



*Pioneering New Horizons – Solutions that Evolve*

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**WebSphere.** software



## Agenda

- Discussion of factors that affect performance
- Description of the tests run
- Results
- Question and answer session



## Key Components Relevant to this Test

- Control Strings
  - Measure of the complexity of the transformation
- WDI Adapter
  - Multi-processing adapter
- Startup Cost
  - DB2 and MQ connections
- Auditing Information
  - Transaction store, event log, management reporting, etc.

## Independent Test Variables

- Platforms
  - Laptop, T41, 1.69GHz, 1 GB RAM, Windows XP/SP2
  - SMP Tower, IBM xSeries\_255, 2 x 3.0 GHz Power IV, 4 GB RAM, Windows 2003/SP1
  - IBM 9113-550 Rack Mount P5 eServer, 2 x 1.65 GHz Processors, 4 GB RAM, AIX 5.2
- Concurrent Instances of WDI
  - Various
- Number of independent MQ messages
  - 10 and 100 messages

## Independent Test Variables (cont.)

- Number of documents in an interchange
  - How does grouping affect performance with EDI data
- Number of interchanges in an MQ message
  - How does grouping affect performance with MQ
- Type of map used
  - Send/Recv vs. Data Transformation maps
- Map complexity
  - Low, normal, high



## Independent Test Variables (cont.)

- Data size
  - Constrained to  $\leq 150\%$  of the number of mapped elem
- Auditing features
  - Transaction Store, Event Log, Management Reporting
- Persistent MQ messages
  - Persistent vs. non-persistent messaging
- DB2 binding
  - SYNCPOINT TWOPHASE
- Functional Acknowledgments

## Measured Dependent Variables

- CPU time
  - Time spent running on the CPU
- Elapsed time
  - Time on the wall clock



## Test Harness

- Preload WDI input queue with desired number of messages
- The Message Harness will remove messages from WDI\_Output\_Q and insert messages in WDI\_Input\_Q to ensure the Queue does not become empty
- The harness will process these messages inside syncpoint and will commit messages in groups



