# MrsP on Semi-Partitioned Systems

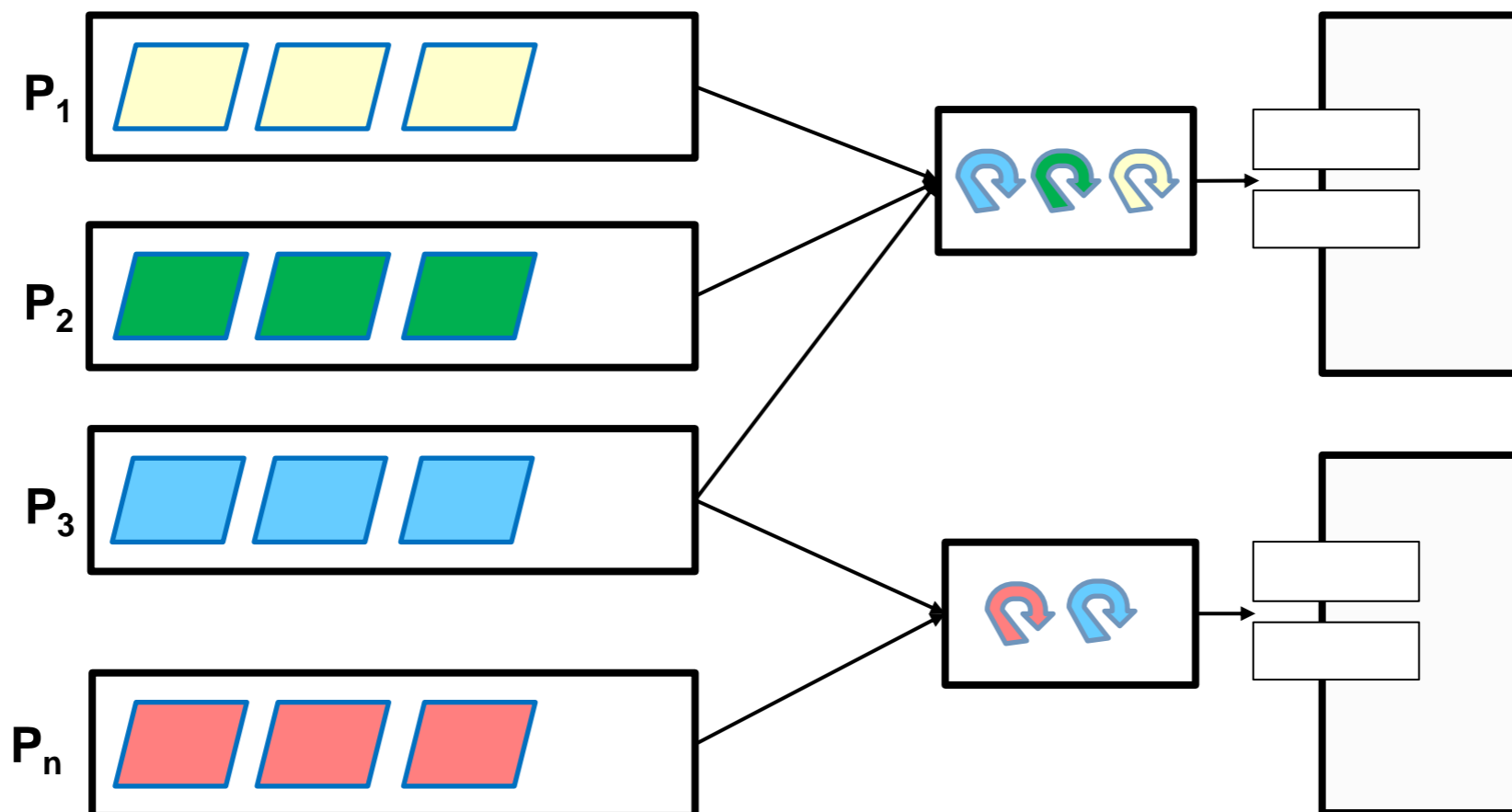**Jorge Garrido**

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# Introduction - MrsP

