GS1 GEPIR Specifications

Version 4.0.0, 15-October-2015

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GS1 Global Office

Avenue Louise 326, bte 10

B-1050 Brussels, Belgium

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Document Summary

Document Item	Current Value
Document Title	GS1 GEPIR Specifications
Date Last Modified	15-October-2015
Current Document Version/Issue	Version 4.0.0
Status	Final
Document Description	GS1 GEPIR Specifications - Version 4.0.0

Contributors

Name	Organization
GS1 GEPIR Technical Development Team	GS1

Change Log

Issue No.	Date of Change	Changed By	Summary of Change
1	9 December 2013	Mark Van Eeghem	Changed based on Community Review comments by Summa: - Changed RequestHeaderType to RequestHeader - Changed ResponseHeaderType to ResponseHeader Section 5.4.1.9, Added GEPIRCommon to title. Section 5.4.1.9 , reordered classes to be the same as in other diagrams where MemberOrganization is used. Section 5.4.1.7 & 5.4.2.7 class diagrams: moved second association from Contact to CommunicationsChannel to make visible. Section 7.2.3.1 & 7.2.3.2: renamed association from reguestedItemGTIN to requestedItem to avoid duplication of name.
2	24 January 2014	Mark Van Eeghem	Updates based on Community Review by Summa.: - Moved TradeItemclassification into GEPIR Common - Moved TradeItemUnitDescriptorCode into GEPIR from GDSN Common - Moved all GEPIR specific codelist datatypes under GEPIRCommon - Moved all GEPIR Specific datatypes under GEPIR Common - Resequenced GetPartyByName class - Updated GetRootDirectory class, GetRouterDetail class. - Updated GepirItem class - Updated GepirParty class - Added validation rules to restrict values for GepirGetPartyRequestParameters to be at least 2 characters long. - Updated Section 8 - codelists to reflect the move of codelists to GEPIR Common.

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Issue No.	Date of Change	Changed By	Summary of Change
3	3 February 2014	Mark Van Eeghem	Updated class diagrams and GDD reports for RouterDetail and MemberOrganisations to reflect the change from dataType Version Identifier to strin {1..10}. Removed the ipAddress as dataType in section 9, as it has been replaced by string {1..255}in the models.
4	31 March 2014	Sean Lockhead	GS1 Technical Document Review and Finalised Document
5	5 June 2014	Mark Van Eeghem	Updated for GEPIR TDT Meeting 4-5 June 2014: • Removed module GepirCountries + moved class GepirCountry to RootDirectory • Removed separate section GepirCountries in the specs. • Removed GS1CompanyPrefix from model in MemberOrganisation + changed from nonNegativeInteger to string {4..12} in PartyDataline • routerDetail renamed attrib lastGepirUpdateDate to routerDetailRefreshDate • Changed all occurrences of RequestedKey.requestedKeyCode from 1..* to 1..1 (7.1.3.8, 7.1.4.9, 7.2.3.2, 7.2.4.2) • Changed all occurrences of RequestedKey.requestedKeyValue from 1..* to 1..1: the multiplicity is covered by the association to the RequestedKey class and allows for the pair requestedKey and requestedKeyValue to be repeated correctly. • Changed cardinality of GetItemByGTIN.requestedGTIN from 1..* to 1..1000 • Changed cardinality of association getKeyLicensee (GetKeyLicensee to RequestedKey) from 1..* to 1..1000 • Changed cardinality of association getPrefixLicensee (GetPrefixLicensee to RequestedKey) from 1..* to 1..1000 • Need GLN of requester and Node in each request. (Solved: Is there through RequestHeader, but added RequestHeader and ResponseHeader to the different methods for clarity) • Changed cardinality of RequestedKey.requestedLanguage from 0..* to 0..1 • Sequence diagram for GetPrefixLicensee: changed gepirLicensee to prefixLicensee. Changed keyLicensee to prefixLicensee. Changed error routine to show that if no data available only the response header is returned. Changed request/response to show that RequestHeader and ResponseHeader are always sent.

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Issue No.	Date of Change	Changed By	Summary of Change
			• Sequence diagram for GetKeyLicensee: Changed error routine to show that if no data available only the response header is returned. Changed request/response to show that RequestHeader and ResponseHeader are always sent. • Sequence diagram for GetItemByGTIN: updated to reflect that request header and response header are sent. Changed error routine to show that if no data available only the response header is returned • Sequence diagram for GetPartyByName: updated to reflect that request header and response header are sent. Changed error routine to show that if no data available only the response header is returned • Sequence diagram for GetRootdirectory: updated to reflect that request header and response header are sent. Changed error routine to show that if no data available only the response header is returned • Sequence diagram for GetRouterDetail: updated to reflect that request header and response header are sent. Changed error routine to show that if no data available only the response header is returned • Updated Use Case 2 (Get Router Detail) to avoid confusion between actors and activities. • Updated Use Case 3 (Get Key Licensee) to avoid confusion between actors and activities. • Updated Web Services Methods overview diagram on p 43 • Updated System Methods diagram on p14 • Updated Activity diagram for GetKeyLicensee: replaced GEPIR Licensee by Key Licensee + Added Error Handling routine + Added RequestHeader and ResponseHeader to the right places. • Updated Activity diagram for GetPrefixLicensee: replaced GEPIR Licensee by Key Licensee + Added Error Handling routine + Added RequestHeader and ResponseHeader to the right places. • Added updated diagram in 7.1.4 highlighting the text of the intro paragraphs. • Updated Use Case 4 (Get Prefix Licensee) to avoid confusion between actors and activities. • Updated Use Case 5 (Get Item By GTIN) to avoid confusion between actors and activities. • Updated Activity diagram for GetItemByGTIN: Added Error Handling routine + Added RequestHeader and ResponseHeader to the right places.

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Issue No.	Date of Change	Changed By	Summary of Change
			• Updated Use Case 6 (Get Part by Name) to avoid confusion between actors and activities. • Updated definition of requestedLanguage in 7.1.3.8 GDD report for GetKeyLicensee from " The language of the requested information." to " Specifies the language of the request text fields if other than provided by default by the information provider" • Updated definition of requestedLanguage in 7.1.4.9 GDD report for GetPreifxLicensee from " The language of the requested information." to " Specifies the language of the request text fields if other than provided by default by the information provider" • Updated definition of requestedLanguage in 7.1.5.6 GDD report for GetItemByGTIN from " Language requested." to " Specifies the language of the request text fields if other than provided by default by the information provider" • Updated definition of requestedLanguage in 7.1.6.6 GDD report for GetPartyByName from " Language requested." to " Specifies the language of the request text fields if other than provided by default by the information provider" • Updated definition of requestedLanguage in 7.2.4.2 GDD report for GepirParty from " The language of the requested information." to " Specifies the language of the request text fields if other than provided by default by the information provider" • Made all occurrences of requestedLanguage "0..1" from "0..*" (7.1.3.8,7.1.4.9,7.1.5.6,7.1.6.6,7.2.4.2) • Moved the association to RequestedKey from GepirItem to ItemDataLine (7.2.3.2) • Moved the association to RequestedKey from GepirParty to PartyDataLine (7.2.4.2) • Removed requestedItemGTIN in ItemDataLine (+updated GDD report 7.2.3.2) as this is in duplicate with the association to the RequestedKey Class. • 7.2.4.1 & 7.2.4.2 Association from PartyDataLine to RequestedKey changed to 0..1 from 1..1 because party can be based on name search. This makes the association conditional and requires a validation rule to make it mandatory in case it is not a name search. • 11.5 Created Validation Rule #7 to cover the conditional population of the class RequestedKey in the method GepirParty. • 7.2.4.1 & 7.2.4.2 changed cardinality of the attribute returnCode in the class PartyDataLine from 1..* to 1..1, as only a single return code is being returned. • 7.2.3.1 & 7.2.3.2 changed cardinality of the attribute

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Issue No.	Date of Change	Changed By	Summary of Change
			returnCode in the class ItemDataLine from 1..* to 1..1, as only a single return code is being returned. • 7.2.3.1 & 7.2.3.2 changed cardinality of attribute lastchangeDate in class ItemDataLine from 1..1 to 0..1 because even though the attribute is mandatory, it cannot be entered if no record is returned. • 11.5 Created VR#8 to cover the conditional population of lastChangeDate in class ItemDataLine in the method GepirItem. • 7.2.4.1 & 7.2.4.2 changed cardinality of attribute lastchangeDate in class PartyDataLine from 1..1 to 0..1 because even though the attribute is mandatory, it cannot be entered if no record is returned. • 11.5 Created VR#9 to cover the conditional population of lastChangeDate in class PartyDataLine in the method GepirParty. • 7.2.4.1 & 7.2.4.2 changed cardinality of attribute gS1CompanyPrefix in class PartyDataLine from 1..1 to 0..1 because even though the attribute is mandatory, it cannot be entered if no record is returned. • 11.5 Created VR#10 to cover the conditional population of gS1CompanyPrefix in class PartyDataLine in the method GepirParty. • 11.5 Created Validation rule #11 for the attribute returnCode in the class ResponseHeader, as it should only ever contain codes 0,98,99. • 7.2.4.1 & 7.2.4.2 Removed attribute lastGepirRefreshDate from the class GepirParty as not required. • 7.2.3.1 & 7.2.3.2 Removed attribute lastGepirRefreshDate from the class GepirItem as not required. • 7.2.3.1 & 7.2.3.2 Moved attribute itemDataLanguage from GepirItem to ItemDataLine class. • 7.2.4.1 & 7.2.4.2 Moved attribute partyDataLanguage from GepirParty to PartyDataLine class. • 5.4.1.7, 5.4.1.9 & 5.4.1.10, 5.4.2.7 & 5.4.2.8 Removed attribute isGepirMOHosted from class MemberOrganisation as it is in duplicate with attrib gepirStatusCode in class • 5.4.1.7, 5.4.2.7 & 5.4.2.8 In RouterDetail, in the class GepirRouter, removed the attribute routerMirrorURL • In class RouterDetail: added attributes routerIPAddress & routerURL to replace the attribute routerHost, which has been removed. • Removed attribute isRouterHostIPAddress in the class GepirRouter

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Issue No.	Date of Change	Changed By	Summary of Change
			• Made attribute Subnetmask in class GepirRouter mandatory (from 0..1 to 1..1) • 8.1.2 Updated ReturnCode 3: replaced GLN by RequestedKey and updated the definition because it is not only about GLN anymore, but about all requested keys. • Added new named association from class GepirRouter to new Class EntryPoint (+legacyVersion) • Added new class EntryPoint with attributes gepirVersion and routerURL to MemberOrganisation • Added new code list gepirVersionCode to the section 8.1.4 • Updated diagram in 8.1 to show addition of new code lists common to Gepir. • Renamed attribute gepirVersion to gepirVersionCode in class GepirInformation (MemberOrganisation) to stay in line with modeling methodology. Changed data type from string {1..10} to GepirVersionCode (5.4.1.9,5.4.1.10, 5.4.2 7, 5.4.2.8) • 7.1.5.5 & 7.1.5.6 Changed cardinality of attribute requestedGTIN in class GetItemByGTIN from 1..* to 1..1000 for security reasons. • 7.1.3.7 & 7.1.3.8 Changed cardinality of association +getKeyLicensee from class GetKeyLicensee to class RequestedKey from 1..* to 1..1000 for security reasons. • 7.1.4.8 & 7.1.4.9 Changed cardinality of association +getPrefixLicensee from class GetPrefixLicensee to class RequestedKey from 1..* to 1..1000 for security reasons. • Moved the RequestedKey class from Services Common into the GepirCommon area as compatibility with other services has been broken through changing the cardinality of the different attributes. • 12.2.2 updated Table 1 to reflect the removal of option E. • Updated document formatting.
6	4 July 2014	Mark Van Eeghem	Based on comments in final community review: • Renamed class RequestedKey to GepirRequestedKey to avoid confusion with the class in Services Common. + Updated all occurrences in class diagrams and GDD reports. • Removed reference in methods diagram to obsolete method GetPartyByKey • Updated text in use case on p51 to highlight premium limit is only applicable to non premium users.

