



IBM Software Group

IBM WebSphere® Data Interchange V3.3

Using a Field User Exit



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This presentation will describe how to use a field user exit using Send or Receive maps.

Agenda

- Describe the User exits available
- Review the Field User exit parameters
- Demonstrate how to setup the Field User exit using WDI Client.



The presentation will describe the User exits available, review the field user exit parameters and demonstrate how to setup the field user exit using WebSphere Data Interchange (WDI) Client.

Using a field user exit

- User written program
- User extension exit routine
 - ▶ Can interact directly in the current translation session
- Independent
 - ▶ Has no knowledge of the current translation session.



An exit routine is a program that you provide to perform some service for your application or data. WebSphere Data Interchange calls the exit routine at an appropriate time, and passes it the information needed to accomplish the task.

There are two types of exit routines. One type of exit routine is a user extension to WebSphere Data Interchange and can interact directly in the current WebSphere Data Interchange session. The other type is an independent program and has no knowledge of the current session.

Using a field user exit

- Data transformation exit routines will allow users to specify in their data transformation maps that a user-written program should be called
- ✓ **Field exit routines provide additional processing for application data (translate-to-standard) and EDI standard data (translate-to-application) during translation.**
- Transaction exit routines (pre-translation and post-translation) provide additional processing for an entire transaction after translate-to-standard or before translate-to-application.
- Security exit routines protect transaction data through encryption and authentication. Filtering and compression exits are also defined as part of this process.
- Point-to-point network program exit routines get invoked on communication requests for a point-to-point network.
- Message handling exit routines are invoked to process responses from the networks that are not directly supported by WebSphere Data Interchange.



There are six user exits that your application programs can use to extend or enhance the capabilities of WebSphere Data Interchange. This presentation will review the field exit routines for Send and Receive translation.

Using a field user exit

```
main (
    snb *snbdata; /* Service name block pointer set up by WDI */
    ccb *ccbdata; /* Common block pointer used by WDI */
    char *fldvalue; /* Pointer to the source data value */
    long *fldoffset; /* Address of offset of field */
    long *fldlength; /* Length of the data */
    worka *permarea; /* Address of a work area */
    char *temparea; /* Area where I can move result data */
    long *templength; /* Length of data moved to result area */
)
```

This is the prototype for the send and receive user exit.

Service name block (SNB) - contains the logical name for the exit specified in the User exit routine name field on the Special Handling window. You can combine many field exit routines into a single physical load module and use the value in SNB to determine the reason the exit is being called.

Common control block (CCB) - is used to tell WebSphere Data Interchange what further actions should be taken against the current application data. Valid values are: **0** Continue normal processing for the application field. If the return field length is not zero, check to see if the temporary work area contains a new value for the field. **1** Ignores the application field but any default literal processing still applies. **2** Ignores both the application field and the default literal. **3 – 20** Reserved. **21 and higher** An error was detected by the user exit. WebSphere Data Interchange creates a log record (message TR0006) indicating a user exit error occurred, which is treated as a level 1 (data element) error, and does not process the field any further (same as a return code of **1**).

Field value The source data value which would be the field value from application data or element value from EDI data. You can change the field's value directly in this buffer if you do not increase the length. If the value is changed directly in the buffer, however, and the field is mapped more than

Using a field user exit

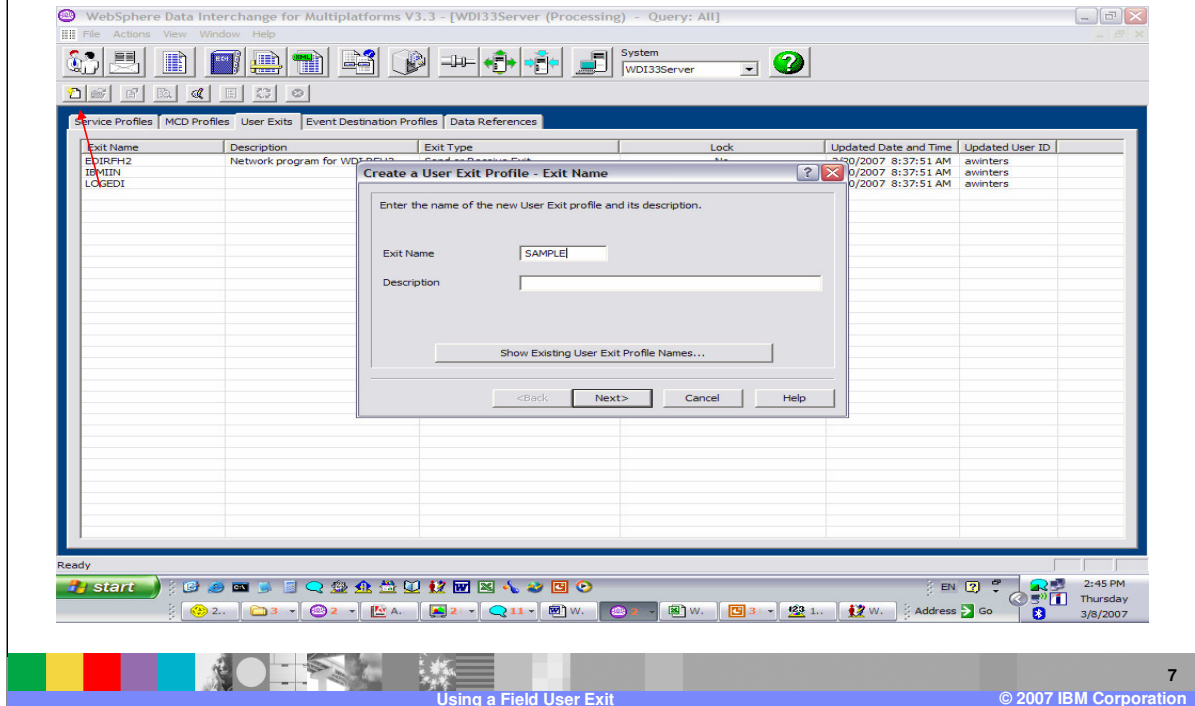
The screenshot displays the IBM WebSphere Data Interchange for Multiplatforms V3.3 - WDI33Server (Processing) - Query: All interface. The main window shows a table with the following data:

Exit Name	Description	Exit Type	Lock	Updated Date and Time
EDIRFH2	Network program for WDI RFH2	Send or Receive Exit	No	2/20/2007 8:37:51 AM
IBMIIN		Send or Receive Exit	No	2/20/2007 8:37:51 AM
LOGEDI		Send or Receive Exit	No	2/20/2007 8:37:51 AM

A blue arrow points to the 'User Exits' tab in the top navigation bar. The bottom of the screenshot shows the Windows taskbar with the date and time: 2:41 PM Thursday 3/8/2007. The footer of the slide contains the text 'Using a Field User Exit' and '© 2007 IBM Corporation'.

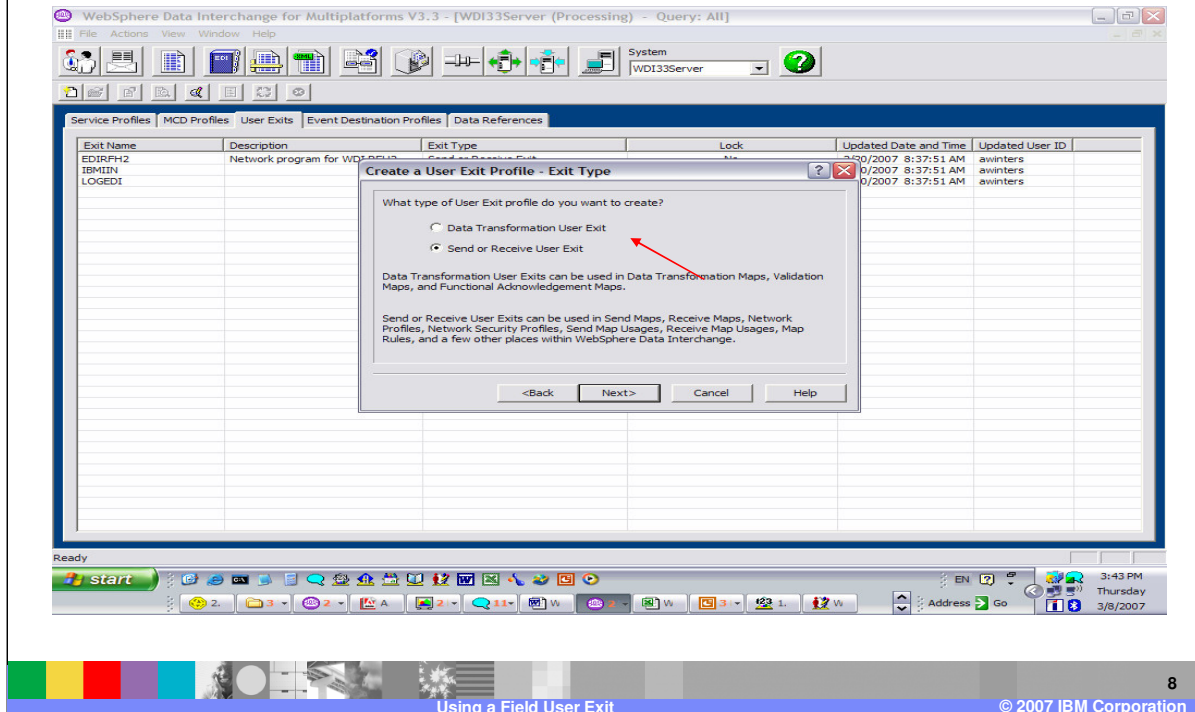
The user exit profile is located in the Processing functional area.