MrsP: **Spin-based** shared resource access protocol.
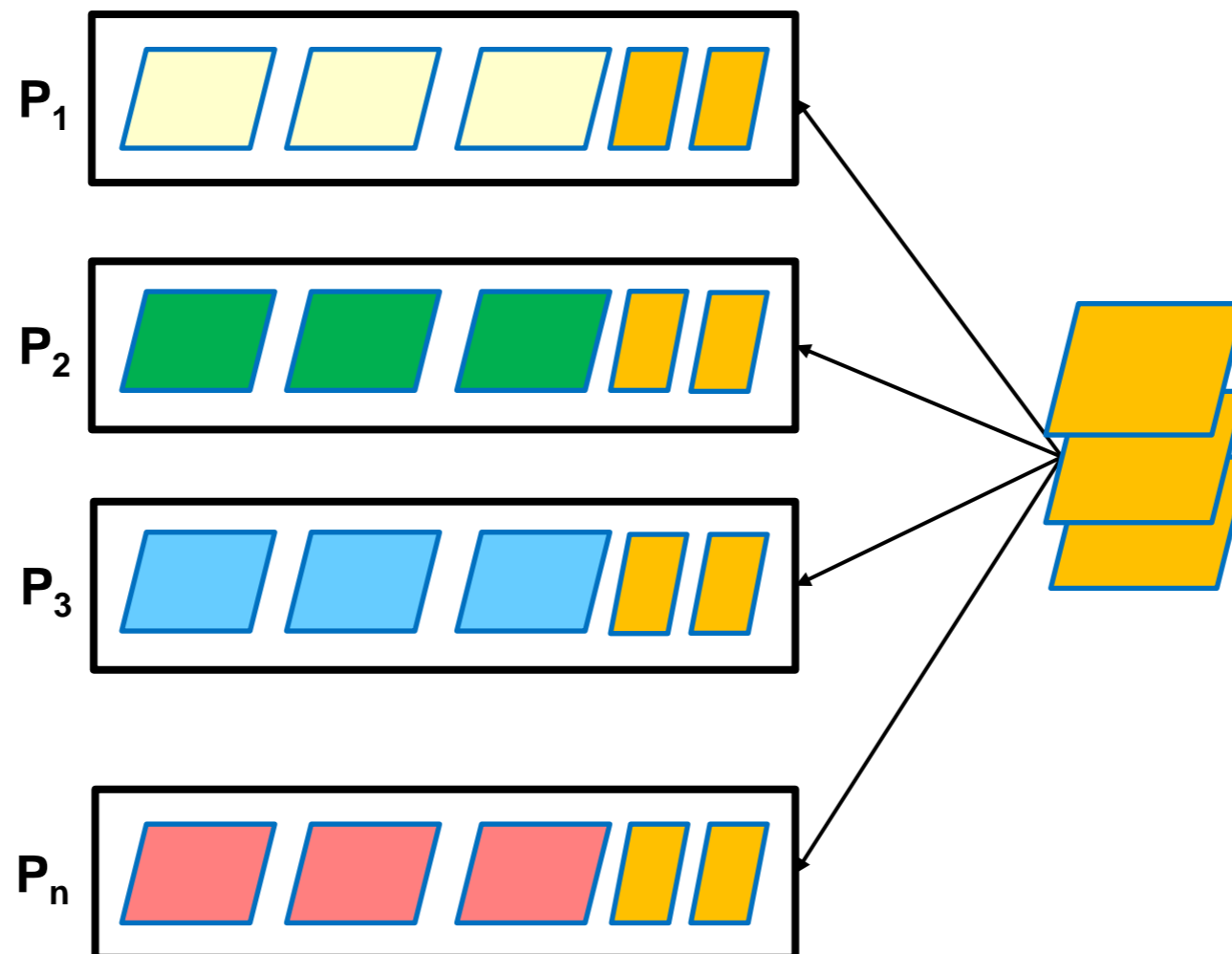
→ Shared resources bounded access cost. FIFO order.



