# 性能测试计划

版本为1.1.6的Hbase，测试分别基于Hadoop2.6.1，2.7.1，2.7.1（官方）三个不同的版本的包，测试随机读写的性能。

一、Map-Reduce

hbase pe --rows=1000 randomWrite 1

hbase pe --rows=1000 randomWrite 10

hbase pe --rows=1000 randomRead 1

hbase pe --rows=1000 randomRead 10

二、客户端

hbase pe –nomapred --rows=1000 randomWrite 1

hbase pe –nomapred --rows=1000 randomWrite 10

hbase pe –nomapred --rows=1000 randomRead 1

hbase pe –nomapred --rows=1000 randomRead 10

2.6.1与2.7.1测试初步结论：

|  |  |  |
| --- | --- | --- |
| 指标 | Latency(2.6.1)(tp99/us) | Latency(2.7.1)(tp99/us) |
| 单线程随机读 | 655 | 801 |
| 单线程随机写 | 105 | 104 |
| 多线程随机读(10cli) | 668-782 | 1377-1522 |
| 多线程随机写(10cli) | 84-374 | 91-391 |

## 一、hbase pe –nomapred --rows=1000 randomRead 1

### 2.6.1：(us)

RandomReadTest Min = 347.0

RandomReadTest Avg = 481.042

RandomReadTest StdDev = 602.0276933659941

RandomReadTest 50th = 445.0

RandomReadTest 75th = 517.0

RandomReadTest 95th = 571.9499999999999

RandomReadTest 99th = 655.9300000000001

RandomReadTest 99.9th = 19221.939000000402

RandomReadTest 99.99th = 19239.0

RandomReadTest 99.999th = 19239.0

RandomReadTest Max = 19239.0

### 2.7.1：(us)

RandomReadTest Min = 338.0

RandomReadTest Avg = 492.148

RandomReadTest StdDev = 594.462223721097

RandomReadTest 50th = 458.0

RandomReadTest 75th = 506.0

RandomReadTest 95th = 585.8999999999999

RandomReadTest 99th = 801.97

RandomReadTest 99.9th = 19009.0840000004

RandomReadTest 99.99th = 19026.0

RandomReadTest 99.999th = 19026.0

RandomReadTest Max = 19026.0

## 二、hbase pe –nomapred --rows=1000 randomWrite 1

### 2.6.1：(us)

RandomWriteTest Min = 30.0

RandomWriteTest Avg = 42.071

RandomWriteTest StdDev = 37.92619616248584

RandomWriteTest 50th = 33.0

RandomWriteTest 75th = 34.0

RandomWriteTest 95th = 90.0

RandomWriteTest 99th = 105.0

RandomWriteTest 99.9th = 1050.1850000000193

RandomWriteTest 99.99th = 1051.0

RandomWriteTest 99.999th = 1051.0

RandomWriteTest Max = 1051.0

### 2.7.1：(us)

RandomWriteTest Min = 31.0

RandomWriteTest Avg = 41.99

RandomWriteTest StdDev = 38.8200579198035

RandomWriteTest 50th = 33.0

RandomWriteTest 75th = 34.0

RandomWriteTest 95th = 89.0

RandomWriteTest 99th = 104.0

RandomWriteTest 99.9th = 1087.1410000000203

RandomWriteTest 99.99th = 1088.0

RandomWriteTest 99.999th = 1088.0

RandomWriteTest Max = 1088.0

## 三、hbase pe –nomapred --rows=1000 randomWrite 10

### 2.6.1：(us)

RandomWriteTest Min = 17.0

RandomWriteTest Avg = 48.478

RandomWriteTest StdDev = 49.90198116030789

RandomWriteTest 50th = 40.0

RandomWriteTest 75th = 49.0

RandomWriteTest 95th = 83.89999999999986

RandomWriteTest 99th = 366.99

RandomWriteTest 99.9th = 452.9870000000003

RandomWriteTest 99.99th = 453.0

RandomWriteTest 99.999th = 453.0

RandomWriteTest Max = 453.0

RandomWriteTest Min = 18.0

RandomWriteTest Avg = 50.512

RandomWriteTest StdDev = 62.91985985970375

RandomWriteTest 50th = 40.0

RandomWriteTest 75th = 50.0

