

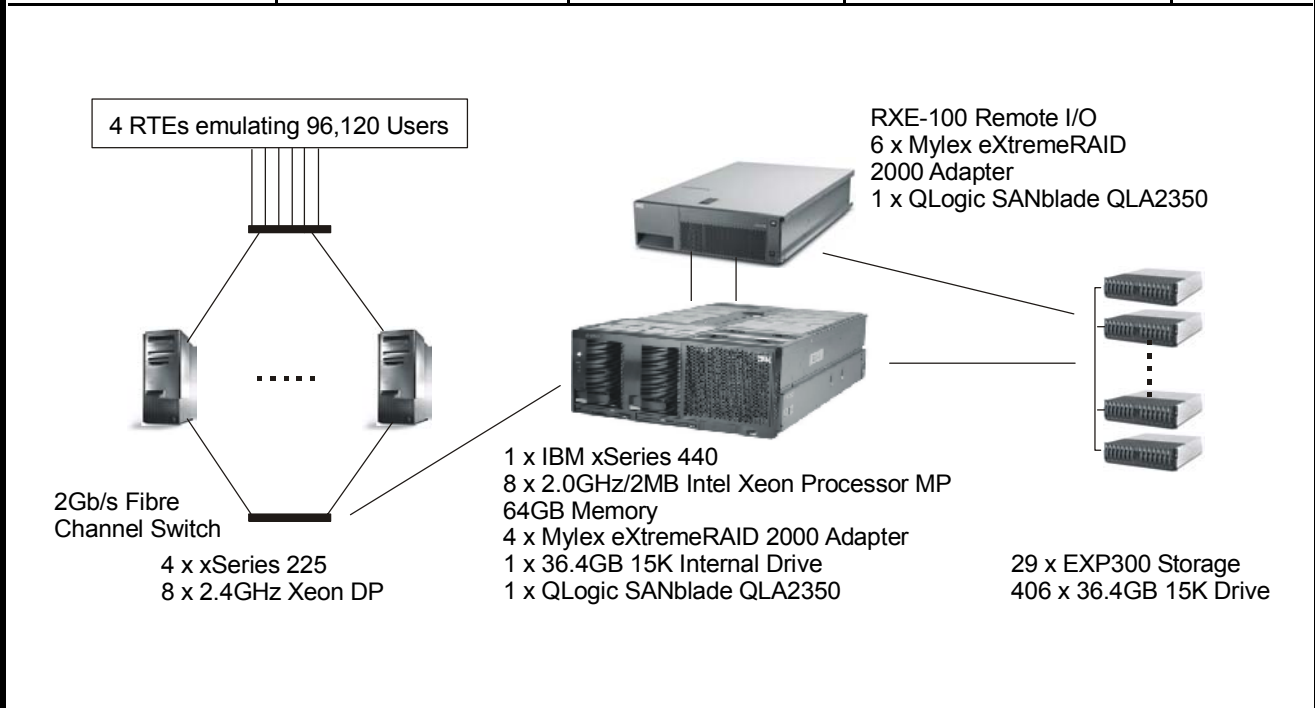
**IBM @server™ xSeries™ 440 c/s**  
**with**  
**Microsoft® SQL Server 2000**

TPC-C Rev. 5.1

Report Date: April 4, 2003

|                   |                        |                      |                     |
|-------------------|------------------------|----------------------|---------------------|
| Total System Cost | TPC-C Throughput       | Price/Performance    | Availability Date   |
| <b>\$781,556</b>  | <b>119,115.16 tpmC</b> | <b>\$6.56 / tpmC</b> | <b>Oct. 3, 2003</b> |

