

GeographicAddress

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Introduction

The following document is the user guide of the Async API for Any management. It includes the model definition as well as all available operations.

Sample Use Cases

Reader will find example of use cases using Usage API in “Open Digital Business Scenarios and Use Cases” document.

Support of polymorphism and extension patterns

Support of polymorphic collections and types and schema based extension is provided by means of a list of generic meta-attributes that we describe below. Polymorphism in collections occurs when entities inherit from base entities, for instance a `BillingAccount` and `SettlementAccount` inheriting properties from the abstract `Account` entity.

Generic support of polymorphism and pattern extensions is described in the TMF API Guidelines, Part 2 (TMF630).

The `@type` attribute provides a way to represent the actual class type of an entity. For example, within a list of `Account` instances some may be instances of `BillingAccount` where other could be instances of `SettlementAccount`. The `@type` gives this information. All resources and sub-resources of this API have a `@type` attributes that can be provided when this is useful.

The `@referredType` can be used within reference entities (like for instance an `AccountRef` object) to explicitly denote the actual entity type of the referred class. Notice that in reference entities the `@type`, when used, denotes the class type of the reference itself, such as `BillingAccountRef` or `SettlementAccountRef`, and not the class type of the referred object. However since reference classes are rarely sub-classed, `@type` is generally not useful in reference objects.

The `@schemaLocation` property can be used in resources to allow specifying user-defined properties of an Entity or to specify the expected characteristics of an entity.

The `@baseType` attribute gives a way to provide explicitly the base of class of a given resource that has been extended.

RESOURCE MODEL

Managed Entity and Task Resource Models

GeographicAddress resource

Structured textual way of describing how to find a Property in an urban area (country properties are often defined differently).

Note : Address corresponds to SID UrbanPropertyAddress.

Resource model

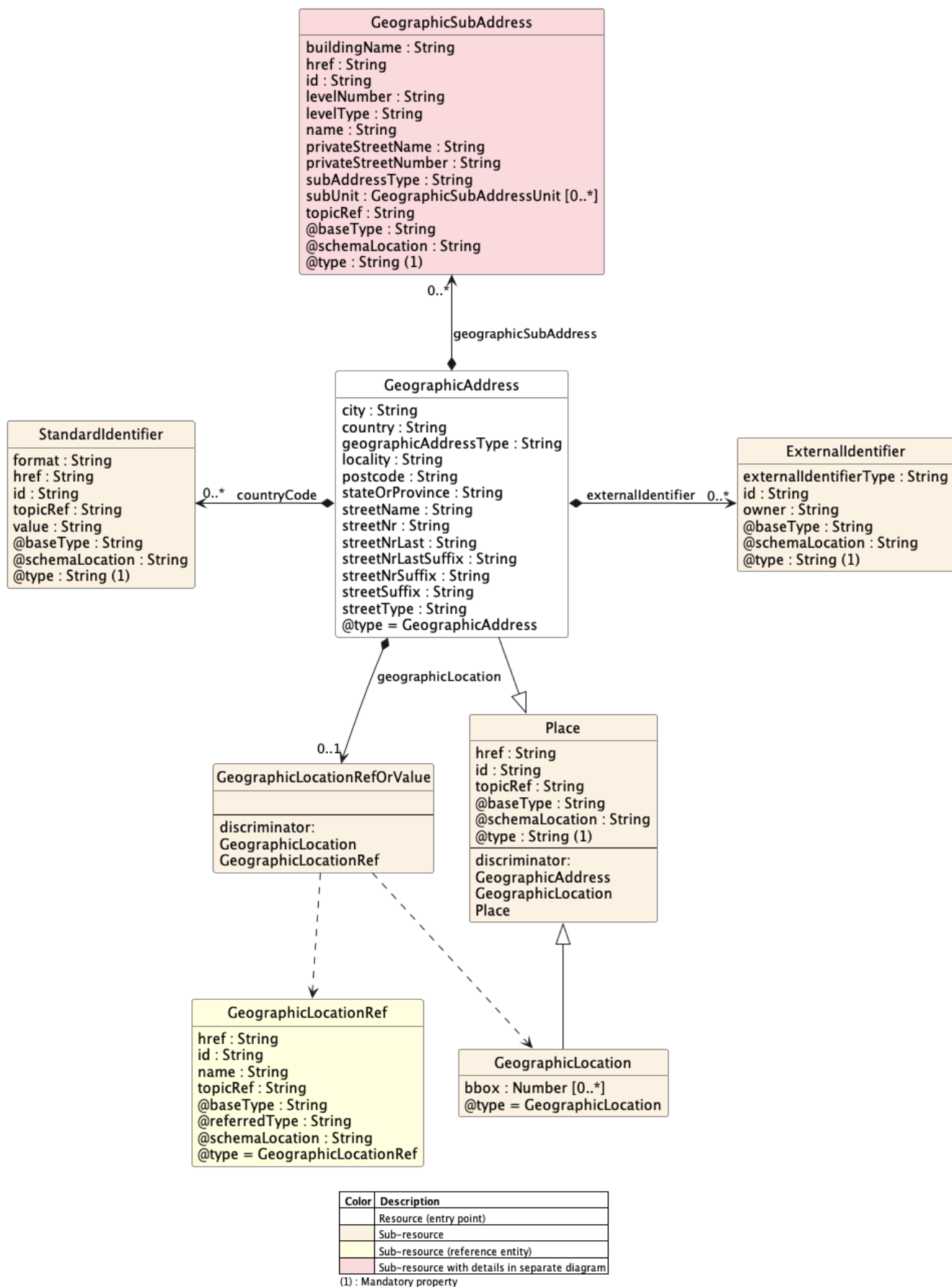


Figure 1 - GeographicAddress

Field descriptions

GeographicAddress fields

| | |
|-----------------------|---|
| city | A String. City that the address is in. |
| country | A String. Country that the address is in. |
| countryCode | A StandardIdentifier. The corresponding identification of the resource in different standard, regulatory definitions. The standard specification identifier (e.g., ISO 3166-1 Alpha-2) and the corresponding value (e.g., BE) relevant to a particular resource. It is anticipated that multiple standards can provide definitions for a single entity, e.g., a country identifier can be specified in various standards (e.g., "ISO 3166-1 Alpha 2", "ISO 3166-1 Alpha 3", "ISO 3166-1 Numeric"). |
| externalIdentifier | An ExternalIdentifier. An identification of an entity that is owned by or originates in a software system different from the current system, for example a ProductOrder handed off from a commerce platform into an order handling system. The structure identifies the system itself, the nature of the entity within the system (e.g. class name) and the unique ID of the entity within the system. It is anticipated that multiple external IDs can be held for a single entity, e.g. if the entity passed through multiple systems on the way to the current system. In this case the consumer is expected to sequence the IDs in the array in reverse order of provenance, i.e. most recent system first in the list. |
| geographicAddressType | A String. Classification of the address, e.g., residential, industrial. |
| geographicLocation | A GeographicLocationRefOrValue. The polymorphic attributes @type, @schemaLocation & @referredType are related to the GeographicLocation entity and not the GeographicLocationRefOrValue class itself. |
| geographicSubAddress | A GeographicSubAddress. Representation of a GeographicSubAddress It is used for addressing within a property in an urban area (country properties are often defined differently). It may refer to a building, a building cluster, or a floor of a multistory building. |
| locality | A String. An area of defined or undefined boundaries within a local authority or other legislatively defined area, usually rural or semi rural in nature. [ANZLIC-STREET], or a suburb, a bounded locality within a city, town or shire principally of urban character [ANZLICSTREET]. |
| postcode | A String. Descriptor for a postal delivery area, used to speed and simplify the delivery of mail (also know as zipcode). |
| stateOrProvince | A String. The State or Province that the address is in. |
| streetName | A String. Name of the street or other street type. |

| | |
|--------------------|---|
| streetNr | A String. Number identifying a specific property on a public street. It may be combined with streetNrLast for ranged addresses. |
| streetNrLast | A String. Last number in a range of street numbers allocated to a property. |
| streetNrLastSuffix | A String. Last street number suffix for a ranged address. |
| streetNrSuffix | A String. The first street number suffix. |
| streetSuffix | A String. A modifier denoting a relative direction. |
| streetType | A String. Alley, avenue, boulevard, brae, crescent, drive, highway, lane, terrace, parade, place, tarn, way, wharf. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

ExternalIdentifier sub-resource fields

| | |
|------------------------|---|
| externalIdentifierType | A String. Type of the identification, typically would be the type of the entity within the external system. |
| id | A String. Identification of the entity within the external system. |
| owner | A String. Name of the external system that owns the entity. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

