ID2203 – Tutorial 4

Distributed Systems, Advanced Course

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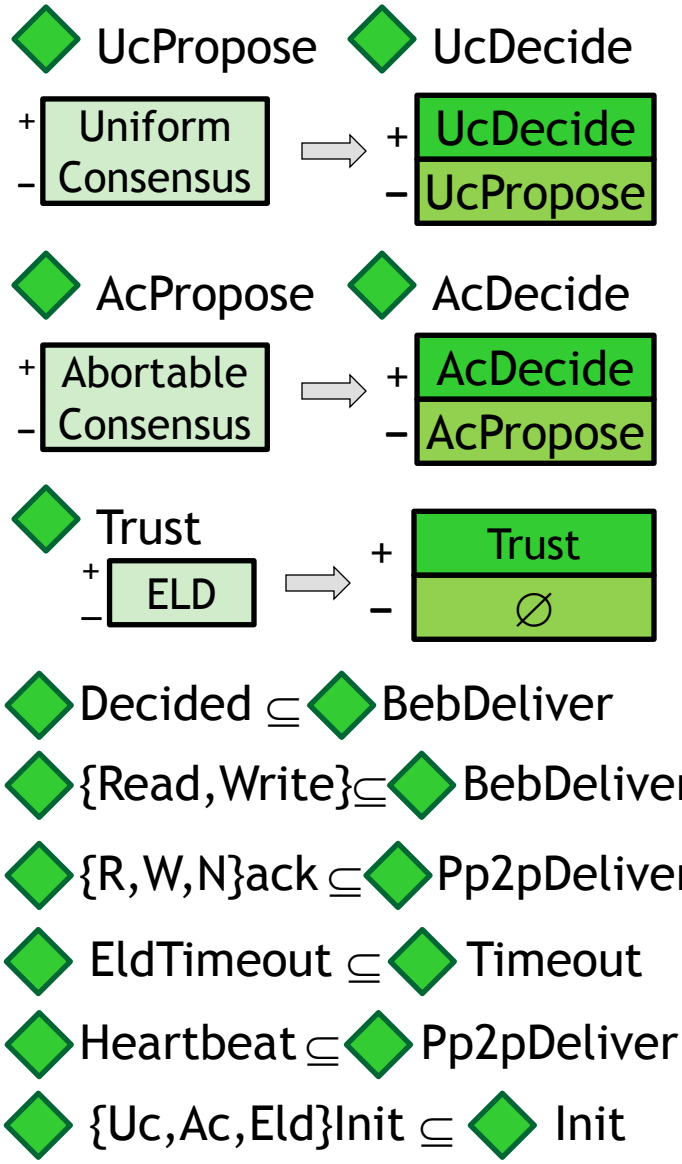
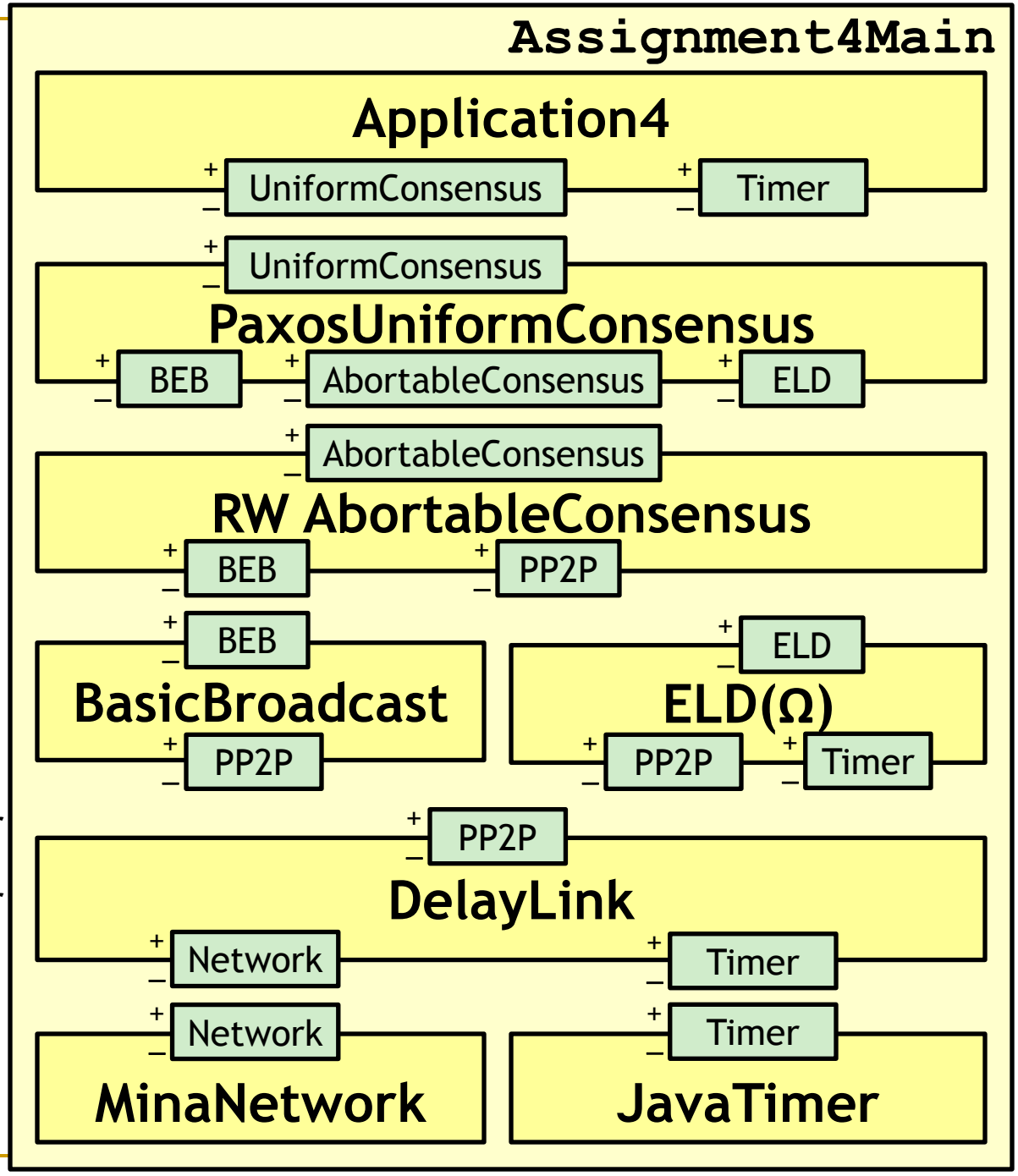
Fourth assignment: consensus

