

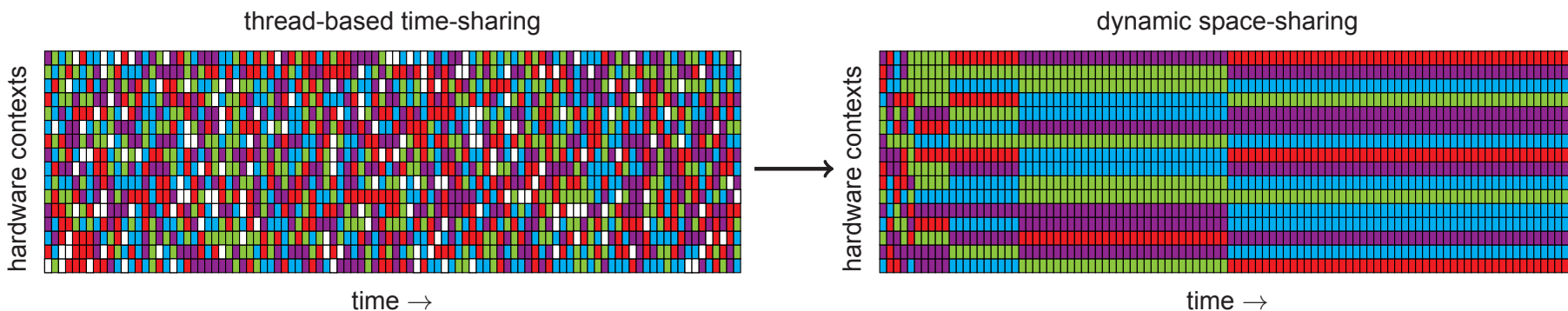
Efficient Multiprogramming for Multicores with SCAF

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- **S**cheduling and **A**llocation with **F**eedback
 - Runtime system for multiprogramming parallel processes
 - ~15% gains over equipartitioning
 - Targeting shared-memory systems

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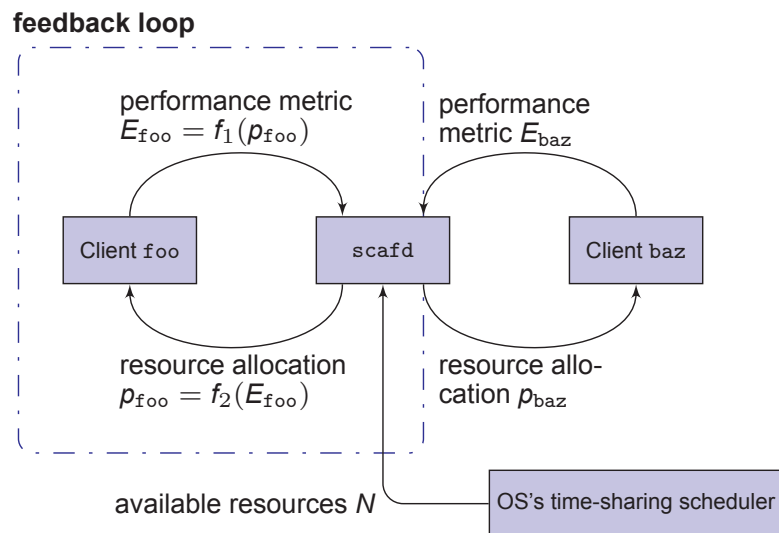
- Problem?
 - Parallel runtimes try to let the OS handle parallel multiprogramming
- **SCAF** runtime: automatic space-sharing
 - No porting, modification, recompilation
 - Policy: maximize sum of speedups



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Dynamic Allocation

- Realtime feedback
- Reward efficient processes



Serial “Experiments”

- Estimate serial performance to reason about efficiency

