Caveats:

- The increase in permitted host name length can affect tables with indexes on host name columns. For example, tables in the `mysql` system schema that index host names now have an explicit `ROW_FORMAT` attribute of `DYNAMIC` to accommodate longer index values.
- Some file name-valued configuration settings might be constructed based on the server host name. The permitted values are constrained by the underlying operating system, which may not permit file names long enough to include 255-character host names. This affects the `general_log_file`, `log_error`, `pid_file`, `relay_log`, and `slow_query_log_file` system variables and corresponding options. If host name-based values are too long for the OS, explicit shorter values must be provided.
- Although the server now supports 255-character host names, connections to the server established using the `--ssl-mode=VERIFY_IDENTITY` option are constrained by maximum host name length supported by OpenSSL. Host name matches pertain to two fields of SSL certificates, which have maximum lengths as follows: Common Name: maximum length 64; Subject Alternative Name: maximum length as per RFC#1034.

- **Plugins.** Previously, MySQL plugins could be written in C or C++. MySQL header files used by plugins now contain C++ code, which means that plugins must be written in C++, not C.
- **C API.** The MySQL C API now supports asynchronous functions for nonblocking communication with the MySQL server. Each function is the asynchronous counterpart to an existing synchronous function. The synchronous functions block if reads from or writes to the server connection must wait. The asynchronous functions enable an application to check whether work on the server connection is ready to proceed. If not, the application can perform other work before checking again later. See C API Asynchronous Interface.
- **Additional target types for casts.** The functions `CAST()` and `CONVERT()` now support conversions to types `DOUBLE`, `FLOAT`, and `REAL`. Added in MySQL 8.0.17. See Section 12.11, “Cast Functions and Operators”.
- **JSON schema validation.** MySQL 8.0.17 adds two functions `JSON_SCHEMA_VALID()` and `JSON_SCHEMA_VALIDATION_REPORT()` for validating JSON documents again JSON schemas. `JSON_SCHEMA_VALID()` returns TRUE (1) if the document validates against the schema and FALSE (0) if it does not. `JSON_SCHEMA_VALIDATION_REPORT()` returns a JSON document containing detailed information about the results of the validation. The following statements apply to both of these functions:
  - The schema must conform to Draft 4 of the JSON Schema specification.
  - `required` attributes are supported.
  - External resources and the `$ref` keyword are not supported.
  - Regular expression patterns are supported; invalid patterns are silently ignored.

  See Section 12.18.7, “JSON Schema Validation Functions”, for more information and examples.
- **Multi-valued indexes.** Beginning with MySQL 8.0.17, `InnoDB` supports the creation of a multi-valued index, which is a secondary index defined on a `JSON` column that stores an array of values and which can have multiple index records for a single data record. Such an index uses a key part definition such