GeographicLocation sub-resource fields

| | |
|----------|---|
| bbox | A Number. A bounding box array that contains the geometry. The axes order follows the axes order of the geometry. |
| href | A String. An URI used to access to the geographic location resource. |
| id | A String. Unique identifier of the geographic location. |
| topicRef | A String. A reference to the topic from which this entity can be fetched. |
| @type | A String. The name of the GeoJSON structure used in the geometry attribute. |

GeographicLocationRef sub-resource fields

| | |
|------|--------------------------------|
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |

| | |
|-----------------|---|
| name | A String. Name of the referred entity. |
| topicRef | A String. A reference to the topic from which this entity can be fetched. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @referredType | A String. The actual type of the target instance when needed for disambiguation. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

GeographicSubAddress sub-resource fields

| | |
|---------------------|---|
| buildingName | A String. Allows for buildings that have well-known names. |
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| levelNumber | A String. Used where a level type may be repeated e.g. BASEMENT 1, BASEMENT 2. |
| levelType | A String. Describes level types within a building. |
| name | A String. Name of the subAddress to identify it with a meaningful identification. |
| privateStreetName | A String. Private streets internal to a property (e.g. a university) may have internal names that are not recorded by the land title office. |
| privateStreetNumber | A String. Private streets numbers internal to a private street. |
| subAddressType | A String. Type of subAddress : it can be a subunit or a private street. |
| subUnit | A GeographicSubAddressUnit. Representation of a SubUnit. It is used for describing subunit within a subAddress e.g. BERTH, FLAT, PIER, SUITE, SHOP, TOWER, UNIT, WHARF. |
| topicRef | A String. A reference to the topic from which this entity can be fetched. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

GeographicSubAddressUnit sub-resource fields

| | |
|-----------------|---|
| subUnitNumber | A String. The discriminator used for the subunit, often just a simple number but may also be a range. |
| subUnitType | A String. The type of subunit e.g.BERTH, FLAT, PIER, SUITE, SHOP, TOWER, UNIT, WHARF, RACK. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

Place sub-resource fields

| | |
|-----------------|---|
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| topicRef | A String. A reference to the topic from which this entity can be fetched. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

StandardIdentifier sub-resource fields

| | |
|-----------------|---|
| format | A String. Standard/Regulatory definition identifier. e.g., ISO 3166-1. |
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| topicRef | A String. A reference to the topic from which this entity can be fetched. |
| value | A String. The value of the resource in the corresponding standard.e.g., a country code value. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

Json representation sample(s)

We provide below a JSON representation as example of the 'GeographicAddress' resource object.

```

{
  "id" : "4c6b6fc1-d954-4ad6-adf6-59c275afb541",
  "href" : "https://host/tmf-
api/geographicAddressManagement/v4/geographicAddress/4c6b6fc1-d954-4ad6-adf6-
59c275afb541",
  "streetNr" : "225",
  "streetNrSuffix" : "B",
  "streetNrLast" : "",
  "streetNrLastSuffix" : "",
  "streetName" : " Strathmore",
  "streetType" : "Terrace",
  "streetSuffix" : "",
  "postcode" : "5004",
  "locality" : "Brighton.",
  "city" : "Brighton",
  "stateOrProvince" : "SA",
  "country" : "Australia",
  "countryCode" : [ {
    "format" : "ISO 3166-1 Alpha-2",
    "value" : "AU"
  } ],
  "externalIdentifier" : [ {
    "id" : "df882733-6a5d-440a-9a91-d261ba6ac346",
    "owner" : "ExternalSystem",
    "externalIdentifierType" : "GeographicAddress"
  } ],
  "geographicAddressType" : "residential",
  "@type" : "GeographicAddress",
  "geographicLocation" : {
    "id" : "67301845-ee43-4984-ba3b-b4fba4b98872",
    "href" : "https://host/tmf-api/geographicLocation/v4/geographicLocation/67301845-
ee43-4984-ba3b-b4fba4b98872",
    "name" : "Nice Acropolis",
    "@type" : "GeoJsonPoint",
    "topicRef" : "kafka://broker-address/topic-name"
  },
  "geographicSubAddress" : [ {
    "id" : "1e58c8e7-6869-4c45-8af4-0ffffbe8fc677",
    "href" : "https://host/tmf-
api/geographicAddressManagement/v4/geographicAddress/4c6b6fc1-d954-4ad6-adf6-
59c275afb541/geographicSubAddress/1e58c8e7-6869-4c45-8af4-0ffffbe8fc677",
    "name" : "Mimosas",
    "subUnitType" : "flat",
    "subUnitNumber" : "239",
    "levelType" : "floor",
    "levelNumber" : "3",
    "buildingName" : "Catalysts",
    "privateStreetNumber" : "",
    "privateStreetName" : "",
    "@type" : "GeographicSubAddress",

```

```

    "topicRef" : "kafka://broker-address/topic-name"
  }, {
    "id" : "3c657185-e158-45b4-96f2-72a83eaffd46",
    "href" : "https://host/tmf-
api/geographicAddressManagement/v4/geographicAddress/4c6b6fc1-d954-4ad6-adf6-
59c275afb541/geographicSubAddress/3c657185-e158-45b4-96f2-72a83eaffd46",
    "name" : "Heaven",
    "subUnitType" : "flat",
    "subUnitNumber" : "007",
    "levelType" : "floor",
    "levelNumber" : "3",
    "buildingName" : "VIP area",
    "privateStreetNumber" : "",
    "privateStreetName" : "",
    "@type" : "GeographicSubAddress",
    "topicRef" : "kafka://broker-address/topic-name"
  } ],
  "topicRef" : "kafka://broker-address/topic-name"
}

```

GeographicSubAddress resource

Representation of a GeographicSubAddress

It is used for addressing within a property in an urban area (country properties are often defined differently). It may refer to a building, a building cluster, or a floor of a multistory building.

Resource model

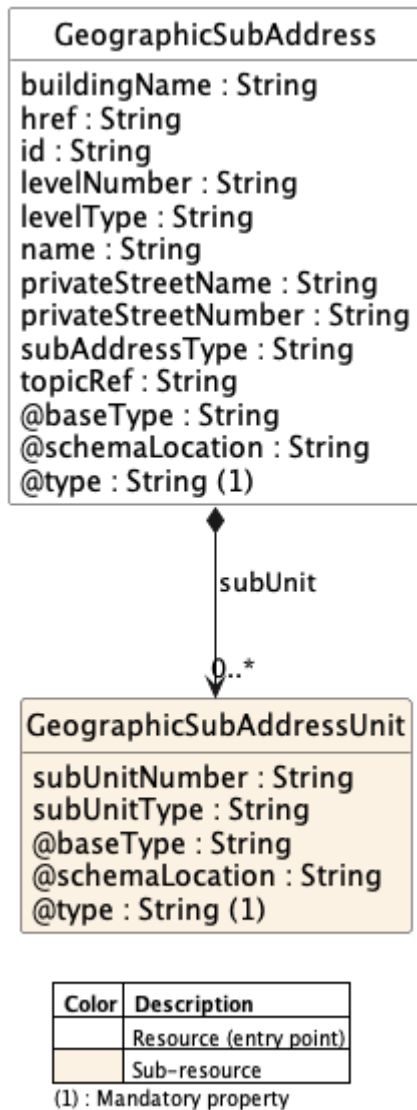


Figure 2 - GeographicSubAddress

Field descriptions

GeographicSubAddress fields

| | |
|-------------------|--|
| buildingName | A String. Allows for buildings that have well-known names. |
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| levelNumber | A String. Used where a level type may be repeated e.g. BASEMENT 1, BASEMENT 2. |
| levelType | A String. Describes level types within a building. |
| name | A String. Name of the subAddress to identify it with a meaningful identification. |
| privateStreetName | A String. Private streets internal to a property (e.g. a university) may have internal names that are not recorded by the land title office. |

| | |
|---------------------|---|
| privateStreetNumber | A String. Private streets numbers internal to a private street. |
| subAddressType | A String. Type of subAddress : it can be a subunit or a private street. |
| subUnit | A GeographicSubAddressUnit. Representation of a SubUnit. It is used for describing subunit within a subAddress e.g. BERTH, FLAT, PIER, SUITE, SHOP, TOWER, UNIT, WHARF. |
| topicRef | A String. A reference to the topic from which this entity can be fetched. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

GeographicSubAddressUnit sub-resource fields

| | |
|-----------------|---|
| subUnitNumber | A String. The discriminator used for the subunit, often just a simple number but may also be a range. |
| subUnitType | A String. The type of subunit e.g.BERTH, FLAT, PIER, SUITE, SHOP, TOWER, UNIT, WHARF, RACK. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

Json representation sample(s)

We provide below a JSON representation as example of the 'GeographicSubAddress' resource object.

```
{
  "id" : "1e58c8e7-6869-4c45-8af4-0ffffbe8fc677",
  "href" : "https://host/tmf-
api/geographicAddressManagement/v4/geographicAddress/f019f4e5-7431-44dc-94d6-
97e9a881fe79/geographicSubAddress/1e58c8e7-6869-4c45-8af4-0ffffbe8fc677",
  "name" : "EastGate Shopping Center",
  "buildingName" : "EastGate",
  "levelType" : "floor",
  "levelNumber" : "3",
  "privateStreetName" : "Queen St",
  "privateStreetNumber" : "1",
  "subAddressType" : "subUnit",
  "subUnit" : [ {
```



```
    "subUnitType" : "SHOP",  
    "subUnitNumber" : "239"  
  } ],  
  "@type" : "GeographicSubAddress",  
  "topicRef" : "kafka://broker-address/topic-name"  
}
```

GeographicAddressValidation resource

This resource is used to manage address validation request and response.

