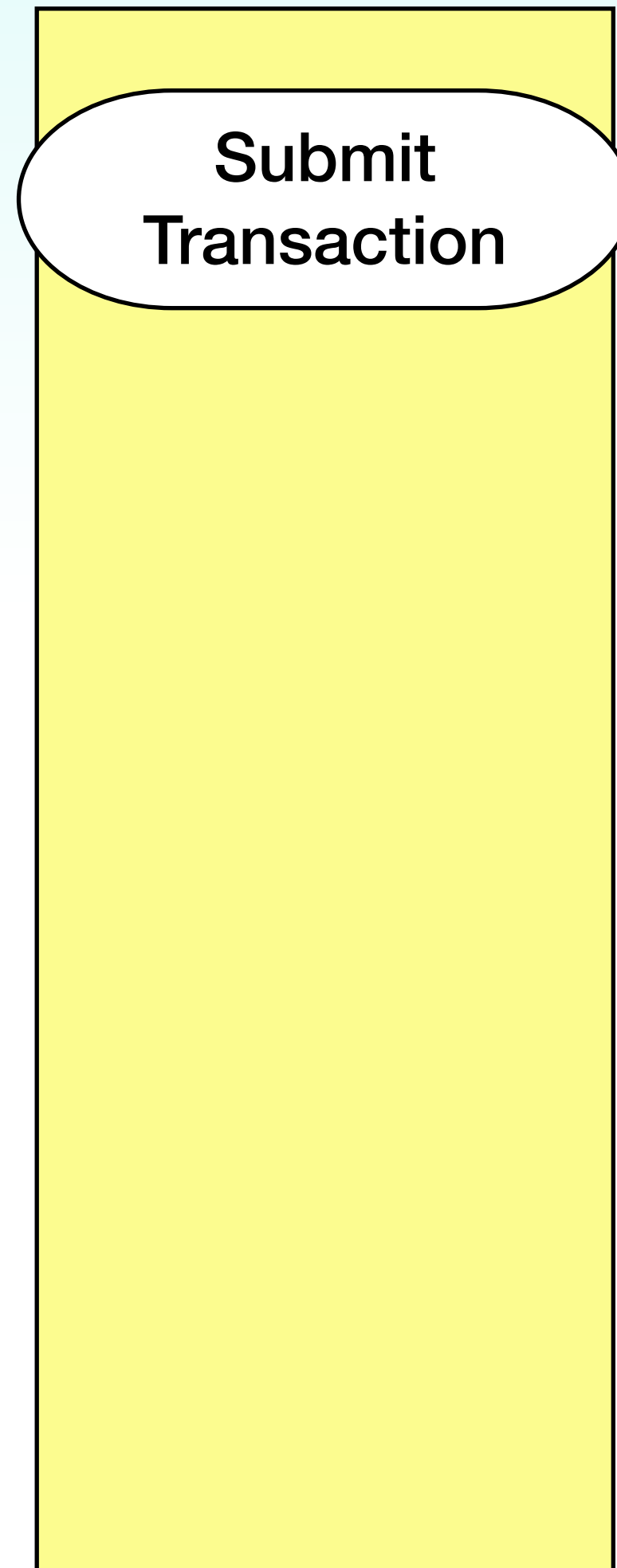


ResilientDB Engine Code Walkthrough

Oct 18, 2024



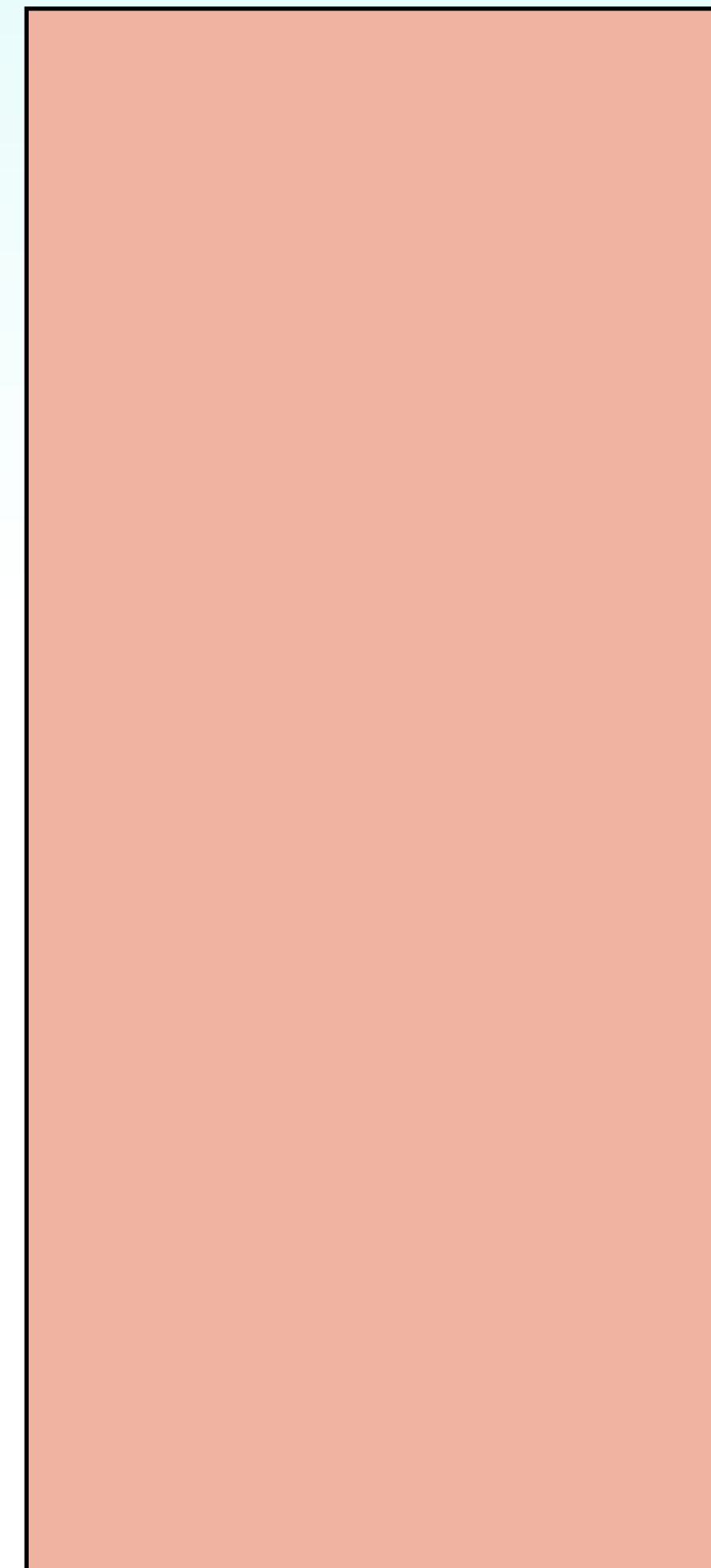
Applications



