DPN Member Update

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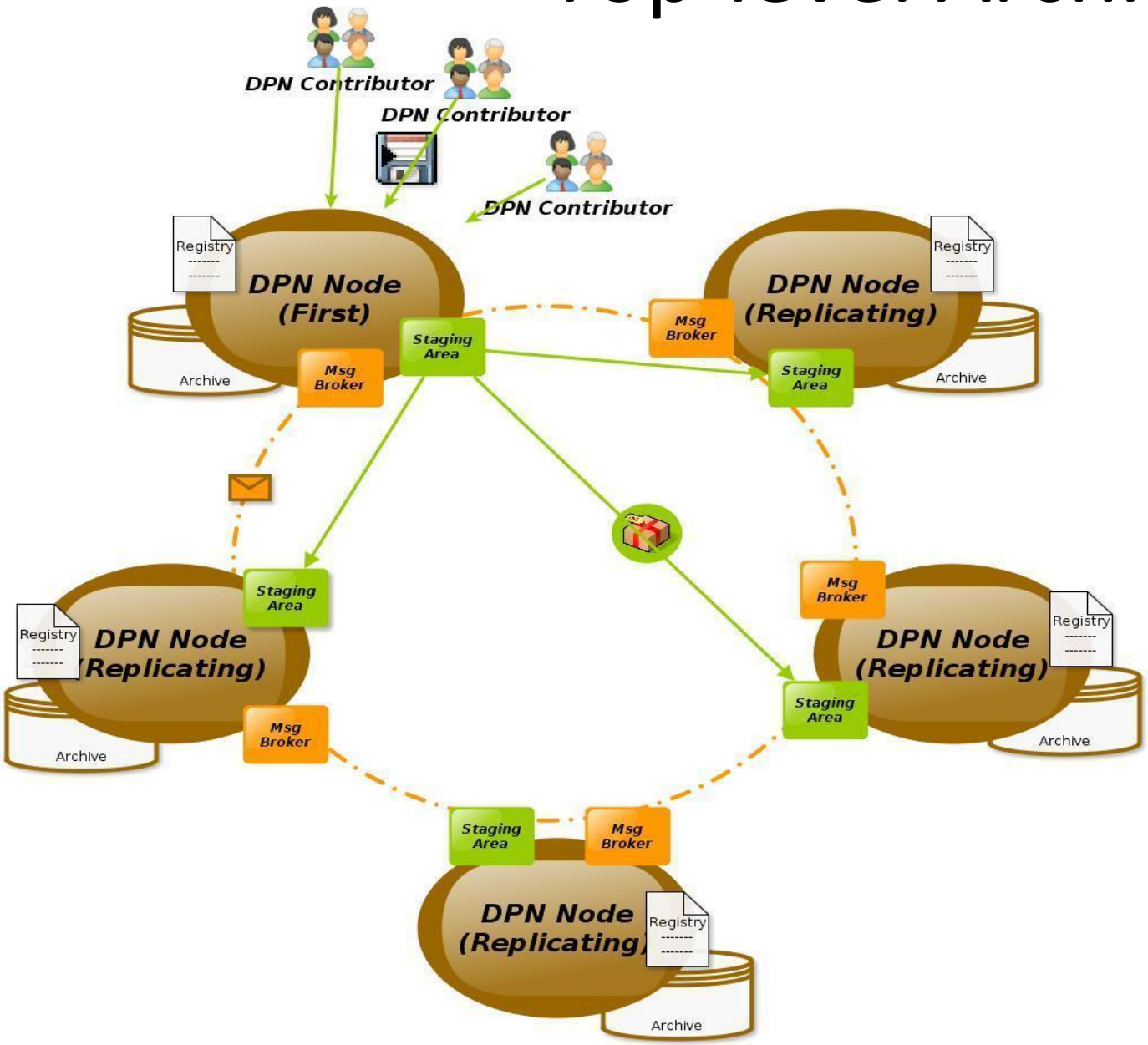
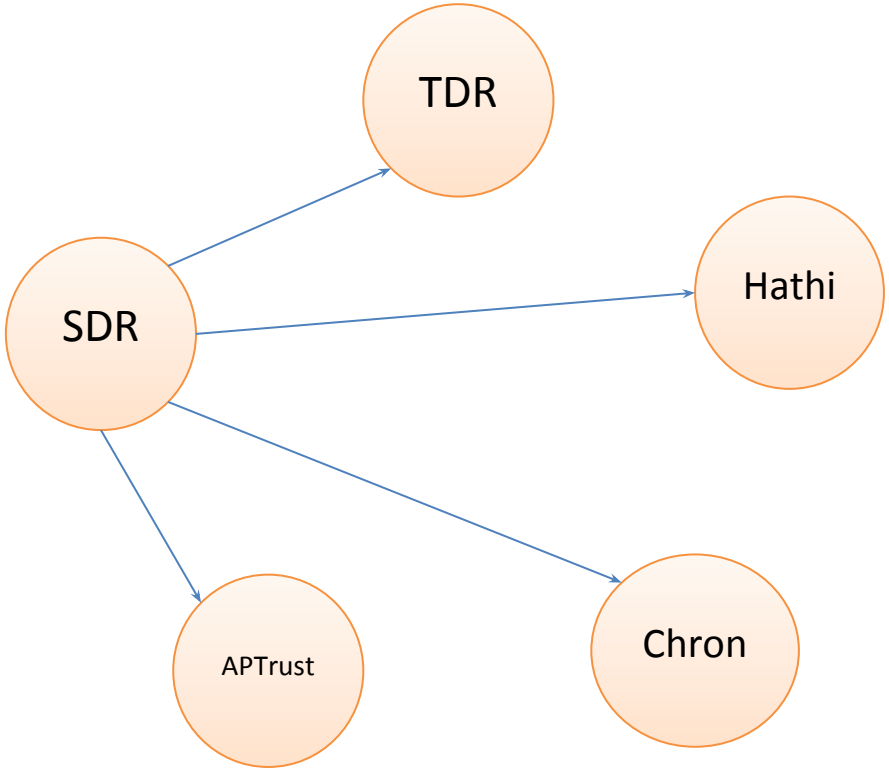
Top-level Architecture



