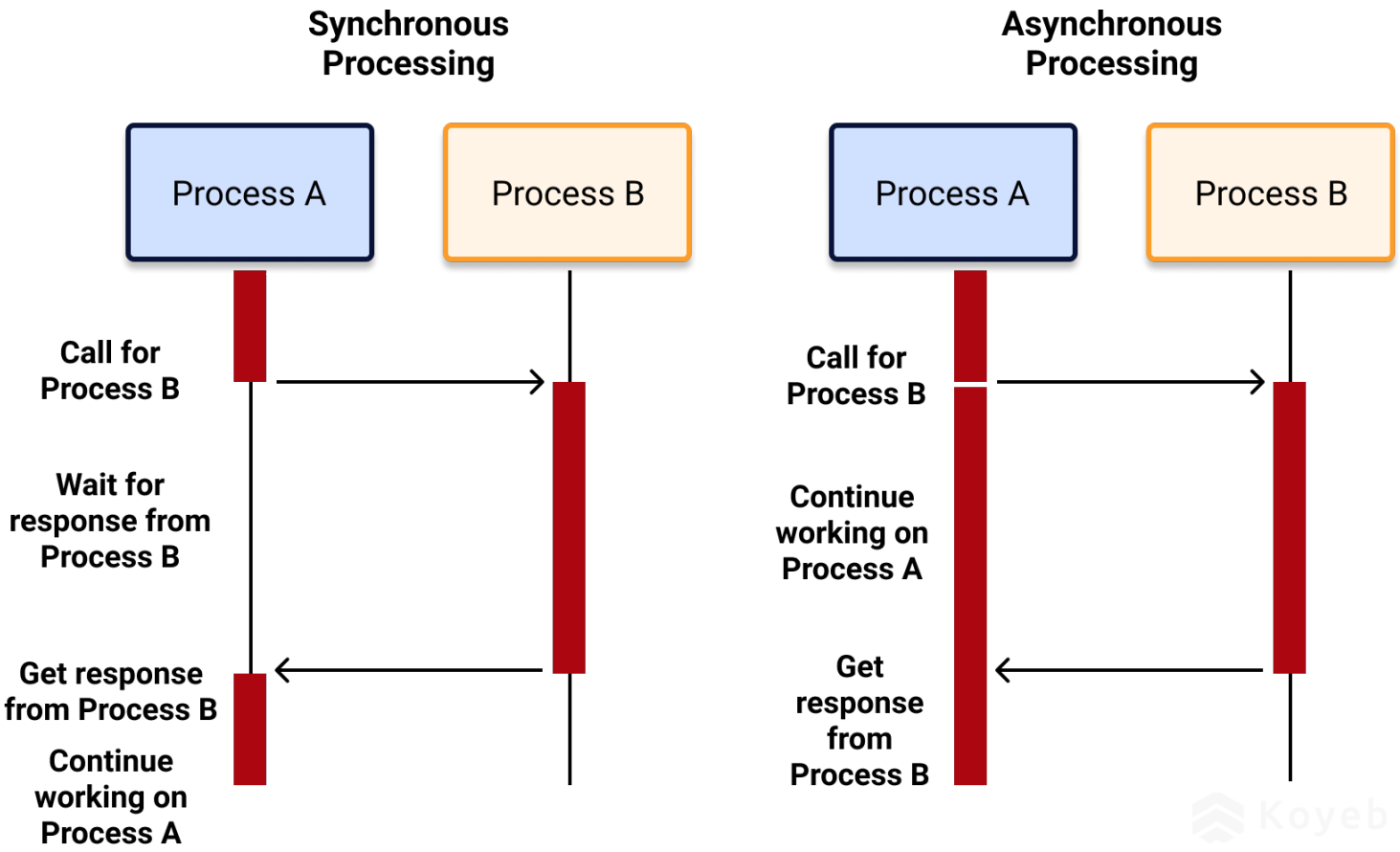
Synchronous VS Asynchronous

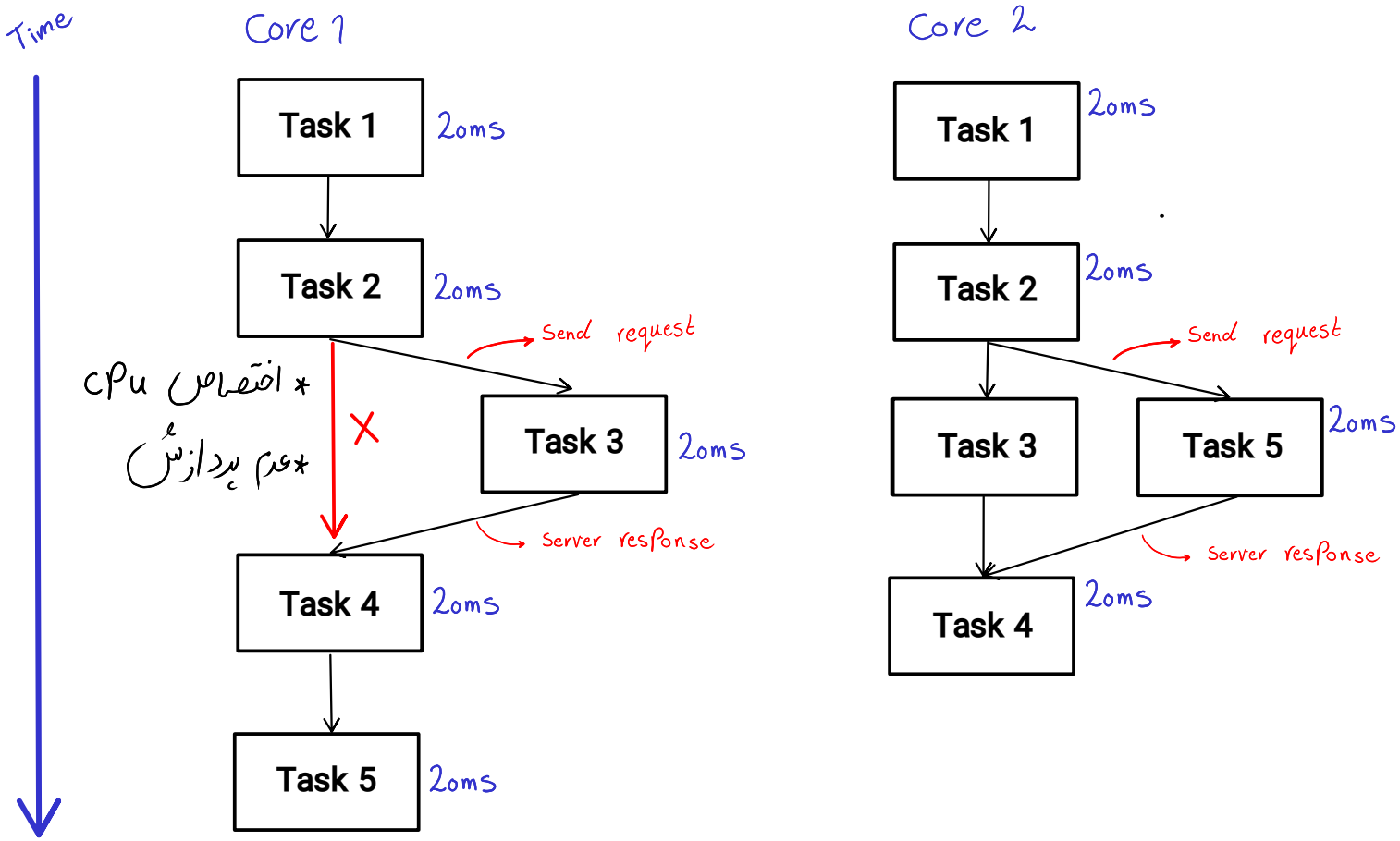
متزامن VS غير متزامن



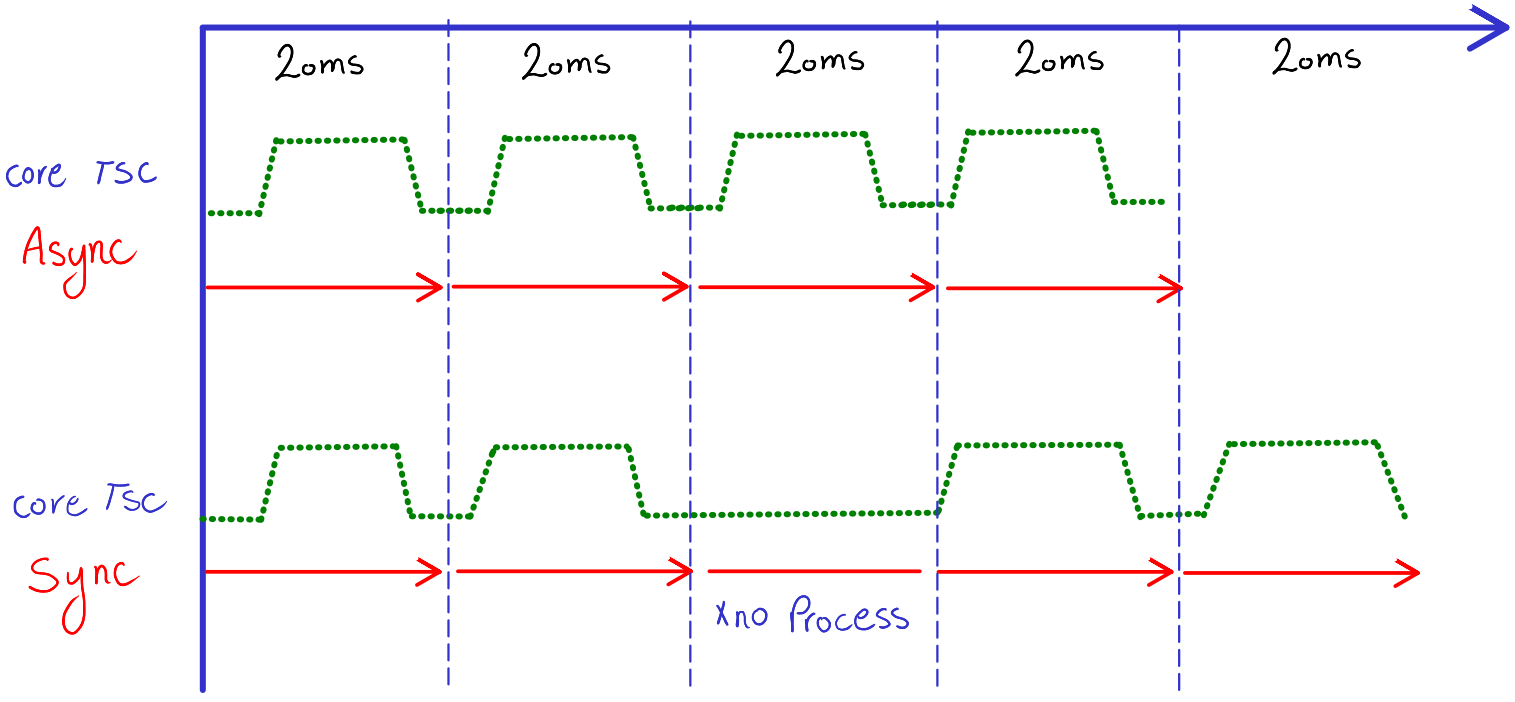
* Example →

* Sync Process

