Time Zones

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Current State

- Follow-up discussion to the one we had in San Franscisco
- 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”

More...

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

Timezone 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