Time Zones

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Current State

Follow-up discussion to the one we had in San Francisco

Key point:

- We want a secure, reliable way to get timezone data
- Olson TZ database + zoneinfo has been the solution to date (plus some vendors do their own thing)
- Major interest from calendaring & scheduling vendors - but it impacts many other areas too
Time Zone Problems

From a Calendaring & Scheduling standpoint we have seen many interoperability problems related to time zones:

- Different definitions used by different products
- Failure to properly update when rules change
- Failure to update in a timely fashion when changes occur
- VTIMEZONE passed “by value” - would prefer “by reference”
Time Zone Problems

From an OS standpoint:

- Many copies of zoneinfo on the same system - often versions do not match
- Updates only done as OS patches - cannot respond fast enough to changes
- Have to ship different variants to different political regions because names/definitions are politically sensitive
Proposed Solutions

1. Create IANA Time Zone Registry for Publishers of TZ data
2. Define a Time Zone Service protocol so standard TZ data can be distributed from Providers to Consumers
3. Work out a plan of succession for Olson data - host mailing list and ftp archive on a well established site - perhaps ISOC?
4. Make sure time zone data is “secure” - digital signatures
5. Make sure time zone data is apolitical
Ongoing Work

The Calendaring & Scheduling Consortium (CalConnect) has a Technical Committee working on these issues.

Preference is to use UUIDs for timezone identifiers.

Will be submitting a timezone service protocol soon - allow retrieval of timezone data, as well as mapping user visible identifiers to their registered IDs.
For a Timezone registry we need a set of stable unique ids

Various choices:

- Olson-style “named” ids
- Opaque ids

Note: UNICODE has CLDR Timezone Names - Olson plus localized mappings
Timezone IDs - Olson style

Olson uses a “geographic” identifier: Europe/Stockholm, Australia/Sydney etc

Identifiers are “user visible” which can cause problems wrt forking/merging of zones

Some names are not politically acceptable in different parts of the world

Names could be more “opaque” e.g. en_US:U-0500
Timezone IDs - UUID

Identifiers are opaque - requires a service to map UUIDs to user visible identifiers

Several variations:

- urn:tzid:<uuid blob>
- urn:tzid:<publisher>;<uuid blob>
- urn:tzid:<country code>;<uuid blob>
Timezone IDs - Format

Assuming either UUID style or name style:

- `urn:tzid:<id>`
- `urn:tzid:<publisher>:<id>`
- `urn:tzid:<country code>:<id>`

One option: publisher gets to decide name format, but another publisher could “re-publish” using their format (e.g. map Olson to UUIDs.)
Summary

We want a long term solution for time zone data

Must be secure, reliable, and timely

Registry for publishers so source of data can be relied on

Internet-wide time zone service to make distribution simple and fast and scaleable

Promote common apis and libraries for accessing and managing the data