

IBM Software Group

WDI 3.2 Data Transformation Mapping Work Shop Angela Winters Hill

WebSphere. software



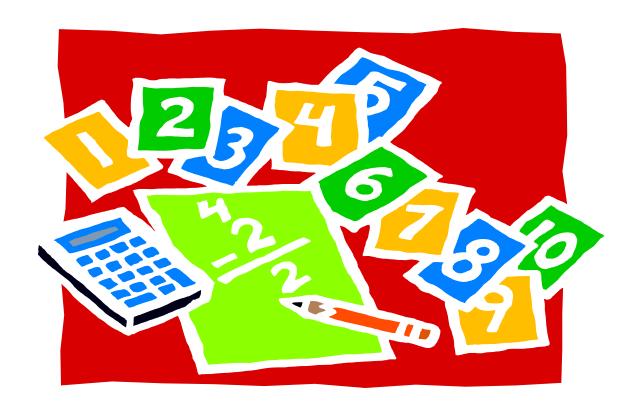
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Objectives

- Demonstrate data transformation mapping
 - Specific scenarios for mapping SAP Idoc record sequence numbers
 - Using variables.
 - HL Loop mapping
 - > XML split function.





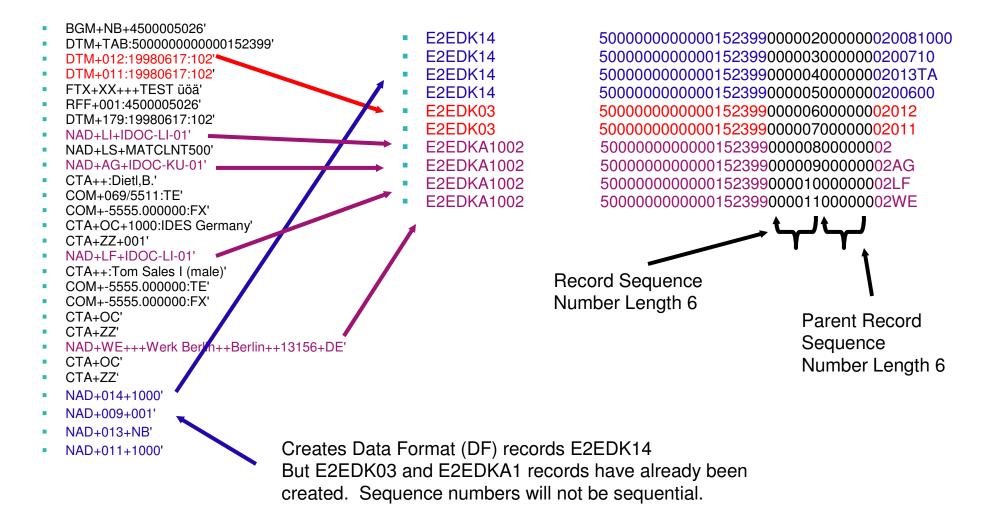




What is the Issue?

➤ Using WDI Receive Map (EDI to SAP), the mapping is executed in source order (order of EDI segments/loops). The EDI order is not the SAP record output order so an accumulator will not generate Idoc record sequence numbers correctly. To generate Idoc record sequence numbers and parent sequence numbers, required 2 maps. 1 map to count the different SAP Idoc records that were going to be created, then DIMAPCHAIN() to the real map which contains logic to calculate the record sequence number for each record.







Data Transformation Mapping:

- For this example: Source type is EDI and Target type is SAP Idoc
- Mapping choice of Source or Target based mapping.

How does Angela Map?

- Normally I do Send maps (EDI Target) as Target based maps and Receive maps (EDI Source) as Source based maps.
- With this SAP example, the Receive map was re-mapped as a DT Source based map for Solution 1.
- > BUT, I found that re-mapping as a DT <u>Target</u> based map was a much better solution (Solution 2).

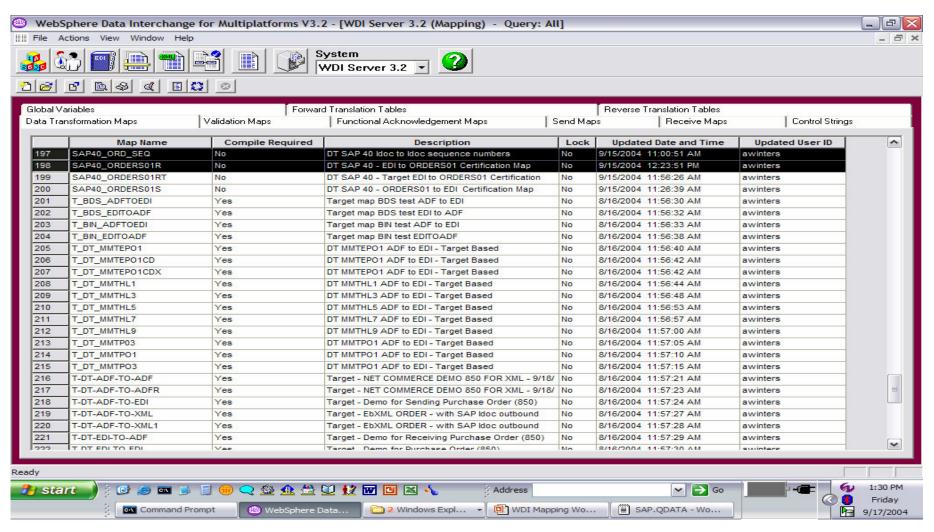


Data Transformation Solution 1:

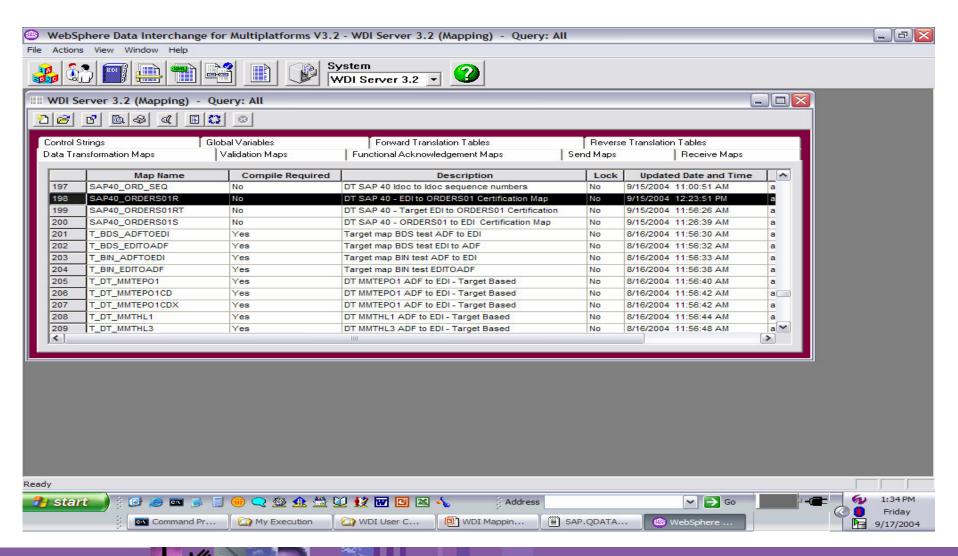
- To create a WDI Data Transformation (EDI to SAP) map that resembles the WDI Receive map, the DT mapping would be defined as a <u>source</u> based mapping (mapping based on EDI standard). BUT, we have the same issue. DT source based map is executed in source order (order of EDI segments/loops). The EDI order is not the SAP record output order so an accumulator will not generate Idoc record sequence numbers correctly.
- To generate Idoc record sequence numbers and parent sequence numbers, requires 2 maps.
 - 1. An EDI to SAP Idoc map to map all the data except the Idoc record sequence numbers.
 - 2. Another map (SAP Idoc to SAP Idoc) to generate the sequence numbers.

A little easier but we have a Double translation.



