[**https://github.com/minio/minio/issues/21576**](https://github.com/minio/minio/issues/21576)

**MinIO object inconsistency: fluctuating object counts and replication failures to unknown endpoints**

**Case Study 1 – Question 7**

Background

MinIO uses distributed object storage and supports bucket replication — objects are copied between sites or clusters for redundancy or disaster recovery.

When replication is working properly:

Object counts (the number of files/objects) remain stable across nodes.

Replication targets are clearly defined (known endpoints).

Fluctuating object counts

Replication failures to “unknown endpoints”

that signals a metadata or configuration problem inside the MinIO cluster.

Object Count Fluctuations

The same bucket may show different numbers of objects on different nodes or at different times.

This happens because MinIO nodes have inconsistent object metadata (index not synced properly).

Causes include:

Network interruptions during writes or heals.

Incomplete or failed erasure coding updates.

Clock differences or delayed syncs between nodes.

Failed previous repairs or partial writes.

Replication Failures to Unknown Endpoints

Each replication configuration has a defined target endpoint (remote cluster).

If MinIO logs show replication failures to “unknown” or “missing” targets:

It means the replication configuration file or metadata entry is corrupted or partially deleted.

Some replication metadata (ARNs or IDs) may exist without a valid destination record.

As a result, MinIO tries to replicate objects to a nonexistent target, causing repeated failures.

Root Causes

Category Possible Issue

Metadata inconsistency - Object indexes differ across nodes due to partial writes or failed healing.

Replication config mismatch - Old or stale replication configuration still stored in system metadata.

Network sync issues - Temporary disconnection between nodes or sites caused unsynced replication events.

Node rebuild incomplete - A recently repaired or replaced node has not finished healing all data.

Troubleshooting Steps

Check replication configuration

mc replicate ls myminio/bucket

Remove any invalid or unknown targets:

mc replicate rm myminio/bucket --remote-target-id <id>

Verify object consistency

mc admin heal --scan deep myminio

This re-checks all objects and metadata across nodes.

Check cluster info

mc admin info myminio

Ensure all nodes show “online” and quorum is met.

Inspect logs

mc admin logs myminio

Look for “replication failure,” “unknown target,” or “healing incomplete.”

Recreate replication config if needed:

mc replicate add myminio/bucket --remote-bucket <https://replica-server/bucket>

**Conclusion**

Always keep all nodes online during replication setup.

Synchronize system clocks (use NTP).

Do not manually delete .minio.sys metadata folders.

Regularly run mc admin heal after maintenance or node repairs.