Using a field user exit



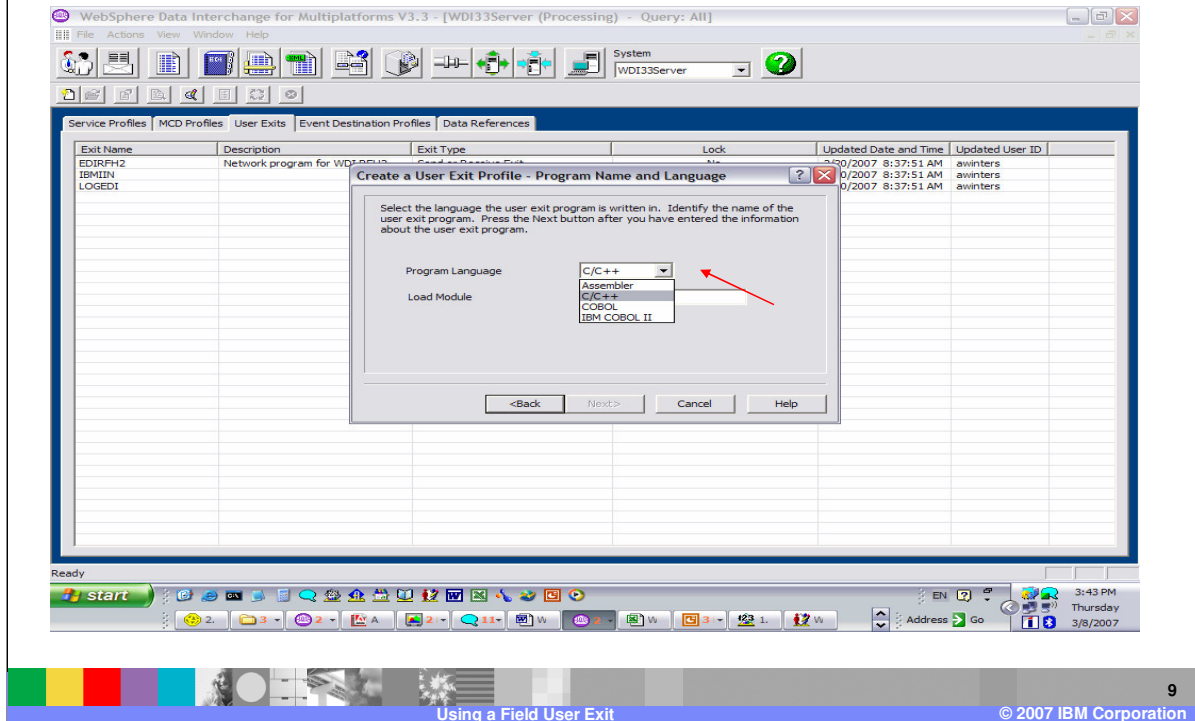
To add a User exit, click on the new button. Enter the Exit name and optional description and click Next.

Using a field user exit



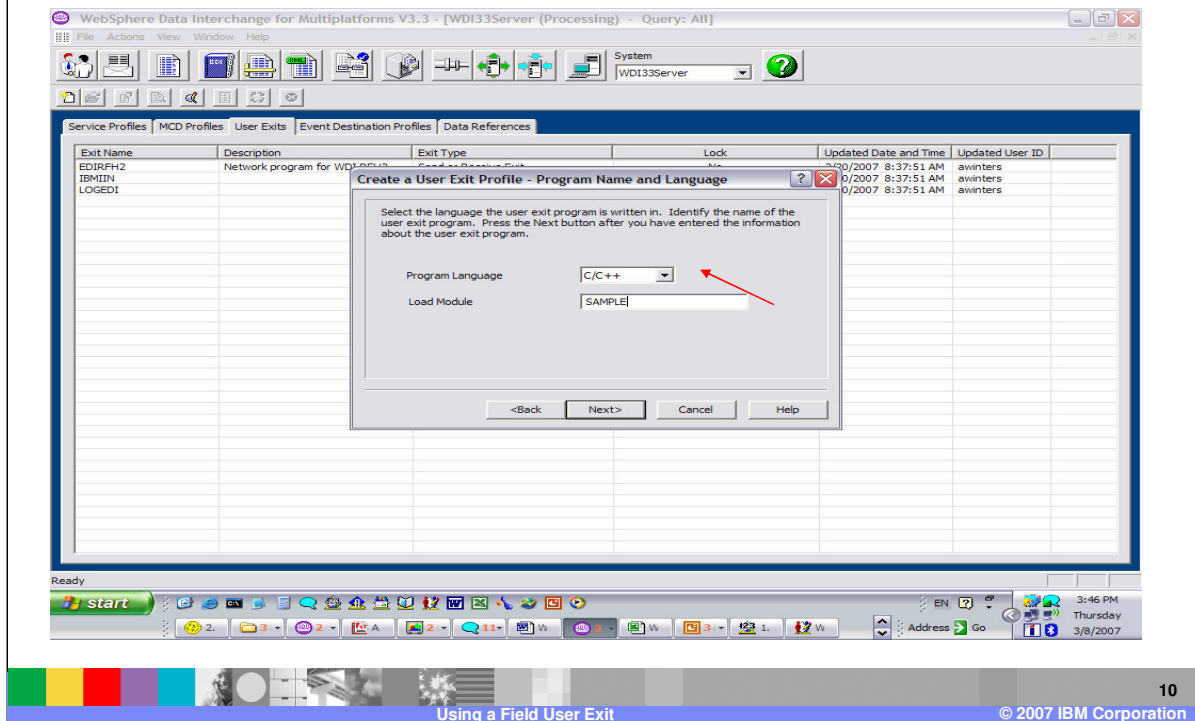
Indicate if the exit is for data transformation or Send and Receive. Data Transformation exits can be used in data transformation, validation, and functional acknowledgment maps.