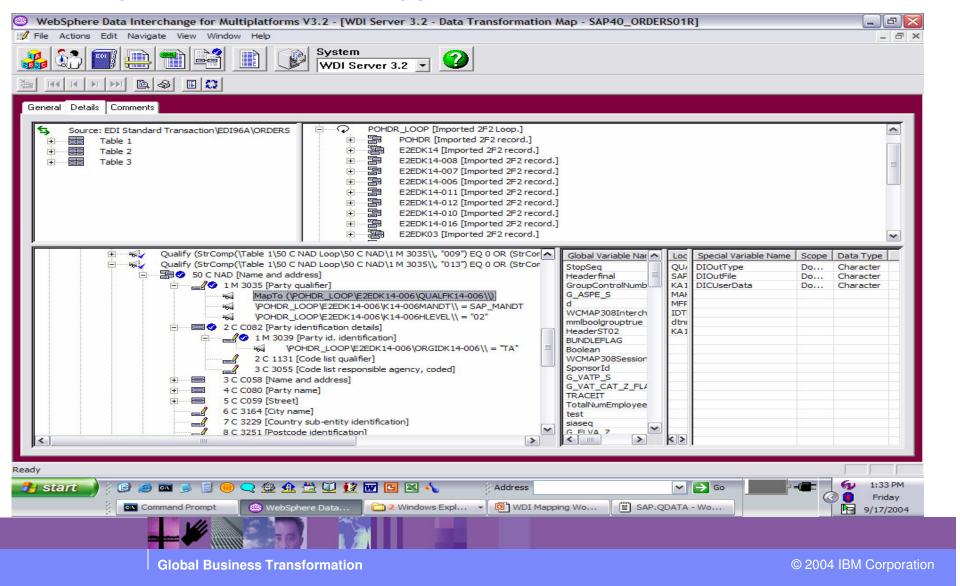




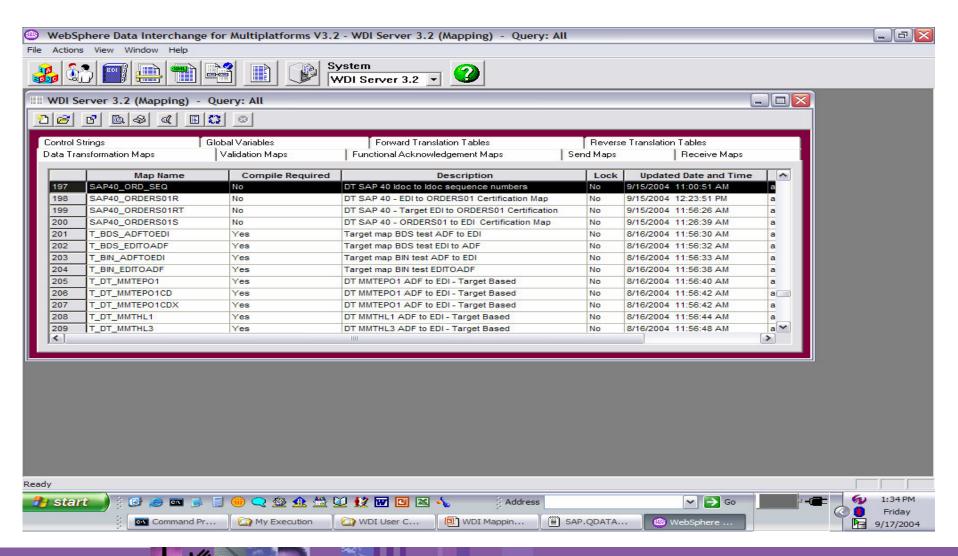




Inbound to SAP Idoc record sequence number – Map 1 No Sequence numbers mapped

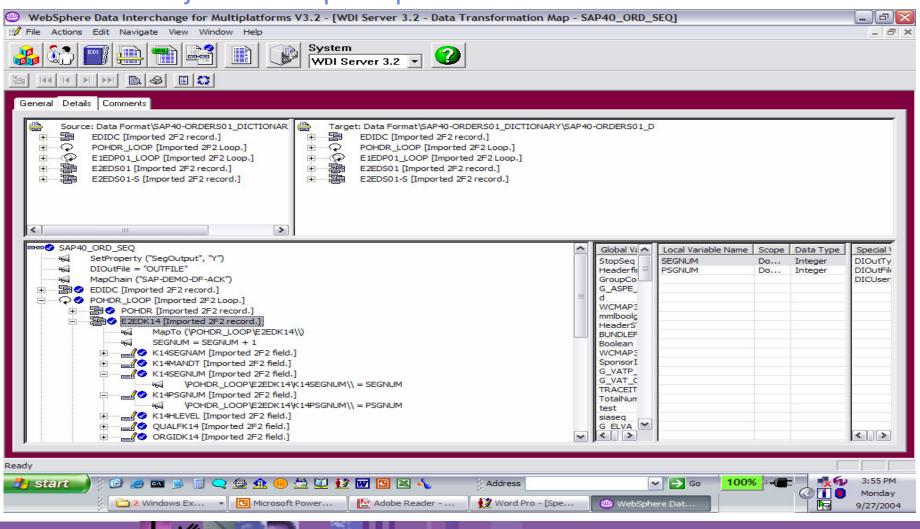




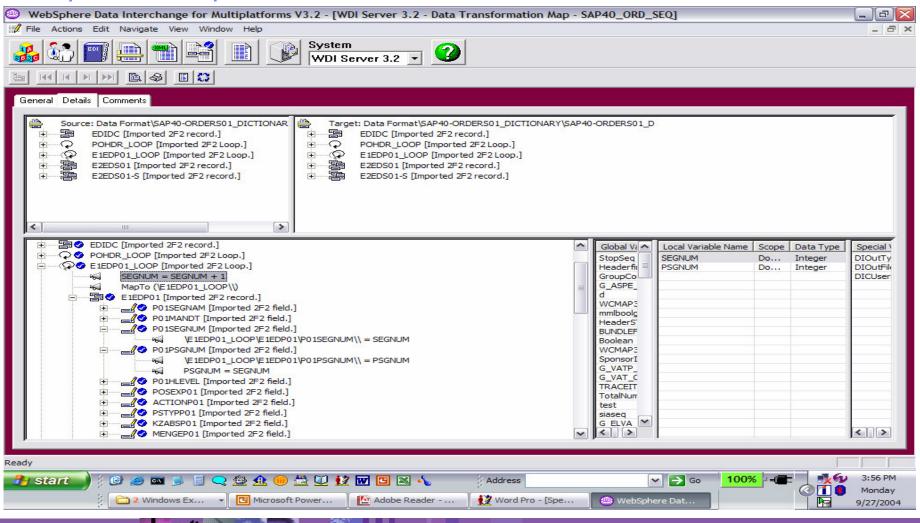




Inbound to SAP Idoc record sequence number – Map 2 Idoc to Idoc just to map sequence numbers

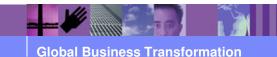




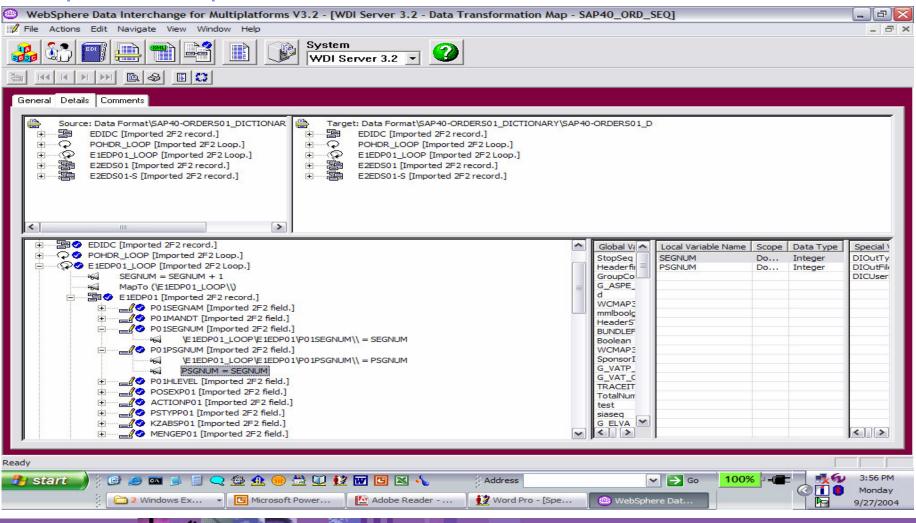




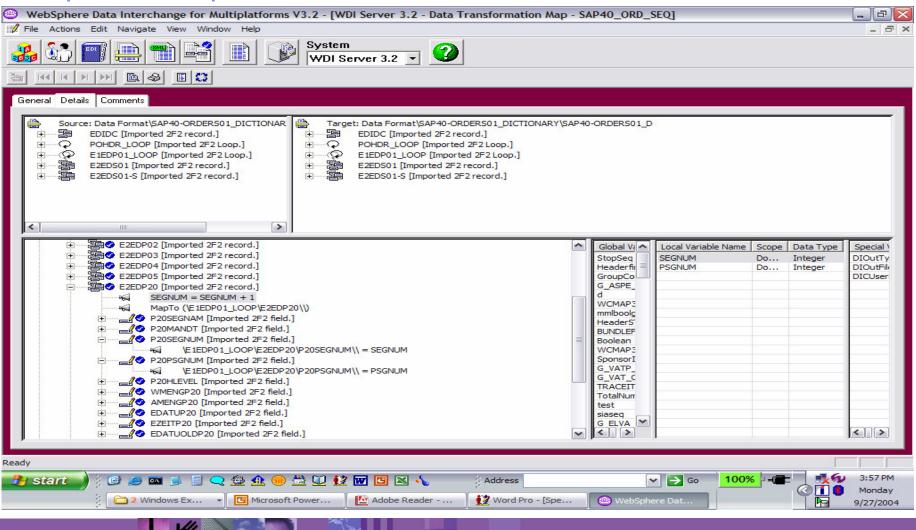
E1EDP01 is a parent record. We need to set the parent sequence number. Please see example below.



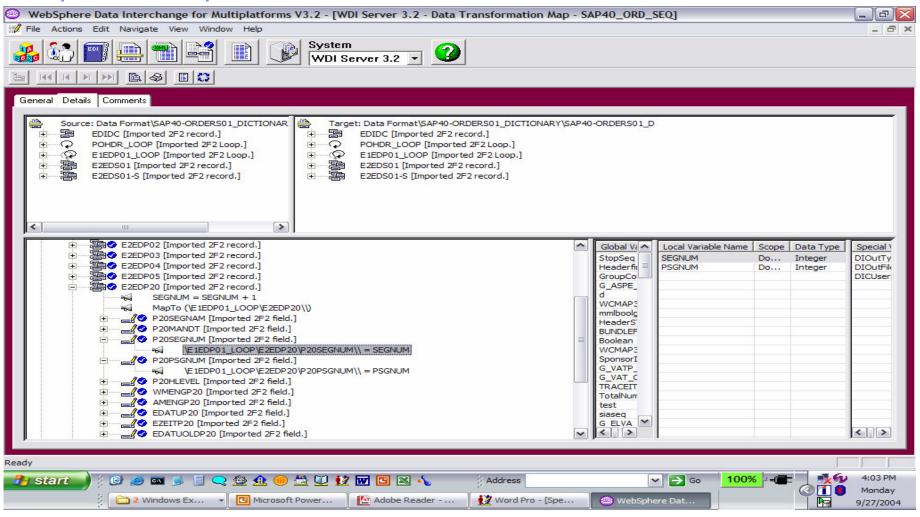








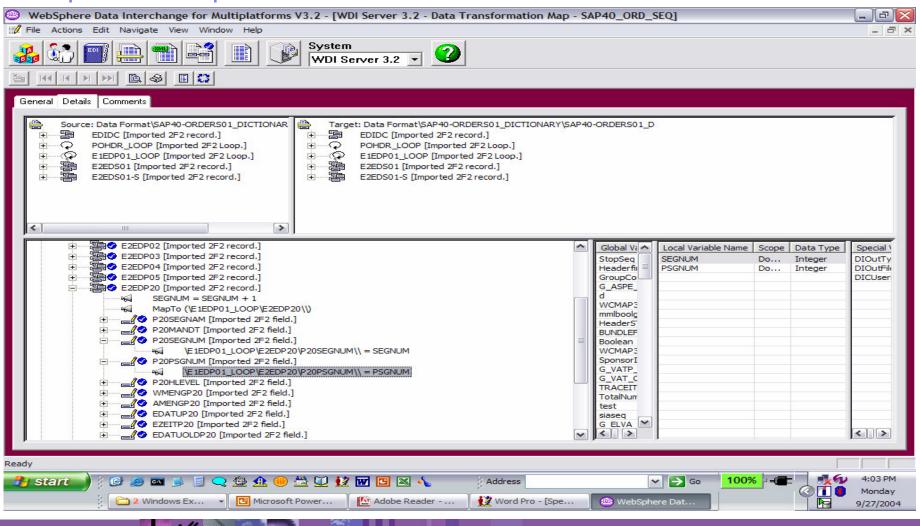






E2EDP20 is a child of E1EDP01 record. We need to set the parent sequence number. Parent sequence number was previously set in mapping of E1EDP01. Please see example below.