|   |  |  |  |                 |
|---|--|--|--|-----------------|
| Processors  | Database Manager   | Operating System   | Other Software   | Number of Users |
| <b>Server: 8 Intel® Xeon™ Processor MP 2.0GHz</b><br><b>Clients: 8 Xeon DP 2.4GHz</b> | <b>Microsoft SQL Server 2000 Enterprise Edition SP3 with QFE</b> | <b>Microsoft Windows® Server 2003 Datacenter Edition</b> | <b>Microsoft Visual C++ 6.0 Win32</b><br><b>Microsoft COM+</b> | <b>96,120</b>   |



|                         |            |                                       |            |                                |
|-------------------------|------------|---------------------------------------|------------|--------------------------------|
| <b>System Component</b> | <b>Qty</b> | <b>Server:</b>                        | <b>Qty</b> | <b>Each of Four Clients:</b>   |
| <b>Processors</b>       | <b>8</b>   | <b>2.0GHz Xeon Processor</b>          | <b>2</b>   | <b>2.4GHz Xeon DP</b>          |
| <b>Cache</b>            |            | <b>MP w/2MB L3 Cache</b>              |            | <b>w/512KB L2 Cache</b>        |
| <b>Memory</b>           | <b>32</b>  | <b>2GB ECC RDIMM</b>                  | <b>4</b>   | <b>512MB</b>                   |
| <b>Disk Controllers</b> | <b>10</b>  | <b>Mylex eXtremeRAID 2000 Adapter</b> | <b>1</b>   | <b>Ultra320 SCSI Interface</b> |
| <b>Disk Drives</b>      | <b>407</b> | <b>36.4GB (15000 rpm)</b>             | <b>1</b>   | <b>18.2GB Hard Disk</b>        |
| <b>Total Storage</b>    |            | <b>13781.02GB</b>                     |            |                                |
| <b>Tape Drive</b>       | <b>1</b>   | <b>20/40GB SCSI Tape Drive</b>        |            |                                |