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Issue No.	Date of Change	Changed By	Summary of Change
			• Updated cardinality of all occurrences of informationProvider attribute to 1..1 from 0..1 • Added RC 6 to VR 11. • Moved second paragraph of 7.1.4.1 to new section 7.1.3.1 as it refers to GetKeyLicensee • Copied sections 7.1.4.3.1 -9 to new sections 7.1.3.3.1 and ff. as this is applicable to this method as well. • Updated cardinality of RequestedKey in ItemDataLine from 0..1 to 1..1. • Added note in codelist section for Countrycode, specifying that GEPIR uses Alpha2. • Added definition in Section 2.4 for Interface MO.
7	7 July 2014	Mark Van Eeghem	• Updated class diagram on p26 5.4.1.5 Root Directory for update of cardinality informationProvider to 1..1 • Put comment on p14 in implementation guidance. • The section on GetRouterDetail is kept in the current version of the GEPIR specs. Members on the call agree to review this section and whether to remove it at such time when a new release of GEPIR post 4.0 is discussed. • The comment in the section on Premium users with regards to "Authentication" and "Security" is removed, and will be revised at the time when the Architecture Group comes with its recommendations on these issues. This will be for the next release (4.1 or post that). • In section 12, the text has been amended to read UTF8, where previously it was ISO639. • In Validation Rule 11, the group added RC 4 as well. • The definition of the attribute GepirGetPartyRequestParameters/requestedCountry has been amended to show that the code 'ZZ' is for internal use only. • The GEPIR TDT has also created a new Validation rule (12), to reflect the fact that code 'ZZ' in a name search is internal only.
8	19 November 2014	Mark Van Eeghem	• Added in 2 missing attributes under GepirItem/ItemDataLine: itemName and brandName. • Deleted association from Rootdirectory class to GepirCountry • Added association from MemberOrganisation to GepirCountry class. This impacts multiple methods. • Changed cascade attribute in RequestHeader class: from integer 0..1 {1..9} to integer 1..1 {1..1} • Added VR13 (for gln check) and VR 14 (for gtin check). • Added new section: diagram and explanation into the codelist section for code construct.
9	15 December	Mark Van	• Moved GepirCountry class from Rootdirectory to

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Issue No.	Date of Change	Changed By	Summary of Change
	2014	Eeghem	GEPIR Common. • Added VR to check the length of requestedKeyValue atrribute. • Updated diagram in 5.4 to reflect move of GepirCountry class. • Updated class diagram and GDD Report in 5.4.1.5 to reflect move of GepirCountry class. • Updated class diagram and GDD Report in 5.4.2.5 to reflect move of GepirCountry class • Updated diagram in 7.1.1 with methods to show the removal of the remnant TradeItemContactInformation which is not in use anymore.
10	17 December 2014	Mark Van Eeghem	• Reordered attributes in the class diagrams and GDD Reports to make them in alphabetical order again as in previous version. • Resequenced associations to be correct from Shared Common (CommunicationChannel) • Moved code Values from requestedKey into GEPIR Common in Codelist section • Updated VR14 to reflect 14 digits, not 13.
11	27 February 2015	Mark Van Eeghem	ERRATA: Added GCN in section 7.1.4.2. + added text " As additional Identification keys are introduced, they should be scheduled for deployment into the GEPIR network as soon as it is possible." Was omitted but is present in 7.1.3.2.
12	13 April 2015	Mark Van Eeghem	Added new Return Code 97 to the code list in Section 8.
13	15 October 2015	Mark Van Eeghem	**ERRATA:** Updated Validation Rule 10 by adding “unless the calling method is getPartyByName or One-Off Keys are queried.” Updated Validation Rule 10 Error Message by adding “Furthermore the gS1companyPrefix in GepirParty is mandatory for all calling methods with the exception of getPartyByName and One-Off Keys.” Updated ReturnCode 16 from “Prefix 02 or 04” in both the code name and code definition. Updated ReturnCode 17 from “20-29” in both code name and code definition.

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1. Introduction

This document describes the functions and the technical implementation details of the GS1 GEPIR (Global Electronic Party Information Registry) network.

The GEPIR network provides read-only access to data related to all GS1 keys based on a GS1 Company Prefix. Basic company data is held by the backbone servers of the GEPIR network as part of the administration of GS1 Member Organisations (MO's). Where more information or in-depth data on an item is required, the request is routed to another backbone server or to a secondary server hosting the information.

The most fundamental and essential component of the GS1 global standards is the numbering system. The GS1 Company Prefix (GCP) in combination with a user-assigned suffix ensures unique identification of packages, parties, shipments and many other elements in the supply chain.

The GEPIR network, run by GS1 Member Organisations (MOs), provides the link between the numbers and the data they represent. With the exception of essential data needed for administration, GS1 MOs do not normally store the level of detail of user companies or their products needed for electronic commerce. (Some MOs do host such services, but these are not considered part of the GEPIR backbone network as such). The role of GEPIR is to know where such information is stored. An analogy can be made with the telephone directory of a large corporation. The public telecom service will provide the number to the switchboard, but not to a given individual or department.

GEPIR is based on the use of Internet protocols, in particular HTTP, Hypertext Transfer Protocol, and XML, eXtensible Mark-up Language.

2. About this version of the GEPIR Specifications

2.1. New formats

GEPIR was one of the first global networked applications to use XML. Since the original release progress has been made towards a set of common XML components for use in the GS1 community. GEPIR V4.0 uses these components where possible.

2.2. New and changed functionalities

From an MO perspective, additional functionality includes:

- support for all GS1 Identification Keys (and GS1 Company Prefix resolution)
- improved and updated functionality and more comprehensive Return Codes
- user-defined fields, enabling MO value-added services
- error analysis and reporting has been extended
- additional support batch input
- an enhanced authorisation mechanism is provided for determination of "Premium Users".
- consolidation of documents: from '4 Specifications + 4 Guidelines' to '1 Specification + 1 Guideline'
- better development tools such as Use Cases, Activity & Sequence Diagrams, UML Models

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From a user perspective, additional functionality includes:

- access to additional trade item (package) data by GTIN through GEPIR
- access to additional Party data by GLN through GEPIR
- resolutions of a number of GSMP GEPIR change requests
- alignment with the GS1 Global Data Dictionary, ensuring consistency with the rest of GS1

2.3. Backward compatibility and migration plan

This document describes version 4.0 of GEPIR. As a result of the change in XML format, this version is incompatible with all previous versions.

The number of concurrent major versions in use is always two. It is foreseen that there will not be more than one new or updated version per year. In practice this means that an update to a newer version needs to be done at least once every two years.

Servers supporting version 4.x should therefore be able to handle version 3.x requests (and generate version 3.x responses) until such time as version 5.0 is released.

Clients (and servers when cascading) should check the GEPIR Root Directory for information on which version a server can handle.

2.4. Terminology

The following terms are used in the GEPIR documentation. Other terms are used, where appropriate, are in accordance with the “GS1 General Specifications”.

Company	A legal entity registered with a GS1 Member Organisation for use of the GS1 system.
Router	A web service offering the set of functions as defined in this document.
MO database	The minimum set of data held by one GS1 Member Organisation for each of its user companies.
Backbone server	A server operated by (or on behalf of) a GS1 MO and comprising a router and at least one national MO database and its server.
Local company	A company which is registered in an MO database directly attached to a router
Cascading	The technique of passing a request on to another router or external server when it cannot be processed locally.
GEPIR User	A user of the GEPIR network. This access can be accomplished either in a Graphical User Interface (GUI) or a machine-to-machine connection.
Resolving MO	If the initial inquiry cannot be resolved locally at the interface MO, the inquiry is routed to this MO, based on the GEPIR Root Directory.
Interface MO	This is the MO the end-user connects to in order to perform queries.
Cascaded Source	This is the external source of data that is contacted through the cascading function.

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3. Functions

The Global Electronic Party Information Registry (GEPIR) functions as a network to enable the resolution of all GS1 Identification keys and enables the searching for information using a well-defined set of search criteria.

The GEPIR document answers the following questions:

- Who is the licensee of the GS1 Identification Key?
- Who is the licensee of the GS1 Company Prefix?
- What is the information of about a Party who is a licensee?
- What is the basic GEPIR-based item data about a GTIN?
- Which GS1 Member Organisation is responsible for the maintenance of the master data, especially in the case of Alliance numbers, a GS1 Identification Key formed from a GS1 Company Prefix (GCP) that exists in the number range of one MO but is assigned to another MO for distribution in their market?

While providing the ability to search the network for information based on such criteria as company name, city, country, etc.

Other queries defined in GEPIR are handled by passing the request (or cascading) to an external server hosting the data required. These queries include detailed information on all GS1 Identification Keys. GEPIR allows for queries based on exact look-ups and criteria-based searching as well.

3.1. GEPIR Network

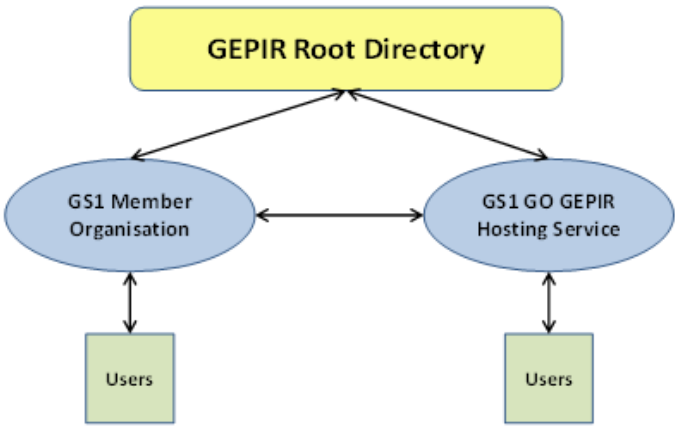

Figure 3—1. Model of GS1 GEPIR Network

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3.1.1. Process

GEPIR is a unique internet-based service that gives access to basic contact information for companies that are members of GS1. Member companies use GS1's globally unique numbering system to identify their products, physical locations, or shipments. By simply typing a product bar code number into GEPIR, anyone can find the contact information of the licensee of that barcode. Physical location numbers and shipment numbers can also be used as search criteria.