Data Transformation Solution 2:

➤ WDI Data Transformation <u>target</u> based mapping is executed in target order. When the output records are created you can use an accumulator to map to the SAP Idoc sequence number. Using WDI Data Transformation (EDI to SAP) target based mapping, the mapping is based on SAP Idoc.





Creates Data Format (DF) records E2EDK14 from NAD before E2EDK03 and E2EDKA1 records are created. Sequence Numbers will be sequential.

E2EDK14

E2EDK14

E2EDK14

E2EDK14

E2EDK03

E2EDK03

E2EDKA1002

E2EDKA1002

E2EDKA1002

E2EDKA1002

500000000001523990000200000020081000 500000000015239900003000000200710

5000000000001523990000040000002013TA

5000000000015239900005000000200600

5000000000001523990000600000002012

5000000000001523990000700000002011

500000000000152399000080000002 5000000000152399000090000002AG

500000000000152399000090000002AG

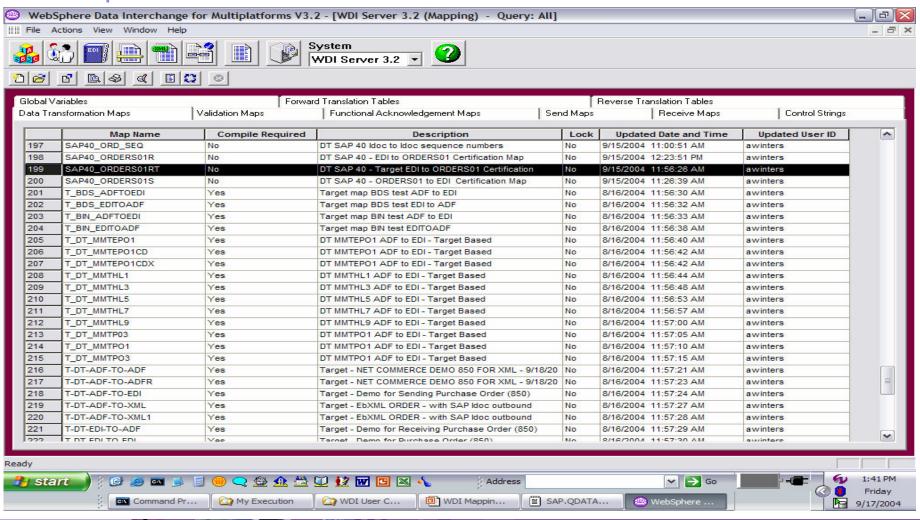
50000000000015239900001100000002WE

Record Sequence Number Length 6

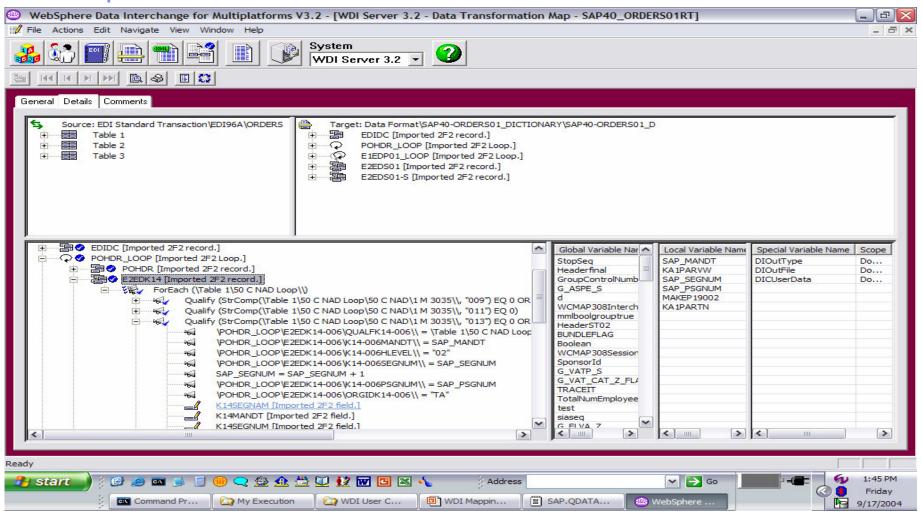
Parent Record Sequence
Number Length 6

- BGM+NB+4500005026'
- DTM+TAB:500000000000152399'
- DTM+012:19980617:102
- DTM+011:19980617:102
- FTX+XX+++TEST üöä'
- RFF+001:4500005026
- DTM+179:19980617:102'
- NAD+LI+IDOC-LI-01'
- NAD+LS+MATCLNT500'
- NAD+AG+IDOC-KU-01'
- CTA++:Dietl.B.'
- COM+069/5511:TE'
- COM+-5555.000000:FX'
- CTA+OC+1000:IDES Germany'
- CTA+ZZ+001'
- NAD+LF+IDOC-LI-01'
- CTA++:Tom Sales I (male)'
- COM+-5555.000000:TE'
- COM+-5555.0000000:FX'
- CTA+OC'
- CTA+ZZ'
- NAD+WE+++Werk Berlin++Berlin++13156+DE'
- CTA+OC'
- CTA+ZZ'
- NAD+014+1000'
- NAD+009+001'
- NAD+013+NB'
- NAD+011+1000'

