



IBM Software Group

# 2006 B2B Customer Conference

## *B2B – Catch the Next Wave*

### A5: Job submission / Performance / Message Size

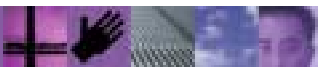
WebSphere. software

A horizontal decorative banner with a purple background, featuring a series of colorful squares (yellow, green, red) and various abstract icons (a starburst, a globe, a face, a cross, a globe, a grid of circles).

**ON DEMAND BUSINESS™**

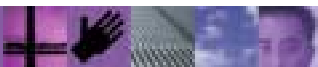
# Objectives

- Introduce the use of Job Submission in WDI
- Show how the WDI Client uses submissions
- Expose the supporting technology
  
- Identify areas where performance may change
  
- Walk through WDI's handling of large data in a WMQ environment



## Job Submission: Client evolution

- WDI 3.1 began the move to a feature rich Client running on a local workstation
- WDI 3.2 extended the Client's capabilities and moved many functions off of the VTAM screens
- Key operations required access to the run time host



# Job Submission: features shifting platform

- Transaction history
  - Purge, Unpurge
  - Hold, Release
  - Remove
- Stored documents
  - Envelope
  - Send
  - Translate
  - Transform



# Job Submission: cross platform scripting

- EDISERVR on EXEC
  - EDITSIN and SYSIN DD
- All platforms support common scripting language
  - SET FILE(): Logical to physical data references
  - SET PLAN(), SET SYSID(): DB2 connection
  - SET USER(): DB2 authorization
  - PERFORM: familiar command interface
- DB2 attach using DSN, CAF or RRSFAF



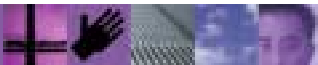
# Job Submission: Data References

- Logical to Physical names
  - Logical names in scripts and profiles
  - Physical names include directories or model DSNs
- Files have initial, exit and error dispositions
- Some physical files may reside in a database table
  - Enables remote access
  - Limited to simple character data
  - PRTFILE



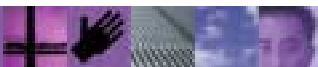
# Job Submission: possible applications

- Incidental execution
  - unique cases
  - reprocessing
- Testing
  - Map development
  - Changing network configurations
- Odd jobs
  - Purging history
  - Clearing events



# Job Submission: Client implementation

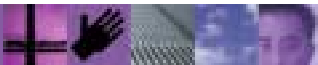
- 3 Areas for Job Submission
  - Service Profiles
  - Server Commands
  - Document Store





# Job Submission: Service Profile

- New Tabs for Service Profile
  - Associated Data References
  - Associated Submissions



# Job Submission: Service Profile

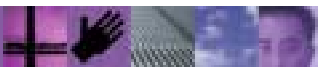
The screenshot displays the 'Service Profiles' management interface. The main window shows a table with the following data:

Service Name	Description	Lock	Updated Date and Time	Updated User ID	PERFORM Command
TP12WDIR	EDI mes...	Y...	9/19/2006 8:14:53 AM	tedg	PERFORM TRANS...

An inset window titled 'Samaurai - Service Profile - TP12WDIR' provides details for the selected profile:

- Service Name (filename):** TP12WDIR
- Continue Command Chaining:**
  - Success
  - Failure
  - Always
- Description:** EDI messages from TP1
- PERFORM Command:**

```
PERFORM TRANSFORM WHERE INFILE(TP12WDIR) SYNTAX(E) FUNACKFILE(EDI_OUT) ONEMSG(Y)
```



# Job Submission: Service Profile

Samsurai (Processing) - Query: All

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

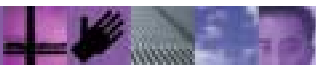
Service Name	Description	Lock	Updated Date and Time	Updated User ID	PERFORM Command
TPI2WDIR	EDI mes...	Y...	9/19/2006 8:14:53 AM	tedg	PERFORM TRANS...

