



## **OCPP 2.0 - 2.0.1**

### Changelog

FINAL, 2020-03-31

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# 1. Introduction

This document lists the changes between version 2.0 and 2.0.1 of OCPP without going into detail. There are separate documents: Detailed Change Log, per part, that describes the changes in more detail.

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## 2. Part 1 - Architecture & Topology

- Device Model: Addressing Components and Variables
  - Extra explanation about physical and virtual components with a FanSpeed example
  - Monitoring explanation extended with table of possible MonitorType/dataType combinations

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## 3. Part 2 - Specification

### 3.1. Generic

- FR.02 added
- FR.03 added
- FR.04 added

### 3.2. A. Security

- Generic Security Profile requirements
  - A00.FR.005 changed
- Unsecured Transport with Basic Authentication Profile - 1
  - A00.FR.204 changed
  - A00.FR.205 changed
- TLS with Basic Authentication Profile - 2
  - A00.FR.303 changed
  - A00.FR.304 changed
  - A00.FR.305 changed
  - A00.FR.309 changed
  - A00.FR.310 changed
  - A00.FR.316 changed
  - A00.FR.319 changed
  - A00.FR.323 changed
- TLS with Client Side Certificates Profile - 3
  - A00.FR.404 changed
  - A00.FR.405 changed
  - A00.FR.412 changed
  - A00.FR.413 changed
  - A00.FR.419 changed
  - A00.FR.421 changed
  - A00.FR.422 changed
- Certificate Properties
  - A00.FR.507 changed
  - A00.FR.510 changed
- Certificate Hierarchy
  - A00.FR.605 added
  - A00.FR.606 added
- Certificate Revocation
  - A00.FR.706 removed
- Use Case A01 - Update Charging Station Password for HTTP Basic Authentication
  - Updated Use Case description and requirements to reflect the correct variable: BasicAuthPassword
  - A01.FR.12 added (Old A01.FR.12 is split in A01.FR.11 and A01.FR.12)
- Use Case A02 - Update Charging Station Certificate by request of CSMS
  - Prerequisite added
  - Error handling added

- A02.FR.03 changed
- A02.FR.08 changed
- A02.FR.10 changed
- A02.FR.15 added
- A02.FR.16 added
- Use Case A03 - Update Charging Station Certificate initiated by the Charging Station
  - Prerequisite added
  - Error handling added
  - A03.FR.01 changed
  - A03.FR.03 changed
  - A03.FR.08 changed
  - A02.FR.10 changed
  - A03.FR.15 added
  - A03.FR.16 added
- A04 - Security Event Notification
  - A04.FR.04 added
- A05 - Upgrade Charging Station Security Profile
  - New use case
  - A05.FR.02 added
  - A05.FR.03 added
  - A05.FR.04 added
  - A05.FR.05 added
  - A05.FR.06 added
  - A05.FR.07 added

### 3.3. B. Provisioning

- B01 - Cold Boot Charging Station
  - B01.FR.10 added
  - B01.FR.11 added
  - B01.FR.12 added
  - B01.FR.13 added
- B02 - Cold Boot Charging Station - Pending
  - B02.FR.02 changed
  - B02.FR.09 added
- B03 - Cold Boot Charging Station - Rejected
  - Error Handling changed
  - B03.FR.07 added
  - B03.FR.08 added
- B04 - Offline Behavior Idle Charging Station
  - Scenario description changed
  - Prerequisite(s) changed
  - Postcondition(s) changed
- B05 - Set Variables
  - B05.FR.07 changed
  - B05.FR.08 changed