RandomWriteTest 95th = 85.94999999999993

RandomWriteTest 99th = 371.8100000000002

RandomWriteTest 99.9th = 1282.1470000000202

RandomWriteTest 99.99th = 1283.0

RandomWriteTest 99.999th = 1283.0

RandomWriteTest Max = 1283.0

RandomWriteTest Min = 15.0

RandomWriteTest Avg = 47.141

RandomWriteTest StdDev = 46.506493879596796

RandomWriteTest 50th = 40.0

RandomWriteTest 75th = 49.0

RandomWriteTest 95th = 77.0

RandomWriteTest 99th = 365.84000000000015

RandomWriteTest 99.9th = 446.99300000000017

RandomWriteTest 99.99th = 447.0

RandomWriteTest 99.999th = 447.0

RandomWriteTest Max = 447.0

RandomWriteTest Min = 19.0

RandomWriteTest Avg = 50.356

RandomWriteTest StdDev = 64.27047500958707

RandomWriteTest 50th = 40.0

RandomWriteTest 75th = 50.0

RandomWriteTest 95th = 85.0

RandomWriteTest 99th = 354.9000000000001

RandomWriteTest 99.9th = 1323.2300000000182

RandomWriteTest 99.99th = 1324.0

RandomWriteTest 99.999th = 1324.0

RandomWriteTest Max = 1324.0

RandomWriteTest Min = 18.0

RandomWriteTest Avg = 47.104

RandomWriteTest StdDev = 47.08286291189164

RandomWriteTest 50th = 40.0

RandomWriteTest 75th = 49.0

RandomWriteTest 95th = 76.0

RandomWriteTest 99th = 374.9100000000001

RandomWriteTest 99.9th = 469.9630000000009

RandomWriteTest 99.99th = 470.0

RandomWriteTest 99.999th = 470.0

RandomWriteTest Max = 470.0

RandomWriteTest Min = 18.0

RandomWriteTest Avg = 47.606

RandomWriteTest StdDev = 48.50054708008011

RandomWriteTest 50th = 40.0

RandomWriteTest 75th = 49.0

RandomWriteTest 95th = 80.0

RandomWriteTest 99th = 373.9000000000001

RandomWriteTest 99.9th = 484.9500000000012

RandomWriteTest 99.99th = 485.0

RandomWriteTest 99.999th = 485.0

RandomWriteTest Max = 485.0

RandomWriteTest Min = 19.0

RandomWriteTest Avg = 50.018

RandomWriteTest StdDev = 60.48307100237121

RandomWriteTest 50th = 40.0

RandomWriteTest 75th = 49.0

RandomWriteTest 95th = 86.79999999999973

RandomWriteTest 99th = 374.9000000000001

RandomWriteTest 99.9th = 1111.3460000000155

RandomWriteTest 99.99th = 1112.0

RandomWriteTest 99.999th = 1112.0

RandomWriteTest Max = 1112.0

RandomWriteTest Min = 20.0

RandomWriteTest Avg = 42.236

RandomWriteTest StdDev = 16.234218609278795

RandomWriteTest 50th = 43.0

RandomWriteTest 75th = 52.0

RandomWriteTest 95th = 71.0

RandomWriteTest 99th = 84.98000000000002

RandomWriteTest 99.9th = 125.98400000000038

RandomWriteTest 99.99th = 126.0

RandomWriteTest 99.999th = 126.0

RandomWriteTest Max = 126.0

RandomWriteTest Min = 14.0

RandomWriteTest Avg = 41.839

RandomWriteTest StdDev = 16.21382024591881

RandomWriteTest 50th = 42.0

RandomWriteTest 75th = 51.0

RandomWriteTest 95th = 70.94999999999993

RandomWriteTest 99th = 84.98000000000002

RandomWriteTest 99.9th = 125.98400000000038

RandomWriteTest 99.99th = 126.0

RandomWriteTest 99.999th = 126.0

RandomWriteTest Max = 126.0

RandomWriteTest Min = 18.0

RandomWriteTest Avg = 48.01

