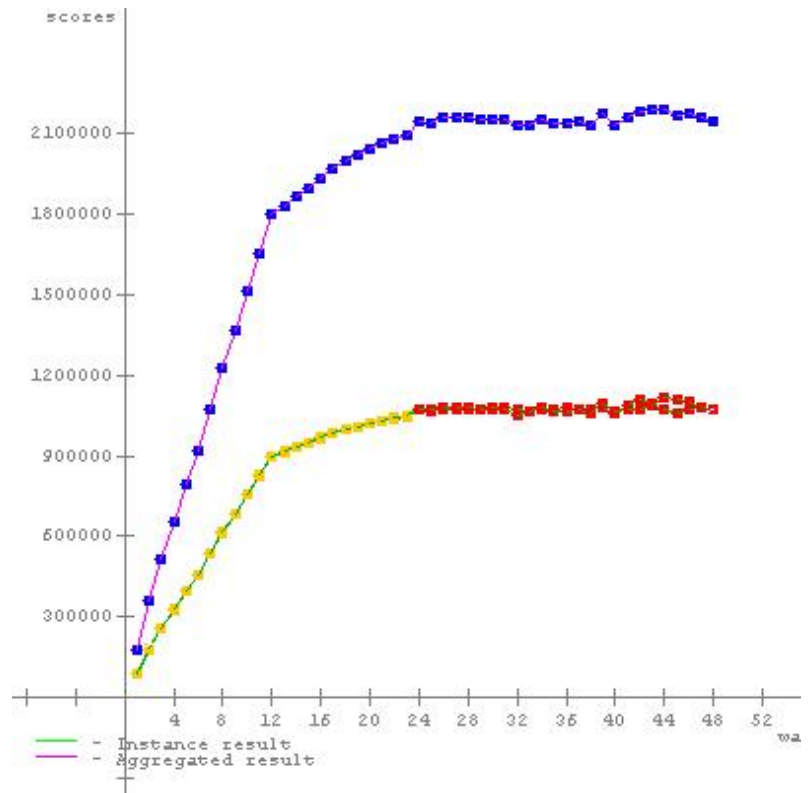


SPECjbb2005 **SPECjbb2005 bops = 2152354, SPECjbb2005 bops/JVM = 1076177**

Cisco Systems Cisco UCS C220 M3 (Intel Xeon E5-2697 v2, 2.7GHz)

Oracle Corporation Oracle Java HotSpot(TM) 64-bit Server VM on Windows, version 1.6.0\_29

| JVM run                                                       | JVM Scores |
|---------------------------------------------------------------|------------|
| 1                                                             | 1075005    |
| 2                                                             | 1077349    |
| SPECjbb2005 bops = 2152354,<br>SPECjbb2005 bops/JVM = 1076177 |            |



| Hardware              |                                                                   |
|-----------------------|-------------------------------------------------------------------|
| Hardware Vendor       | Cisco Systems                                                     |
| Vendor URL            | <a href="http://www.cisco.com">http://www.cisco.com</a>           |
| Model                 | Cisco UCS C220 M3 (Intel Xeon E5-2697 v2, 2.7GHz)                 |
| Processor             | Intel Xeon E5-2697 v2 (Intel Turbo Boost Technology upto 3.5 GHz) |
| MHz                   | 2700                                                              |
| # of Chips            | 2                                                                 |
| # of Cores            | 24                                                                |
| # of Cores/Chip       | 12                                                                |
| HW Threading Enabled? | yes                                                               |
| Procs                 |                                                                   |

| Software         |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Software Vendor  | Oracle Corporation                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Vendor URL       | <a href="http://www.oracle.com">http://www.oracle.com</a>                                                                                                                                                                                                                                                                                                                                                                                                   |
| JVM Version      | Oracle Java HotSpot(TM) 64-bit Server VM on Windows, version 1.6.0_29                                                                                                                                                                                                                                                                                                                                                                                       |
| JVM Command Line | start /realtime /node [0,1] /affinity FFFFFFFF - server -showversion -Xmx29g -Xms29g -Xmn27g -XX:SurvivorRatio=60 -XX:TargetSurvivorRatio=90 -XX:ParallelGCThreads=24 -XX:AllocatePrefetchDistance=256 -XX:AllocatePrefetchLines=4 -XX:LoopUnrollLimit=45 -XX:InitialTenuringThreshold=12 -XX:MaxTenuringThreshold=15 -XX:InlineSmallCode=3900 -XX:MaxInlineSize=270 -XX:FreqInlineSize=2500 -XX:+AggressiveOpts -XX:+UseLargePages -XX:+UseParallelOldGC - |