- B05.FR.09 changed
- B06 - Get Variables
  - B06.FR.06 changed
  - B06.FR.07 changed
  - B06.FR.08 changed
  - B06.FR.12 removed
  - B06.FR.13 changed
- B07 - Get Base Report
  - B07.FR.01 changed
  - B07.FR.06 removed
  - B07.FR.08 changed
  - B07.FR.09 changed
  - B07.FR.10 added
  - B07.FR.11 added
  - B07.FR.12 added
  - B07.FR.13 added
- B08 - Get Custom Report
  - B08.FR.13 added
  - B08.FR.14 added
  - B08.FR.15 added
  - B08.FR.16 added
- B09 - Setting a new NetworkConnectionProfile
  - B09.FR.04 added
- B10 - Migrate to new CSMS
  - Error Handling added
  - B10.FR.01 changed
  - B10.FR.02 changed
  - B10.FR.05 changed
  - B10.FR.06 added
- B11 - Reset - Without Ongoing Transaction
  - Use Case changed, now possible to reset only an EVSE
  - B11.FR.03 changed
  - B11.FR.08 added
  - B11.FR.09 added
  - B11.FR.10 added
- B12 - Reset - With Ongoing Transaction
  - Use Case changed, now possible to reset only an EVSE
  - B11.FR.03 changed
  - B11.FR.04 changed
  - B12.FR.07 added
  - B12.FR.08 added
  - B12.FR.09 added

## 3.4. C. Authorization

- C01 - EV Driver Authorization using RFID



- C01.FR.01 changed
- C01.FR.03 changed
- C01.FR.14 removed
- C01.FR.15 removed
- C01.FR.16 removed
- C01.FR.18 added
- C01.FR.19 added
- C01.FR.20 added
- C01.FR.21 added
- C01.FR.22 added
- C07 - Authorization using Contract Certificates
  - C07.FR.01 changed
  - C07.FR.02 changed
  - C07.FR.03 removed
  - C07.FR.05 added
  - C07.FR.06 added
  - C07.FR.07 added
  - C07.FR.08 added
  - C07.FR.09 added
  - C07.FR.10 added
  - C07.FR.11 added
  - C07.FR.12 added
  - C07.FR.13 added
  - C07.FR.14 added
- C09 - Authorization by GroupId
  - C09.FR.01 removed
  - C09.FR.02 changed
  - C09.FR.03 changed
  - C09.FR.07 changed
  - C09.FR.11 added
- C11 - Clear Authorization Data in Authorization Cache
  - C11.FR.03 changed
  - C11.FR.04 changed
  - C11.FR.05 added
- C12 - Start Transaction - Cached Id
  - C12.FR.01 removed
  - C12.FR.02 changed
  - C12.FR.03 changed
  - C12.FR.04 changed
  - C12.FR.07 removed
  - C12.FR.08 removed
- C13 - Offline Authorization through Local Authorization List
  - C13.FR.02 changed
  - C13.FR.04 added
- C15 - Offline Authorization of unknown Id
  - Remark added

- C15.FR.03 changed
- C15.FR.04 changed
- C15.FR.05 changed
- C15.FR.06 changed
- C15.FR.07 changed
- C16 - Stop Transaction with a Master Pass
  - C16.FR.06 removed

## 3.5. D. LocalAuthorizationList

- D01 - Send Local Authorization List
  - D01.FR.03 changed
  - D01.FR.18 added
  - D01.FR.19 added
- D02 - Get Local List Version
  - Remark added
  - D02.FR.01 changed
  - D02.FR.02 changed
  - D02.FR.03 added

## 3.6. E. Transactions

- E01 - Start Transaction options
  - E01.FR.09 changed
  - E01.FR.16 added
  - E01.FR.17 added
- E02 - Start Transaction - Cable Plugin First
  - E02.FR.09 changed
  - E02.FR.17 added
  - E02.FR.18 added
  - E02.FR.19 added
  - E02.FR.20 added
- E03 - Start Transaction - IdToken First
  - E03.FR.05 changed
  - E03.FR.07 changed
  - E03.FR.11 added
  - E03.FR.12 added
  - E03.FR.13 added
  - E03.FR.14 added
- E04 - Transaction started while Charging Station is offline
  - E04.FR.05 changed
  - E04.FR.11 added
- E05 - Start Transaction - Id not Accepted
  - E05.FR.02 changed
  - E05.FR.03 changed
  - E05.FR.05 changed
  - E05.FR.07 removed

- E05.FR.08 added
- E05.FR.09 added
- E05.FR.10 added
- E05.FR.11 added
- E06 - Stop Transaction options
  - E06.FR.11 changed
  - E06.FR.16 added
  - E06.FR.17 added
- E07 - Transaction locally stopped by IdToken
  - E07.FR.08 changed
  - E07.FR.13 added
- E09 - When cable disconnected on EV-side: Stop Transaction
  - E09.FR.01 changed