Resource model

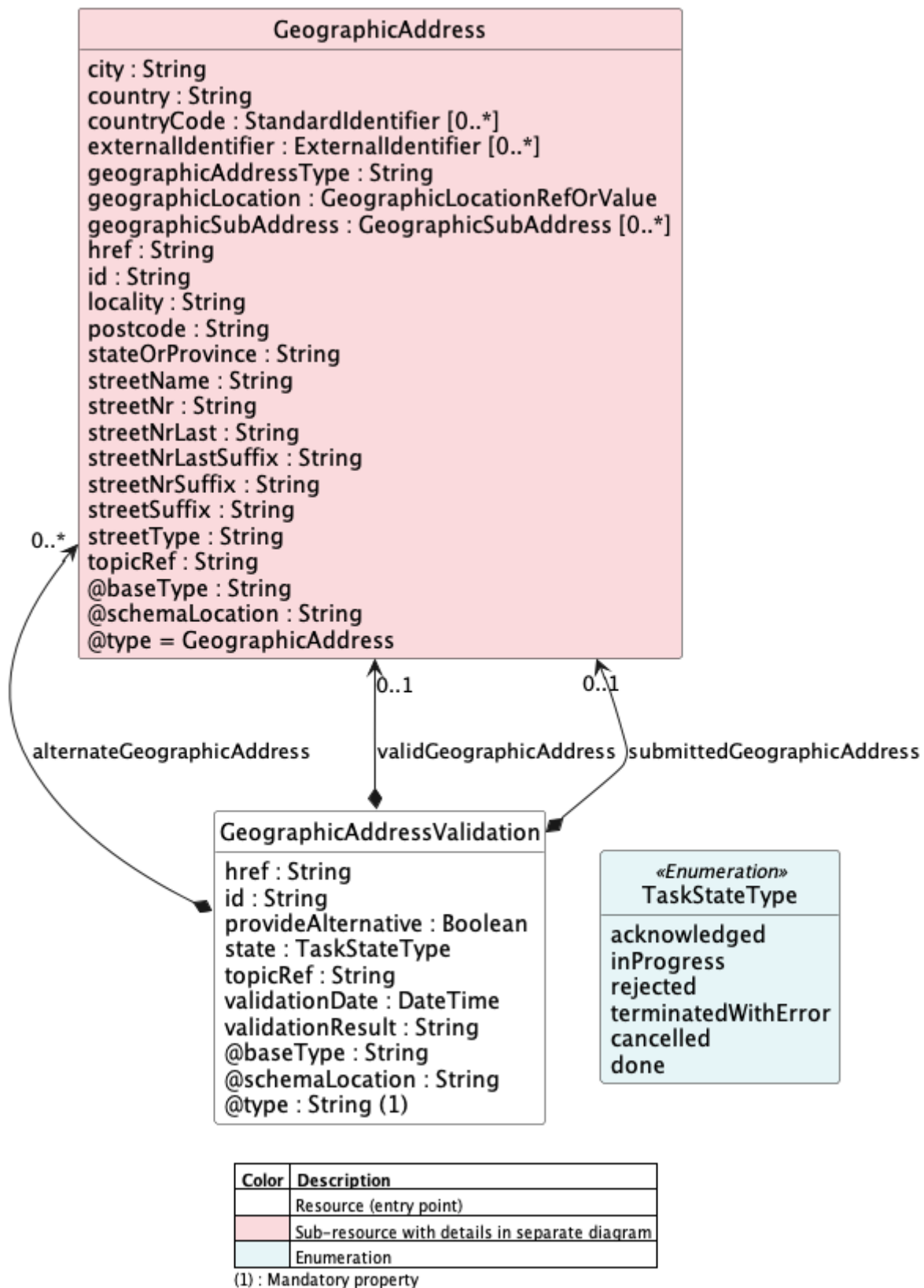


Figure 3 - GeographicAddressValidation

Field descriptions

GeographicAddressValidation fields

| | |
|----------------------------|--|
| alternateGeographicAddress | A GeographicAddress. Structured textual way of describing how to find a Property in an urban area (country properties are often defined differently). Note : Address corresponds to SID UrbanPropertyAddress. |
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| provideAlternative | A Boolean. Indicator provided by the requester to specify if alternate addresses must be provided in case of partial or fail result. |
| state | A TaskStateType. Possible values for the state of a task. |
| submittedGeographicAddress | A GeographicAddress. Structured textual way of describing how to find a Property in an urban area (country properties are often defined differently). Note : Address corresponds to SID UrbanPropertyAddress. |
| topicRef | A String. A reference to the topic from which this entity can be fetched. |
| validGeographicAddress | A GeographicAddress. Structured textual way of describing how to find a Property in an urban area (country properties are often defined differently). Note : Address corresponds to SID UrbanPropertyAddress. |
| validationDate | A DateTime. Date when the address validation is performed. |
| validationResult | A String. Result of the address validation (success, partial, fails). |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

ExternalIdentifier sub-resource fields

| | |
|------------------------|---|
| externalIdentifierType | A String. Type of the identification, typically would be the type of the entity within the external system. |
| id | A String. Identification of the entity within the external system. |
| owner | A String. Name of the external system that owns the entity. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

GeographicAddress sub-resource fields

| | |
|-----------------------|---|
| city | A String. City that the address is in. |
| country | A String. Country that the address is in. |
| countryCode | A StandardIdentifier. The corresponding identification of the resource in different standard, regulatory definitions. The standard specification identifier (e.g., ISO 3166-1 Alpha-2) and the corresponding value (e.g., BE) relevant to a particular resource. It is anticipated that multiple standards can provide definitions for a single entity, e.g., a country identifier can be specified in various standards (e.g., "ISO 3166-1 Alpha 2", "ISO 3166-1 Alpha 3", "ISO 3166-1 Numeric"). |
| externalIdentifier | An ExternalIdentifier. An identification of an entity that is owned by or originates in a software system different from the current system, for example a ProductOrder handed off from a commerce platform into an order handling system. The structure identifies the system itself, the nature of the entity within the system (e.g. class name) and the unique ID of the entity within the system. It is anticipated that multiple external IDs can be held for a single entity, e.g. if the entity passed through multiple systems on the way to the current system. In this case the consumer is expected to sequence the IDs in the array in reverse order of provenance, i.e. most recent system first in the list. |
| geographicAddressType | A String. Classification of the address, e.g., residential, industrial. |
| geographicLocation | A GeographicLocationRefOrValue. The polymorphic attributes @type, @schemaLocation & @referredType are related to the GeographicLocation entity and not the GeographicLocationRefOrValue class itself. |
| geographicSubAddress | A GeographicSubAddress. Representation of a GeographicSubAddress It is used for addressing within a property in an urban area (country properties are often defined differently). It may refer to a building, a building cluster, or a floor of a multistory building. |
| locality | A String. An area of defined or undefined boundaries within a local authority or other legislatively defined area, usually rural or semi rural in nature. [ANZLIC-STREET], or a suburb, a bounded locality within a city, town or shire principally of urban character [ANZLICSTREET]. |
| postcode | A String. Descriptor for a postal delivery area, used to speed and simplify the delivery of mail (also know as zipcode). |
| stateOrProvince | A String. The State or Province that the address is in. |
| streetName | A String. Name of the street or other street type. |

| | |
|--------------------|---|
| streetNr | A String. Number identifying a specific property on a public street. It may be combined with streetNrLast for ranged addresses. |
| streetNrLast | A String. Last number in a range of street numbers allocated to a property. |
| streetNrLastSuffix | A String. Last street number suffix for a ranged address. |
| streetNrSuffix | A String. The first street number suffix. |
| streetSuffix | A String. A modifier denoting a relative direction. |
| streetType | A String. Alley, avenue, boulevard, brae, crescent, drive, highway, lane, terrace, parade, place, tarn, way, wharf. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

GeographicLocation sub-resource fields

| | |
|----------|---|
| bbox | A Number. A bounding box array that contains the geometry. The axes order follows the axes order of the geometry. |
| href | A String. An URI used to access to the geographic location resource. |
| id | A String. Unique identifier of the geographic location. |
| topicRef | A String. A reference to the topic from which this entity can be fetched. |
| @type | A String. The name of the GeoJSON structure used in the geometry attribute. |