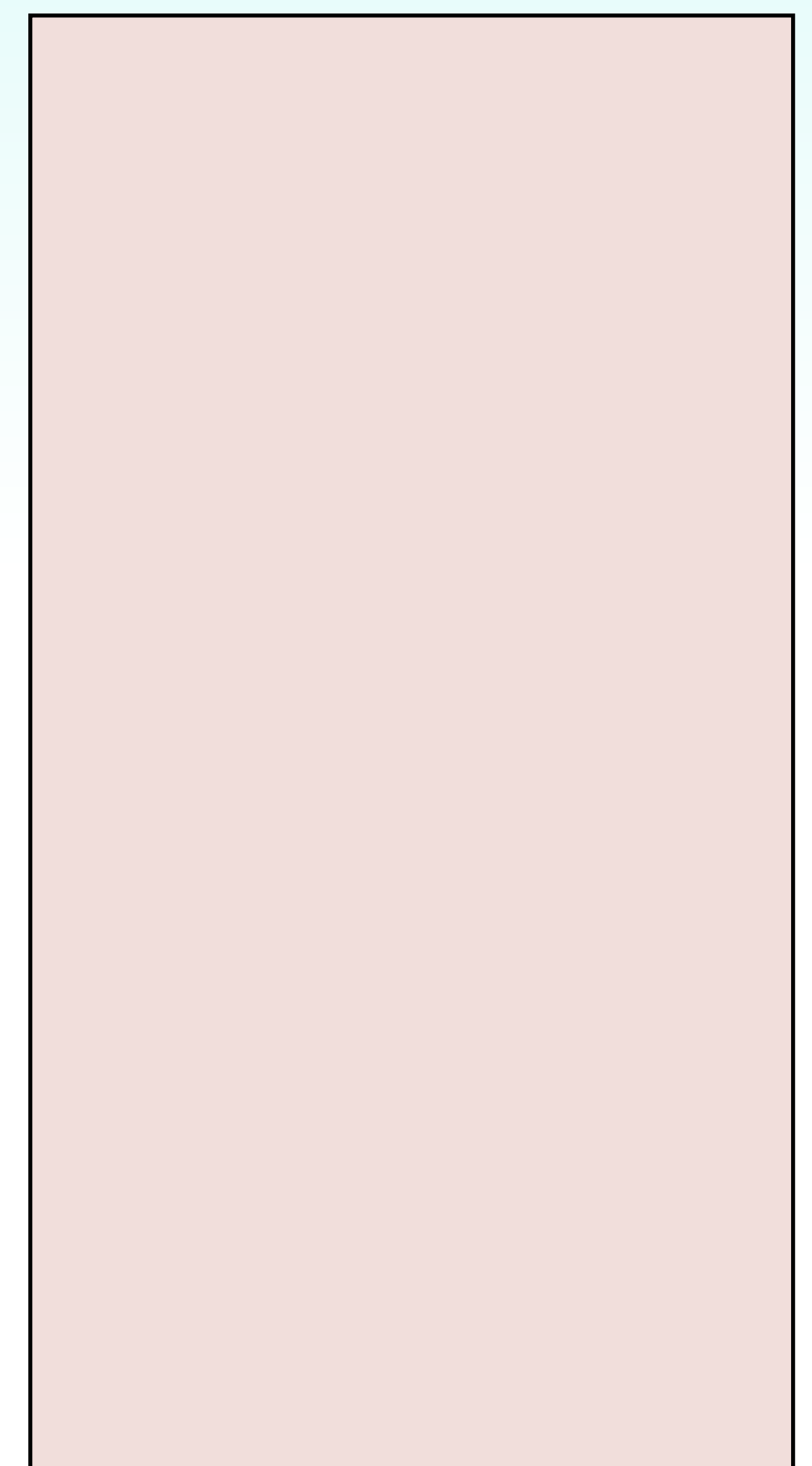
Proxy



Primary



Replicas

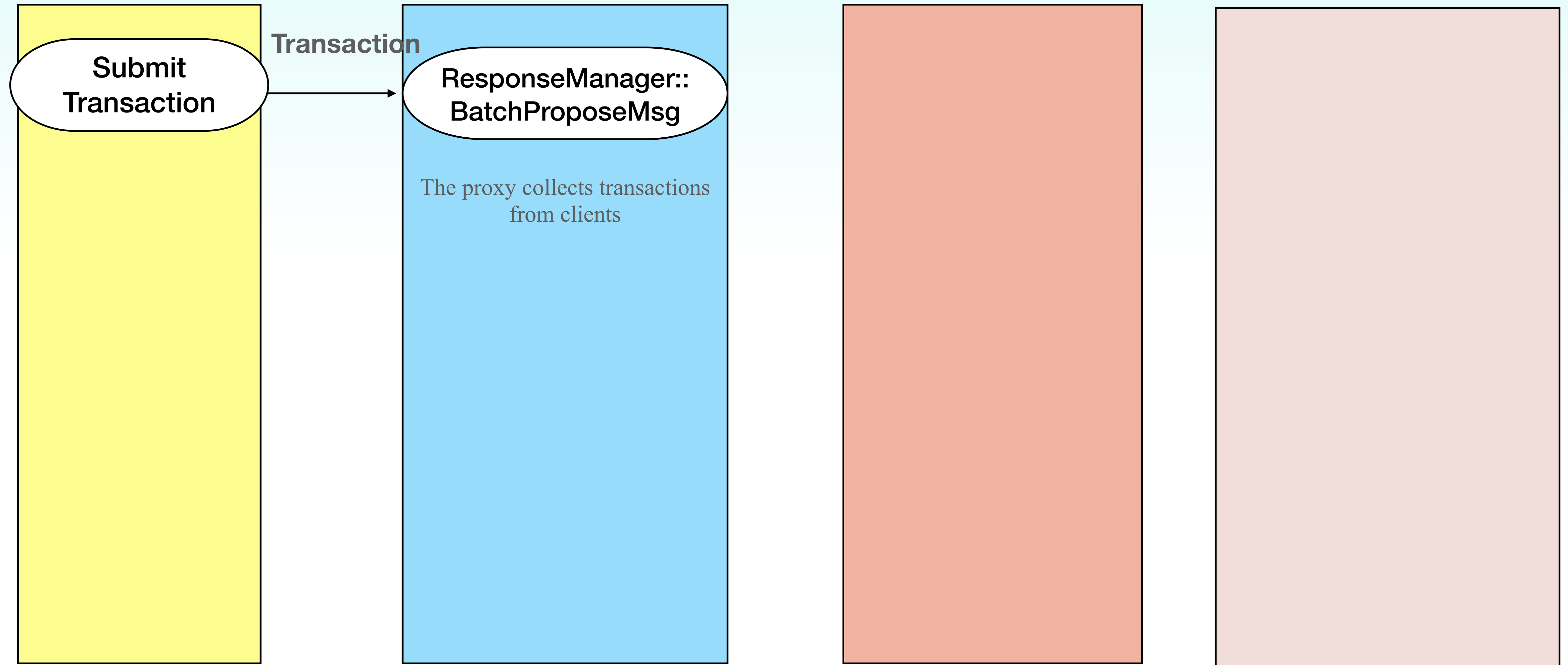


Applications

Proxy

Primary

Replicas

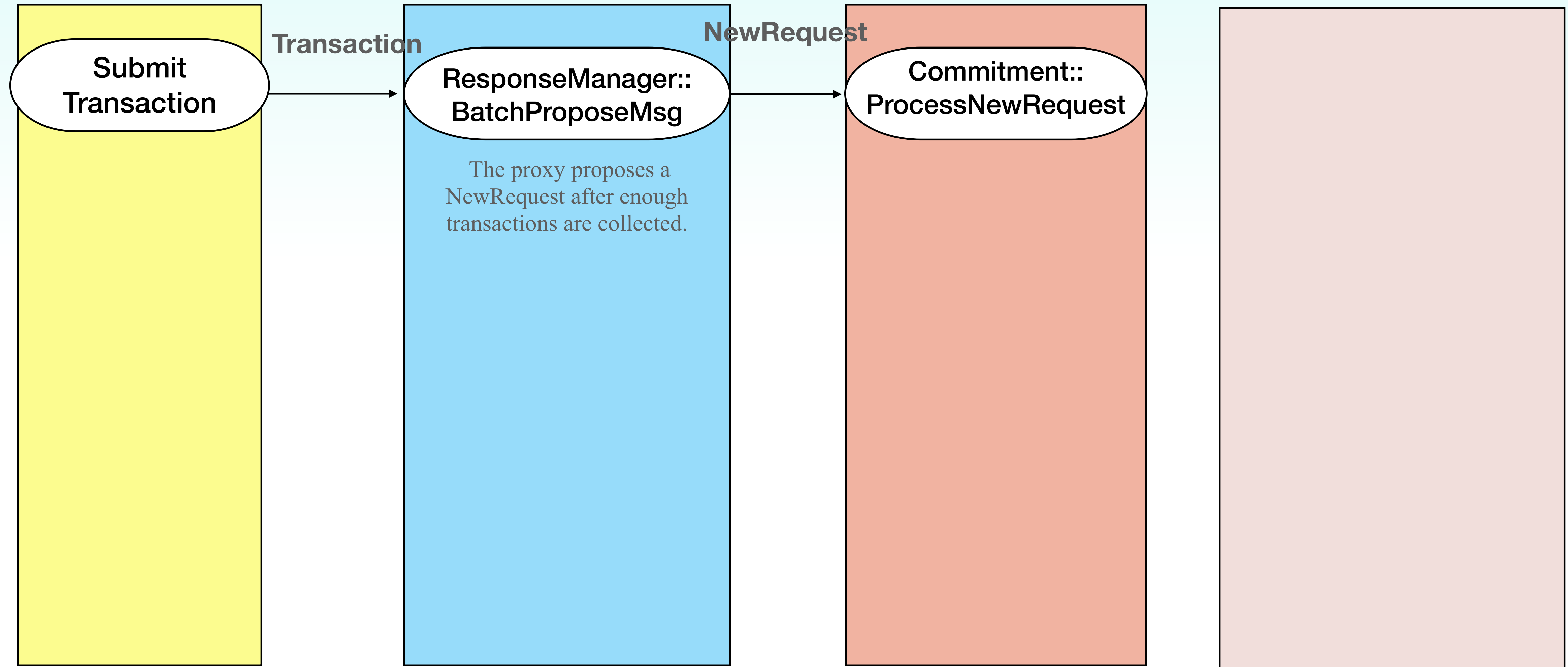