|                        |                                                                                        |
|------------------------|----------------------------------------------------------------------------------------|
| <b>Avail to Java</b>   | 24                                                                                     |
| <b>Memory (MB)</b>     | 131072                                                                                 |
| <b>Memory Details</b>  | 128GB (16 x 8GB 2RX4 PC3-14900R-13-12-E2, running 1866MHz, all memory slots populated) |
| <b>Primary cache</b>   | 32KB I+32KB D on chip per core                                                         |
| <b>Secondary cache</b> | 256KB(I+D) on chip per core                                                            |
| <b>Other cache</b>     | 30MB (I+D) on chip per chip                                                            |
| <b>Filesystem</b>      | NTFS                                                                                   |
| <b>Disks</b>           | 1 x 300GB SAS                                                                          |
| <b>Other hardware</b>  | None                                                                                   |

|                                     |                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                     | XX:+UseCompressedStrings -XX:-UseAdaptiveSizePolicy spec.jbb.JBBmain -propfile SPECjbb.props -id [1,2]                                                                                                                                                                                                                                                                               |
| <b>JVM Initial Heap Memory (MB)</b> | 29696                                                                                                                                                                                                                                                                                                                                                                                |
| <b>JVM Maximum Heap Memory (MB)</b> | 29696                                                                                                                                                                                                                                                                                                                                                                                |
| <b>JVM Address bits</b>             | 64                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>JVM CLASSPATH</b>                | .\jbb.jar;<br>.\check.jar;                                                                                                                                                                                                                                                                                                                                                           |
| <b>JVM BOOTCLASSPATH</b>            | c:\JAVA\jre1.6_29\lib\alt-string.jar;<br>c:\JAVA\jre1.6_29\lib\alt-rt.jar;<br>c:\JAVA\jre1.6_29\lib\resources.jar;<br>c:\JAVA\jre1.6_29\lib\rt.jar;<br>c:\JAVA\jre1.6_29\lib\sunrsasign.jar;<br>c:\JAVA\jre1.6_29\lib\jsse.jar;<br>c:\JAVA\jre1.6_29\lib\jce.jar;<br>c:\JAVA\jre1.6_29\lib\charsets.jar;<br>c:\JAVA\jre1.6_29\lib\modules\jdk.boot.jar;<br>c:\JAVA\jre1.6_29\classes |
| <b>OS Version</b>                   | Microsoft Windows Server 2008 R2 Enterprise Edition SP1                                                                                                                                                                                                                                                                                                                              |
| <b>Other software</b>               |                                                                                                                                                                                                                                                                                                                                                                                      |

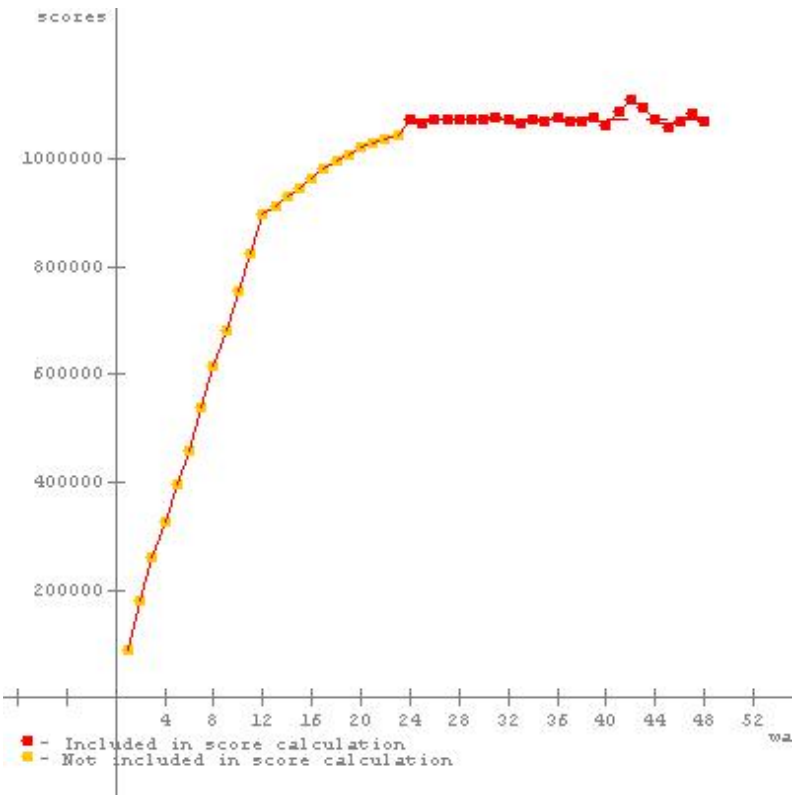
| <b>Test Information</b>    |                |
|----------------------------|----------------|
| <b>Tested by</b>           | Cisco Systems  |
| <b>SPEC license #</b>      | 9019           |
| <b>Test location</b>       | San Jose, CA   |
| <b>Test date</b>           | Aug 24, 2013   |
| <b>H/w available</b>       | September-2013 |
| <b>JVM available</b>       | Aug-2011       |
| <b>OS available</b>        | Feb-2011       |
| <b>Other s/w available</b> | N/A            |