MrsP Response Time Analysis similar to PCP/SRP

Each access to a shared resource costs:

$$\text{Cost}_{single\ access\ resource} \times \text{Processors}_{access\ resource}$$

# Motivation

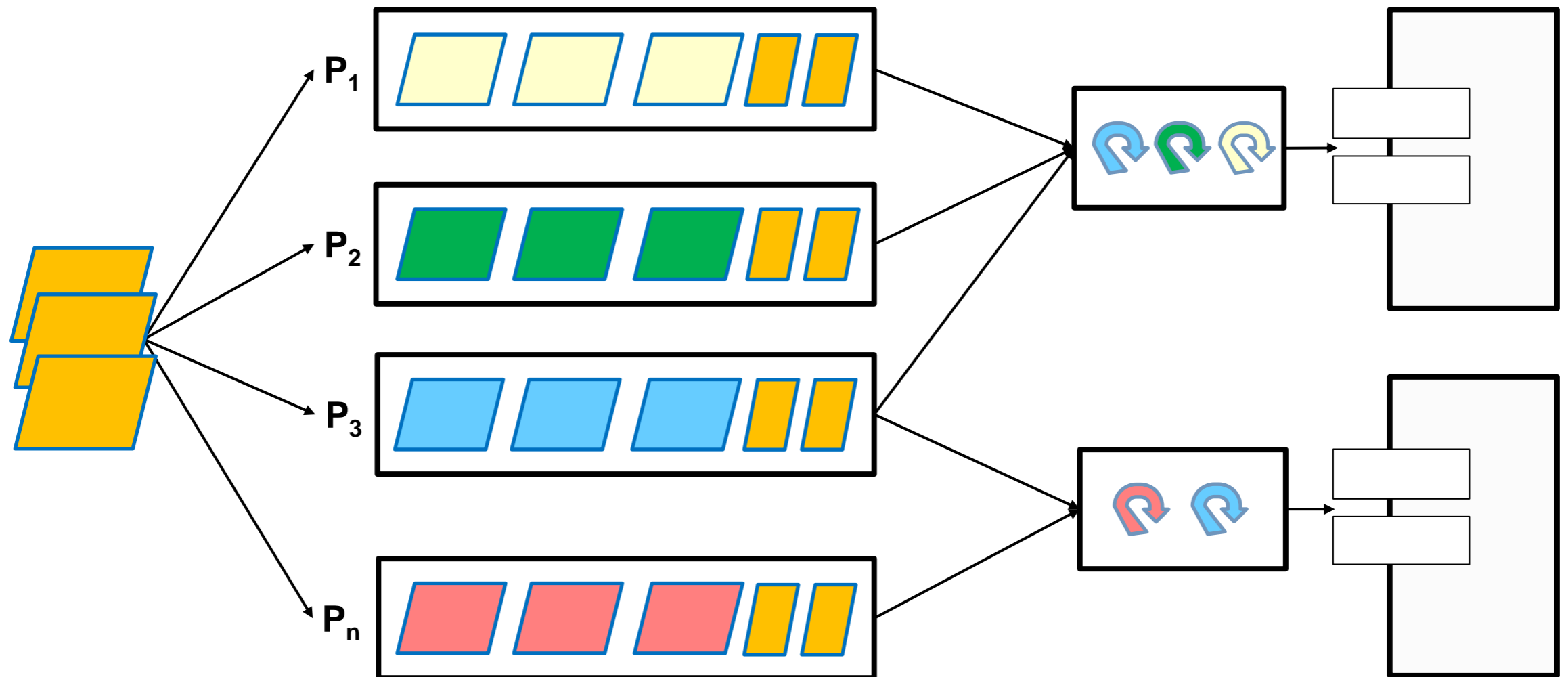Increase scheduling capacity by sharing tasks among processors