GeographicLocationRef sub-resource fields

| | |
|-----------------|---|
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| name | A String. Name of the referred entity. |
| topicRef | A String. A reference to the topic from which this entity can be fetched. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @referredType | A String. The actual type of the target instance when needed for disambiguation. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

GeographicSubAddress sub-resource fields

| | |
|---------------------|---|
| buildingName | A String. Allows for buildings that have well-known names. |
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| levelNumber | A String. Used where a level type may be repeated e.g. BASEMENT 1, BASEMENT 2. |
| levelType | A String. Describes level types within a building. |
| name | A String. Name of the subAddress to identify it with a meaningful identification. |
| privateStreetName | A String. Private streets internal to a property (e.g. a university) may have internal names that are not recorded by the land title office. |
| privateStreetNumber | A String. Private streets numbers internal to a private street. |
| subAddressType | A String. Type of subAddress : it can be a subunit or a private street. |
| subUnit | A GeographicSubAddressUnit. Representation of a SubUnit. It is used for describing subunit within a subAddress e.g. BERTH, FLAT, PIER, SUITE, SHOP, TOWER, UNIT, WHARF. |
| topicRef | A String. A reference to the topic from which this entity can be fetched. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

GeographicSubAddressUnit sub-resource fields

| | |
|-----------------|---|
| subUnitNumber | A String. The discriminator used for the subunit, often just a simple number but may also be a range. |
| subUnitType | A String. The type of subunit e.g.BERTH, FLAT, PIER, SUITE, SHOP, TOWER, UNIT, WHARF, RACK. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

Place sub-resource fields

| | |
|------|--------------------------------|
| href | A String. Hyperlink reference. |
|------|--------------------------------|

| | |
|-----------------|---|
| id | A String. Unique identifier. |
| topicRef | A String. A reference to the topic from which this entity can be fetched. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

StandardIdentifier sub-resource fields

| | |
|-----------------|---|
| format | A String. Standard/Regulatory definition identifier. e.g., ISO 3166-1. |
| href | A String. Hyperlink reference. |
| id | A String. Unique identifier. |
| topicRef | A String. A reference to the topic from which this entity can be fetched. |
| value | A String. The value of the resource in the corresponding standard.e.g., a country code value. |
| @baseType | A String. When sub-classing, this defines the super-class. |
| @schemaLocation | A String. A URI to a JSON-Schema file that defines additional attributes and relationships. |
| @type | A String. When sub-classing, this defines the sub-class Extensible name. |

Json representation sample(s)

We provide below a JSON representation as example of the 'GeographicAddressValidation' resource object.

```
{
  "id" : "33173014-fc84-4e7b-8ccf-3e900c0a9917",
  "href" : "https://host/tmf-
api/geographicAddressManagement/v4/geographicAddressValidation/33173014-fc84-4e7b-
8ccf-3e900c0a9917",
  "provideAlternative" : true,
  "state" : "done",
  "validationDate" : "2012-07-09T19:22:09.1440844Z",
  "validationResult" : "partial",
  "submittedGeographicAddress" : {
    "streetNr" : "151",
    "streetName" : "Landgrabenweg",
    "postcode" : "53227",
    "city" : "Bonn",
```

```

    "stateOrProvince" : "NRW",
    "country" : "Germany",
    "@type" : "FieldedAddress",
    "@baseType" : "GeographicAddress"
  },
  "alternateGeographicAddress" : [ {
    "id" : "35dcfeec-9051-4b05-830e-7a0f67dc541d",
    "href" : "https://host/tmf-
api/geographicAddressManagement/v4/geographicAddress/35dcfeec-9051-4b05-830e-
7a0f67dc541d",
    "streetNr" : "151",
    "streetNrSuffix" : "Erstbau",
    "streetName" : "Landgrabenweg",
    "streetType" : "road",
    "streetSuffix" : "",
    "postcode" : "53227",
    "locality" : "Beuel",
    "city" : "Bonn",
    "stateOrProvince" : "NRW",
    "country" : "Germany",
    "geographicLocation" : {
      "id" : "67301845-ee43-4984-ba3b-b4fba4b98872",
      "href" : "https://host/tmf-
api/geographicLocation/v4/geographicLocation/67301845-ee43-4984-ba3b-b4fba4b98872",
      "@type" : "GeoJsonPoint",
      "topicRef" : "kafka://broker-address/topic-name"
    },
    "topicRef" : "kafka://broker-address/topic-name"
  } ],
  "@type" : "GeographicAddressValidation",
  "topicRef" : "kafka://broker-address/topic-name"
}

```

Notification Resource Models

4 notifications are defined for this API.

Notifications related to GeographicAddress:

- Geographic Address Create Example12 Event
- Geographic Address Delete Example13 Event
- Geographic Address Attribute Value Change Example12 Event

Notifications related to GeographicAddressValidation:

- Geographic Address Validation State Change Event

The notification structure for all notifications in this API follow the pattern depicted by the figure below. A notification event resource (depicted by "SpecificEvent" placeholder) is a sub class of a

generic Event structure containing at least an id of the event occurrence (eventId), an event timestamp (eventTime), and the name of the resource (eventType). This notification structure owns an event payload structure ("SpecificEventPayload" placeholder) linked to the resource concerned by the notification using the resource name as access field ("resourceName" placeholder).

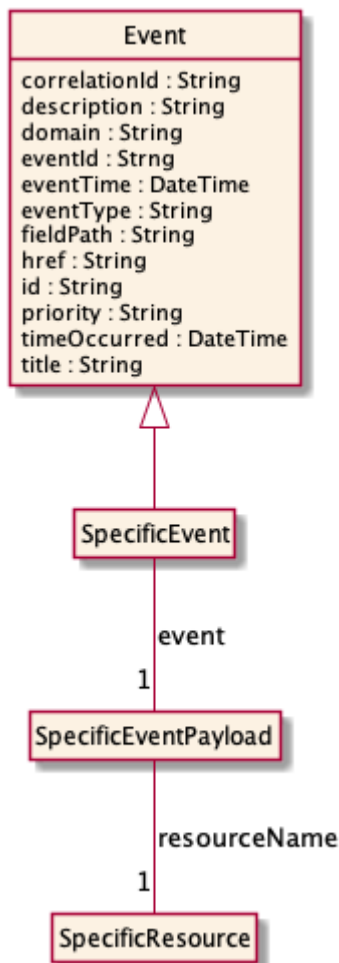


Figure 4 Notification Pattern

Geographic Address Create Example12 Event

Message example for GeographicAddressCreateEvent event

Content-Type: application/json

```

{
  "correlationId" : "b20d7f84-4fce",
  "description" : "GeographicAddressCreateEvent illustration",
  "domain" : "Commercial",
  "eventId" : "44ae-9c3d-818a7727e876",
  "eventTime" : "2023-02-22T11:20:57.341Z",
  "eventType" : "GeographicAddressCreateEvent",
  "priority" : "1",
  "timeOccurred" : "2023-02-22T11:20:55.792Z",
  "title" : "GeographicAddressCreateEvent",
  "event" : {
    "geographicAddress" : {

```

```

    "id" : "4c6b6fc1-d954-4ad6-adf6-59c275afb541",
    "href" : "https://host/tmf-
api/geographicAddressManagement/v4/geographicAddress/4c6b6fc1-d954-4ad6-adf6-
59c275afb541",
    "streetNr" : "225",
    "streetNrSuffix" : "B",
    "streetNrLast" : "",
    "streetNrLastSuffix" : "",
    "streetName" : " Strathmore",
    "streetType" : "Terrace",
    "streetSuffix" : "",
    "postcode" : "5004",
    "locality" : "Brighton.",
    "city" : "Brighton",
    "stateOrProvince" : "SA",
    "country" : "Australia",
    "countryCode" : [ {
      "format" : "ISO 3166-1 Alpha-2",
      "value" : "AU",
      "@type" : "StandardIdentifier"
    } ],
    "externalIdentifier" : [ {
      "id" : "df882733-6a5d-440a-9a91-d261ba6ac346",
      "owner" : "ExternalSystem",
      "externalIdentifierType" : "GeographicAddress",
      "@type" : "ExternalIdentifier"
    } ],
    "geographicAddressType" : "residential",
    "@type" : "GeographicAddress",
    "geographicLocation" : {
      "id" : "67301845-ee43-4984-ba3b-b4fba4b98872",
      "href" : "https://host/tmf-
api/geographicLocation/v4/geographicLocation/67301845-ee43-4984-ba3b-b4fba4b98872",
      "name" : "Nice Acropolis",
      "@type" : "GeoJsonPoint",
      "topicRef" : "kafka://broker-address/topic-name"
    },
    "geographicSubAddress" : [ {
      "id" : "1e58c8e7-6869-4c45-8af4-0fffbe8fc677",
      "href" : "https://host/tmf-
api/geographicAddressManagement/v4/geographicAddress/4c6b6fc1-d954-4ad6-adf6-
59c275afb541/geographicSubAddress/1e58c8e7-6869-4c45-8af4-0fffbe8fc677",
      "name" : "Mimosas",
      "subUnitType" : "flat",
      "subUnitNumber" : "239",
      "levelType" : "floor",
      "levelNumber" : "3",
      "buildingName" : "Catalysts",
      "privateStreetNumber" : "",
      "privateStreetName" : "",
      "@type" : "GeographicSubAddress",

