Routing optimization by a router with cache agent functionality

<draft-okanoue-mobileip-R+A-00.txt>

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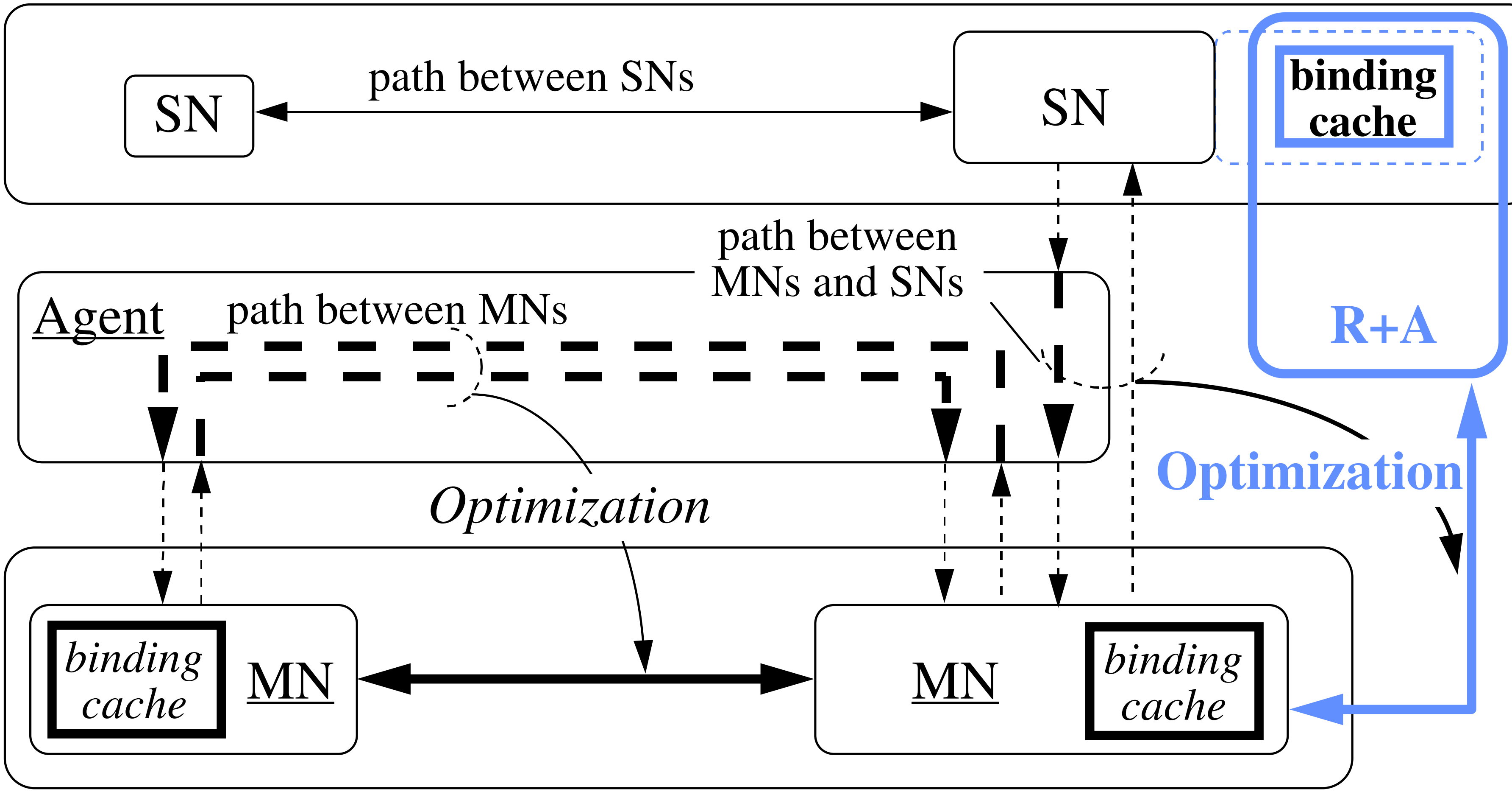
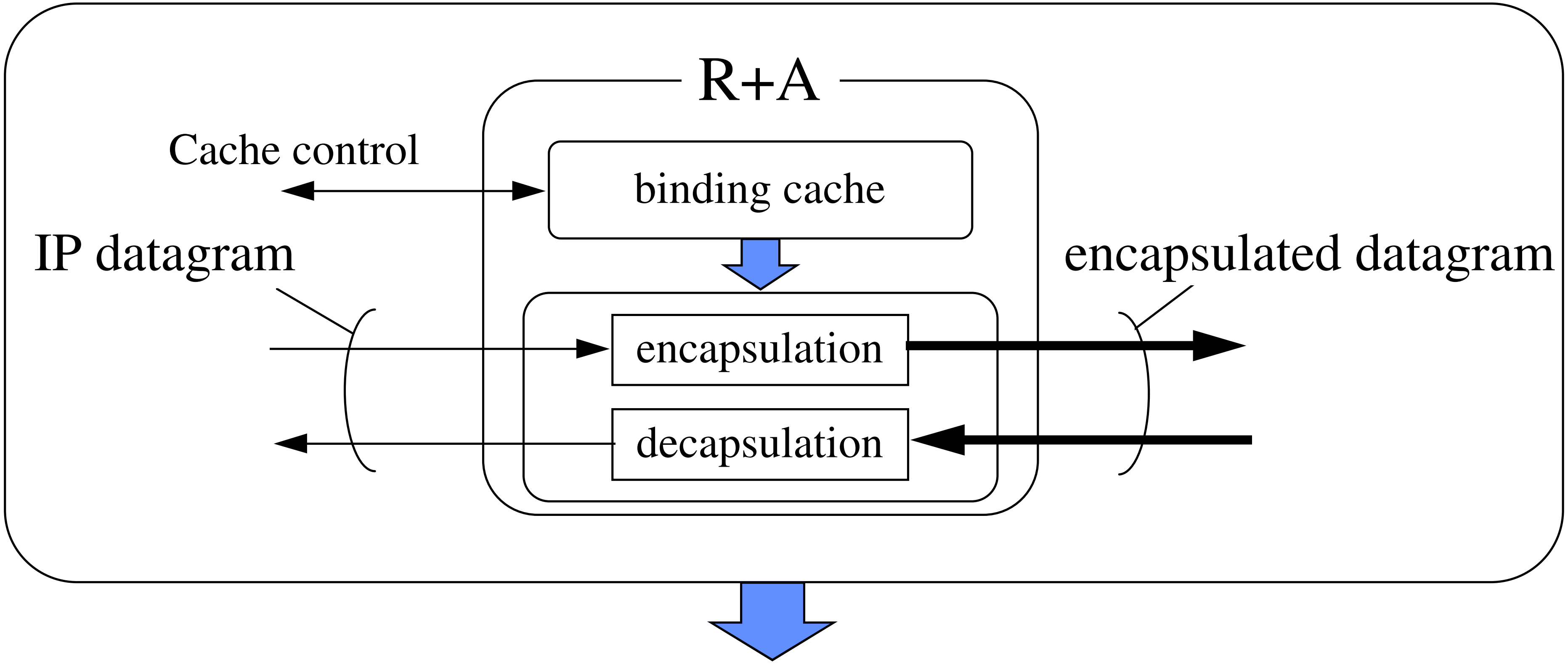
Routing path and introduced entities