Samsurai - Service Profile - TPI2WDIR

General | Associated Data References | Associated Submissions | Comments

New... Open... New... Delete

Application Defaults Profile	Physical File Reference	File Name	Description	Maximum Logical Record Length	Initial Disposition	Exit Disposition	Error Disposition
	err.txt	ERRO...		0	New	Catalog	Catalog
	qdata.out	OUTFILE		0	New	Catalog	Catalog
	qdata.in	QDATA		0	New	Catalog	Catalog
EDIFF5	cbfile.txt	CTLFIL		0	New	Catalog	Catalog



# Job Submission: Service Profile

Samsaural - Service Profile - TP12WD3H

General Associated Data References Associated Submissions Comments

New... Open... New... Delete

Application Defaults Profile	Physical File Reference	File Name	Description	Maximum Logical Record Length	Initial Disposition	Exit Disposition	Error Disposition
	err.txt	ERRO...		0	New	Catalog	Catalog
	qdata.out	OUTFILE		0	New	Catalog	Catalog
	qdata.in	QDATA		0	New	Catalog	Catalog
ED0FPS	ctfile.txt	CTLFILE		0	New	Catalog	Catalog

**Update Data Reference**

File Name	Description	Physical File Reference	Application Defaults Pro...	Maximum Logical Record Length	Initial Disposit...	Exit
CTLFILE		ctfile.txt	ED0FPS	0	New	Col

File Name:

Description:

Physical File:

Application Defaults Profile:

Maximum Record Length:

File Disposition:

Initial:

Exit:

Error:



# Job Submission: Service Profile

Samsaural (Processing) - Query: All

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

Service Name	Description	Lock	Updated Date and Time	Updated User ID	PERFORM Command
TPI2WDIR	EDI messages from TPI	No	9/28/2006 7:56:15 AM	db2inst1	PERFORM TRANS...

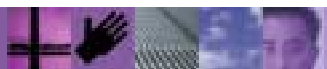
  

Samsaural - Service Profile - TPI2WDIR

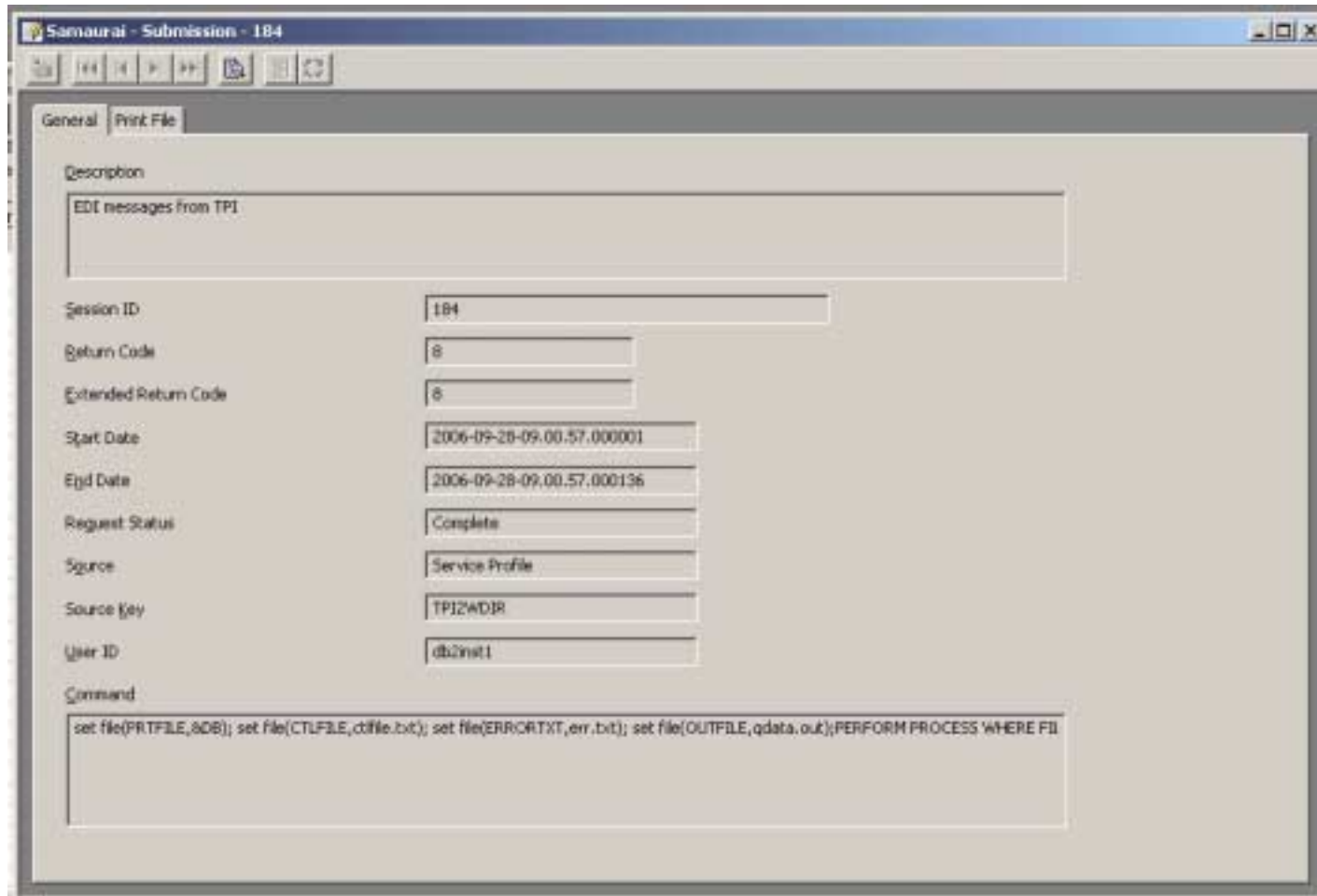
General | Associated Data References | Associated Submissions | Comments

