IBM Software Group

2005 B2B Customer Conference

Pioneering New Horizons – Solutions that Evolve

WDI Problem Determination

Jon Kirkwood

WebSphere. software

ON DEMAND BUSINESS

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Objectives

- Self help
- WDI support process
- Problem determination techniques
- Interpreting WDI messages
- Case studies

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Self Help Support Sites

- WebSphere Data Interchange website
  - http://www.ibm.com/websphere/datainterchange
- IBMLink and SupportLink for z/OS
  - http://www.ibm.com/ibmlink
- Electronic Service Request (ESR) for Multiplatform
  - http://www.ibm.com/software/support/help.html
- Downloading fixes:
  - z/OS: http://www.ibm.com/servers/eserver/support/zseries/fixes/
  - MP: http://www.ibm.com/software/integration/wdi/downloads/
  - Client: http://www.ibm.com/software/integration/wdi/downloads/

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Self Help Support Sites (Continued)

- http://www.ibm.com/websphere/datainterchange

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Self Help Support Sites (Continued)

- WebSphere platform
- Data management

Related solutions
- WebSphere Partner Gateway

Related hardware
- zSeries

Related services
- Application Connectivity services
- IBM Global Services

- Warranty info

- Introduces advanced data validation and standards compliance function to provide industry-leading support for HIPAA, ANSI X12 embedded HL7, and other industry formats
- Allows direct import of industry-standard or user-defined XML DTDs for mapping and translation
- Provides a mapping tool to build EDI, XML, and application data format transformations in a graphical user interface (provided by the WebSphere Data Interchange Client)

Highlights

Education: WebSphere Data Interchange

2005 Customer Conference - Registration opens July 1

Business Integration Info kits

Upgrades/Migrations

Migrate to WebSphere Data Interchange Version 3.2

→ Standards, host, client & Fix Pack downloads

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Self Help Support Sites (Continued)

- Key features of WDI website:
  - Downloads: Click on, “Standards, host, client & Fix Pack downloads”
    - EDI Standards
    - Multiplatform fixes
    - WDI Client fixes
  - Library
    - WDI 3.2.1 Manuals and publications
    - DataInterchange 3.1 Manuals
  - Support
    - Search non-defect FAQ database, a.k.a. Technotes
    - Search defect APAR database
    - Product Requirement Form

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Self Help Support Sites (Continued)

- Search Capabilities
  - By default, search includes Technotes (FAQ), APARs (defect), Redbooks, etc. for only WDI
  - Check "Solve a problem" to limit search to only Technotes and APARs
    - Next page provides refined search by “Document type”
  - Alternatively, when searching for defects, limit search by platform:
    - z/OS: Precede search string with 5655I4000
    - MP: Precede search string with 5724C5001

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Self Help Support Sites (Continued)

- Other search features
  - ‘Search all software support’ to go beyond WDI
  - Advanced search offers
    - Boolean options
    - Limit results to Exclude/include APARs
    - Limit results within components

      WDI 3.2 Client

      WDI 3.2 for z/OS

      WDI 3.2 MP
  - Limit results by modifying dates

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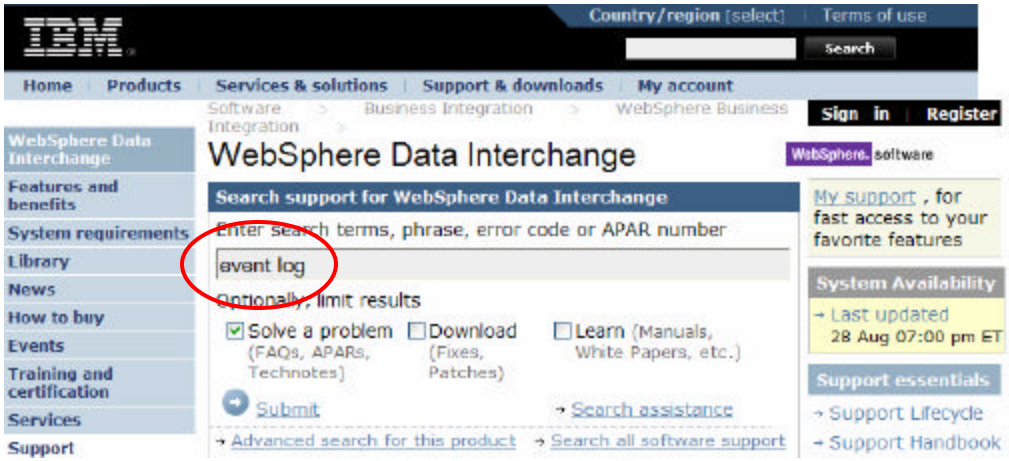
Search Capabilities Example