| <b>AOT Compilation</b>                                                                                                                                                                                                                                                                                                                                    |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Tuning</b>                                                                                                                                                                                                                                                                                                                                             |  |
| Operating system tunings <ul style="list-style-type: none"> <li>• "Lock pages in memory" enabled for benchmark user.</li> <li>• Hardware Prefetcher disabled in BIOS</li> <li>• Adjacent Cache Line Prefetch disabled in BIOS</li> <li>• Each JVM instance was affinized to a chip.</li> <li>• Parameter expected_peak_warehouse was set to 24</li> </ul> |  |
| <b>Notes</b>                                                                                                                                                                                                                                                                                                                                              |  |
| Command line options are described at:<br><a href="http://www.oracle.com/technetwork/java/javase/tech/vmoptions-jsp-140102.html">http://www.oracle.com/technetwork/java/javase/tech/vmoptions-jsp-140102.html</a>                                                                                                                                         |  |

## JVM 1 Scores:

**No errors. Valid run.**

| Warehouses | SPECjbb2005<br>bops | Incl. in metric |
|------------|---------------------|-----------------|
| 1          | 89447               |                 |
| 2          | 179035              |                 |
| 3          | 259625              |                 |
| 4          | 328326              |                 |
| 5          | 397053              |                 |
| 6          | 457890              |                 |
| 7          | 537994              |                 |
| 8          | 614581              |                 |
| 9          | 682844              |                 |
| 10         | 754086              |                 |
| 11         | 825753              |                 |
| 12         | 897709              |                 |
| 13         | 913205              |                 |
| 14         | 931943              |                 |
| 15         | 946265              |                 |
| 16         | 963883              |                 |