Using a field user exit



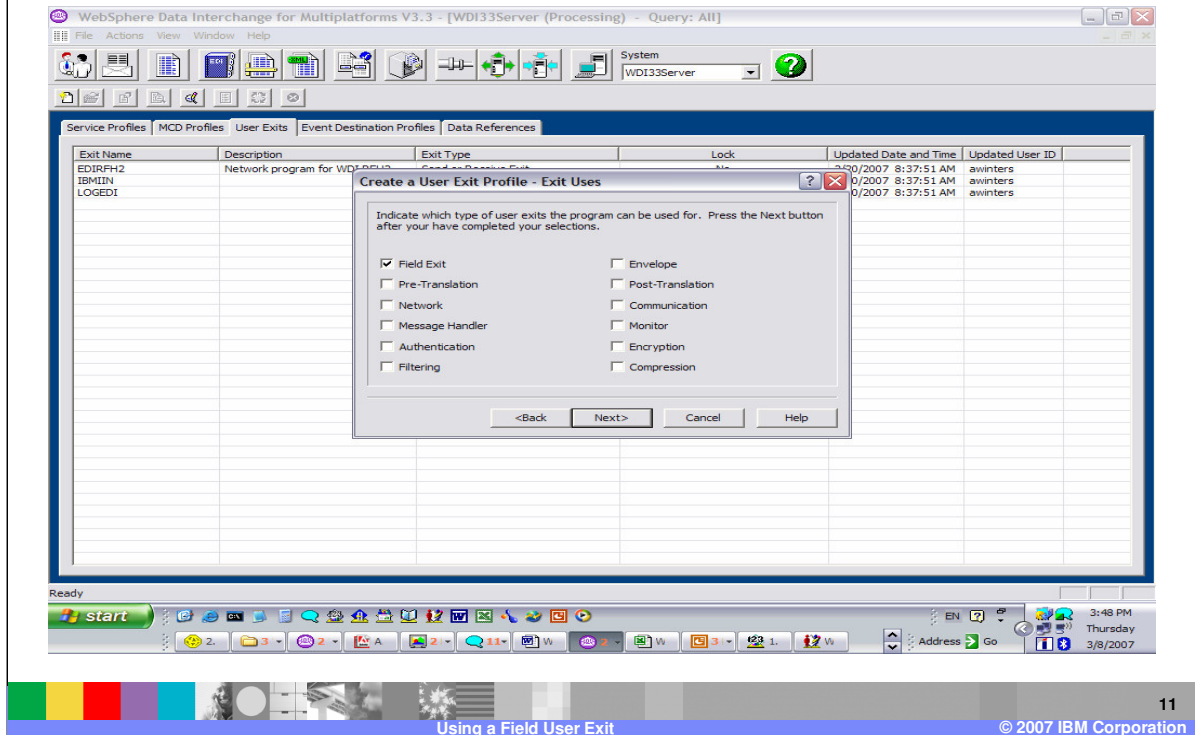
The programming language for send and receive exits can be C/C++, Assembler, COBOL or IBM COBOL 2. In the **Load Module Name** field, type the name of the load module where the exit is located.

Using a field user exit



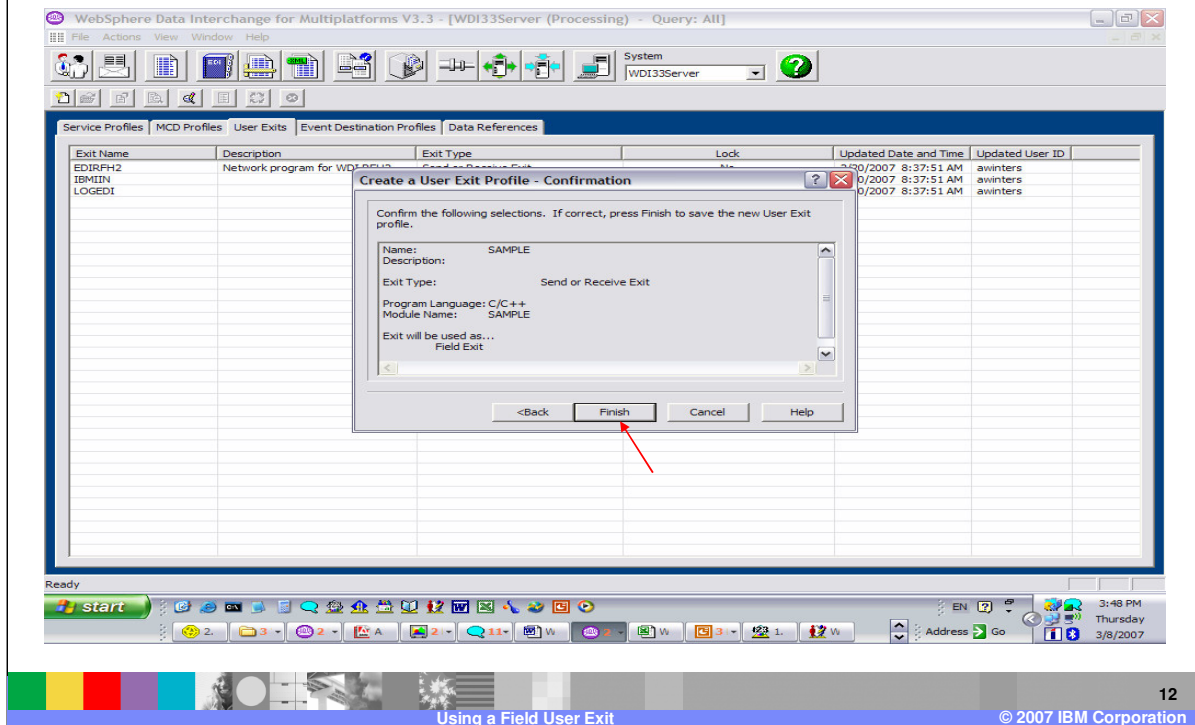
Specify the Load Module name and press Next.