Applications

Proxy

Primary

Replicas

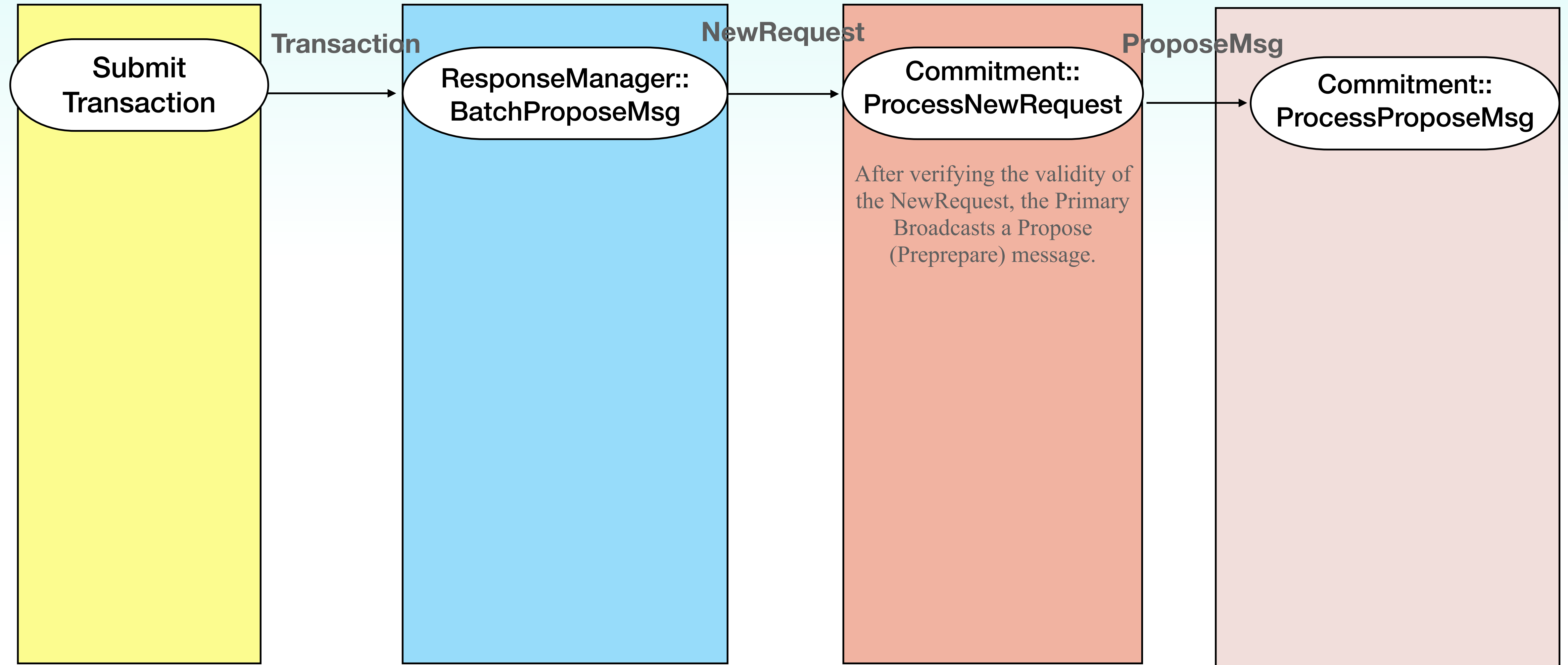


Applications

Proxy

Primary

Replicas

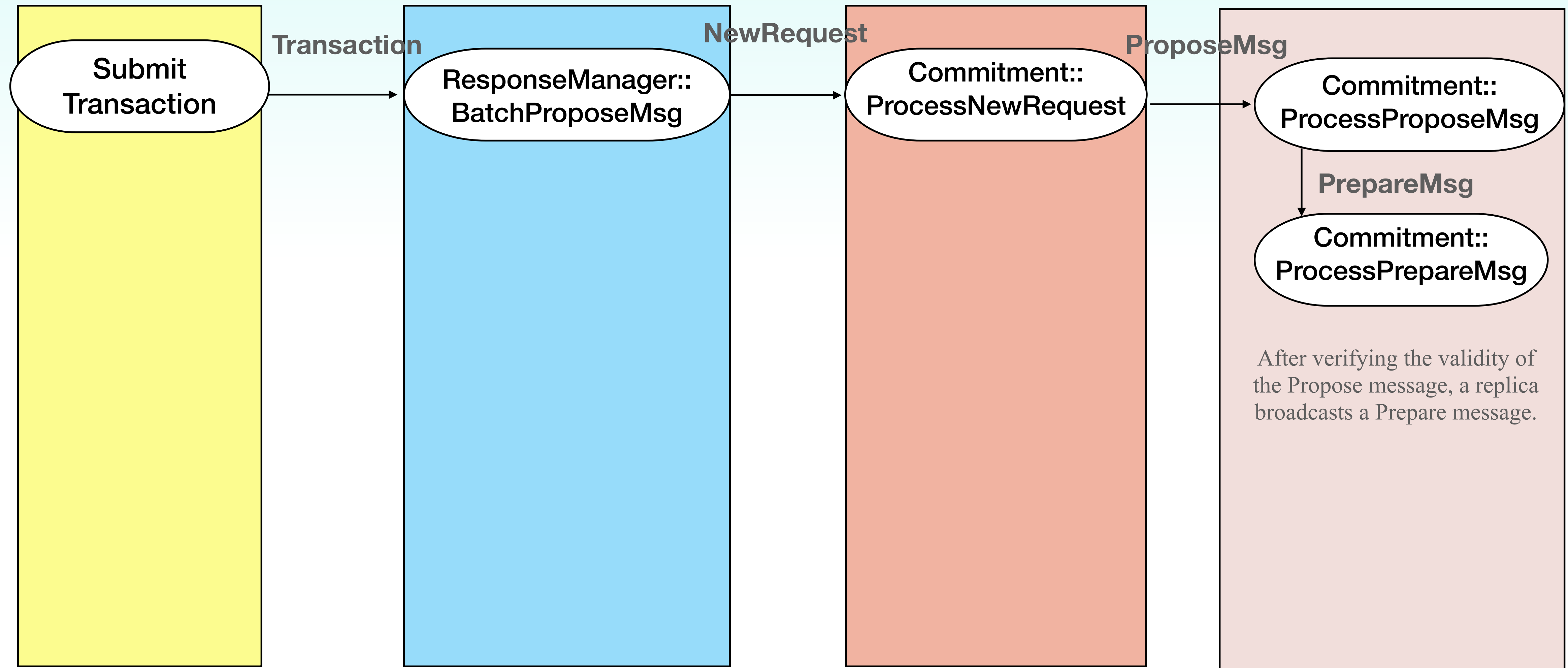


