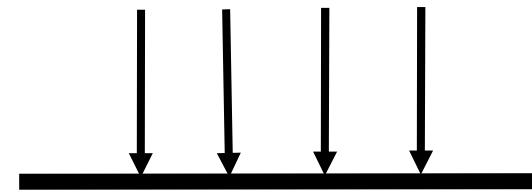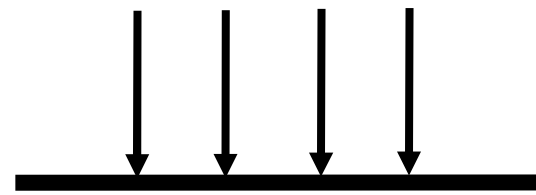# K42

- Slides by Jonathan Appavoo, IBM with permission

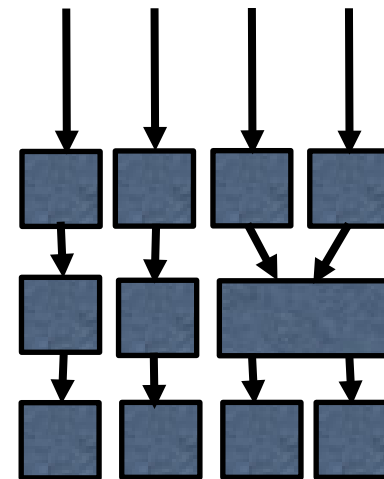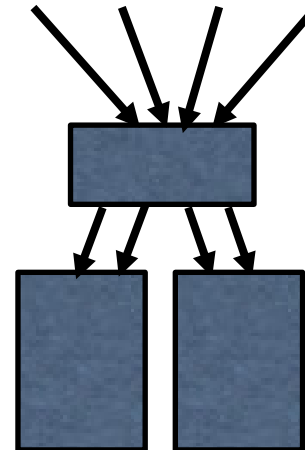# Fix 1: Use OO Decomposition

Traditional System   OO Decomposed System

User level requests

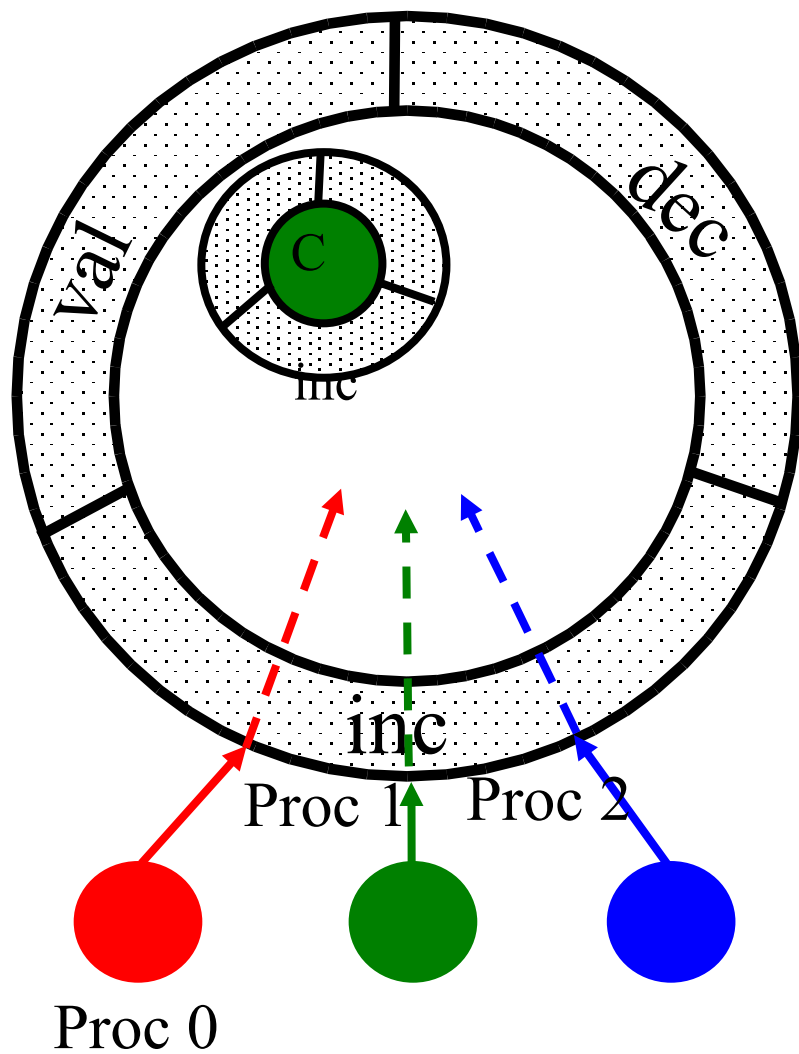System paths and data structures used to satisfy requests