SN: Stationary node, MN: Mobile node
R+A: Router with cache agent functionality

Technical Issues for R+A

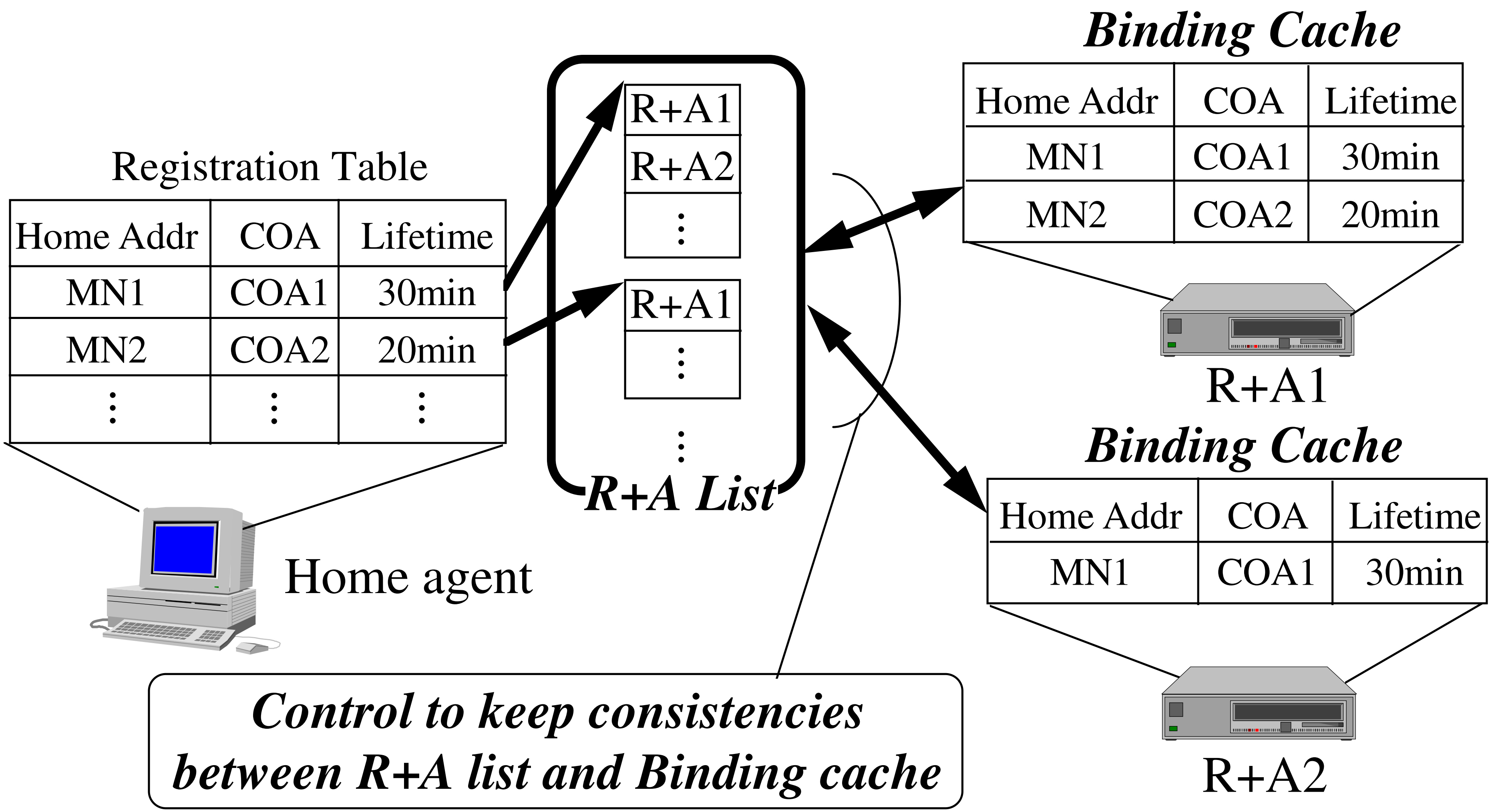


How to keep consistency of binding cache

How to control load balance for routing optimization

Ideas for the issues