View... Delete...

Description	Return Code	Extended Return Code	Request Status	Start Date	End Date
EDI messages from TPI	8	8	Complete	2006-09-28-08.47.43.000032	2006-09-29-08.47.43.000366
EDI messages from TPI	8	8	Complete	2006-09-28-08.47.48.000772	2006-09-28-08.47.48.000903

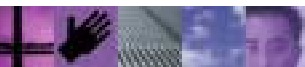


# Job Submission: Service Profile



The screenshot shows a window titled "Samaurai - Submission - 184" with a "General" tab selected. The window contains a form with the following fields:

Description	EDT messages from TPI
Session ID	184
Return Code	8
Extended Return Code	8
Start Date	2006-09-28-09.00.57.000001
End Date	2006-09-28-09.00.57.000136
Request Status	Complete
Source	Service Profile
Source Key	TP124DIR
User ID	db2inst1
Command	set file(PRTFILE,8DB); set file(CTLFIL,ctfile.txt); set file(ERRORTXT,err.txt); set file(OUTFILE,qdata.out);PERFORM PROCESS WHERE FIL



# Job Submission: Service Profile

The screenshot shows two overlapping windows from the Samaurai application. The top window, titled 'Samaurai - Service Profile - TPI2WDIR', has tabs for 'General', 'Associated Data References', 'Associated Submissions', and 'Comments'. It contains a table with the following data:

Description	Return Code	Extended Return Code	Request Status	Start Date	End Date
EDI messages from TPI	8	8	Complete	2006-09-28-08.58.48.000978	2006-09-28-08.58.49.000110
EDI messages from TPI	8	8	Complete	2006-09-28-09.00.57.000001	2006-09-28-09.00.57.000136

