

## Changes with reasons OCPI v2.2.1 compared to 2.2

Change	Module / Object	Reason	Expected Impact:	Expected Effort:
			eMSP / CPO	eMSP / CPO
Added 4000 Hub generic error	Status codes	Error code was missing for generic hub errors	Minor / Minor	Minimal / Minimal
Added mandatory <b>country_code</b> and <b>party_id</b> fields to make sure that a CdrToken uniquely identifies a charge token	CDRs / CdrToken Class	Activation via remote commands, created a situation where it is possible that ID from a token was not unique anymore. Crucial change as more and more apps are used for charge activation.	Minor / Minor	Minor / Major
Added home_charging_compensation optional field.	CDRs / CDR Object	Crucial to indicate if cost of energy and related CDR need to be treated as expense payment for employees	Minor / Minor	Minimal / Minimal
1 Changed postal_code to optional 2 Added state as optional field	CDRs / CdrLocation Class	Not every address has a postal code and states are not used in every country. By making them optional, it is in line with the Location Object	Minor / Minor	Minimal / Minimal
Changed public_key to string, was CiString	CDRs / SignedData Class	With the definition of a CiString(512) it is not possible to store base64 encoded information, because it must be able to store case sensitive information. CiString is defined as Case Insensitive String. Therefore the field public_key must be a standard string that can store the result of base64 encoding.	Major / Major	Minimal / Minimal
1 Increased signed_data length from 512 to 5000. 2 Changed plain_data to string, was CiString 3 Changed signed_data to string, was CiString 4 Changed url to string, was CiString	CDRs / SignedValue Class	1. Was needed to be capable to forward OCPP information, so that is compatible for 'eichrecht' 2. Same reasoning as for public_key. Needs to be able to hold base64 encoded data. 3. Same reasoning as for public_key. Needs to be able to hold base64 encoded data. 4. Must be able to hold all characters without any exclusion as with CiString	Major / Major	Minimal / Minimal
Added optional field: connector_id	Commands / StartSession Object	To support the option to indicate the connector when using the StartSession command.	Minor / Minor	Medium / Minimal

Added START_SESSION_CONNECTOR_REQUIRED	Locations / Capability Enum	Indicates if a connector has to be supplied when performing a remote start command. When true, the connector_id must be > 0	Minor / Minor	Medium / Minimal
Added NEMA, GB/T, ChaoJi and Domestic M, N and O connector types.	Locations / ConnectorType Enum	To better support American, Canada, Asian market.	Minor / Minor	Minimal / Minimal
Added AC_2_PHASE and AC_2_PHASE_SPLIT to the enum to support two phase chargers.	Locations / PowerType Enum	This was added to support 2-phase charging stations	Minor / Minor	Minimal / Minimal