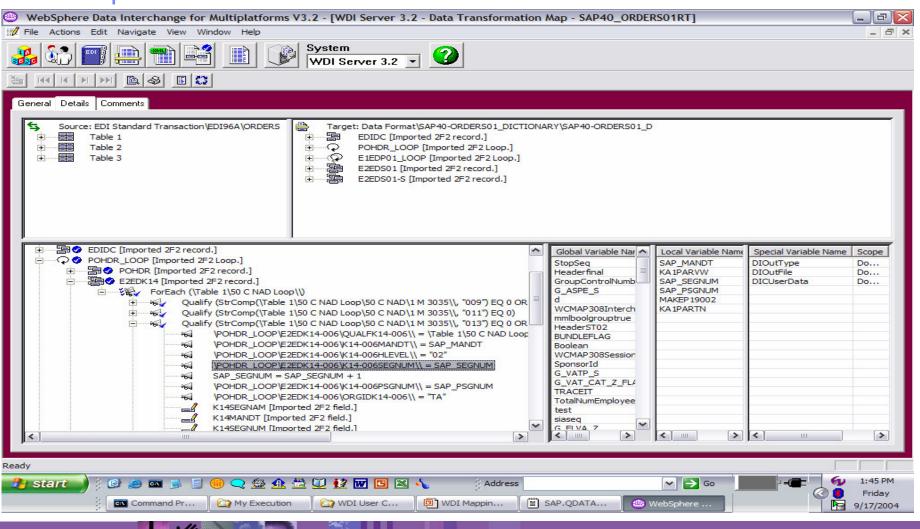




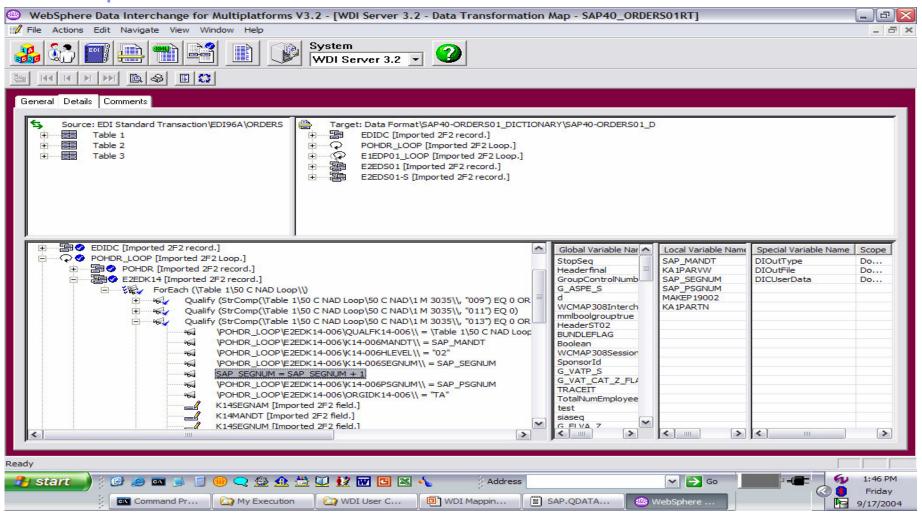




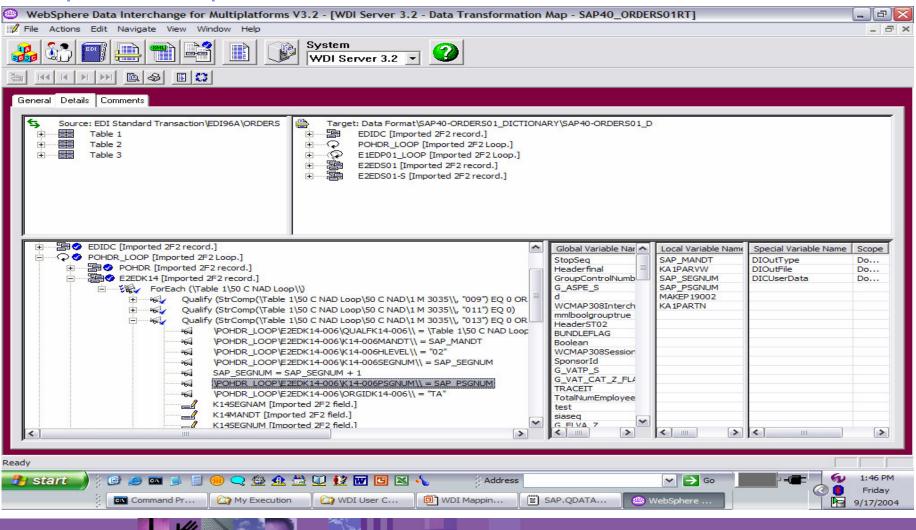




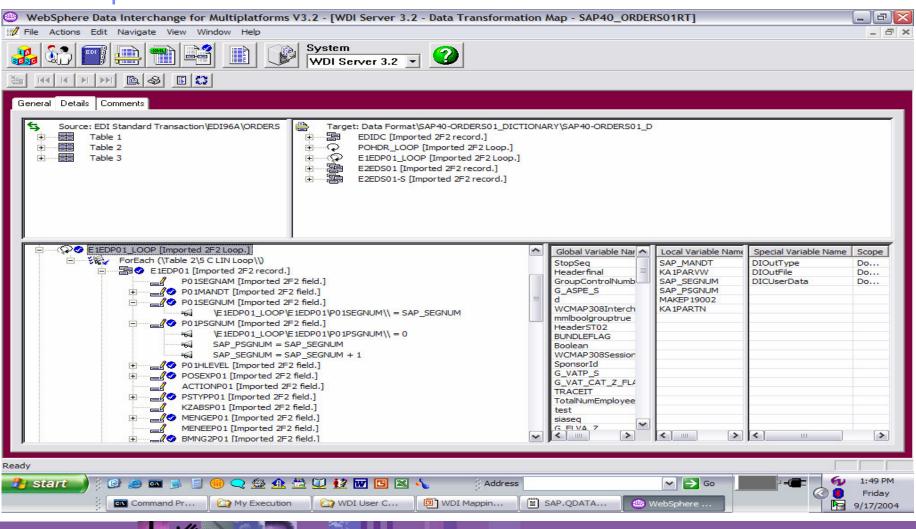




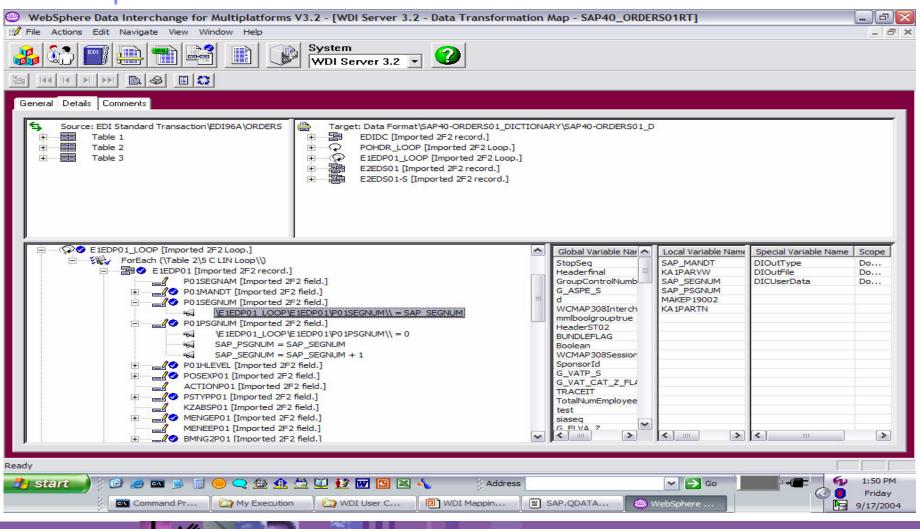




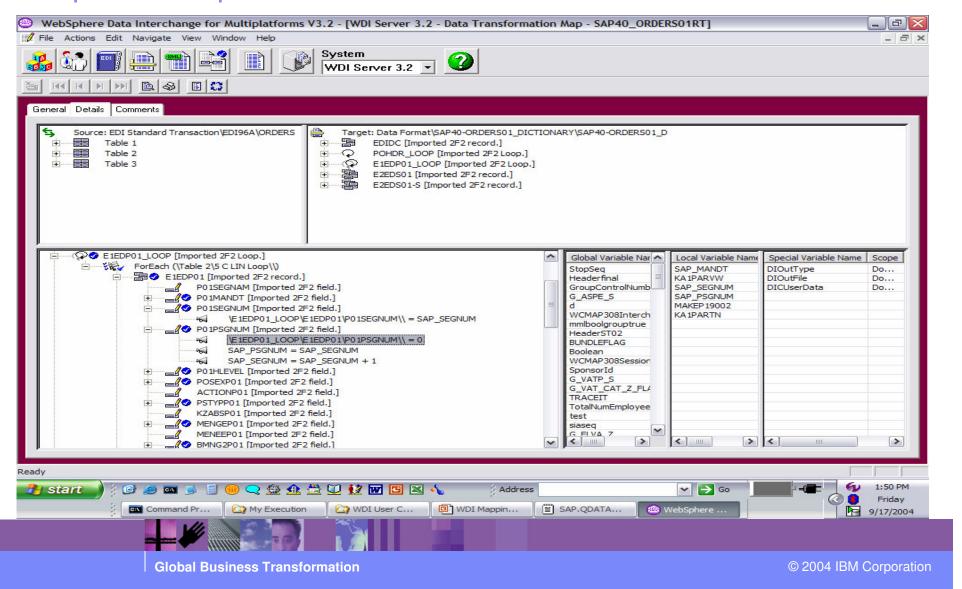






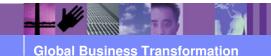




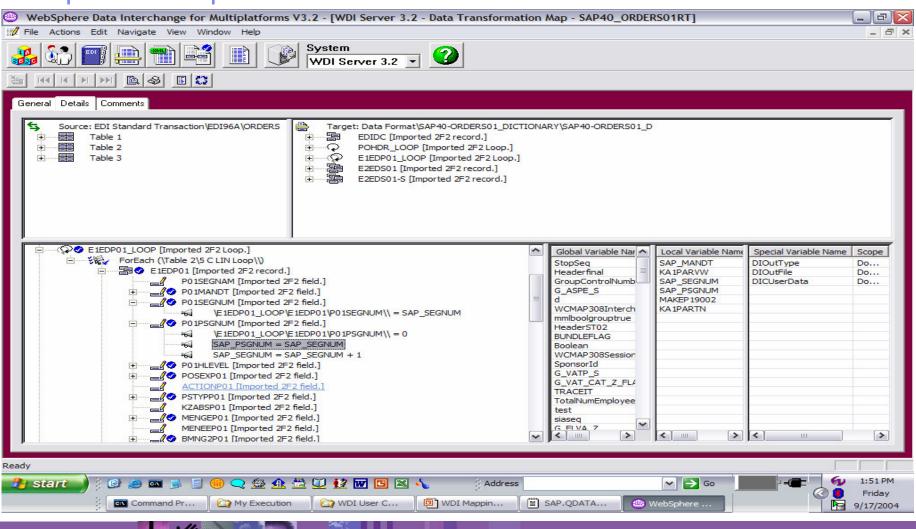




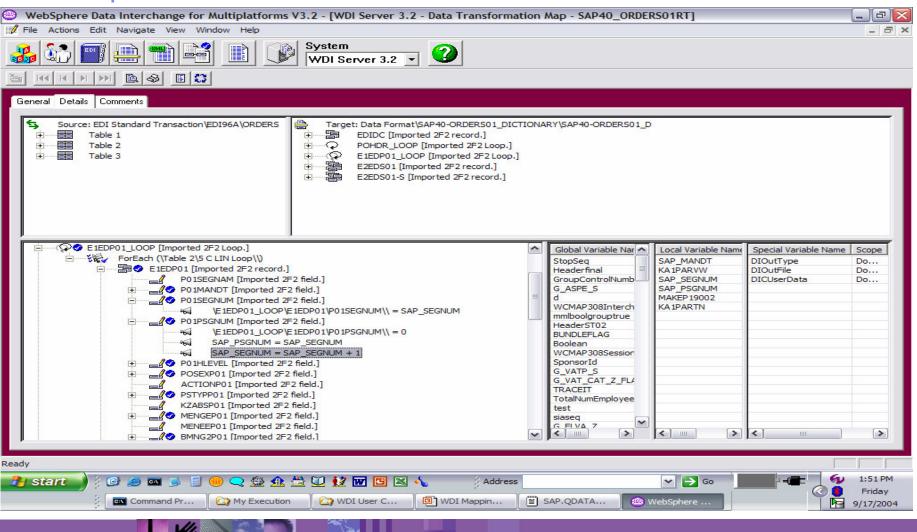
E1EDP01 is a parent record. We need to set the parent sequence number. Please see example below.