```

```

        "topicRef" : "kafka://broker-address/topic-name"
    }, {
        "id" : "3c657185-e158-45b4-96f2-72a83eaffd46",
        "href" : "https://host/tmf-
api/geographicAddressManagement/v4/geographicAddress/4c6b6fc1-d954-4ad6-adf6-
59c275afb541/geographicSubAddress/3c657185-e158-45b4-96f2-72a83eaffd46",
        "name" : "Heaven",
        "subUnitType" : "flat",
        "subUnitNumber" : "007",
        "levelType" : "floor",
        "levelNumber" : "3",
        "buildingName" : "VIP area",
        "privateStreetNumber" : "",
        "privateStreetName" : "",
        "@type" : "GeographicSubAddress",
        "topicRef" : "kafka://broker-address/topic-name"
    } ],
    "topicRef" : "kafka://broker-address/topic-name"
}
},
"reportingSystem" : {
    "id" : "639",
    "name" : "APP-365",
    "@type" : "ReportingResource",
    "@referredType" : "LogicalResource"
},
"source" : {
    "id" : "932",
    "name" : "APP-250",
    "@type" : "ReportingResource",
    "@referredType" : "LogicalResource"
},
"@baseType" : "Event",
"@type" : "GeographicAddressCreateEvent"
}

```

Geographic Address Delete Example13 Event

Message example for GeographicAddressDeleteEvent event

Content-Type: application/json

```

{
    "correlationId" : "9863f9c1-064b",
    "description" : "GeographicAddressDeleteEvent illustration",
    "domain" : "Commercial",
    "eventId" : "49a2-a7b4-543bcbcc3a27",
    "eventTime" : "2023-02-22T11:20:57.373Z",
    "eventType" : "GeographicAddressDeleteEvent",
    "priority" : "4",

```

```

"timeOccurred" : "2023-02-22T11:20:53.297Z",
"title" : "GeographicAddressDeleteEvent",
"event" : {
  "geographicAddress" : {
    "id" : "4c6b6fc1-d954-4ad6-adf6-59c275afb541",
    "href" : "https://host/tmf-
api/geographicAddressManagement/v4/geographicAddress/4c6b6fc1-d954-4ad6-adf6-
59c275afb541",
    "streetNr" : "225",
    "streetNrSuffix" : "B",
    "streetNrLast" : "",
    "streetNrLastSuffix" : "",
    "streetName" : " Strathmore",
    "streetType" : "Terrace",
    "streetSuffix" : "",
    "postcode" : "5004",
    "locality" : "Brighton.",
    "city" : "Brighton",
    "stateOrProvince" : "SA",
    "country" : "Australia",
    "countryCode" : [ {
      "format" : "ISO 3166-1 Alpha-2",
      "value" : "AU",
      "@type" : "StandardIdentifier"
    } ],
    "externalIdentifier" : [ {
      "id" : "df882733-6a5d-440a-9a91-d261ba6ac346",
      "owner" : "ExternalSystem",
      "externalIdentifierType" : "GeographicAddress",
      "@type" : "ExternalIdentifier"
    } ],
    "geographicAddressType" : "residential",
    "@type" : "GeographicAddress",
    "geographicLocation" : {
      "id" : "67301845-ee43-4984-ba3b-b4fba4b98872",
      "href" : "https://host/tmf-
api/geographicLocation/v4/geographicLocation/67301845-ee43-4984-ba3b-b4fba4b98872",
      "name" : "Nice Acropolis",
      "@type" : "GeoJsonPoint",
      "topicRef" : "kafka://broker-address/topic-name"
    },
    "geographicSubAddress" : [ {
      "id" : "1e58c8e7-6869-4c45-8af4-0fffbe8fc677",
      "href" : "https://host/tmf-
api/geographicAddressManagement/v4/geographicAddress/4c6b6fc1-d954-4ad6-adf6-
59c275afb541/geographicSubAddress/1e58c8e7-6869-4c45-8af4-0fffbe8fc677",
      "name" : "Mimosas",
      "subUnitType" : "flat",
      "subUnitNumber" : "239",
      "levelType" : "floor",
      "levelNumber" : "3",

```

```

        "buildingName" : "Catalysts",
        "privateStreetNumber" : "",
        "privateStreetName" : "",
        "@type" : "GeographicSubAddress",
        "topicRef" : "kafka://broker-address/topic-name"
    }, {
        "id" : "3c657185-e158-45b4-96f2-72a83eaffd46",
        "href" : "https://host/tmf-
api/geographicAddressManagement/v4/geographicAddress/4c6b6fc1-d954-4ad6-adf6-
59c275afb541/geographicSubAddress/3c657185-e158-45b4-96f2-72a83eaffd46",
        "name" : "Heaven",
        "subUnitType" : "flat",
        "subUnitNumber" : "007",
        "levelType" : "floor",
        "levelNumber" : "3",
        "buildingName" : "VIP area",
        "privateStreetNumber" : "",
        "privateStreetName" : "",
        "@type" : "GeographicSubAddress",
        "topicRef" : "kafka://broker-address/topic-name"
    } ],
    "topicRef" : "kafka://broker-address/topic-name"
}
},
"reportingSystem" : {
    "id" : "639",
    "name" : "APP-365",
    "@type" : "ReportingResource",
    "@referredType" : "LogicalResource"
},
"source" : {
    "id" : "932",
    "name" : "APP-250",
    "@type" : "ReportingResource",
    "@referredType" : "LogicalResource"
},
"@baseType" : "Event",
"@type" : "GeographicAddressDeleteEvent"
}

```

Geographic Address Attribute Value Change Example12 Event

Message example for GeographicAddressAttributeValueChangeEvent event

Content-Type: application/json

```

{
    "correlationId" : "10182509-654c",
    "description" : "GeographicAddressAttributeValueChangeEvent illustration",
    "domain" : "Commercial",

```

```

"eventId" : "4fe7-88d1-f6ce0aa8cde0",
"eventTime" : "2023-02-22T11:20:57.355Z",
"eventType" : "GeographicAddressAttributeValueChangeEvent",
"priority" : "3",
"timeOccurred" : "2023-02-22T11:20:52.833Z",
"title" : "GeographicAddressAttributeValueChangeEvent",
"event" : {
  "geographicAddress" : {
    "id" : "4c6b6fc1-d954-4ad6-adf6-59c275afb541",
    "href" : "https://host/tmf-
api/geographicAddressManagement/v4/geographicAddress/4c6b6fc1-d954-4ad6-adf6-
59c275afb541",
    "streetNr" : "225",
    "@type" : "GeographicAddress",
    "topicRef" : "kafka://broker-address/topic-name"
  }
},
"reportingSystem" : {
  "id" : "639",
  "name" : "APP-365",
  "@type" : "ReportingResource",
  "@referredType" : "LogicalResource"
},
"source" : {
  "id" : "932",
  "name" : "APP-250",
  "@type" : "ReportingResource",
  "@referredType" : "LogicalResource"
},
"@baseType" : "Event",
"@type" : "GeographicAddressAttributeValueChangeEvent"
}

```

Geographic Address Validation State Change Event

Message example for GeographicAddressValidationStateChangeEvent event

Content-Type: application/json

```

{
  "id" : "33173014-fc84-4e7b-8ccf-3e900c0a9917",
  "href" : "https://host/tmf-
api/geographicAddressManagement/v4/geographicAddressValidation/33173014-fc84-4e7b-
8ccf-3e900c0a9917",
  "provideAlternative" : true,
  "state" : "done",
  "validationDate" : "2012-07-09T19:22:09.1440844Z",
  "validationResult" : "success",
  "submittedGeographicAddress" : {
    "streetNr" : "151",

```

```

    "streetName" : "Landgrabenweg",
    "city" : "Bonn",
    "country" : "Germany",
    "@type" : "GeographicAddress"
  },
  "validGeographicAddress" : {
    "id" : "2b8cea8f-642d-42e0-bdb2-6f47fabb3f07",
    "href" : "https://host/tmf-
api/geographicAddressManagement/v4/geographicAddress/2b8cea8f-642d-42e0-bdb2-
6f47fabb3f07",
    "streetNr" : "151",
    "streetNrSuffix" : "Erstbau",
    "streetName" : "Landgrabenweg",
    "streetType" : "road",
    "streetSuffix" : "",
    "postcode" : "53227",
    "locality" : "Beuel",
    "city" : "Bonn",
    "stateOrProvince" : "NRW",
    "country" : "Germany",
    "geographicLocation" : {
      "id" : "67301845-ee43-4984-ba3b-b4fba4b98872",
      "href" : "https://host/tmf-
api/geographicLocation/v4/geographicLocation/67301845-ee43-4984-ba3b-b4fba4b98872",
      "@type" : "GeoJsonPoint",
      "topicRef" : "kafka://broker-address/topic-name"
    },
    "@type" : "GeographicAddress",
    "topicRef" : "kafka://broker-address/topic-name"
  },
  "@type" : "GeographicAddressValidation",
  "topicRef" : "kafka://broker-address/topic-name"
}

```

API OPERATIONS

Every operation consists of two parts:

- **REQUEST:** Publish a message on a 'commandRequest' channel.
- **RESPONSE:** Subscribe to the corresponding 'commandReply' channel to receive the response.