RandomWriteTest StdDev = 49.982278140638286

RandomWriteTest 50th = 40.0

RandomWriteTest 75th = 49.0

RandomWriteTest 95th = 82.94999999999993

RandomWriteTest 99th = 362.99

RandomWriteTest 99.9th = 482.94800000000123

RandomWriteTest 99.99th = 483.0

RandomWriteTest 99.999th = 483.0

RandomWriteTest Max = 483.0

### 2.7.1：(us)

RandomWriteTest Min = 19.0

RandomWriteTest Avg = 50.566

RandomWriteTest StdDev = 57.30292548613263

RandomWriteTest 50th = 41.0

RandomWriteTest 75th = 51.0

RandomWriteTest 95th = 81.89999999999986

RandomWriteTest 99th = 368.93000000000006

RandomWriteTest 99.9th = 940.4770000000124

RandomWriteTest 99.99th = 941.0

RandomWriteTest 99.999th = 941.0

RandomWriteTest Max = 941.0

RandomWriteTest Min = 20.0

RandomWriteTest Avg = 50.486

RandomWriteTest StdDev = 52.47625712226017

RandomWriteTest 50th = 42.0

RandomWriteTest 75th = 50.0

RandomWriteTest 95th = 81.0

RandomWriteTest 99th = 390.7800000000002

RandomWriteTest 99.9th = 535.8960000000025

RandomWriteTest 99.99th = 536.0

RandomWriteTest 99.999th = 536.0

RandomWriteTest Max = 536.0

RandomWriteTest Min = 18.0

RandomWriteTest Avg = 44.106

RandomWriteTest StdDev = 16.058724938383065

RandomWriteTest 50th = 43.0

RandomWriteTest 75th = 53.0

RandomWriteTest 95th = 71.0

RandomWriteTest 99th = 91.98000000000002

RandomWriteTest 99.9th = 133.98500000000035

RandomWriteTest 99.99th = 134.0

RandomWriteTest 99.999th = 134.0

RandomWriteTest Max = 134.0

RandomWriteTest Min = 18.0

RandomWriteTest Avg = 50.544

RandomWriteTest StdDev = 54.84100290475726

RandomWriteTest 50th = 41.0

RandomWriteTest 75th = 50.0

RandomWriteTest 95th = 79.94999999999993

RandomWriteTest 99th = 390.96000000000004

RandomWriteTest 99.9th = 661.7840000000051

RandomWriteTest 99.99th = 662.0

RandomWriteTest 99.999th = 662.0

RandomWriteTest Max = 662.0

RandomWriteTest Min = 19.0

RandomWriteTest Avg = 50.438

RandomWriteTest StdDev = 56.01517522828844

RandomWriteTest 50th = 41.0

RandomWriteTest 75th = 51.0

RandomWriteTest 95th = 79.94999999999993

RandomWriteTest 99th = 374.0

RandomWriteTest 99.9th = 757.7990000000048

RandomWriteTest 99.99th = 758.0

RandomWriteTest 99.999th = 758.0

RandomWriteTest Max = 758.0

RandomWriteTest Min = 18.0

RandomWriteTest Avg = 51.359

RandomWriteTest StdDev = 69.60020335679572

RandomWriteTest 50th = 41.0

RandomWriteTest 75th = 50.75

RandomWriteTest 95th = 81.0

RandomWriteTest 99th = 391.94000000000005

RandomWriteTest 99.9th = 1564.862000000027

RandomWriteTest 99.99th = 1566.0

RandomWriteTest 99.999th = 1566.0

RandomWriteTest Max = 1566.0

RandomWriteTest Min = 17.0

RandomWriteTest Avg = 51.558

RandomWriteTest StdDev = 70.18483131379995

RandomWriteTest 50th = 41.5

RandomWriteTest 75th = 50.0

RandomWriteTest 95th = 82.0

RandomWriteTest 99th = 380.9200000000001

RandomWriteTest 99.9th = 1602.8280000000277

RandomWriteTest 99.99th = 1604.0