The bottom window, titled 'Samaurai - Submission - 184', has tabs for 'General' and 'Print File'. It displays an audit trail report with the following content:

```

1Audit Trail Report -DataInterchange Utility- Date: 06/09/28 Time: 09:00:57 Page: 00001

FF0588 Command: PERFORM PROCESS WHERE FILEID(TPI2WDIR)
FF0588 Command: PERFORM TRANSFORM WHERE INFILE(TPI2WDI) SYNTAX(E) FUNACKFILE(EDI_OUT) ONEMSG(Y)

Message: FF0611 Severity: 08
  There was an error opening file TPI2WDI. The QSAM Handler return code was 0008 and extended return code was 0028.
Message: FF0204 Severity: 08
  An error occurred preparing the input file for transformation. Refer to previously logged messages for information
  regarding the error. Processing skipped to the next WHERE clause of the PERFORM TRANSFORM command, if one was
  specified.

FF0584 The PERFORM TRANSFORM command completed with a severity code of 08. See associated messages to determine the acceptability
  of the transformation. Number of messages processed: 0.
    
```

# Job Submission: Server Commands

WebSphere Data Interchange for Multiplatforms V3.3 - Samaurai - Server Command Dictionary - PERFORMTRANSFORM

File Actions Edit Navigate View Window Help

System  
Samaurai

Samaurai (Server Commands) - Query: All

Server Command Dictionaries Server Commands Submissions

Dictionary Name	Description	Lock	Updated User ID	Updated Date and Time	Comments
CCC2		No	db2inst1	9/28/2006 8:16:14 AM	These are my comments
PERFORMTRANSFORM	PERFORM TRANSFORM COMMANDS	Y...	billw	9/26/2006 2:18:23 PM	
RENAMETIM		No	tedg	9/5/2006 2:00:22 PM	
ROBIN	test of UNTDI problem	No	db2inst1	9/28/2006 8:17:08 AM	
TESTTEDRE		No	tedg	9/25/2006 9:18:30 AM	

Samaurai - Server Command Dictionary - PERFORMTRANSFORM

General Comments

Dictionary Name: PERFORMTRANSFORM

Description: PERFORM TRANSFORM COMMANDS





# Job Submission: Server Commands

The screenshot displays the 'Samasaur (Server Commands)' application interface. The main window shows a table of server command dictionaries. A secondary window is open, providing a detailed view of a specific command.

Dictionary Name	Command Name	Description	Command	Lock	Updated User ID	Updated Date and Time	Comments
PERFORMTRANSFORM	SDTADF2ADF	S-DT-AD...	PERFORM TRANSFORM WHERE INFILE(INFILE) OUTFILE(O...	No	billw	9/26/2006 2:18:23 PM	
PERFORMTRANSFORM	SDTADF2EDI	S-DT-AD...	PERFORM TRANSFORM WHERE INFILE(INFILE) OUTFILE(O...	No	billw	9/26/2006 2:18:24 PM	
PERFORMTRANSFORM	SDTADF2XML	S-DT-AD...	PERFORM TRANSFORM WHERE INFILE(INFILE) OUTFILE(O...	Y...	billw	9/26/2006 2:18:24 PM	
PERFORMTRANSFORM	SDTEDI2ADF	S-DT-ED...	PERFORM TRANSFORM WHERE INFILE(INFILE) OUTFILE(O...	No	billw	9/26/2006 2:18:24 PM	
PERFORMTRANSFORM	SDTEDI2EDI	S-DT-ED...	PERFORM TRANSFORM WHERE INFILE(INFILE) OUTFILE(O...	No	billw	9/26/2006 2:18:24 PM	

**Samasaur - Server Command - PERFORMTRANSFORM: SDTADF2XML**

**General** | Associated Data References | Comments

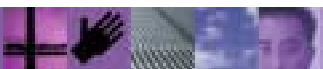
Command Statement Name:

Dictionary Name:

Description:

Command: 

```
PERFORM TRANSFORM WHERE INFILE(INFILE) OUTFILE(OUTFILE) MAPID(S-DT-ADF-TO-XML) SYNTAX(D)
DICTIONARY(SAP40-ORDER501_DICTIONARY) DOCUMENT(DTSAP40RD) CLEARFILE(Y) TRACELEVEL(A3);
```



# Job Submission: Server Commands

The screenshot displays the 'Server Commands' window in IBM WebSphere. The main window shows a list of commands under the 'Submissions' tab. A secondary window titled 'Samsara - Server Command - PERFORMTRANSFORM - SDTADF20ML' is open, showing a table of file references. A third window, 'Add Data Reference', is also open, showing a table for adding new file references.

