

Tolerance to Failure

| Line | RF per Datacenter (DC)  | Total replica's | Consistency Level (Write) | Consistency Level (Read) | ACK needed for Write path | Tolerance to Failure on Write path | Latency on Write path | ACK needed for Read path | Tolerance to Failure on Read path | Latency on Read path | Can we loose a DC? | Achieved Consistency (Weak, Strong) |
|------|---|-----------------|---------------------------|--------------------------|---------------------------|------------------------------------|-----------------------|--------------------------|-----------------------------------|----------------------|--------------------|-------------------------------------|
| 1    | DC1 RF1   | 1               | ONE                       | ONE                      | 1                         | 0                                  | n.a.                  | 1                        | 0                                 | n.a.                 | No                 | Strong                              |
| 2    |   | 1               | QUORUM                    | QUORUM                   |                           |                                    |                       |                          |                                   |                      |                    |                                     |
| 3    | DC1 RF2   | 2               | ONE                       | ONE                      |                           |                                    |                       |                          |                                   |                      |                    |                                     |
| 4    |   | 2               | QUORUM                    | QUORUM                   |                           |                                    |                       |                          |                                   |                      |                    |                                     |
| 5    |   | 2               | ONE                       | QUORUM                   |                           |                                    |                       |                          |                                   |                      |                    |                                     |
| 6    | DC1 RF3   | 3               | QUORUM                    | ONE                      | 2                         | 1                                  | medium                | 1                        | 2                                 | low                  | No                 | Weak                                |
| 7    |   | 3               | QUORUM                    | QUORUM                   |                           |                                    |                       |                          |                                   |                      |                    |                                     |
| 8    |   | 3               | ALL                       | ONE                      |                           |                                    |                       |                          |                                   |                      |                    |                                     |
| 9    |   | 3               | ALL                       | ALL                      |                           |                                    |                       |                          |                                   |                      |                    |                                     |
| 10   |   | 3               | ANY                       | QUORUM                   |                           |                                    |                       |                          |                                   |                      |                    |                                     |
| 11   | DC1 RF4   | 4               | QUORUM                    | QUORUM                   |                           |                                    |                       |                          |                                   |                      |                    |                                     |
| 12   |   | 4               | LOCAL_QUORUM              | LOCAL_QUORUM             | 3                         | 1                                  | medium                | 3                        | 1                                 | medium               | No                 | Strong                              |
| 13   | DC1 RF3 / DC2 RF3   | 6               | ONE                       | ONE                      |                           |                                    |                       |                          |                                   |                      |                    |                                     |
| 14   |   | 6               | LOCAL_QUORUM              | LOCAL_QUORUM             |                           |                                    |                       |                          |                                   |                      |                    |                                     |
| 15   |   | 6               | QUORUM                    | QUORUM                   |                           |                                    |                       |                          |                                   |                      |                    |                                     |
| 16   |   | 6               | EACH_QUORUM               | EACH_QUORUM              |                           |                                    |                       |                          |                                   |                      |                    |                                     |
| 17   |   | 6               | EACH_QUORUM               | LOCAL_QUORUM             | DC1 2 & DC2 2             | 1 per DC                           | high                  | DC1 2 or DC2 2           | 1                                 | low                  | 1 DC on read path  | Strong                              |
| 18   | DC1 RF3 / DC2 RF4   | 7               | LOCAL_QUORUM              | LOCAL_QUORUM             |                           |                                    |                       |                          |                                   |                      |                    |                                     |
| 19   |   | 7               | QUORUM                    | QUORUM                   |                           |                                    |                       |                          |                                   |                      |                    |                                     |
| 20   |   | 7               | EACH_QUORUM               | ALL                      |                           |                                    |                       |                          |                                   |                      |                    |                                     |
| 21   | DC1 RF3 / DC2 RF3 / DC3 RF3   | 9               | LOCAL_QUORUM              | LOCAL_QUORUM             |                           |                                    |                       |                          |                                   |                      |                    |                                     |
| 22   |   | 9               | QUORUM                    | QUORUM                   |                           |                                    |                       |                          |                                   |                      |                    |                                     |
| 23   |   | 9               | EACH_QUORUM               | ALL                      |                           |                                    |                       |                          |                                   |                      |                    |                                     |
| 24   |   | 9               | EACH_QUORUM               | LOCAL_QUORUM             |                           |                                    |                       |                          |                                   |                      |                    |                                     |
|      | Imagine your cluster consists of 1000 nodes   <a href="http://docs.datastax.com/en/cassandra/3.0/cassandra/dml/dmlConfigConsistency.html">http://docs.datastax.com/en/cassandra/3.0/cassandra/dml/dmlConfigConsistency.html</a> |                 |                           |                          |                           |                                    |                       |                          |                                   |                      | Read + Write > RF  |                                     |