

Shruti: Dynamically Adapting Aggregation Aggressiveness

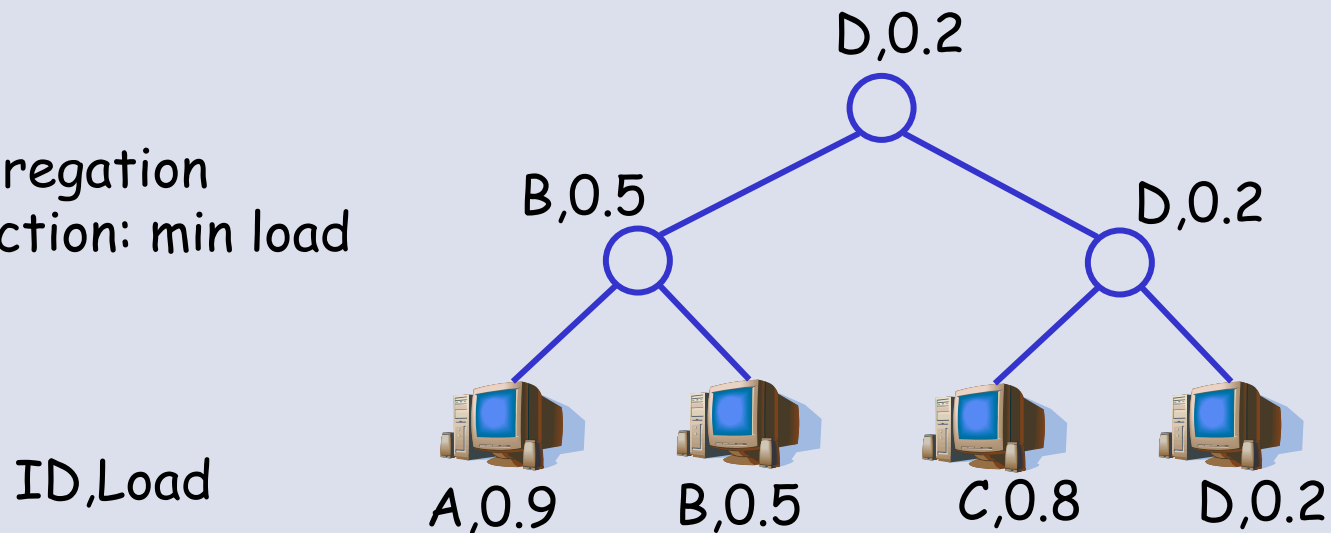
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SDIMS [Yalagandula & Dahlin SIGCOMM'04]

- Scalable Distributed Information Management System
 - Aggregation abstraction
 - Detailed views of nearby information
 - Summarized views of global information

Aggregation
Function: min load

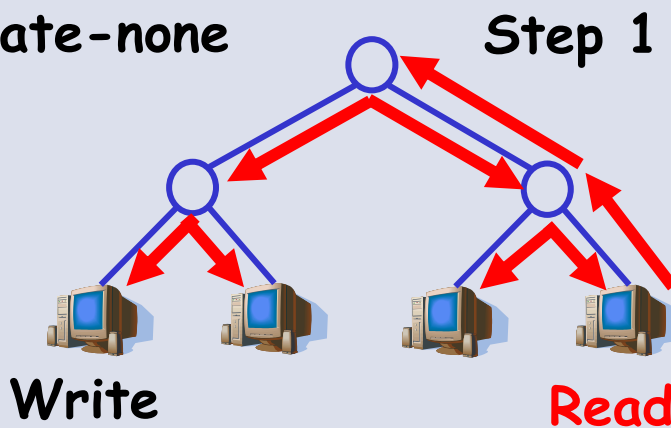


- Key building block for large distributed applications
 - System administration, multicast, object location, naming, ...

