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----- key_range    batch_size    ____record_cnt____    ms_per    ms_tot
*run 4* spawn_updates 100000000 1000000 20000000 30000000 4000 60000

MyMacbookAir:cpp hkl1205$ if
./driver test/spawn1.jitd
Now using policy: Cracker[ pushdown balance inline ]
Start[test/scan_for_1_min.jitd]
Start Updates [20000000--30000000] by 1000000; every 4000 ms for 60000ms
Scanning for 2000 s in [0,100000000] -> 1000 keys/read
Random Scan: 178208 scans over 2 s
Rate: 89104 scans/sec
Scanning for 2000 s in [0,100000000] -> 1000 keys/read
Random Scan: 208901 scans over 2.00001 s
Rate: 104450 scans/sec
Scanning for 2000 s in [0,100000000] -> 1000 keys/read
Random Scan: 50795 scans over 2 s
Rate: 25397.5 scans/sec
Scanning for 2000 s in [0,100000000] -> 1000 keys/read
Random Scan: 153591 scans over 2.00021 s
Rate: 76787.3 scans/sec
Scanning for 2000 s in [0,100000000] -> 1000 keys/read
Random Scan: 24617 scans over 2.00001 s
Rate: 12308.5 scans/sec
gROOT [Cracker[ pushdown balance inline ]; 3000000 elements]
  BTree[49971061]
    BTree[33294016]
      SortedArray[1000000 elements]
      SortedArray[500109 elements]
    BTree[83251350]
      SortedArray[1000000 elements]
      SortedArray[499891 elements]
Scanning for 2000 s in [0,100000000] -> 1000 keys/read
Random Scan: 119973 scans over 2.00001 s
Rate: 59986.1 scans/sec
Scanning for 2000 s in [0,100000000] -> 1000 keys/read
Random Scan: 9171 scans over 2.20837 s
Rate: 4152.84 scans/sec
Scanning for 2000 s in [0,100000000] -> 1000 keys/read
Random Scan: 99873 scans over 2.32185 s
Rate: 43014.5 scans/sec
Scanning for 2000 s in [0,100000000] -> 1000 keys/read
Random Scan: 12492 scans over 2.00001 s
Rate: 6245.96 scans/sec
Scanning for 2000 s in [0,100000000] -> 1000 keys/read
Random Scan: 57614 scans over 2.01954 s
Rate: 28528.3 scans/sec
gROOT [Cracker[ pushdown balance inline ]; 6000000 elements]
  BTree[49971061]
    Concat
      BTree[24976755]
        BTree[19980868]
          SortedArray[1000000 elements]
          SortedArray[250230 elements]
        BTree[44994070]
          SortedArray[1000000 elements]
          SortedArray[248858 elements]
        Array[500792 elements]
      BTree[74922319]
        BTree[69917787]
          Concat
            SortedArray[1000000 elements]
            SortedArray[199265 elements]
          Concat
            SortedArray[250287 elements]
            Array[50037 elements]
        Concat
          BTree[83251350]
            SortedArray[417634 elements]
            SortedArray[832991 elements]
          Array[249906 elements]
Scanning for 2000 s in [0,100000000] -> 1000 keys/read
Random Scan: 20 scans over 2.13008 s
Rate: 9.38932 scans/sec
Scanning for 2000 s in [0,100000000] -> 1000 keys/read
Random Scan: 52850 scans over 2.05281 s
Rate: 25745.2 scans/sec
Scanning for 2000 s in [0,100000000] -> 1000 keys/read
Random Scan: 23 scans over 2.02275 s
Rate: 11.3707 scans/sec
Scanning for 2000 s in [0,100000000] -> 1000 keys/read
Random Scan: 27472 scans over 2.00034 s
Rate: 13733.7 scans/sec
Scanning for 2000 s in [0,100000000] -> 1000 keys/read
Random Scan: 24 scans over 2.0937 s
Rate: 11.463 scans/sec
gROOT [Cracker[ pushdown balance inline ]; 8000000 elements]
  BTree[49971061]
    BTree[24976755]
      BTree[12486703]
        SortedArray[1000000 elements]
        BTree[14278690]
          SortedArray[142984 elements]
          SortedArray[857478 elements]
      BTree[37456405]
        SortedArray[1000000 elements]
        BTree[39243297]
          SortedArray[143286 elements]
          SortedArray[857057 elements]
    BTree[74922319]
      BTree[62447586]
        SortedArray[1000000 elements]
        SortedArray[999153 elements]
      BTree[83251350]
        Concat
          SortedArray[584001 elements]
          SortedArray[83172 elements]
        BTree[97571816]
          Concat
            SortedArray[1000000 elements]
            SortedArray[142669 elements]
          Concat
            SortedArray[166415 elements]
            SortedArray[23785 elements]
Scanning for 2000 s in [0,100000000] -> 1000 keys/read