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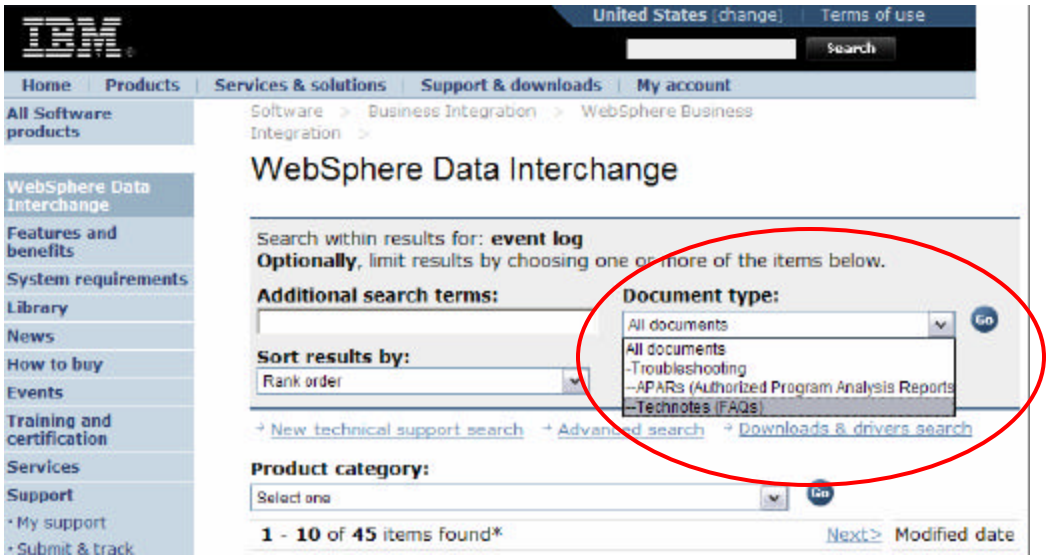
Search Capabilities Example (Continued)



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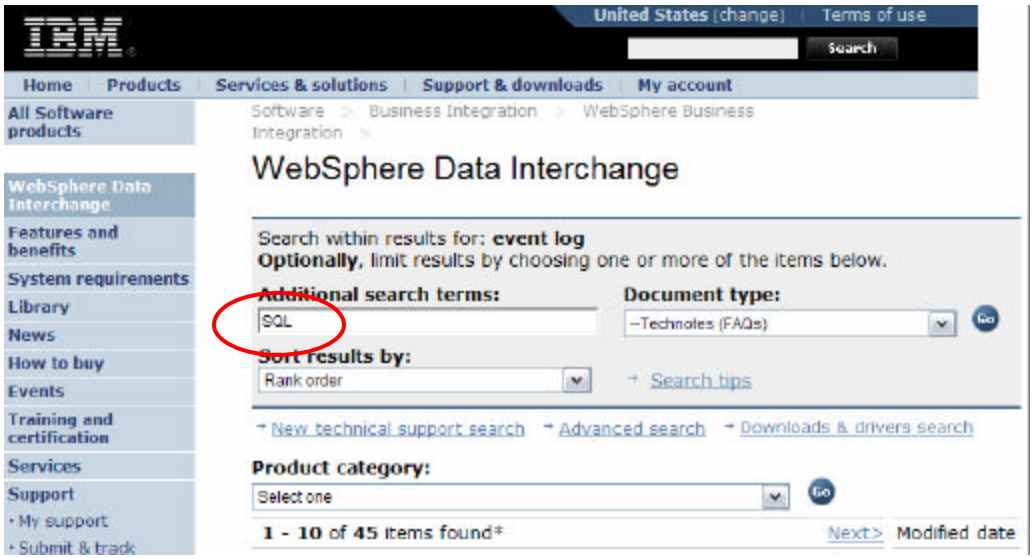
Search Capabilities Example (Continued)



