

**IBM® eServer™ Series® 460 c/s  
and  
DB2® UDB 8.2**

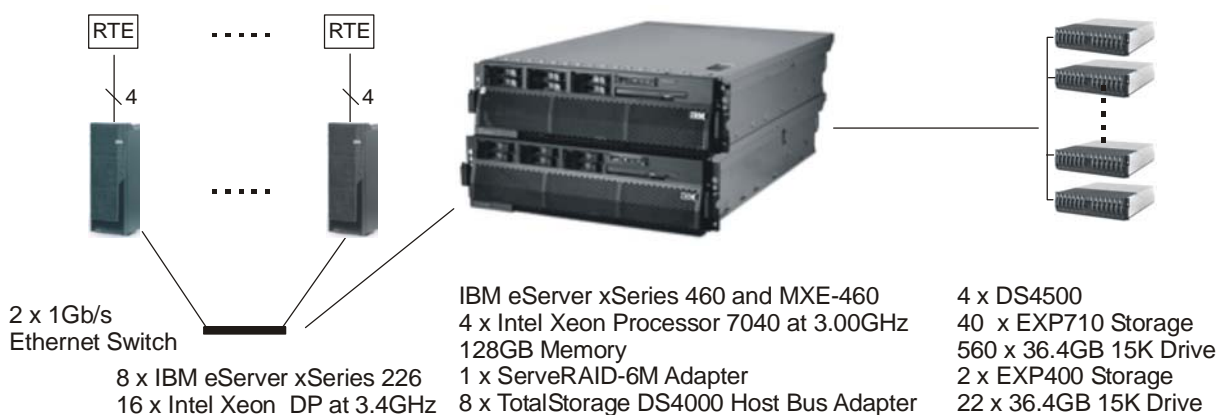
TPC-C Rev. 5.6

Report Date: Mar. 7, 2006

|                        |                     |                          |                    |
|------------------------|---------------------|--------------------------|--------------------|
| Total System Cost      | TPC-C Throughput    | Price/Performance        | Availability Date  |
| <b>\$1,273,691 USD</b> | <b>273,520 tpmC</b> | <b>\$4.66 USD / tpmC</b> | <b>May 1, 2006</b> |

|   |                    |   |   |                 |
|---|--------------------|---|---|-----------------|
| Database Server Processors/Cores/Threads                  | Database Manager   | Operating System  | Other Software  | Number of Users |
| <b>4/8/16<br/>Intel® Xeon® Processor 7040<br/>3.00GHz</b> | <b>DB2 UDB 8.2</b> | <b>Microsoft® Windows® Server 2003 Enterprise x64 Edition</b> | <b>Microsoft Visual C++ Standard Edition<br/>Microsoft COM+</b> | <b>217,600</b>  |

8 RTEs emulating 217,600 users



|                                 |               |   |              |                                       |
|---------------------------------|---------------|---|--------------|---------------------------------------|
| <b>System Component</b>         | <b>Qty</b>    | <b>Server:</b>                              | <b>Qty</b>   | <b>Each of Eight Clients:</b>         |
| <b>Processors/Cores/Threads</b> | <b>4/8/16</b> | <b>Intel Xeon Processor 7040 at 3.00GHz</b> | <b>2/2/4</b> | <b>Intel Xeon Processor at 3.4GHz</b> |
| <b>Cache</b>                    |               | <b>2x2MB L2 Cache</b>                       |              | <b>2MB L2 Cache</b>                   |
| <b>Memory</b>                   | <b>32</b>     | <b>4GB ECC RDIMM</b>                        | <b>4</b>     | <b>512MB</b>                          |
| <b>Disk Controllers</b>         | <b>1</b>      | <b>ServeRAID-6M Adapter</b>                 | <b>1</b>     | <b>Ultra320 SCSI Interface</b>        |
|                                 | <b>8</b>      | <b>TotalStorage DS4000 HBA</b>              |              |                                       |
|                                 | <b>4</b>      | <b>TotalStorage DS4500</b>                  |              |                                       |
| <b>Disk Drives</b>              | <b>560</b>    | <b>36.4GB 2Gbps FC (15K)</b>                | <b>1</b>     | <b>36.4GB (15000 rpm)</b>             |
|                                 | <b>22</b>     | <b>36.4GB Ultra320 (15K)</b>                |              |                                       |
| <b>Total Storage</b>            |               | <b>19077GB</b>                              |              |                                       |