| IBM Corporation   |             | IBM @server xSeries 440 c/s<br>with Microsoft SQL Server 2000 |         |            | TPC-C Revision 5.1                   |                |                    |
|---|-------------|---|---------|------------|--------------------------------------|----------------|--------------------|
|   |             |   |         |            | Report Date: April 4, 2003           |                |                    |
| Description   | Part Number | Third Party Brand   | Pricing | Unit Price | Quantity                             | Extended Price | 3-Yr. Maint. Price |
| <b>Server Hardware</b>  |             |   |         |            |                                      |                |                    |
| xSeries 440 with:   | 8687-88X    | IBM   |         | 1          | 169,850                              | 169,850        | 3,221              |
| 8 x 2.0GHz/2MB Xeon Processor   |             |   |         |            |                                      |                | 0                  |
| 32 x 2GB ECC RDIMM  |             |   |         |            |                                      |                | 0                  |
| 1 x 36.4GB 15K Ultra160 SCSI Drive  |             |   |         |            |                                      |                | 0                  |
| IBM Preferred Pro Full-Size Keyboard PS/2   |             |   |         |            |                                      |                |                    |
| IBM Sleek 2-Button Mouse  |             |   |         |            |                                      |                |                    |
| Mylex eXtremeRAID 2000 Adapter (2 spares)   | 08P3438     | Mylex   |         | 5          | 1,217                                | 14,604         | 0                  |
| QLLogic SANBlade QLA2350 FC-VI Adapter  | QLA2350-BK  | QLLogic   |         | 4          | 2,095                                | 8,380          | 0                  |
| E54 15" (13.8" Viewable) Color Monitor  | 633147N     | IBM   |         | 2          | 129                                  | 129            | 90                 |
| <b>Subtotal</b>   |             |   |         |            |                                      | <b>192,963</b> | <b>3,311</b>       |
| <b>Server Storage</b>   |             |   |         |            |                                      |                |                    |
| IBM RXE-100 Remote Expansion Enclosure  | 8684-1RX    | IBM   |         | 2          | 4,569                                | 4,569          | 1,050              |
| IBM Remote I/O PCI-X 6-Slot Expansion Kit   | 31P5998     | IBM   |         | 2          | 1,699                                | 1,699          | 0                  |
| IBM EXP300 Rack Storage Exp. Enclosure  | 35311RU     | IBM   |         | 2          | 3,179                                | 92,191         | 5,800              |
| 36.4GB 15K Ultra160 SCSI Hot-Swap Drive   | 06P5768     | IBM   |         | 2          | 549                                  | 222,894        |                    |
| NetBAY42S Standard Rack   | 9306421     | IBM   |         | 2          | 1,439                                | 4,317          | 504                |
| IBM UPS 500   | 252277      | IBM   |         | 6          | 102                                  | 102            | 0                  |
| 20/40GB DDS/4 Tape AutoLoader   | 00N7991     | IBM   |         | 2          | 769                                  | 769            | 0                  |
| Enterprise Rack Prep Fee  | 06P7514     | IBM   |         | 1          | 500                                  | 1,500          | 0                  |
| Enterprise Rack Installation Fee  | 06P7515     | IBM   |         | 1          | 150                                  | 450            | 0                  |
| Option Integration Fee  | 58P8665     | IBM   |         | 1          | 110                                  | 110            | 0                  |
| Image Load Fee  | 06P7505     | IBM   |         | 1          | 150                                  | 150            | 0                  |
| <b>Subtotal</b>   |             |   |         |            |                                      | <b>328,751</b> | <b>7,354</b>       |
| <b>Server Software</b>  |             |   |         |            |                                      |                |                    |
| Microsoft SQL Server 2000 Enterprise Edition  | 810-00846   | Microsoft   |         | 3          | 16,541                               | 132,328        |                    |
| Database Software Support Package   |             | Microsoft   |         | 3          | 1,950                                |                | 5,850              |
| IBM Preload Kit for Datacenter (1-8 Processors)   | 4816-1BU    | IBM   |         | 1          | 32,999                               | 32,999         | 41,850             |
| IBM Software Update Subscription (1-16 Processor)   | 4816-ADX    | IBM   |         | 1          | 22,159                               | 66,477         | 0                  |
| <b>Subtotal</b>   |             |   |         |            |                                      | <b>231,804</b> | <b>47,700</b>      |
| <b>Client Hardware</b>  |             |   |         |            |                                      |                |                    |
| x225 with 2.4GHz/512KB Xeon DP, 512MB RAM   | 8647-3AX    | IBM   |         | 2          | 1,269                                | 5,076          | 2,792              |
| 2.4GHz/512KB Xeon DP Processor Upgrade  | 59P5108     | IBM   |         | 2          | 699                                  | 2,796          | 0                  |
| 512MB PC2100 ECC SDRAM RDIMM  | 33L5038     | IBM   |         | 2          | 389                                  | 6,224          | 0                  |
| 18.2GB 10K Ultra160 SCSI Drive  | 06P5754     | IBM   |         | 2          | 275                                  | 1,100          | 0                  |
| QLLogic SANblade QLA 2350 FC-VI Adapter   | QLA2350-BK  | QLLogic   |         | 4          | 2,095                                | 8,380          | 0                  |
| IBM 10/100 Dual-Port Server Adapter   | 22P4901     | IBM   |         | 2          | 209                                  | 1,672          | 0                  |
| Adaptec Quartet64 4-Port Adapter  | 1932500     | Adaptec   |         | 5          | 511                                  | 2,044          | 0                  |
| E54 15" (13.8" Viewable) Color Monitor  | 633147N     | IBM   |         | 2          | 129                                  | 516            | 360                |
| <b>Subtotal</b>   |             |   |         |            |                                      | <b>27,808</b>  | <b>3,152</b>       |
| <b>Client Software</b>  |             |   |         |            |                                      |                |                    |
| Microsoft Windows 2000 Server with COM+   | C11-00821   | Microsoft   |         | 3          | 738                                  | 2,952          | 0                  |
| Microsoft Visual C++ Professional 6.0   | 254-00170   | Microsoft   |         | 3          | 109                                  | 109            | 0                  |
| <b>Subtotal</b>   |             |   |         |            |                                      | <b>3,061</b>   | <b>0</b>           |
| <b>Network Components</b>   |             |   |         |            |                                      |                |                    |
| SAN Fibre Channel 8-Port Switch   | 3534F08     | IBM   |         | 2          | 7,000                                | 7,000          | 350                |
| IBM Short Wave SFP Module   | 19K1271     | IBM   |         | 2          | 499                                  | 998            | 0                  |
| IBM 5M LC-LC Fibre Channel Cable  | 19K1248     | IBM   |         | 2          | 129                                  | 774            | 0                  |
| <b>Subtotal</b>   |             |   |         |            |                                      | <b>8,772</b>   | <b>350</b>         |
| Discount of 14% on IBM hardware.  |             |   |         | 14%        |                                      | 73,470         |                    |
| <b>Discount</b>   |             |   |         |            |                                      | <b>73,470</b>  |                    |
| <b>Total</b>  |             |   |         |            |                                      | <b>719,689</b> | <b>61,867</b>      |
| 1 - Call IBM at 919-254-0367; 2 - IBM List Price; 3 - Microsoft; 4 - QLLogic;<br>5 - Computer Giants; 6 - PC Connection<br>Audited by Francois Raab, InfoSizing, Inc.   |             |   |         |            | <b>Three-Year Cost of Ownership:</b> |                |                    |
|   |             |   |         |            | <b>tpmC:</b>                         |                | \$781,556          |
|   |             |   |         |            | <b>\$/tpmC:</b>                      |                | 119,115.16         |
|   |             |   |         |            |                                      |                | \$6.56             |
| 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: 119,115.16 tpmC

