

Exe 1: Cache Coherency

Cycle	After Operation	P0 cache block state	P1 cache block state	Memory at block 0 up to date?	Memory at block 1 up to date?
0	P0: read block 1				
1	P1: read block 0				
2	P0: write block 1				
3	P0: write block 0				
4	P1: read block 0				
5	P1: write block 0				
6	P0: read block 1				
7	P1: read block 1				
8	P0: write block 1				
9	P1: write block 1				
10	P0: read block 0				
11	P1: write block 1				
12	P1: read block 1				
13	P0: read block 1				
14	P1: write block 1				

P1 COMMITS 0 TO WORK ON 1

"OLD VALUE" OF 0 NOT VALID ANYMORE

P1 COMMITS UPDATED
VALUE OF 0 ONLY WHEN NEEDED

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P0 COMMITS 1 TO
WORK ON 0

Cycle	After Operation	P0 cache block state	P1 cache block state	Memory at block 0 up to date?	Memory at block 1 up to date?
0	P0: read block 1	Exclusive (1)	Invalid	Yes	Yes
1	P1: read block 0	EXCLUSIVE (1)	EXCLUSIVE (0)	YES	YES
2	P0: write block 1	MODIFIED (1)	EXCLUSIVE (0)	YES	NO
3	P0: write block 0	MODIFIED (0)	INVALID	NO	YES
4	P1: read block 0	SHARED (0)	SHARED (0)	YES	YES
5	P1: write block 0	INVALID	MODIFIED (0)	NO	YES
6	P0: read block 1	EXCLUSIVE (1)	MODIFIED (0)	NO	YES
7	P1: read block 1	SHARED (1)	SHARED (1)	YES	YES
8	P0: write block 1	MODIFIED (1)	INVALID	YES	NO
9	P1: write block 1	INVALID	MODIFIED (1)	YES	NO
10	P0: read block 0	EXCLUSIVE (0)	MODIFIED (1)	YES	NO
11	P1: write block 1	EXCLUSIVE (0)	MODIFIED (1)	YES	NO
12	P1: read block 1	EXCLUSIVE (0)	MODIFIED (1)	YES	NO
13	P0: read block 1	SHARED (1)	SHARED (1)	YES	YES
14	P1: write block 1	INVALID	MODIFIED (1)	YES	NO

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2	P0: write block 1				
3	P1: write block 0				
4	P1: read block 0				
5	P1: write block 0				
6	P0: read block 0				
7	P0: read block 0				
8	P0: write block 0				
9	P1: write block 1				

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1	P1: read block 0	EXCLUSIVE(1)	EXCLUSIVE(0)	YES	YES
2	P0: write block 1	MODIFIED(1)	EXCLUSIVE(0)	YES	NO
3	P1: write block 0	MODIFIED(1)	MODIFIED(0)	NO	NO
4	P1: read block 0	MODIFIED(1)	MODIFIED(0)	NO	NO
5	P1: write block 0	MODIFIED(1)	MODIFIED(0)	NO	NO
6	P0: read block 0	SHARED(0)	SHARED(0)	YES	YES
7	P0: read block 0	SHARED(0)	SHARED(0)	YES	YES
8	P0: write block 0	MODIFIED(0)	INVALID	NO	YES
9	P1: write block 1	MODIFIED(0)	MODIFIED(1)	NO	NO