| IBM Corporation   | IBM @server 460 c/s |                   |         | TPC-C Revision 5.6        |                 |  |                    |
|---|---------------------|-------------------|---------|---------------------------|-----------------|--|--------------------|
|   | with DB2 UDB        |                   |         | Report Date: Mar. 7, 2006 |                 |  |                    |
| Description   | Part Number         | Third Party Brand | Pricing | Unit Price                | Quantity        | Extended Price                                       | 3-Yr. Maint. Price |
| <b>Server Hardware</b>  |                     |                   |         |                           |                 |  |                    |
| xSeries 460 with 2 x Intel Xeon Processor 7040 3.00GHz/2x2MB L2   | 8872-6RU*           | IBM               | 1       | 25,999                    | 1               | 25,999   |                    |
| Intel Xeon Processor 7040 3.00GHz/2x2MB L2  | 25R8942             | IBM               | 1       | 5,699                     | 2               | 11,398   |                    |
| MXE-460 (0 Processors, 0 Memory, 2 Memory Cards)  | 8874-1RU            | IBM               | 1       | 6,999                     | 1               | 6,999  |                    |
| Scalability Cable 2.3.M   | 13M7414             | IBM               | 1       | 299                       | 2               | 598  |                    |
| 8GB (2x4GB) PC2-3200 CL3 2RX4 ECC DDR2 SDRAM RDIMM  | 30R5145             | IBM               | 1       | 5,299                     | 16              | 84,784   |                    |
| Active Memory 4-Slot Memory Expansion Card  | 13M7409             | IBM               | 1       | 499                       | 4               | 1,996  |                    |
| ServeRAID-6M Ultra320 SCSI Adapter  | 32P0033             | IBM               | 1       | 879                       | 1               | 879  |                    |
| E54 15" (13.8" Viewable) Color Monitor  | 633147N             | IBM               | 1       | 139                       | 1               | 139  |                    |
| ThinkPlus Enhanced Performance USB Keyboard   | 73P2620             | IBM               | 1       | 39                        | 1               | 39   |                    |
| ScrollPoint 800 DPI Optical Mouse - USB & PS/2  | 90P0742             | IBM               | 1       | 25                        | 1               | 25   |                    |
| ServicePac for 3-Year 24x7x4 Support (x460 and MXE-460)   | 96P2688             | IBM               | 1       | 3,390                     | 2               |  | 6,780              |
| ServicePac for 3-Year 24x7x4 Support (Monitor)  | 30L9183             | IBM               | 1       | 90                        | 1               |  | 90                 |
|   |                     |                   |         |                           | <b>Subtotal</b> | <b>132,856</b>                                       | <b>6,870</b>       |
| <b>Server Storage</b>   |                     |                   |         |                           |                 |  |                    |
| IBM TotalStorage DS4000 Host Bus Adapter  | 24P0960             | IBM               | 1       | 1,485                     | 8               | 11,880   |                    |
| IBM TotalStorage DS4500 Midrange Disk Subsystem   | 174290U             | IBM               | 1       | 49,900                    | 4               | 199,600  |                    |
| IBM DS4000 Mini Hub   | 19K1269             | IBM               | 1       | 899                       | 8               | 7,192  |                    |
| IBM Short Wave SFP Module (4 Pack)  | 22R0483             | IBM               | 1       | 550                       | 42              | 23,100   |                    |
| IBM 1m LC-LC Fibre Channel Cable  | 19K1247             | IBM               | 1       | 79                        | 72              | 5,688  |                    |
| IBM 5m LC-LC Fibre Channel Cable  | 19K1248             | IBM               | 1       | 129                       | 16              | 2,064  |                    |
| IBM TotalStorage DS4000 EXP710 Storage Exp. Unit  | 1740710             | IBM               | 1       | 6,000                     | 40              | 240,000  |                    |
| 2Gbps FC 36.4GB 15K Hot-Swap HDD  | 06P5772             | IBM               | 1       | 1,115                     | 560             | 624,400  |                    |
| IBM EXP400 Rack Storage Exp. Enclosure  | 17331RU             | IBM               | 1       | 3,099                     | 2               | 6,198  |                    |
| 36.4GB 15K Ultra320 SCSI Hot-Swap HDD   | 90P1380             | IBM               | 1       | 279                       | 22              | 6,138  |                    |
| 2M SCSI cable   | 03K9310             | IBM               | 1       | 75                        | 2               | 150  |                    |
| IBM UPS 750TLV  | 21301TX             | IBM               | 1       | 299                       | 1               | 299  |                    |
| IBM S2 42U Standard Rack  | 930745X             | IBM               | 1       | 1,489                     | 5               | 7,445  |                    |
| ServicePac for 3-Year 24x7x4 Support (EXP400)   | 41L2768             | IBM               | 1       | 760                       | 2               |  | 1,520              |
| ServicePac for 3-Year 24x7x4 Support (EXP710)   | 41L2768             | IBM               | 1       | 760                       | 40              |  | 30,400             |
| ServicePac for 3-Year 24x7x4 Support (DS4500)   | 96P2062             | IBM               | 1       | 1,087                     | 4               |  | 4,348              |
| ServicePac for 3-Year 24x7x4 Support (Rack)   | 41L2760             | IBM               | 1       | 300                       | 5               |  | 1,500              |