- Implement and experiment with
  - Paxos Uniform Consensus
  - Fail-noisy (partially synchronous) model
  - Uses: Abortable consensus
  - Uses: Eventual leader elector (Ω)
- Consensus discussed in lectures 9-10
- Read chapter 5 of the textbook!
- For requirements see Assignment4.pdf
- Algorithms* given in Assignment4.pdf

Consensus


UcPropose
UcDecide
Uniform Consensus
UcDecide
UcPropose
AcPropose
AcDecide
Abortable Consensus
AcDecide
AcPropose
Trust
ELD
Trust
∅
Decided ⊆ BebDeliver
{Read,Write}⊆ BebDeliver
{R,W,N}ack ⊆ Pp2pDeliver
EldTimeout ⊆ Timeout
Heartbeat ⊆ Pp2pDeliver
{Uc,Ac,Eld}Init ⊆ Init


Assignment4Main
Application4
UniformConsensus
Timer
UniformConsensus
PaxosUniformConsensus
BEB
AbortableConsensus
ELD
AbortableConsensus
RW AbortableConsensus
BEB
PP2P
BEB
BasicBroadcast
PP2P
ELD
ELD(Ω)
PP2P
Timer
PP2P
DelayLink
Network
Timer
Network
MinaNetwork
Timer
JavaTimer