## 3.7. F. RemoteControl

- F06 - Trigger Message
  - F06.FR.17 added

## 3.8. G. Availability

- G03 - Change Availability EVSE/Connector
  - Use Case changed, now also for connector.
  - G03.FR.06 added
  - G03.FR.07 added
  - G03.FR.08 added
- G04 - Change Availability Charging Station
  - G04.FR.01 changed
  - G04.FR.05 changed
  - G04.FR.07 added
  - G04.FR.08 added
  - G04.FR.09 added

## 3.9. H. Reservation

- H01 - Reservation
  - Use case change: reservation only for a specific EVSE, not a specific connector.
  - H01.FR.04 changed
  - H01.FR.05 removed
  - H01.FR.06 changed
  - H01.FR.07 changed
  - H01.FR.08 removed
  - H01.FR.10 removed
  - H01.FR.11 changed
  - H01.FR.12 changed
  - H01.FR.13 changed
  - H01.FR.14 changed

- H01.FR.16 changed
- H01.FR.17 changed
- H01.FR.18 changed
- H01.FR.19 changed
- H01.FR.20 changed
- H02 - Cancel Reservation
  - Remark added
- H03 - Use a reserved EVSE
  - Use case change: reservation on EVSE not connector level.
  - H03.FR.01 changed
  - H03.FR.02 changed
  - H03.FR.03 changed
  - H03.FR.04 changed
  - H03.FR.05 added
  - H03.FR.06 added
  - H03.FR.07 added
  - H03.FR.08 added
- H04 - Use a reserved EVSE
  - Use case change: reservation on EVSE not connector level.
  - H04.FR.01 changed
  - H04.FR.02 changed
  - H04.FR.03 changed
  - H04.FR.04 changed

## 3.10. I. Tariff and Costs

- I03 - Show EV Driver Final Total Cost After Charging
  - I03.FR.01 changed
  - I03.FR.02 changed
  - I03.FR.03 changed
  - I03.FR.04 changed
- I05 - Show Fallback Total Cost Message
  - I05.FR.02 changed
- I06 - Update Tariff Information During Transaction
  - Remark added

## 3.11. J. Metering

- J01 - Sending Meter Values not related to a transaction
  - Error handling removed
  - Remark(s) changed
  - J01.FR.12 removed
  - J01.FR.13 changed
  - J01.FR.16 changed
  - J01.FR.17 added
  - J01.FR.18 added
- J02 - Sending transaction related Meter Values

- Remark(s) changed
- J02.FR.08 removed
- J02.FR.09 changed
- J02.FR.15 changed
- J02.FR.18 added
- J02.FR.19 added
- J03 - Charging Loop with metering information exchange
  - Combined scenario description changed
  - Remark added
  - J03.FR.01 removed
  - J03.FR.02 removed
  - J03.FR.02 removed
  - J03.FR.04 changed

## 3.12. K. SmartCharging

- 3.3 Charging Profile Recurrency: new section with explanatory text.
- 3.6.1 Example Using Stacked Profiles: new section.
- Use Case K01
  - K01.FR.04 changed
  - K01.FR.06 changed
  - K01.FR.10 changed
  - K01.FR.11 changed
  - K01.FR.12 changed
  - K01.FR.17 changed
  - K01.FR.26 to K01.FR.39 new
- Use Case K05
  - K05.FR.04 removed
- Use Case K08
  - 8: Remark(s): added text
  - K08.FR.06 new
  - K08.FR.07 new
- Use Case K09
  - K09.FR.03 changed
- Use Case K10
  - K10.FR.04 changed
  - K10.FR.07 new
- Use Case K15
  - Figure 113 changed
  - K15.FR.01 to K15.FR.06 changed
  - K15.FR.07 to K15.FR.17 new
- Use Case K16
  - Entire use case description changed
  - K16.FR.01 to K16.FR.06 changed
  - K16.FR.07 to K16.FR.12 new
- Use Case K17

- Entire use case description changed
- K17.FR.01 to K17.FR.03 changed
- K17.FR.04 to K17.FR.15 new