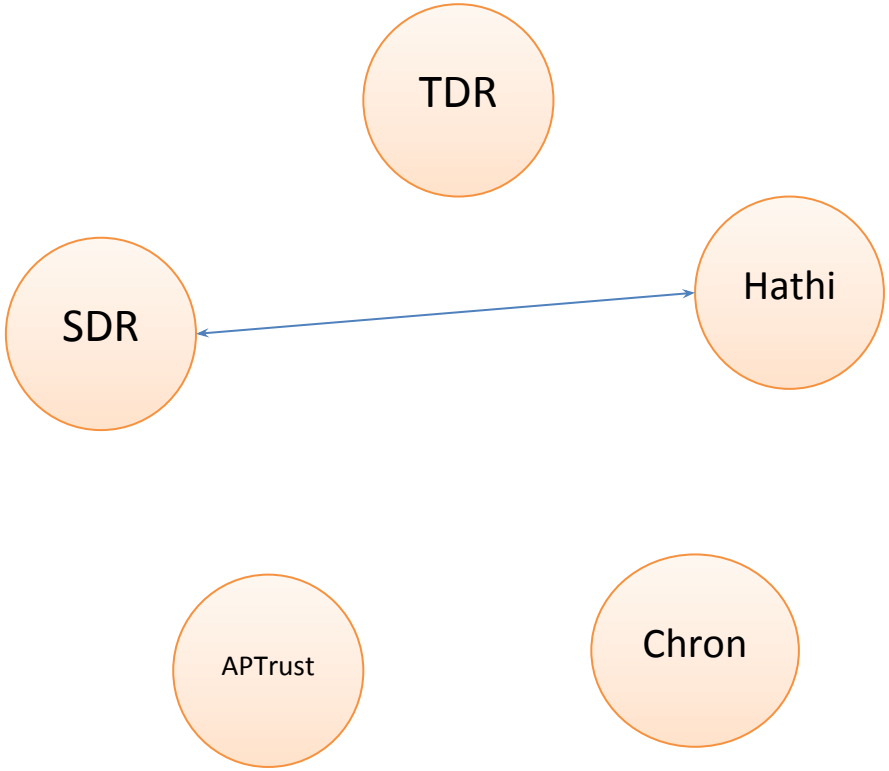
Messaging Model

- Broadcast messages are sent to all node brokers
- Node brokers federate all messages, so if one broker is down it is still possible to communicate