RandomWriteTest 99.999th = 1604.0

RandomWriteTest Max = 1604.0

RandomWriteTest Min = 18.0

RandomWriteTest Avg = 50.594

RandomWriteTest StdDev = 56.79574738412125

RandomWriteTest 50th = 41.0

RandomWriteTest 75th = 51.0

RandomWriteTest 95th = 80.89999999999986

RandomWriteTest 99th = 373.98

RandomWriteTest 99.9th = 799.7840000000051

RandomWriteTest 99.99th = 800.0

RandomWriteTest 99.999th = 800.0

RandomWriteTest Max = 800.0

RandomWriteTest Min = 20.0

RandomWriteTest Avg = 44.147

RandomWriteTest StdDev = 15.838315669389937

RandomWriteTest 50th = 43.0

RandomWriteTest 75th = 53.0

RandomWriteTest 95th = 71.0

RandomWriteTest 99th = 91.98000000000002

RandomWriteTest 99.9th = 117.98600000000033

RandomWriteTest 99.99th = 118.0

RandomWriteTest 99.999th = 118.0

RandomWriteTest Max = 118.0

RandomWriteTest Min = 19.0

RandomWriteTest Avg = 50.71

RandomWriteTest StdDev = 57.56568168368816

RandomWriteTest 50th = 41.0

RandomWriteTest 75th = 51.0

RandomWriteTest 95th = 78.0

RandomWriteTest 99th = 369.95000000000005

RandomWriteTest 99.9th = 866.7180000000067

RandomWriteTest 99.99th = 867.0

RandomWriteTest 99.999th = 867.0

RandomWriteTest Max = 867.0

## 四、hbase pe –nomapred --rows=1000 randomRead 10

### 2.6.1：(us)

RandomReadTest Min = 329.0

RandomReadTest Avg = 481.393

RandomReadTest StdDev = 733.2648634094716

RandomReadTest 50th = 445.0

RandomReadTest 75th = 492.75

RandomReadTest 95th = 588.8999999999999

RandomReadTest 99th = 687.0

RandomReadTest 99.9th = 23521.300000000538

RandomReadTest 99.99th = 23544.0

RandomReadTest 99.999th = 23544.0

RandomReadTest Max = 23544.0

RandomReadTest Min = 298.0

RandomReadTest Avg = 474.753

RandomReadTest StdDev = 760.3424443128405

RandomReadTest 50th = 434.0

RandomReadTest 75th = 481.0

RandomReadTest 95th = 563.9499999999999

RandomReadTest 99th = 754.97

RandomReadTest 99.9th = 24139.502000000484

RandomReadTest 99.99th = 24160.0

RandomReadTest 99.999th = 24160.0

RandomReadTest Max = 24160.0

RandomReadTest Min = 307.0

RandomReadTest Avg = 479.613

RandomReadTest StdDev = 767.2424416018672

RandomReadTest 50th = 443.0

RandomReadTest 75th = 486.75

RandomReadTest 95th = 583.0

RandomReadTest 99th = 692.99

RandomReadTest 99.9th = 24590.595000000554

RandomReadTest 99.99th = 24614.0

RandomReadTest 99.999th = 24614.0

RandomReadTest Max = 24614.0

RandomReadTest Min = 333.0

RandomReadTest Avg = 474.262

RandomReadTest StdDev = 751.5025265449226

RandomReadTest 50th = 438.0

RandomReadTest 75th = 482.0

RandomReadTest 95th = 566.8499999999998

RandomReadTest 99th = 676.8800000000001

RandomReadTest 99.9th = 24093.245000000537

RandomReadTest 99.99th = 24116.0

RandomReadTest 99.999th = 24116.0

RandomReadTest Max = 24116.0

RandomReadTest Min = 301.0

RandomReadTest Avg = 479.428

RandomReadTest StdDev = 738.2361054319698

RandomReadTest 50th = 437.0

RandomReadTest 75th = 487.75

RandomReadTest 95th = 610.0

