

CAMPUS VIRTUAL UPC / Les meves assignatures / 2021/22-01:FIB-270020-CUTotal / Unit 3.2: Introduction to parallel architectures II
/ NUMA coherence quizz (2)

Començat el	dissabte, 23 d'octubre 2021, 09:46
Estat	Acabat
Completat el	dissabte, 23 d'octubre 2021, 09:48
Temps emprat	1 minut 10 segons
Qualificació	2,00 sobre 2,00 (100%)

Pregunta **1**

Correcte

Puntuació 1,00 sobre 1,00

Given a NUMA multiprocessor system with 4 nodes, each node with one processor, 64 KB of private cache and 8 GB of main memory. Coherence among nodes is kept with a directory-based MSU protocol, using the transactions explained in class.

Assume that the home node for variable *var* is NUMANode0 and that at a given moment there exist clean copies of that variable in the cache memories in NUMANode1 and NUMANode2, but no copies in NUMANode0 and NUMANode3. If the processor in NUMANode1 wants to update (write to) variable *var*, which of the following coherence actions do NOT occur?

Trieu-ne una o més:

- ☐ The processor in the local node (NUMANode1) issues PrWr.
- ☐ The local node sends a UpgrReq command to the home node (NUMANode0).
- ☐ Since there is another copy of the line in the cache of a remote node (NUMANode2), the home node sends an Invalidate command to it.
- ☒ Since there is another copy of the line in the cache of a remote node (NUMANode2), the local node sends an Invalidate command to it. ✔ Well done!

La teva resposta és correcta.

Pregunta **2**

Correcte

Puntuació 1,00 sobre 1,00

After the previous access, the processor in NUMANode3 reads the same variable *var*. Which of the following coherence actions do NOT occur?

Trieu-ne una o més:

- ☐ The processor in the local node (NUMANode3) issues PrRd.
- ☒ The local node issues a Fetch command to the home node (NUMANode0) to obtain the line containing *var*. ✔ Well done! It has to issue RdReq, not Fetch.
- ☐ The home node then issues a Fetch command to the remote NUMANode1 in order to get the most up-to-date copy of the requested memory line.
- ☐ The remote node issues a Dreply command with the only valid copy of the line in the whole system.

La teva resposta és correcta.

[◀ NUMA coherence quizz \(1\)](#)

Salta a...

[Video lesson 6: iterative vs. recursive task decompositions ▶](#)