|   |                     |                   |         |                           | <b>Subtotal</b> | <b>1,134,154</b>                                     | <b>37,768</b>      |
| <b>Server Software</b>  |                     |                   |         |                           |                 |  |                    |
| DB2 UDB ESE 8.2 for Windows Operating Systems on 64-Bit<br>Extended Systems - SW License and Maintenance 12 Months  |                     | IBM               | 2       | 23,902                    | 4               | 95,608   |                    |
| SW Maintenance Renewal - 1 Year   |                     | IBM               | 2       | 1,138                     | 8               |  | 9,104              |
| Microsoft Windows Server 2003 Enterprise x64 Edition *  | P72-00981           | Microsoft         | 3       | 3,999                     | 1               | 3,999  |                    |
| Microsoft Problem Resolution Services   |                     | Microsoft         | 3       | 245                       | 1               |  | 245                |
|   |                     |                   |         |                           | <b>Subtotal</b> | <b>99,607</b>  | <b>9,349</b>       |
| <b>Client Hardware</b>  |                     |                   |         |                           |                 |  |                    |
| x226 with 3.4GHz/2MB Xeon DP, 512MB (2x256MB) Memory  | 8648-6AU            | IBM               | 1       | 1,499                     | 8               | 11,992   |                    |
| 3.4GHz/2MB Xeon DP Processor Upgrade  | 13N0676             | IBM               | 1       | 879                       | 8               | 7,032  |                    |
| 1GB (2x512MB) PC-3200 DDR2 ECC SDRAM RDIMM  | 73P3522             | IBM               | 1       | 399                       | 16              | 6,384  |                    |
| 36.4GB 15K Ultra320 SCSI Drive  | 90P1380             | IBM               | 1       | 279                       | 8               | 2,232  |                    |
| PRO/1000 GT Dual-Port Server Adapter  | 73P5101             | Intel             | 1       | 249                       | 16              | 3,984  |                    |
| E54 15" (13.8" Viewable) Color Monitor  | 633147N             | IBM               | 1       | 139                       | 8               | 1,112  |                    |
| ServicePac for 3-Year 24x7x4 Support (x226)   | 96P2250             | IBM               | 1       | 586                       | 8               |  | 4,688              |
| ServicePac for 3-Year 24x7x4 Support (Monitor)  | 30L9183             | IBM               | 1       | 90                        | 8               |  | 720                |
|   |                     |                   |         |                           | <b>Subtotal</b> | <b>32,736</b>  | <b>5,408</b>       |
| <b>Client Software</b>  |                     |                   |         |                           |                 |  |                    |
| Microsoft Windows 2000 Server with COM+*  | C11-00821           | Microsoft         | 3       | 738                       | 8               | 5,904  |                    |
| Microsoft Visual C++ Standard Edition   | 254-00170           | Microsoft         | 3       | 109                       | 1               | 109  |                    |
|   |                     |                   |         |                           | <b>Subtotal</b> | <b>6,013</b>   |                    |
| <b>Network Components</b>   |                     |                   |         |                           |                 |  |                    |
| NetGear 8-Port Ethernet Switch (2 spares)   | GS-108              |                   | 4       | 76                        | 4               | 304  |                    |
| Ethernet Cable 8 Ft. (2 spares)   | CC5E-B14B           |                   | 4       | 4                         | 12              | 48   |                    |
|   |                     |                   |         |                           | <b>Subtotal</b> | <b>352</b>   |                    |
|   |                     |                   |         |                           | <b>Total</b>    | <b>1,405,718</b>                                     | <b>59,395</b>      |
|   |                     |                   |         |                           | <b>Discount</b> | <b>185,417</b>                                       | <b>6,005</b>       |
| Pricing: 1- Compsat Technology; 2 - IBM; 3 - Microsoft; 4 - newegg.com  |                     |                   |         |                           |                 | <b>Three-Year Cost of Ownership USD:</b> \$1,273,691 |                    |
| Note 1: Aggregate discount for all items with pricing 1 is 14.18%.  |                     |                   |         |                           |                 | <b>tpmC:</b> 273,520                                 |                    |
| Audited by Bradley J. Askins, InfoSizing, Inc.  |                     |                   |         |                           |                 | <b>\$ USD/tpmC:</b> \$4.66                           |                    |
| Prices used in TPC benchmarks reflect the actual prices a customer would pay for a one-time purchase of the stated components. Individually negotiated discounts are not permitted.   |                     |                   |         |                           |                 |  |                    |
| Special prices based on assumptions about past or future purchases are not permitted. All discounts reflect standard pricing policies for the listed components. For complete details, see the pricing sections of the TPC benchmark specifications. If you find that stated prices are not available according to these terms, please inform the TPC at pricing @ tpc.org. |                     |                   |         |                           |                 |  |                    |