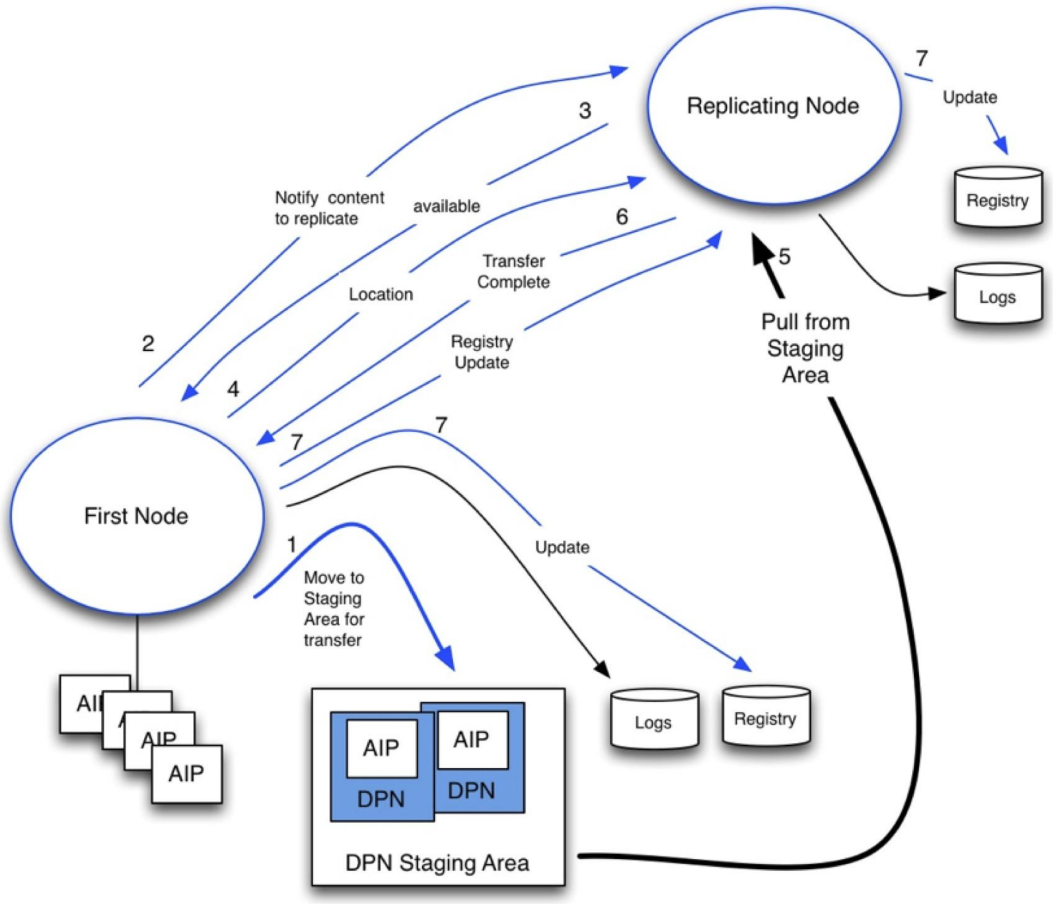


Messaging Model

- Direct messages are between two nodes, used for replies in a message sequence
- Broker federation still applies, so communication channels are redundant