→ much sharing   → much LESS sharing
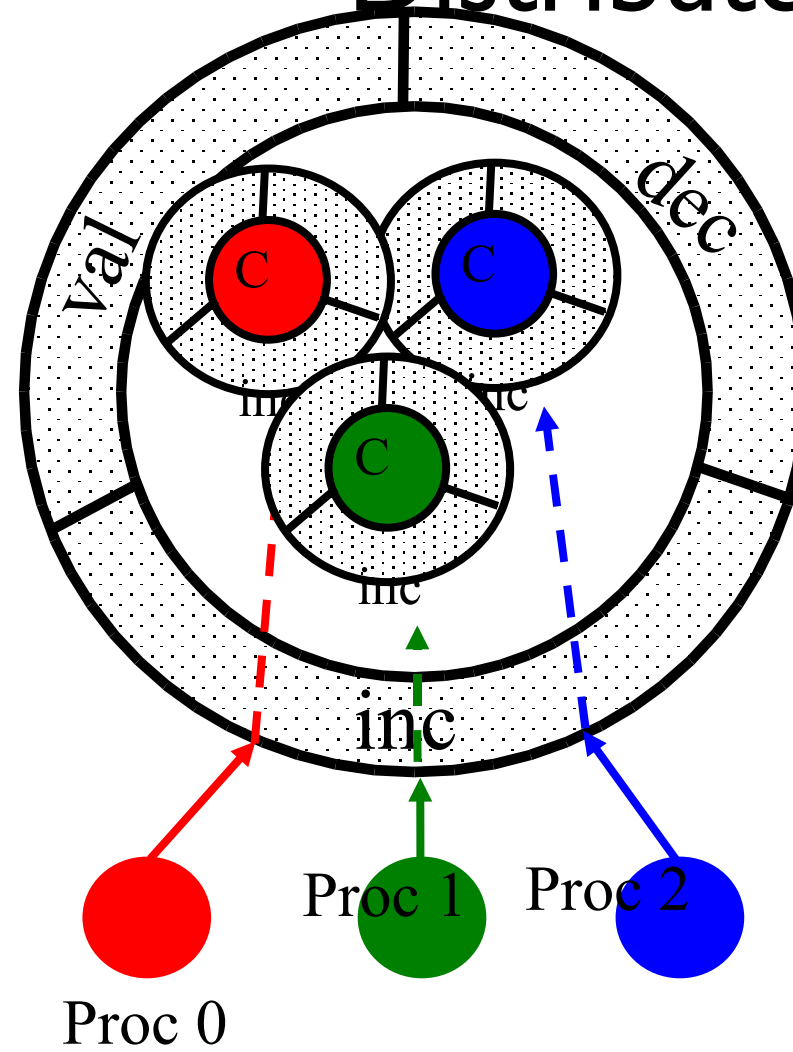   → better performance