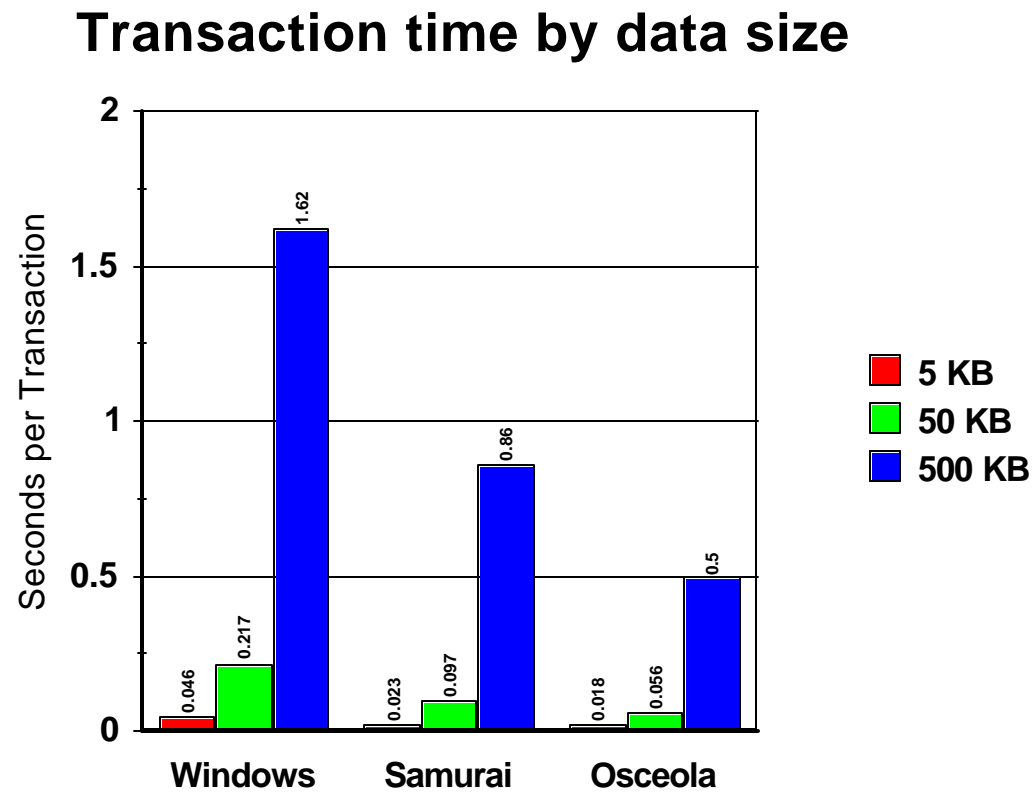


## Test Case Descriptions

- Test 1: EDI to XML DT Map – 5000 all at once
- Test 2: EDI to XML DT Map – various options
  - Test 2a: Separate WMQ log files
  - Test 2b: AIX Ramdisk and WMQ persistent msging
  - Test 2c: AIX Ramdisk and WMQ non-persistent msging
  - Test 2d: Varying number of messages
  - Test 2e: Varying number of threads
- Test 3: EDI to XML DT Map – various input sizes
- Test 4: EDI to XML DT Map – Pageable AMM
- Test 5: EDI to XML DT Map – Varying number of env/interchg

