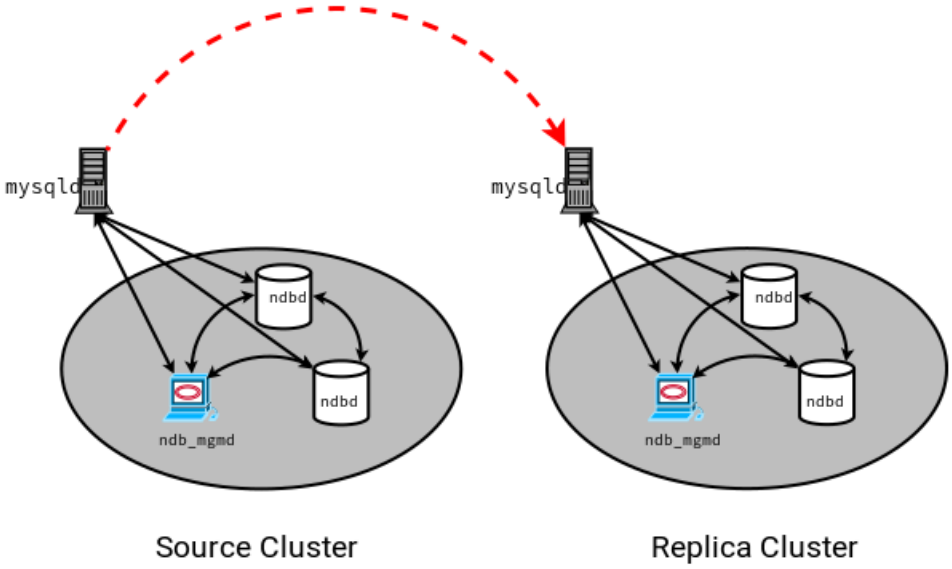
Figure 23.34 Replication Between SQL Nodes Connected Using IPv6



Prior to NDB 8.0.22, all connections originating *within* the NDB Cluster —represented in the preceding diagram by solid arrows—must use IPv4. In other words, all NDB Cluster data nodes, management servers, and management clients must be accessible from one another using IPv4. In addition, SQL nodes must use IPv4 to communicate with the cluster. In NDB 8.0.22 and later, these restrictions no longer apply; in addition, any applications written using the NDB and MGM APIs can be written and deployed assuming an IPv6-only environment.

Attribute promotion and demotion. NDB Cluster Replication includes support for attribute promotion and demotion. The implementation of the latter distinguishes between lossy and non-lossy type conversions, and their use on the replica can be controlled by setting the `slave_type_conversions` global server system variable.

For more information about attribute promotion and demotion in NDB Cluster, see Row-based replication: attribute promotion and demotion.

`NDB`, unlike `InnoDB` or `MyISAM`, does not write changes to virtual columns to the binary log; however, this has no detrimental effects on NDB Cluster Replication or replication between `NDB` and other storage engines. Changes to stored generated columns are logged.

23.6.4 NDB Cluster Replication Schema and Tables

- ndb_apply_status Table
- ndb_binlog_index Table
- ndb_replication Table

Replication in NDB Cluster makes use of a number of dedicated tables in the `mysql` database on each MySQL Server instance acting as an SQL node in both the cluster being replicated and in the replica. This is true regardless of whether the replica is a single server or a cluster.

The `ndb_binlog_index` and `ndb_apply_status` tables are created in the `mysql` database. They should not be explicitly replicated by the user. User intervention is normally not required to create or maintain either of these tables, since both are maintained by the `NDB` binary log (binlog) injector thread.