Using a field user exit



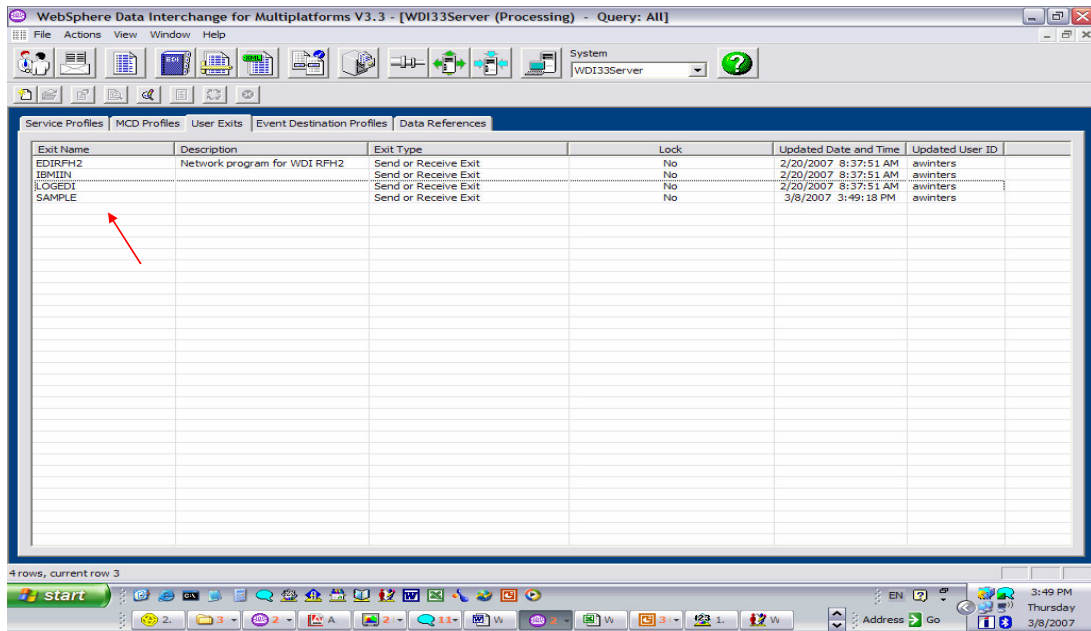
Select the type of user exit being defined. The type is not used during execution but selecting the type will allow Client drop down list to display the appropriate selection for various exit options.

Using a field user exit



Press the Finish button to complete the definition.

Using a field user exit



WebSphere Data Interchange for Multiplatforms V3.3 - [WDI33Server (Processing) - Query: All]

Service Profiles | MCD Profiles | User Exits | Event Destination Profiles | Data References

Exit Name	Description	Exit Type	Lock	Updated Date and Time	Updated User ID
EDIRFH2	Network program for WDI RFH2	Send or Receive Exit	No	2/20/2007 8:37:51 AM	awinters
IBM3IN		Send or Receive Exit	No	2/20/2007 8:37:51 AM	awinters
LOGEDI		Send or Receive Exit	No	2/20/2007 8:37:51 AM	awinters
SAMPLE		Send or Receive Exit	No	3/8/2007 3:49:18 PM	awinters

