

GCom - Test Protocol

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Basic multi-cast with Unordered message ordering (Static : member count = 3)

- Member A joins (appointed as the leader)
- Member B joins
- Member C joins
- Member B calls an election (Explicit)
- Leader (e.g. C) leaves permanently (Automatic election)
- Member multicast Hello I am Member X - cant do it
- Member call an election (explicit) - cant do it
- Member D joins
- Member A multicasts Hello I am Member A
- Member B multicasts Hello I am Member B.
- Member D multicasts Hello I am Member D
- Automatically release own messages
- Member A releases the messages (regardless of the order)
- Member B releases the messages (regardless of the order)
- Member D releases the messages (regardless of the order)
- Remove Group

Reliable multi-cast with Unordered message ordering (Dynamic)

- Member A joins (appointed as the leader)
- Member B joins
- Member B multicasts Hello I am Member B
- Automatically release own messages (Member receives 2 Reliable messages - own and other)
- Leader leaves temporarily (offline)
- Automatic election : New Member pointed as leader (B)
- Member C joins
- Member C calls an election (Explicit)
- Member D joins
- Member D multicasts Hello I am Member D
- Member A rejoins (online)
- Member C multicasts Hello I am Member C
- Member A releases Hello I am Member B
- Member A releases Hello I am Member D (no such message)
- Member A releases Hello I am Member C
- Member B & C release Hello I am Member D

Basic multi-cast with Causal message ordering (Dynamic))

- Member A joins (appointed as the leader)
- Member B joins
- Member C joins
- Member B multicasts Hello I am Member B
- Member A releases message got from B.
- Member A multicasts Hello I am Member A
- Member C tries to release Hello I am Member A - *impossible
- Member C shuffle messages & try again to release Hello I am
- Member A
- Member C tries to release Hello I am Member B - *possible
- Member C tries to release Hello I am Member A - *possible
- Member B releases Hello I am Member A
- Member D joins
- Member C multicasts Hello I am Member C
- Member D tries to release Hello I am Member C (Consistent vector clock) - *possible
- Member B releases Hello I am Member C

Reliable multicast with Causal message ordering(Dynamic))

- Member A joins (appointed as the leader)
- Member B joins
- Member C joins
- Member A leaves temporarily(offline)
- Member B multicasts Hello I am Member B
- Member A rejoins (online)
- Member A multicasts Hello I am Member A
- Member C tries to release Hello I am Member A - *possible
- Member C tries to release Hello I am Member B - *possible
- Member B releases Hello I am Member A

GCom chat application

- [*auto_release = true*]
- Member Wimala joins
- Member Nimala joins
- Member Kamala joins
- Wimala says HI Kamala to Kamala
- Kamala says HI Wimala to Wimala
- Nimala says HI Kamala to Kamala
- Continue chat...

Extra Time:

Reliable multicast with Causal message ordering (Dynamic)

- Member A joins (appointed as the leader)
- Member B joins
- Member C joins
- Member D joins
- Member B multicasts Hello I am Member B
- Member C multicasts Hello I am Member C
- Member A tries to release Hello I am Member B
- Member A multicasts Hello I am Member A
- Member D tries to release Hello I am Member A - *impossible
- Member D tries to release Hello I am Member B - *possible
- Member D tries to release Hello I am Member A - *possible (Without releasing Cs message)
- Member D releases Hello I am Member C
- Member B,C & A release messages