, COBOL or CA:2E application. Once extracted the business rules can be analyzed, documented and export into DDL, XML meta-data repositories and tools such as MyEclipseBlue, Rational, Erwin and Together.

## **Benefits**

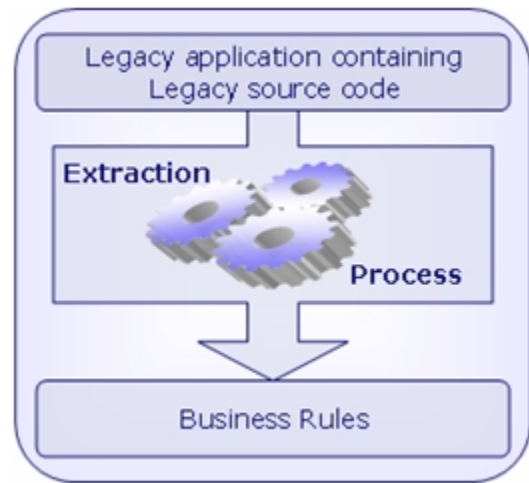
- Automatic extraction of Business Rules
- Business Rules Database
- Analysis and cross referencing of business rules logic in a legacy application
- Document business rules logic for a legacy application
- Individual Business Rule Annotations
- Business Rules Where Used & Summaries
- Business Rules export to MS Word/PDF and Spreadsheet
- UML Action / Class / Use Case diagrams

And many more ...

The Business Rules of an application are what makes the application function uniquely in the company that uses that application.

The Business Logic tool set expose the Business Rules derived automatically from individual programs or parts of the entire system. The business logic can then be analyzed and documented.

The program source is grouped into discreet blocks of logic so that each block represents a particular execution of a business rule. This block of code is then given a structured English narration that describes the execution of the logic. Literals and constants are used where possible in the narration giving very accurate descriptions of the logic. Each rule has a unique identifier that makes system wide analysis and documentation of business rules possible in the X-Analysis.



## Business Logic for Entire Application

Business rules summary view assists in viewing the rules at a glance.

Business Rules for \*ALL, Number of Lines: 177

Source Member	Narration	Type	Rule No.	Field	File
CB906R	If the field "Srl.no." is blank , set the field ZZER...	V	00001	SSRLNB	SEC
CB906R	If the field "Srl.no." is blank , set the field ZZER...	V	00002	SSRLNB	SEC
CB906R	If the field @C1 is blank , set the field @C7 to ...	V	00003		
CNTCMAINT	If the field ZUSERNM is blank then it is invalid , ...	V	00001	USERNM	CNT
CNTCMAINT	If the field ZTELNO is not equal to blank , verif...	V	00002	TELNO	CNT
CNTCMAINT	If the field ZFAXNO is not equal to blank , verif...	V	00003	FAXNO	CNT
CNTCMAINT	If the field ZSINIT is not equal to blank.	L	00004	SINIT	CNT
CNTCMAINT	Verify the field ZSINIT against the file "Salespe...	V	00005	PERSON	SLMI
CNTCMAINT	If the field ZSTATUS is not equal to blank , set ...	V	00006	STATUS	CNT
CON001	If the field DSORDN is greater than 300000 th...	V	00001	XWORDN	CON
CON001	Retrieve the record for the field DSCSNO from ...	V	00002	XWBCCD	CON
CON001	If the field OLPROD is not zero , retrieve the r...	L	00003	XWABCD	CON
CON001	If the field "Product" is not zero.	L	00004	XWABCD	CON
CON001	Retrieve the record for the field "Product" from...	V	00005	XWABCD	CON
CON001	Retrieve the record for the field "Product" from...	V	00006	XWABCD	CON
CON001	Retrieve the record for the field "Store" from t...	V	00007	XWAACS	CON
CON001	Retrieve the record for the field "Product" from...	V	00008	XWABCD	CON
CUSCPY	If the indicator 81 is off and the field CUSNAM i...	L	00001	CNAME	CUS
CUSCPY	If not end of file and the field CUSNAM is the fi...	L	00002	CNAME	CUS
CUSFMAINT	If the field ZCNAME is blank then it is invalid , s...	V	00001	CNAME	CUS
CUSFMAINT	If the field ZTELNO is not equal to blank , verif...	V	00002	TELNO	CUS
CUSFMAINT	If the field ZFAXNO is not equal to blank , verif...	V	00003	FAXNO	CUS
CUSFMAINT	If the field ZSDCDE is not equal to blank.	L	00004	SDCDE	CUS
CUSFMAINT	Verify the field ZSDCDE against the file "Distri...	V	00005	SDCDE	CUS
CUSFMAINT	If the field ZSTATUS is not equal to blank , set ...	V	00006	STATUS	CUS
CUSFMAINT	If the field ZUSERNM is blank then it is invalid	V	00007	USERNM	CUS