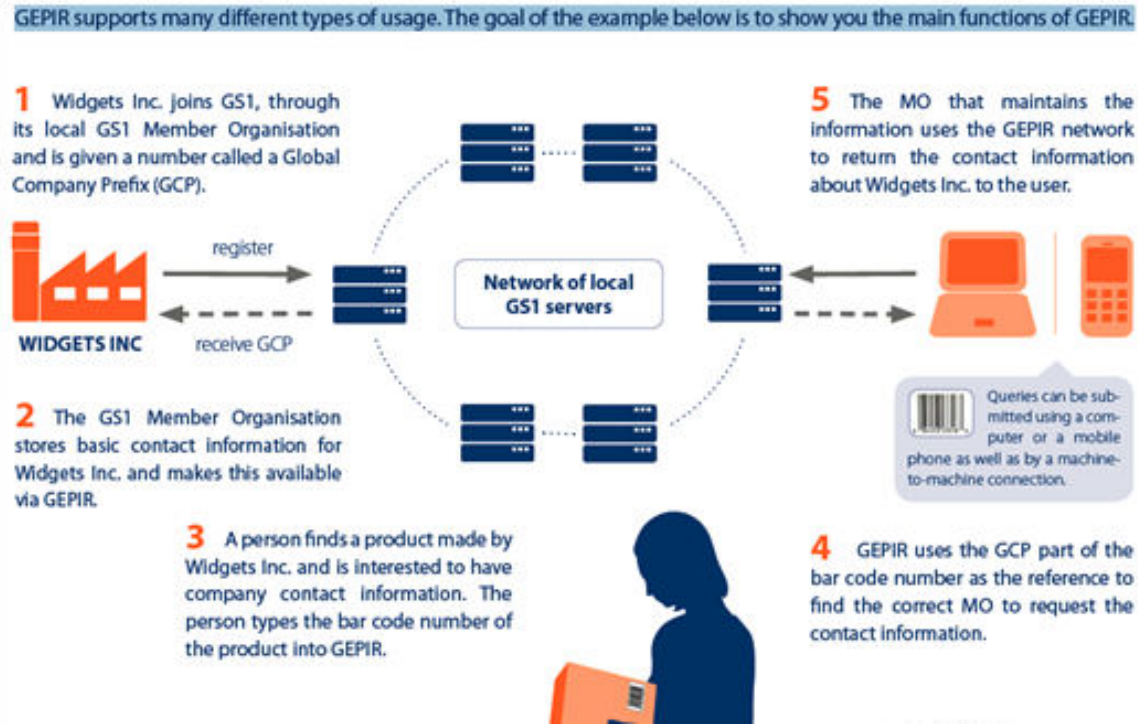

Figure 3—2. GEPIR Choreography

3.1.2. GS1 Backbone

The GS1 Backbone for the GEPIR network is the GEPIR Root Directory. The Root Directory is a series of XML files that provide information on the routing of queries in the network based on the GS1 Company Prefix allocation ranges assigned to individual GS1 Member Organisations.

3.1.3. Service Entry Point

The Service Entry Points of the GEPIR Network are the GS1 Member Organisations. There are Member Organisations that host their own node in the GEPIR network. In addition, for those Member Organisations that either cannot or choose not to host their own node, the Global Office provides the GS1 Global Office GEPIR Hosting Services. This facilitates all Member Organisation's participation in GEPIR.

3.1.4. User

The Users of the GEPIR service are the general public. The GEPIR network is an open system available to all users who can access the network. There are no restrictions in the context of being a member of GS1 in any way. The Users can access GEPIR either through an MO or through the interface with the GS1 Global Office GEPIR Hosting Services. The benefit of the

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GEPIR network is reliant upon the information that is communicated by the GS1 Member Organisation, which relies on the proper allocation of GS1 Company Prefixes and one-off GS1 Identification Keys.

Reference

For more comprehensive overview, please reference the *GS1 Networked Based Services Architecture – Report*, First Published July 2013 by the GS1 Architecture Group.

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4. SOAP Components

4.1. SOAP Request Header

Within the SOAP header there must be a GEPIR request header named GEPIRRequestHeader. This is further detailed in the GEPIR Request Header section of this specification.

4.2. SOAP Response Header

Within the SOAP header there must be a GEPIR response header named GEPIRResponseHeader. This is further detailed in the GEPIR Response Header section of this specification.

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5. Root Directory Specifications

5.1. Introduction

This section describes the structure and use of the GEPIR Root Directory. The functionality of the GEPIR backbone network is achieved through a mutual awareness of the network topology among all router nodes. This information, and some other useful parameters, is held in a central database and distributed as an XML file. In version 4.0, access to this file is restricted to GS1 Member Organisations. The Root Directory is not intended for use outside the GS1 community, as access will be governed by the contents of the Root Directory itself.

5.2. Using the Root Directory

The main purpose of the root directory is to allow GS1 Prefixes (also previously known as country prefixes) and alphabetic country codes to be associated with a specific GEPIR node. If a request based on a GS1 key is being processed, then that the country prefix should lie in between lo and hi inclusive. If a request based on a name and country code is being processed, then the country code will be found in the country element. Once the correct MO has been identified, then its GEPIR status can be checked and, unless the MO is not on GEPIR, the URL to the appropriate router found. The routerIP and netmask elements are used for authorization. A router supporting version 4.0 (and version 3.1 / version 3.2) of GEPIR must check the GLN to identify the requestor and then authenticate the IP address and netmask of any incoming query against the root directory and allow queries from other version 4.0 (and version 3.1 / version 3.2) routers to be processed. Most other elements are for information only. The MO name and address can, for example, be displayed when an error occurs or if no record is found. The routerGLN and serverGLN elements can be used to identify the sender of a response. The country file is provided mainly for the convenience of authors of GUI clients. It allows a list of possible countries to be populated in the language being used by the client. MOs with languages not currently in the file are invited to send an updated version to the GS1 GEPIR Support Team. For performance reasons, copies of the root directory and the country file should be held locally. Any required updates will be notified through the GS1 GEPIR Support Team.

NOTE: This should be restricted to MO usage only (Users should not have access to the whole system).

5.3. Updates to the GEPIR Root Directory

All GEPIR nodes MUST update their system with the latest version of the GEPIR Root Directory at least every 24 hours, as defined by the local timing needs of each MO.

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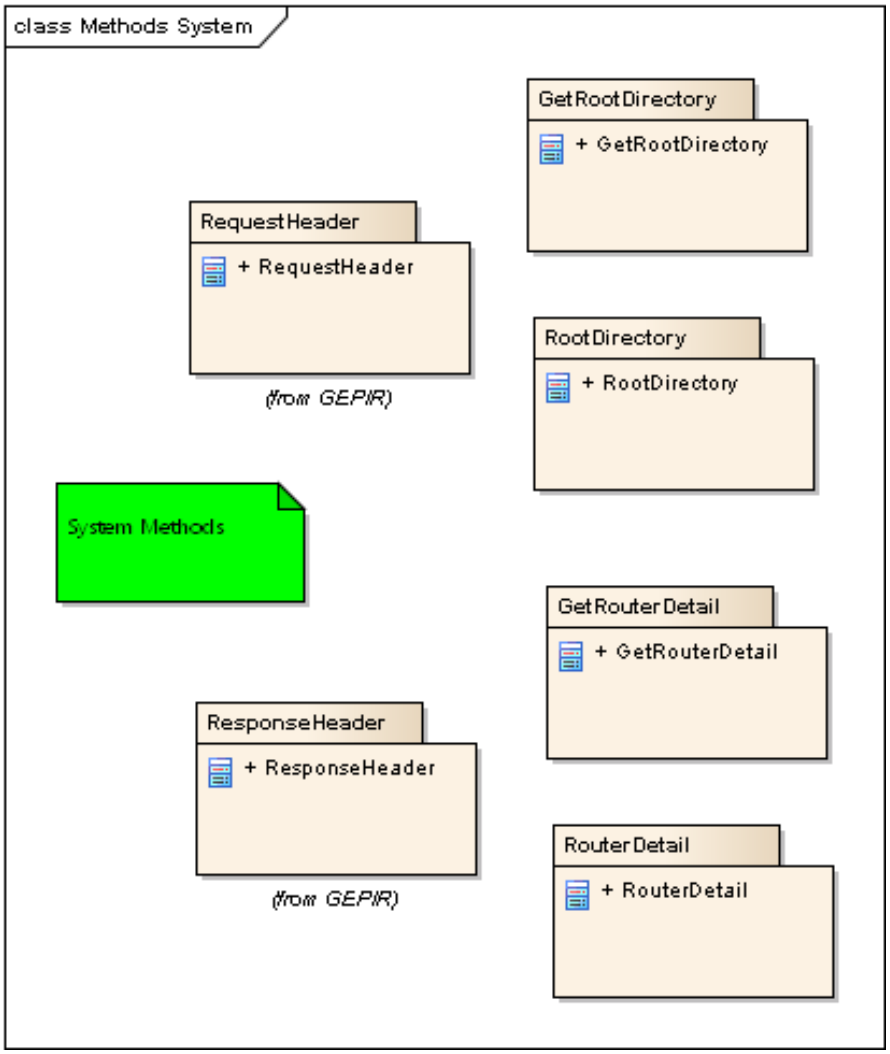
5.4. Root Directory - Business Transaction View



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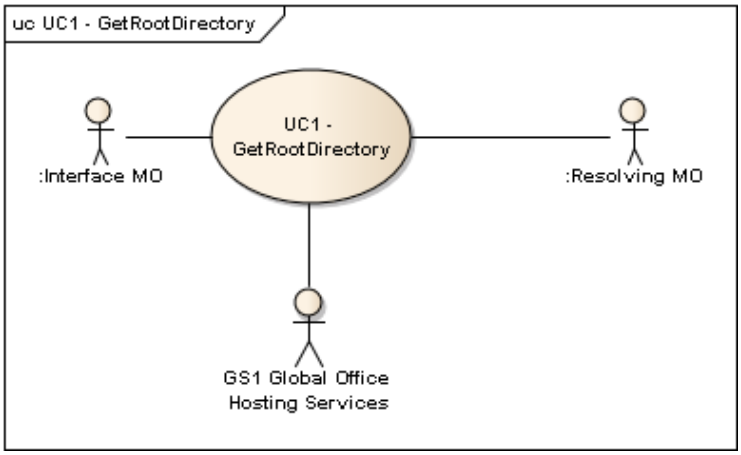
5.4.1. Get Root Directory

5.4.1.1. Use Case Description



Use Case ID	UC-1
Use Case Name	Get Root Directory
Use Case Description	Process used to retrieve the most up to date GEPIR Root Directory
Actors (Goal)	Interface MO. Resolving MO, GS1 GO GEPIR Hosting Services
Performance Goals	
Preconditions	Use of the correct “getRootDirectory” method is used, including the “RootDirectory” schema definition
Post conditions	
Scenario	**Begins when**... An Interface MO or Resolving MO requesting the most recent Root Directory **Continues with**...

Step #	Actor	Activity Step
1	Interface MO or Resolving MO	Creates a Get Root Directory request
2	Interface MO or Resolving MO	Makes request for Root Directory
3	GS1 GO GEPIR Hosting Services	Receives Get Root Directory request
4	GS1 GO GEPIR Hosting Services	Validates request against the defined validation rules
5	GS1 GO GEPIR Hosting Services	Returns most up to date Root Directory
6	Interface MO or Resolving MO	Receives Root Directory

Ends when… the Root Directory information is provided to the Interface MO or Resolving MO.

