```
-------------------------------------------------------------------------
      astar-mem-64     Simulation Results
-------------------------------------------------------------------------

Number of reference types:
  Number of reads   =  2549106849  [25.49%]
  Number of writes  =   626305991  [6.26%]
  Number of inst    =  6824587160  [68.25%]
  Total             =  10000000000

Total cycles for all activities:
  Cycles for reads  =  20396731200  [51.60%]
  Cycles for writes =  7679234377  [19.43%]
  Cycles for inst   =  11454931387  [28.98%]
  Total time        =  39530896964

Average cycles per activity:
  Read  = 8.00
  Write = 12.26
  Inst  = 5.79
Ideal: Exec. Time = 16824587160; CPI = 2.47
Ideal mis-aligned: Exec. Time = 23929686467; CPI = 3.51
  Ideal execution time   =  16824587160  [CPI 2.47]
  Ideal misaligned time  =  22677074485  [CPI 3.32]

Memory level: L1i
  Hits   =  11393011748  [99.99%]
  Misses =     1303125  [0.01%]
  Total  =  11394314873
  Kickouts = 1302869, Dirty kickouts = 0, Transfers = 1303125

Memory level: L1d
  Hits   =  4214841543  [94.54%]
  Misses =   243330909  [5.46%]
  Total  =  4458172452
  Kickouts = 243330653, Dirty kickouts = 94594555, Transfers = 243330909

Memory level: L2
  Hits   =   198286480  [58.45%]
  Misses =   140942109  [41.55%]
  Total  =   339228589
  Kickouts = 140941597, Dirty kickouts = 65799800, Transfers = 140942109

Cost analysis:
  L1i cache cost = $200
  L1d cache cost = $200
  L2  cache cost = $50
  Memory cost    = $275
  Total cost     = $725
```