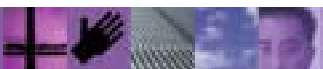
Dictionary Name	Command Name	Description	Command	Lock	Updated User ID	Updated Date and Time	Comments
PERFORMTRANSFORM	SDTADF2ADF	S-DT-AD...	PERFORM TRANSFORM WHERE INFILE(INFILE) OUTFILE(O...	No	blw	9/26/2006 2:18:23 PM	
PERFORMTRANSFORM	SDTADF2ED0	S-DT-AD...	PERFORM TRANSFORM WHERE INFILE(INFILE) OUTFILE(O...	No	blw	9/26/2006 2:18:24 PM	
PERFORMTRANSFORM	SDTADF20ML	S-DT-AD...	PERFORM TRANSFORM WHERE INFILE(INFILE) OUTFILE(O...	Y...	blw	9/26/2006 2:18:24 PM	
PERFORMTRANSFORM	SDTEDI2ADF	S-DT-ED...	PERFORM TRANSFORM WHERE INFILE(INFILE) OUTFILE(O...	No	blw	9/26/2006 2:18:24 PM	
PERFORMTRANSFORM	SDTEDI2ED0	S-DT-ED...	PERFORM TRANSFORM WHERE INFILE(INFILE) OUTFILE(O...	No	blw	9/26/2006 2:18:24 PM	

File Name	Physical File Reference
EXPFIL	home/blw/ae52/test/expfile/s_adf2cm.srvcmd.exp
FAKFI	home/blw/ae52/test/fakefile/s_adf2cm.srvcmd.fak
INFI	home/blw/ae52/test/infile/adf2cm.inp
OUTFI	home/blw/ae52/test/outfile/s_adf2cm.srvcmd.out
RPTFI	home/blw/ae52/test/rptfile/s_adf2cm.srvcmd.rpt
TRKFI	home/blw/ae52/test/trkfile/s_adf2cm.srvcmd.trk

File Name	Physical File Reference
EXPFIL	home/blw/ae52/tes ...
FAKFI	home/blw/ae52/tes ...
INFI	home/blw/ae52/tes ...
OUTFI	home/blw/ae52/tes ...
RPTFI	home/blw/ae52/tes ...
TRKFI	home/blw/ae52/tes ...



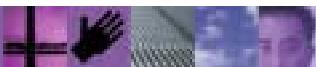
# Job Submission: Server Commands

The screenshot shows the 'Samurai (Server Commands)' application window. The main window has a tabbed interface with 'Server Command Dictionaries', 'Server Commands', and 'Submissions'. The 'Submissions' tab is active, displaying a table of submission records.

Session ID	Description	Request Status	Start Date	End Date	Return Code	Extended Return Code	User ID
5	S-DT-ADF-TO-ADF	Running	2006-09-15-11.27.55.540065		0	0	whita3
11	Lee's bogus						
12	Lee's bogus						
14	Purge requ						
15	Hold reques						
16	Hold reques						
17	Purge requ						
22	Transform r						
23	EDI messag						
24	EDI messag						
25	EDI messag						
26	Purge requ						
61	Purge requ						
62	StoreNext L						
101	Purge requ						
102	Purge requ						
103	Purge requ						
104	Unpurge rec						
121	Purge requ						
141	Purge requested from Document Store.						
142	Purge requ						
143	Unpurge rec						
144	Purge requ						
161	Purge requ						
162	Purge requ						
163	Purge requ						
164	Purge requ						
165	Purge requ						
166	Purge requ						
167	Purge requ						

The detailed view for submission 5 shows the following information:

- Description:** S-DT-ADF-TO-ADF
- Session ID:** 5
- Return Code:** 0
- Start Date:** 2006-09-15-11.27.55.000540
- End Date:**
- Request Status:** Running
- Source:** Server Command
- User ID:** whita3
- Command:** set file(PR FILE,AD6),PERFORM TRANSFORM WHERE INFILE(INFILE) OUTFILE(OUTFILE) MAPID(S-DT-ADF-TO-ADF) SYNTAX(D) C6



# Job Submission: Server Commands

The screenshot displays the 'Samurai - Server Command' configuration window and a 'Submissions' table.

**Server Command Configuration:**

- Command Statement Name: S-DT-ADF
- Dictionary Name: PERFORMTRANSFORM
- Description: S-DT-ADF-TO-ADF
- Command: `PERFORM TRANSFORM WHERE (INFILE(INFILE) OUTFILE(OUTFILE) MAPID(S-DT-ADF-TO-ADF) SYNTAX(D) DICTONARY(ADF-TO-ADF_DICT) DOCUMENT(DT-ADF2ADF) CLEARFILE(Y) TRACELEVEL(A3);`

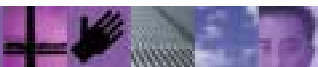
**Submissions Table:**

Session ID	Description	Request Status	Start Date	End Date
5	S-DT-ADF-TO-ADF	Running	2005-09-15-11:27:55.540055	
11	Lee's bogus perform	Running	2005-09-15-12:35:10.357895	2005-09-15-12:35:10.591900
12	Lee's bogus perform	Running	2005-09-15-12:38:19.475650	2005-09-15-12:38:19.608240
14	Purge requested from Document Store.	Running	2005-09-15-13:55:56.050929	2005-09-15-13:55:56.165220
15	Hold requested from Document Store.	Running	2005-09-15-13:25:10.407039	2005-09-15-13:25:10.574080
16	Hold requested from Document Store.	Running	2005-09-15-13:27:06.367142	2005-09-15-13:27:06.498720
17	Purge requested from Document Store.	Running	2005-09-15-14:41:12.297153	2005-09-15-14:41:12.444060
22	Transform requested from Document Store.	Running	2005-09-18-07:06:38.104751	2005-09-18-07:06:38.241795
23	EDI messages from TPJ	Running	2005-09-18-09:42:49.347895	2005-09-18-09:42:49.491701
24	EDI messages from TPJ	Running	2005-09-18-10:05:47.950292	2005-09-18-10:05:48.068224
25	EDI messages from TPJ	Running	2005-09-19-09:05:06.438258	2005-09-19-09:05:06.577510
28	Purge requested from Document Store.	Running	2005-09-19-09:56:54.805021	2005-09-19-09:56:54.940850
61	Purge requested from Document Store.	Complete	2005-09-22-11:18:39.635006	2005-09-22-11:18:39.931440
82	StoreNext UNTDI P90101794	Complete	2005-09-25-19:26:26.406716	2005-09-25-19:26:26.537050
101	Purge requested from Document Store.	New		
102	Purge requested from Document Store.	Running	2005-09-26-13:35:11.257291	
103	Purge requested from Document Store.	Running	2005-09-26-13:35:51.074566	
104	Unpurge requested from Document Store.	Running	2005-09-26-13:39:13.728592	
121	Purge requested from Document Store.	New		
141	Purge requested from Document Store.	Complete	2005-09-27-07:37:16.755065	2005-09-27-07:37:17.100470
142	Purge requested from Document Store.	Complete	2005-09-27-07:40:30.102346	2005-09-27-07:40:30.231750
143	Unpurge requested from Document Store.	Complete	2005-09-27-07:58:47.516640	2005-09-27-07:58:47.645710

# Job Submission: Document Store

- Tabs in Document Store

- Transactions
- Enveloped Transactions
- Groups
- Interchanges
- Data Format Documents
- XML Documents
- Submissions