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<table>
<tr><td>Alternative Scenario</td><td>
<table>
<tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr>
<tr><td>1a</td><td>Interface MO or Resolving MO</td><td>Creates a Get Root Directory request</td></tr>
<tr><td>2a</td><td>Interface MO or Resolving MO</td><td>Makes request for Root Directory</td></tr>
<tr><td>3a</td><td>GS1 GO GEPIR Hosting Services</td><td>Receives Get Root Directory request</td></tr>
<tr><td>4a</td><td>GS1 GO GEPIR Hosting Services</td><td>Validates request against the defined validation rules</td></tr>
<tr><td>5a</td><td>GS1 GO GEPIR Hosting Services</td><td>Identifies errors and sends only ResponseHeader with the proper return code to requestor</td></tr>
<tr><td>6a</td><td>Interface MO or Resolving MO</td><td>Receives ResponseHeader only, containing the proper return code.</td></tr>
</table>
</td></tr>
<tr><td>Related Requirements</td><td></td></tr>
<tr><td>Related Rules</td><td></td></tr>
</table>

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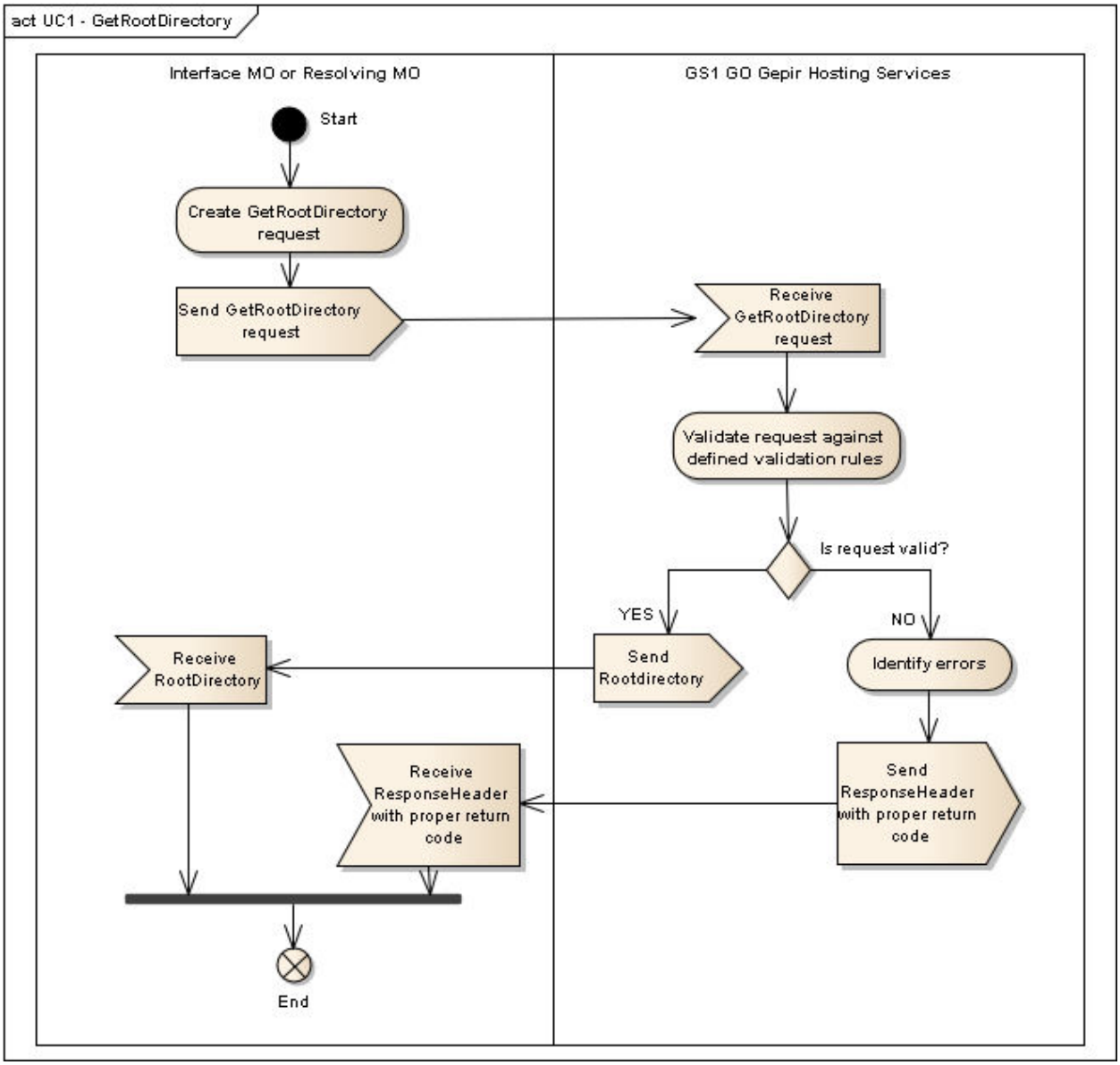
5.4.1.2. Activity Diagram



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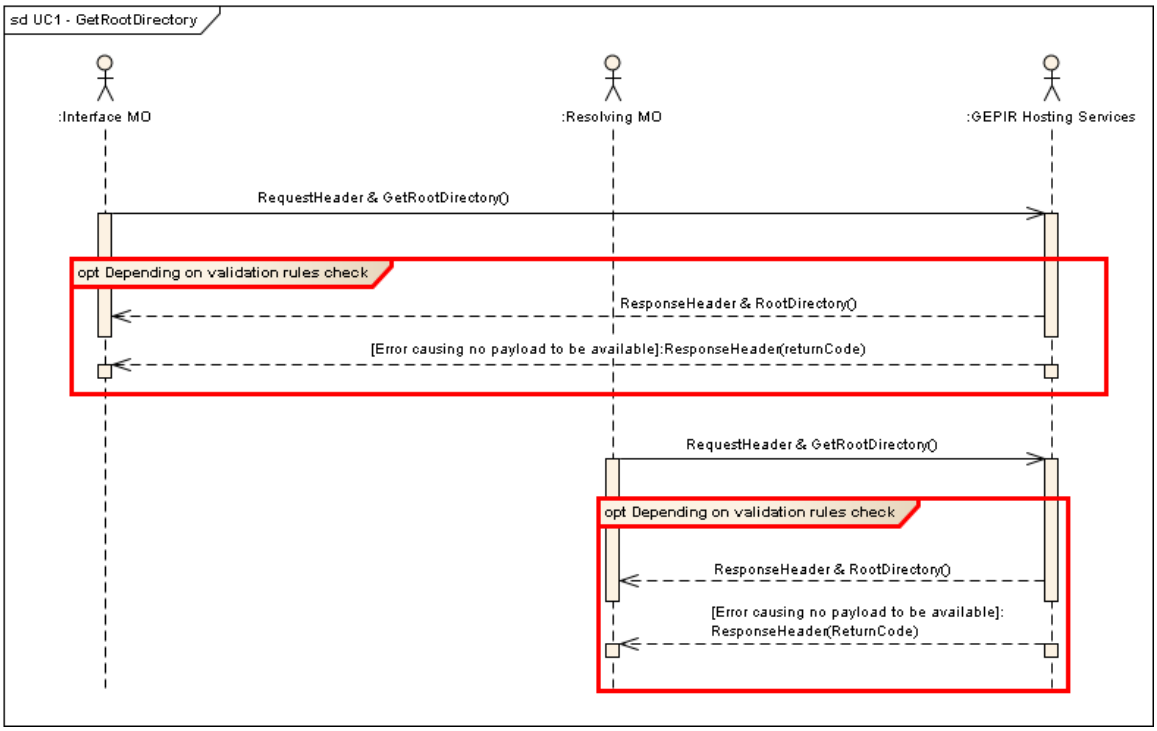
5.4.1.3. Sequence Diagram



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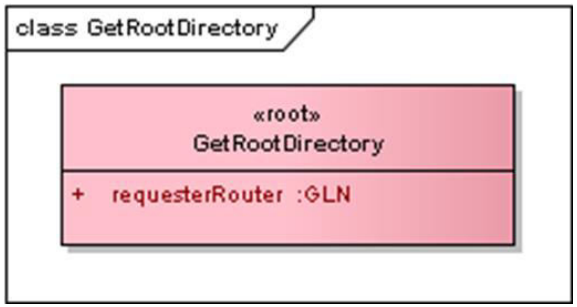
5.4.1.4. REQUEST: GetRootDirectory (Class Diagram & GDD Report)



Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/Constraints	Definition
GetRootDirectory					Method for getting the GEPIR RootDirectory
Atrtribute	requesterRouter	GLN	1..1		Global Location Number of the Gepir router requesting the GEPIR RootDirectory

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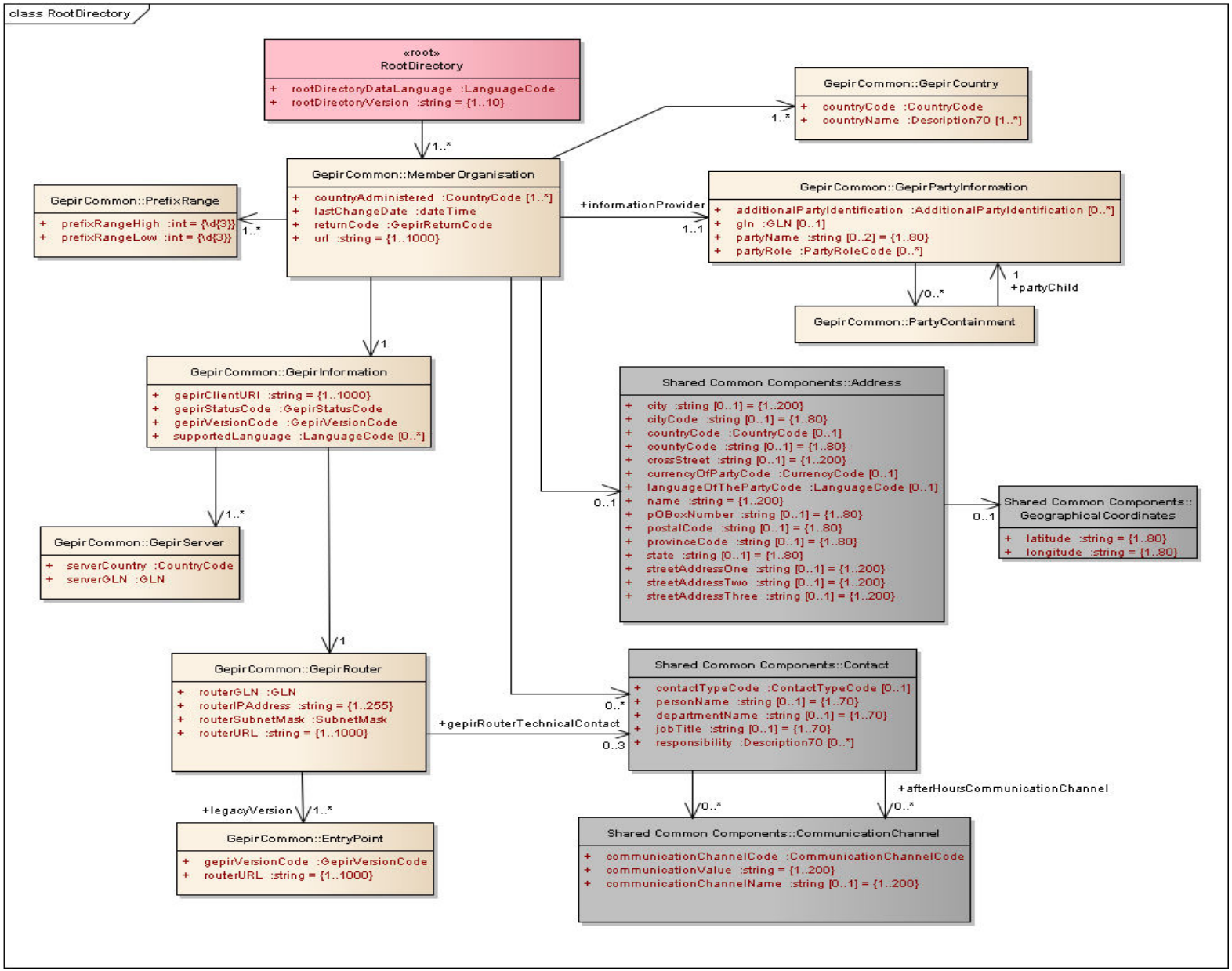
5.4.1.5. RESPONSE: RootDirectory (Class Diagram & GDD Report)



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Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/Constraints	Definition
RootDirectory					Master index of all Member Organisations
Association		MemberOrganisation	1..*		
Attribute	rootDirectoryDataLanguage	LanguageCode	1..1		Language of the data contained in the Root Directory
Attribute	rootDirectoryVersion	string	1..1	{1..10}	Version of the GEPIR Root Directory