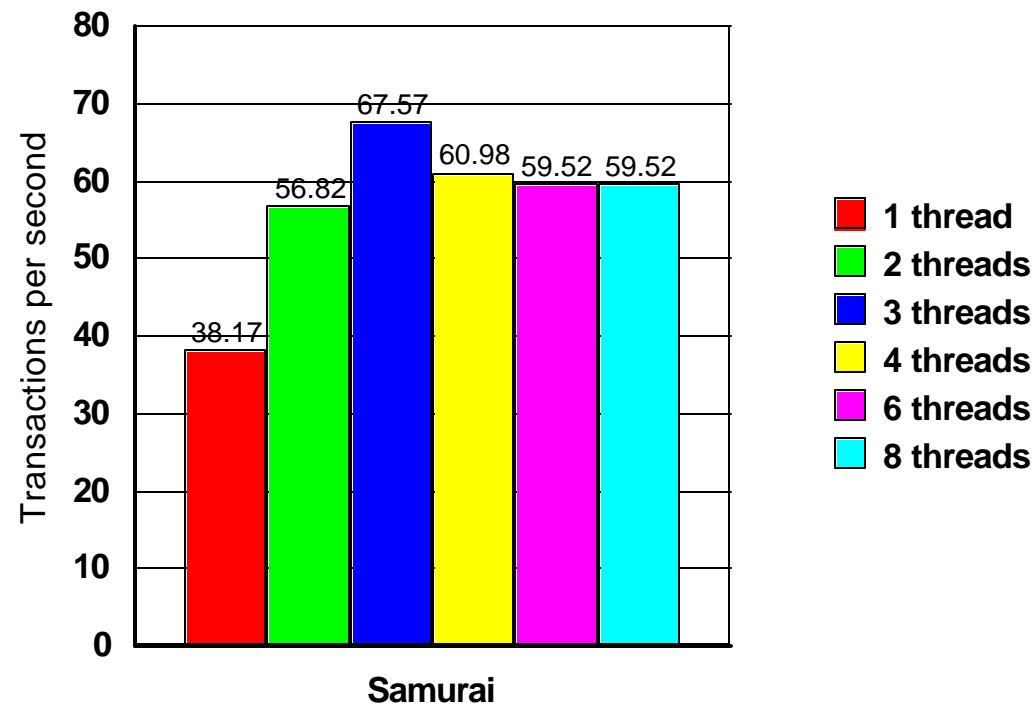


## Transaction Time by Data Size



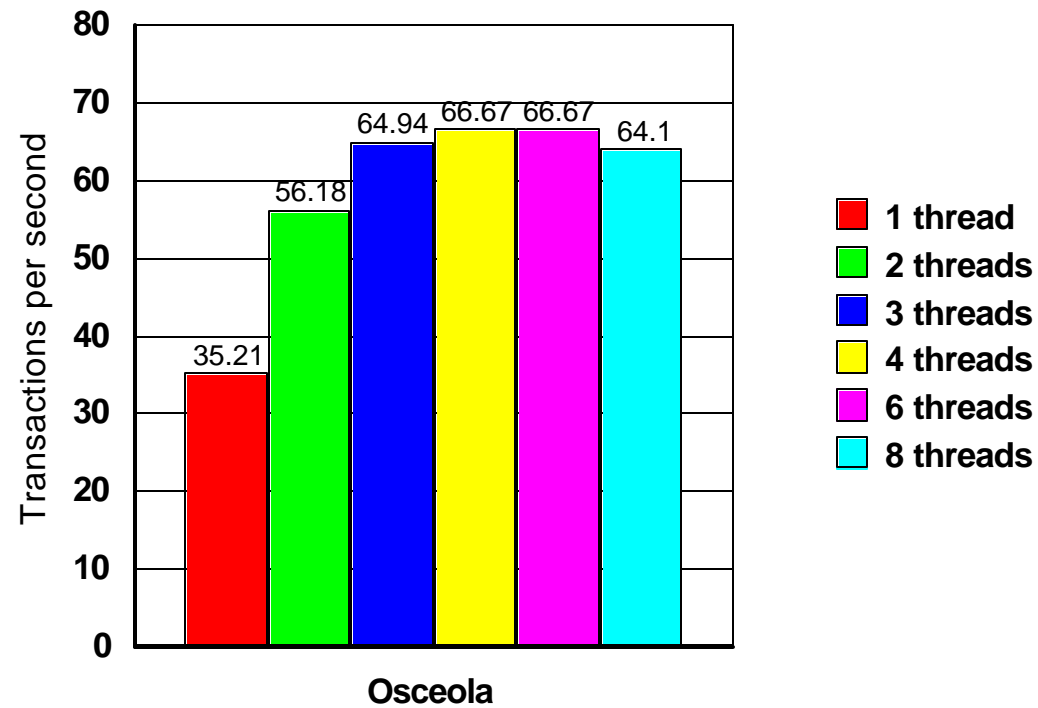
## Throughput by Number of Threads

### Throughput by Number Threads



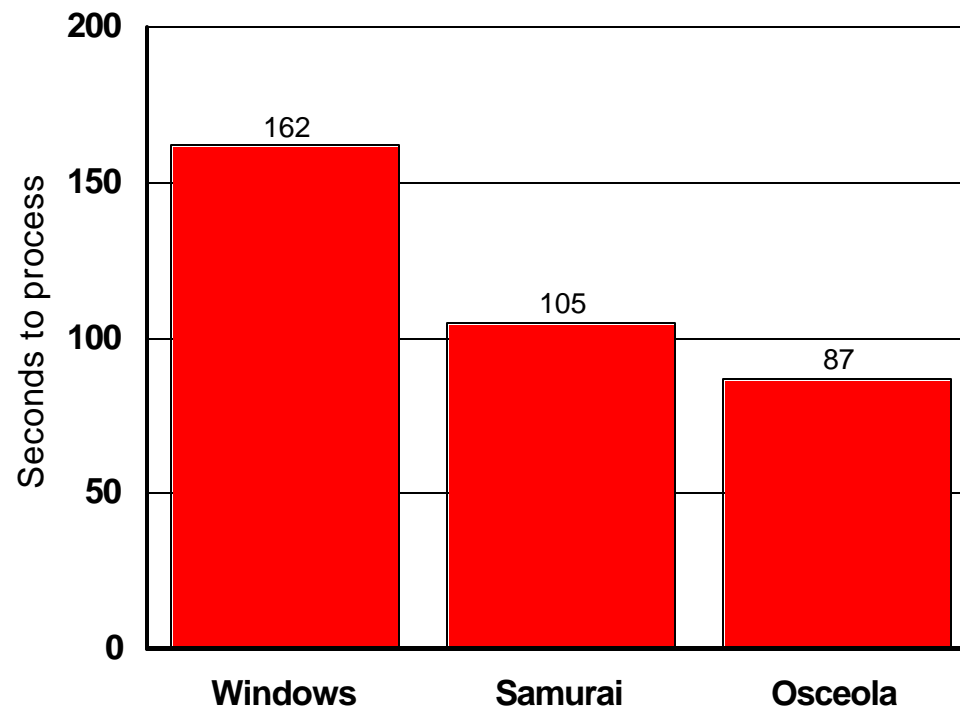
## Throughput by Number of Threads

### Throughput by Number Threads



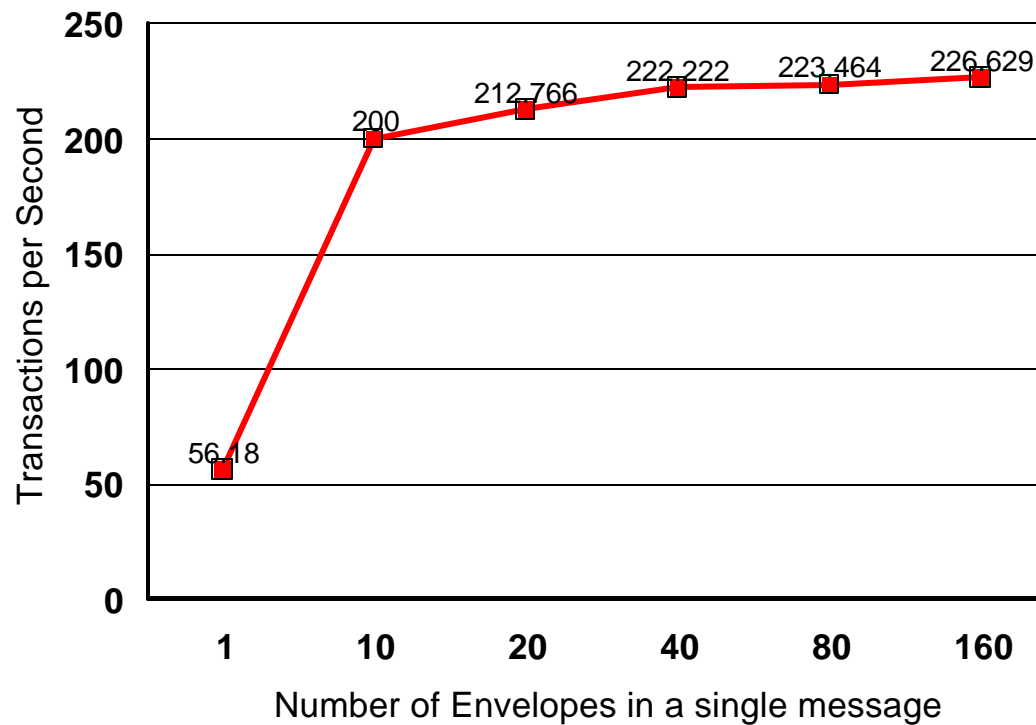
## Large Transaction Processing

### Large Transaction Processing



## Aggregating Messages using Windows

### Aggregating Messages using Windows



## Results

Test case	Machine	Map	Number Processes	Number MQ Messages	Trx Data Size in Bytes	Time in secs	trx/sec	sec/trx	Trxs / 24 hour day	Number Cmds Executed per Message	Notes
3	Osceola	X12TOXML	4	5,000	51,865	1086	18.38	0.054	1,588,235	8,306	Not persistent.
3	Osceola	X12TOXML	4	5,000	51,865	1086	17.79	0.056	1,537,367	8,306	Persistent msg
3	Samurai	X12TOXML	3	5000	51,865	483	10.35	0.097	894,410	8,306	
3	Windows	X12TOXML	1	50	518,888	81	0.62	1.620	53,333	82,079	EDI to XML.
3	Samurai	X12TOXML	3	50	518,888	43	1.16	0.860	100,465	82,079	
