

Lecture 7. Process Image

Process Image

Process image is an executable file required during the execution of any process. It consists of several segments related to the execution of the process.

A process image is an image of a process taken when the memory is allocated to it before execution. This happens during multitasking, when the kernel needs to re-enter the process where it left off. If the process is changed during execution, it creates a bad effect, so the operating system uses the read-only version of that process for execution.

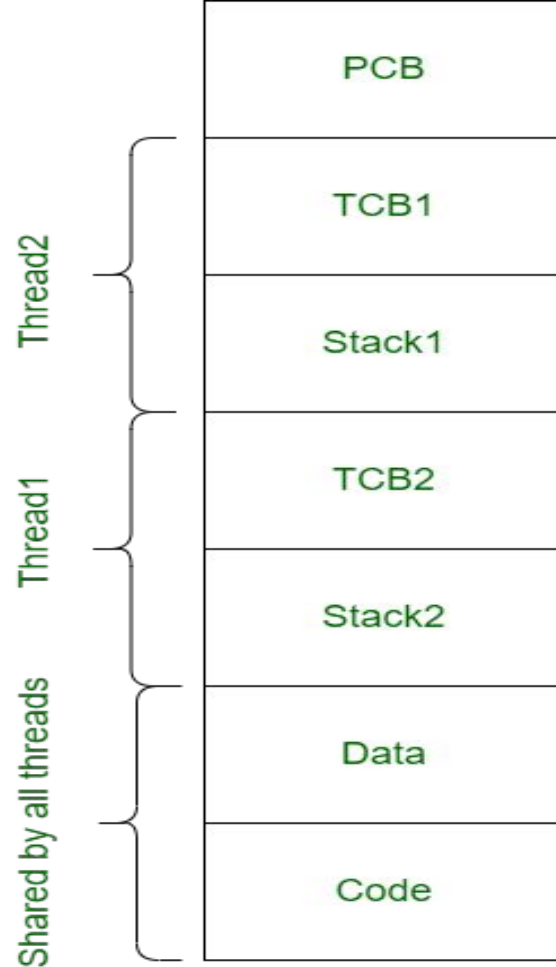
Following are the contents of the process image –

1. Process Control Block

2. Stack

3. Data

4. Code



Multi thread process image

Differences of process image and multi thread process image

PROCESS IMAGE	MULTI THREAD PROCESS IMAGE
It is an executable file required during the execution of a process.	It is an executable file required during the execution of a thread.
It consists of total four segments.	It consists of 2 segments for each thread and 3 common segments.
Creation of process image takes more time.	Creation of single thread image takes less time.

Switching between two process images takes more time.	Switching between two thread images takes less time.
Different process share different memory and different images.	Common address space in multi thread process image is shared by all threads.
It used user address space.	It uses common address space.
Communication between process images is difficult.	Communication between two thread images is simple.
Single control block is used in process image.	One control block is used for parent process and one each for threads.
Switching between two process images takes more time.	Switching between two thread images takes less time.

Thank you for your attention!