## Job Submission: Document Store

- New 'Action' sub-menus based on current object
- 'Canned' Perform Statements associated with those 'Actions'



# Job Submission: Document Store

WebSphere Data Interchange for Multiplatforms V3.3 - Samaurai (Document Store) - Query: Find

File Actions View Window

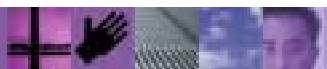
- Envelope...
- Envelope and Send...
- Transform
- Translate and Envelope...
- Translate and Send...
- Translate To Application
- Hold
- Purge
- Unpurge
- Release
- Remove

System  
Samaurai

Samaurai (Document Store) - Query: Find

Transactions Enveloped Transactions Groups Interchanges Data Format Documents XML Documents Submissions

Date Added to Store	Time Added to Store	Usage Indicator	Source or Target	EDI Standard Transaction	Application Control Number	Trading Partner Profile	Internal Trading Partne
9/26/2006	5:44:37 PM		Source Document	CUSREP		UNKNOWN	
9/26/2006	4:08:06 PM		Source Document	CUSREP		UNKNOWN	
9/26/2006	4:08:05 PM		Source Document	CUSCAR		UNKNOWN	
9/26/2006	11:53:57 AM		Source Document	CUSCAR		UNKNOWN	
9/26/2006	11:53:57 AM		Source Document	CUSREP		UNKNOWN	
9/25/2006	10:01:31 PM		Source Document	CUSCAR		UNKNOWN	
9/25/2006	10:01:31 PM		Source Document	CUSREP		UNKNOWN	



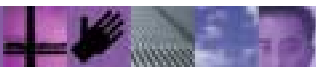
# Job Submission: Document Store

The screenshot displays the IBM WebSphere Data Interchange for Multiplexers V3.3 interface. The main window shows a list of transactions with the following data:

Session ID	Description	Request Status	Start Date	End Date	Return Code	Extended Return Code	User ID
5	S-DT-ADF-TO-ADF	Running	2006-09-15-11:27:55.548055		8	8	whita3
11	Lee's bogus perform	Running	2006-09-15-12:35:10.357895	2006-09-15-12:35:10.591503	8	40	whita3
12	Lee's bogus perform	Running	2006-09-15-12:38:19.479650	2006-09-15-12:38:19.608242	8	40	whita3
14	Purge requested from Document Store...	Running	2006-09-15-13:55:56.058929	2006-09-15-13:55:56.185222	8	592	tedp
15	Hold requested from Document S...	Running	2006-09-15-13:25:10.407039	2006-09-15-13:25:10.574082	8	192	whita3