- Frexible and consistent binding cache control

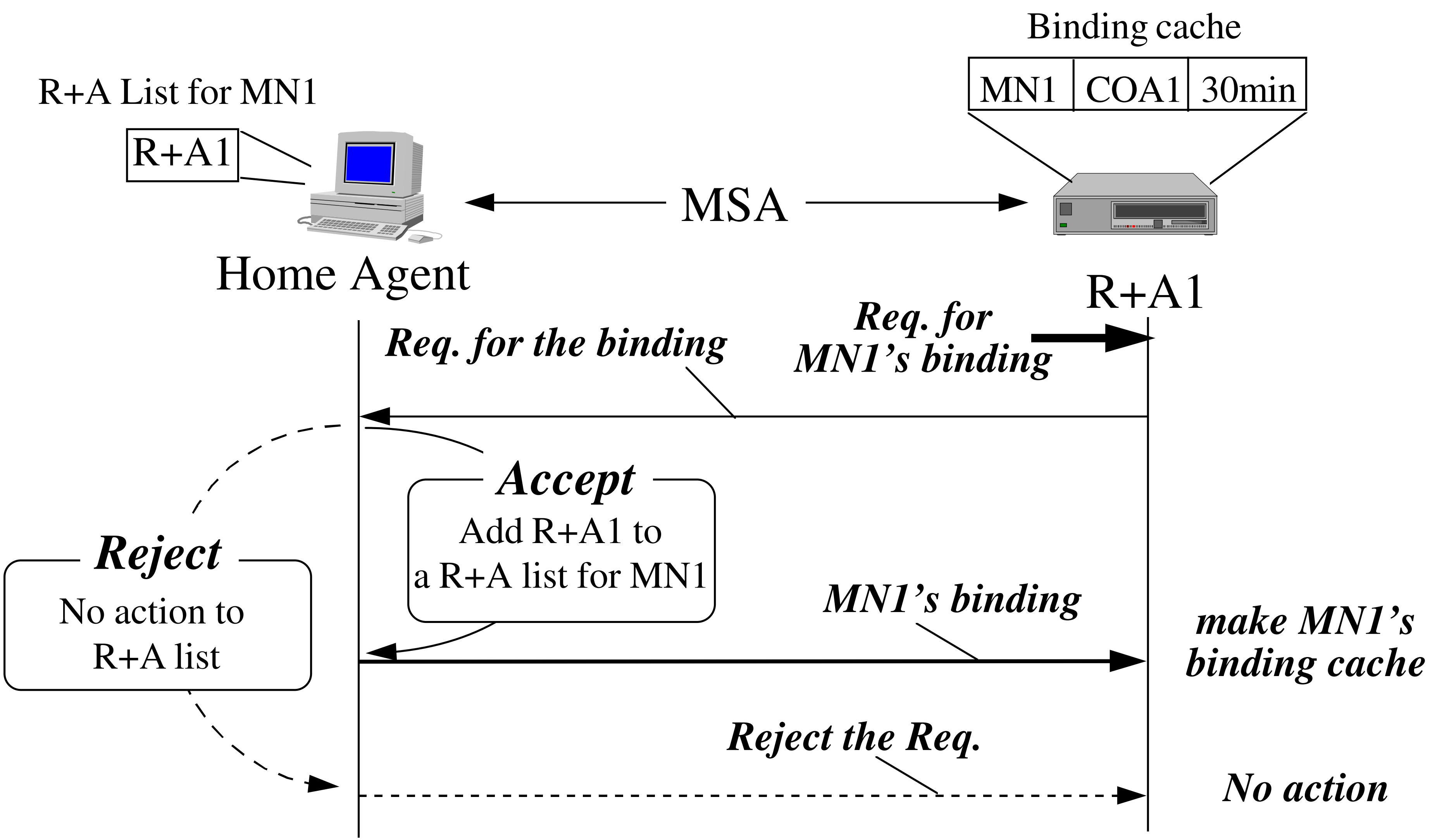


Functionality for binding cache control

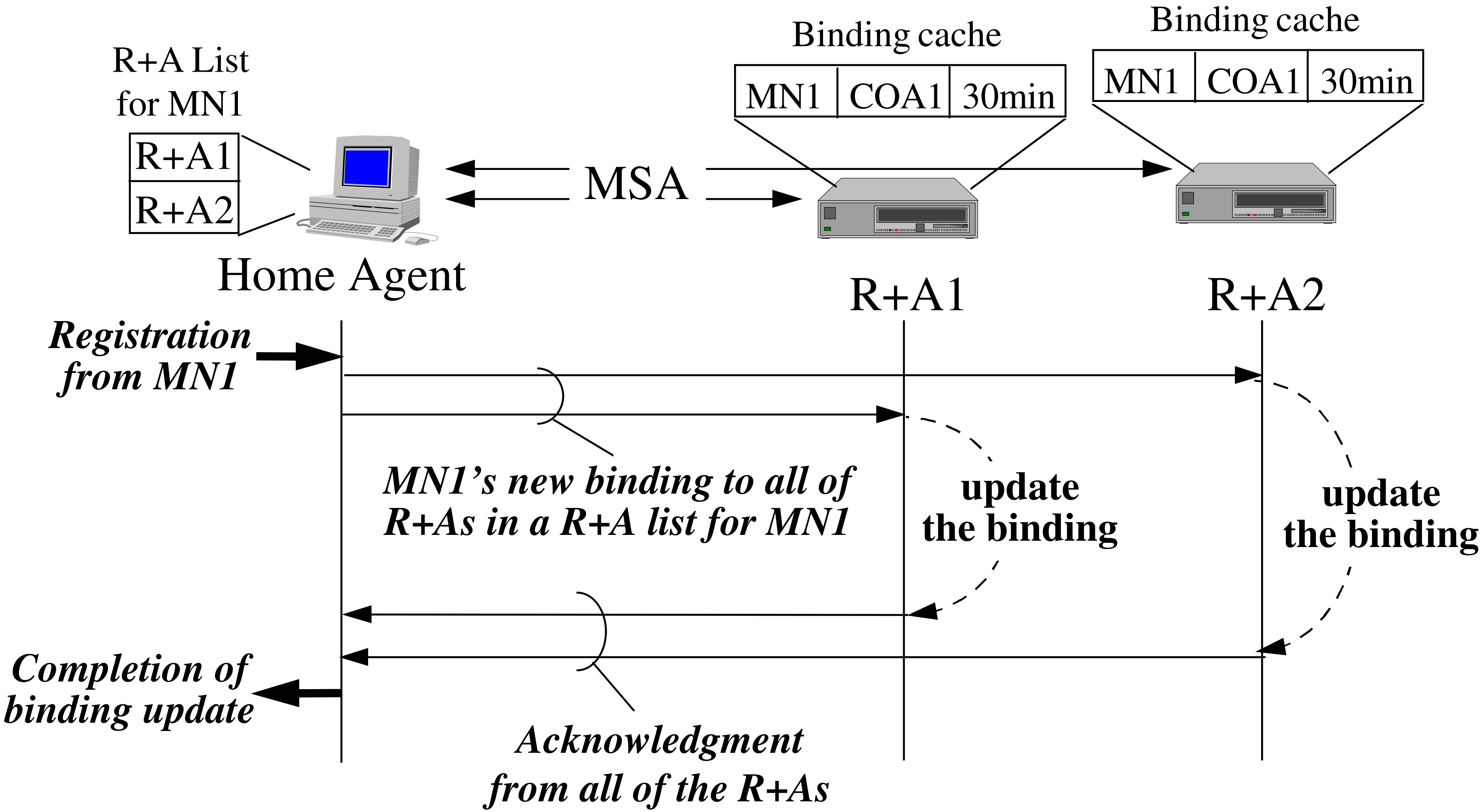
- Creating a binding cache entry
  - Initiated by a R+A
  - A HA has a responsibility in updating and deleting the entry, if the HA accepts the creation.
- Updating a binding cache entry
  - Initiated by a HA based on a MN's registration request
- Deleting a binding cache entry
  - Initiated by either a HA or a R+A by its high load balance and so on

