



# Hitachi VisionBase 8460 Server

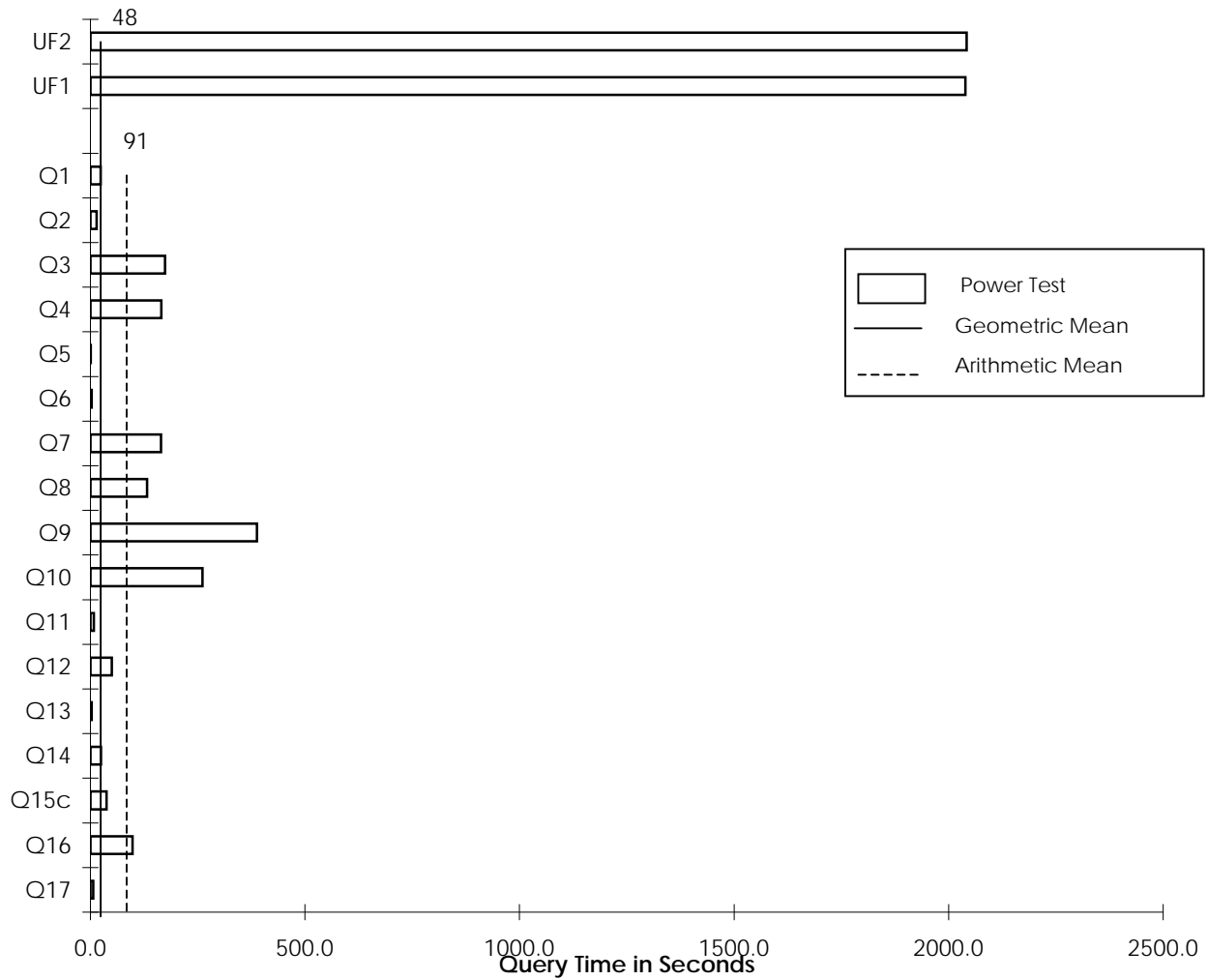
with  
**IBM DB2 UDB 5.2.0**

TPC-D Rev. 1.3.1

Report Date:

15-Feb-99

|                   |                             |                             |                                 |
|-------------------|-----------------------------|-----------------------------|---------------------------------|
| Total System Cost | TPC-D Power                 | TPC-D Throughput            | Price/Performance               |
| <b>\$199,847</b>  | <b>2,261.2</b><br>QppD@30GB | <b>325.9</b><br>QthD@30GB   | <b>\$233</b><br>QphD@30GB       |
| Database Size     | Database Manager            | Operating System            | Other Software                  |
| <b>30GB</b>       | <b>IBM DB2 UDB 5.2.0</b>    | <b>Microsoft NT 4.0/SP4</b> | <b>Microsoft Visual C++ 5.0</b> |
|                   |                             |                             | Availability Date               |
|                   |                             |                             | <b>30-Jun-99</b>                |



|                               |   |         |
|-------------------------------|---|---------|
| Database Load Time = 17:08:41 | Total Data Storage / Database Size = 19.4 | RAID: Y |
|-------------------------------|---|---------|

### System Configuration

Processors: 4 X 400MHz Pentium II Xeon Processors w/ 1MB cache  
 Memory: 2GB Main Memory  
 Disk Drives: 31 X 17.9GB Disk Drives  
 3 X 9GB Disk Drives



# Hitachi VisionBase 8460 Server

TPC-D Rev. 1.3.1

with

## IBM DB2 UDB 5.2.0

Report Date:

15-Feb-99

| Description   | Part Number  | Source | Reference Price          | Qty | Disc | Extended Price | 5 Yr. Maint. Cost |
|---|--------------|--------|--------------------------|-----|------|----------------|-------------------|
| <b>Server Hardware</b>                                  |              |        |                          |     |      |                |                   |
| VisionBase 8460 NT Server                               |              |        |                          |     |      |                |                   |
| (512MB, 1 400Mhz Xeon CPU, NT 4.0,                      |              |        |                          |     |      |                |                   |
| Ethernet controller, 3x9G Drive, RAID                   |              |        |                          |     |      |                |                   |
| contoller)  | VB-D8460-100 | 1      | 21,518                   | 1   |      | 21,518         | 5,995             |
| 512 MB memory kit                                       | MEM4-512     | 1      | 1,600                    | 3   |      | 4,800          | -                 |
| 400 Mhz Xeon CPU (1MB L2 cace)                          | CPUX400-01M  | 1      | 4,050                    | 4   |      | 16,200         | -                 |
| Credit for base CPU (512KB L2)                          | CPUC400-512  | 1      | -1,653                   | 1   |      | (1,653)        | -                 |
| Emulex LP7000 Fiber Adapter                             | LP7000E/N1   | 1      | 1,995                    | 2   |      | 3,990          | -                 |
| Command Package (see note 1)                            | CM620-U      | 1      | 450                      | 1   |      | 450            | -                 |
| <b>Subtotal</b>   |              |        |                          |     |      | <b>45,305</b>  | <b>5,995</b>      |
| <b>Storage</b>  |              |        |                          |     |      |                |                   |
| 5846 Freedom Storage                                    | 5846-A0001.S | 1      | 41,000                   | 1   |      | 41,000         | 23,491            |
| Cache Memory (32 MB)                                    | 5800-C0032.S | 1      | 280                      | 32  |      | 8,960          | -                 |
| 17.9G Drives (5 pack)                                   | 5800-R0003.S | 1      | 7,700                    | 6   |      | 46,200         | -                 |
| Additional Storage Control Unit                         | 5800-F0001.S | 1      | 6,900                    | 1   |      | 6,900          | -                 |
| Fiber Channel Interface Kit                             | 5800-I0004.S | 1      | 5,000                    | 2   |      | 10,000         | -                 |
| Duplex Fiber Optic Cable                                | CBL-FP002.S  | 1      | 50                       | 2   |      | 100            | -                 |
| Sommet Storage Management Pkg                           | 5800-S0001.S | 1      | 850                      | 1   |      | 850            | -                 |
| Sommet Cable (5m)                                       | 5800-F0009.S | 1      | 30                       | 1   |      | 30             | -                 |
| HDS Volume Discount                                     | (see note 2) |        |                          |     | 19%  | (21,668)       | -                 |
| <b>Subtotal</b>   |              |        |                          |     |      | <b>92,372</b>  | <b>23,491</b>     |
| <b>Hardware Subtotal</b>                                |              |        |                          |     |      | <b>137,677</b> | <b>29,486</b>     |
| <b>Server Software</b>                                  |              |        |                          |     |      |                |                   |
| Microsoft Windows NT with SP4                           |              | 1      | -                        | 1   |      | -              | -                 |
| DB2 UDB 5.2.0 Enterprise Edition                        | (see note 3) | 2      | 24,998                   | 1   | 13%  | 21,748         | -                 |
| Microsoft Visual C++ and Subscription Service           |              | 3      | 460                      | 1   |      | 460            | -                 |
| Microsoft Priority Plus Database Server Support         |              | 3      | 2,095                    | 5   |      |                | 10,475            |
| <b>Subtotal</b>   |              |        |                          |     |      | <b>22,208</b>  | <b>10,475</b>     |
| <b>Notes</b>  |              |        |                          |     |      |                |                   |
| 1. Includes Monitor/Keyboard/Mouse/Cables               |              |        | <b>Total</b>             |     |      | <b>159,886</b> | <b>39,961</b>     |
| 2. Based on Sales volume in excess of \$100,000         |              |        | 5 Year Cost of Ownership |     |      | \$ 199,847     |                   |
| 3. IBM Passport/Advantage Discount on DB2 UDB           |              |        | QphD@30GB                |     |      | 858            |                   |
|   |              |        | <b>\$/QphD@30GB</b>      |     |      | <b>\$ 233</b>  |                   |
| Sources: (1) Hitachi Data Systems (2) IBM (3) Microsoft |              |        |                          |     |      |                |                   |

