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Labels for Common Location-Based Services
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Abstract

This document creates a registry for describing the types of services available at a specific location. The registry is expected to be referenced by other protocols that need a common set of service terms as protocol constants. In particular, we define location-based service as either a point at a specific geographic location (e.g., bus stop) or a service covering a specific region (e.g., pizza delivery).

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1. Introduction

Many mobile devices are now equipped to determine the user's geographic location, either through GPS, cell-tower mapping or a network-based triangulation mechanism. Once location information is available, it is natural to want to look up near-by places that provide a specific service, sometimes called points-of-interest (POI). Examples of such services include restaurants, stores, hospitals, automatic teller machines and museums.

To allow such systems to operate across large geographic areas and for multiple languages, it is useful to define a common set of terms, so that the same service is labeled with the same token regardless of who created a particular location service. The number of different labels is clearly potentially very large, but only a relatively small subset of common services is of particular interest to mobile users, such as travelers and commuters. This document focuses on labels commonly found on maps or in navigation devices.

While a large number of lists of points of interest exist today, each list follows its own format and guidelines. As such, these lists are not suitable for use in standard protocols where interoperability is of utmost importance.

This document creates a registry of service labels and an initial set of values. The registry is protocol-agnostic and should work for all protocols that can handle alphanumeric strings, including LoST [[RFC5222](#)], [[RFC6451](#)].

2. Requirements notation

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [[RFC2119](#)].

3. Location-based services

When not obvious, the definition of a particular service will be specified in the future. In the following we enumerate a sub-set of the most common location-based services, some of which are also present in [[RFC4589](#)]. Many of the labels used in the following classification were taken from [[OpenStreetMap](#)] and [[Wikipedia](#)].

urn:service:business

- business.convention-center [i.e., convention center, exhibition

hall]

urn:service:communication

- communication.dropbox [Private mail carriers i.e., FedEx, UPS]
- communication.internet.802.-11
- communication.internet.802.-16
- communication.internet.802.-3
- communication.mailbox [National postal service i.e., USPS]
- communication.public-phone

urn:service:cultural

- cultural.art-gallery
- cultural.classroom [i.e., academic classroom, lecture hall]
- cultural.library
- cultural.museum

urn:service:education

- education.day-care-center
- education.kindergarten
- education.nursery
- education.primary-school
- education.school
- education.secondary-school
- education.university

urn:service:emergency

- emergency.exit
- emergency.fire-hydrant

- emergency.phone
- emergency.shelter [i.e., fallout shelter]

[Labels listed under the 'emergency' top-level domain MUST NOT be used to describe entities meant to either route, receive emergency calls or respond to an emergency. For such entities, either the 'sos' namespace [[RFC5031](#)] or the 'nena' namespace [[RFC6061](#)] MUST be used instead.]

urn:service:entertainment

- entertainment.arena
- entertainment.arts-center
- entertainment.ballroom
- entertainment.basketball-court
- entertainment.bingo-hall
- entertainment.casino
- entertainment.cinema
- entertainment.club
- entertainment.community-center
- entertainment.field.ice-hockey
- entertainment.field.soccer
- entertainment.golf-course
- entertainment.ice-rink
- entertainment.race-track
- entertainment.stadium
- entertainment.stadium.baseball
- entertainment.stadium.american-football
- entertainment.stadium.soccer

- entertainment.stripclub
- entertainment.swimming-pool
- entertainment.theater
- entertainment.theme-park
- entertainment.water-park
- entertainment.zoo

urn:service:financial

- financial.atm
- financial.bank
- financial.currency-exchange
- financial.drive-through [i.e., ATM, bank]

urn:service:food

- food.bakery
- food.bar
- food.beer-garden
- food.cafe
- food.cafeteria
- food.catering
- food.chocolate-shop
- food.coffee-house
- food.confectionery
- food.court
- food.doughnut-shop
- food.drive-through

- food.ice-cream-parlor
- food.pancake-house
- food.pizza
- food.pub
- food.quick-service [i.e., McDonald's, Starbucks]
- food.restaurant.barbecue
- food.restaurant.buffer
- food.restaurant.cn
- food.restaurant.creole [Louisiana cuisine]
- food.restaurant.de
- food.restaurant.diner
- food.restaurant.drive-in
- food.restaurant.es
- food.restaurant.ethnic
- food.restaurant.fast-casual [i.e., Chipotle]
- food.restaurant.fast-food [i.e., McDonald's]
- food.restaurant.fr
- food.restaurant.gr
- food.restaurant.hamburger
- food.restaurant.hot-dog
- food.restaurant.it
- food.restaurant.kosher
- food.restaurant.kr
- food.restaurant.other

