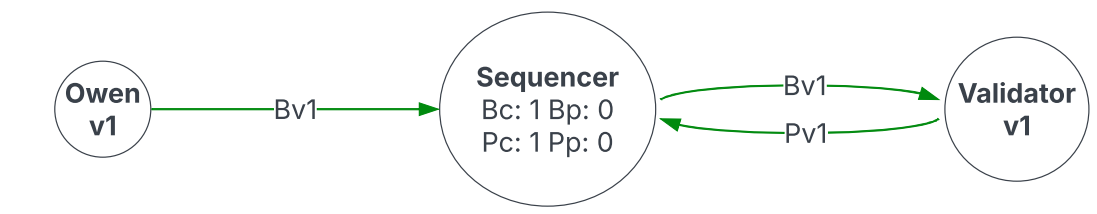
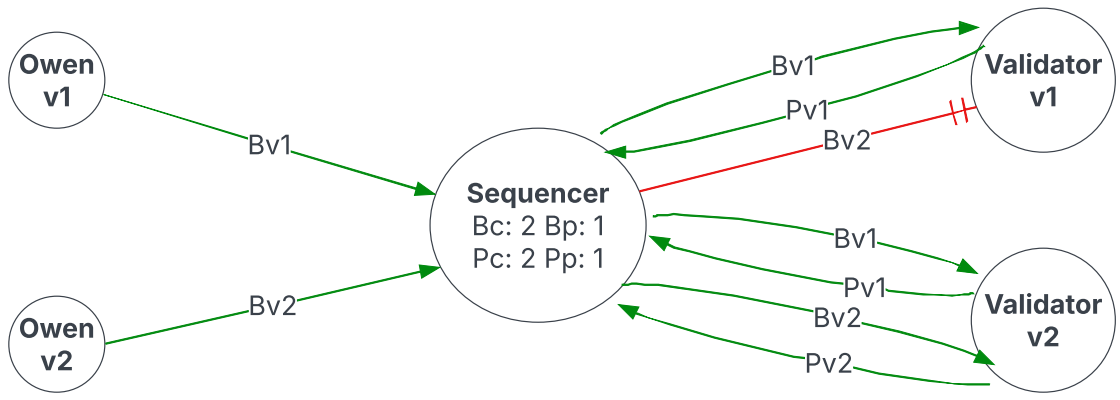
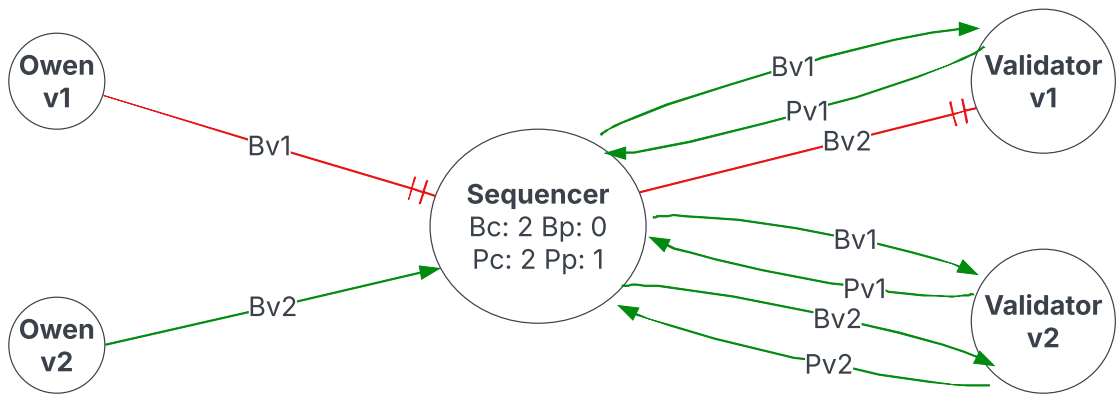
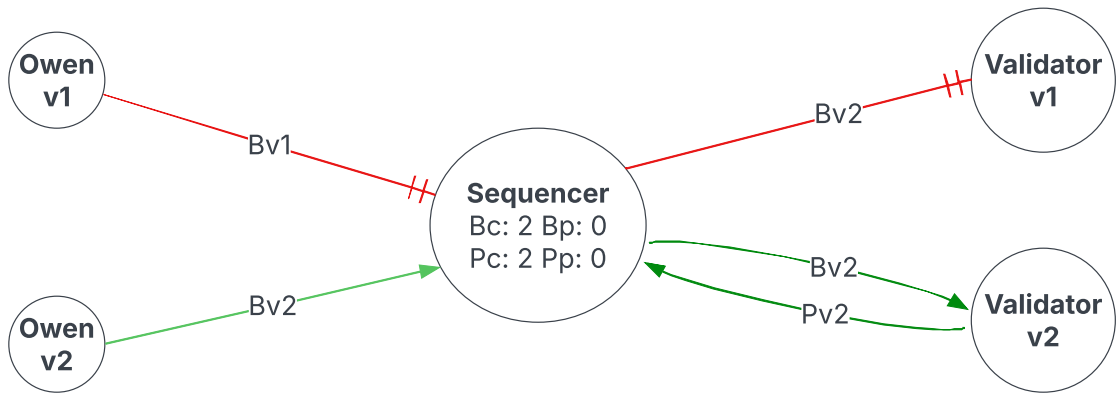
**O - Owen**
**V - Validator**
**S - Sequencer**
**B - Blob**
**P - Proof**