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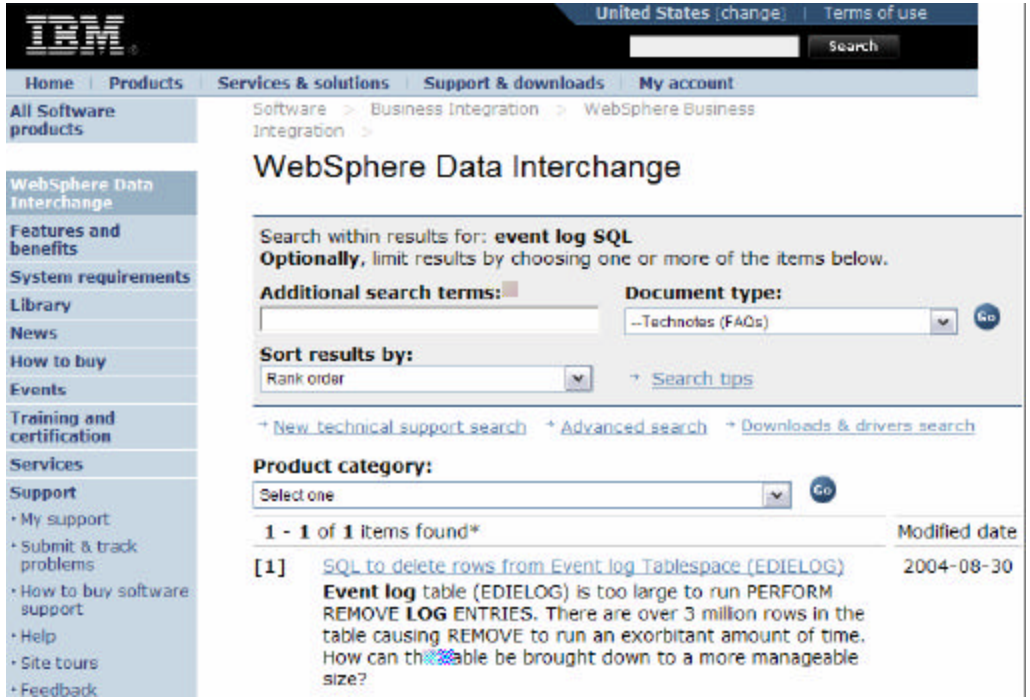
Search Capabilities Example (Continued)



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WDI Support Process

- Begins by opening a Problem Management Record (PMR)
  - USA Hotline: 1-800-IBM-SERV (1-800-426-7378)

    Voice support

    Two hour call-back between 8am–5pm in your time-zone for all severities. Off-shift support for severity 1.

    Service agreement required for how-to and usage questions
  - Worldwide directory: http://www.ibm.com/planetwide/
- Electronic problem submission
  - Electronic Technical Response (ETR) for z/OS customers

    IBMLink, ServiceLink and SoftwareXcel - service agreement required

    http://www.ibm.com/services/us/its/pdf/swxcel.pdf
  - Electronic Service Request (ESR) for multiplatform

    Passport Advantage - service agreement required

    http://www.ibm.com/software/passportadvantage

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WDI Support Process (continued)

- Define the problem
- Gather background Information
  - Software levels of relevant products
  - What steps led to the failure?
  - Can the problem be recreated? Recreation steps?
  - Have any changes been made to the system?
  - Were any messages or other diagnostic information produced?
- Gather relevant diagnostic information
  - Print file, joblog, operating system messages, storage dumps, traces, etc.
- Determine the business impact, i.e. severity level

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WDI Support Process (continued)

- Severity Levels
  - Severity 1 - Critical Impact/System Down: Business critical software component is inoperable or critical interface has failed. This indicates you are unable to use the program resulting in a critical impact on operations. This condition requires an immediate solution.
  - Severity 2 - Significant business impact, this indicates the program is usable but is severely limited.
  - Severity 3 - Some business impact, this indicates the program is usable with less significant features (not critical to operations) unavailable.
  - Severity 4 - Minimal business impact, this indicates the problem causes little impact on operations or that a reasonable circumvention to the problem has been implemented.

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WDI Support Process (continued)

- Have the following information ready when calling or submitting a problem:
  - IBM Customer Number
  - The machine type/model/serial number
  - Company name
  - Contact name
  - Preferred means of contact (voice or email)
  - Background and diagnostic information
- Support handbook
  - http://techsupport.services.ibm.com/guides/webhndbk.pdf
  - Fill out the “Problem Identification Worksheet” on page 23

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WDI Support Process (continued)

- Defects managed via Authorized Program Analysis Reports (APAR) process
- APAR is routed to appropriate development team.
- If defect has high impact, a code fix is created for existing version/release and delivered via:
  - Program Temporary Fix (PTF) for z/OS customers
  - Corrective Service Delivery (CSD) for Multiplatform
- If the defect has low impact, which does not require an immediate, permanent fix, we may defer the fix for a future release.

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WDI Support Process (continued)

Determine what files Support may need

- If problem is reproducible:
  - Isolate problem to specific input transaction or message
  - Gather input file, print file, joblog, and export of map in tagged format selecting all associated objects
  - Include incorrect output file and expected output, if applicable
- If not reproducible, as in a sporadic ABEND:
  - Gather input file, print file (joblog), and export of map in tagged format selecting all associated objects
  - Capture dump dataset:
    - z/OS add SYSUDUMP and CEEDUMP to JCL
    - AIX core dump
    - Windows application exception dump

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WDI Support Process (continued)

- Post test files to Support Center's FTP server:
  - ECuRep: Enhanced Customer Data Repository:

    http://www.ibm.com/de/support/ecurep/mvs.html
  - Replacement for testcase.software.ibm.com

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Problem Determination Techniques

- New map development
- Incorrect output
- Abnormal end
- Runs on one system but not another
- Interpreting WDI messages