Remember the following Async Uniform Contract:

| Operation on Entities | Uniform Async API Operation | Description |
|-----------------------------|-----------------------------|---|
| Query One Entity | retrieveResource | retrieve must be used to retrieve a representation of a resource. |
| Query Entities | listResource | list must be used to retrieve a list of resources. |
| Create Entity | createResource | create must be used to create a new resource |
| Partial Update of an Entity | patchResource | patch must be used to partially update a resource |
| Remove an Entity | deleteResource | delete must be used to remove a resource |

Filtering and attribute selection rules are described in the TMF Async Design Guidelines.

Notifications are also described in a subsequent section.

Operations on GeographicAddressValidation

Retrieves a GeographicAddressValidation by ID

Request

topic:

{prefix}.geographicAddress.v5.retrieveGeographicAddressValidation.commandRequest

Reply topic: {prefix}.geographicAddress.v5.retrieveGeographicAddressValidation.commandReply

Description

This operation retrieves a GeographicAddressValidation entity. Attribute selection is enabled for all first level attributes. Filtering may be available depending on the compliance level supported by an implementation.

Usage samples

Request message header

X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169


```
Reply-Channel:
{prefix}.geographicAddress.v5.retrieveGeographicAddressValidation.commandReply
Parameters: {
  "id": 33173014-fc84-4e7b-8ccf-3e900c0a9917
}
```

Response Headers

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 200
X-Request-Channel:
{prefix}.geographicAddress.v5.retrieveGeographicAddressValidation.commandRequest
```

Response Payload

```
{
  "id" : "33173014-fc84-4e7b-8ccf-3e900c0a9917",
  "href" : "https://host/tmf-
api/geographicAddressManagement/v4/geographicAddressValidation/33173014-fc84-4e7b-
8ccf-3e900c0a9917",
  "provideAlternative" : true,
  "state" : "done",
  "validationDate" : "2012-07-09T19:22:09.1440844Z",
  "validationResult" : "success",
  "submittedGeographicAddress" : {
    "streetNr" : "151",
    "streetName" : "Landgrabenweg",
    "city" : "Bonn",
    "country" : "Germany",
    "@type" : "GeographicAddress"
  },
  "validGeographicAddress" : {
    "id" : "2b8cea8f-642d-42e0-bdb2-6f47fabb3f07",
    "href" : "https://host/tmf-
api/geographicAddressManagement/v4/geographicAddress/2b8cea8f-642d-42e0-bdb2-
6f47fabb3f07",
    "streetNr" : "151",
    "streetNrSuffix" : "Erstbau",
    "streetName" : "Landgrabenweg",
    "streetType" : "road",
    "streetSuffix" : "",
    "postcode" : "53227",
    "locality" : "Beuel",
    "city" : "Bonn",
    "stateOrProvince" : "NRW",
    "country" : "Germany",
    "geographicLocation" : {
      "id" : "67301845-ee43-4984-ba3b-b4fba4b98872",
      "href" : "https://host/tmf-
```

```

api/geographicLocation/v4/geographicLocation/67301845-ee43-4984-ba3b-b4fba4b98872",
  "@type" : "GeoJsonPoint",
  "topicRef" : "kafka://broker-address/topic-name"
},
"@type" : "GeographicAddress",
"topicRef" : "kafka://broker-address/topic-name"
},
"@type" : "GeographicAddressValidation",
"topicRef" : "kafka://broker-address/topic-name"
}

```

Creates a GeographicAddressValidation

Request

topic:

{prefix}.geographicAddress.v5.createGeographicAddressValidation.commandRequest

Reply topic: {prefix}.geographicAddress.v5.createGeographicAddressValidation.commandReply

Description

This operation creates a GeographicAddressValidation entity.

Mandatory Attributes

| Mandatory Attributes | Rule |
|----------------------------|------|
| submittedGeographicAddress | |
| provideAlternative | |

Usage samples

Creation of a new Geographic Address Validation with POST operation

Request Headers

```

X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel:
{prefix}.geographicAddress.v5.createGeographicAddressValidation.commandReply

```

Request Payload

```

{
  "provideAlternative" : true,
  "submittedGeographicAddress" : {
    "streetNr" : "151",
    "streetName" : "Landgrabenweg",
    "city" : "Bonn",
    "country" : "Germany",
    "@type" : "GeographicAddress"
  }
}

```

```
},  
  "@type" : "GeographicAddressValidation"  
}
```

Response Headers

X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 201
X-Request-Channel:
{prefix}.geographicAddress.v5.createGeographicAddressValidation.commandRequest

Response Payload

```
{  
  "id" : "5a897fc3-c269-4fe8-98fe-611b4ce9c3b8",  
  "href" : "https://host/tmf-  
api/geographicAddressManagement/v4/geographicAddressValidation/5a897fc3-c269-4fe8-  
98fe-611b4ce9c3b8",  
  "provideAlternative" : true,  
  "state" : "done",  
  "validationDate" : "2012-07-09T19:22:09.1440844Z",  
  "validationResult" : "partial",  
  "submittedGeographicAddress" : {  
    "streetNr" : "151",  
    "streetName" : "Landgrabenweg",  
    "city" : "Bonn",  
    "country" : "Germany",  
    "@type" : "GeographicAddress"  
  },  
  "alternateGeographicAddress" : [ {  
    "id" : "2b8cea8f-642d-42e0-bdb2-6f47fabb3f07",  
    "href" : "https://host/tmf-  
api/geographicAddressManagement/v4/geographicAddress/2b8cea8f-642d-42e0-bdb2-  
6f47fabb3f07",  
    "streetNr" : "151",  
    "streetNrSuffix" : "Erstbau",  
    "streetName" : "Landgrabenweg",  
    "streetType" : "road",  
    "streetSuffix" : "",  
    "postcode" : "53227",  
    "locality" : "Beuel",  
    "city" : "Bonn",  
    "stateOrProvince" : "NRW",  
    "country" : "Germany",  
    "geographicLocation" : {  
      "id" : "67301845-ee43-4984-ba3b-b4fba4b98872",  
      "href" : "https://host/tmf-  
api/geographicLocation/v4/geographicLocation/67301845-ee43-4984-ba3b-b4fba4b98872",  
      "@type" : "GeoJsonPoint",
```

```

    "topicRef" : "kafka://broker-address/topic-name"
  },
  "@type" : "GeographicAddress",
  "topicRef" : "kafka://broker-address/topic-name"
} ],
"@type" : "GeographicAddressValidation",
"topicRef" : "kafka://broker-address/topic-name"
}

```

Updates partially a GeographicAddressValidation

Request topic: {prefix}.geographicAddress.v5.patchGeographicAddressValidation.commandRequest

Reply topic: {prefix}.geographicAddress.v5.patchGeographicAddressValidation.commandReply

Description

This operation allows partial updates of a GeographicAddressValidation entity. Support of json/merge (<https://tools.ietf.org/html/rfc7386>) is mandatory, support of json/patch (<http://tools.ietf.org/html/rfc5789>) is optiona. Note: If the update operation yields to the creation of sub-resources or relationships, the same rules concerning mandatory sub-resource attributes and default value settings in the createGeographicAddressValidation operation applies to the patchGeographicAddressValidation operation. Hence these tables are not repeated here.

Patchable and Non Patchable Attributes

| Non Patchable Attributes | Rule |
|--------------------------|------|
| href | |
| id | |

| Patchable Attributes | Rule |
|----------------------------|------|
| @baseType | |
| @schemaLocation | |
| @type | |
| alternateGeographicAddress | |
| validGeographicAddress | |

Usage samples

Here's an example of a request for updating a geographic address validation - set status to done. This example illustrating patch merge, When PATCH is implemeted merge syntaxt is mandatory

This example uses the PatchGeographicAddressValidationMergePatchRequest request message (used for a payload of type application/merge-patch+json).

Request message header

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel:
{prefix}.geographicAddress.v5.patchGeographicAddressValidation.commandReply
Parameters: {
  "id": bcb5c3ee-c667-4a45-864b-a23030fb452e
}
```