4 rows, current row 3

start | EN | 3:49 PM Thursday 3/8/2007

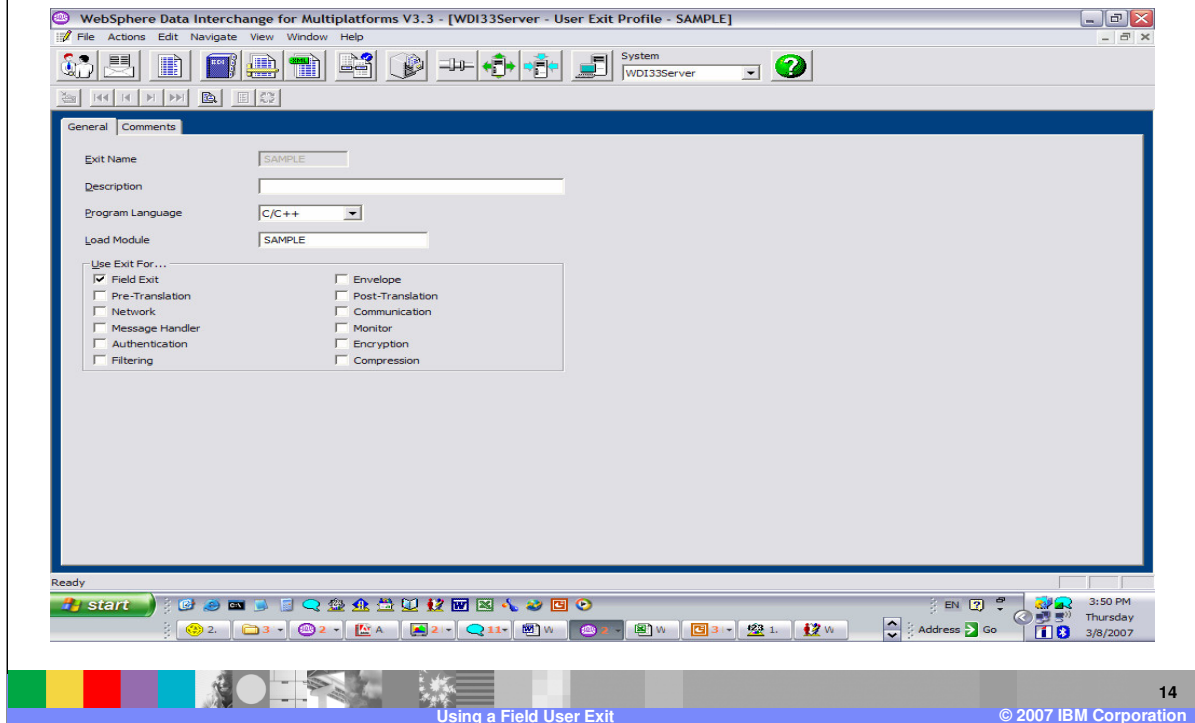
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The user exit profile definition is listed in the User Exit list.

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You can update all fields for the definition except the exit name.

Section

Mapping



Using a field user exit

The screenshot displays the WebSphere Data Interchange for Multiplatforms V3.3 interface. The window title is "WebSphere Data Interchange for Multiplatforms V3.3 - [WDI33Server - Send Map - TEST]". The interface is divided into several sections:

- General Details Comments:** A tree view on the left shows the map structure with nodes for "WDILAB1 [WDI User Conference 2006 - Lab 1]", "HEADER [Header Record WDI User Conference 2006 - Lab 1]", "LINEITEMS [LineItems Record WDI User Conference 2006 - Lab 1]", and "TRAILER [Trailer Record WDI User Conference 2006 - Lab 1]".
- Map Structure:** A detailed tree view on the right shows the structure of a "Purchase Order" map. The root node is "850 [Purchase Order]". It includes various segments and fields, such as:
 - 1 M 353 [Transaction Set Purpose Code]
 - 2 M 92 [Purchase Order Type Code]
 - 3 M 324 [Purchase Order Number]
 - 4 O 328 [Release Number]
 - 5 M 373 [Date]
 - 6 O 367 [Contract Number]
 - 7 O 587 [Acknowledgment Type]
 - 8 O 1019 [Invoice Type Code]
 - 9 O 1166 [Contract Type Code]
 - 10 O 1232 [Purchase Category]
 - 11 O 786 [Security Level Code]
 - 12 O 640 [Transaction Type Code]
 - 40 CUR [Currency]
 - 50 O REF [Reference Identification]
 - 60 O PER [Administrative Communications Contact]
 - 70 O TAX [Tax Reference]
 - 80 O FOB [F.O.B. Related Instructions]
 - 90 O CTP [Pricing Information]
 - 95 O PAM [Period Amount]
 - 110 O CSH [Sales Requirements]
 - 115 O TC2 [Commodity]
 - 120 O SAC Loop
 - 130 O ITD [Terms of Sale/Deferred Terms of Sale]
 - 140 O DIS [Discount Detail]
 - 145 O INC [Installment Information]
 - 150 O DTM [Date/Time Reference]
 - 160 O LDT [Lead Time]
 - 180 O LIN [Item Identification]

The bottom of the screenshot shows the Windows taskbar with the Start button, system tray, and clock displaying "3:51 PM Thursday 3/8/2007".