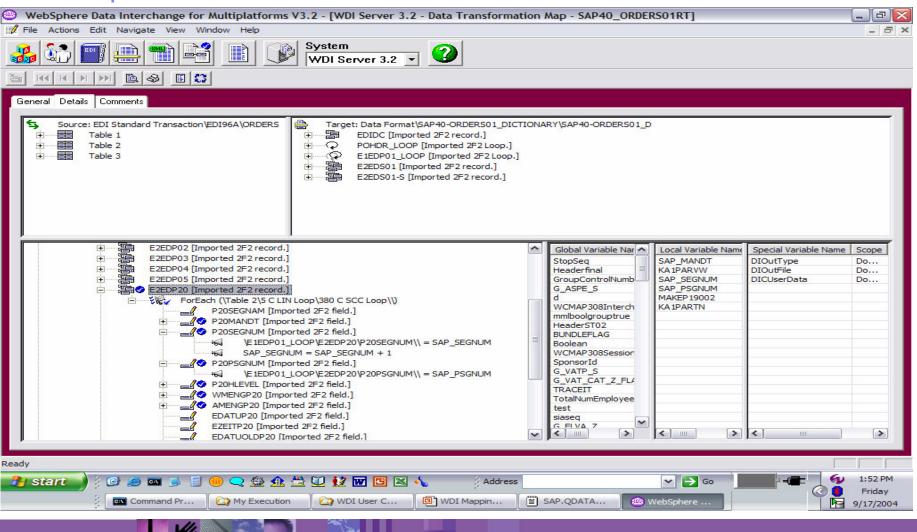




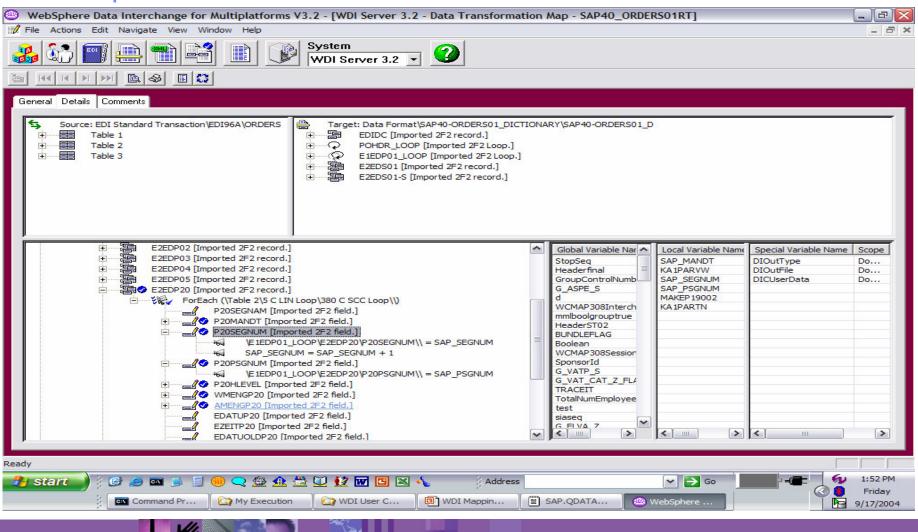










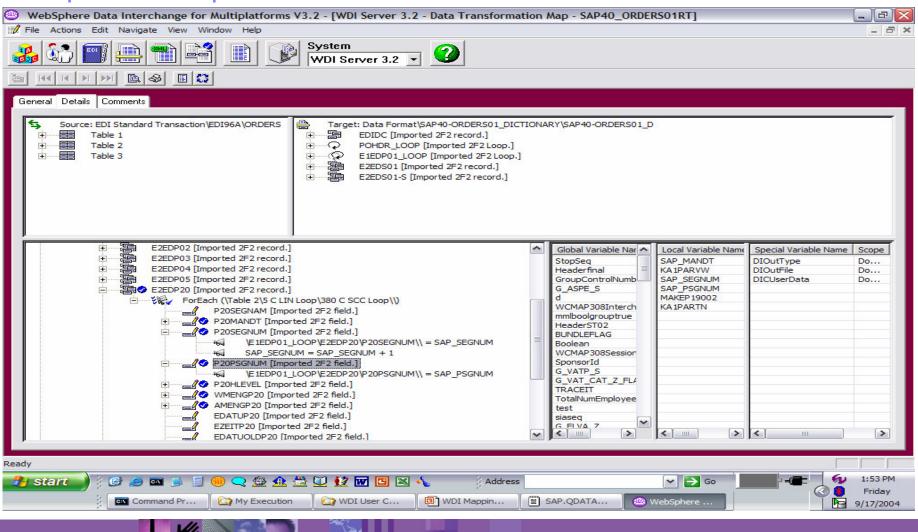




E2EDP20 is a child of E1EDP01 record. We need to set the parent sequence number. Parent sequence number was previously set in mapping of E1EDP01. Please see example below.









SAP For Your Information!







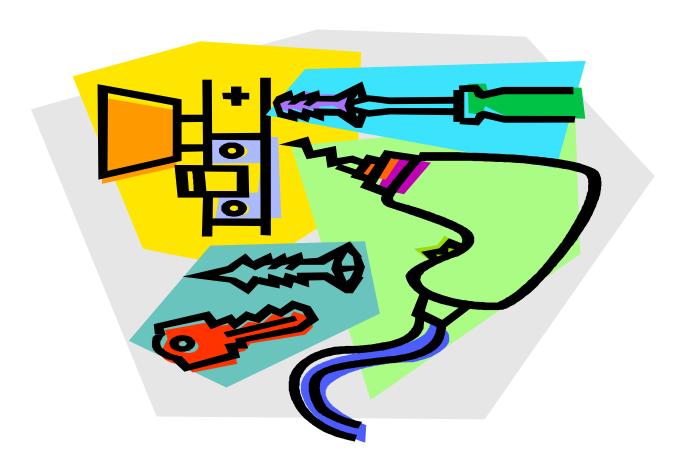
SAP For Your Information!

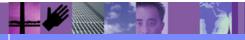
WDI development recently had a requirement opened concerning SAP Status. Customers want to extract SAP status records as XML.

This can be accomplished now with DT mapping SAP Idoc to XML.

- 1. Import the SAP Status DTD.
- 2. Define the SAP Status record layout as a Data Format (DF)
- Map the SAP Status record to XML and compile control string.
- 4. Add Generic Rule to the map Sending TP(ANY) Receiving TP(ANY)
- 5. Execute PERFORM SAP STATUS EXTRACT WHERE.....OUTFILE(SAPSTAT)
- 6. Execute PERFORM TRANSFORM WHERE.....SYNTAX(D) DICTIONARY() DOCUMENT()INFILE(SAPSTAT)







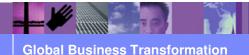


What is the Issue?

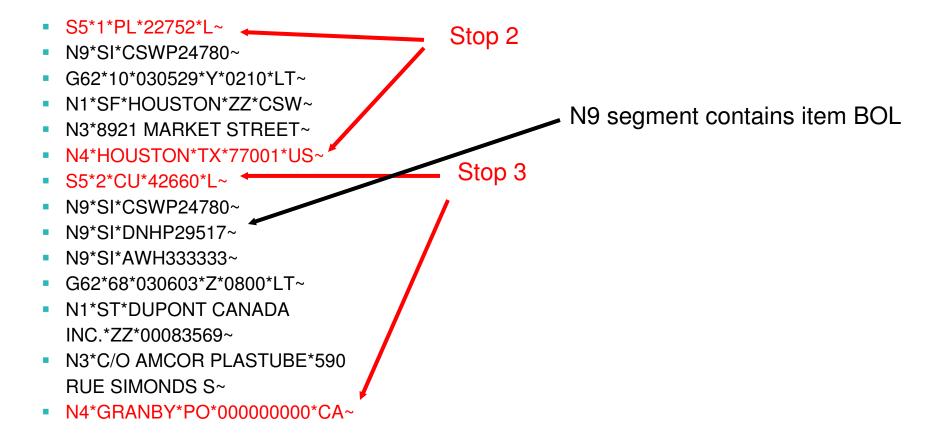
- Inbound X12 EDI 204 message contains shipment origin information in an N1 loop in the header area. The stop information is contained in an S5 loop detail area, and the item information is contained in the LX loop detail area. The S5 and the LX are independent looping structures (both at loop level 1).
- 1. No Origin info contained within the S5 loop (First stop is in N1(origin) all others in S5).
- 2. Items and Stops must be tied together by BOL (S5/N9 contains items for each stop, LX/N9 contains the item information). Must Match Item (LX/N9 to Stop (S5/N9).
- 3. Items with BOLs still not associated after # 2 above are assigned a default to the Origin (Stop 1).
- Since the stop information is in an independent loop and the item information is in another independent loop, the stops and items cannot be matched with normal mapping.



- ST*204*0002~
- B2**USXI****DNHP29517**PP~
- B2A*00*LT~
- Master BOL N9*SI*DNHP29517~
- G62*10*030529*Y*0001*LT~
- G62*68*030603*Z*0800*LT~
- H3**PLANT/WHSE PLEASE SHOW ON BILL~
- H3**S OF LADING~
- N1*SH*DUPONT*ZZ*DUP~
- N3*FMIS*P.O.BOX 8964~
- N4*WILMINGTON*DE*19801*US~
- G61*NT* *TE~
- N1*SF*ORANGE*ZZ*DNH~
- Origin information (Stop 1) N3*17478 S HIGHWAY 62~
- N4*ORANGE*TX*77630*US~
- N7**O~







Master BOL

Stop 1



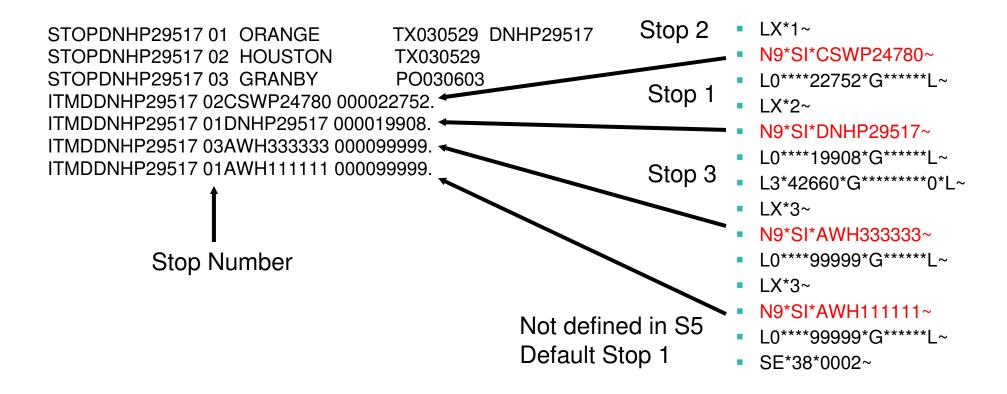
- ST*204*0002~
- B2**USXI****DNHP29517**PP~
- B2A*00*LT~
- N9*SI*DNHP29517~
- G62*10*030529*Y*0001*LT~
- G62*68*030603*Z*0800*LT~
- H3**PLANT/WHSE PLEASE SHOW ON BILL~
- H3**S OF LADING~
- N1*SH*DUPONT*ZZ*DUP~
- N3*FMIS*P.O.BOX 8964~
- N4*WILMINGTON*DE*19801*US~
- G61*NT* *TE~
- N1*SF*ORANGE*ZZ*DNH~
- N3*17478 S HIGHWAY 62~
- N4*ORANGE*TX*77630*US~
- N7**O~

- LX*1~
- N9*SI*CSWP24780~
- L0****22752*G*****L~
- LX*2~
- N9*SI*DNHP29517~
- L0****19908*G******L~
- L3*42660*G***********0*L~
- LX*3~
- N9*SI*AWH333333~
- L0****99999*G******L~
- LX*3~
- N9*SI*AWH1111111~
- L0****99999*G******L~
- SE*38*0002~



S5*1*PL*22752*L~ LX*1~ N9*SI*CSWP24780~ N9*SI*CSWP24780~ Stop 2 G62*10*030529*Y*0210*LT~ L0****22752*G*****L~ N1*SF*HOUSTON*ZZ*CSW~ LX*2~ N3*8921 MARKET STREET~ N9*SI*DNHP29517~ duplicate N4*HOUSTON*TX*77001*US~ L0****19908*G*****L~ S5*2*CU*42660*L~ L3*42660*G*********0*L~ N9*SI*CSWP24780~ LX*3~ N9*SI*DNHP29517~ N9*SI*AWH333333~ N9*SI*AWH333333~ Stop 3 L0****99999*G*****L~ G62*68*030603*Z*0800*LT~ LX*3~ N1*ST*DUPONT CANADA N9*SI*AWH111111~ INC.*ZZ*00083569~ L0****99999*G*****L~ N3*C/O AMCOR PLASTUBE*590 SE*38*0002~ **RUE SIMONDS S~** Not defined in S5 N4*GRANBY*PO*000000000*CA~ Default Stop 1



