

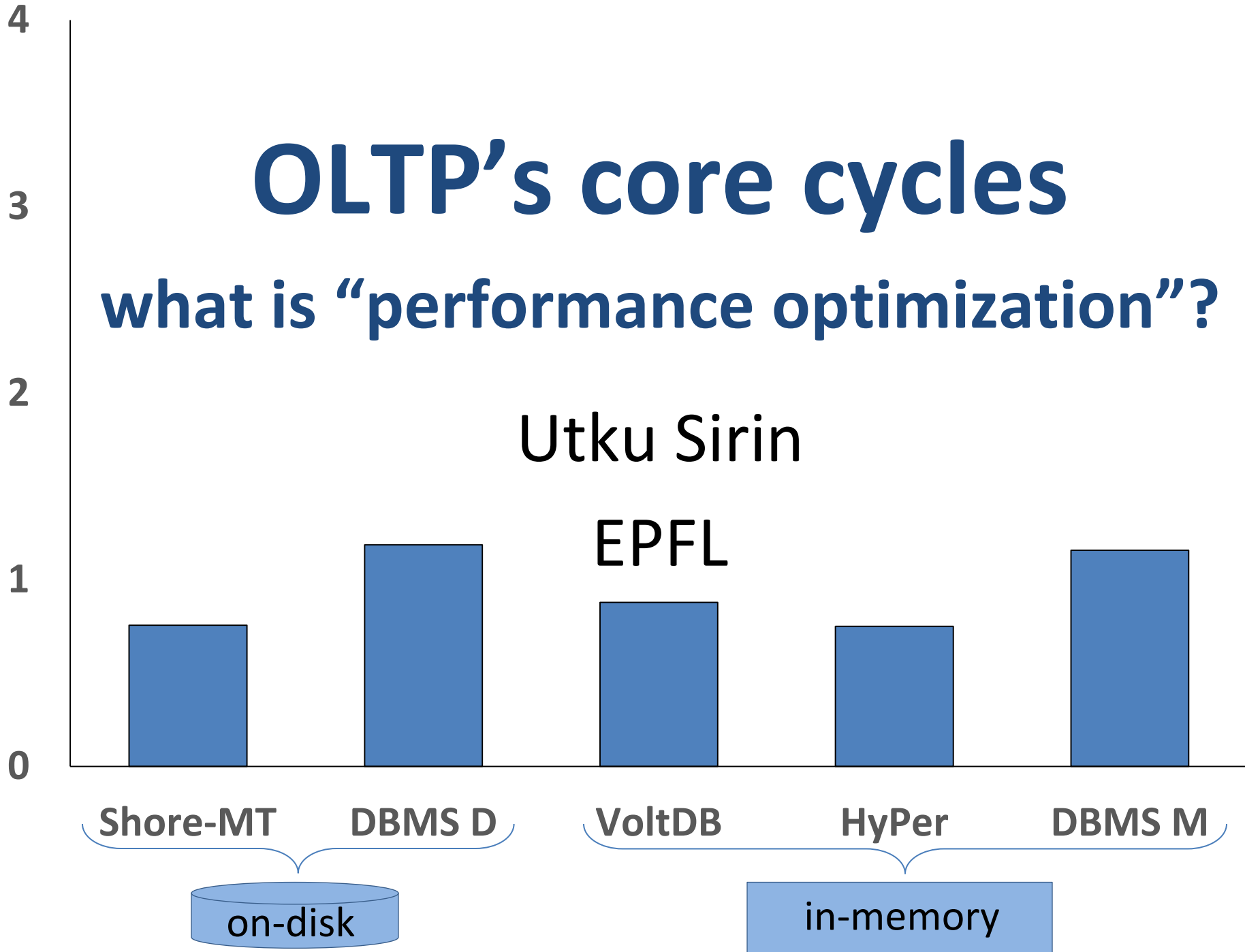
# OLTP's core cycles

what is "performance optimization"?