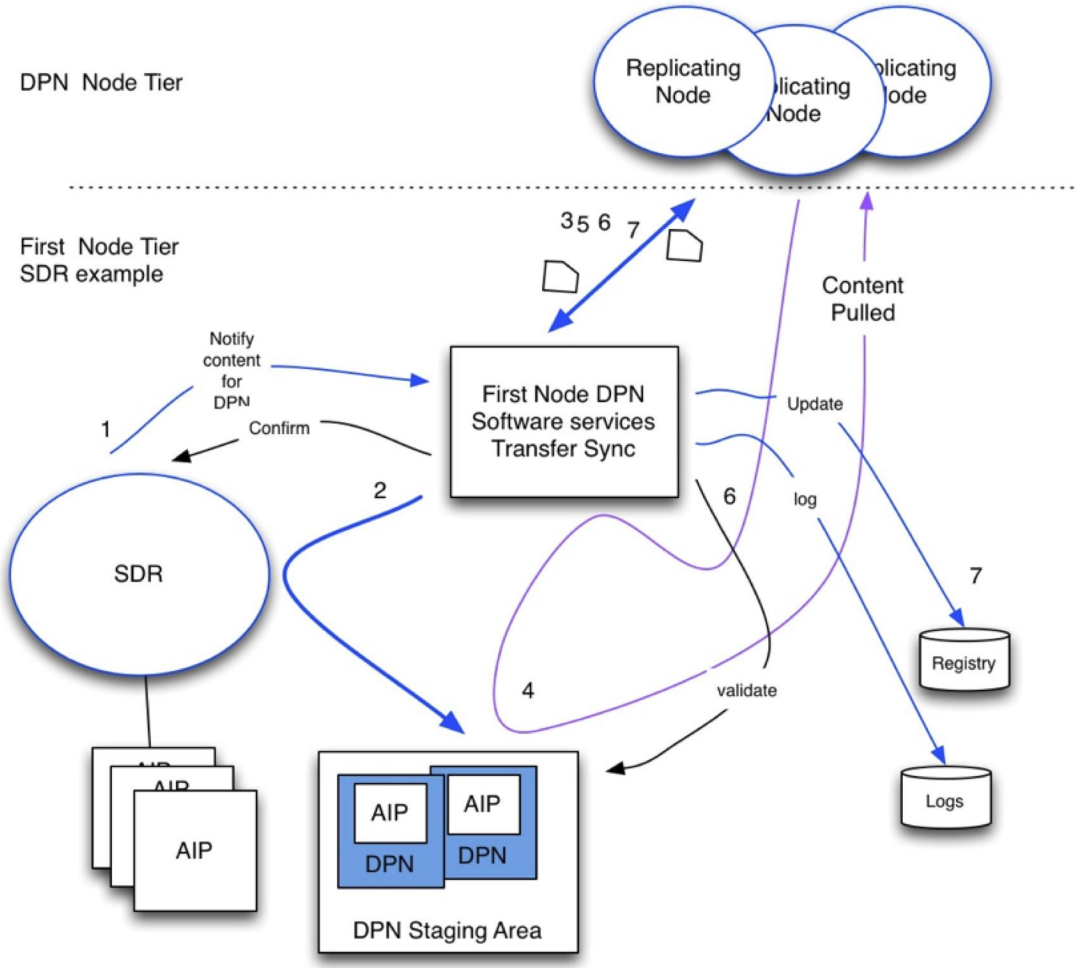
Replication & Registry Update



1. First node wants to replicate content, packages and moves to staging/transfer area at local repository.
2. First Node broadcasts message to all replication nodes, request for availability.
3. Replicating node is available, sends reply message back to First node.
4. First node replies to replicating node the location of content.
5. Replicating node pulls content from staging area.
6. Replicating node messages First node that the transfer is complete.
7. First node waits till it has quorum of replicating nodes that have completed transfer and sends Registry update to ALL nodes in DPN with registry entry.

Note that logging takes place at each significant step. Each site must log and thus have their own logging area.

Note that each node has its own registry, staging area, and repository.