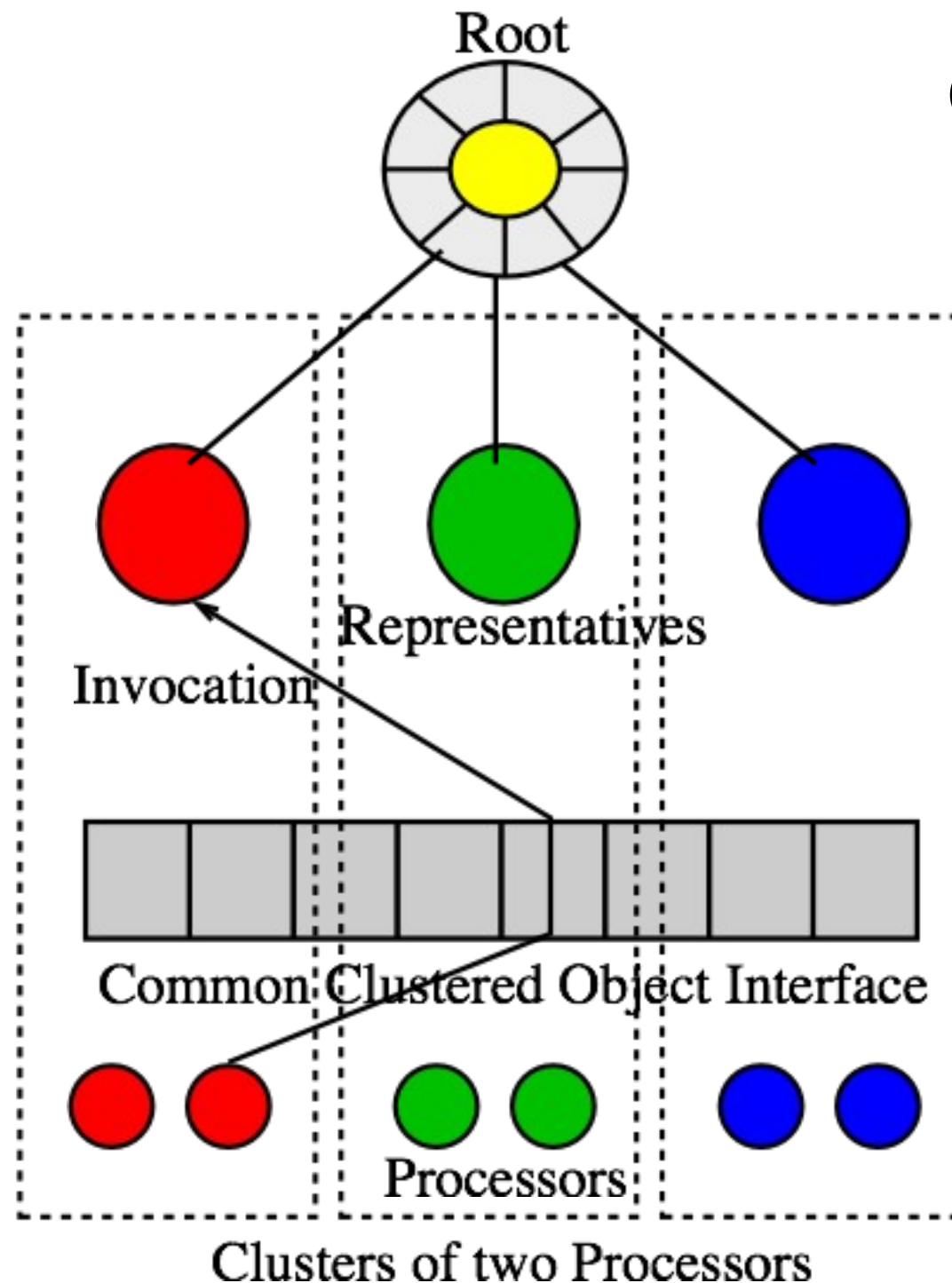# Fix 2: Clustered Objects (CO)