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Problem Determination Techniques

- New map development
  - Unexpected output
  - DT map, run with TRACELEVEL(A1) on PERFORM

    Add EDIDTTRC DD to JCL
  - Send/Receive map: &SET DIVARTRACE 1

    &SET DIEXPTRACE 1
  - Print map from WDI Client for a different perspective
  - Print data format, if applicable, to verify field offsets

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Problem Determination Techniques (Continued)

- Incorrect output – existing map suddenly fails
  - What changed?
    - Was map changed or recompiled?
    - Was anything recently upgraded?
      - WDI server, client, DB2, WMQ, operating system, etc.
  - Check input for anomalies
  - Isolate input to single failed transaction or message
  - DT map, run with TRACELEVEL(A1) on PERFORM
    - Z/OS: Add EDIDTTRC DD to JCL
    - AIX or Windows: Add EDIDTTRC 'Set file' to command file
  - Send/Receive map: &SET DIVARTRACE 1
&SET DIEXPTRACE 1

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Problem Determination Techniques (Continued)

- Abnormal end
  - Check System Server Platform under view menu
    - If Platform mismatch, recompile map and re-run translator
  - z/OS job completion = Sxxx or Uyyy
    - System ABEND lookup in documentation:
      http://www.ibm.com/servers/resourcelink
    - User ABEND pertains to DT and are likely from LE
    - Check steplib
    - Check memory usage
    - Check XML Toolkit
  - AIX or Windows -- Signal 11 or core dump
    - Check libpath or path settings
    - Check memory usage

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Problem Determination Techniques (Continued)

- Runs on one system but not another
  - Compare maintenance levels
    - z/OS: Compare PTF listings from system programmer
    - Windows – check the registry
      - HKEY_LOCAL_MACHINE\SOFTWARE\IBM\WebSphere Data Interchange
      - key CurrentVersion=3.2.X, where X is the latest CSD number
    - AIX – issue command "lslpp -L IBMWDIServer32“
  - Check map compile date
  - Check for differences in system capacity

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Problem Determination Techniques (Continued)

- Interpreting WDI messages
  - Messages start with two character “service” designation, e.g. “TR” for Translator, “PS” for profile services
  - Check WDI Messages and codes for further information
  - Messages and Codes also lists return codes from each service
  - Messages and Codes Appendix A. provides a Translator Message (TRnnnn) example under, “Interpreting log entries”

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Case 1

- ABEND U4036 – z/OS
  - Similar to system abend S0C4
  - If using IEFBR14, job condition code = 12
  - Pertains to Data Transformation only
  - LE intercepted abend and writes dump to CEEDUMP
  - Likely cause, getmain failure
  - Check virtual storage in joblog
    - VIRT 728K SYS 360K **EXT 124100K** SYS 9800K
    - EXT is storage used above 16M line and is the key measure
    - Consider PAGE(Y) – maintenance required
    - Consider pageable AMM – maintenance required
  - REGION=0M only gives what happens to be available
  - REGION=nM assures that you get “n” megabytes

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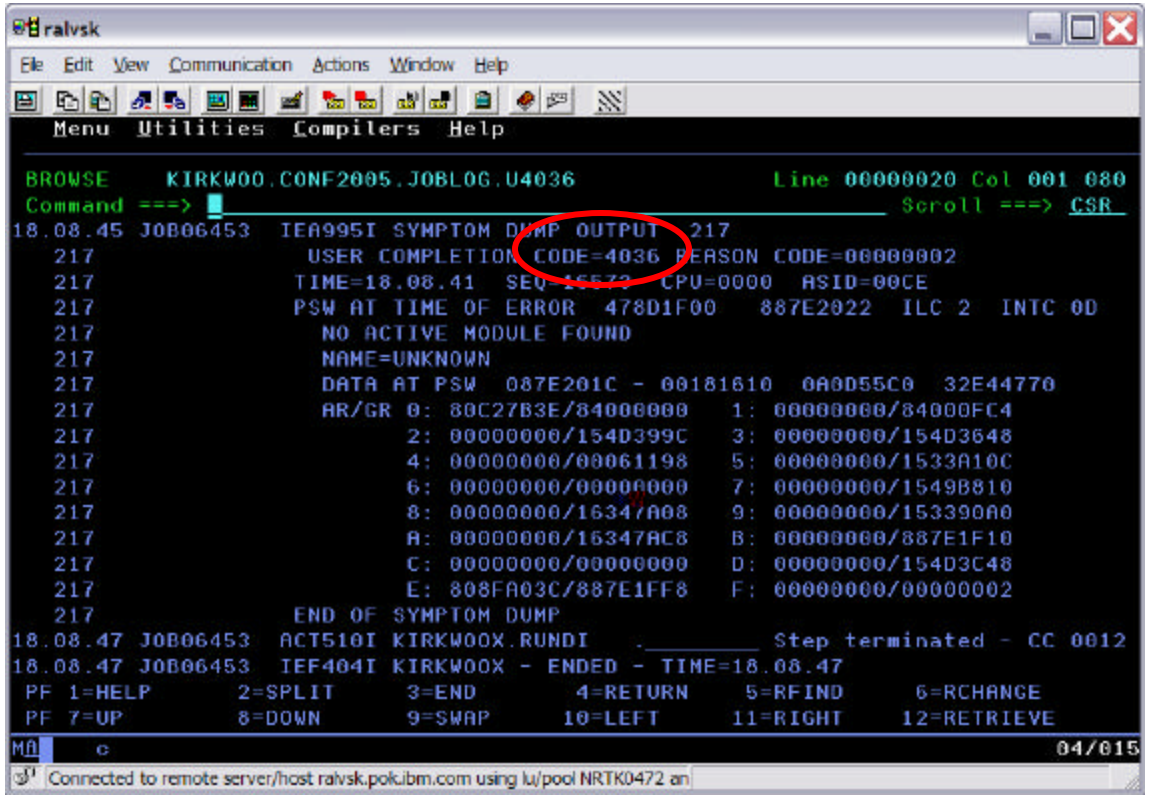
Case 1 (Continued)