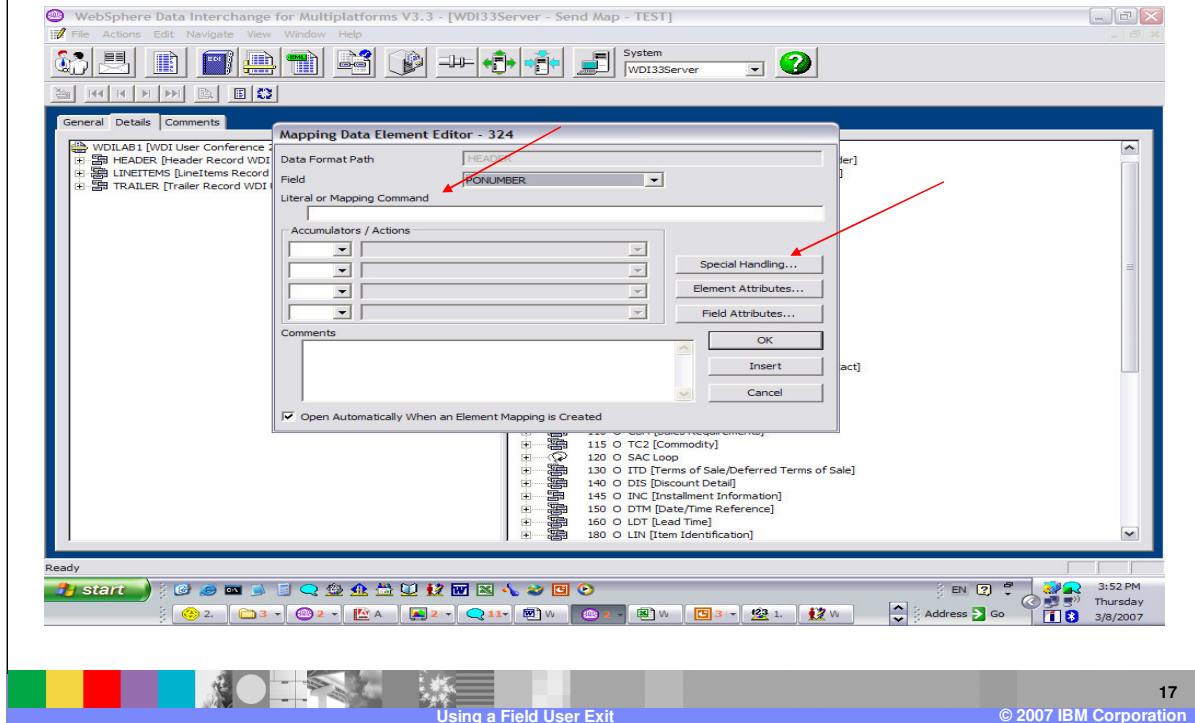
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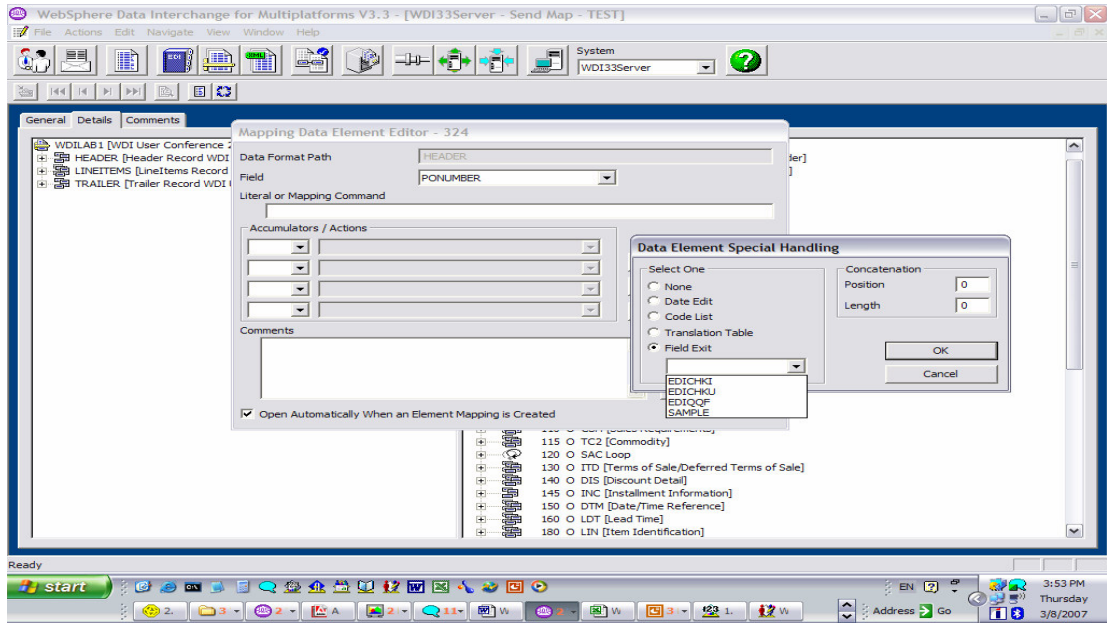
Now you can add the user exit to a map.