Illustration 1: Business Rules Summary

## Business Logic for individual Programs

Embedded business rules display original code with indexed business rule narratives embedded at appropriate places.

The screenshot shows the 'Embedded Rules for CUSTMNT1 in ...ESRC, Lines: 645, View Level: 4' window. The main area displays a list of rules with their sequence numbers and code. The rules are as follows:

```

0213.00      C* CUSTOMER MUST NOT BE BLANK
0213.97      =!BRC*  If the field SWBCCD is blank , set the indicat
0213.98      %!BRC*  Business Rule No. XAN4CDEM/QRPGLESRC/CUSTMNT1/
0213.99      @!BRC*  V00001  CUSTS          XWBCCD          Invalid custom
0214.00      B>!BRC      SWBCCD          IFEQ          *BLANKS
0215.00      ->!BRC      MOVE          '1'          *IN99
0216.00      ->!BRC      MOVE          *ON          *IN31
0217.00      ->!BRC      MOVE          'OEM0002'  MSGID
0218.00      ->!BRC      CALL          RTNMTX
0219.00      ->!BRC      PARM
0220.00      ->!BRC      PARM          ERRMSG
0221.00      ->!BRC      LEAVE
0222.00      E>!BRC      ENDIF
  
```

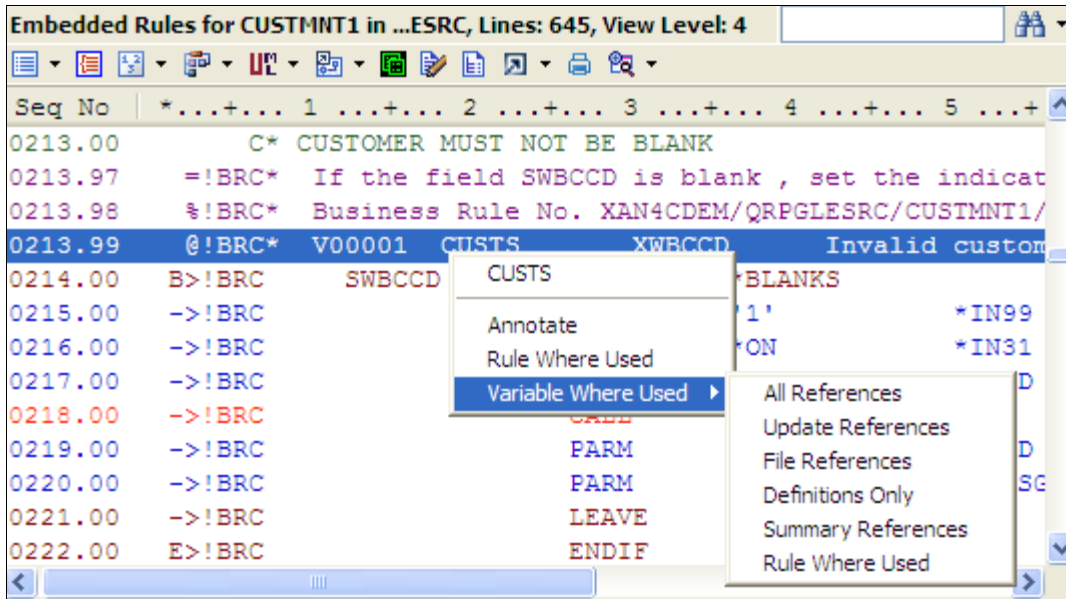
Below the main window is a summary table for 'Business Rules for CUSTMNT1, Number of Lines: 16':