## Numerical Quantities Summary

MQTh, Computed Maximum Qualified Throughput: **273,520 tpmC**

| Response Times<br>(in seconds)                                       | 90th Percentile | Average       | Maximum               |
|--|-----------------|---------------|-----------------------|
| New-Order  | 0.30            | 0.18          | 1.77                  |
| Payment  | 0.40            | 0.28          | 3.34                  |
| Delivery   | 0.30            | 0.30          | 1.50                  |
| Stock Level  | 0.42            | 0.33          | 2.48                  |
| Order Status   | 0.30            | 0.22          | 2.08                  |
| Delivery (Deferred)  | 0.28            | 0.19          | 2.05                  |
| Menu   | 0.29            | 0.20          | 1.56                  |
| Response Time Delay Added for Emulated Components: 0.1 Seconds       |                 |               |                       |
| Transaction Mix (in percent of total transactions)                   |                 |               | Percent               |
| New-Order  |                 |               | 44.95                 |
| Payment  |                 |               | 43.02                 |
| Delivery   |                 |               | 4.01                  |
| Stock-Level  |                 |               | 4.01                  |
| Order Status   |                 |               | 4.01                  |
| Keying/Think Times<br>(in seconds)                                   | Minimum         | Average       | Maximum               |
| New Order  | 18.00 / 0.00    | 18.00 / 12.04 | 18.02 / 120.31        |
| Payment  | 3.00 / 0.00     | 3.00 / 12.04  | 3.02 / 120.31         |
| Delivery   | 2.00 / 0.00     | 2.00 / 5.04   | 2.02 / 50.31          |
| Stock Level  | 2.00 / 0.00     | 2.00 / 5.04   | 2.02 / 50.31          |
| Order Status   | 2.00 / 0.00     | 2.00 / 10.04  | 2.02 / 100.31         |
| Test Duration  |                 |               |                       |
| Ramp-up time   |                 |               | 25 minutes 51 seconds |
| Measurement interval   |                 |               | 120 minutes           |
| Number of checkpoints  |                 |               | NA                    |
| Checkpoint interval  |                 |               | NA                    |
| Number of transactions (all types) completed in measurement interval |                 |               | 73,016,459            |