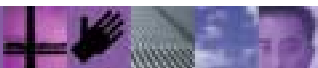
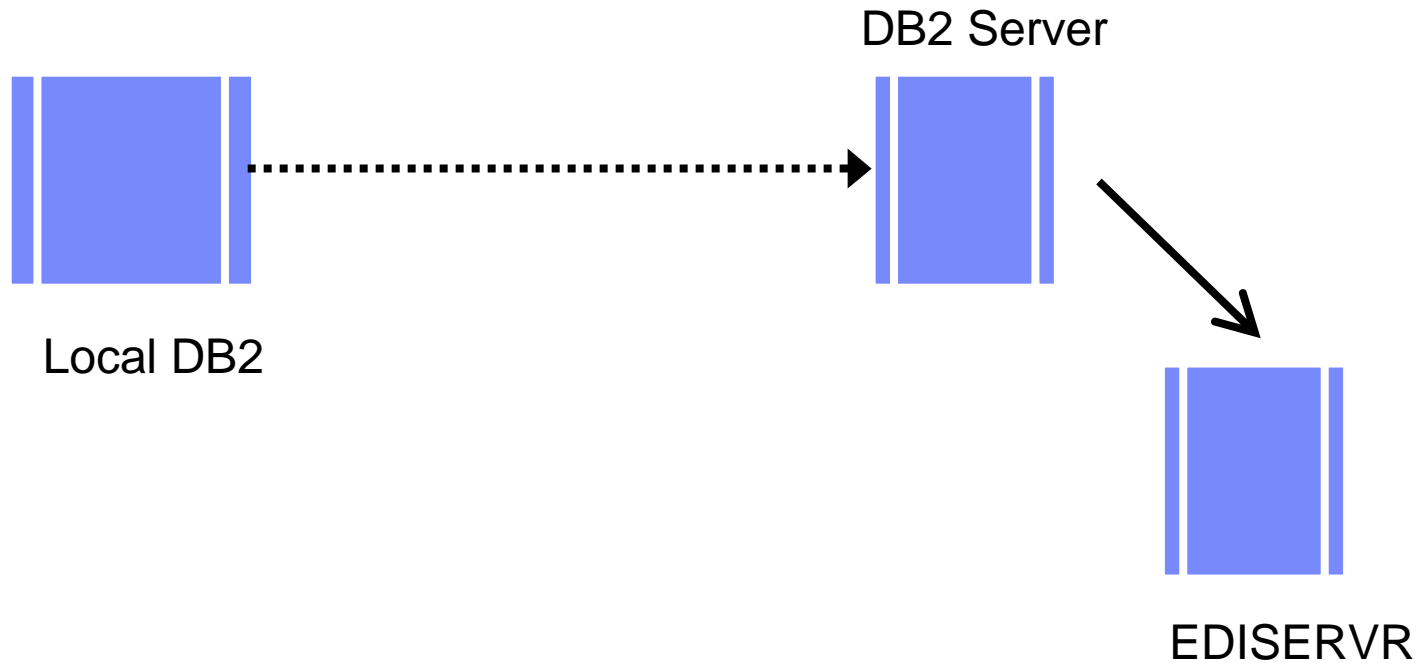
A detailed view of the selected transaction (Session ID 14) is shown in the foreground. The details include:

- Description:** Purge requested from Document Store.
- Session ID:** 14
- Return Code:** 8
- Extended Return Code:** 592
- Start Date:** 2006-09-15-13:55:56.080050
- End Date:** 2006-09-15-13:55:56.080395
- Request Status:** Running
- Source:** Document Store
- Source ID:**
- User ID:** tedp
- Command:** set file(PRIVATE\_ADF) set file(THAND), IDEL PERFORM PURGE WHERE THAND(THAND).



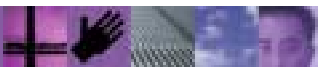


# Job Submission Technology: DB2 remote execution



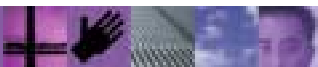
## Job Submission Technology: DB2 Stored Procedure

- Defined in DDL
- Invoked with SQL semantics
  - CALL EDIEXEC1 (14, ?, 1)
- Invoked from ODBC, JDBC, CLI where other SQL is allowed
- Blocking and non-blocking
  - May hold session up to 10 minutes
  - Returns RC from WDI when blocked



# Job Submission Technology: Stored Procedures

- EDIADDREQ
  - Stores script for later execution
- EDIEXEC1
  - Executes previously stored request
- EDIEXEC2
  - Stores and executes a script



# Performance

- Globalization
- Paging
- Parse from file



# Message Size

- WMQ single message size limited to 100 MB
- Single message must be constituted in memory by sender and receiver



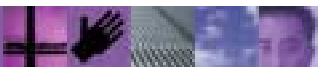
# Message Size set in WDI's Queue profile

- Default to 37,000
- Explicit memory used to allocate message buffer
- May be smaller than logical document
  - Each message contains at least one record
  - Multiple messages share MsgID and Group ID
  - Receiver must handle groups



# Message Size in WMQ

- Max size for Queue or Queue Manager
- Message segmentation allowed
- Messages break between any characters
- WDI and receiver must allocate single buffer
- No special application handling



# Summary

- Job submission is cool and easy
- Performance should be OK during runtime
- WDI can handle big, big message data