Random Scan: 19667 scans over 2.03131 s
Rate: 9681.92 scans/sec
Scanning for 2000 s in [0,100000000] -> 1000 keys/read
Random Scan: 23 scans over 2.00566 s
Rate: 11.4675 scans/sec

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Scanning for 2000 s in [0,1000000000) -> 1000 keys/read  
Random Scan: 18200 scans over 2.22102 s  
Rate: 8194.43 scans/sec  
Scanning for 2000 s in [0,1000000000) -> 1000 keys/read  
Random Scan: 22 scans over 2.0563 s  
Rate: 10.6988 scans/sec  
Scanning for 2000 s in [0,1000000000) -> 1000 keys/read  
Random Scan: 5910 scans over 2.08086 s  
Rate: 2840.17 scans/sec  
gROOT [[Cracker] pushdown balance inline ]; 1100000 elements]  
BTree[49971061]  
BTree[24976755]  
Concat  
BTree[12486703]  
BTree[9986945]  
SortedArray[1000000 elements]  
SortedArray[250358 elements]  
BTree[14278690]  
SortedArray[179282 elements]  
BTree[24275382]  
SortedArray[1000000 elements]  
SortedArray[70653 elements]  
Array[248914 elements]  
BTree[37456405]  
BTree[34973947]  
Concat  
SortedArray[1000000 elements]  
SortedArray[100061 elements]  
Concat  
SortedArray[250174 elements]  
Array[25109 elements]  
BTree[39243297]  
Concat  
SortedArray[179071 elements]  
Array[17927 elements]  
BTree[49244137]  
BTree[48335112]  
SortedArray[1000000 elements]  
SortedArray[100123 elements]  
Concat  
SortedArray[72169 elements]  
Array[7368 elements]  
BTree[74922319]  
Concat  
BTree[62447586]  
BTree[59953537]  
SortedArray[1000000 elements]  
SortedArray[250177 elements]  
BTree[72432508]  
SortedArray[1000000 elements]  
SortedArray[249215 elements]  
Array[250190 elements]  
BTree[83251350]  
SortedArray[916393 elements]  
Concat  
BTree[93240455]  
SortedArray[1000000 elements]  
SortedArray[665836 elements]  
Array[166980 elements]  
Scanning for 2000 s in [0,1000000000) -> 1000 keys/read  
Random Scan: 35 scans over 2.07624 s  
Rate: 16.8574 scans/sec  
Scanning for 2000 s in [0,1000000000) -> 1000 keys/read  
Random Scan: 501 scans over 2.00113 s  
Rate: 250.358 scans/sec  
Scanning for 2000 s in [0,1000000000) -> 1000 keys/read  
Random Scan: 28 scans over 2.12095 s  
Rate: 13.2016 scans/sec  
Scanning for 2000 s in [0,1000000000) -> 1000 keys/read  
Random Scan: 74 scans over 2.12389 s  
Rate: 34.8417 scans/sec  
Scanning for 2000 s in [0,1000000000) -> 1000 keys/read  
Random Scan: 26 scans over 2.02603 s  
Rate: 12.833 scans/sec  
gROOT [[Cracker] pushdown balance inline ]; 1300000 elements]  
BTree[49971061]  
BTree[24976755]  
BTree[12486703]  
BTree[7689912]  
SortedArray[1000000 elements]  
BTree[8328618]  
SortedArray[83158 elements]  
Concat  
SortedArray[499669 elements]  
SortedArray[41688 elements]  
BTree[22605027]  
BTree[14278690]  
Concat  
Concat  
SortedArray[196993 elements]  
Array[18051 elements]  
Array[18137 elements]  
BTree[21962382]  
SortedArray[1000000 elements]  
SortedArray[83410 elements]  
Concat  
SortedArray[284430 elements]  
SortedArray[23849 elements]  
BTree[37456405]  
BTree[32671383]  
SortedArray[1000000 elements]  
BTree[33309621]  
SortedArray[82937 elements]  
Concat  
SortedArray[500223 elements]  
SortedArray[41345 elements]  
BTree[47576581]  
BTree[39243297]  
Concat  
SortedArray[214997 elements]  
Array[17795 elements]  
Concat  
SortedArray[1000000 elements]  
SortedArray[83550 elements]  
Concat  
SortedArray[287402 elements]
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        SortedArray[23878 elements]
BTree[74922319]
  BTree[62447586]
    BTree[57646445]
      SortedArray[1000000 elements]
      SortedArray[626097 elements]
    BTree[70766767]
      Concat
        SortedArray[1000000 elements]
        Array[83400 elements]
      SortedArray[540504 elements]
    BTree[83251350]
      BTree[82609136]
        SortedArray[1000000 elements]
        SortedArray[83302 elements]
      BTree[92328028]
        BTree[90936409]
          SortedArray[1000000 elements]
          SortedArray[181011 elements]
          SortedArray[984174 elements]
Scanning for 2000 s in [0,100000000) -> 1000 keys/read
Random Scan: 22 scans over 2.02584 s
Rate: 10.8597 scans/sec