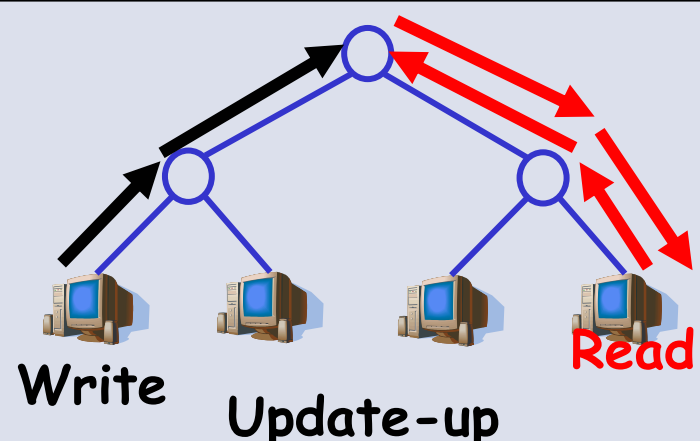
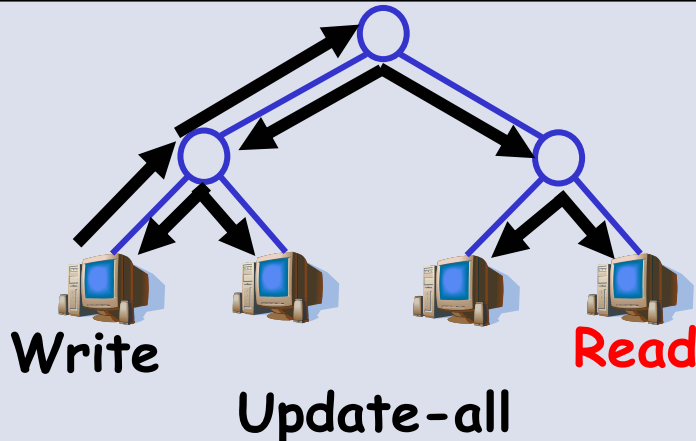
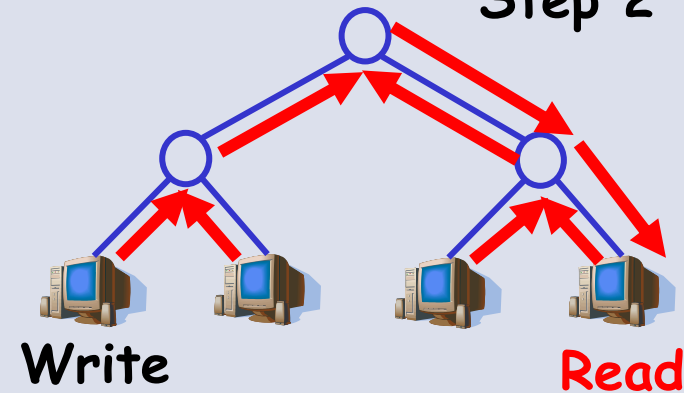
Choosing Aggregation Strategy

- Attributes have different read-write patterns
 - Examples: machine-load, num-processors

Update-none

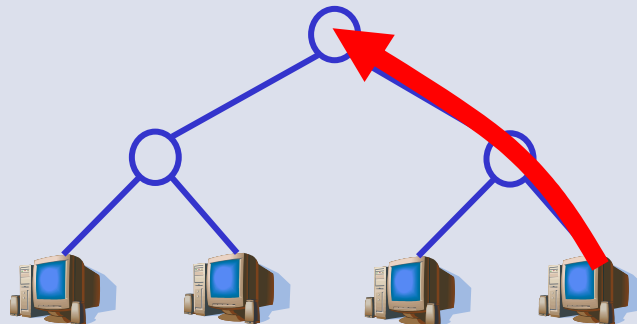


Step 2



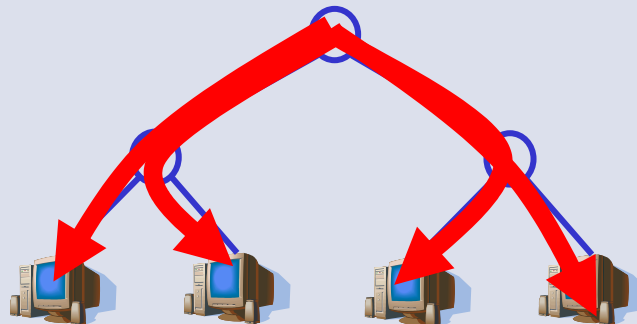
Shruti: Dynamically adapting strategy

- A lease based mechanism
 - Lease from A to B implies
 - Any updates at A are propagated to B
 - B does not need to contact A on reads
- Set leases based on observed read and write history