## 3.13. L. Firmware Management

- L01 - Secure Firmware Update
  - Scenario description changed
  - Remarks added
  - L01.FR.05 changed
  - L01.FR.07 changed
  - L01.FR.20 added
  - L01.FR.21 added
  - L01.FR.22 added
  - L01.FR.23 added
  - L01.FR.24 added
  - L01.FR.25 added
  - L01.FR.26 added
  - L01.FR.27 added
  - L01.FR.28 added
- L02 - Non-Secure Firmware Update
  - Remarks added
  - L02.FR.02 added
  - L02.FR.03 added
  - L02.FR.04 added
  - L02.FR.05 added
  - L02.FR.06 added
  - L02.FR.07 added
  - L02.FR.08 added
  - L02.FR.09 added
  - L02.FR.10 added
  - L02.FR.11 added
  - L02.FR.12 added
  - L02.FR.13 added
  - L02.FR.14 added
  - L02.FR.15 added
  - L02.FR.16 added
  - L02.FR.17 added
  - L02.FR.18 added
- L03 - Publish Firmware file on Local Controller
  - L03.FR.10 added
  - L03.FR.11 added

## 3.14. M. ISO 15118 Certificate Management

- M01 - Certificate installation EV
  - Scenario description changed

- Remark added
- M01.FR.01 changed
- M02 - Certificate Update EV
  - Scenario description changed
  - Remark added
  - M02.FR.01 changed
- M03 - Retrieve list of available certificates from a Charging Station
  - Remark changed
  - M03.FR.05 added
- M04 - Delete a specific certificate from a Charging Station
  - Remark added
  - M04.FR.05 removed
  - M04.FR.07 added
- M05 - Install CA certificate in a Charging Station
  - Description changed
  - Remark added
  - M05.FR.02 changed
  - M05.FR.06 added
  - M05.FR.07 added
  - M05.FR.09 added
  - M05.FR.10 added
  - M05.FR.11 added
  - M05.FR.12 added
  - M05.FR.13 added
  - M05.FR.14 added
  - M05.FR.15 added
  - M05.FR.16 added
- M06 - Get V2G Charging Station Certificate status
  - Description changed
  - Remark(s) changed/added
  - M06.FR.05 removed
  - M06.FR.06 changed
  - M06.FR.10 changed

## 3.15. N. Diagnostics

- N01 - Retrieve Log Information
  - Error handling changed
  - Remark added
  - N01.FR.06 removed
  - N01.FR.11 removed
  - N01.FR.12 added
  - N01.FR.13 added
- N02 - Get Monitoring report
  - Scenario description changed
  - N02.FR.01 changed

- N02.FR.05 changed
- N02.FR.06 changed
- N02.FR.08 changed
- N02.FR.09 added
- N02.FR.10 added
- N02.FR.11 added
- N02.FR.12 added
- N02.FR.13 added
- N02.FR.14 added
- N03 - Set Monitoring Base
  - N03.FR.05 changed
- N04 - Set Variable Monitoring
  - Remark(s) added
  - N04.FR.05 changed
  - N04.FR.06 changed
  - N04.FR.12 changed
  - N04.FR.14 added
  - N04.FR.15 added
  - N04.FR.16 added
  - N04.FR.17 added
- N06 - Clear / Remove Monitoring
  - N06.FR.03 changed
- N07 - Alert Event
  - N07.FR.01 removed
  - N07.FR.02 changed
  - N07.FR.04 changed
  - N07.FR.05 changed
  - N07.FR.06 changed
  - N07.FR.07 changed
  - N07.FR.08 removed
  - N07.FR.09 removed
  - N07.FR.10 added
  - N07.FR.11 added
  - N07.FR.12 added
  - N07.FR.13 added
  - N07.FR.14 added
  - N07.FR.15 added
  - N07.FR.16 added
  - N07.FR.17 added
  - N07.FR.18 added
  - N07.FR.19 added
  - N07.FR.20 added
  - N07.FR.21 added
- N08 - Periodic Event
  - N08.FR.03 changed
- N09 - Get Customer Information



- N09.FR.02 changed
- N09.FR.05 changed
- N09.FR.06 changed
- N09.FR.07 changed
- N09.FR.08 added
- N10 - Clear Customer Information
  - N10.FR.01 changed
  - N10.FR.03 changed
  - N10.FR.04 changed
  - N10.FR.06 changed
  - N10.FR.07 changed
  - N10.FR.09 added

## 3.16. O. Display Message

- O02 - Set DisplayMessage for Transaction
  - Error Handling added
  - O02.FR.13 removed
- O03 - Get All DisplayMessages
  - O03.FR.01 changed

## 3.17. P. DataTransfer

- P02 - Data Transfer to the CSMS
  - P02.FR.02 changed

## 3.18. Messages, Datatypes & Enumerations

All the messages have changed, due to changes in the way message can be extended.  
Use the JSON Schema files released with OCPP 2.0.1.