IPC

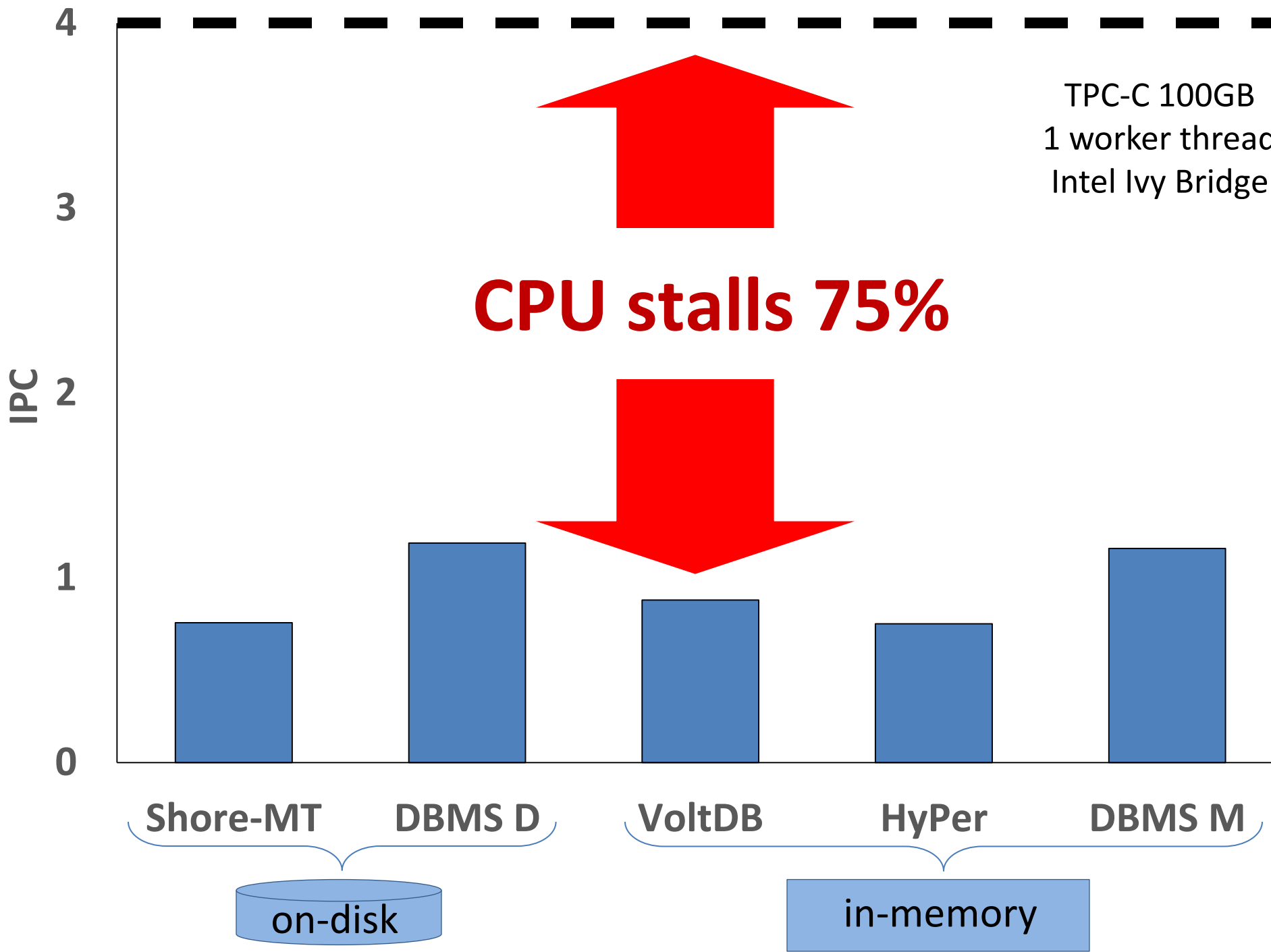
Utku Sirin

EPFL



TPC-C 100GB  
1 worker thread  
Intel Ivy Bridge

**CPU stalls 75%**



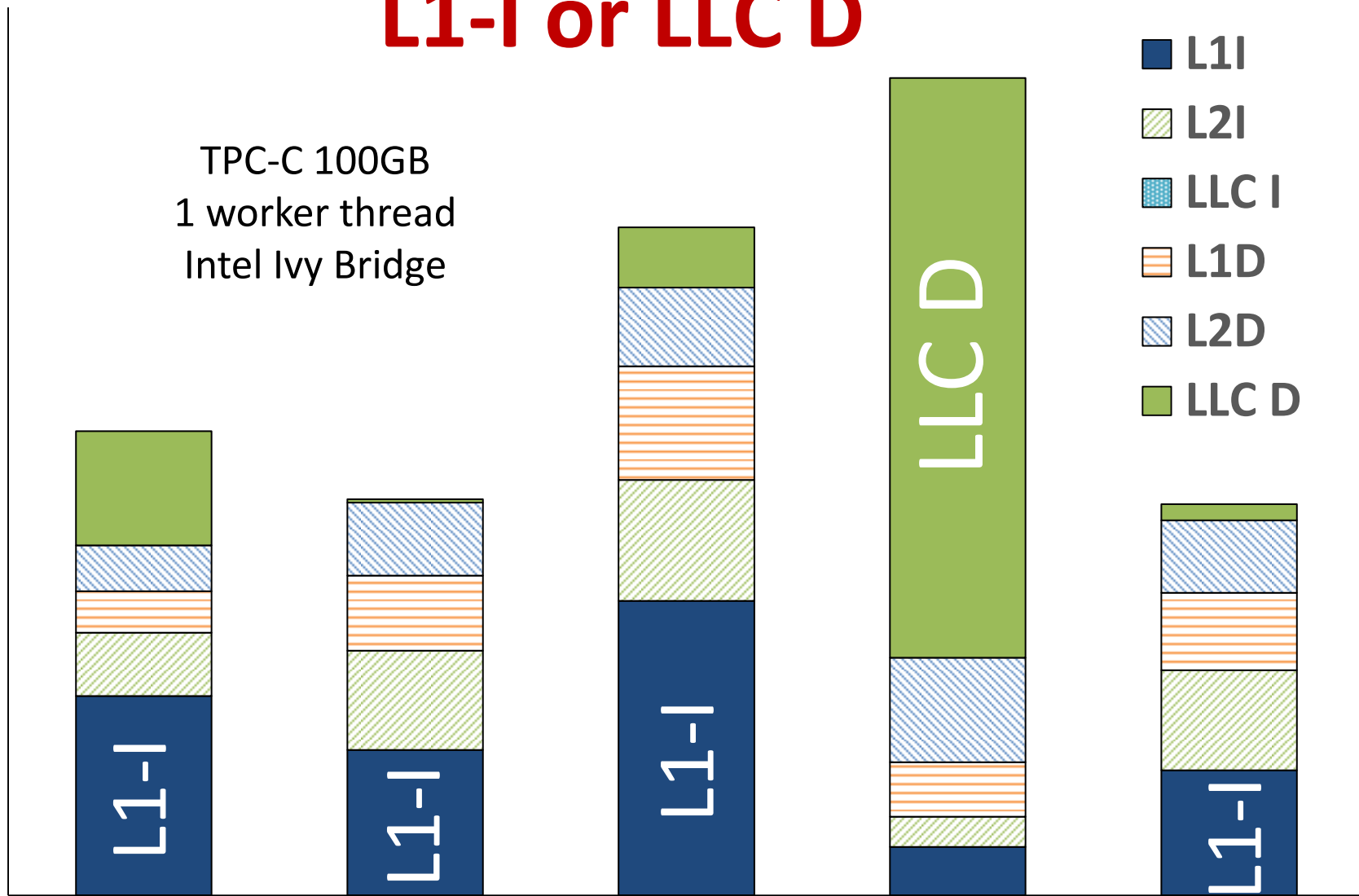
# L1-I or LLC D

TPC-C 100GB  
1 worker thread  
Intel Ivy Bridge

- L1I
- L2I
- LLC I
- L1D
- L2D
- LLC D

Stall Cycles per k-Instruction

800  
700  
600  
500  
400  
300  
200  
100  
0



Shore-MT

DBMS D

VoltDB

HyPer

DBMS M

on-disk

in-memory

# The end?



## Performance: speed and utilization



Thanks!