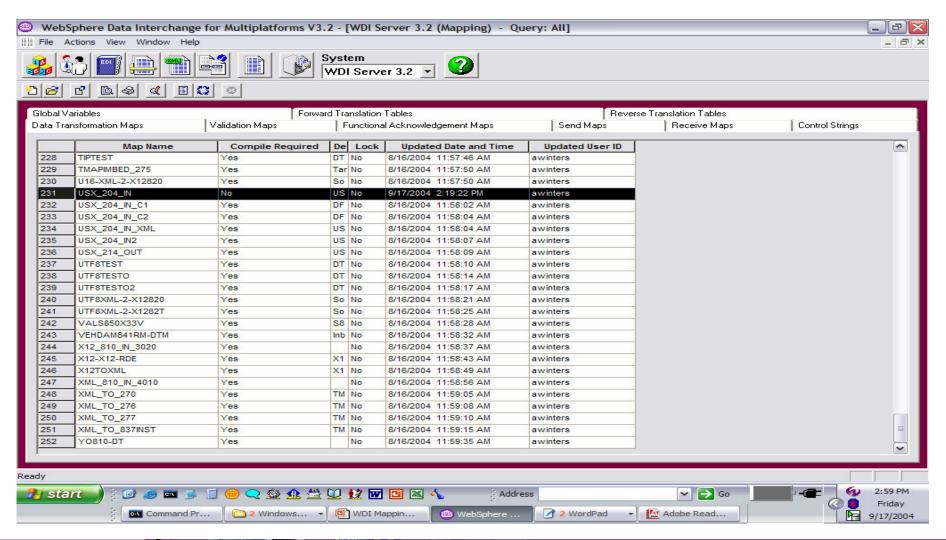




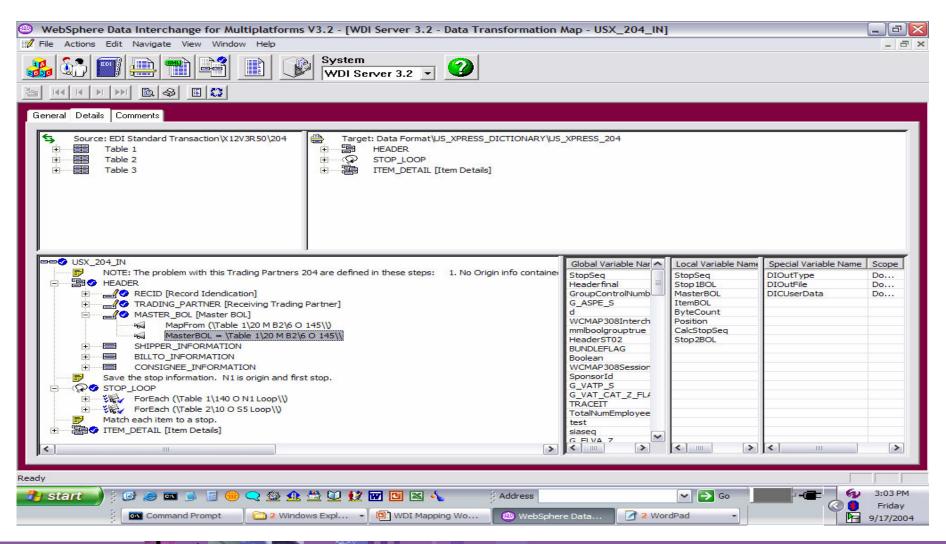
Solution

- Variables can be defined with a length up to 32K.
- ➤ If we save the stop and item BOLs found in the S5/N9 loop in a variable, we can search the variable for the BOLs found in the LX/N9 loop to identify the stop.