3	Osceola	X12TOXML	1	50	518,888	88	0.57	1.760	49,091	82,079	Non Persistent
3	Osceola	X12TOXML	4	50	518,888	25	2.00	0.500	172,800	82,079	Non Persistent
4	Windows	277EDI_XML_V1	1	1	5 MB					17,403,366	EDI to XML No-pagefile transaction failed - insufficient memory
4	Windows	277EDI_XML_V1	1	1	5 MB	162	0.01	162.000	533	17,403,366	pagefile
4	Samurai	277EDI_XML_V1	1	1	5 MB	62	0.02	62.000	1,394	17,403,366	no-pagefile
4	Samurai	277EDI_XML_V1	1	1	5 MB	105	0.01	105.000	823	17,403,366	pagefile
4	Osceola	277EDI_XML_V1	1	1	5 MB					17,403,366	No-pagefile transaction failed - insufficient memory
4	Osceola	277EDI_XML_V1	1	1	5 MB	87		87.000		17,403,366	pagefile
5a	Windows	R271-FROM-EDI	3	5000	751	36	0.007	138.889	12,000,000	773	Non-persistent, 1 doc/MQ msg
5a	Windows	R271-FROM-EDI	3	500	751	23	0.005	217.391	18,782,609	773	Non-persistent, 10 docs/MQ msg
5a	Windows	R271-FROM-EDI	3	500	751	45	0.005	219.780	18,989,011	773	Non-persistent, 20 docs/MQ msg
5a	Windows	R271-FROM-EDI	3	500	751	91	0.005	222.222	19,200,000	773	Non-persistent, 40 docs/MQ msg
