Location Types Registry
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Abstract

This document creates a registry for describing the types of places a human or end system might be found. The registry is then referenced by other protocols that need a common set of location terms as protocol constants. Examples of location terms defined in this document include aircraft, office and train station.
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1. Introduction

This document creates a registry for location type tokens. We anticipate that the network, through configuration or management protocols, tells a mobile device what kind of location it finds itself in. The device and associated software can then tailor its behavior to the environment. For example, this document defines the terms "classroom", "place-of-worship" and "theater". A considerate owner of a cell phone might program the device to switch from ringer to vibrate mode in such environments. Just knowing the geographic location, be it as civic (street address) or geospatial coordinates would generally not allow the device to make a similar decision.

Naturally, the number of descriptive terms for physical environments is almost unbounded. This registry tries to identify common terms that are likely to be useful for communications devices and for controlling and guiding communication behavior. The terms roughly correspond to the level of details of location descriptions and icons found on geographic maps, for example, and are meant to be in common use across a variety of cultures and countries. The registration process described in the IANA Considerations section allows to extend this list as needed, while aiming to prevent an unnecessary explosion in the registry.

The use of tokens, i.e., protocol constants, makes it easier to build systems across multiple languages. A user interface can readily translate a finite set of tokens to user-appropriate textual or iconic representations. Protocols using this registry are encouraged to provide additional mechanisms to accommodate location types not currently registered via free-text fields with appropriate language and character set labeling.

The terms defined in this registry do not attempt to provide a hierarchy of location descriptions, except in certain special cases. For example, the term "restaurant" is defined to include the term "cafe" and the term "public" encompasses a range of descriptors, as noted below. The registry makes these more generic terms available as often the more detailed distinctions may not be available, or privacy concerns suggest the use of less precise terms that are still sufficient to guide communications behavior or evaluate the source of a phone call or message, say.

In many cases, a location might be described by multiple terms that apply at the same time. For example, the combination of "restaurant" and "airport" is immediately recognizable. This registry makes no attempt to limit the number of terms that can be used to describe a single place or to restrict what combinations are allowed, given that there are few combinations that are physically impossible. Common
sense is probably a better guide here; the authors would not want to rule out creative business models such as combinations of "parking" and "restaurant" or "bar" and "hospital". The number of terms that can be used within the same protocol element is left to the protocol description.

This document does not describe how the values of the registry are to be used, as this description is provided by other documents. For example, [3], describes options for carrying civic address information, including the place-type attributes listed in this document, using the Dynamic Host Configuration Protocol (DHCPv4 and DHCPv6). A usage for RADIUS is described in [4], where this information is conveyed from the RADIUS client to the RADIUS server. Rich presence (RPID [5]) also utilizes the values of the location type registry.
2. Terminology

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 [1].
3. Location Types

This section describes types of location where an entity is located. The entity is not further specified and can be a person or an object such as a network access point.

aircraft:

The entity is in a plane, helicopter or balloon.

airport:

The entity is located in an airport, heliport or similar location.

arena:

The entity is in an enclosed area used for sports events.

automobile:

The entity is in a self-propelled passenger vehicle.

bank:

The entity is in a business establishment in which money is kept for saving or commercial purposes or is invested, supplied for loans, or exchanged.

bar:

The entity is in a bar or saloon.

bus:

The entity is traveling in a public or charter bus.

bus-station:

The entity is in a terminal that serves bus passengers; bus depot or bus terminal.
cafe:

The entity is in a cafe or coffeeshop.

classroom:

The person is in an academic classroom or lecture hall.

cycle:

The entity is riding a bicycle, motorcycle or similar vehicle.

government:

The person is in a government building, such as those used by the legislative, executive, or judicial branches of governments, including court houses, police stations and military installations.

hotel:

The entity is in a hotel, motel, inn or other lodging establishment.
industrial:

The entity is in an industrial setting, such as a manufacturing floor or power plant.

library:

The entity is in a library or other public place in which literary and artistic materials, such as books, music, periodicals, newspapers, pamphlets, prints, records, and tapes, are kept for reading, reference, or lending.

