

Report on leading CBOR libraries

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Libraries were selected because they had a lot of likes/stars or because they were the best for a popular language. It is a somewhat subjective selection.

The features are indicated based on my not-too-thorough reading of documentation and source code. This is an error-prone process! Apologies. Corrections welcome. Do not take this as gospel!

The features reported are focused on preferred and deterministic serialization.

Fxamacker

Language	Go
Likes	958
Repo	https://github.com/fxamacker/cbor
Author(s)	Faye Amacker
Sponsor(s)	
Feature Scope	Comprehensive
Src/test/doc lines	33K
Dev activity	Very active

	Encode	Decode
CBOR Argument	Shortest	Any
Shortest Float	Yes	Any
Indefinite Lengths	Yes	Yes
Big numbers	Yes	Yes
Big number - int unification	Yes	Yes
Map sorting	7049 Section 4.2.1 of 8949	
Preferred Serialization	PreferredUnsortedEncOptions; doesn't forbid indef	
Deterministic Serialization	Section 4.2.1 8949	
Canonical	Yes + FIDO/WebAuthN custom	
Duplicate Map Keys	Prevents	Detects

hildjj/node-cbor, cbor2

Language	JavaScript, typescript
Likes	365
Repo	https://github.com/hildjj/cbor2 https://github.com/hildjj/node-cbor
Author(s)	Joe Hildebrand
Sponsor(s)	
Scope	Comprehensive
Src/test/doc lines	11K
Dev activity	Active

	Encode	Decode
CBOR Argument	Shortest	Any
Shortest Float	Yes	
Indefinite Lengths	Yes	No
Big numbers	Yes	Yes
Big number - int unification	Yes	Yes
Map sorting	4.2.1 of 8949, 3.9 of 7049	
Preferred Serialization	Yes, but no specific mode	
Deterministic Serialization	Yes, but no specific mode	
Canonical	Yes	
Duplicate Map Keys	Prevent (typescript Map)	Detect (typescript Map)

SwiftCBOR

Language	Swift
Likes	159
Repo	https://github.com/valpackett/SwiftCBOR
Author(s)	Val Packett
Sponsor(s)	
Feature Scope	Most 7049 features
Src/test/doc lines	4K
Dev activity	Moderate; lately just package stuff

	Encode	Decode
CBOR Argument	Shortest	Yes
Shortest Float	No	No half-precision support
Indefinite Lengths	Yes	Yes
Big numbers	Very minimal	Very minimal
Big number - int unification	No	
Map sorting	4.2.1 of 8949	
Preferred Serialization	No	Yes
Deterministic Serialization	No	Yes
Canonical Serialization	No	No
Duplicate Map Keys	Prevents	Detects

Cbor-ruby

Language	Ruby
Likes	50 likes; 35M downloads @rubygems
Repo	https://github.com/cabo/cbor-ruby
Author(s)	Carsten Borman
Sponsor(s)	
Scope	Moderate
Src/test/doc lines	8K
Dev activity	Mostly maintenance and small fixes

	Encode	Decode
CBOR Argument	Shortest	Any
Shortest Float	Yes	Any
Indefinite Lengths	No	Yes
Big numbers	Yes	Yes
Big number - int unification	Yes	Yes
Map sorting	No	
Preferred Serialization	No	
Deterministic Serialization	No	
Canonical	No	
Duplicate Map Keys	Prevent (ruby maps)	Detect (ruby maps)

Ciborium

Language	Rust
Likes	333
Repo	https://github.com/enarx/ciborium
Author(s)	
Sponsor(s)	Enarx
Feature Scope	Modest, mostly 7049
Src/test/doc lines	7K
Dev activity	Moderate

	Encode	Decode
CBOR Argument	Shortest	Any length
Shortest Float	Yes	Any length
Indefinite Lengths	No	Yes
Big numbers	Only 128bit ints?	Only 128bit ints?
Big number - int unification	No	No
Map sorting	RFC 7049	
Preferred Serialization	No	
Deterministic Serialization	No	
Canonical Serialization	Yes	
Duplicate Map Keys	Prevents	Detects

QCBOR

Language	C
Likes	214
Repo	https://github.com/laurencelundblade/QCBOR
Author(s)	Laurence Lundblade
Sponsor(s)	
Scope	Comprehensive
Src/test/doc lines	50K
Dev activity	Active

	Encode	Decode
CBOR Argument	Shortest	Any
Shortest Float	Yes	Any
Indefinite Lengths	Yes	Yes, with special config
Big numbers	Yes	Yes
Big number - int unification	Yes	Yes
Map sorting	4.2.1 of RFC 8949	Can check
Preferred Serialization	Yes	Can check
Deterministic Serialization	Yes	Can check
Canonical	No	No
Duplicate Map Keys	Yes	Yes

tinyCBOR

Language	C
Likes	568
Repo	https://github.com/intel/tinycbor
Author(s)	Thiago Macieira
Sponsor(s)	Intel
Scope	Basic 7049
Src/test/doc lines	7K
Dev activity	Maintenance

	Encode	Decode
CBOR Argument	Shortest	Any
Shortest Float	No	Half-precision decoding
Indefinite Lengths	Yes	Strings
Big numbers	No	No
Big number - int unification	No	No
Map sorting	No	
Preferred Serialization	Implicitly	
Deterministic Serialization	No	
Canonical	No	
Duplicate Map Keys	No	

Cbor2 (python)

Language	Python
Likes	271
Repo	https://github.com/agronholm/cbor2
Author(s)	Alex Grönholm
Sponsor(s)	
Scope	Broad, but primarily 7049
Src/test/doc lines	12K
Dev activity	Active

	Encode	Decode
CBOR Argument	Shortest	Any
Shortest Float	Yes	Any
Indefinite Lengths	Yes	Yes
Big numbers	Yes	Yes
Big number - int unification	Yes	Yes
Map sorting	RFC 7049	
Preferred Serialization	No	
Deterministic Serialization	No	
Canonical	Yes	
Duplicate Map Keys	Prevent (Python dictionaries)	Detect (Python dictionaries)

JSON for Modern C++

Language	C++
Likes	48K
Repo	https://github.com/nlohmann
Author(s)	Niels Lohmann
Sponsor(s)	
Scope	Moderate
Src/test/doc lines	100K
Dev activity	Very active

	Encode	Decode
CBOR Argument	Shortest	Any
Shortest Float	Yes, but no half-precision	Yes
Indefinite Lengths	No	Yes
Big numbers	No	No
Big number - int unification	No	
Map sorting	No	
Preferred Serialization	Probably	
Deterministic Serialization	No	
Canonical	No	
Duplicate Map Keys		