Request Payload

```
{
  "state" : "done"
}
```

Response Headers

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 200
X-Request-Channel:
{prefix}.geographicAddress.v5.patchGeographicAddressValidation.commandRequest
```

Response Payload

```
{
  "id" : "bcb5c3ee-c667-4a45-864b-a23030fb452e",
  "href" : "https://host/tmf-
api/geographicAddressManagement/v4/geographicAddressValidation/bcb5c3ee-c667-4a45-
864b-a23030fb452e",
  "provideAlternative" : true,
  "state" : "done",
  "validationDate" : "2012-07-09T19:22:09.1440844Z",
  "validationResult" : "partial",
  "submittedGeographicAddress" : {
    "streetNr" : "151",
    "streetName" : "Landgrabenweg",
    "city" : "Bonn",
    "country" : "Germany"
  },
  "alternateGeographicAddress" : [ {
    "id" : "2b8cea8f-642d-42e0-bdb2-6f47fabb3f07",
    "href" : "https://host/tmf-
api/geographicAddressManagement/v4/geographicAddress/2b8cea8f-642d-42e0-bdb2-
6f47fabb3f07",
    "streetNr" : "151",
    "streetNrSuffix" : "Erstbau",
    "streetName" : "Landgrabenweg",
    "streetType" : "road",
    "streetSuffix" : "",

```

```

    "postcode" : "53227",
    "locality" : "Beuel",
    "city" : "Bonn",
    "stateOrProvince" : "NRW",
    "country" : "Germany",
    "geographicLocation" : {
      "id" : "67301845-ee43-4984-ba3b-b4fba4b98872",
      "href" : "https://host/tmf-
api/geographicLocation/v4/geographicLocation/67301845-ee43-4984-ba3b-b4fba4b98872",
      "@type" : "GeoJsonPoint",
      "topicRef" : "kafka://broker-address/topic-name"
    },
    "topicRef" : "kafka://broker-address/topic-name"
  } ],
  "topicRef" : "kafka://broker-address/topic-name"
}

```

Operations on GeographicAddress

Retrieves a GeographicAddress by ID

Request topic: {prefix}.geographicAddress.v5.retrieveGeographicAddress.commandRequest

Reply topic: {prefix}.geographicAddress.v5.retrieveGeographicAddress.commandReply

Description

This operation retrieves a GeographicAddress entity. Attribute selection is enabled for all first level attributes. Filtering may be available depending on the compliance level supported by an implementation.

Usage samples

Request message header

```

X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.geographicAddress.v5.retrieveGeographicAddress.commandReply
Parameters: {
  "id": 4c6b6fc1-d954-4ad6-adf6-59c275afb541
}

```

Response Headers

```

X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 200
X-Request-Channel:
{prefix}.geographicAddress.v5.retrieveGeographicAddress.commandRequest

```

Response Payload

```
{
  "id" : "4c6b6fc1-d954-4ad6-adf6-59c275afb541",
  "href" : "https://host/tmf-
api/geographicAddressManagement/v4/geographicAddress/4c6b6fc1-d954-4ad6-adf6-
59c275afb541",
  "streetNr" : "151",
  "streetNrSuffix" : "Erstbau",
  "streetName" : "Landgrabenweg",
  "streetType" : "road",
  "streetSuffix" : "",
  "postcode" : "53227",
  "locality" : "Beuel",
  "city" : "Bonn",
  "stateOrProvince" : "NRW",
  "country" : "Germany",
  "geographicLocation" : {
    "id" : "67301845-ee43-4984-ba3b-b4fba4b98872",
    "href" : "https://host/tmf-api/geographicLocation/v4/geographicLocation/67301845-
ee43-4984-ba3b-b4fba4b98872",
    "@type" : "GeoJsonPoint",
    "topicRef" : "kafka://broker-address/topic-name"
  },
  "countryCode" : [ {
    "format" : "ISO 3166-1 Alpha-2",
    "value" : "DE",
    "@type" : "StandardIdentifier"
  } ],
  "externalIdentifier" : [ {
    "id" : "df882733-6a5d-440a-9a91-d261ba6ac346",
    "owner" : "Master",
    "externalIdentifierType" : "GeographicAddress",
    "@type" : "ExternalIdentifier"
  } ],
  "geographicAddressType" : "residential",
  "geographicSubAddress" : [ {
    "id" : "20901d24-f20e-4391-8db8-57757380c9eb",
    "href" : "https://host/tmf-
api/geographicAddressManagement/v4/geographicAddress/4c6b6fc1-d954-4ad6-adf6-
59c275afb541/geographicSubAddress/20901d24-f20e-4391-8db8-57757380c9eb",
    "levelNumber" : "0",
    "levelType" : "floor",
    "subAddressType" : "subUnit",
    "subUnit" : [ {
      "subUnitNumber" : "1",
      "subUnitType" : "SHOP",
      "@type" : "GeographicSubAddressUnit"
    } ],
    "@type" : "GeographicSubAddress",
```

```

    "topicRef" : "kafka://broker-address/topic-name"
  } ],
  "@type" : "GeographicAddress",
  "topicRef" : "kafka://broker-address/topic-name"
}

```

List or find GeographicAddress objects

Request topic: {prefix}.geographicAddress.v5.listGeographicAddress.commandRequest

Reply topic: {prefix}.geographicAddress.v5.listGeographicAddress.commandReply

Description

This operation list GeographicAddress entities. Attribute selection is enabled for all first level attributes. Filtering may be available depending on the compliance level supported by an implementation.

Usage samples

Here's an example of a for retrieving Geographic Address resources

Request Headers

```

X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.geographicAddress.v5.listGeographicAddress.commandReply

```

Request message header

```

{
  "Parameters": {
    "filtering": "city=Berlin"
  }
}

```

Response Headers

```

X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 200
X-Request-Channel: {prefix}.geographicAddress.v5.listGeographicAddress.commandRequest

```

Response Payload

```

[ {
  "id" : "f9a64ffe-845d-4c5d-8618-910d2c56004e",
  "href" : "https://host/tmf-
api/geographicAddressManagement/v4/geographicAddress/f9a64ffe-845d-4c5d-8618-

```



```

910d2c56004e",
  "streetNr" : "1",
  "streetName" : "UnterDenLinden",
  "city" : "Berlin",
  "country" : "Germany",
  "postcode" : "10117",
  "@type" : "GeographicAddress",
  "geographicLocation" : {
    "id" : "d61505c5-0edb-4539-b1bc-2ba06a308c21",
    "href" : "https://host/tmf-api/geographicLocation/v4/geographicLocation/d61505c5-
0edb-4539-b1bc-2ba06a308c21",
    "@type" : "GeoJsonPoint",
    "topicRef" : "kafka://broker-address/topic-name"
  },
  "countryCode" : [ {
    "format" : "ISO 3166-1 Alpha-2",
    "value" : "DE",
    "@type" : "StandardIdentifier"
  } ],
  "externalIdentifier" : [ {
    "id" : "df882733-6a5d-440a-9a91-d261ba6ac346",
    "owner" : "Master-SBS",
    "externalIdentifierType" : "GeographicAddress",
    "@type" : "ExternalIdentifier"
  } ],
  "geographicAddressType" : "residential",
  "topicRef" : "kafka://broker-address/topic-name"
}, {
  "id" : "62a13770-b897-4b12-9b86-d05aa6f9b0c7",
  "href" : "https://host/tmf-
api/geographicAddressManagement/v4/geographicAddress/62a13770-b897-4b12-9b86-
d05aa6f9b0c7",
  "streetNr" : "3",
  "streetName" : "UnterDenLinden",
  "city" : "Berlin",
  "country" : "Germany",
  "postcode" : "10117",
  "@type" : "GeographicAddress",
  "geographicLocation" : {
    "id" : "d94a469c-12f3-425c-afa7-17165b704c70",
    "href" : "https://host/tmf-api/geographicLocation/v4/geographicLocation/d94a469c-
12f3-425c-afa7-17165b704c70",
    "@type" : "GeoJsonPoint",
    "topicRef" : "kafka://broker-address/topic-name"
  },
  "countryCode" : [ {
    "format" : "ISO 3166-1 Alpha-2",
    "value" : "DE",
    "@type" : "StandardIdentifier"
  } ],
  "externalIdentifier" : [ {

```