- food.restaurant.pizzeria
- food.restaurant.revolving
- food.restaurant.seafood
- food.restaurant.steakhouse
- food.restaurant.tavern
- food.restaurant.theme [i.e., Disney restaurants]
- food.restaurant.us
- food.restaurant.vegan
- food.restaurant.vegetarian

[Generally speaking, one "restaurant" entry per country can be added, each with its own country suffix. Suffixes to be used here are specified in [[ISO3166](#)].]

- food.root-beer-stand
- food.street-vendor
- food.tea-house

urn:service:fuel

- fuel.standalone.biodiesel
- fuel.standalone.biogas
- fuel.standalone.cng
- fuel.standalone.diesel
- fuel.standalone.electricity
- fuel.standalone.ethanol
- fuel.standalone.gasoline
- fuel.standalone.hydrogen
- fuel.standalone.lng

- fuel.standalone.lpg
- fuel.standalone.methanol

[The 'standalone' label is used to describe single recharging points scattered all over a city, for example.]

- fuel.station.biodiesel
- fuel.station.biogas
- fuel.station.cng [Compressed Natural Gas]
- fuel.station.diesel
- fuel.station.electricity [i.e., EV charging station]
- fuel.station.ethanol
- fuel.station.gasoline
- fuel.station.hydrogen [LH2: liquid hydrogen]
- fuel.station.lng [Liquefied Natural Gas]
- fuel.station.lpg [Liquefied Petroleum Gas]
- fuel.station.methanol

urn:service:government

- government.border-control
- government.building
- government.consulate
- government.courthouse
- government.embassy
- government.firehouse
- government.national-park
- government.police-station
- government.prison

- government.townhall

urn:service:historic

- historic.archeological-site
- historic.battlefield
- historic.boundary-stone
- historic.castle
- historic.city-gate
- historic.city-wall
- historic.fort
- historic.memorial
- historic.monument
- historic.ruins
- historic.wreck [Used in a nautical context]

urn:service:lodging

- lodging.alpine-hut
- lodging.bed-and-breakfast
- lodging.camp-site
- lodging.caravan-site
- lodging.chalet
- lodging.hostel
- lodging.hotel
- lodging.motel
- lodging.shelter [i.e., mountain shelter]

urn:service:medical

- medical.baby-hatch
- medical.clinic
- medical.dentist
- medical.doctors-practice
- medical.emergency-room
- medical.hospice
- medical.hospital
- medical.nursing-home
- medical.social-facility [i.e., for social services]
- medical.veterinarian

urn:service:military

- military.airfield
- military.base
- military.base.airforce
- military.base.naval
- military.bunker
- military.danger-area

urn:service:other

- other.construction-site
- other.greenhouse
- other.recycling
- other.shelter [i.e., animal shelter]
- other.warehouse
- other.waste-disposal

`urn:service:public`

- `public.baths`
- `public.dog-park`
- `public.drinking-water` [For human consumption]
- `public.information-point`
- `public.park`
- `public.pedestrian-island`
- `public.picnic-site`
- `public.playground`
- `public.sauna`
- `public.toilets`

`urn:service:religious`

- `religious.cemetery`
- `religious.church.adventist`
- `religious.church.anabaptist`
- `religious.church.anglican`
- `religious.church.baptist.national`
- `religious.church.baptist.southern`
- `religious.church.congregationalist`
- `religious.church.coptic-orthodox`
- `religious.church.episcopalian`
- `religious.church.greek-orthodox`
- `religious.church.latter-day-saints` [Also known as Mormon Church]
- `religious.church.lutheran`

- religious.church.methodist
- religious.church.pentecostal
- religious.church.presbyterian
- religious.church.protestant

["Protestant" comprises: Adventist, Anabaptist, Baptist, Congregationalist, Lutheran, Methodist, Presbyterian, Reformed, Pentecostal, Restorationist.]