Using a field user exit



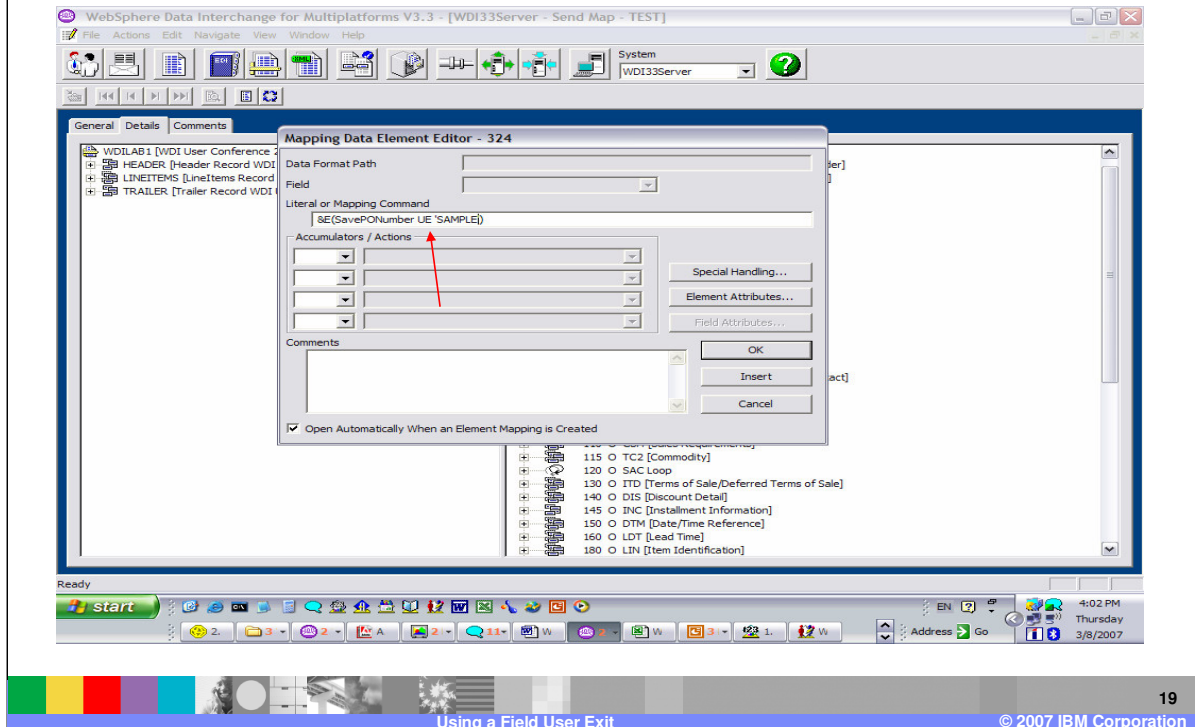
The user exit can be entered on the Literal or Mapping Command line or you can use Special Handling.

Using a field user exit



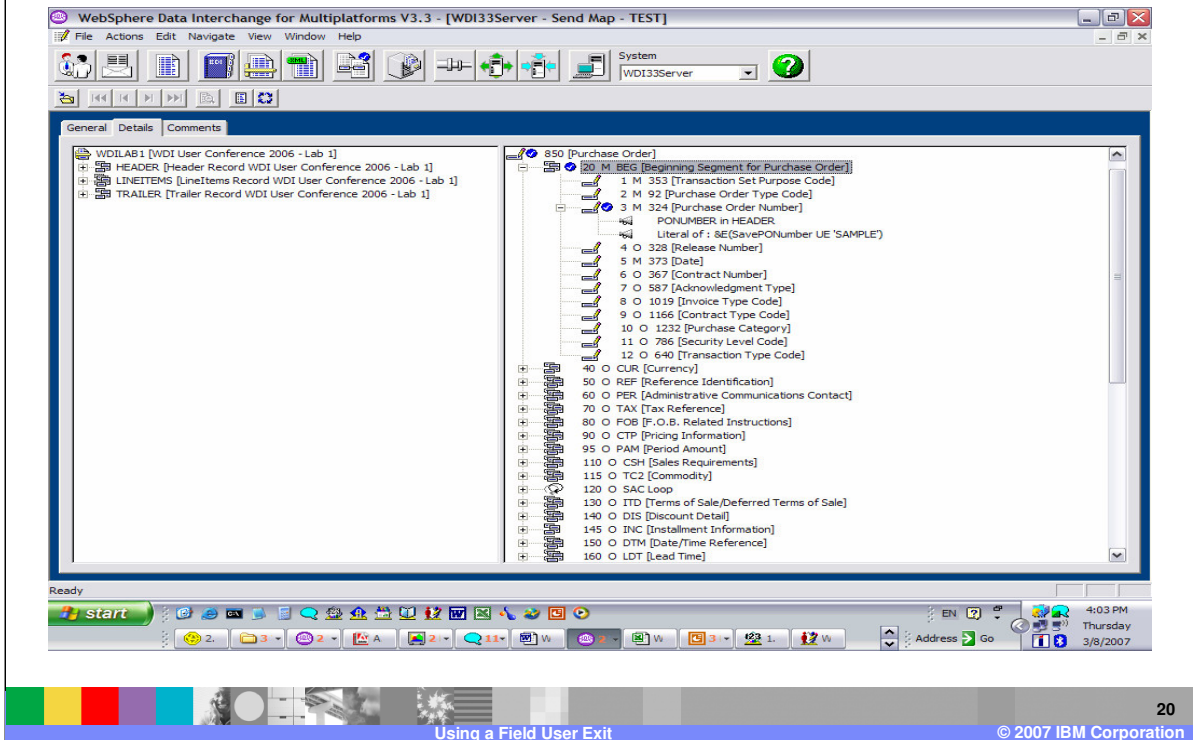
Using special handling you can select the Field Exit and use the drop down list to select the exit. The source value PONUMBER identified in the field. This value will be passed to the exit and the results if any will be used in this mapping.

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Using the Literal or Mapping Command list the exit is specified using the special operator UE. SavePONumber is a variable containing the source value previously saved and SAMPLE is the user exit to be called. The command is within the &E or expression. Since there is not a field identified the results returned from the user exit if any will be used in this mapping.

Using a field user exit



This is the completed map.

Reference

- More information can be found in the WDI V3.3 User's Guide and Programmer's Reference Guide.



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