Source Member	Narration	Type	Rule No.	Field	File/Pr
CUSTMNT1	If the field SWBCCD is blank , set the indicator ...	V	00001	XWBCCD	CUSTS
CUSTMNT1	Verify the field SWBCCD against the file "Purch...	V	00002	XWBCCD	CUSTS
CUSTMNT1	If the field SWG4TX is blank then it is invalid , s...	V	00003	XWG4TX	CUSTS
CUSTMNT1	Retrieve the record for the field SWBNCD from...	V	00004	XWBNCD	CUSTS
CUSTMNT1	Retrieve the record for the field SPERSON fro...	V	00005	PERSON	CUSTS
CUSTMNT1	Retrieve the record for the field SDSDCDE fro...	V	00006	SDSDCDE	CUSTS
CUSTMNT1	Subtract the field SWIDV0 giving the field SDIF...	V	00007	XWIDV0	CUSTS
CUSTMNT1	If the field "Prospect No" is zero then it is invali...	V	00008	CUSNO	CUSTS

Illustration 2: Embedded Rules with summary

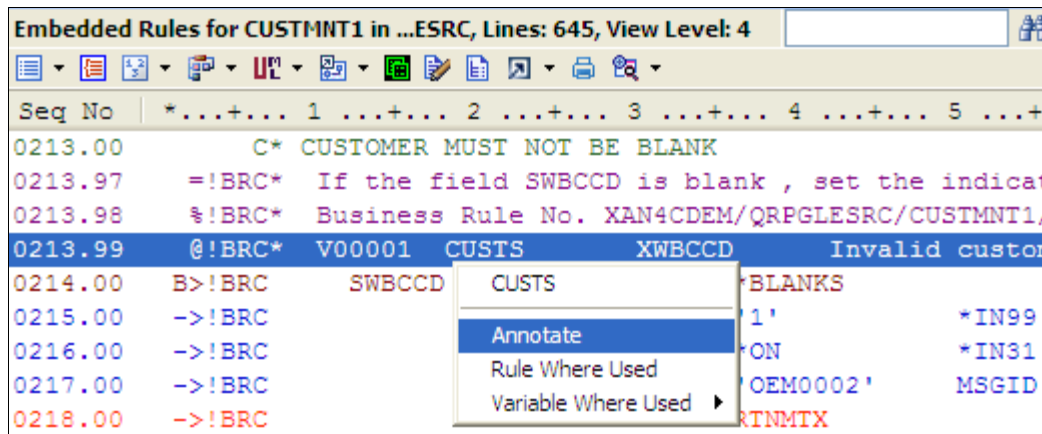
## Analysis of Business Logic

The Business Logic once generated may be analyzed and cross-referenced using the Variable Where Used, Object Where Used and Member X-reference features of the X-Analysis.



*Illustration 3: Where Used options for Embedded Rules*

The generated business logic / business rule summary can also be documented using the Annotate feature. Alternatively, it can be directly exported to MS Word/PDF or Spreadsheet.