Scanning for 2000 s in [0,100000000) -> 1000 keys/read
Random Scan: 15 scans over 2.12664 s
Rate: 7.05337 scans/sec
Scanning for 2000 s in [0,100000000) -> 1000 keys/read
Random Scan: 16 scans over 2.19213 s
Rate: 7.29882 scans/sec
Scanning for 2000 s in [0,100000000) -> 1000 keys/read
Random Scan: 23 scans over 2.00207 s
Rate: 11.4881 scans/sec
Scanning for 2000 s in [0,100000000) -> 1000 keys/read
Random Scan: 11 scans over 2.14689 s
Rate: 5.12368 scans/sec
gROOT [Cracker[ pushdown balance inline ]; 16000000 elements]
  BTree[49971061]
    BTree[24976755]
      BTree[12486703]
        Concat
          BTree[7141736]
            Concat
              SortedArray[1000000 elements]
              SortedArray[71436 elements]
              SortedArray[802819 elements]
            Array[124604 elements]
          BTree[22605027]
            BTree[14278690]
              Concat
                Concat
                  SortedArray[251007 elements]
                  SortedArray[17945 elements]
                  SortedArray[17827 elements]
                BTree[20936785]
                  Concat
                    SortedArray[1000000 elements]
                    SortedArray[66294 elements]
                  Concat
                    SortedArray[250013 elements]
                    Array[16659 elements]
              Concat
                Concat
                  Concat
                    SortedArray[308279 elements]
                    SortedArray[23995 elements]
                    Array[23671 elements]
                  Array[23881 elements]
            BTree[37456405]
              Concat
                BTree[32120722]
                  Concat
                    SortedArray[1000000 elements]
                    SortedArray[71559 elements]
                    SortedArray[802592 elements]
                  Array[124777 elements]
            BTree[47576581]
              BTree[39243297]
                Concat
                  Concat
                    Concat
                      SortedArray[214997 elements]
                      SortedArray[17795 elements]
                      SortedArray[18036 elements]
                      SortedArray[18098 elements]
                    Array[17778 elements]
                  BTree[46383423]
                    BTree[45907924]
                      BTree[45489021]
                        SortedArray[1000000 elements]
                        SortedArray[66805 elements]
                      Concat
                        SortedArray[71394 elements]
                        Array[4785 elements]
                    BTree[46934187]
                      Concat
                        Concat
                          SortedArray[77094 elements]
                          SortedArray[5421 elements]
                        Array[5640 elements]
                      Concat
                        Concat
                          SortedArray[83550 elements]
                          SortedArray[6442 elements]
                        Array[6406 elements]
                      Array[6574 elements]
                Concat
                  Concat
                    SortedArray[335047 elements]
                    SortedArray[24115 elements]
                    Array[23937 elements]
            BTree[74922319]
              Concat
                BTree[62447586]
                  BTree[56627500]

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        SortedArray[1000000 elements]
        SortedArray[875794 elements]
BTree[69571381]
    BTree[69095568]
        SortedArray[1000000 elements]
        SortedArray[71643 elements]
        SortedArray[802698 elements]
    Array[250035 elements]
BTree[83251350]
    BTree[82609136]
        BTree[82062024]
            Concat
                BTree[81584114]
                    SortedArray[1000000 elements]
                    SortedArray[71484 elements]
                    SortedArray[71307 elements]
            Concat
                Concat
                    SortedArray[76459 elements]
                    Array[5580 elements]
                    SortedArray[5419 elements]