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## 4. Part 2 - Appendices

### 4.1. Security Events

- **SettingSystemTime** description changed

### 4.2. Standardized Components

#### 4.2.1. Controller Components

- Datatypes added to all variables of components
- **AlignedDataCtrlr**
  - TxEndedInterval changed
  - TxEndedMeasurands changed
- **AuthCtrlr**
  - AdditionalInfoItemsPerMessage renamed from AdditionalInfoMaxItems
- **AuthCacheCtrlr**
  - Policy added
- **CHAdemoCtrlr** added
- **ClockCtrlr**
  - NtpServerUri renamed from NtpServerAddress
  - TimeAdjustmentReportingThreshold added
- **DisplayMessageCtrlr**
  - PersonalMessageSize added
- **ISO15118Ctrlr** added
- **SampledDataCtrlr**
  - SignReadings renamed from SignReading
- **TxCtrlr**
  - ChargingBeforeAcceptedEnabled added
  - StopTxOnEVSideDisconnect changed

#### 4.2.2. Physical Components

- **CHAdemoController** removed (now a Controller Component: CHAdemoCtrlr)
- **ChargingStation**
  - VendorName renamed from Manufacturer
  - AllowNewSessionsPendingFirmwareUpdate added
- **Connector**
  - AvailabilityState added
- **Controller**
  - FirmwareVersion added
- **EVSE**
  - AllowReset added
  - ACVoltage renamed from AC Voltage
  - DCVoltage renamed from DC Voltage
- **ISO15118Controller** removed (now a Controller Component: ISO15118Ctrlr)
- **TokenReader**

- TokenInfo removed
- Token added
- TokenType added

## 4.3. Standardized Variables

- AllowChargingBeforeAccepted removed
- AllowReset added
- AuthorizeRemoteStart removed
- BasicAuthPassword removed
- BytesPerMessage removed
- ConnectorType renamed from ConnectorCode
- DataText added
- EVConnectionTimeout removed
- FileTransferProtocols removed
- FirmwareVersion added
- Identity removed
- ItemsPerMessage removed
- LifeTime removed
- ActiveNetworkProfile removed
- LocalAuthorizeOffline removed
- LocalPreAuthorize removed
- MasterPassGroupId removed
- MaxEnergyOnInvalidId removed
- Measurands removed
- MessageAttempts removed
- NonEvseSpecific removed
- NetworkAddress added
- NetworkConfigurationPriority removed
- NetworkProfileConnectionAttempts removed
- NextTimeOffsetTransitionDateTime removed
- NotifyChargingLimitWithSchedules removed
- NtpServerUri removed
- NtpSource removed
- OfflineTxForUnknownIdEnabled removed
- OrganizationName removed
- PeriodsPerSchedule removed
- PersonalMessageSize removed
- PhaseRotation changed
- Policy removed
- Priorities removed
- RateUnits removed
- SignReadings removed
- StopTxOnInvalidId removed
- StopTxOnEVDisconnect removed
- TimeSource removed

- TimeZone removed
- Token added
- TokenType added
- Tries added
- TxStartPoint removed
- TxStopPoint removed
- ValueSize removed

### 4.3.1. Reason Codes

This chapter has been added to list possible *reasonCodes* that can be used in *StatusInfo*.

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## 5. Part 4 - JSON over WebSockets implementation guide

- 3.1.1 The Connection URL: remark about colon in CS identity.
- 3.3 WebSocket Compression: recommendation about CS supporting compression.
- 4.1.1 Synchronicity: minor clarification.
- 4.2.3 CALLERROR: added remark about dropping invalid messages and example CALLERROR.
- 9 CustomData Extension: new chapter explaining use of CustomData.