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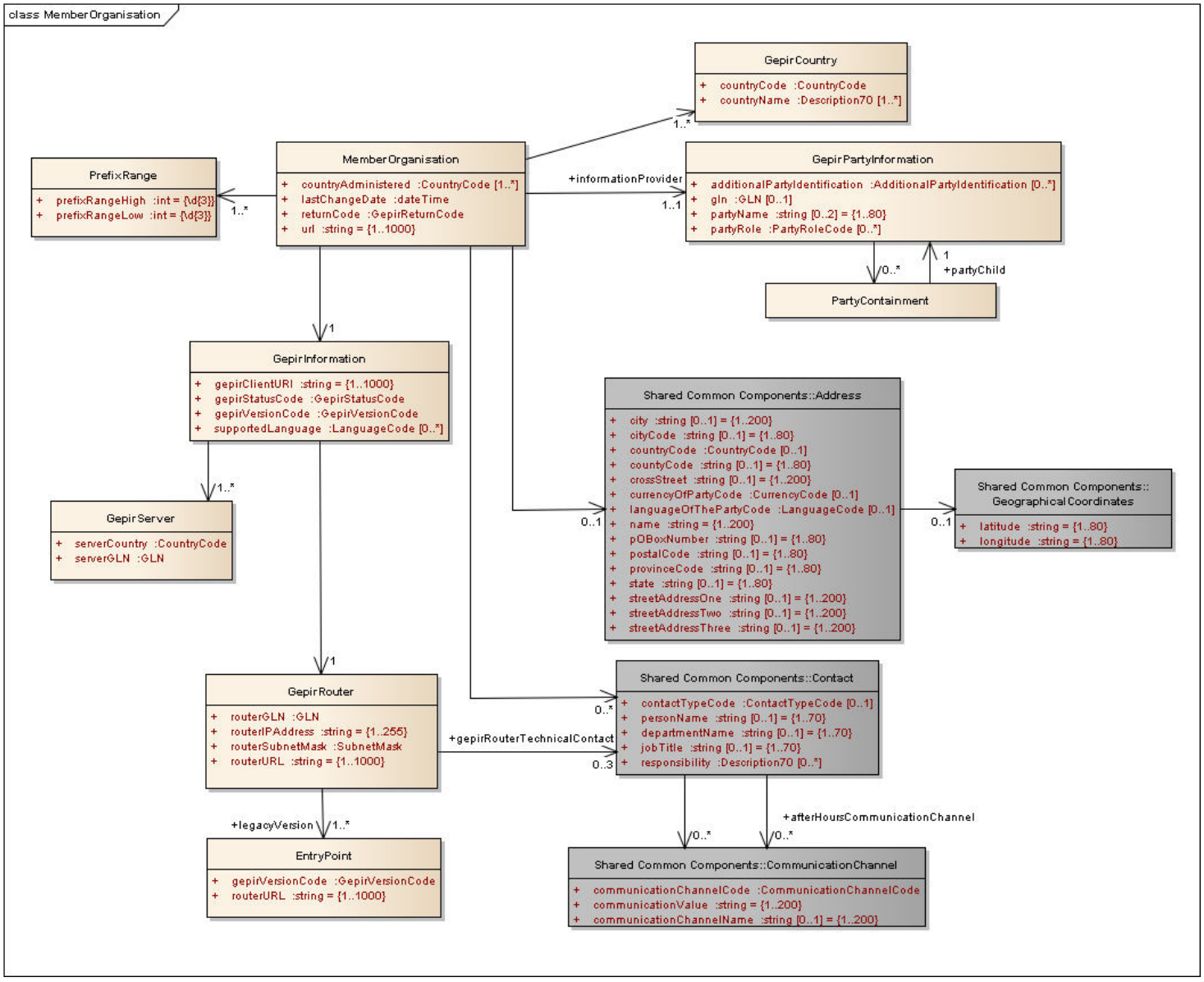

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Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/Constraints	Definition
MemberOrganisation					
Association		Address	0..1		
Association		Contact	0..*		
Association		GepirCountry	1..*		
Association		GepirInformation	1		
Association		PrefixRange	1..*		GS1 prefix(es) allocated to this GS1 Member Organisation
Association	informationProvider	GepirPartyInformation	1..1		
Attribute	countryAdministered	CountryCode	1..*		Country(ies) administered by this Member Organisation
Attribute	lastChangeDate	dateTime	1..1		Date assigned by system indicating last time the information was changed. This date is generic and will be stored where assigned and will accompany every message.
Attribute	returnCode	GepirReturnCode	1..1		Code returned in a GEPIR method to indicate the level of success or failure in responding to the request.
Attribute	url	string	1..1	{1..1000}	Simple text string that identifies the name of the MO website or the location of the MO website on the Internet.
GepirCountry					Name and country code of a GEPIR country.
Attribute	countryCode	CountryCode	1..1		Code specifying a country. Allowed code values are specified in GS1 Code List CountryCode.
Attribute	countryName	Description70	1..*		Official name of the country in the language specified in the associated attribute. The English name will always be present.
GepirInformation					GEPIR Information for the Member Organisation
Association		GepirRouter	1..1		
Association		GepirServer	1..*		
Attribute	gepirClientURI	string	1..1	{1..1000}	The location of the client's GEPIR website.
Attribute	gepirStatusCode	GepirStatusCode	1..1		Defines the level of participation in GEPIR of the Member Organisation.
Attribute	gepirVersionCode	GepirVersionCode	1..1		GEPIR Version
Attribute	supportedLanguage	LanguageCode	0..*		Language(s) other than English, supported by this Member

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Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/Constraints	Definition
					Organisation's Global Company Prefix Server
GepirPartyInformation					
Association		PartyContainment	0..*		
Attribute	additionalPartyIdentification	AdditionalPartyIdentification	0..*		Identification of a party by use of a code other than the Global Location Number.
Attribute	gln	GLN	0..1		Global Location Number (GLN), the GS1 key used for the identification of parties and locations.
Attribute	partyName	string	0..2	{1..80}	The name of the referenced party.
Attribute	partyRole	PartyRoleCode	0..*		A code that identifies the role of a party in a business transaction.
PartyContainment					
Association	partyChild	GepirPartyInformation	1..1		Gepir Party Information for a subentity of an information provider.
GepirRouter					Information related to the GEPIR router
Association	gepirRouterTechnicalContact	Contact	0..3		Contact information for the technical contact of the Gepir router.
Association	legacyVersion	EntryPoint	1..*		Legacy version(s) of GEPIR supported by the Gepir router.
Attribute	routerGLN	GLN	1..1		Global Location Number of the GEPIR router
Attribute	routerIPAddress	string	1..1	{1..255}	Internet Protocol address of the GEPIR router.
Attribute	routerSubnetMask	SubnetMask	1..1		Subnetmask of the GEPIR router.
Attribute	routerURL	string	1..1	{1..1000}	Uniform Resource Locator of the GEPIR router.
EntryPoint					Entrypoint information of the GEPIR router.
Attribute	gepirVersionCode	GepirVersionCode	1..1		GEPIR Version supported by the GEPIR router.
Attribute	routerURL	string	1..1	{1..1000}	Uniform Resource Locator of the GEPIR router.
GepirServer					Information related to a particular GEPIR server
Attribute	serverCountry	CountryCode	1..1		Country associated with a particular Server GLN
Attribute	serverGLN	GLN	1..1		Global Location Number of the GEPIR server for a given country

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Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/Constraints	Definition
PrefixRange					Prefix range associated with a GS1 Member Organisation
Attribute	prefixRangeHigh	int	1..1	{\d{3}}	High end of the prefix range assigned to this MO
Attribute	prefixRangeLow	int	1..1	{\d{3}}	Lower end of the prefix range assigned to this MO
Address					The location at which a particular organization or person may be found or reached.
Association		AdditionalPartyIdentification	0..1		
Association		GeographicalCoordinates	0..1		Geographical Coordinates for the address.
Attribute	city	string	0..1	{1..200}	Text specifying the name of the city.
Attribute	cityCode	string	0..1	{1..80}	Identifier for a city, expressed as a short code rather than the full name
Attribute	countryCode	CountryCode	0..1		Code specifying the country for the address.
Attribute	countyCode	string	0..1	{1..80}	A code that identifies a county. A county is a territorial division in some countries, forming the chief unit of local administration. In the US, a county is a political and administrative division of a state.
Attribute	crossStreet	string	0..1	{1..200}	A street intersecting a main street (usually at right angles) and continuing on both sides of it
Attribute	currencyOfPartyCode	CurrencyCode	0..1		Code specifying the currency of an addressed party.
Attribute	languageOfThePartyCode	LanguageCode	0..1		Code specifying the language of an addressed party.
Attribute	name	string	1..1	{1..200}	The name of the party expressed in text.
Attribute	pOBoxNumber	string	0..1	{1..80}	The number that identifies a PO box. A PO box is a box in a post office or other postal service location assigned to an organization where postal items may be kept.
Attribute	postalCode	string	0..1	{1..80}	Text specifying the postal code for an address.
Attribute	provinceCode	string	0..1	{1..80}	Text specifying a province in abbreviated format.
Attribute	state	string	0..1	{1..80}	One of the constituent units of a nation having a federal government.
Attribute	streetAddressOne	string	0..1	{1..200}	The first free form line of an address. This first part is printed on paper as the first line below the name. For example, the name of the street and the number in the street or the name of

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Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/Constraints	Definition
					a building.
Attribute	streetAddressTwo	string	0..1	{1..200}	The second free form line of an address. This second part is printed on paper as the second line below the name. The second free form line complements the first free form line to locate the party e.g. floor number, name of a building, suite number or
Attribute	streetAddressThree	string	0..1	{1..200}	The third free form line of an address. This third part is printed on paper as the third line below the name. The third free form line complements the first and second free form lines where necessary.
Geographical Coordinates					The longitude and latitude of a geographical location.
Attribute	latitude	string	1..1	{1..80}	Angular distance North or South from the earth's equator measured through 90 degrees.
Attribute	longitude	string	1..1	{1..80}	The arc or portion of the earth's equator intersected between the meridian of a given place and the prime meridian and expressed either in degrees or in time.
Contact					Information on an individual or department acting as point of contact for an organization.
Association	afterHoursCommunicationChannel	CommunicationChannel	0..*		
Association		CommunicationChannel	0..*		The channel or manner in which a communication can be made with the contact, such as telephone or email
Attribute	contactTypeCode	ContactTypeCode	0..1		Code specifying the function or role of a contact.
Attribute	personName	string	0..1	{1..70}	The name of the individual that can be contacted to provide additional information
Attribute	departmentName	string	0..1	{1..70}	The name of the department that can be contacted to provide additional information
Attribute	jobTitle	string	0..1	{1..70}	The job title of the person that can be contacted.
Attribute	responsibility	Description70	0..*		Text further specifying the area of responsibility of the trade contact.
CommunicationChannel					The channel or manner in which a communication can be made, such as telephone or email.

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Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/Constraints	Definition
Attribute	communicationChannelCode	CommunicationChannelCode	1..1		Code specifying the type of communication channel, for example TELEPHONE.
Attribute	communicationValue	string	1..1	{1..200}	Text identifying the endpoint for the communication channel, for example a telephone number or an e-mail address.
Attribute	communicationChannelName	string	0..1	{1..200}	The name of a specific communication channel for example Facebook, Twitter, etc.