        Concat
            Concat
                Concat
                    SortedArray[83302 elements]
                    Array[6411 elements]
                    Array[6470 elements]
                    SortedArray[6599 elements]
            BTree[92328028]
                BTree[90936409]
                    Concat
                        BTree[90382026]
                            BTree[89906740]
                                SortedArray[1000000 elements]
                                SortedArray[71501 elements]
                                SortedArray[82684 elements]
                                SortedArray[77261 elements]
                            Concat
                                Concat
                                    Concat
                                        SortedArray[181011 elements]
                                        SortedArray[13889 elements]
                                        SortedArray[13846 elements]
                                        Array[13813 elements]
                                    BTree[99079323]
                                        Concat
                                            SortedArray[1000000 elements]
                                            SortedArray[66834 elements]
                                        Concat
                                            BTree[99563934]
                                                SortedArray[71355 elements]
                                                Concat
                                                    SortedArray[59894 elements]
                                                    Array[4268 elements]
                                                    Array[9171 elements]
                    Time[test/scan_for_1_min.jitd]: 62 s
                    Start[test/scan_for_1_min.jitd]
                    Scanning for 2000 s in [0,100000000) -> 1000 keys/read
                    End Updates
                    Random Scan: 15 scans over 2.10918 s
                    Rate: 7.11178 scans/sec
                    Scanning for 2000 s in [0,100000000) -> 1000 keys/read
                    Random Scan: 29 scans over 2.12094 s
                    Rate: 13.6732 scans/sec
                    Scanning for 2000 s in [0,100000000) -> 1000 keys/read
                    Random Scan: 7081 scans over 2.00002 s
                    Rate: 3540.46 scans/sec
                    Scanning for 2000 s in [0,100000000) -> 1000 keys/read
                    Random Scan: 27056 scans over 2.00002 s
                    Rate: 13527.9 scans/sec
                    Scanning for 2000 s in [0,100000000) -> 1000 keys/read
                    Random Scan: 27314 scans over 2.00006 s
                    Rate: 13656.6 scans/sec
                    gROOT [Cracker[ pushdown balance inline ]; 16000000 elements]
                    BTree[49971061]
                        BTree[24976755]
                            BTree[12486703]
                                BTree[6666748]
                                    BTree[6249973]
                                        SortedArray[1000000 elements]
                                        SortedArray[66696 elements]
                                        SortedArray[932163 elements]
                                    BTree[20524688]
                                        BTree[14278690]
                                            SortedArray[286779 elements]
                                            SortedArray[1000000 elements]
                                            SortedArray[712792 elements]
                                BTree[37456405]
                                    BTree[31644961]
                                        BTree[31227436]
                                            SortedArray[1000000 elements]
                                            SortedArray[66502 elements]
                                            SortedArray[932426 elements]
                                    BTree[45489021]
                                        BTree[39243297]