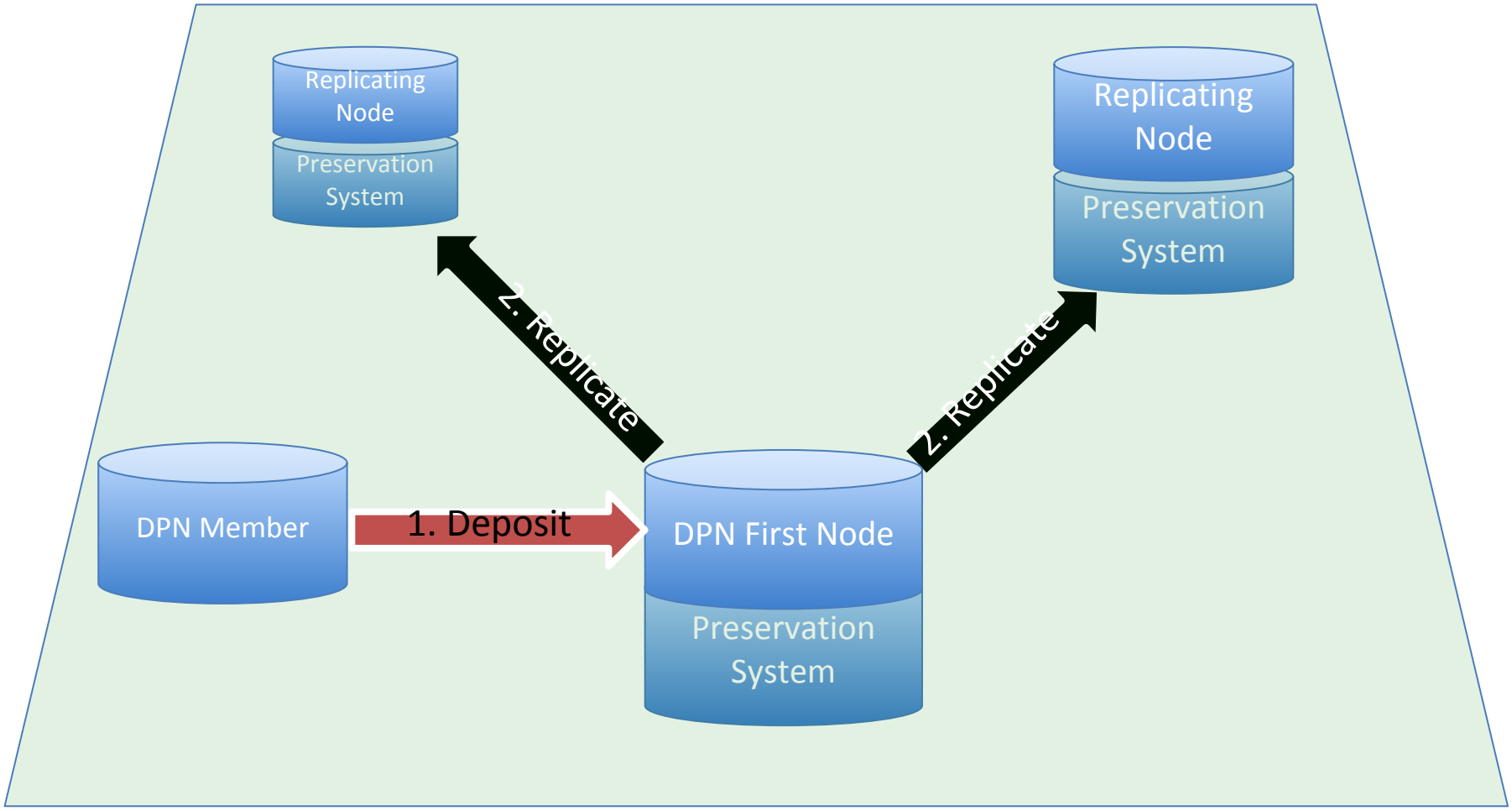
1. SDR wants to replicate content, notifies local Transfer sync services.
2. First Node DPN services packages content and moves to DPN staging area.
3. SDR Transfer Sync services messages DPN Replicating nodes, manages messaging.
4. SDR Transfer services monitors replicating nodes while content is pulled.
5. Replicating node pulls content from staging area.
6. SDR waits till all replicating nodes complete and validates transfer (fixity). From message handshake.
7. First node waits till it has quorum of replicating nodes that have completed transfer and sends Registry update to ALL nodes in DPN with registry entry.