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Case 2

- Initialization failure
  - Pertains to any WDI utility function
  - Check for DB2 messages
    - Lookup SQLCODE and REASON codes in DB2 Messages and Codes on Resource Link
- Z/OS job step Condition code = 120
  - DB2 message written to job log via WTO
  - Program failed attempting to initialize the Service Director

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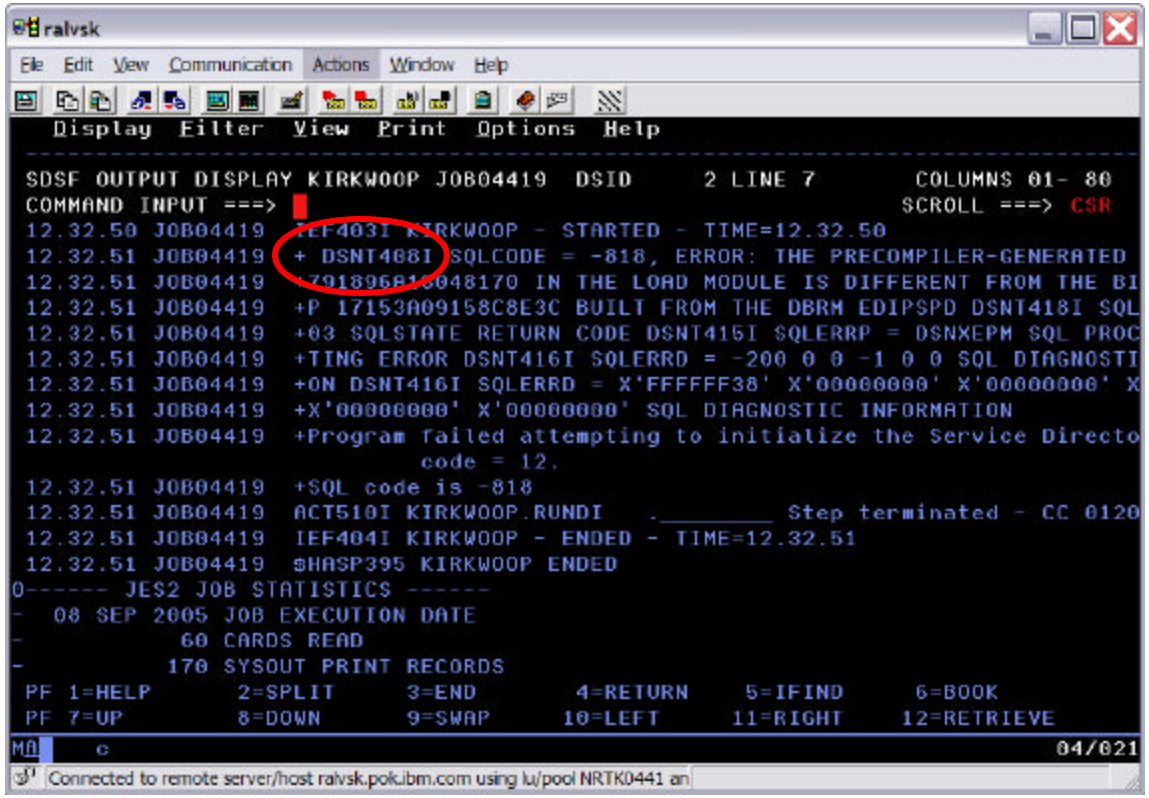
Case 2 (Continued)



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Case 2 (Continued)