                                            SortedArray[286704 elements]
                                            SortedArray[1000000 elements]
                                            SortedArray[717210 elements]
                                BTree[74922319]
                                    BTree[62447586]
                                        BTree[56627500]
                                            BTree[56212380]
                                                SortedArray[1000000 elements]
                                                SortedArray[66487 elements]
                                                SortedArray[933983 elements]
                                            BTree[69095568]
                                                BTree[68678512]
                                                    SortedArray[1000000 elements]
                                                    SortedArray[66865 elements]
                                                    SortedArray[932835 elements]
                                BTree[83251350]
                                    BTree[81169083]
                                        SortedArray[1000000 elements]
                                        SortedArray[333031 elements]
                                BTree[92328028]
                                    BTree[89489186]

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SortedArray[1000000 elements]
SortedArray[454005 elements]
BTree[98653721]
SortedArray[1000000 elements]
SortedArray[211522 elements]
Scanning for 2000 s in [0,1000000000] -> 1000 keys/read
Random Scan: 27163 scans over 2.00001 s
Rate: 13581.4 scans/sec
Scanning for 2000 s in [0,1000000000] -> 1000 keys/read
Random Scan: 27416 scans over 2.00002 s
Rate: 13707.9 scans/sec
Scanning for 2000 s in [0,1000000000] -> 1000 keys/read
Random Scan: 26883 scans over 2.00008 s
Rate: 13440.9 scans/sec
Scanning for 2000 s in [0,1000000000] -> 1000 keys/read
Random Scan: 27126 scans over 2.00003 s
Rate: 13562.8 scans/sec
Scanning for 2000 s in [0,1000000000] -> 1000 keys/read
Random Scan: 27268 scans over 2.00006 s
Rate: 13633.6 scans/sec
gROOT [Cracker] pushdown balance inline ]; 16000000 elements]
BTree[49971061]
BTree[24976755]
BTree[12486703]
BTree[6666748]
BTree[6249973]
SortedArray[1000000 elements]
SortedArray[66696 elements]
SortedArray[932163 elements]
BTree[20524688]
BTree[14278690]
SortedArray[286779 elements]
SortedArray[1000000 elements]
SortedArray[712792 elements]
BTree[37456405]
BTree[31644961]
BTree[31227436]
SortedArray[1000000 elements]
SortedArray[66502 elements]
SortedArray[932426 elements]
BTree[45489021]
BTree[39243297]
SortedArray[286704 elements]
SortedArray[1000000 elements]
SortedArray[717210 elements]
BTree[74922319]
BTree[62447586]
BTree[56627500]
BTree[56212380]
SortedArray[1000000 elements]
SortedArray[66487 elements]
SortedArray[933983 elements]
BTree[69095568]
BTree[68678512]
SortedArray[1000000 elements]
SortedArray[66865 elements]
SortedArray[932835 elements]
BTree[83251350]
BTree[81169083]
SortedArray[1000000 elements]
SortedArray[333031 elements]
BTree[92328028]
BTree[89489186]
SortedArray[1000000 elements]
SortedArray[454005 elements]
BTree[98653721]
SortedArray[1000000 elements]
SortedArray[211522 elements]
Scanning for 2000 s in [0,1000000000] -> 1000 keys/read
Random Scan: 27493 scans over 2.00004 s
Rate: 13746.3 scans/sec
Scanning for 2000 s in [0,1000000000] -> 1000 keys/read
Random Scan: 27065 scans over 2.00004 s
Rate: 13532.2 scans/sec
Scanning for 2000 s in [0,1000000000] -> 1000 keys/read
Random Scan: 27042 scans over 2.00003 s
Rate: 13520.8 scans/sec
Scanning for 2000 s in [0,1000000000] -> 1000 keys/read
Random Scan: 27080 scans over 2.00005 s
Rate: 13539.7 scans/sec
Scanning for 2000 s in [0,1000000000] -> 1000 keys/read
Random Scan: 26393 scans over 2.00001 s
Rate: 13196.4 scans/sec
gROOT [Cracker] pushdown balance inline ]; 16000000 elements]
BTree[49971061]
BTree[24976755]
BTree[12486703]
BTree[6666748]
BTree[6249973]
SortedArray[1000000 elements]
SortedArray[66696 elements]
SortedArray[932163 elements]
BTree[20524688]