Details: CO Development Model

Root

Representatives

Invocation

Common Clustered Object Interface

Processors

Clusters of two Processors
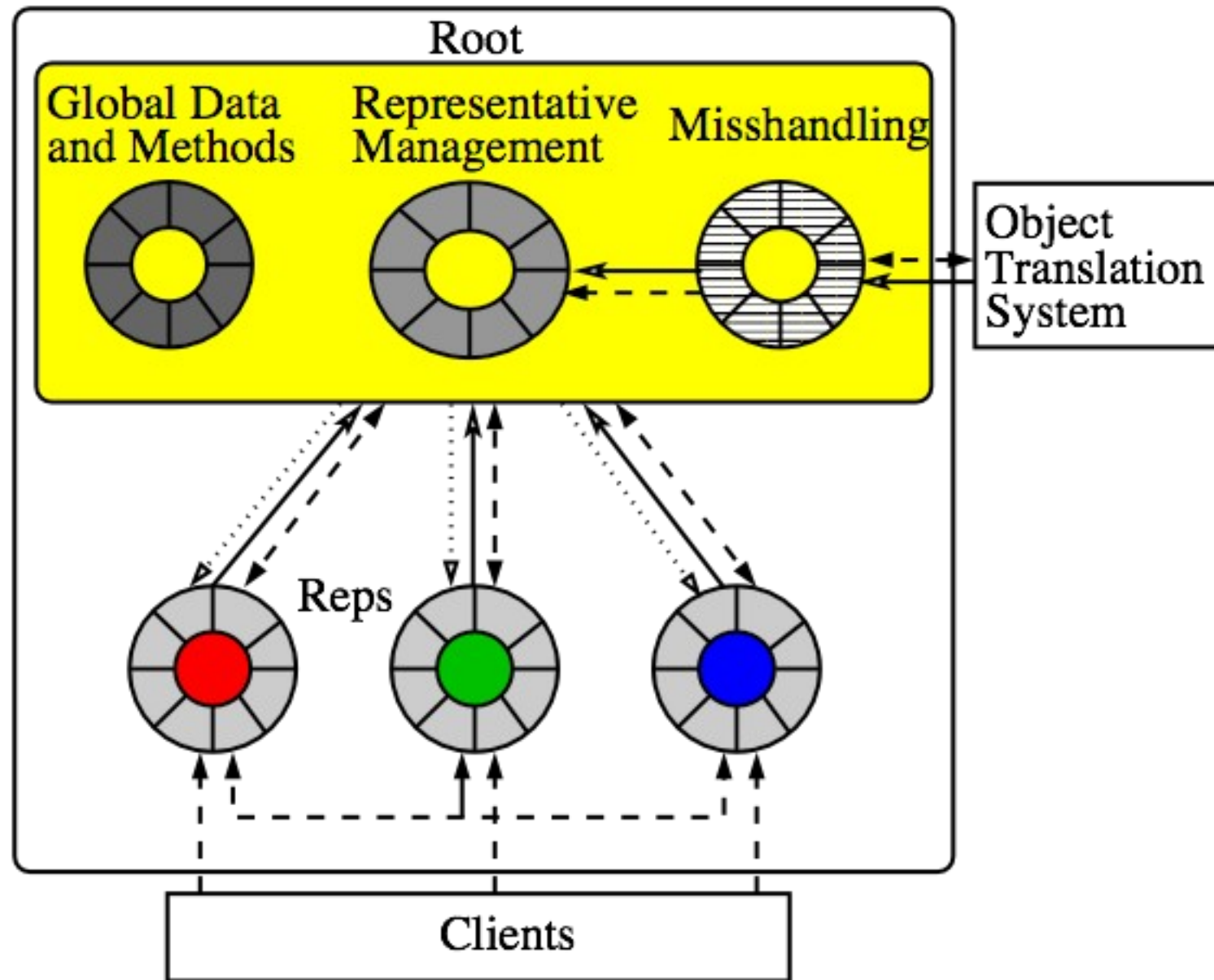
CO Base Classes:

- Support and Define Internal Structure

- Define and Provide default implementations of basic CO protocols

- Interface with CO infrastructure
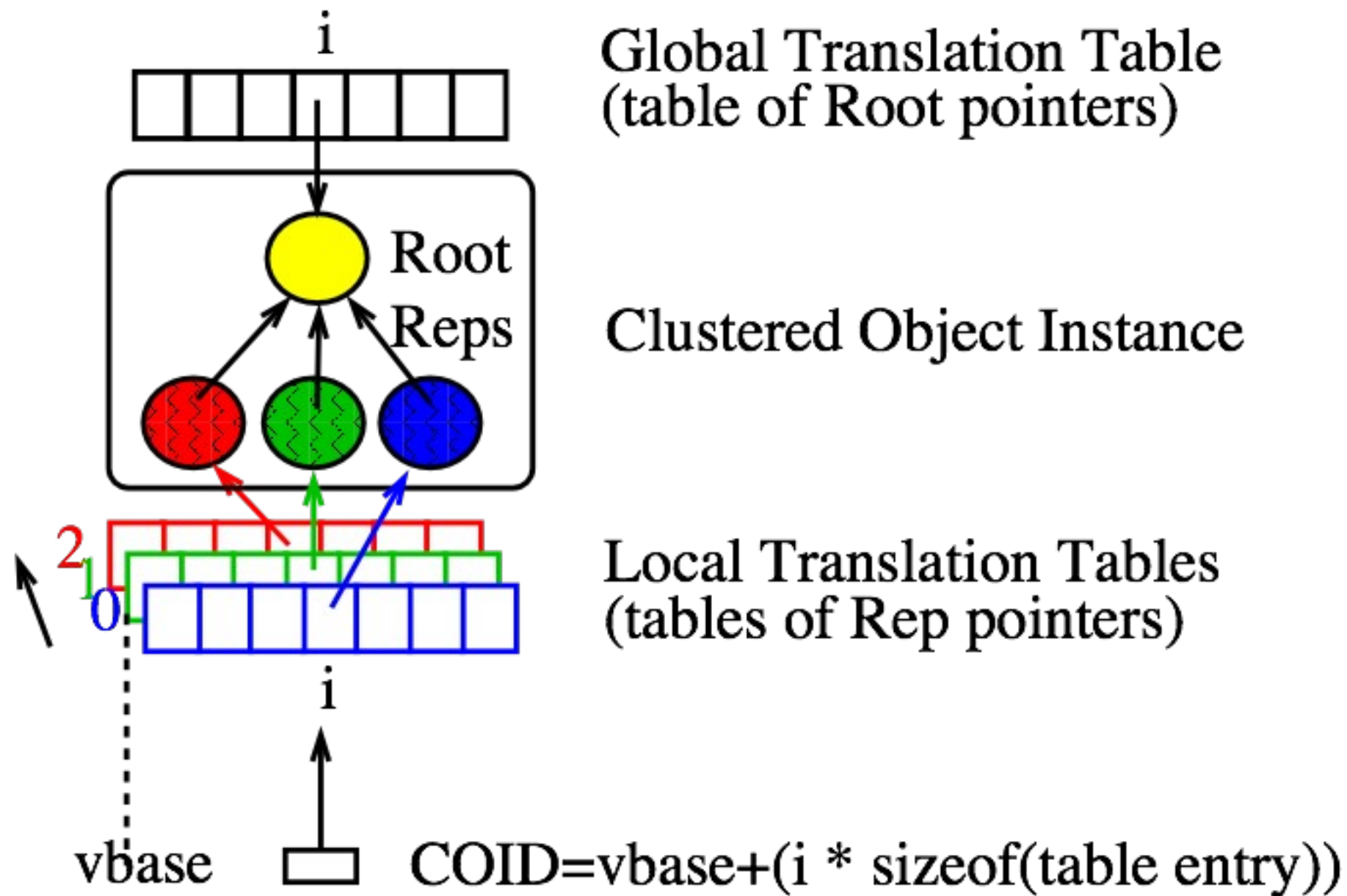
Details: CO Development Support
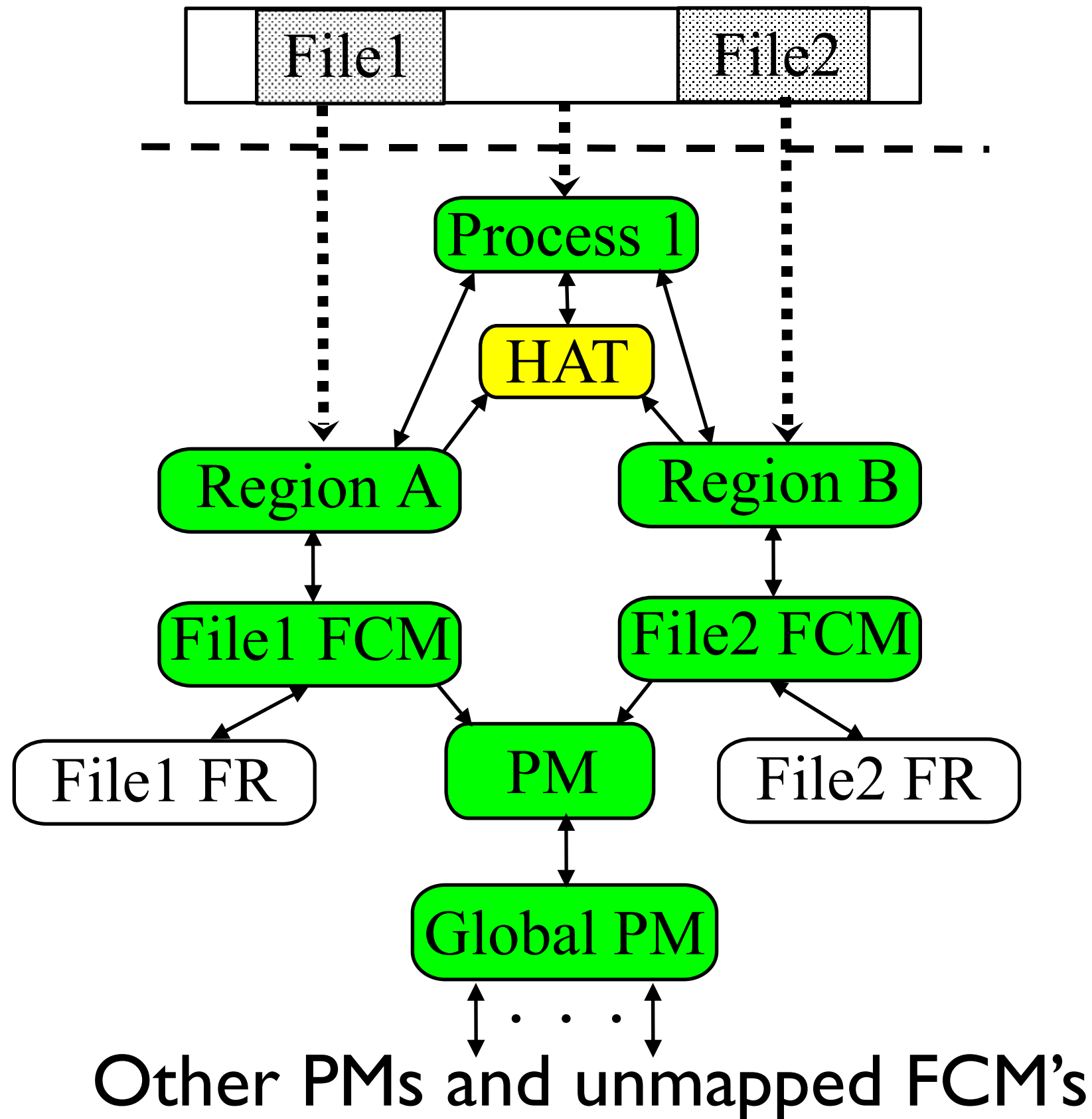