```

    "id" : "bb66f723-f55b-4035-a938-9be6f66f660c",
    "owner" : "Master-SBS",
    "externalIdentifierType" : "GeographicAddress",
    "@type" : "ExternalIdentifier"
  } ],
  "geographicAddressType" : "residential",
  "topicRef" : "kafka://broker-address/topic-name"
} ]

```

Creates a GeographicAddress

Request topic: {prefix}.geographicAddress.v5.createGeographicAddress.commandRequest

Reply topic: {prefix}.geographicAddress.v5.createGeographicAddress.commandReply

Description

This operation creates a GeographicAddress entity.

Usage samples

Creation of a new Geographic Address with POST operation

Request Headers

```

X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.geographicAddress.v5.createGeographicAddress.commandReply

```

Request Payload

```

{
  "streetNr" : "2",
  "streetNrSuffix" : "B",
  "streetName" : " Libertatii",
  "streetType" : "Strada",
  "postcode" : "100283",
  "locality" : "Ploiesti",
  "city" : "Ploiesti",
  "stateOrProvince" : "Prahova",
  "country" : "Romania",
  "geographicLocation" : {
    "id" : "67301845-ee43-4984-ba3b-b4fba4b98872",
    "href" : "https://host/tmf-api/geographicLocation/v4/geographicLocation/67301845-ee43-4984-ba3b-b4fba4b98872",
    "@type" : "GeographicLocation",
    "topicRef" : "kafka://broker-address/topic-name"
  },
  "countryCode" : [ {
    "format" : "ISO 3166-1 Alpha-2",

```

```

    "value" : "R0",
    "@type" : "StandardIdentifier"
  } ],
  "externalIdentifier" : [ {
    "id" : "df882733-6a5d-440a-9a91-d261ba6ac346",
    "owner" : "Master-SBS",
    "externalIdentifierType" : "GeographicAddress",
    "@type" : "ExternalIdentifier"
  }, {
    "id" : "b3444353-14d5-4cf5-acea-bba60964fcfd",
    "owner" : "Secondary-SBS",
    "externalIdentifierType" : "GeographicAddress",
    "@type" : "ExternalIdentifier"
  } ],
  "geographicAddressType" : "residential",
  "@type" : "GeographicAddress"
}

```

Response Headers

```

X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 201
X-Request-Channel:
{prefix}.geographicAddress.v5.createGeographicAddress.commandRequest

```

Response Payload

```

{
  "id" : "2b8cea8f-642d-42e0-bdb2-6f47fabb3f07",
  "href" : "https://host/tmf-
api/geographicAddressManagement/v4/geographicAddress/2b8cea8f-642d-42e0-bdb2-
6f47fabb3f07",
  "streetNr" : "2",
  "streetNrSuffix" : "B",
  "streetName" : " Libertatii",
  "streetType" : "Strada",
  "postcode" : "100283",
  "locality" : "Ploiesti",
  "city" : "Ploiesti",
  "stateOrProvince" : "Prahova",
  "country" : "Romania",
  "geographicLocation" : {
    "id" : "67301845-ee43-4984-ba3b-b4fba4b98872",
    "href" : "https://host/tmf-api/geographicLocation/v4/geographicLocation/67301845-
ee43-4984-ba3b-b4fba4b98872",
    "@type" : "GeographicLocation",
    "topicRef" : "kafka://broker-address/topic-name"
  },
  "countryCode" : [ {

```

```

    "format" : "ISO 3166-1 Alpha-2",
    "value" : "RO",
    "@type" : "StandardIdentifier"
  } ],
  "externalIdentifier" : [ {
    "id" : "df882733-6a5d-440a-9a91-d261ba6ac346",
    "owner" : "Master-SBS",
    "externalIdentifierType" : "GeographicAddress",
    "@type" : "ExternalIdentifier"
  }, {
    "id" : "b3444353-14d5-4cf5-acea-bba60964fcfd",
    "owner" : "Secondary-SBS",
    "externalIdentifierType" : "GeographicAddress",
    "@type" : "ExternalIdentifier"
  } ],
  "geographicAddressType" : "residential",
  "@type" : "GeographicAddress",
  "topicRef" : "kafka://broker-address/topic-name"
}

```

Updates partially a GeographicAddress

Request topic: {prefix}.geographicAddress.v5.patchGeographicAddress.commandRequest

Reply topic: {prefix}.geographicAddress.v5.patchGeographicAddress.commandReply

Description

This operation allows partial updates of a GeographicAddress entity. Support of json/merge (<https://tools.ietf.org/html/rfc7386>) is mandatory, support of json/patch (<http://tools.ietf.org/html/rfc5789>) is optional. Note: If the update operation yields to the creation of sub-resources or relationships, the same rules concerning mandatory sub-resource attributes and default value settings in the createGeographicAddress operation applies to the patchGeographicAddress operation. Hence these tables are not repeated here.

Patchable and Non Patchable Attributes

| Non Patchable Attributes | Rule |
|--------------------------|------|
| href | |
| id | |

| Patchable Attributes | Rule |
|----------------------|------|
| @baseType | |
| @schemaLocation | |
| @type | |
| geographicLocation | |

| Patchable Attributes | Rule |
|----------------------|------|
| locality | |
| streetNrLast | |
| streetNrLastSuffix | |
| streetNrSuffix | |
| streetSuffix | |

Usage samples

Here's an example of a request for updating a geographic address - set postcode to 999283. This example illustrating patch merge, When PATCH is implemented merge syntax is mandatory

This example uses the PatchGeographicAddressMergePatchRequest request message (used for a payload of type application/merge-patch+json).

Request message header

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Reply-Channel: {prefix}.geographicAddress.v5.patchGeographicAddress.commandReply
Parameters: {
  "id": 2b8cea8f-642d-42e0-bdb2-6f47fabb3f07
}
```

Request Payload

```
{
  "postcode" : "999283"
}
```

Response Headers

```
X-Correlation-Id: 4226B739-1DD2-4B43-A393-5E6F05CEF169
Status-Code: 200
X-Request-Channel: {prefix}.geographicAddress.v5.patchGeographicAddress.commandRequest
```

Response Payload

```
{
  "id" : "2b8cea8f-642d-42e0-bdb2-6f47fabb3f07",
  "href" : "https://host/tmf-
api/geographicAddressManagement/v4/geographicAddress/2b8cea8f-642d-42e0-bdb2-
6f47fabb3f07",
  "streetNr" : "2",
  "streetNrSuffix" : "B",
}
```

```

"streetName" : " Libertatii",
"streetType" : "Strada",
"postcode" : "999283",
"locality" : "Ploiesti",
"city" : "Ploiesti",
"stateOrProvince" : "Prahova",
"country" : "Romania",
"geographicLocation" : {
  "id" : "67301845-ee43-4984-ba3b-b4fba4b98872",
  "href" : "https://host/tmf-api/geographicLocation/v4/geographicLocation/67301845-ee43-4984-ba3b-b4fba4b98872",
  "@type" : "GeoJsonPoint",
  "topicRef" : "kafka://broker-address/topic-name"
},
"countryCode" : [ {
  "format" : "ISO 3166-1 Alpha-2",
  "value" : "RO",
  "@type" : "StandardIdentifier"
} ],
"externalIdentifier" : [ {
  "id" : "df882733-6a5d-440a-9a91-d261ba6ac346",
  "owner" : "Master-SBS",
  "externalIdentifierType" : "GeographicAddress",
  "@type" : "ExternalIdentifier"
}, {
  "id" : "b3444353-14d5-4cf5-acea-bba60964fcfd",
  "owner" : "Secondary-SBS",
  "externalIdentifierType" : "GeographicAddress",
  "@type" : "ExternalIdentifier"
} ],
"geographicAddressType" : "residential",
"topicRef" : "kafka://broker-address/topic-name"
}

```

Deletes a GeographicAddress

Request topic: {prefix}.geographicAddress.v5.deleteGeographicAddress.commandRequest

Reply topic: {prefix}.geographicAddress.v5.deleteGeographicAddress.commandReply

Description

This operation deletes a GeographicAddress entity.

Usage samples

This operation deletes a GeographicAddress resource.

Request

DELETE /geographicaddress/4c6b6fc1-d954-4ad6-adf6-59c275afb541

Response

204

NOTIFICATIONS

Topic for GeographicAddressValidation entity:

`{prefix}.geographicAddress.v5.geographicAddressValidation.notificationEvent`

For every single of operation on the entities use the following templates and provide sample notification message payloads.

It is assumed that consumers will subscribe to the `notificationEvent` channel to receive notifications, and that the server component will post notifications to that channel.

Publish Event to listener

Here's an example of a notification received by the consumer. In this example "EVENT TYPE" should be replaced by one of the notification types supported by this API (see Notification resources Models section) and EVENT BODY refers to the data structure of the given notification type.

```
{ "event": { EVENT BODY }, "eventType": "EVENT_TYPE" }
```

For detailed examples on the general TM Forum notification mechanism, see the TMF Async Design Guidelines.

Acknowledgements

Release History

| Release Number | Date | Release led by: | Description |
|----------------|------|-----------------|-------------|
| | | | |
| | | | |

Contributors to Document

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