Note that logging takes place at each significant step. Each site must log and thus have their own logging area.

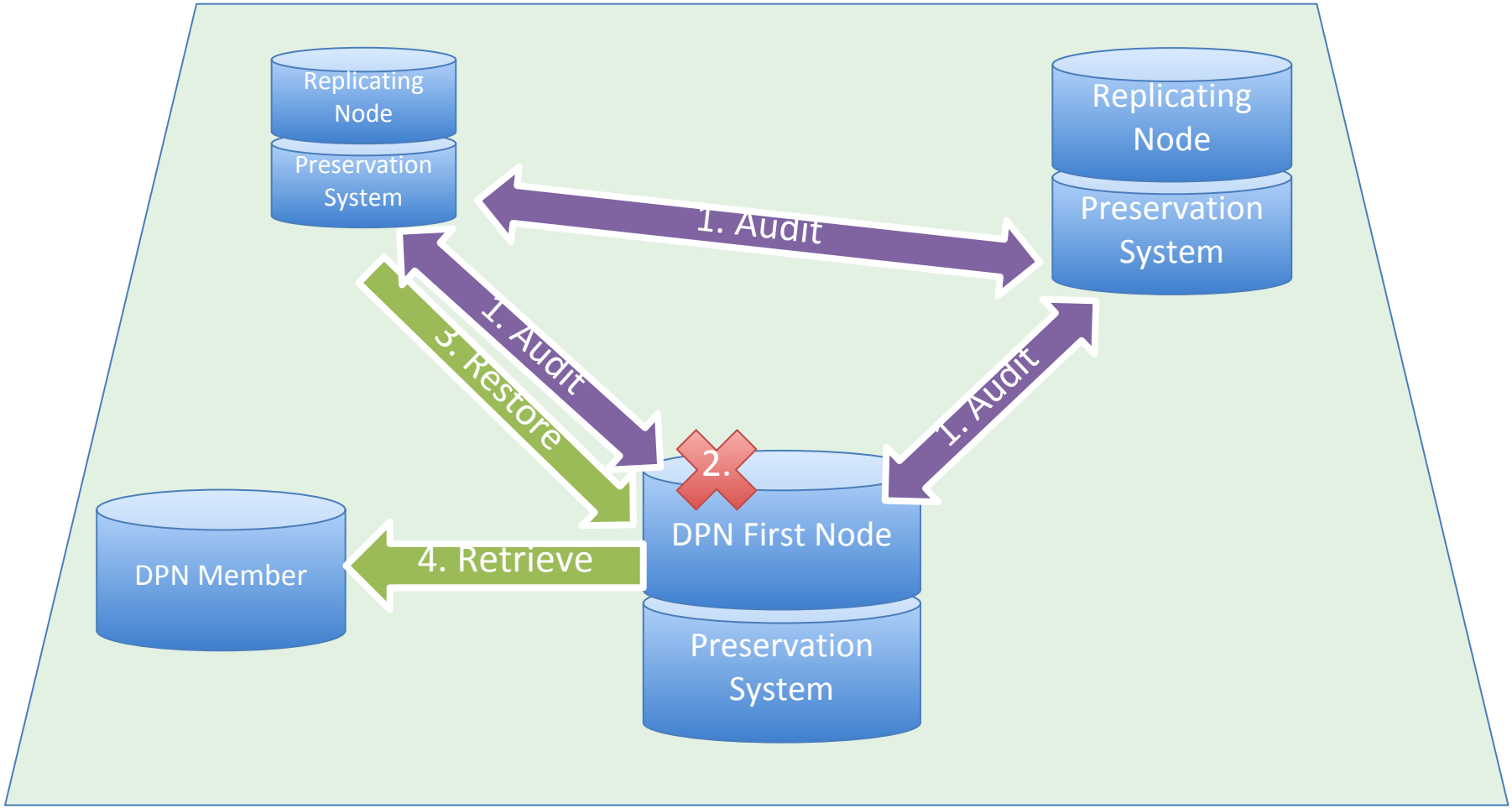
Note that each node will have their own processes, this is just a conceptual process view.