Applications

Proxy

Primary

Replicas

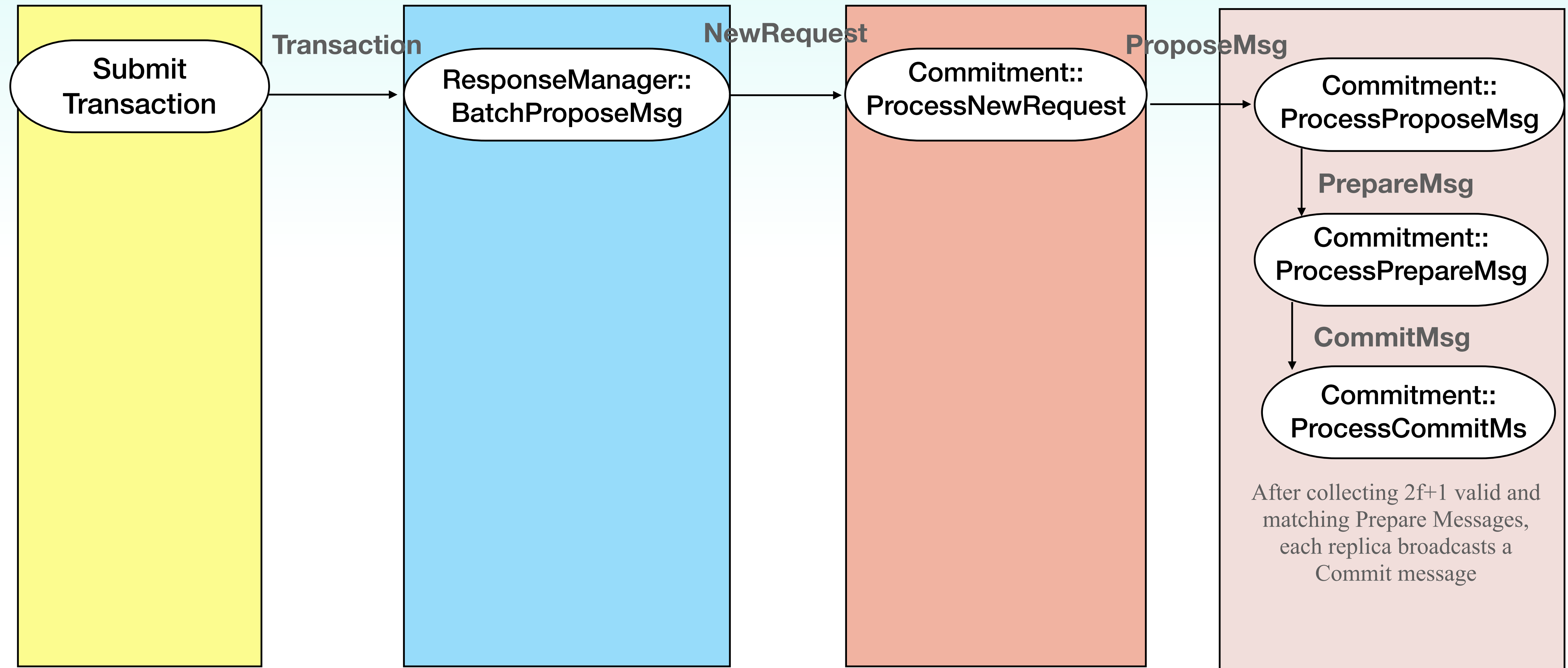


Applications

Proxy

Primary

Replicas

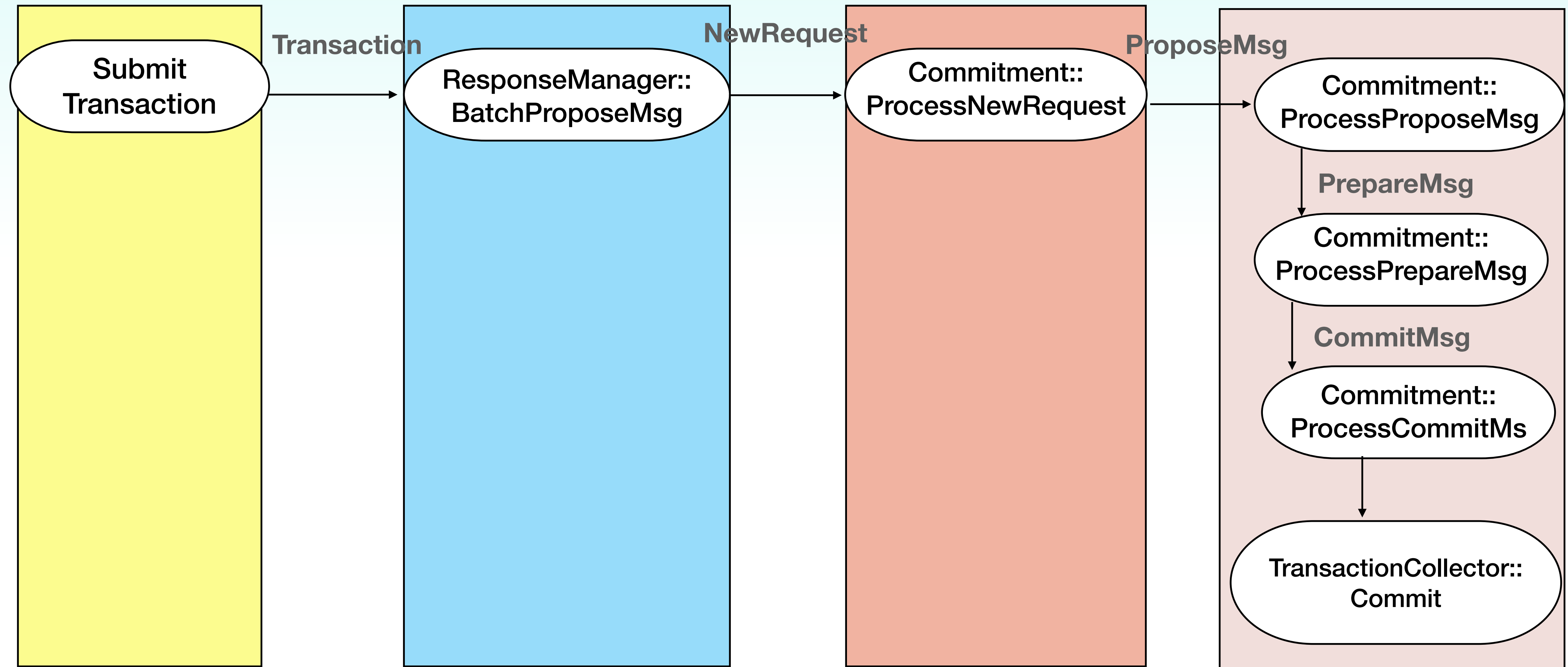