# Problem

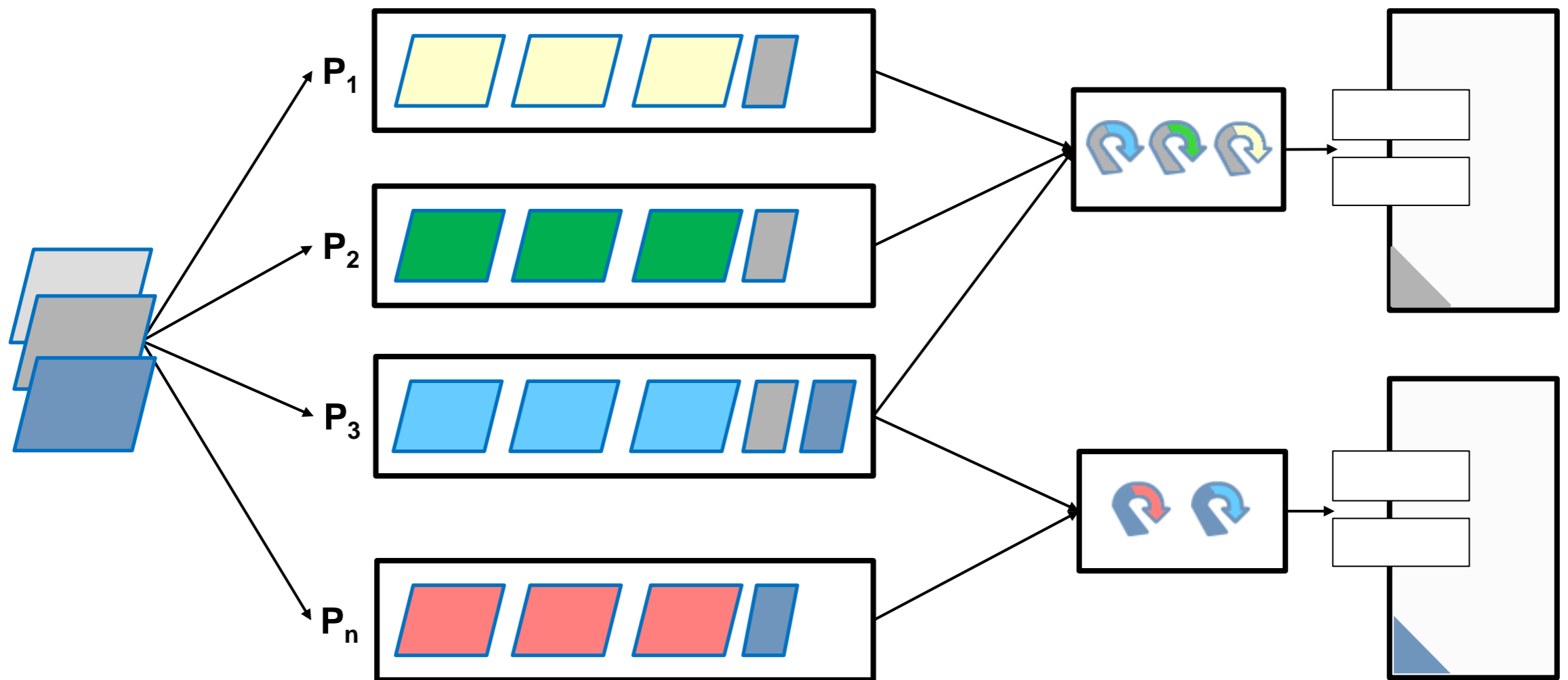How can tasks be safely shared in MrsP systems?

# Proposals

## Share tasks without changing the RTA of statically allocated tasks

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## Share tasks without **almost** changing the RTA of statically allocated tasks

# Scheduling of shared tasks – Future work

- First approach: Global-EDF
    - ↑ Well known scheduling algorithm
    - ↑ Execution capacity remaining for shared tasks easy to compute

    - ↓ How to properly analyze when some tasks can only execute on certain processors?
    - ↓ How to take advantage of heterogeneous access times?

- Formalize how shared tasks can take advantage of time lost spinning