* Async Process



CPU TSC → CPU Time stamp Counter

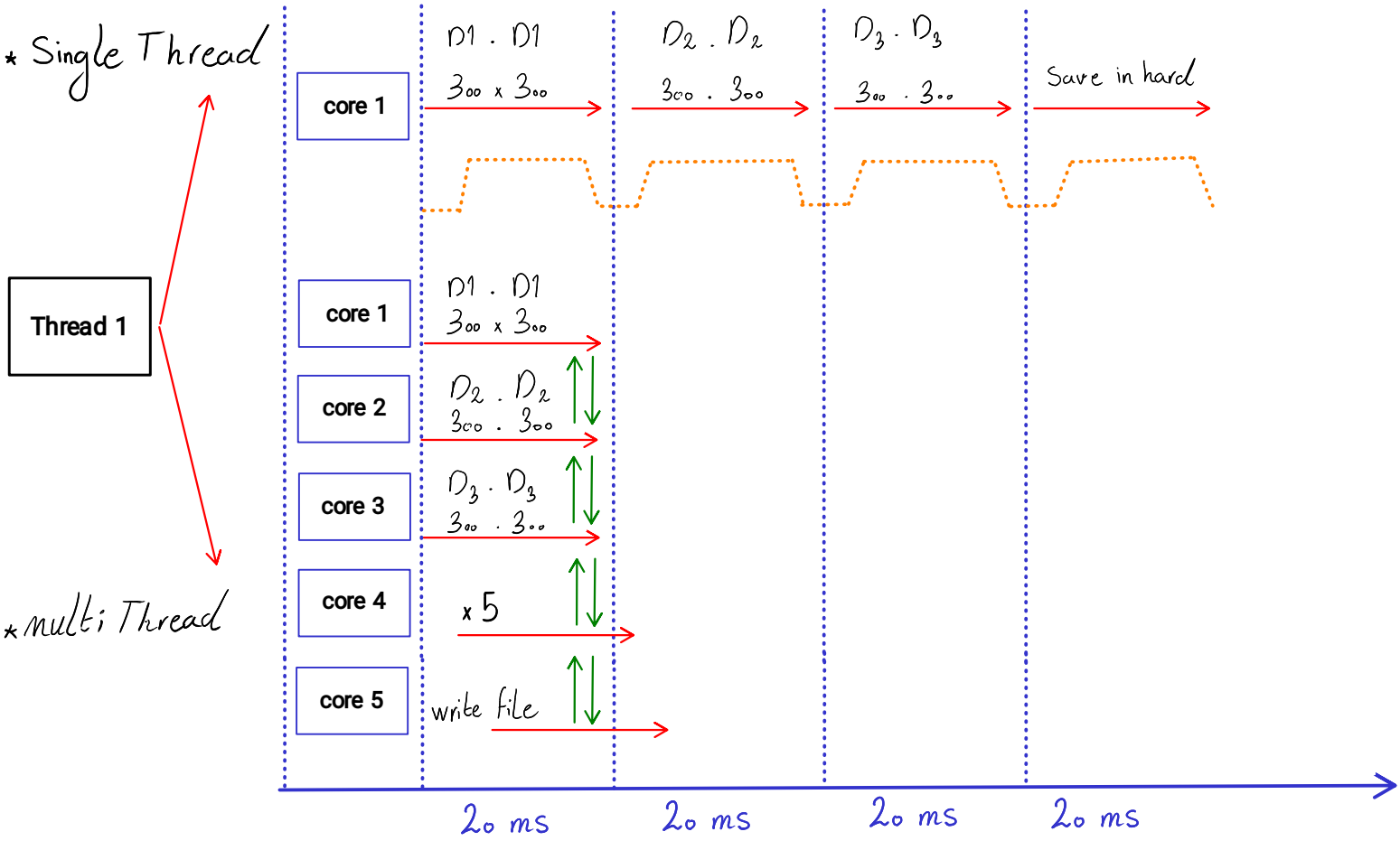


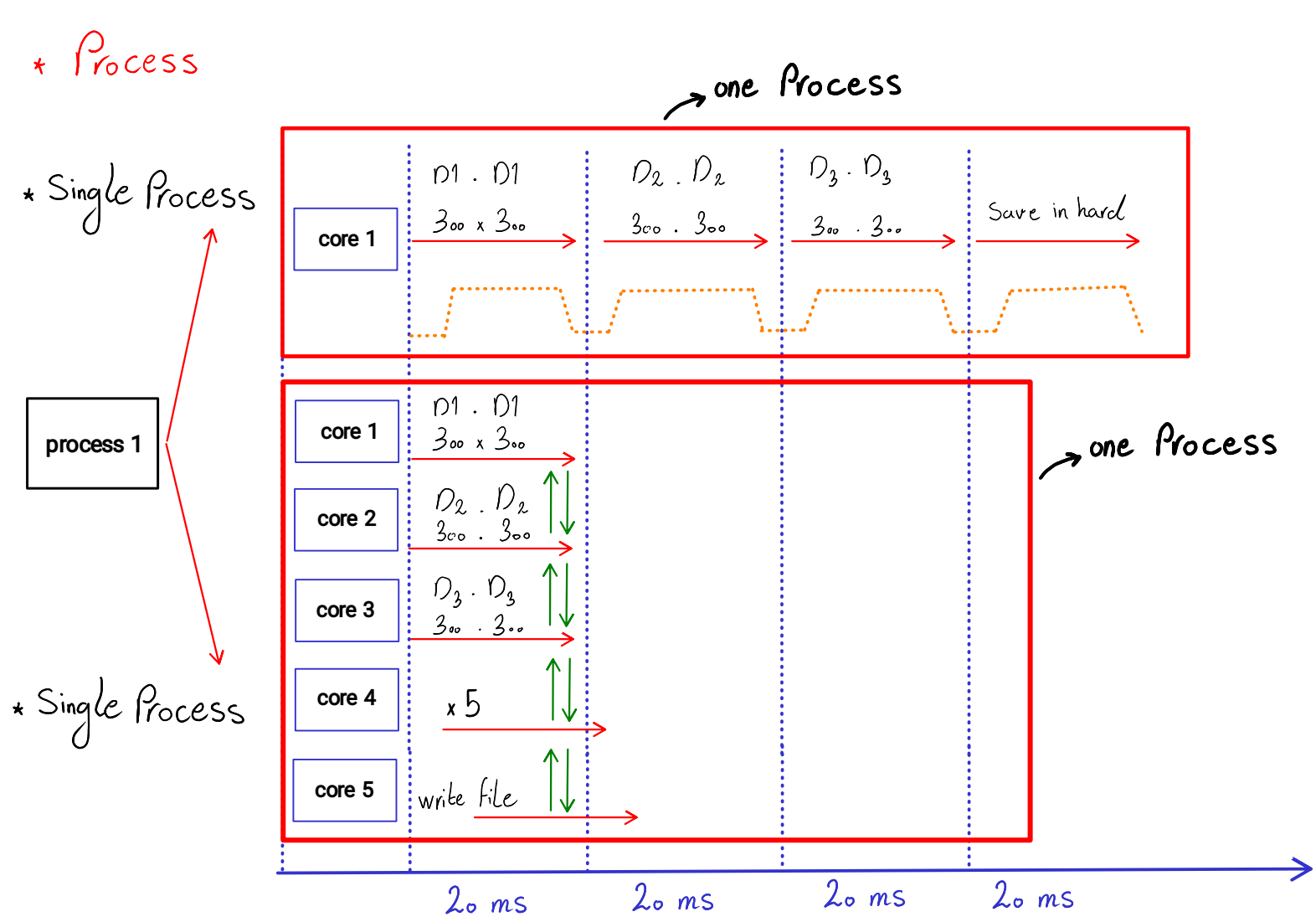
Multi Threading VS Multi Processing

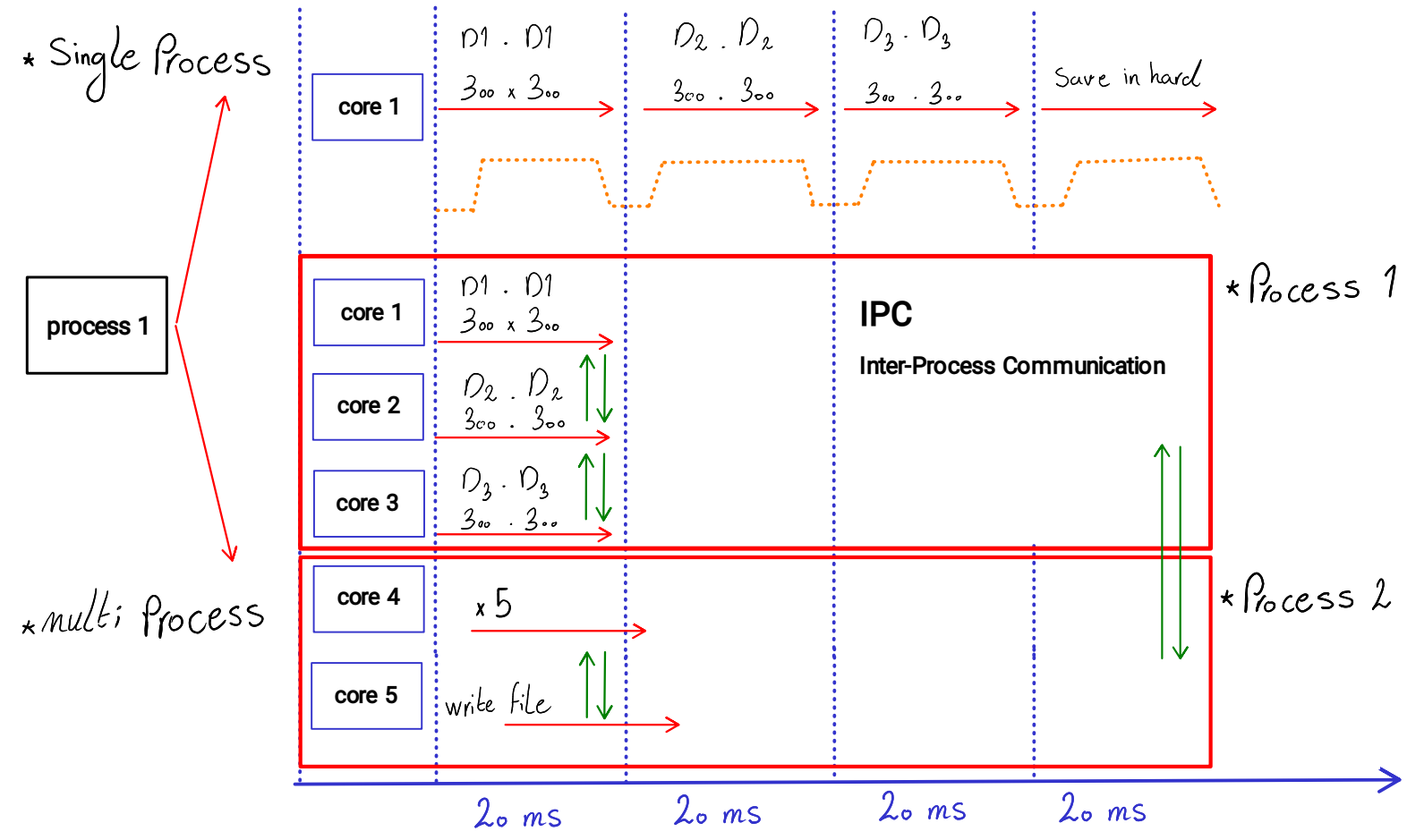
* Thread → 3D Tensor (300, 300, 3) . 3D Tensor (300, 300, 3) . 5

* Process → 3D Tensor (300, 300, 3) . 3D Tensor (200, 100, 3) . 5 → Thread 2: Format change → Thread 3: Save to hard drive

* یک process می‌تواند شامل یک یا چند thread باشد.
* هر thread در واقع یک شاخه از فرایند است که می‌تواند به صورت موازی با سایر thread های فرایند در حال اجرا باشد.




* Process
one Process
* Single Process
core 1
D1 . D1
300 x 300
D2 . D2
300 . 300
D3 . D3
300 . 300
Save in hard
process 1
core 1
core 2
core 3
core 4
core 5
x 5
write file
one Process
* Single Process
20 ms
20 ms
20 ms
20 ms


* Single Process
core 1
D1 . D1
300 x 300
D2 . D2
300 . 300
D3 . D3
300 . 300
Save in hard
process 1
core 1
core 2
core 3
core 4
core 5
x 5
write file
IPC
Inter-Process Communication
* Process 1
* Process 2
*multi Process
20 ms
20 ms
20 ms
20 ms