Owen produces a blob of the same version as itself
(Owen v1 → Blob v1)

Sequencer keeps current and previous version of image id for:
- accepted blobs (**Bc & Bp**),
- accepted proofs from validators (**Pc & Pp**)

| Protocol lifecycle | Detailed flow breakdown |
|---|---|
| **Phase 0** | **Sequencer:** Bc: 1 Bp: 0 Pc: 1 Pp: 0 \| **Validator v1:** C: 1 P: 0 |
|  | Different versions than 1 are rejeced<br>B1V1 -> Vc = Sc -> Ok |
| **Phase 1** | **Sequencer:** Bc: 2 Bp: 1 Pc: 2 Pp: 1 \| **Validator v1:** C: 1 P: 0 \| **Validator v2:** C: 2 P: 1 |
|  | B1V1 -> Vc = Sp -> Ok (with warning)<br>B1V2 -> Vp = Sp -> Ok<br>B2V1 -> X (V1 doesn't know B2 image id)<br>B2V2 -> Vc = Sc -> Ok |
| 1. The first round of communication is sent to protocol participants, providing the update schedule.<br>2. The sequencer is set to accept v2 as the current version and v1 as the previous version (for both blobs and proofs).<br>3. Some validators update to v2 and continue accepting blobs v1. Those who fail to update can still process blobs v1, but as soon as they pick up a blob v1, they will crash with a message prompting them to update.<br>4. Owens v2 start appearing in the protocol and begin sending blobs v2, while Owen v1 continues sending blobs as usual. | |
| **Phase 2** | **Sequencer:** Bc: 2 Bp: 0 Pc: 2 Pp: 1 \| **Validator v1:** C: 1 P: 0 \| **Validator v2:** C: 2 P: 1 |
|  | B1V1 -> Vc = Sp -> Ok (with warning)<br>B1V2 -> Vp = Sp -> Ok<br>B2V1 -> X (V1 doesn't know B2 image id)<br>B2V2 -> Vc = Sc -> Ok |
| 1. A second round of communication is sent to protocol participants, announcing that Owen v1 will be deprecated and urging Validators v1 to update.<br>2. The Sequencer stops accepting previous blobs (Bp: 1 → 0), though blobs v1 may still be in the queue.<br>3. Owens v1 will crash when attempting to send blob v1 to the Sequencer.<br>4. Both v1 and v2 Validators can still process blobs v1, and the produced proofs will be accepted by the Sequencer. | |
| **Phase 3 (new Phase 0)** | **Sequencer:** Bc: 2 Bp: 1 Pc: 2 Pp: 1 \| **Validator v1:** C: 1 P: 0 \| **Validator v2:** C: 2 P: 1 \| **Validator v2 (finalized):** C: 2 P: 1 |
|  | B1V1 -> Vc != S -> ERROR<br>B1V2 -> Vp != S -> ERROR<br>B2V1 -> X (V1 doesn't know B2 image id)<br>B2V2 -> Vc = Sc -> Ok |
| 1. The final round of communication is sent to protocol participants, informing them that Validators v1 will soon stop working and that Validators v2 can update to remove the previous image ID to stay in sync with the Sequencer (not required to run properly).<br>2. At this point, no more blobs v1 remain in the queue, so the Sequencer removes support for previous proofs (Pp: 1 → 0). As a result, Validator v1 will no longer be able to participate in the protocol and must update.<br>3. Phase 3 transitions into a new Phase 0. | |