Applications

Proxy

Primary

Replicas



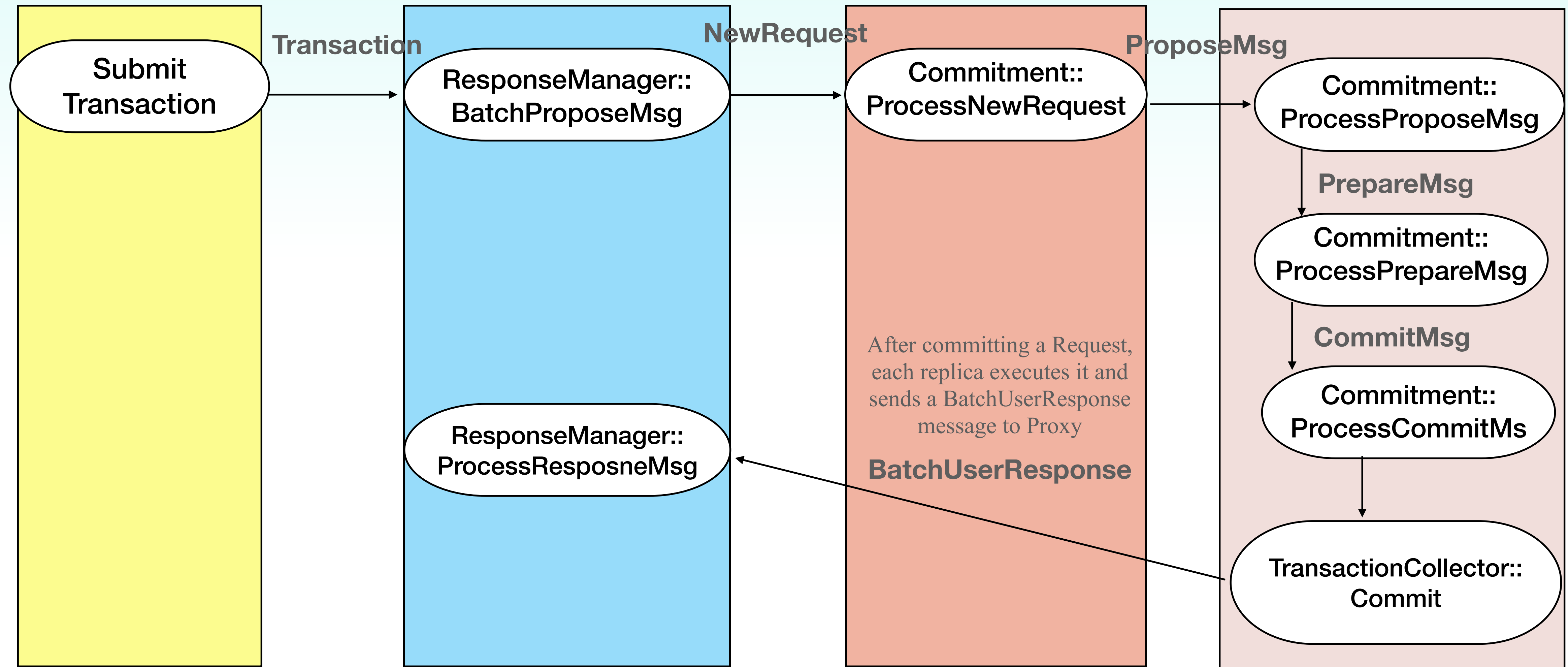
After collecting $2f+1$ valid and matching Commit Messages, each replica commits the Request

