

## BurnsMutex Algorithm comparison of atomic position and fence instruction

#include "burnsSepOps\_TSO.pml"

State-vector 132 byte, depth reached 657, errors: 0  
474 states, stored  
563 states, matched  
1037 transitions (= stored+matched)  
3178 atomic steps  
hash conflicts: 0 (resolved)

Stats on memory usage (in Megabytes):

0.072	equivalent memory usage for states (stored*(State-vector + overhead))
0.259	actual memory usage for states
128.000	memory used for hash table (-w24)
0.534	memory used for DFS stack (-m10000)
128.730	total actual memory usage

pan: elapsed time 0 seconds

No errors found -- did you verify all claims?

### **Analysis:**

Less states and transitions (about 100 states and 250 transition less)

Less atomic steps (211 steps less as with the old version)

Less deep (difference 93)

#include "burnsSepOps\_TSO\_OLD.pml"

State-vector 132 byte, depth reached 750, errors: 0  
606 states, stored  
677 states, matched  
1283 transitions (= stored+matched)  
3389 atomic steps  
hash conflicts: 0 (resolved)

Stats on memory usage (in Megabytes):

0.092	equivalent memory usage for states (stored*(State-vector + overhead))
0.258	actual memory usage for states
128.000	memory used for hash table (-w24)
0.534	memory used for DFS stack (-m10000)
128.730	total actual memory usage

pan: elapsed time 0 seconds

No errors found -- did you verify all claims?

## BurnsMutex Algorithm comparison of atomic position and fence instruction

#include "x86\_tso\_buffer.pml"

State-vector 168 byte, depth reached 367, errors: 0  
481 states, stored  
691 states, matched  
1172 transitions (= stored+matched)  
2514 atomic steps  
hash conflicts: 0 (resolved)

Stats on memory usage (in Megabytes):

0.090	equivalent memory usage for states (stored*(State-vector + overhead))
0.266	actual memory usage for states
128.000	memory used for hash table (-w24)
0.534	memory used for DFS stack (-m10000)
128.730	total actual memory usage

pan: elapsed time 0 seconds

No errors found -- did you verify all claims?

#include "x86\_tso\_buffer\_OLD.pml"

State-vector 168 byte, depth reached 569, errors: 0  
623 states, stored  
875 states, matched  
1498 transitions (= stored+matched)  
2631 atomic steps  
hash conflicts: 0 (resolved)

Stats on memory usage (in Megabytes):

0.116	equivalent memory usage for states (stored*(State-vector + overhead))
0.265	actual memory usage for states
128.000	memory used for hash table (-w24)
0.534	memory used for DFS stack (-m10000)
128.730	total actual memory usage

pan: elapsed time 0 seconds

No errors found -- did you verify all claims?

### **Analysis:**

Less states and transitions (about 150 states and 300 transition less)

Less atomic steps (117 steps less as with the old version)

Less deep (difference 202)