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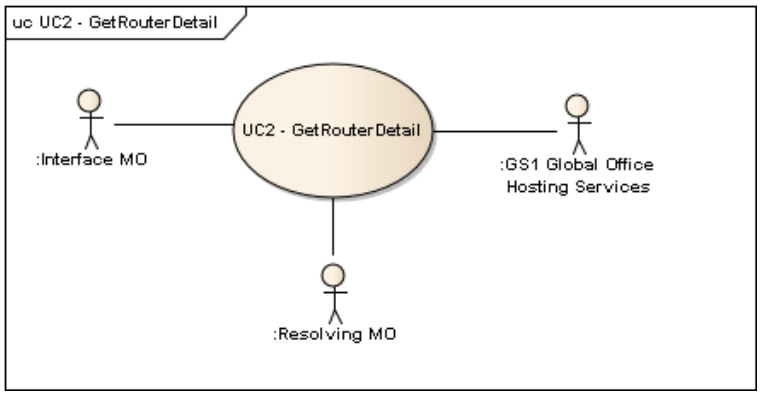
5.4.2. Get Router Detail

This can be sent to the GS1 GO GEPIR Node and will return the information about the Member Organisation, the MO operating the router, router version and GLN, technical and management contact details (similar to what is currently in gepir03d.xml).

NOTE: This should be restricted to MO usage only (Users should not have access to the whole system).

5.4.2.1. Use Case



Use Case ID	UC-2
Use Case Name	Get Router Detail
Use Case Description	Process used to retrieve the most up to date GEPIR Router Detail
Actors (Goal)	Interface MO. Resolving MO, GS1 GO GEPIR Hosting Services
Performance Goals	
Preconditions	Use of the correct “getRouterDetail” method is used, including the “rootRouterDetail” schema definition
Post conditions	
Scenario	**Begins when**... An Interface MO or Resolving MO requesting the most recent Router Detail **Continues with**...

Step #	Actor	Activity Step
1	Interface MO or Resolving MO	Creates a Get Router Detail request
2	Interface MO or Resolving MO	Makes request for Get Router Detail
3	GS1 GO GEPIR Hosting Services	Receives Get Router Detail request
4	GS1 GO GEPIR Hosting Services	Validates request against the defined validation rules

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	<table><tr><td>5</td><td>GS1 GO GEPIR Hosting Services</td><td>Returns most up to date Router Detail</td></tr><tr><td>6</td><td>Interface MO or Resolving MO</td><td>Receives Router Detail</td></tr></table> **Ends when**… the Router Detail information is provided to the Interface MO or Resolving MO.
Alternative Scenario	<table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1a</td><td>Interface MO or Resolving MO</td><td>Creates a Get Router Detail request</td></tr><tr><td>2a</td><td>Interface MO or Resolving MO</td><td>Makes request for Get Router Detail</td></tr><tr><td>3a</td><td>GS1 GO GEPIR Hosting Services</td><td>Receives Get Router Detail request</td></tr><tr><td>4a</td><td>GS1 GO GEPIR Hosting Services</td><td>Validates request against the defined validation rules</td></tr><tr><td>5a</td><td>GS1 GO GEPIR Hosting Services</td><td>Identifies errors and sends proper return code to requestor</td></tr><tr><td>6a</td><td>Interface MO or Resolving MO</td><td>Receives return codes</td></tr></table>
Related Requirements	
Related Rules	

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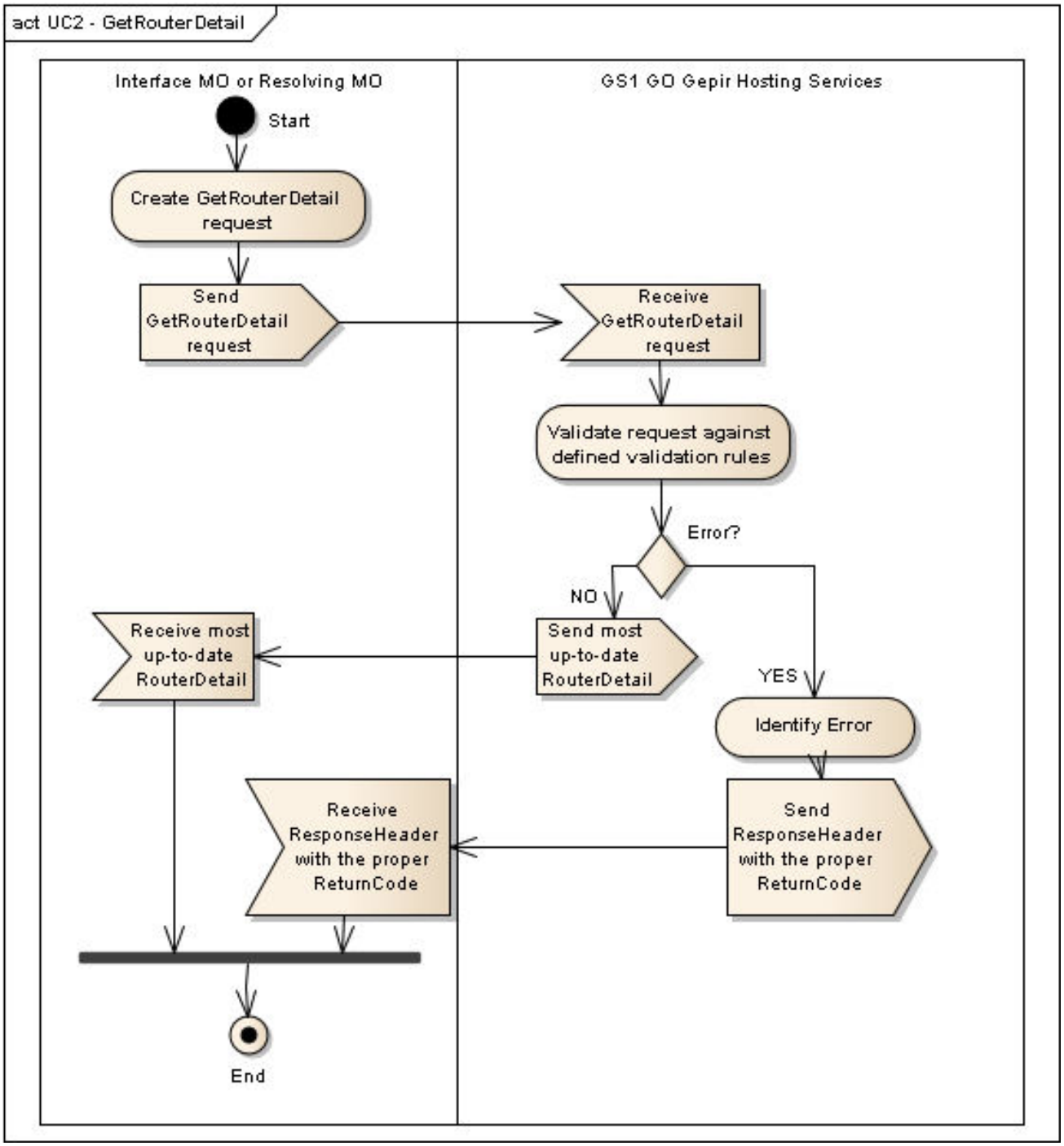
5.4.2.2. Activity Diagram



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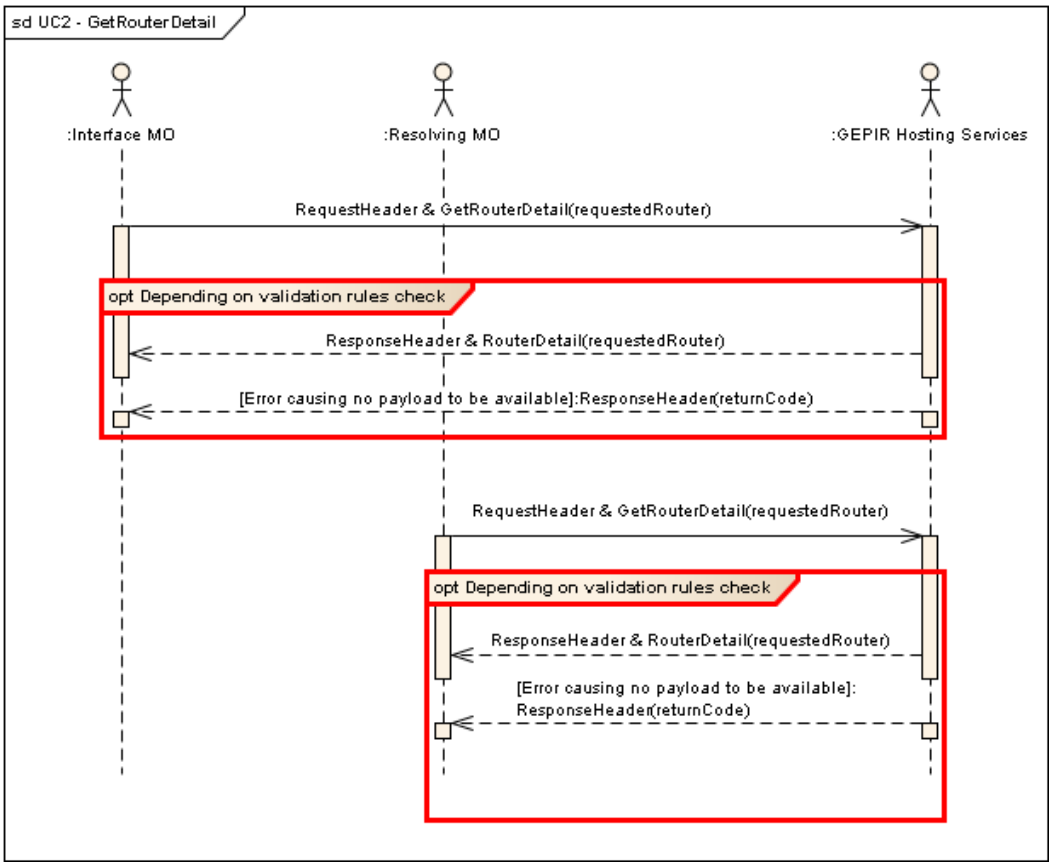
5.4.2.3. Sequence Diagram



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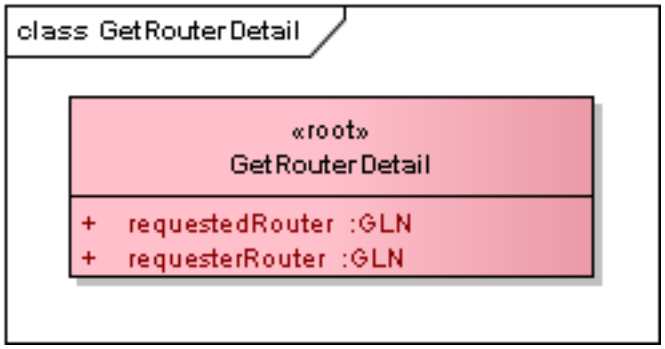
5.4.2.4. REQUEST: GetRouterDetail (Class Diagram & GDD Report)



Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/Constraints	Definition
GetRouterDetail					Method to request information on a specific GEPIR router.
Attribute	requestedRouter	GLN	1..1		GLN of the router of which information is requested
Attribute	requesterRouter	GLN	1..1		GLN of the router requesting the information of another GEPIR router.