Applications

Proxy

Primary

Replicas

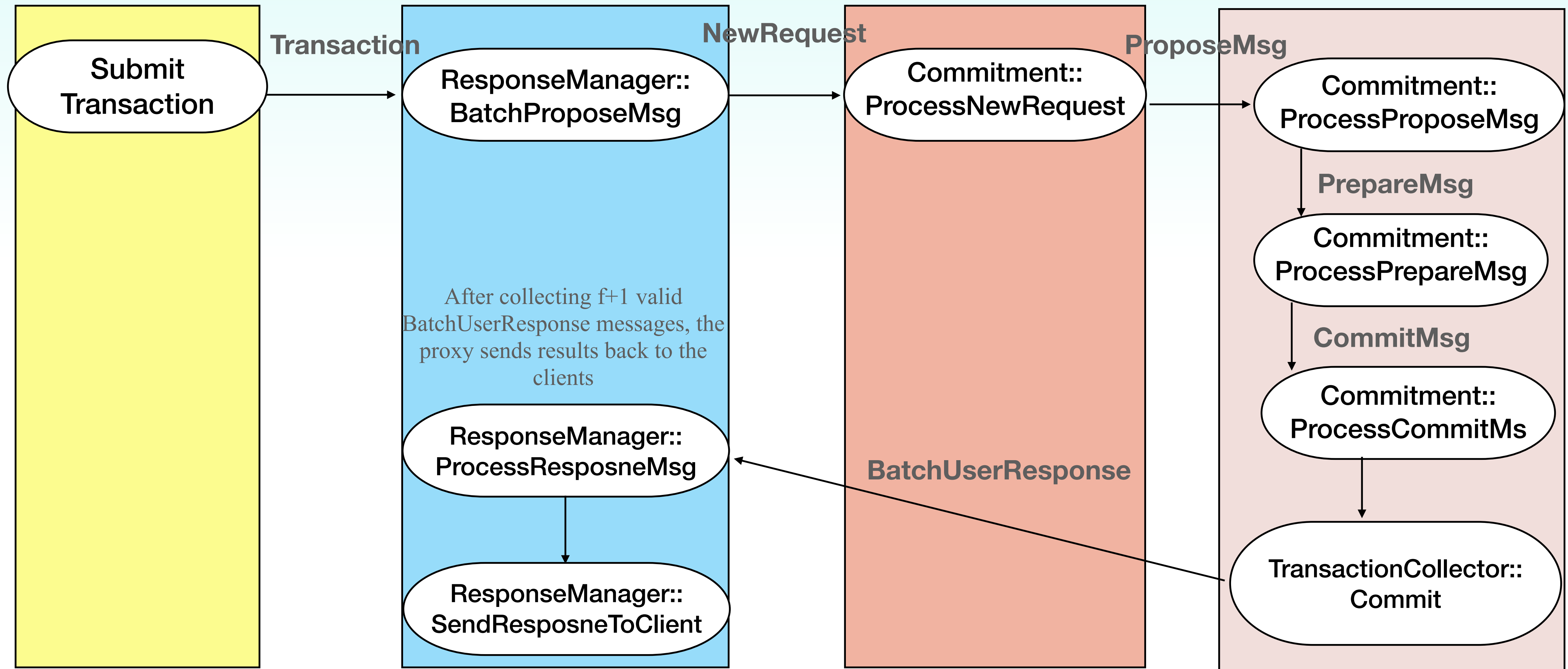


Applications

Proxy

Primary

Replicas

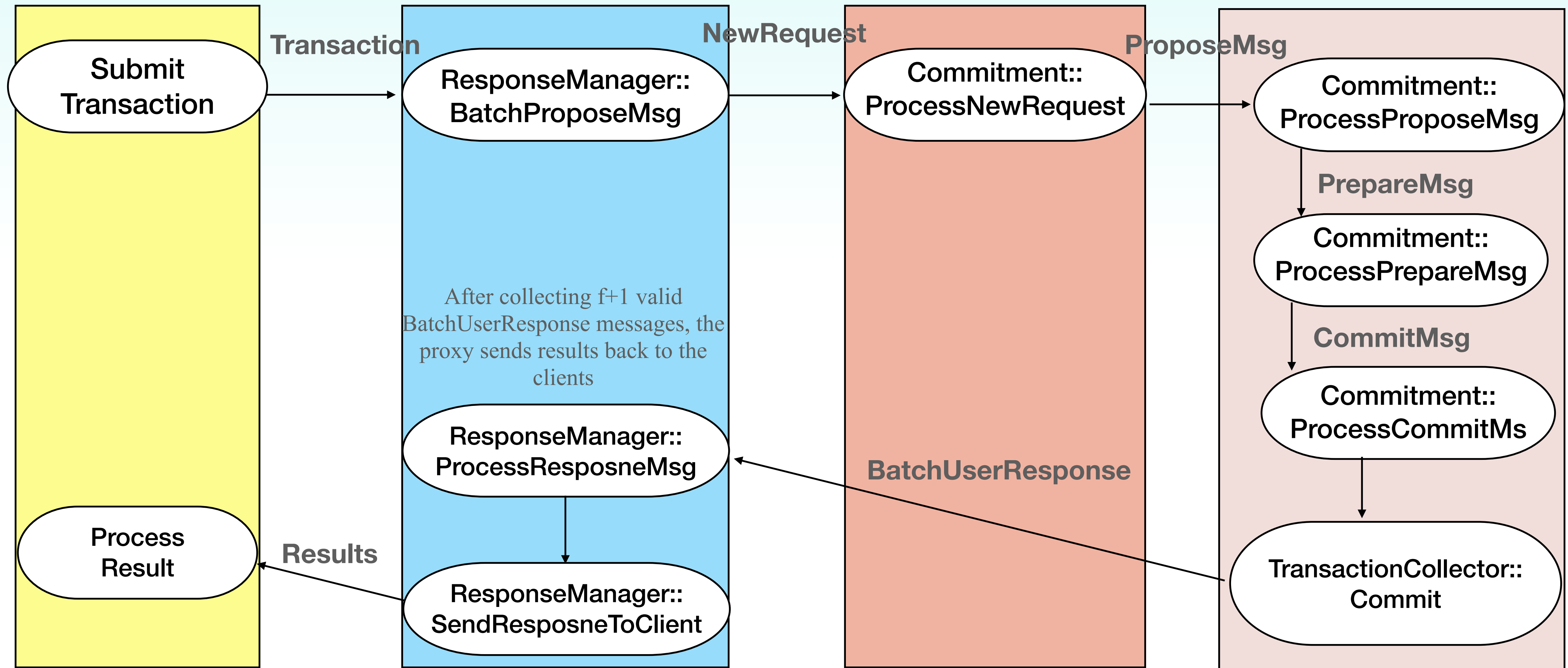


Applications

Proxy

Primary

Replicas

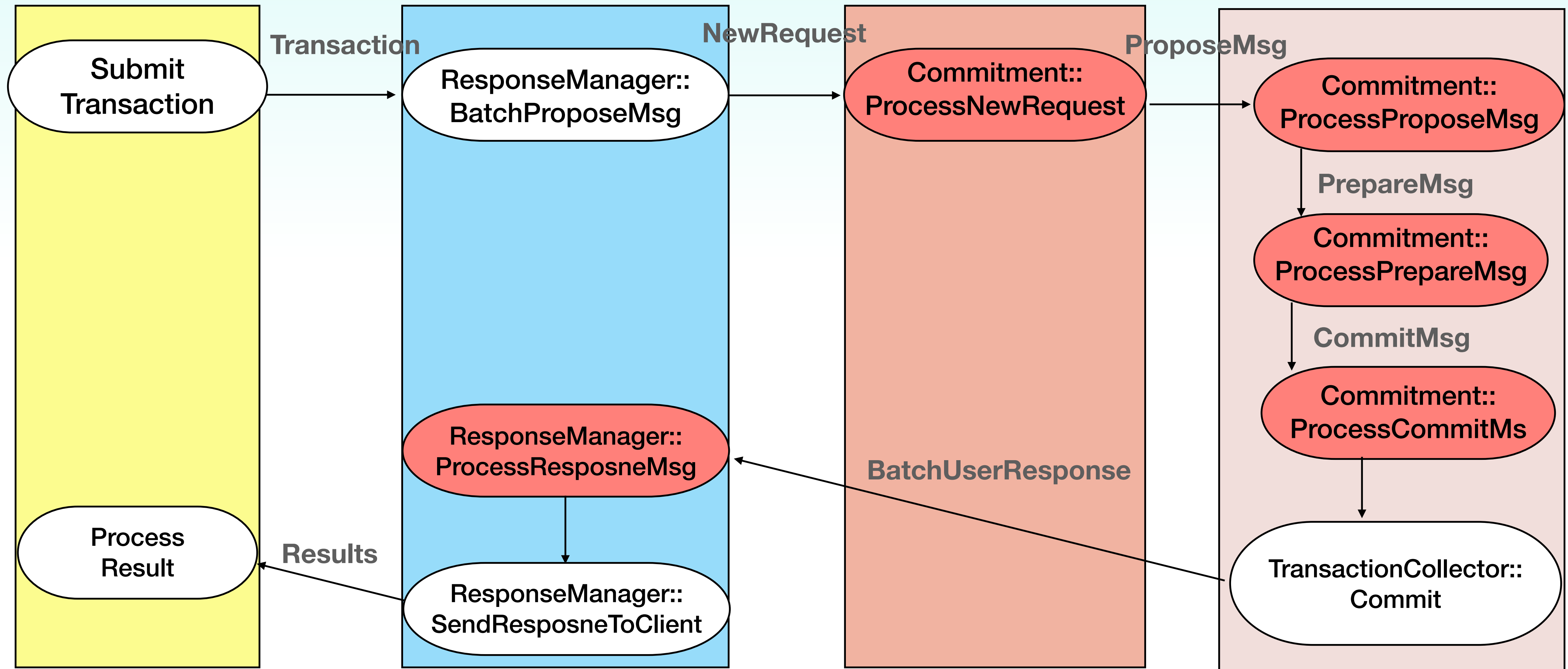


Applications

Proxy

Primary

Replicas

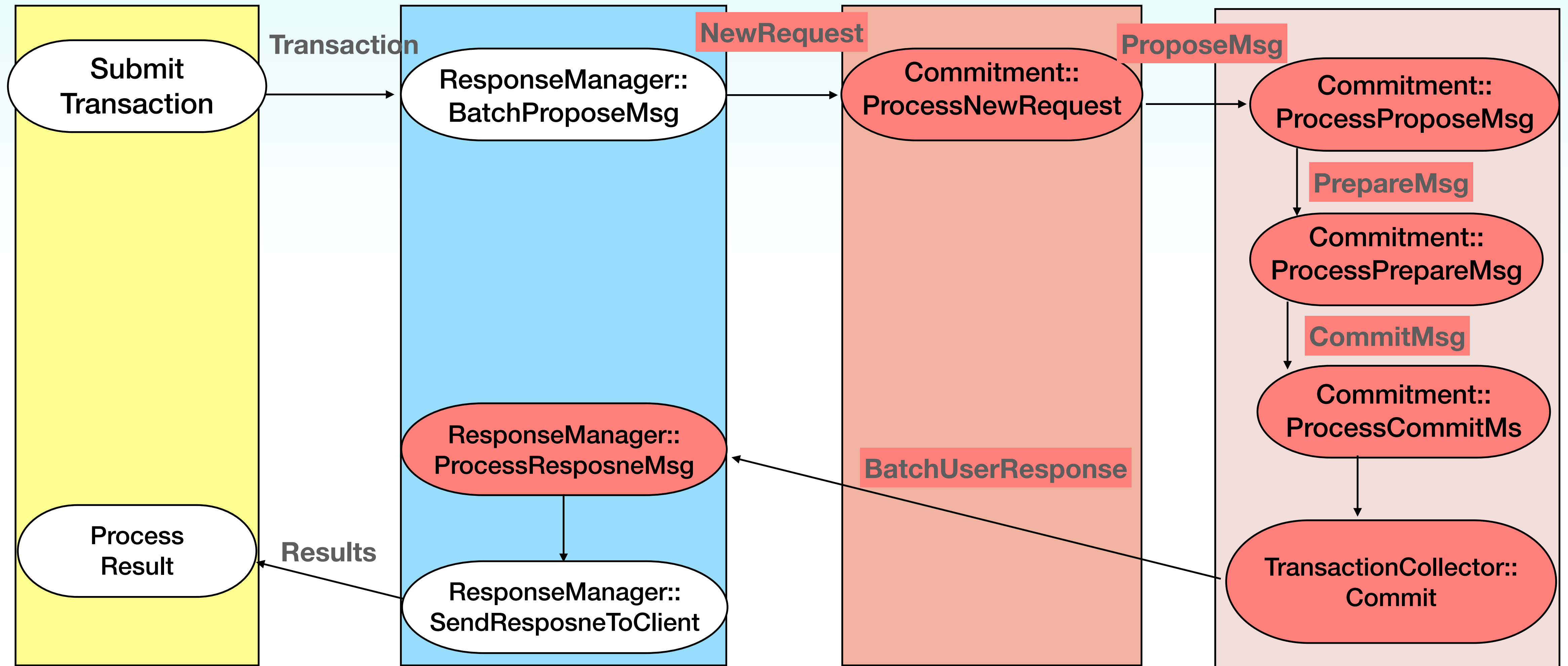


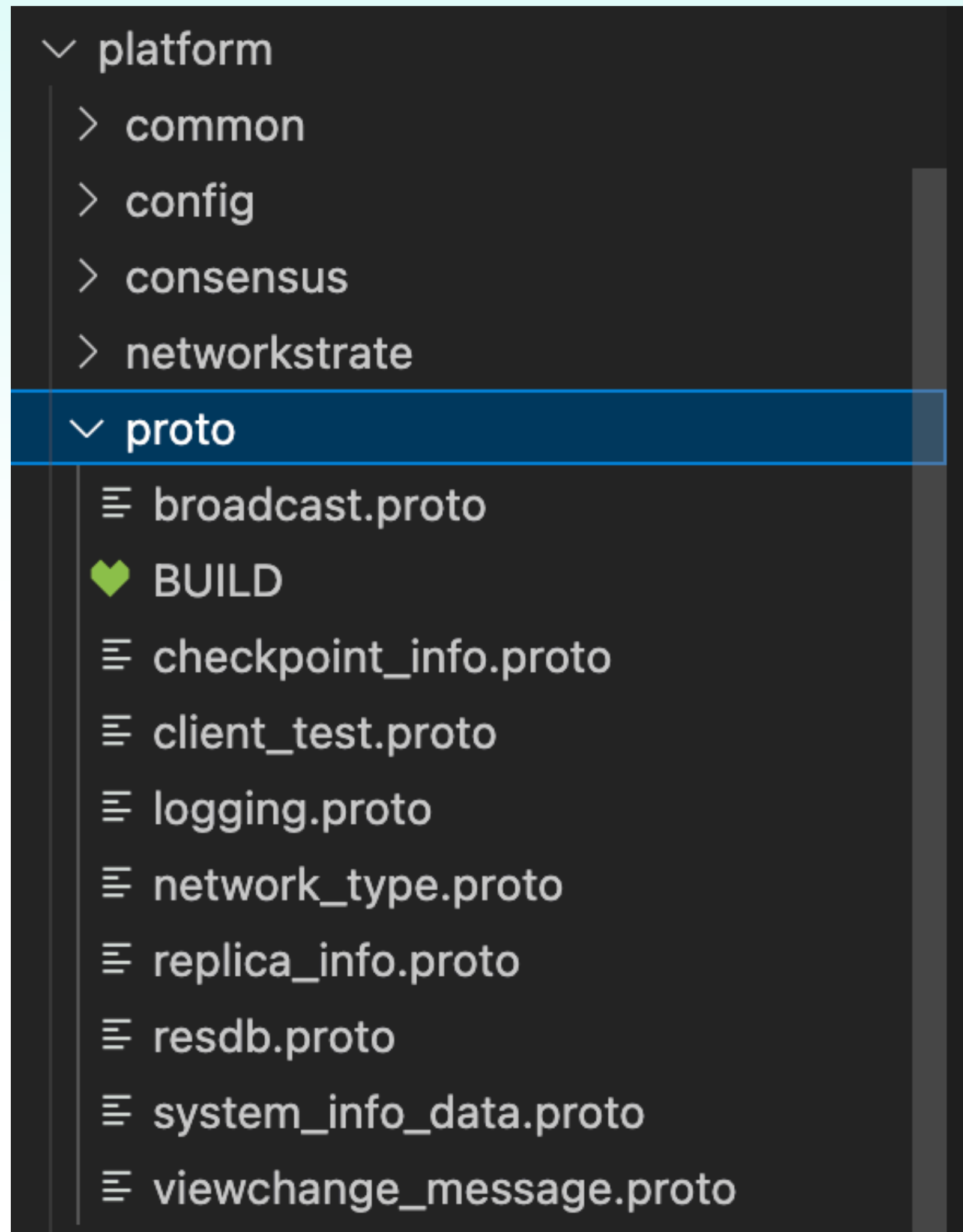
Applications

Proxy

Primary

Replicas





```
resdb.proto x
platform > proto > resdb.proto
36
37 // The request message containing requested numbers
38 message Request {
39     enum Type {
40         TYPE_NONE = 0;