Internal Processing of Content

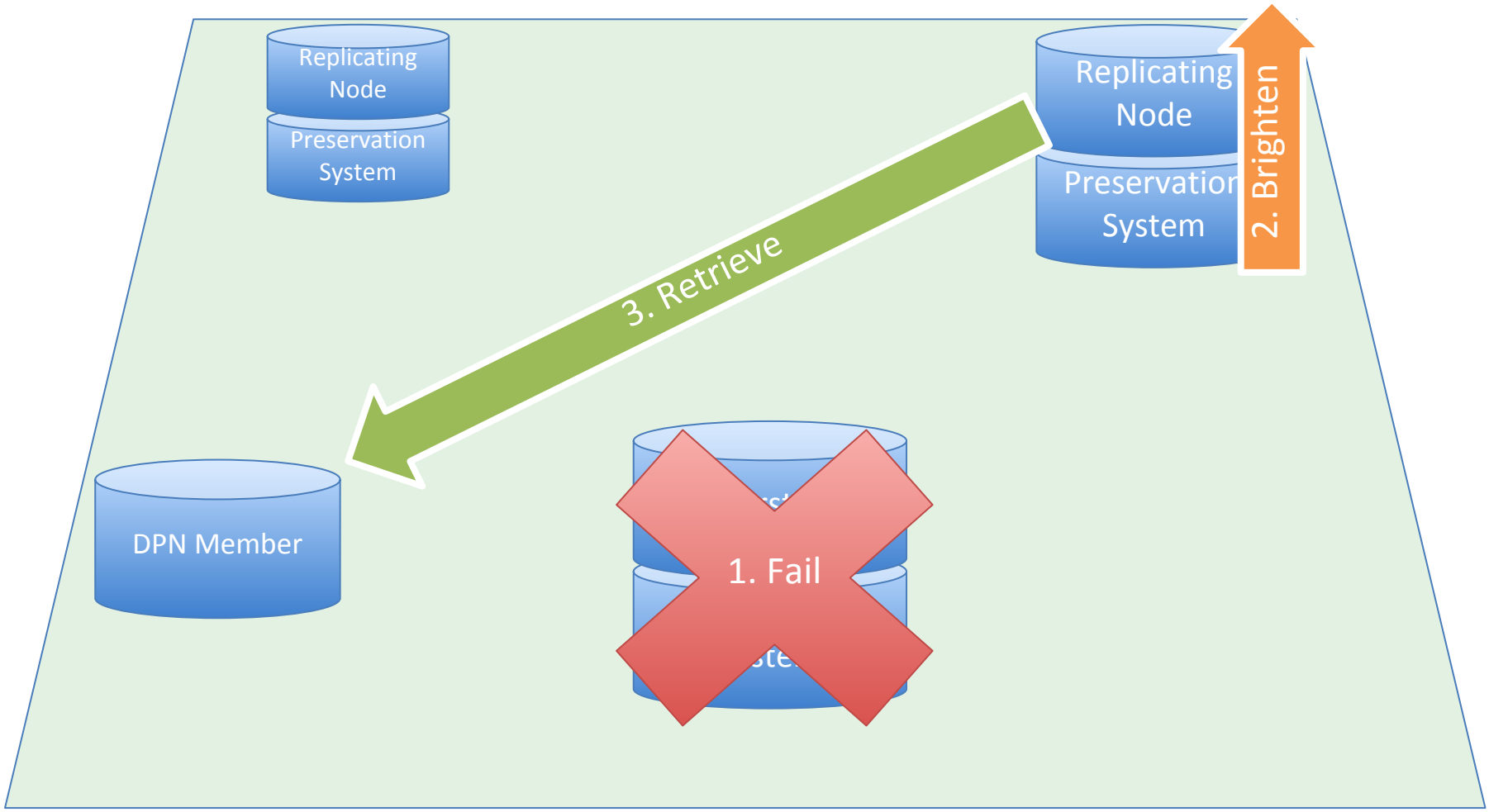
Ingest & Replication



Restoration of Content



Scenario: First Node Cessation



Scenario: Successioning