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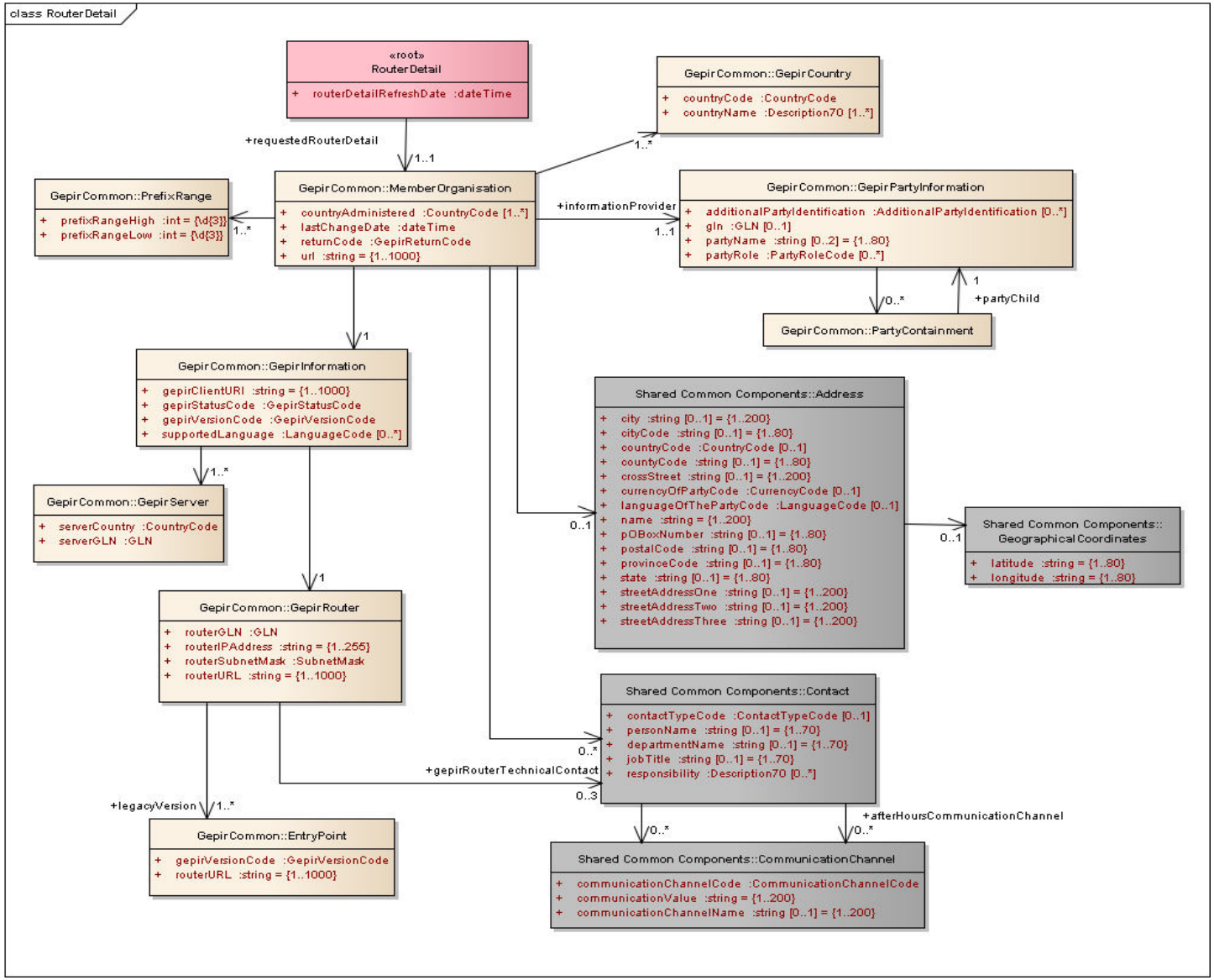
5.4.2.5. RESPONSE: Router Detail (Class Diagram & GDD Report)



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Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/Constraints	Definition
RouterDetail					
Association	requestedRouterDetail	MemberOrganisation	1..1		
Attribute	routerDetailRefreshDate	dateTime	1..1		The last date the router detail for this node was updated. This date is set by the GS1 GO.
MemberOrganisation					
Association		Address	0..1		
Association		Contact	0..*		
Association		GepirCountry	1..*		
Association		GepirInformation	1		
Association		PrefixRange	1..*		GS1 prefix(es) allocated to this GS1 Member Organisation
Association	informationProvider	GepirPartyInformation	1..1		
Attribute	countryAdministered	CountryCode	1..*		Country(ies) administered by this Member Organisation
Attribute	lastChangeDate	dateTime	1..1		Date assigned by system indicating last time the information was changed. This date is generic and will be stored where assigned and will accompany every message.
Attribute	returnCode	GepirReturnCode	1..1		Code returned in a GEPIR method to indicate the level of success or failure in responding to the request.
Attribute	url	string	1..1	{1..1000}	Simple text string that identifies the name of the MO website or the location of the MO website on the Internet.
GepirCountry					Name and country code of a GEPIR country.
Attribute	countryCode	CountryCode	1..1		Code specifying a country. Allowed code values are specified in GS1 Code List CountryCode.
Attribute	countryName	Description70	1..*		Official name of the country in the language specified in the associated attribute. The English name will always be present.
GepirInformation					Gepir Information for the Member Organisation
Association		GepirRouter	1..1		

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Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/Constraints	Definition
Association		GepirServer	1..*		
Attribute	gepirClientURI	string	1..1	{1..1000}	The location of the client's GEPIR website.
Attribute	gepirStatusCode	GepirStatusCode	1..1		Defines the level of participation in Gepir of the Member Organisation.
Attribute	gepirVersionCode	GepirVersionCode	1..1		Gepir Version
Attribute	supportedLanguage	LanguageCode	0..*		Language(s) other than English, supported by this Member Organisation's Global Company Prefix Server
GepirPartyInformation					
Association		PartyContainment	0..*		
Attribute	additionalPartyIdentification	AdditionalPartyIdentification	0..*		Identification of a party by use of a code other than the Global Location Number.
Attribute	gln	GLN	0..1		Global Location Number (GLN), the GS1 key used for the identification of parties and locations.
Attribute	partyName	string	0..2	{1..80}	The name of the referenced party.
Attribute	partyRole	PartyRoleCode	0..*		A code that identifies the role of a party in a business transaction.
PartyContainment					
Association	partyChild	GepirPartyInformation	1..1		Gepir Party Information for a subentity of an information provider.
GepirRouter					Information related to the Gepir router
Association	gepirRouterTechnicalContact	Contact	0..3		Contact information for the technical contact of the Gepir router.
Association	legacyVersion	EntryPoint	1..*		Legacy version(s) of GEPIR supported by the Gepir router.
Attribute	routerGLN	GLN	1..1		Global Location Number of the Gepir router
Attribute	routerHost	string	1..1	{1..255}	Internet Protocol address or host name of the Gepir router.
Attribute	routerSubnetMask	SubnetMask	1..1		Subnetmask of the Gepir router.
Attribute	routerURL	string	1..1	{1..1000}	Uniform Resource Locator of the GEPIR router.

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Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/Constraints	Definition
EntryPoint					Entrypoint information of the GEPIR router.
Attribute	gepirVersionCode	GepirVersionCode	1..1		GEPIR Version supported by the GEPIR router.
Attribute	routerURL	string	1..1	{1..1000}	Uniform Resource Locator of the GEPIR router.
GepirServer					Information related to a particular Gepir server
Attribute	serverCountry	CountryCode	1..1		Country associated with a particular Server GLN
Attribute	serverGLN	GLN	1..1		Global Location Number of the Gepir server for a given country
PrefixRange					Prefix range associated with a GS1 Member Organisation
Attribute	prefixRangeHigh	int	1..1	{\d{3}}	High end of the prefix range assigned to this MO
Attribute	prefixRangeLow	int	1..1	{\d{3}}	Lower end of the prefix range assigned to this MO
Address					The location at which a particular organization or person may be found or reached.
Association		GeographicalCoordinates	0..1		Geographical Coordinates for the address.
Association		AdditionalPartyIdentification	0..1		
Attribute	city	string	0..1	{1..200}	Text specifying the name of the city.
Attribute	cityCode	string	0..1	{1..80}	Identifier for a city, expressed as a short code rather than the full name
Attribute	countryCode	CountryCode	0..1		Code specifying the country for the address.
Attribute	countyCode	string	0..1	{1..80}	A code that identifies a county. A county is a territorial division in some countries, forming the chief unit of local administration. In the US, a county is a political and administrative division of a state.
Attribute	crossStreet	string	0..1	{1..200}	A street intersecting a main street (usually at right angles) and continuing on both sides of it
Attribute	currencyOfPartyCode	CurrencyCode	0..1		Code specifying the currency of an addressed party.
Attribute	languageOfThePartyCode	LanguageCode	0..1		Code specifying the language of an addressed party.
Attribute	name	string	1..1	{1..200}	The name of the party expressed in text.

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Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/Constraints	Definition
Attribute	pOBoxNumber	string	0..1	{1..80}	The number that identifies a PO box. A PO box is a box in a post office or other postal service location assigned to an organization where postal items may be kept.
Attribute	postalCode	string	0..1	{1..80}	Text specifying the postal code for an address.
Attribute	provinceCode	string	0..1	{1..80}	Text specifying a province in abbreviated format.
Attribute	state	string	0..1	{1..80}	One of the constituent units of a nation having a federal government.
Attribute	streetAddressOne	string	0..1	{1..200}	The first free form line of an address. This first part is printed on paper as the first line below the name. For example, the name of the street and the number in the street or the name of a building.
Attribute	streetAddressTwo	string	0..1	{1..200}	The second free form line of an address. This second part is printed on paper as the second line below the name. The second free form line complements the first free form line to locate the party e.g. floor number, name of a building, suite number or
Attribute	streetAddressThree	string	0..1	{1..200}	The third free form line of an address. This third part is printed on paper as the third line below the name. The third free form line complements the first and second free form lines where necessary.
Geographical Coordinates					The longitude and latitude of a geographical location.
Attribute	latitude	string	1..1	{1..80}	Angular distance North or South from the earth's equator measured through 90 degrees.
Attribute	longitude	string	1..1	{1..80}	The arc or portion of the earth's equator intersected between the meridian of a given place and the prime meridian and expressed either in degrees or in time.
Contact					Information on an individual or department acting as point of contact for an organization.
Association	afterHoursCommunicationChannel	CommunicationChannel	0..*		
Association		CommunicationChann	0..*		The channel or manner in which a communication can be made

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Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/Constraints	Definition
		el			with the contact, such as telephone or email
Attribute	contactTypeCode	ContactTypeCode	0..1		Code specifying the function or role of a contact.
Attribute	personName	string	0..1	{1..70}	The name of the individual that can be contacted to provide additional information
Attribute	departmentName	string	0..1	{1..70}	The name of the department that can be contacted to provide additional information
Attribute	jobTitle	string	0..1	{1..70}	The job title of the person that can be contacted.
Attribute	responsibility	Description70	0..*		Text further specifying the area of responsibility of the trade contact.
CommunicationChannel					The channel or manner in which a communication can be made, such as telephone or email.
Attribute	communicationChannelCode	CommunicationChannelCode	1..1		Code specifying the type of communication channel, for example TELEPHONE.
Attribute	communicationValue	string	1..1	{1..200}	Text identifying the endpoint for the communication channel, for example a telephone number or an e-mail address.
Attribute	communicationChannelName	string	0..1	{1..200}	The name of a specific communication channel for example Facebook, Twitter, etc.

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6. Premium Users

GEPIR was initially designed for ad hoc queries, usually made from a GUI client. Over time, a number of users have discovered the potential of GEPIR as a tool for validating GS1 keys and this has led to increased demands on quality of service and for the lifting of access restrictions.

From version 4.0, the GEPIR network continues the concept of “Premium users”. These clients are identified by their GLN and authenticated by their IP address and netmask are recognised by their node of access (MO router). Each MO can then negotiate access rights for such users.

While the GLN + IP Address authentication is a minimum requirement, MOs are encouraged to add other forms of authentication for their Premium Users.

Currently, all MO routers and clients conforming to the version 3.1 specification or above are automatically regarded as premium users, which means that an external client which has been authorised by a conformant node will be allowed access by all other nodes.

All MO routers and clients conforming to the version 4.0 specification will now have access to an explicit attribute for determining whether a GEPIR User is considered a premium user. The use of the “is authenticated” flag is used to create a framework where there are no assumptions about anything in the network.