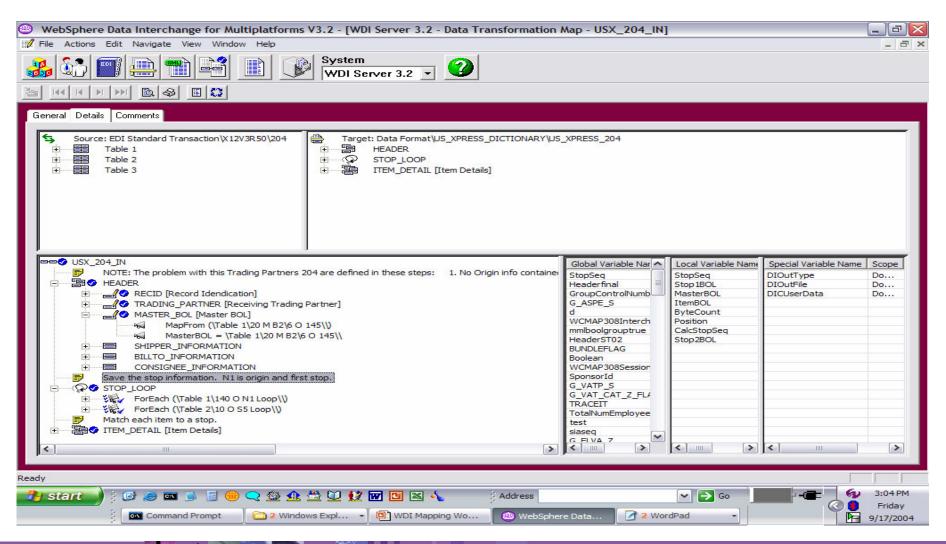




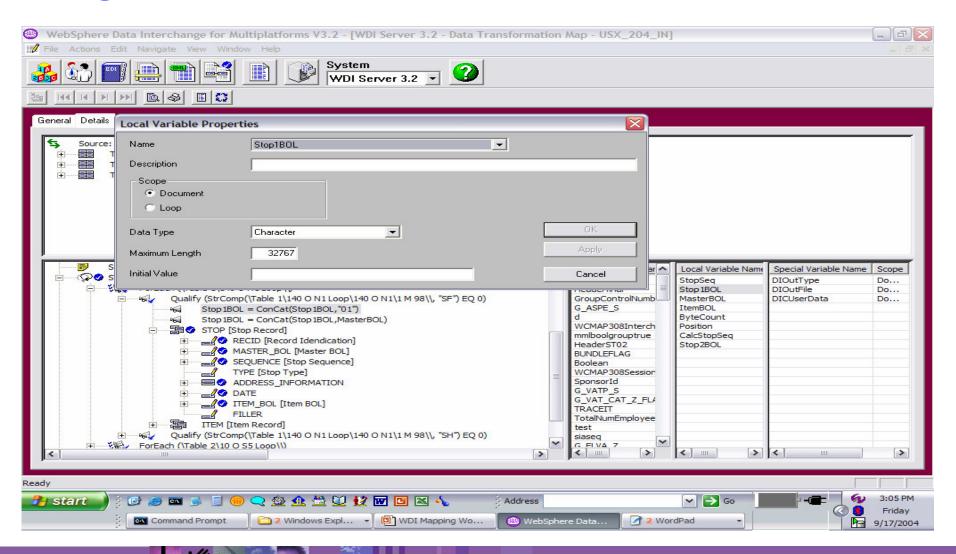




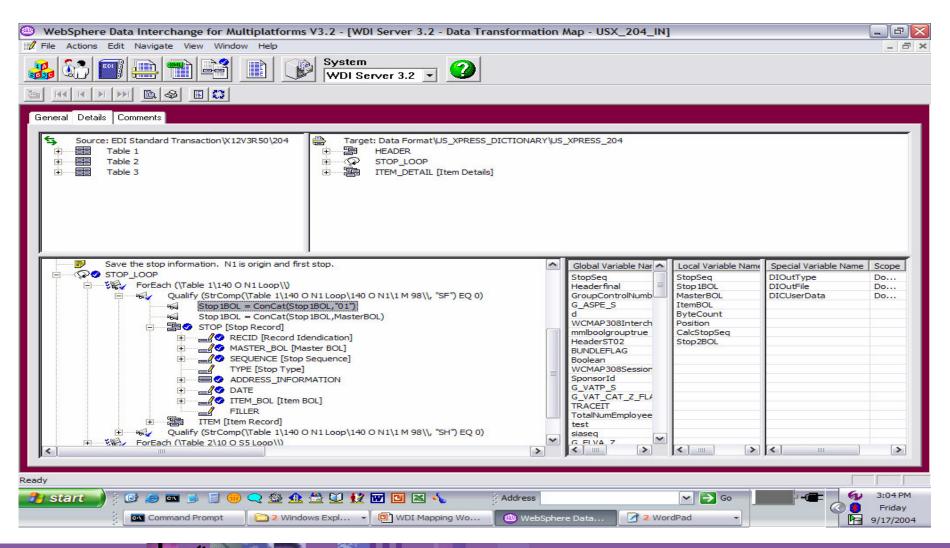




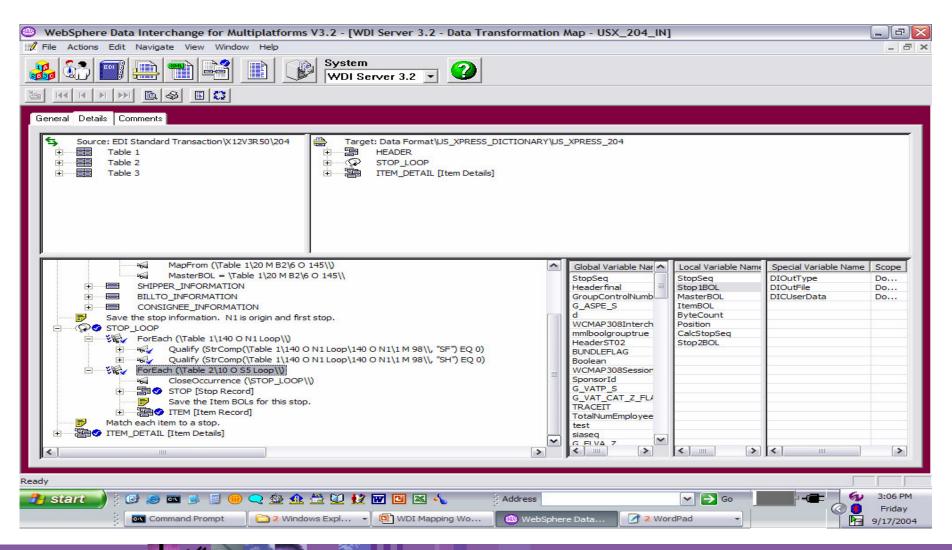




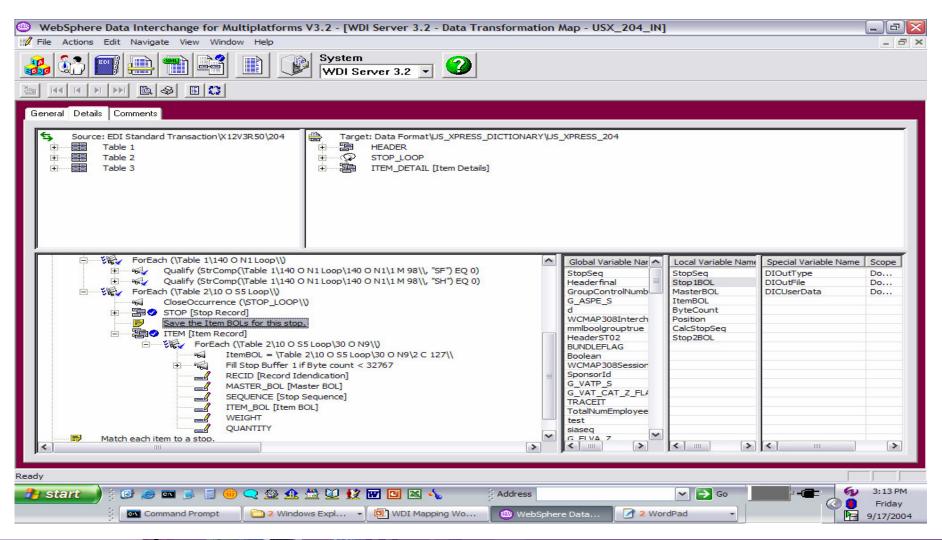




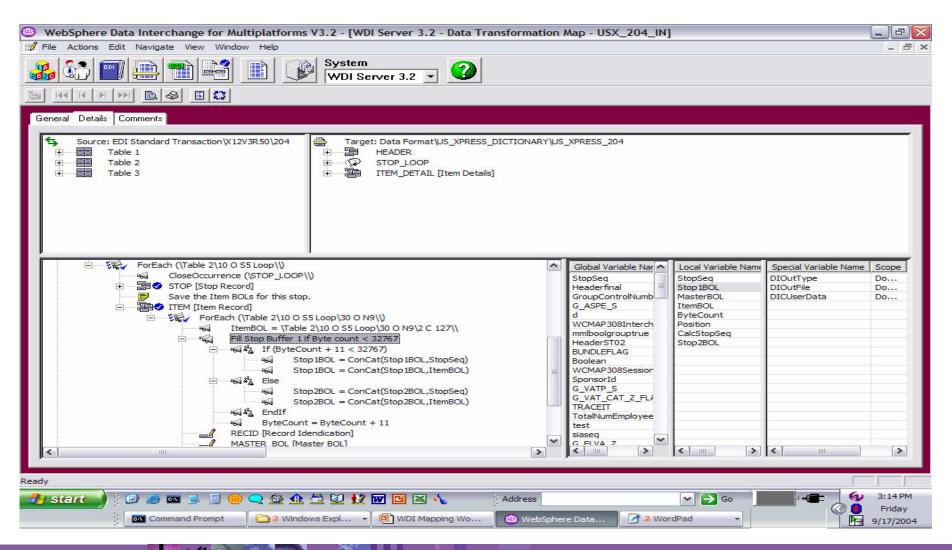








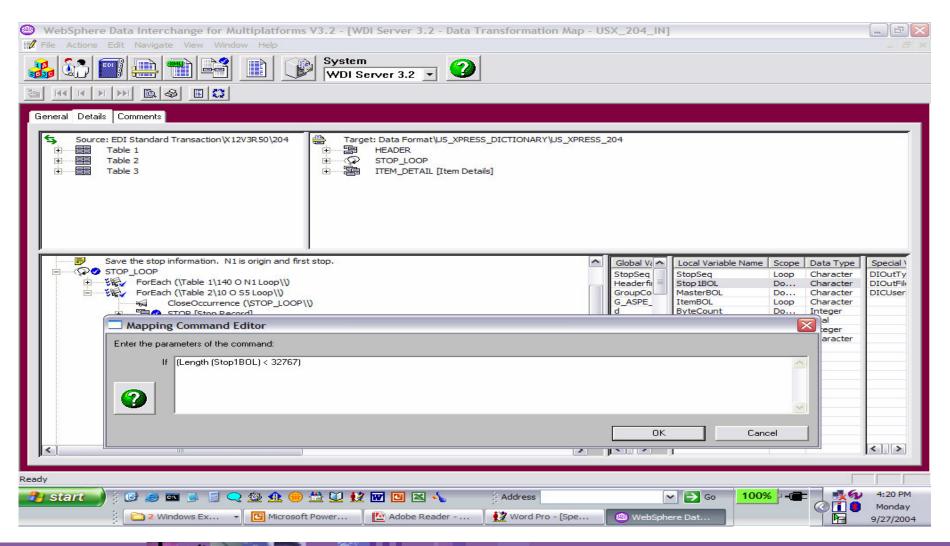




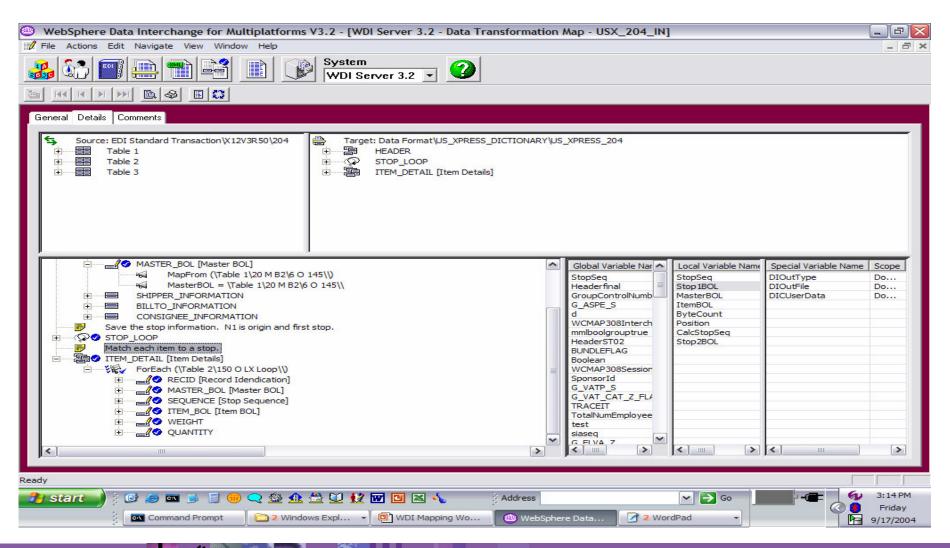


Alternative to using ByteCount variable would be to use the Length() function. Please see example below.

