

Presentation with Beamer

Team I

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Outline

No pause here

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Description

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MAKING COMPARE-AND-SWAP ATOMIC

On Intel x86 architectures, the assembly language statement `cmpxchg` is used to implement the `compare_and_swap()` instruction. To enforce atomic execution, the lock prefix is used to lock the bus while the destination operand is being updated. The general form of this instruction appears as:

```
lock cmpxchg <destination operand>, <source operand>
```

another algorithm using the `compare_and_swap()` instruction that satisfies all the critical-section requirements. The common data structures are

```
boolean waiting[n];  
int lock;
```