Audited By: **Francois Raab, Information Paradigm, Inc.**

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 the stated prices are not available according to these terms, please inform the TPC at pricing@tpc.org. Thank you.



# Hitachi VisionBase 8460 Server

with

## IBM DB2 UDB 5.2.0

TPC-D Rev. 1.3.1

Report Date:

15-Feb-99

### Measurement Results

|                                    |   |          |
|------------------------------------|---|----------|
| Scale Factor                       | = | 30       |
| Total Data Storage / Database Size | = | 19.40    |
| Database Load Time                 | = | 17:08:41 |
| Query Streams for Throughput Test  | = | 0        |
| TPC-D Power Metric(QppD@30GB)      | = | 2261.2   |
| TPC-D Throughput Metric(QthD@30GB) | = | 325.9    |
| Composite QphD@30GB                | = | 858.4    |
| Total System Price Over 5 Years    | = | 199847   |
| TPC-D Price/Performance Metric     | = | \$ 233   |

### Measurement Intervals

|  |   |      |
|--|---|------|
| Measurement Interval in Throughput Test (Ts) | = | 5634 |
|--|---|------|

Duration of stream execution

| Stream ID | Seed  | Query Start<br>Date/Time<br>Query End<br>Date/Time | UF1 Start<br>Date/Time<br>UF1 End<br>Date/Time | UF2 Start<br>Date/Time<br>UF2 End<br>Date/Time | Duration |
|-----------|-------|--|--|--|----------|
| Stream 0  | 16494 | 02/13/99 12:38:47<br>02/13/99 14:12:41             | 02/13/99 12:38:47<br>02/13/99 13:12:46         | 02/13/99 13:38:38<br>02/13/99 14:12:41         | 1:33:54  |

TPC-D Timing Intervals (in seconds):

| Query    | Q1    | Q2     | Q3     | Q4    | Q5  | Q6   | Q7    | Q8    |
|----------|-------|--------|--------|-------|-----|------|-------|-------|
| Stream 0 | 23.6  | 14.1   | 173.7  | 165.2 | 0.5 | 2.6  | 164.2 | 132.0 |
|          | Q9    | Q10    | Q11    | Q12   | Q13 | Q14  | Q15c  | Q16   |
|          | 388.3 | 261.4  | 8.1    | 49.9  | 2.9 | 24.2 | 37.8  | 97.8  |
|          | Q17   | UF1    | UF2    |       |     |      |       |       |
|          | 6.7   | 2038.9 | 2042.3 |       |     |      |       |       |