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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.

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].

## 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].

urn:service:business

- business.convention-center

urn:service:communication

- communication.internet.802.-11
- communication.internet.802.-16

- communication.internet.802.-3
- communication.public-phone

## urn:service:cultural

- cultural.art-gallery
- cultural.library
- cultural.monument
- cultural.museum
- cultural.theater

## urn:service:education

- education.college
- education.day-care-center
- education.nursery
- education.primary-school
- education.school
- education.secondary-school

## urn:service:entertainment

- entertainment.arena
- entertainment.basketball-court
- entertainment.bingo-hall
- entertainment.casino
- entertainment.cinema
- entertainment.club
- entertainment.field.ice-hockey
- entertainment.field.soccer

- entertainment.park
- entertainment.race-track
- entertainment.stadium
- entertainment.stadium.baseball
- entertainment.stadium.football
- entertainment.stadium.soccer

urn:service:financial

- financial.atm
- financial.bank
- financial.currency-exchange

urn:service:food

- food.bakery
- food.bar
- food.beer-garden
- food.cafe
- food.cafeteria
- food.coffee-house
- food.doughnut-shop
- food.fast-service
- food.ice-cream-parlor
- food.pancake-house
- food.pizza
- food.pub
- food.root-beer-stand

- food.street-vendor
- food.tea-house
- 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
- food.restaurant.fast-food
- 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 [Such as 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].]

urn:service:fuel

- fuel.biodiesel-station
- fuel.cng-station
- fuel.diesel-station
- fuel.electricity-station
- fuel.ethanol-station
- fuel.gasoline-station
- fuel.hydrogen-station
- fuel.lng-station
- fuel.lpg-station

urn:service:government

- government.courthouse
- government.military-base
- government.prison

urn:service:lodging

- lodging.bed-and-breakfast

- lodging.hostel
- lodging.hotel
- lodging.motel

urn:service:medical

- medical.dentist
- medical.emergency-room
- medical.hospital
- medical.veterinarian

urn:service:religious

- religious.church.adventist
- religious.church.anabaptist
- religious.church.anglican
- religious.church.baptist.national
- religious.church.baptist.southern
- religious.church.congregationalist
- 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.house-of-worship
- religious.kingdom-hall
- religious.mosque
- religious.synagogue
- religious.temple.buddhist
- religious.temple.hindu
- religious.temple.masonic

urn:service:retail

- retail.bakery
- retail.barber
- retail.books
- retail.butcher
- retail.car-repair
- retail.clothing
- retail.electronics
- retail.fish
- retail.flowers
- retail.food
- retail.games
- retail.glass

- retail.jewelry
- retail.movies
- retail.music
- retail.news
- retail.optician
- retail.other
- retail.shoes
- retail.shopping-mall
- retail.spirits
- retail.tailor
- retail.travel

urn:service:transportation

- transportation.airport
- transportation.bicycle-rental
- transportation.bus-stop
- transportation.car-rental
- transportation.mechanic
- transportation.parking
- transportation.port
- transportation.subway
- transportation.taxi-stand
- transportation.train-station

#### 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.train-station'.

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

- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.

- [RFC5031] Schulzrinne, H., "A Uniform Resource Name (URN) for Emergency and Other Well-Known Services", RFC 5031, January 2008.
- [RFC5222] Hardie, T., Newton, A., Schulzrinne, H., and H. Tschofenig, "LoST: A Location-to-Service Translation Protocol", RFC 5222, August 2008.
- [RFC4589] Schulzrinne, H. and H. Tschofenig, "Location Types Registry", July 2006.
- [ISO3166] International Organization for Standardization (ISO), "English country names and code elements", July 2006.
- [draft-ietf-ecrit-service-urn-policy]  
Forte, A. and H. Schulzrinne, "Policy for defining new service-identifying labels for non-emergency services (Internet draft - work in progress)", December 2009.

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