- religious.church.reformed
- religious.church.restorationist
- religious.church.roman-catholic
- religious.place-of-worship
- religious.kingdom-hall
- religious.mosque
- religious.synagogue
- religious.temple.buddhist
- religious.temple.hindu
- religious.temple.masonic

urn:service:retail

- retail.alcohol [i.e., liquor store]
- retail.anime
- retail.art
- retail.baby-goods
- retail.bakery
- retail.barber-shop
- retail.beauty-shop [i.e., SPA, nail salon]

- retail.bicycle
- retail.books
- retail.boutique
- retail.brewery
- retail.butcher
- retail.car
- retail.car-repair
- retail.car-wash
- retail.charity-shop
- retail.clothing
- retail.comics
- retail.computers
- retail.convenience-store
- retail.copy-shop
- retail.delicatessen
- retail.department-store
- retail.do-it-yourself
- retail.drive-through [i.e., pharmacy]
- retail.dry-cleaning
- retail.electronics
- retail.fabric
- retail.farm-shop
- retail.firearms
- retail.fish

- retail.flowers
- retail.food
- retail.frames [i.e., for paintings and pictures]
- retail.funeral-parlor
- retail.furniture
- retail.games [i.e., video games, chess boards]
- retail.glass
- retail.greengrocer
- retail.jewelry
- retail.hairdresser
- retail.hardware
- retail.herbalist
- retail.hunting
- retail.laundromat
- retail.locksmith
- retail.marketplace
- retail.mobile-phones [i.e., AT&T stores]
- retail.motorcycle
- retail.movies
- retail.music
- retail.musical-instruments
- retail.news
- retail.optician
- retail.organic

- retail.other
- retail.outdoor
- retail.pets
- retail.pharmacy
- retail.photos
- retail.post-office
- retail.real-estate
- retail.second-hand [Stores selling used goods]
- retail.shipping [i.e., FedEx, UPS]
- retail.shoes
- retail.shopping-mall
- retail.spirits
- retail.sports
- retail.supermarket
- retail.tailor
- retail.tattoo
- retail.tobacco
- retail.toys
- retail.travel
- retail.variety-store [i.e., 99c stores]
- retail.vehicles [All vehicles other than cars]
- retail.vending-machine
- retail.video [i.e., renting and selling of DVDs]

urn:service:transportation

- transportation.aerialway-station [i.e., cable-cars, chair-lifts]
- transportation.airport
- transportation.bicycle-parking
- transportation.bicycle-rental
- transportation.bus-station
- transportation.bus-stop
- transportation.car-rental
- transportation.car-sharing [i.e., Zipcar]
- transportation.ferry-terminal
- transportation.funicular
- transportation.garage
- transportation.helipad
- transportation.heliport
- transportation.light-rail
- transportation.mechanic
- transportation.monorail
- transportation.parking-lot
- transportation.parking-space [Single parking space]
- transportation.port
- transportation.rest-area
- transportation.subway-stop
- transportation.taxi-stand
- transportation.toll-booth
- transportation.train-station

- transportation.tram-stop

4. Guidelines for the creation of new top-level services

The number of services that can be defined is very large. New services, however, SHOULD at least satisfy the following guidelines.

- The service has to be of general interest;
- It should not be specific to a particular country or region;
- The language in which the new service is defined MUST be English (this is a protocol token, not meant to be shown to humans);
- The newly defined services SHOULD correspond to a standard statistical classification of enterprises or services, such as the North American Industry Classification System (NAICS).

5. IANA Considerations

Registration template and URN scheme for emergency and non-emergency services have been defined in [[RFC5031](#)] in Sections [3](#) and [4](#), respectively.

5.1. Registering new tokens

This document creates new IANA registries for location-based services as listed in [Section 3](#), starting with 'urn:service:business.convention-center' and finishing with 'urn:service:transportation.tram-stop'.

Aside from the labels defined here, document [[draft-ietf-ecrit-service-urn-policy](#)] defines the registration policy for new service-identifying labels.

5.2. Internationalization Considerations

The service values listed in this document MUST NOT be presented to the user. The values therefore have the characteristic of tokens or tags and no internationalization support is required.

5.3. Security Considerations

This document defines a registry for location-based services and as such does not raise security issues. The same security considerations as in [[RFC5031](#)] apply.

6. References

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