| Response Times<br>(in seconds)  | 90th Percentile | Average       | Maximum              |
|---|-----------------|---------------|----------------------|
| New-Order   | 0.78            | 0.46          | 5.70                 |
| Payment   | 0.70            | 0.39          | 3.77                 |
| Delivery  | 0.55            | 0.28          | 2.33                 |
| Stock Level   | 1.14            | 0.78          | 6.01                 |
| Order Status  | 0.70            | 0.40          | 5.23                 |
| Delivery (Deferred)   | 0.25            | 0.18          | 3.14                 |
| Menu  | 0.56            | 0.28          | 5.32                 |
| <b>Response Time Delay Added for Emulated Components: 0.1 Seconds</b> |                 |               |                      |
| Transaction Mix (in percent of total transactions)                    |                 |               | Percent              |
| New-Order   |                 |               | 44.95                |
| Payment   |                 |               | 43.03                |
| Delivery  |                 |               | 4.01                 |
| Stock-Level   |                 |               | 4.01                 |
| Order Status  |                 |               | 4.00                 |
| Keying/Think Times<br>(in seconds)                                    | Minimum         | Average       | Maximum              |
| New Order   | 18.00 / 0.00    | 18.01 / 12.05 | 18.05 / 120.52       |
| Payment   | 3.00 / 0.00     | 3.02 / 12.05  | 3.05 / 120.52        |
| Delivery  | 2.00 / 0.00     | 2.01 / 5.05   | 2.05 / 50.51         |
| Stock Level   | 2.00 / 0.00     | 2.01 / 5.05   | 2.04 / 50.51         |
| Order Status  | 2.00 / 0.00     | 2.01 / 10.04  | 2.04 / 100.52        |
| <b>Test Duration</b>  |                 |               |                      |
| Ramp-up time  |                 |               | 49 minutes 5 seconds |
| Measurement interval  |                 |               | 120 minutes          |
| Number of checkpoints   |                 |               | 4                    |
| Checkpoint interval   |                 |               | 30 minutes           |
| Number of transactions (all types) completed in measurement interval  |                 |               | 33,077,911           |