RandomReadTest 99th = 729.98

RandomReadTest 99.9th = 23618.00300000052

RandomReadTest 99.99th = 23640.0

RandomReadTest 99.999th = 23640.0

RandomReadTest Max = 23640.0

RandomReadTest Min = 324.0

RandomReadTest Avg = 478.759

RandomReadTest StdDev = 738.3731426703014

RandomReadTest 50th = 437.0

RandomReadTest 75th = 491.75

RandomReadTest 95th = 602.9499999999999

RandomReadTest 99th = 716.7800000000002

RandomReadTest 99.9th = 23660.339000000535

RandomReadTest 99.99th = 23683.0

RandomReadTest 99.999th = 23683.0

RandomReadTest Max = 23683.0

RandomReadTest Min = 326.0

RandomReadTest Avg = 479.967

RandomReadTest StdDev = 755.3965195927317

RandomReadTest 50th = 434.0

RandomReadTest 75th = 479.0

RandomReadTest 95th = 663.8999999999999

RandomReadTest 99th = 727.95

RandomReadTest 99.9th = 24183.75900000055

RandomReadTest 99.99th = 24207.0

RandomReadTest 99.999th = 24207.0

RandomReadTest Max = 24207.0

RandomReadTest Min = 311.0

RandomReadTest Avg = 470.444

RandomReadTest StdDev = 481.3760419440896

RandomReadTest 50th = 431.0

RandomReadTest 75th = 471.0

RandomReadTest 95th = 681.9499999999999

RandomReadTest 99th = 782.7600000000002

RandomReadTest 99.9th = 15383.718000000337

RandomReadTest 99.99th = 15398.0

RandomReadTest 99.999th = 15398.0

RandomReadTest Max = 15398.0

RandomReadTest Min = 311.0

RandomReadTest Avg = 470.952

RandomReadTest StdDev = 468.389955962814

RandomReadTest 50th = 442.0

RandomReadTest 75th = 490.0

RandomReadTest 95th = 586.9499999999999

RandomReadTest 99th = 668.98

RandomReadTest 99.9th = 15090.900000000333

RandomReadTest 99.99th = 15105.0

RandomReadTest 99.999th = 15105.0

RandomReadTest Max = 15105.0

RandomReadTest Min = 325.0

RandomReadTest Avg = 476.783

RandomReadTest StdDev = 760.228736396252

RandomReadTest 50th = 438.0

RandomReadTest 75th = 485.0

RandomReadTest 95th = 573.9499999999999

RandomReadTest 99th = 701.95

RandomReadTest 99.9th = 24369.76900000055

RandomReadTest 99.99th = 24393.0

RandomReadTest 99.999th = 24393.0

RandomReadTest Max = 24393.0

### 2.7.1：(us)

RandomReadTest Min = 412.0

RandomReadTest Avg = 831.471

RandomReadTest StdDev = 1062.3631368762738

RandomReadTest 50th = 768.5

RandomReadTest 75th = 948.75

RandomReadTest 95th = 1188.9499999999998

RandomReadTest 99th = 1379.8300000000002

RandomReadTest 99.9th = 33673.95200000076

RandomReadTest 99.99th = 33706.0

RandomReadTest 99.999th = 33706.0

RandomReadTest Max = 33706.0

RandomReadTest Min = 442.0

RandomReadTest Avg = 836.392

RandomReadTest StdDev = 1094.5098995697813

RandomReadTest 50th = 777.5

RandomReadTest 75th = 933.0

RandomReadTest 95th = 1177.85

RandomReadTest 99th = 1444.88

RandomReadTest 99.9th = 34749.86300000078

RandomReadTest 99.99th = 34783.0

RandomReadTest 99.999th = 34783.0

RandomReadTest Max = 34783.0

RandomReadTest Min = 445.0

RandomReadTest Avg = 836.806

RandomReadTest StdDev = 1056.876950857219