Base Classes Define and Provide:

- Allocation and Initialization

- Inter-Rep communication

- Destruction

Details: K42 CO Infrastructure

i

Global Translation Table
(table of Root pointers)

Root
Reps

Clustered Object Instance

2
1
0

Local Translation Tables
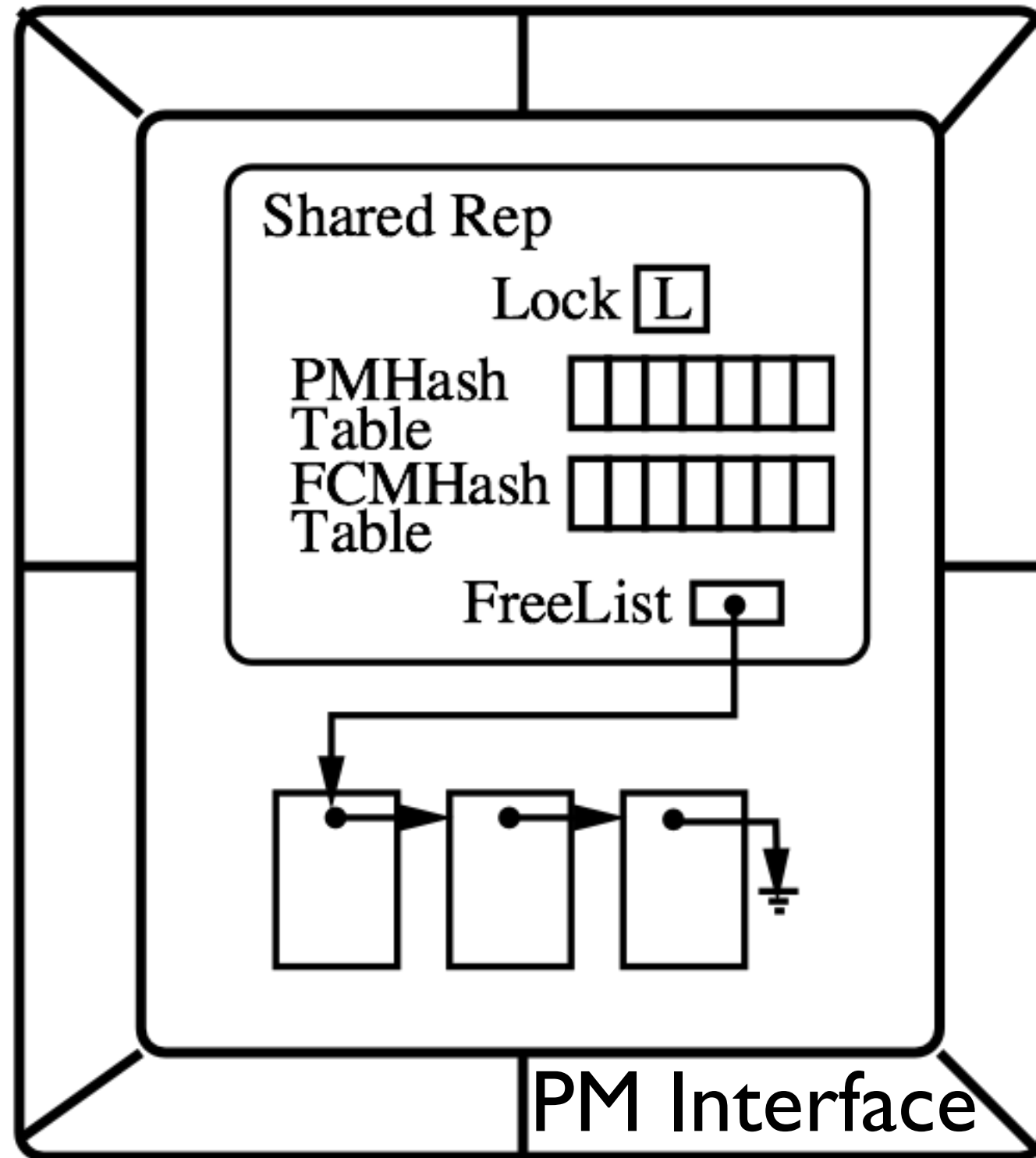(tables of Rep pointers)

i

vbase   COID=vbase+(i * sizeof(table entry))

Details: K42 VM Objects

CO Example: Shared Global PM

Distributed Global PM