office:

The entity is in a business setting, such as an office.

other:

The entity is in a place without a registered place type representation.

outdoors:

The entity is in a general outdoors area, such as a park or city streets.

parking:

The person is in a parking lot or parking garage.

place-of-worship:

The entity is at a religious rites where congregations gather for religious observances, such as a church, chapel, meetinghouse, mosque, shrine, synagogue, or temple.

prison:

The person is in a prison, penitentiary, jail, brig, or criminal mental institution.
public:

The entity is in a public area such as a shopping mall, street, park, public building, train station, airport or in public conveyance such as a bus, train, plane or ship. This general description encompasses the more precise descriptors ‘street’, ‘public-transport’, ‘aircraft’, ‘bus’, ‘bus-station’, ‘train’, ‘train-station’, ‘airport’, ‘shopping-area’, ‘outdoors’, and ‘watercraft’.

public-transport:

The entity is using any form of public transport, including aircraft, bus, train or ship.

residence:

The entity is in a private or residential setting, not necessarily the personal residence of the entity, e.g., including a friend’s home.

restaurant:

The entity is in a restaurant, coffee shop or other public dining establishment.

school:

The entity is in a school or university, but not necessarily in a classroom or library.

shopping-area:

The entity is frequenting a shopping mall or shopping area. This area is a large, often enclosed shopping complex containing various stores, businesses, and restaurants usually accessible by common passageways.

stadium:

The person is in a large, usually open structure for sports events, including a racetrack.
store:

    The person is located in a place where merchandise is offered for sale; a shop.

street:

    The entity is walking in a street.

theater:

    The entity is in a theater, lecture hall, auditorium, class room, movie theater or similar facility designed for presentations, talks, plays, music performances and other events involving an audience.

train:

    The entity is traveling in a train, monorail, maglev, cable car or similar conveyance.

train-station:

    The person is in a terminal where trains load or unload passengers or goods; railway station, railroad station, railroad terminal, train depot.

truck:

    The entity is in a truck, used primarily to carry goods rather than people.

underway:

    The person is in a land, water, or air craft which is underway (in motion).

unknown:

    The type of place is unknown.
warehouse:

The person is in a place in which goods or merchandise are stored; a storehouse or self-storage facility.

water:

The person is on water, such as an ocean, lake, river, canal or other waterway.

watercraft:

The person is traveling in a boat or ship.
4. IANA Considerations

This document creates new IANA registries for location types as listed in Section 3 starting with ‘aircraft’ and finishing with ‘watercraft’.

Following the policies outline in RFC 2434 [2], new tokens are assigned after Expert Review by the IETF GEOPRIV working group or its designated successor. The same procedure applies to updates of tokens within the registry and to deleting tokens from the registry. There are no restrictions regarding the update of location-type values in the registry.

The expert review should be guided by a few common-sense considerations. For example, tokens should not be specific to a country, region, organization or company, should be well-defined and should be widely recognized.

To ensure widespread usability across protocols, tokens should follow the character set restrictions for XML Names.

Each registration must include the name of the token and a brief description similar to the ones offered in for the initial registrations contained this document:

Token Identifier:

Identifier of the token

Description:

Brief description indicating the meaning of the token.

Note that the usage of these tokens is not limited to XML and the ‘Token Identifier’ is the XML element content and not the XML element name.
5. Internationalization Considerations

The location-type values listed in this document MUST NOT be presented to the user. The values therefore have the characteristic of tokens/tags and no internationalization support is required.
6. Security Considerations

This document defines a registry for location types and as such does not raise security issues.
7. Acknowledgements

We would like to thank V. Gurbani, P. Kyzivat and J. Rosenberg for their work on RPID [5] which lead to the location types listed in this document. Many thanks to Allison Mankin for her guidance. Rick Jones pointed us to the Global Justice XML work (see http://it.ojp.gov/jxdm/) that helped us to add more values to the location registry.

During the IETF last call, Harald Tveit Alvestrand, Frank Ellermann and Sam Hartman provided useful feedback.
8. References

8.1. Normative References


8.2. Informative References


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