RandomReadTest 50th = 779.0

RandomReadTest 75th = 940.0

RandomReadTest 95th = 1175.8999999999999

RandomReadTest 99th = 1423.96

RandomReadTest 99.9th = 33468.71600000074

RandomReadTest 99.99th = 33500.0

RandomReadTest 99.999th = 33500.0

RandomReadTest Max = 33500.0

RandomReadTest Min = 440.0

RandomReadTest Avg = 825.649

RandomReadTest StdDev = 1065.8137692813818

RandomReadTest 50th = 759.5

RandomReadTest 75th = 925.0

RandomReadTest 95th = 1169.9499999999998

RandomReadTest 99th = 1395.89

RandomReadTest 99.9th = 33813.88500000076

RandomReadTest 99.99th = 33846.0

RandomReadTest 99.999th = 33846.0

RandomReadTest Max = 33846.0

RandomReadTest Min = 439.0

RandomReadTest Avg = 839.177

RandomReadTest StdDev = 1016.5945534760444

RandomReadTest 50th = 769.5

RandomReadTest 75th = 959.0

RandomReadTest 95th = 1200.6499999999996

RandomReadTest 99th = 1475.89

RandomReadTest 99.9th = 32163.62300000072

RandomReadTest 99.99th = 32194.0

RandomReadTest 99.999th = 32194.0

RandomReadTest Max = 32194.0

RandomReadTest Min = 461.0

RandomReadTest Avg = 837.038

RandomReadTest StdDev = 1058.1770821999944

RandomReadTest 50th = 759.5

RandomReadTest 75th = 950.75

RandomReadTest 95th = 1195.7999999999997

RandomReadTest 99th = 1398.8600000000001

RandomReadTest 99.9th = 33527.603000000745

RandomReadTest 99.99th = 33559.0

RandomReadTest 99.999th = 33559.0

RandomReadTest Max = 33559.0

RandomReadTest Min = 422.0

RandomReadTest Avg = 829.483

RandomReadTest StdDev = 927.9419658593968

RandomReadTest 50th = 759.0

RandomReadTest 75th = 939.0

RandomReadTest 95th = 1186.8999999999999

RandomReadTest 99th = 1468.88

RandomReadTest 99.9th = 29164.21300000061

RandomReadTest 99.99th = 29190.0

RandomReadTest 99.999th = 29190.0

RandomReadTest Max = 29190.0

RandomReadTest Min = 411.0

RandomReadTest Avg = 836.687

RandomReadTest StdDev = 1062.0047123436148

RandomReadTest 50th = 757.0

RandomReadTest 75th = 953.0

RandomReadTest 95th = 1212.0

RandomReadTest 99th = 1522.95

RandomReadTest 99.9th = 33623.30200000075

RandomReadTest 99.99th = 33655.0

RandomReadTest 99.999th = 33655.0

RandomReadTest Max = 33655.0

RandomReadTest Min = 441.0

RandomReadTest Avg = 828.778

RandomReadTest StdDev = 1072.94259890105

RandomReadTest 50th = 758.0

RandomReadTest 75th = 944.75

RandomReadTest 95th = 1172.7999999999997

RandomReadTest 99th = 1377.91

RandomReadTest 99.9th = 34000.87000000076

RandomReadTest 99.99th = 34033.0

RandomReadTest 99.999th = 34033.0

RandomReadTest Max = 34033.0

RandomReadTest Min = 417.0

RandomReadTest Avg = 832.71

RandomReadTest StdDev = 1061.0128067446099

RandomReadTest 50th = 761.5

RandomReadTest 75th = 949.0

RandomReadTest 95th = 1196.8999999999999

RandomReadTest 99th = 1423.7200000000003

RandomReadTest 99.9th = 33575.325000000754

RandomReadTest 99.99th = 33607.0

RandomReadTest 99.999th = 33607.0

RandomReadTest Max = 33607.0