5a	Windows	R271-FROM-EDI	3	500	751	179	0.004	223.464	19,307,263	773	Non-persistent, 80 docs/MQ msg
5a	Windows	R271-FROM-EDI	3	500	751	353	0.004	226.629	19,580,737	773	Non-persistent, 160 docs/MQ msg



## Results (cont.)

<u>Test case</u>	<u>Machine</u>	<u>Map</u>	<u>Number Processes</u>	<u>Number MQ Messages</u>	<u>Trx Data Size in Bytes</u>	<u>Time in secs</u>	<u>trx/sec</u>	<u>sec/trx</u>	<u>Trxs / 24 hour day</u>	<u>Number Cmds Executed per Message</u>	<u>Notes</u>
5b	Windows	R271-FROM-EDI	3	5000	751	89	0.018	56.180	4,853,933	773	persistent, 1 doc/MQ msg
5b	Windows	R271-FROM-EDI	3	500	751	25	0.005	200.000	18,782,609	773	persistent, 10 docs/MQ msg
5b	Windows	R271-FROM-EDI	3	500	751	47	0.005	212.766	18,382,979	773	persistent, 20 docs/MQ msg
5b	Windows	R271-FROM-EDI	3	500	751	90	0.005	222.222	19,200,000	773	persistent, 40 docs/MQ msg
5b	Windows	R271-FROM-EDI	3	500	751	179	0.004	223.464	19,307,263	773	persistent, 80 docs/MQ msg
5b	Windows	R271-FROM-EDI	3	500	751	353	0.004	226.629	19,580,737	773	persistent, 160 docs/MQ msg





## Question and Answer Session

- Any questions?