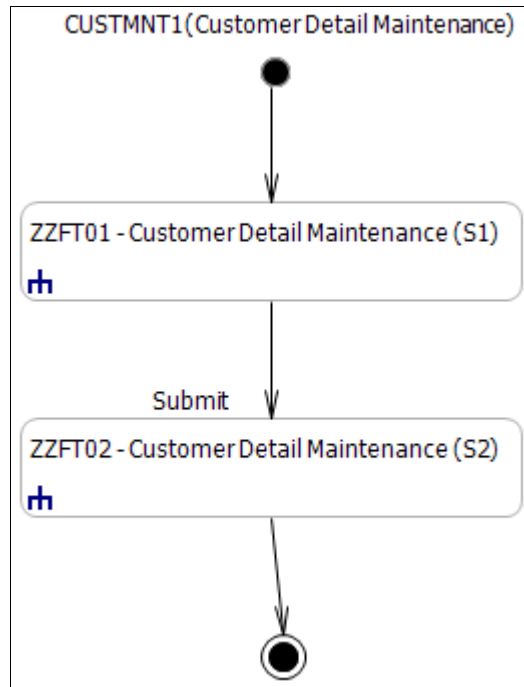
*Illustration 4: Annotation for Business Rules*

## UML Diagramming

The objective of UML diagrams in this context is to help sketch application designs and to make such sketches portable and reusable in multiple development environments. The three diagrams automatically generated by the X-Analysis are:

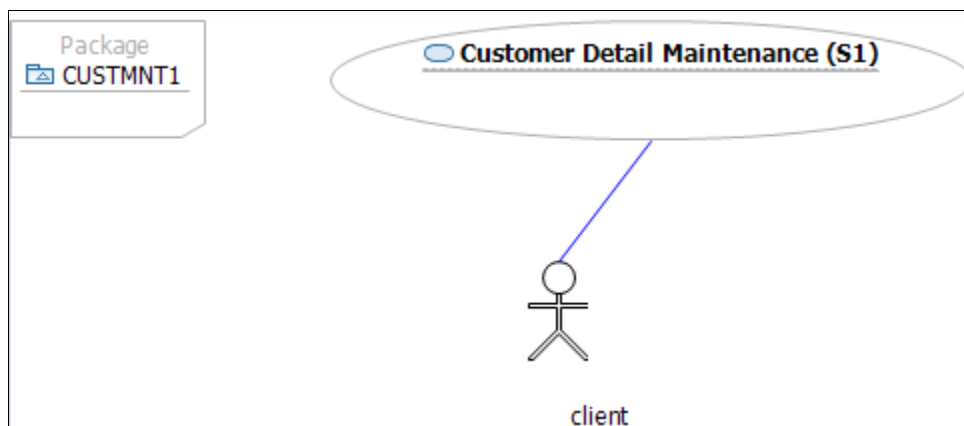
**Activity Diagram** - Activity diagrams illustrate the dynamic nature of a system by modeling the flow of control from activity to activity. An activity represents an operation on some class in the system that results in a change in the state of the system. Typically, activity diagrams are used to model workflow or business processes and internal operation. X-Analysis produces these automatically either from a single

program with multiple screens, or a group of programs. Each activity in the diagram represents a usable screen format in the RPG program. A user can also view the extracted Business Rules, relevant to that particular activity/format directly from within the diagram.



