Feasibility Study of Local IPC Mechanisms in Support of Highly Communicative Processes

Amir Hossein Sorouri

amir_sorouri@iust.ac.ir

Supervisor:
Professor Mohsen Sharifi

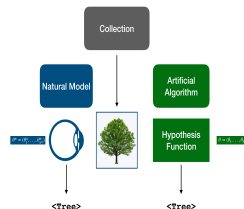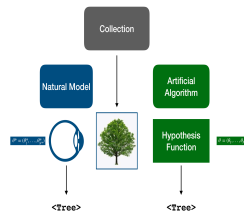Iran Univeristy of Science and Technology

October 29, 2019

University of Tehran

Recall From Inter-Process Communication Basics

——

IPC Models

- A set of IPC Mechanisms;
  - File;
  - Signal;
  - Socket;
    - Unix
    - Others
  - File Descriptor;
    - Named
    - Un-Named
  - Shared Memory;
  - Message Passing;
  - Cross Memory Attach;

Synchronization Models

- There are Two types/models of Synchronization

  - Blocking

  - Busy-waiting

    - Busy-waiting

    - Spin-lock

    - Polling

  - Non-Blocking & Non-Busy-waiting

    - Lock-free

    - Wait-free

    - Non-blocking

High Performance Computing (HPC) Concerns
___

Workflow Computation Model

content...

OS-Noise influence on HPC Applications performance

content...

Related Works in Terms of HPC
___

Related Works In HPC

- Argo

- FFMK

  - XEMEM

  - Kitten

  - Palacios

- Netmap

  - Berkeley Packet Filter

  - DPDK

Related Works in Terms of IPC

———

Evaluation
___

Future Works

content...