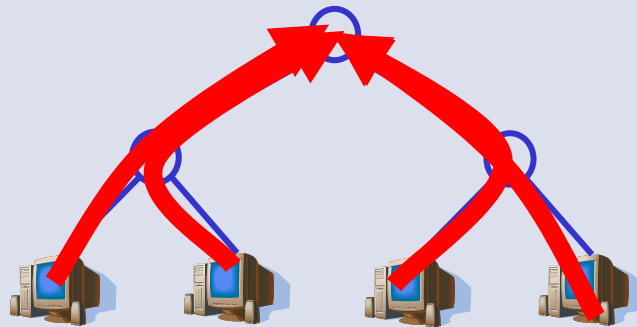
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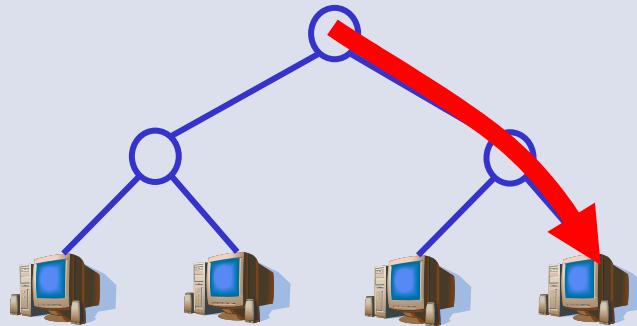
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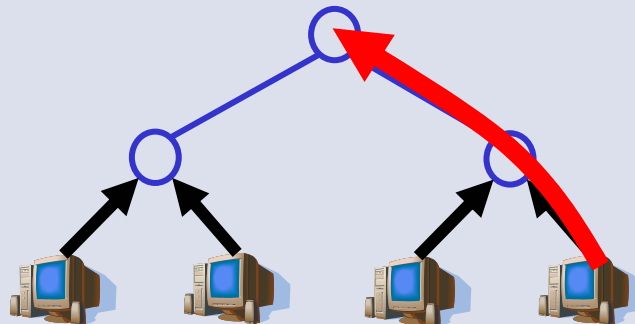
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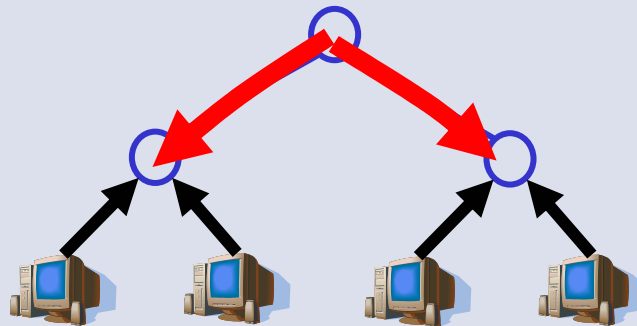
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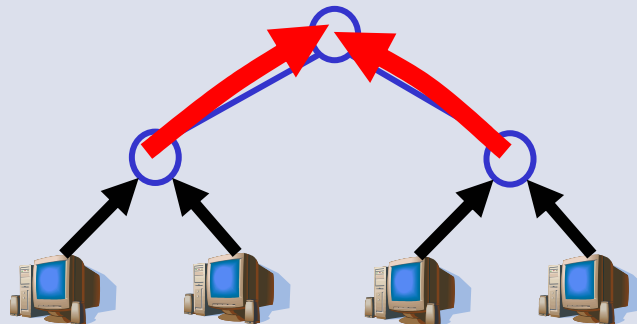
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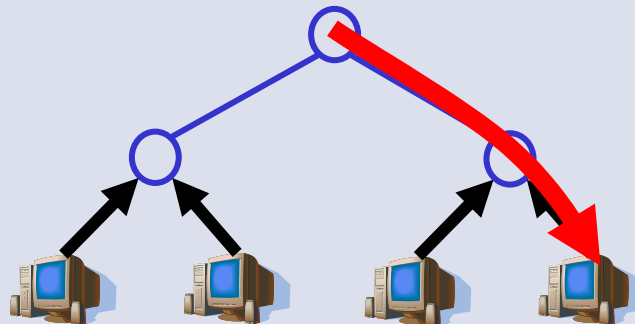
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- More information about SDIMS at

<http://www.cs.utexas.edu/~ypraveen/sdims>