HA: Home agent, MN: Mobile node
R+A: Router with cache agent functionality

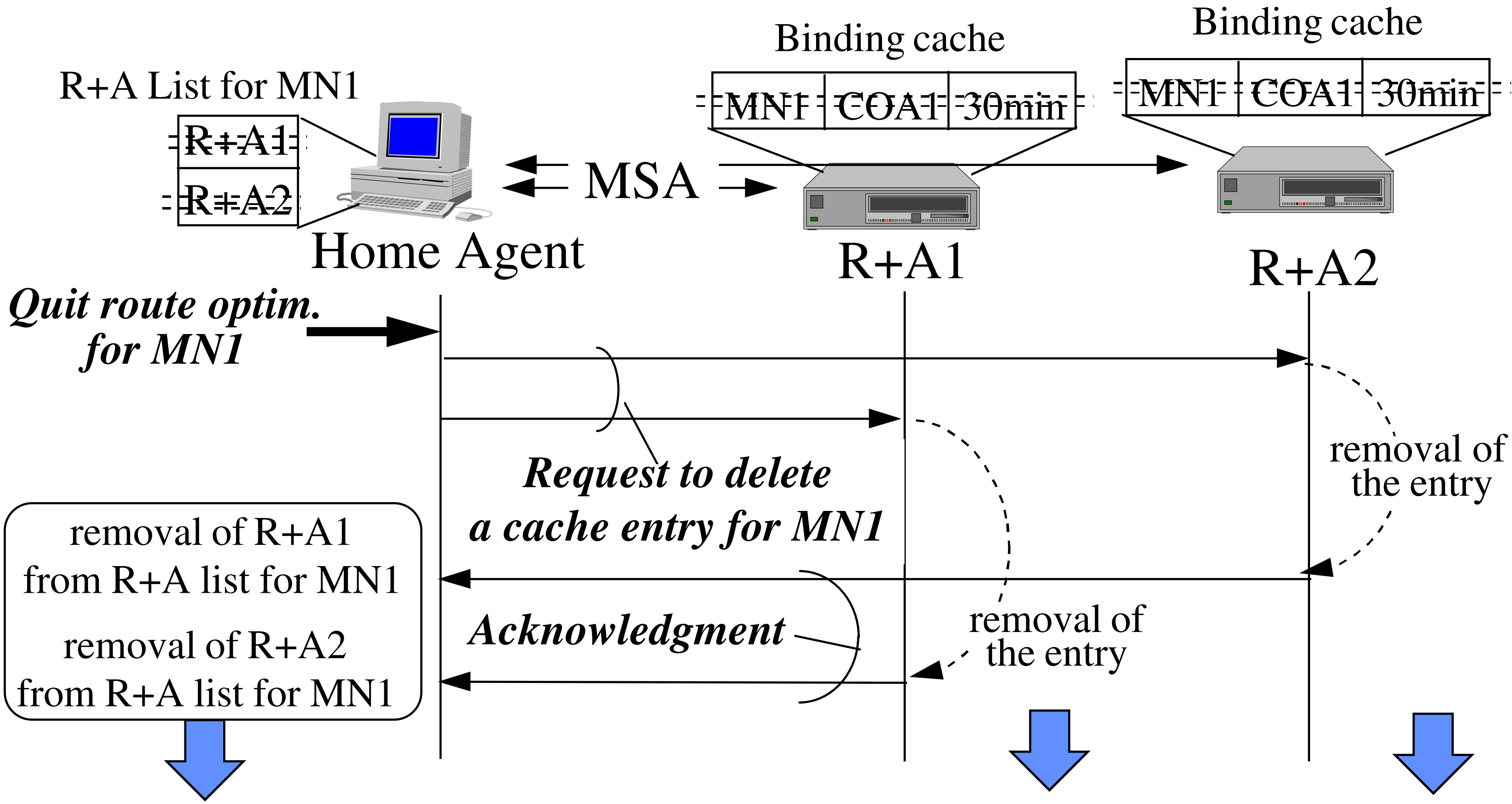
Create binding cache



Updating a binding cache

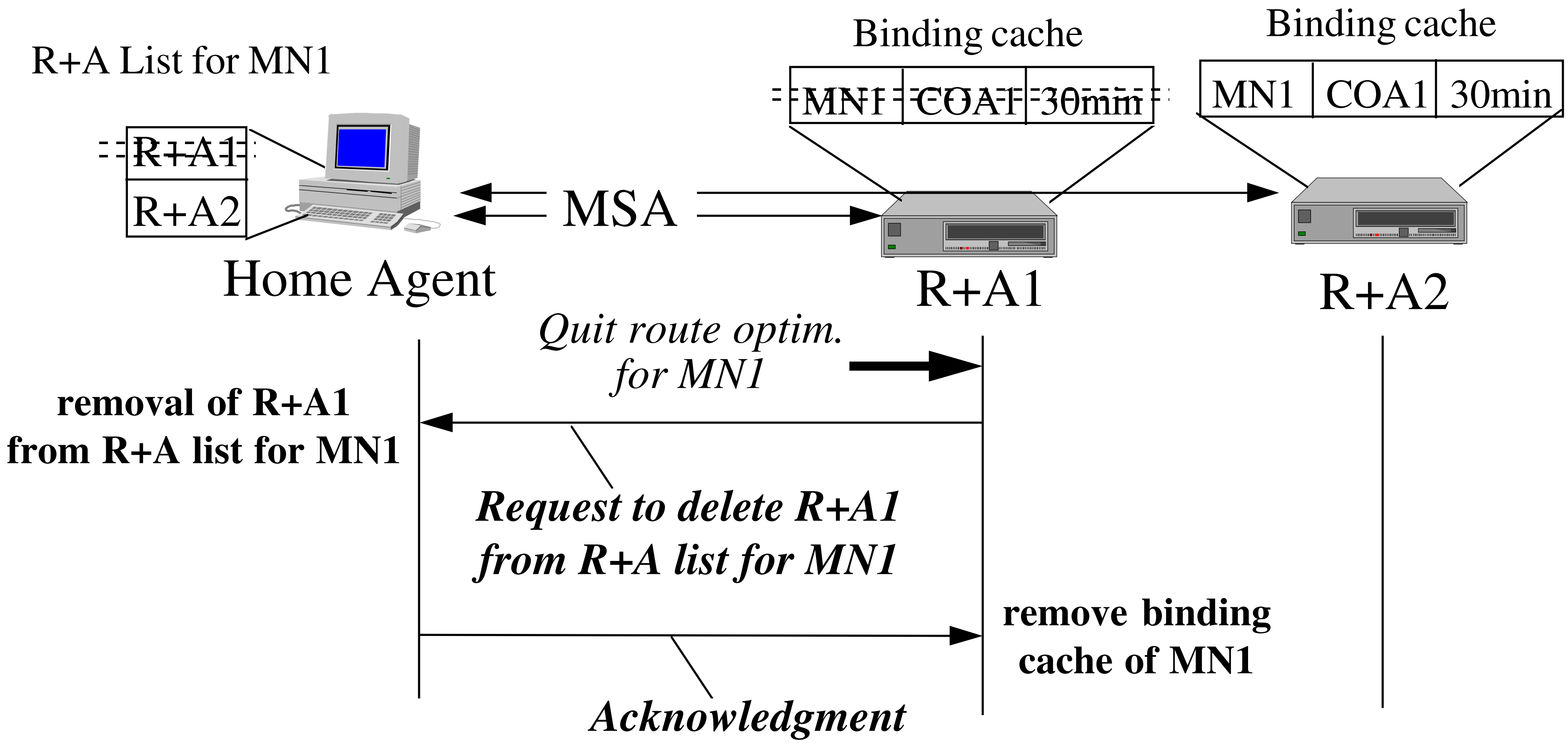


Deleting binding cache initiated by Home Agent



Completion of quitting optimization without inconsistencies

Deleting binding cache initiated by R+A



Completion of quitting optimization without inconsistencies

Conclusions

Routing optimization between SNs and MNs

Router with cache agent functionality (R+A)

en/de-capsulation based on binding cache
as a proxy of SNs

Issues

Consistency in binding cache

Load balance control

Flexible and consistent binding cache control