- MultiPlatform returns RC=8 ERC=32
  - PS00400 Profile Services database error
  - Command Line window from ediservr provides reason
  - WDI adapter command window or .trace file

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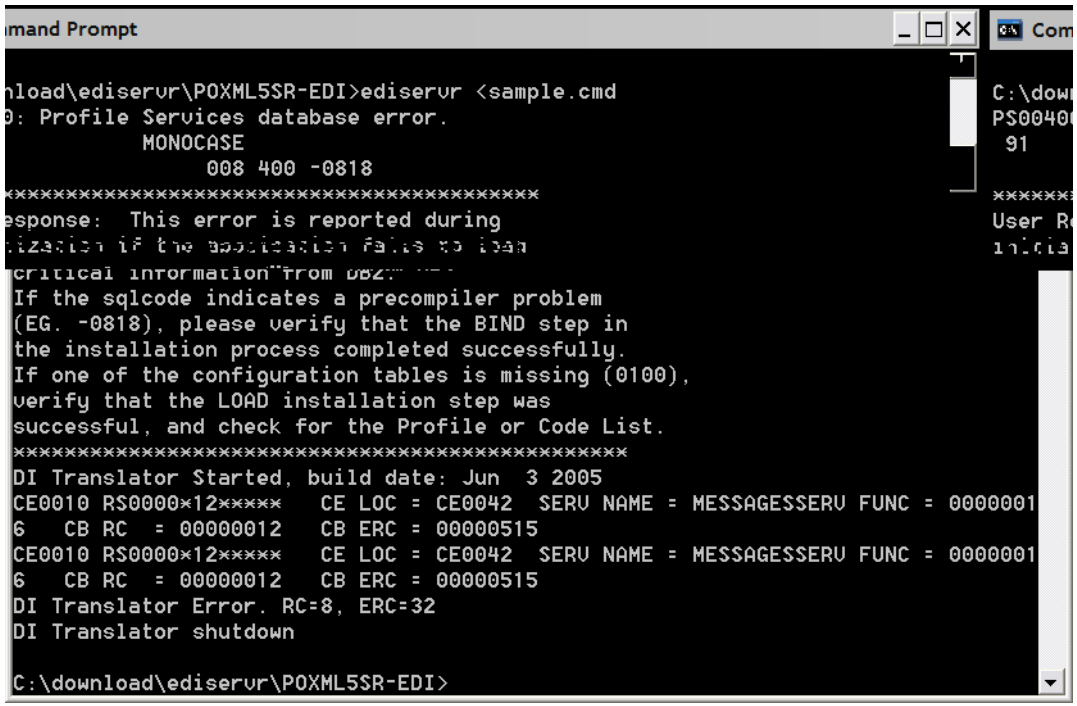
Case 2 (Continued)



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Case 3 (Continued)

- Data Transformation rule not found – EDI to ADF
  - UT0016 – STD (Standard) type control string not found
  - RU0001 – no active rule found
  - MB0099 – data transformation failed

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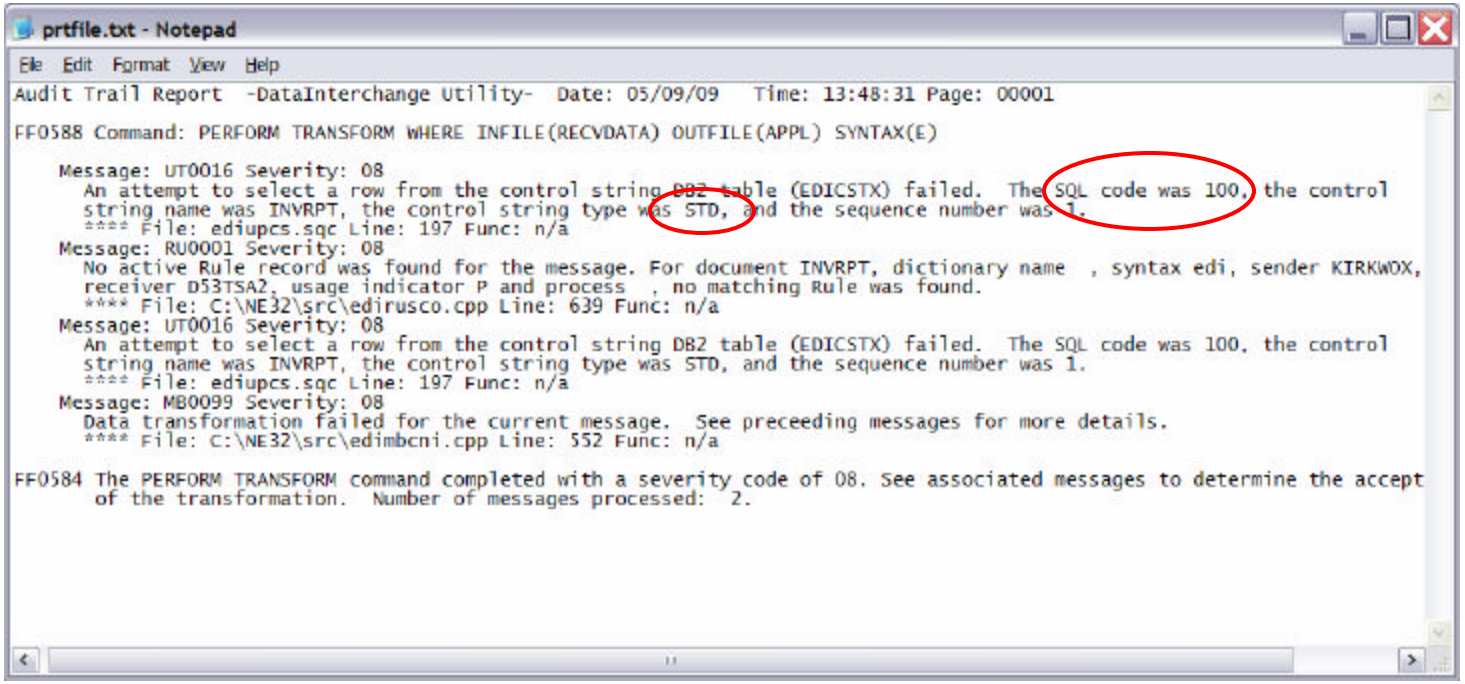
Case 3 (Continued)