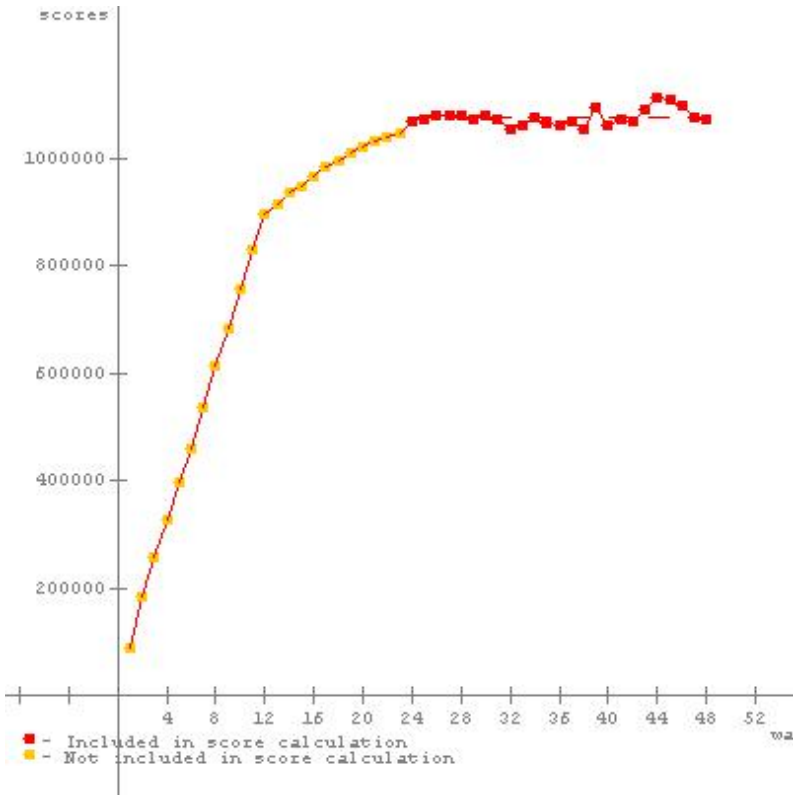


|                            |                        |                                         |
|----------------------------|------------------------|-----------------------------------------|
| 17                         | 983041                 |                                         |
| 18                         | 996275                 |                                         |
| 19                         | 1006726                |                                         |
| 20                         | 1020695                |                                         |
| 21                         | 1028467                |                                         |
| 22                         | 1035820                |                                         |
| 23                         | 1044242                |                                         |
| 24                         | 1073907                | *                                       |
| 25                         | 1065097                | *                                       |
| 26                         | 1073480                | *                                       |
| 27                         | 1073851                | *                                       |
| 28                         | 1073715                | *                                       |
| 29                         | 1074111                | *                                       |
| 30                         | 1073014                | *                                       |
| 31                         | 1078443                | *                                       |
| 32                         | 1073726                | *                                       |
| 33                         | 1066278                | *                                       |
| 34                         | 1074917                | *                                       |
| 35                         | 1070008                | *                                       |
| 36                         | 1076768                | *                                       |
| 37                         | 1070790                | *                                       |
| 38                         | 1069533                | *                                       |
| 39                         | 1077031                | *                                       |
| 40                         | 1061617                | *                                       |
| 41                         | 1088290                | *                                       |
| 42                         | 1111356                | *                                       |
| 43                         | 1095267                | *                                       |
| 44                         | 1071785                | *                                       |
| 45                         | 1057812                | *                                       |
| 46                         | 1070571                | *                                       |
| 47                         | 1082655                | *                                       |
| 48                         | 1071116                | *                                       |
| <b>SPECjbb2005</b>         | <b>(from 24 to 48)</b> | <b>1075005<br/>SPECjbb2005<br/>bops</b> |
| <b>SPEC license # 9019</b> |                        | <b>Tested by: Cisco Systems</b>         |
|                            |                        | <b>Test date: Aug 24, 2013</b>          |

## JVM 2 Scores:

No errors. Valid run.

| Warehouses | SPECjbb2005<br>bops | Incl. in metric |
|------------|---------------------|-----------------|
| 1          | 89398               |                 |
| 2          | 183699              |                 |
| 3          | 258905              |                 |
| 4          | 328881              |                 |
| 5          | 397908              |                 |
| 6          | 459424              |                 |
| 7          | 536921              |                 |
| 8          | 614767              |                 |
| 9          | 683627              |                 |
| 10         | 757841              |                 |
| 11         | 829672              |                 |
| 12         | 898945              |                 |
| 13         | 917454              |                 |
| 14         | 935976              |                 |
| 15         | 948823              |                 |
| 16         | 967545              |                 |
| 17         | 984556              |                 |
| 18         | 997541              |                 |
| 19         | 1010244             |                 |
| 20         | 1021943             |                 |
| 21         | 1032438             |                 |
| 22         | 1040584             |                 |
| 23         | 1048896             |                 |
| 24         | 1069276             | *               |
| 25         | 1073426             | *               |
| 26         | 1081081             | *               |
| 27         | 1080402             | *               |
| 28         | 1081032             | *               |
| 29         | 1073338             | *               |
| 30         | 1080045             | *               |
| 31         | 1072080             | *               |
| 32         | 1054185             | *               |
| 33         | 1064053             | *               |
| 34         | 1076871             | *               |



|                    |                        |                                         |
|--------------------|------------------------|-----------------------------------------|
| 35                 | 1066234                | *                                       |
| 36                 | 1062485                | *                                       |
| 37                 | 1069778                | *                                       |
| 38                 | 1056838                | *                                       |
| 39                 | 1097257                | *                                       |
| 40                 | 1063351                | *                                       |
| 41                 | 1072382                | *                                       |
| 42                 | 1070677                | *                                       |
| 43                 | 1091121                | *                                       |
| 44                 | 1115523                | *                                       |
| 45                 | 1110418                | *                                       |
| 46                 | 1100018                | *                                       |
| 47                 | 1078299                | *                                       |
| 48                 | 1073557                | *                                       |
| <b>SPECjbb2005</b> | <b>(from 24 to 48)</b> | <b>1077349<br/>SPECjbb2005<br/>bops</b> |

|                            |                                 |                                |
|----------------------------|---------------------------------|--------------------------------|
| <b>SPEC license # 9019</b> | <b>Tested by: Cisco Systems</b> | <b>Test date: Aug 24, 2013</b> |
|----------------------------|---------------------------------|--------------------------------|

SPECjbb2005 Version: [SPECjbb2005 1.07, March 15, 2006]

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