41         TYPE_HEART_BEAT = 1;
42         TYPE_CLIENT_REQUEST = 2;
43         TYPE_PRE_PREPARE = 3;
44         TYPE_PREPARE = 4;
45         TYPE_COMMIT = 5;
46         TYPE_CLIENT_CERT = 6;
47         TYPE_RESPONSE = 7;
48         TYPE_RECOVERY_DATA = 8;
49         TYPE_RECOVERY_DATA_RESP = 9;
50         TYPE_CHECKPOINT = 10;
51         TYPE_QUERY = 11;
52         TYPE_REPLICA_STATE = 12; // get replica state.
53         TYPE_NEW_TXNS = 14; // new transactions sent by proxy,
54         // with batch transactions.
55         TYPE_GEO_REQUEST = 15;
56         TYPE_VIEWCHANGE = 16;
57         TYPE_NEWVIEW = 17;
58         TYPE_CUSTOM_QUERY = 18;
59         TYPE_CUSTOM_CONSENSUS = 19;
60
61         NUM_OF_TYPE = 20; // the total number of types.
62         // Used to create the collector.
63     };
64     int32 type = 1;
65     bytes data = 2;
66     ReplicaInfo client_info = 3;
67     uint64 current_view = 4;
68     uint64 seq = 5;
69     bytes hash = 6;
70     int32 sender_id = 7;
71     int64 proxy_id = 8; // the replica which receives the client request.
72     bool is_system_request = 9; // whether is system information related
73     // request, like CMD:ADDREPLICA.
```