

Date and Time on the Internet

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IETF 110, March 2021

Wait, who are you again?

- ECMA TC39
 - Standardizing ~~ECMAScript~~ JavaScript
 - Google, Microsoft, Bloomberg, PayPal, ...
- Temporal Champions Group
 - Standardizing Date
 - Modern, ergonomic API for building date/time applications
 - JavaScript veterans, Internationalization experts, ...

So what's so special about Temporal anyway?

- Modern, ergonomic API
- Addresses long-standing weaknesses of Date
- Use RFC 3339 as base interchange format
- First-class timezone support
- First-class calendar support
- Timezones and calendars in the data model
- How does one persist that?

2021-03-04T02:32:09+05:30

The Time Zone Conundrum

- By far not the first to uncover this problem
- RFC3339 and ISO8601 allow absolute offsets from UTC
- *Many* applications work in the context of a “human” time zone
- Need to encode in the timestamp for persistence or interchange
- Databases? Round Tripping?
- What is a “human time zone”? IANA? Unicode?
- Java, Linux, Databases, Calendars

2021-03-04T02:32:09+05:30 IST

2021-03-04T02:32:09+05:30 Asia/Kolkata

2021-03-04T02:32:09+05:30[Asia/Kolkata]

Phew! We're done, right?

- Not quite
- The format was never standardized
- More information that can be encoded
- For Temporal, calendars are a priority
- More? CLDR Timezones? Numbering Systems?
- Need for a generalized format
- Process to specify keys and acceptable values

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ISO 8601 / RFC 3339

Time Zone
Extension

Calendar
Extension

2020-08-05T20:06:13+09:00[Asia/Tokyo][u-ca=japanese]

PlainMonthDay

TimeZone

Calendar
(Used in
all types
except
Instant)

PlainYearMonth

PlainDate

PlainTime

PlainDateTime

Instant (PlainDateTime with offset or "Z" suffix)

ZonedDateTime (PlainDateTime+offset+TimeZone)

draft-ryzokuken-datetime-extended

- Share our observations with IETF
- Keep folks from CalConnect, ISO in the loop
- Standardize generalized, optional extensions
- Modernize RFC 3339, in sync with ISO 8601
 - Extended years syntax
 - Deprecating two/three-digit years
- Standardize a mechanism for registering keys
- Work with Unicode in parallel regarding the u namespace

How do we move ahead with this?

- Brought our findings to CALEXT, CalConnect
- Authored a draft, aiming to obsolete RFC 3339
- Included updates and optional extensions
- Some pushback to obsoleting RFC 3339
- Updates and extensions separated into distinct drafts
- Can both be adopted? By which WGs?
- Do we need a new WG?

Thank You!