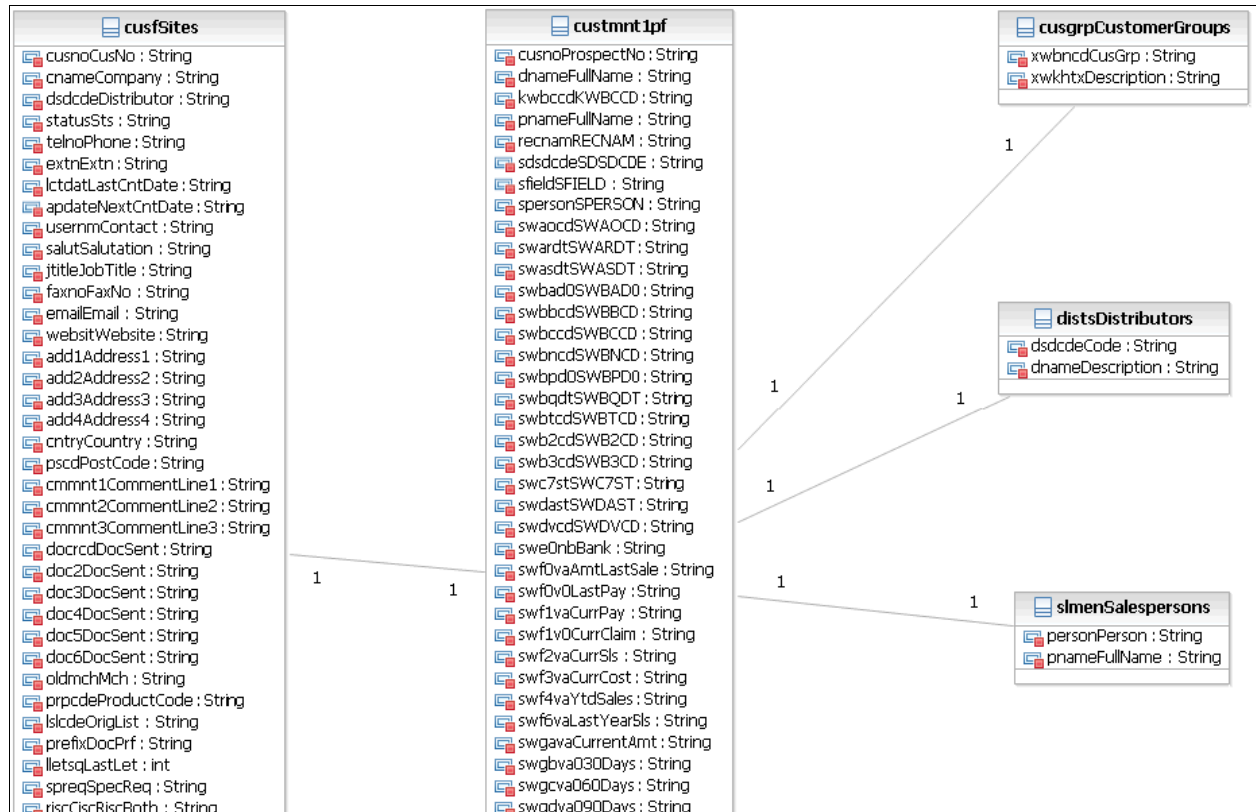
*Illustration 5: Activity Diagram*

**Use Case Diagram** - Use Case Diagrams model the functionality of system using actors and use cases. Use cases are services or functions provided by the system to its users. Auto-generated from X-Analysis, this can be used as an alternative view to the Activity Diagram, and also has drill-down capabilities for viewing extracted Business Rules.



*Illustration 6: Use Case Diagram*

**Class Diagram** - Class diagrams are the backbone of all object-oriented methods, including UML. They describe the static structure of a system. Classes represent an abstraction of entities with common characteristics. Associations represent the relationships between classes. An extracted class in a class diagram corresponds to the individual screen formats and all of the specific attributes of that particular format. X-Analysis deduces the links between these classes using a combination of the derived data model, and call or action information extracted from each program.



**Figure 8: Class Diagram**

Producing any of these diagrams from within the X-Analysis is as simple as right-clicking on an object and selecting the appropriate option from the pop-up menu.

## Highlights

- Includes all features from X-Analysis Professional
- Includes all features from Data Model Extraction
- Identifies and documents business rule logic from legacy RPG
- Analysis and cross referencing of business rule logic in legacy RPG
- Individual Business Rule Annotation
- Business Rule Where Used & Summaries
- Business Rule Database
- Business Rule exports to MS Word and Excel
- UML Action / Class / Use Case diagrams

Experience the fully loaded X-Analysis with 30 days trial copy of the software.  
For any information regarding the X-Analysis please visit our web site:

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