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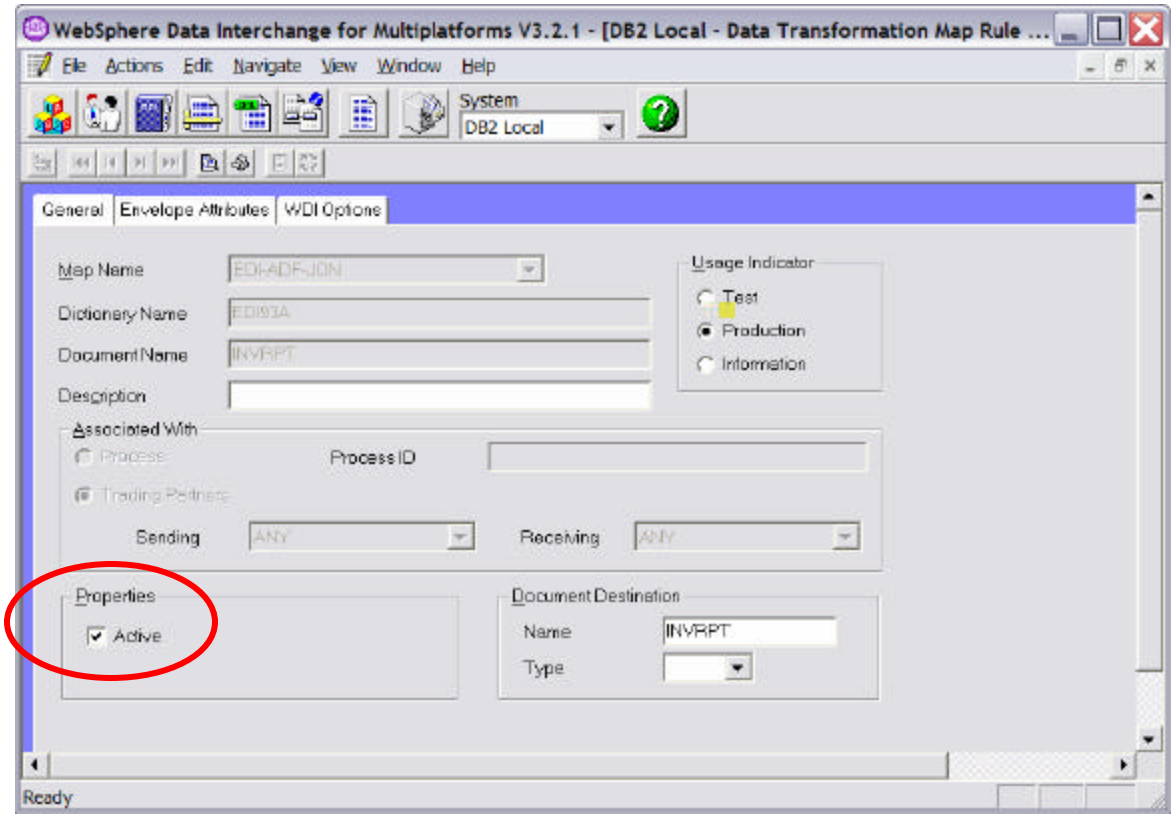
Case 3 (Continued)



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Case 3 (Continued)

- EDI input:

UNB+UNOA:2+D53T KIRKWOX:ZZ+D53T D53TSA2:ZZ+050513:0912+111‘
UNH+11+INVRPT:D:93A:UN:EAN003‘

Version

:
:
UNT+14+11'
UNZ+1+111'

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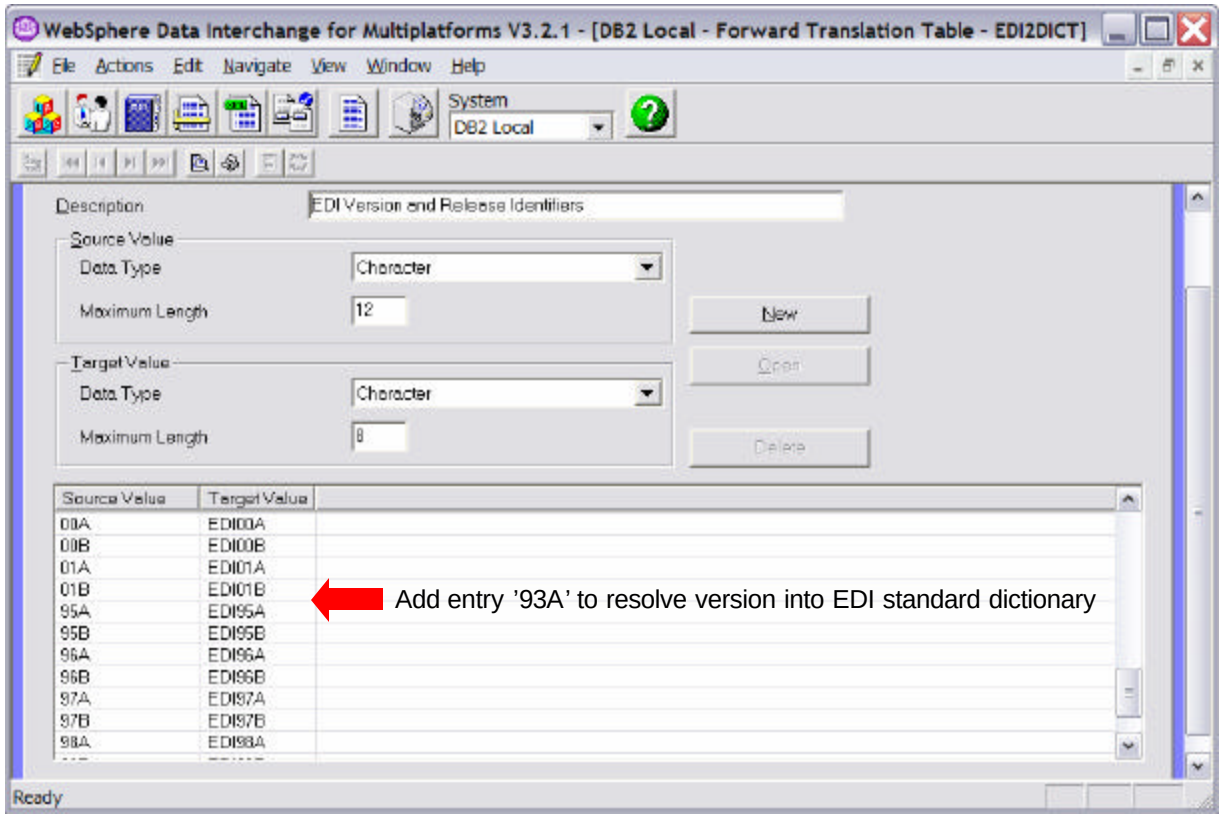
Case 3 (Continued)



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Case 3 (Continued)

- Alternatively, add DICTIONARY(EDI93A) to the PERFORM statement
  - All Input messages then must use the same standard dictionary
  - Not as flexible as using EDI2DICT forward translation table
- Optionally, sending and/or receiving trading partner can be used to be selective when finding a matching rule
  - Sending trading partner commonly used
  - Otherwise, use ANY for both sending and receiving trading partners

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Summary

- Utilize self help websites
- New Technotes are being added
- Still need help? Call WDI support
- Review problem determination techniques to prepare for the call
- Someday you will encounter one of these case studies

I promise !

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Acronyms

- ABEND Abnormal End
- AMM Abstract Message Model
- APAR Authorized Program Analysis Report
- CSD Corrective Service Delivery
- DB2 DataBase 2
- DT Data Transformation
- ECuRep Enhanced Customer Data Repository
- EDI Electronic Data Interchange
- ESR Electronic Service Request
- ETR Electronic Technical Response
- FAQ Frequently Asked Questions
- LE Language Environment
- MP MultiPlatform
- PTF Program Temporary Fix
- WMQ WebSphere MQ (MQSeries)
- WDI WebSphere Data Interchange
- WTO Write To Operator

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