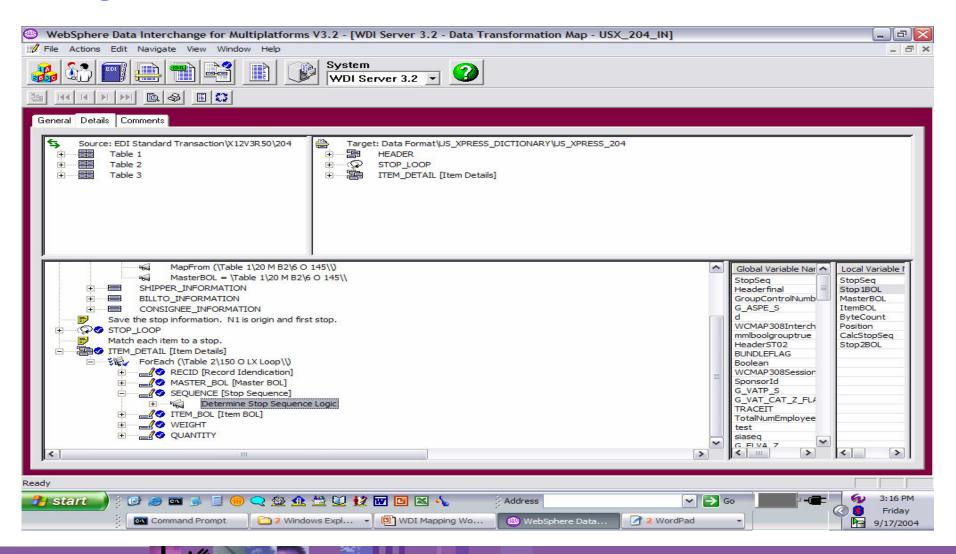




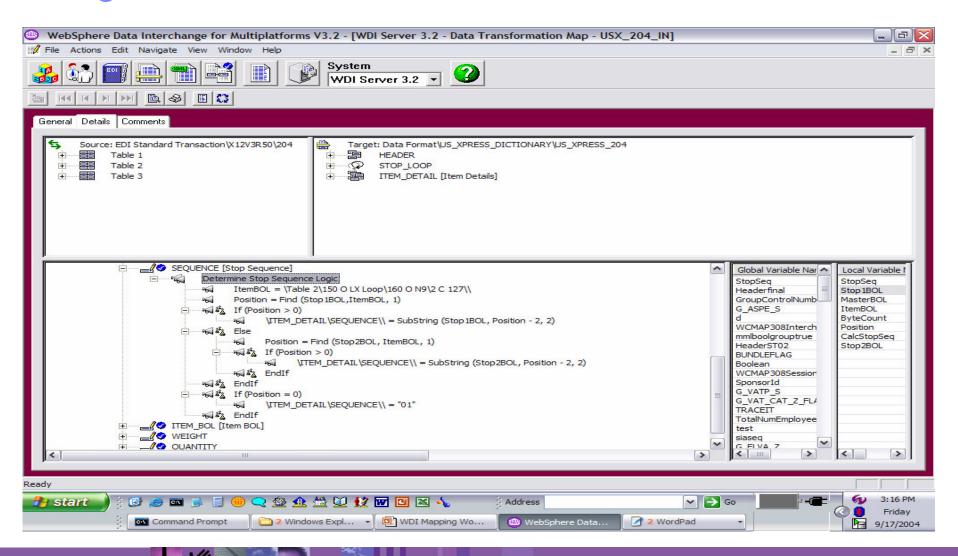




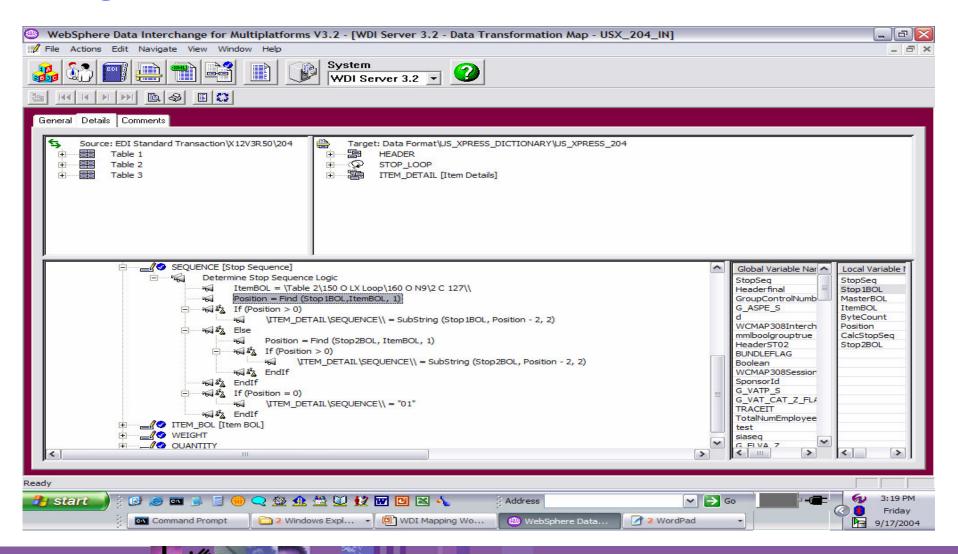




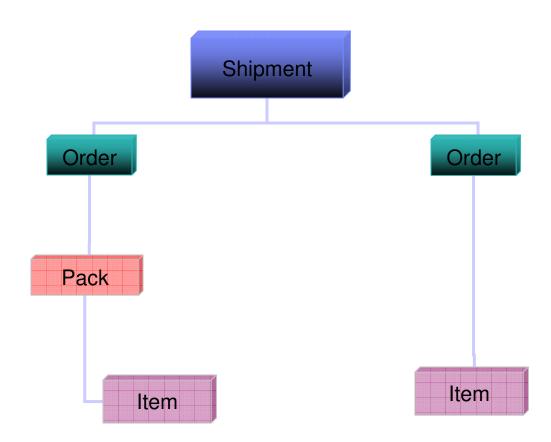
















What is the issue?

- Source EDI (Receive): The major problems are centered around when records/structures should be created and when data should be over laid but the HL segment provides all the information necessary to determine the real nesting that is taking place.
 - Customers need a way to have different HL Loop Levels mapping to different data format records/structures.
 - 2. Customers need a way to have different HL Loop mappings based on which HL was the parent.



What is the Issue?

- Target EDI (Send): The major problem is that we must create the HL segment and somehow define in the mapping what the hierarchy should be. In some cases, the hierarchy of the records/structures in the Data Format can tell us the information category hierarchy. However, this won't work in all cases as in the example when category "Item" has parents of "Pack" and "Order". It is not possible to define this hierarchy in the Data Format and thus the hierarchy can only be determined by the order in which records/structures are presented to WDI for translation.
 - 1. The application data typically does not contain any of the information required in the HL segment.



WHY Special handling of HL segments:

WDI Client provides special mapping support for the HL loop which allows you to define Hierarchical levels and specify unique mapping instructions for each identifiable group of structures in a hierarchical level (loop). For EDI target messages the HL segment can be automatically created eliminating the need for the application to supply the hierarchical information.

WDI Send/Receive Mapping Support:

Source EDI (Receive): The hierarchical nesting level is determined by inspecting the HL01 and HL02 values and will treat the nesting defined by these fields the same as if the nesting had been explicitly defined by the standard. When translating, the translator will pick a mapping based on the current category and the parent category. It is also possible to have a default mapping based on the category only (that is, a mapping that is independent of parent category).



WDI Send/Receive Mapping Support:

➤ Target EDI (Send): Special literals that signal WDI translation to automatically create fields for the HL segment. WDI 3.1 z/os mapping tool automatically provides this default mapping when an HL loop is mapped WDI Client 3.1 mapping does not.

&HLID

A sequential number that increments for each HL segment produced.

&HLPID

The HLID value for the parent of the current HL.

&HCODE

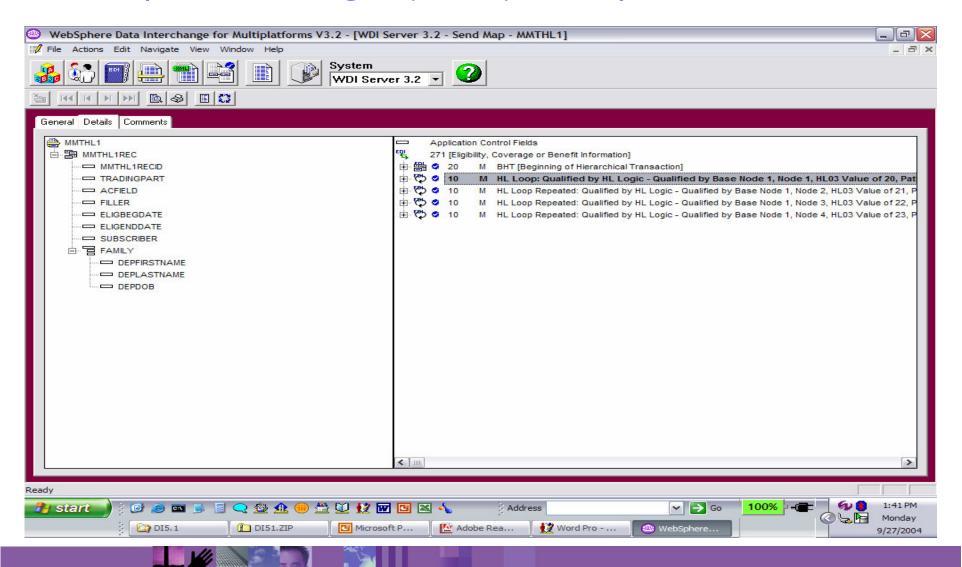
The hierarchical code associated with this HL segment

&HCHILD

Flag set to 1 if this HL segment has subordinates.

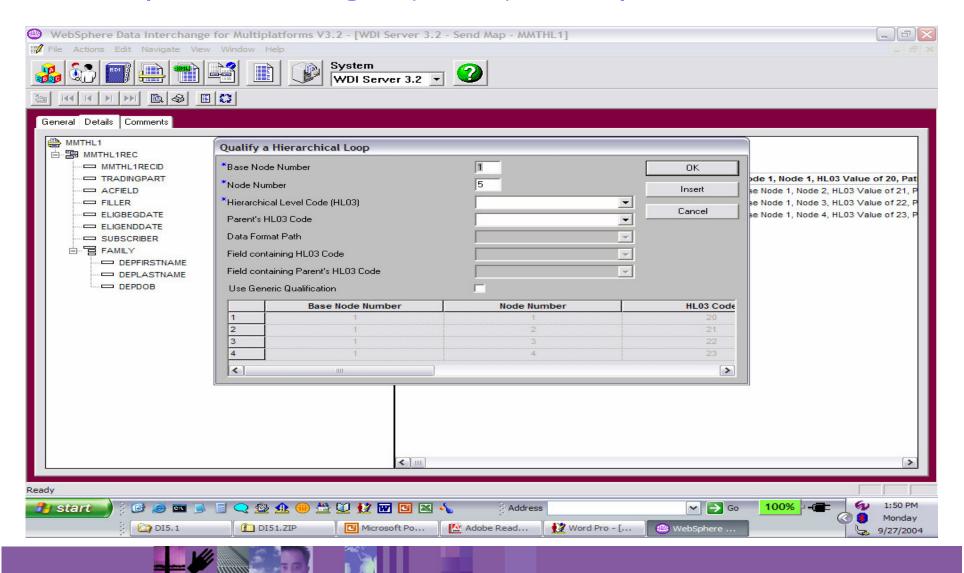


HL Loops - EDI target (Send) example



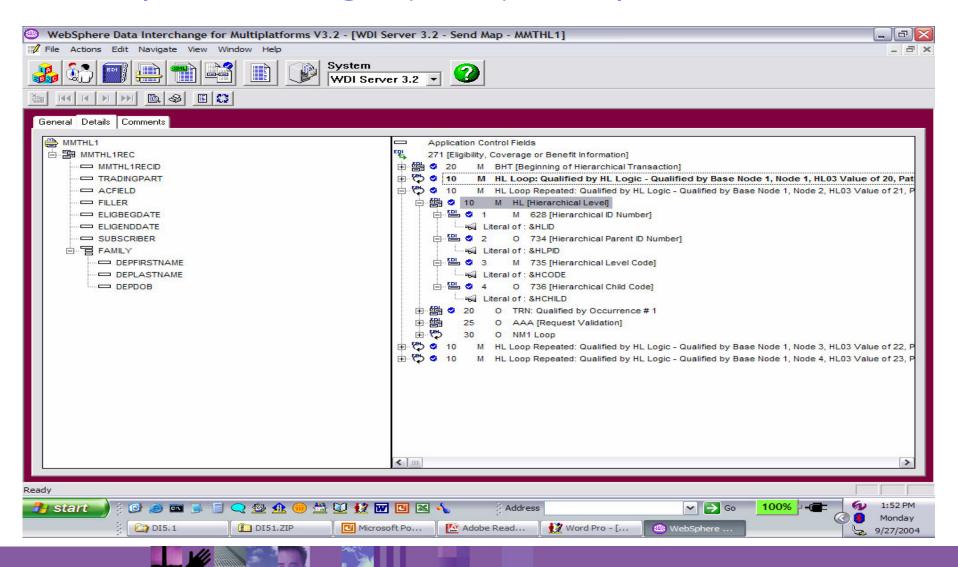


HL Loops - EDI target (Send) example





HL Loops - EDI target (Send) example





HL Loops – Data Transformation

WDI Data Transformation Mapping Support:

- Source based mapped is required to use special HL mapping support when EDI is the <u>source</u> message.
- Target based mapped is required to use special HL mapping support when EDI is the <u>target</u> message.



HL Loops – Data Transformation

Defining HL Levels

- > To create the base HL level:
 - 1. Go to the mapping details tab, and right-click the HL loop in the command window. The Qualification Selection Window displays.
 - 2. Select Insert HL Qualification