BTree[14278690]
SortedArray[286779 elements]
SortedArray[1000000 elements]
SortedArray[712792 elements]
BTree[37456405]
BTree[31644961]
BTree[31227436]
SortedArray[1000000 elements]
SortedArray[66502 elements]
SortedArray[932426 elements]
BTree[45489021]
BTree[39243297]
SortedArray[286704 elements]
SortedArray[1000000 elements]
SortedArray[717210 elements]
BTree[74922319]
BTree[62447586]
BTree[56627500]
BTree[56212380]
SortedArray[1000000 elements]
SortedArray[66487 elements]
SortedArray[933983 elements]
BTree[69095568]

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        SortedArray[1000000 elements]
        SortedArray[717210 elements]
BTree[74922319]
  BTree[62447586]
    BTree[56627500]
      BTree[56212380]
        SortedArray[1000000 elements]
        SortedArray[66487 elements]
        SortedArray[933983 elements]
      BTree[69095568]
        BTree[68678512]
          SortedArray[1000000 elements]
          SortedArray[66865 elements]
          SortedArray[932835 elements]
        BTree[83251350]
          BTree[81169083]
            SortedArray[1000000 elements]
            SortedArray[333031 elements]
          BTree[92328028]
            BTree[89489186]
              SortedArray[1000000 elements]
              SortedArray[454005 elements]
            BTree[98653721]
              SortedArray[1000000 elements]
              SortedArray[211522 elements]
Scanning for 2000 s in [0,100000000) -> 1000 keys/read
Random Scan: 26426 scans over 2 s
Rate: 13213 scans/sec
Scanning for 2000 s in [0,100000000) -> 1000 keys/read
Random Scan: 25855 scans over 2.00006 s
Rate: 12927.1 scans/sec
Scanning for 2000 s in [0,100000000) -> 1000 keys/read
Random Scan: 26489 scans over 2.00002 s
Rate: 13244.4 scans/sec
Scanning for 2000 s in [0,100000000) -> 1000 keys/read
Random Scan: 26708 scans over 2.00007 s
Rate: 13353.6 scans/sec
Scanning for 2000 s in [0,100000000) -> 1000 keys/read
Random Scan: 26455 scans over 2.00006 s
Rate: 13227.1 scans/sec
gROOT [Cracker[ pushdown balance inline ]; 16000000 elements]
  BTree[49971061]
    BTree[24976755]
      BTree[12486703]
        BTree[6666748]
          BTree[6249973]
            SortedArray[1000000 elements]
            SortedArray[66696 elements]
            SortedArray[932163 elements]
          BTree[20524688]
            BTree[14278690]
              SortedArray[286779 elements]
              SortedArray[1000000 elements]
              SortedArray[712792 elements]
            BTree[37456405]
              BTree[31644961]
                BTree[31227436]
                  SortedArray[1000000 elements]
                  SortedArray[66502 elements]
                  SortedArray[932426 elements]
                BTree[45489021]
                  BTree[39243297]
                    SortedArray[286704 elements]
                    SortedArray[1000000 elements]
                    SortedArray[717210 elements]
              BTree[74922319]
                BTree[62447586]
                  BTree[56627500]
                    BTree[56212380]
                      SortedArray[1000000 elements]
                      SortedArray[66487 elements]
                      SortedArray[933983 elements]
                    BTree[69095568]
                      BTree[68678512]
                        SortedArray[1000000 elements]
                        SortedArray[66865 elements]
                        SortedArray[932835 elements]
                      BTree[83251350]
                        BTree[81169083]
                          SortedArray[1000000 elements]
                          SortedArray[333031 elements]
                        BTree[92328028]
                          BTree[89489186]
                            SortedArray[1000000 elements]
                            SortedArray[454005 elements]
                          BTree[98653721]
                            SortedArray[1000000 elements]
                            SortedArray[211522 elements]
Time[test/scan_for_1_min.jitd]: 60 s
Time[test/spawn1.jitd]: 122 s
MyMacbookAir.cpp hkl1205

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