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7. Input and Output Functions

The input and output schemas and the return codes generated in each case fall under the following headings:

- Input schema: the formal definition of the input transaction sent in the message body
- Output schema: the formal definition of the output transaction sent in the message body
- Expected output: the return code expected for normal completion of this transaction and, where appropriate, a description of the data returned
- Error output: one or more return codes possible for non-productive completion of this transaction
- Alternate output: one or more return codes possible for abnormal completion of this transaction and a description of the data returned

Each request provides one function. There are two possible types of response, party (location) information and trade item information. The responses and error codes are detailed in the Responses section of this document.

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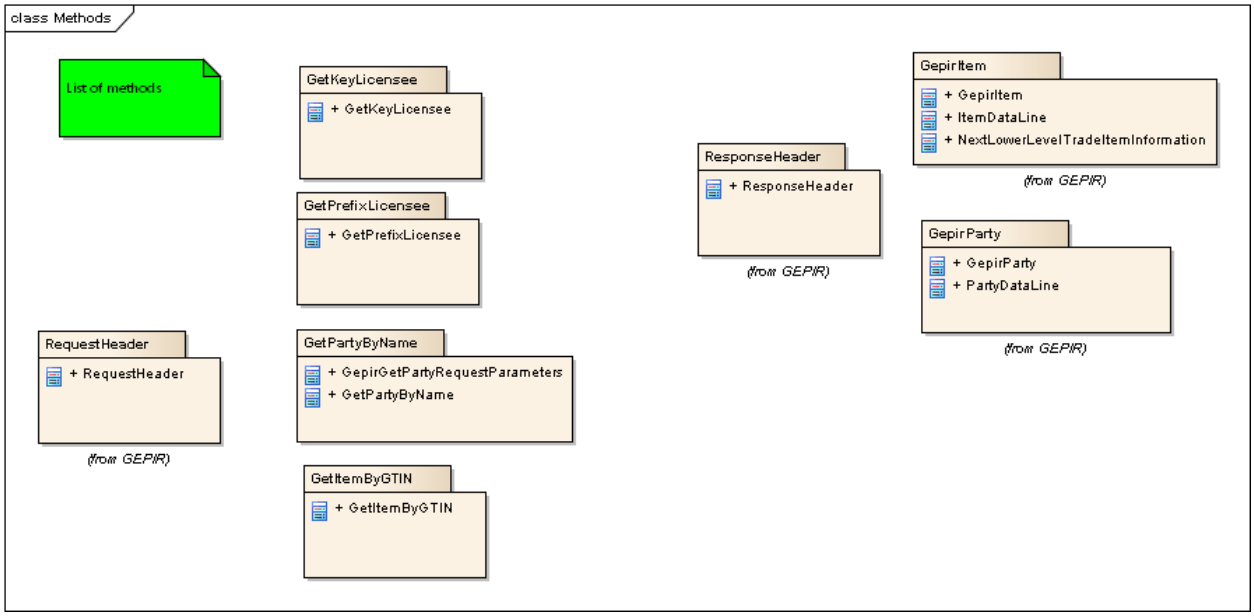
7.1. Input Functions ("Requests")

7.1.1. Introduction

Requests are sent from clients to routers, between routers or from MO servers to third-party servers. They are formatted with a header containing control information and a body component containing the request parameters. The header is common to all requests. The body component is unique for each request.

There are a number of GEPIR Web Services Methods defined in the GEPIR Specification.



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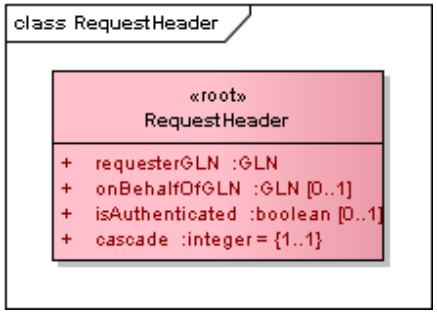
7.1.2. Request Header

7.1.2.1. Introduction

Within the SOAP header there must be a GEPIR request header named RequestHeader.

7.1.2.2. Class Diagram & GDD Report



Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/Constraints	Definition
RequestHeader					Header to be included in all GEPIR request methods.
Attribute	cascade	integer	1..1	{1..1}	Integer between 0 and 9 indicating the number of times a request may be cascaded to another server. This element is decremented each time the request is passed on. A request with a cascade count of zero must not be cascaded further.
Attribute	isAuthenticated	boolean	0..1		State of the incoming requestor as to whether the user is a member in good standing or not. This should only be populated by the initiating MO [It is no longer assumed when a request

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Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/Constraints	Definition
					comes from an initiating trusted router]. To prevent spoofing, if the GEPIR Premium authentication fails on requesterGLN + IP address, this field should be set to null. Furthermore, even if the requester passes authentication, only known GEPIR nodes should be allowed to set this field.
Attribute	onBehalfOfGLN	GLN	0..1		The GLN of the originator of the request. This remains unchanged if the request is cascaded to another server. This should only be populated by the initiating MO. This must be a valid active GLN. To prevent spoofing, if the GEPIR Premium authentication fails on requesterGLN + IP address, this field should be set to null. Furthermore, even if the requester passes authentication, only known GEPIR nodes should be allowed to set this field.
Attribute	requesterGLN	GLN	1..1		The GLN of the party designated as being responsible for the message at any point in the communication exchange. This may be a proxy assigned by the requesterGLN. This MUST change if the request is cascaded to another server. This must be a valid active GLN.

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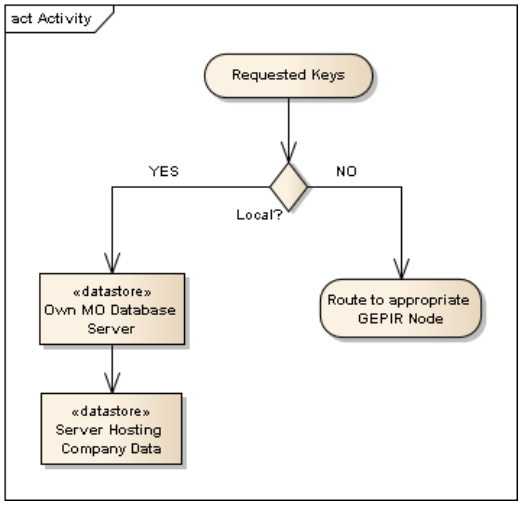
7.1.3. Get Key Licensee

The router receiving the request first checks its formal validity and rejects the request if the parameter is not numeric, is the wrong length or has an incorrect check digit.



When an MO receives one or more requested keys, it must, if a requested key is local, pass on the request to the MO's own database server, which will in turn pass on the request to the server hosting the company key data if one exists.

If no such server exists, the data from the MO database will be returned (in the chosen language, if supported), or an error if the company prefix is not found.

If there are any keys in the request, which are not local, the MO should route the request(s) for these key(s) to the appropriate GEPIR node(s).

If the country prefix is invalid, then an error is returned.

7.1.3.1. Single-Assigned Key

If the getKeyLicensee method is used and the requested key is a single-assigned by the MO (i.e. no GCP is issued the end user), then the GEPIR PARTY is the detailed information of the end user that is maintained by the Resolving MO.

7.1.3.2. List of Supported GS1 Identification Keys

This version of GEPIR supports the resolution of the licensee of the following GS1 Identification Keys:

- Global Trade Item Number (GTIN) [14 numeric]
- Global Location Number (GLN) [13 numeric]
- Serial Shipping Container Code (SSCC) [18 numeric]
- Global Returnable Asset Identifier (GRAI) [14 numeric]
- Global Individual Asset Identifier (GIAI) [30 alpha]

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- Global Service Relation Number (GSRN) [18 numeric]
- Global Document Type Identifier (GDTI) [13 numeric]
- Global Shipment Identification Number (GSIN) [17numeric]
- Global Identification Number for Consignment (GINC) [30 alpha]
- Global Coupon Number (GCN) [13 numeric]

As additional Identification keys are introduced, they should be scheduled for deployment into the GEPIR network as soon as it is possible.

7.1.3.3. Formatting of the GS1 Identification Keys for use in GEPIR

The GS1 Identification Key shall be formatted according to the GS1 General Specifications. If the key allows an optional serial number, the serial number shall be removed before the query. Additionally, any references to Application Identifiers should be removed before the query.

In the case of the GTIN, values shorter than 14 digits shall be padded with leading zeroes.

7.1.3.3.1. Global Trade Item Number (GTIN)

The GEPIR network can handle requests for GTIN-8, GTIN-12, GTIN-13, and GTIN-14. When any of these GTINs is encoded in a data carrier that must encode a fixed-length data string of 14-digits, the GTINs less than 14-digits in length must be prefixed by leading zeroes that simply act as filler characters. The presence or lack of these leading zeroes does not change the GTIN concerned. These series of GTINs may be stored with or without leading zeroes in the same database field, depending on the requirements of the particular application.

7.1.3.3.2. Global Location Number (GLN)

The GLN is supported in the GEPIR Network as a 13-digit number.

7.1.3.3.3. Serial Shipping Container Code (SSCC)

The Serial Shipping Container Code (SSCC) is supported in the GEPIR Network as an 18-digit number.

7.1.3.3.4. Global Returnable Asset Identifier (GRAI)

The Global Returnable Asset Identifier (GRAI) is supported in the GEPIR Network as a 14-digit number.

7.1.3.3.5. Global Individual Asset Identifier (GIAI)

The Global Individual Asset Identifier (GIAI) is supported in the GEPIR Network as a 30 character alphanumeric entry.

7.1.3.3.6. Global Service Relation Number (GSRN)

The Global Service Relation Number (GSRN) is supported in the GEPIR Network as an 18-digit number.

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7.1.3.3.7. Global Document Type Identifier (GDTI)

The Global Document Type Identifier (GDTI) is supported in the GEPIR Network as a 13-digit number

7.1.3.3.8. Global Shipment Identification Number (GSIN)

The Global Shipment Identification Number (GSIN) is supported in the GEPIR Network as a 17 digit number.

7.1.3.3.9. Global Identification Number for Consignment (GINC)

The Global Identification Number for Consignment (GINC) is supported in the GEPIR Network as a 30 character alphanumeric entry.

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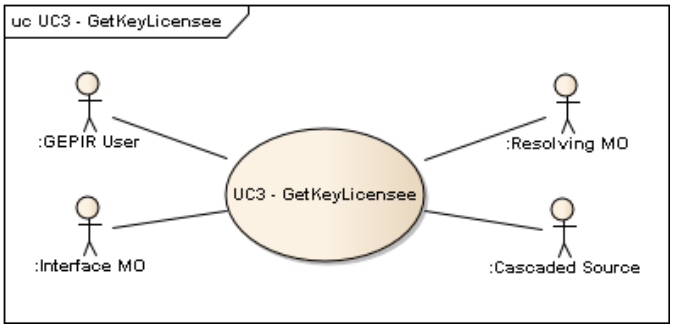
7.1.3.4. Business Transaction Use Case Diagram



7.1.3.5. Use Case Description

Use Case ID	UC-3
Use Case Name	Get Key Licensee
Use Case Description	Process used to discover the GS1 Key Licensee information about any GS1 Key that is requested
Actors (Goal)	GEPIR User, Interface MO, Resolving MO, Cascading Source
Performance Goals	
Preconditions	Use of the correct “getKeyLicensee” method is used, including the “getKeyLicensee” schema definition
Post conditions	
Scenario	**Begins when**... A GEPIR user requesting Key Licensee Information for a GLN **Continues with**...

Step #	Actor	Activity Step
1	Interface MO	Identifies request as a Get Key Licensee request
2	Interface MO	Validates request against the defined validation rules
3	Interface MO	Determines if user is a Premium User
4	Interface MO	Determines if request can be handled at Interface MO
5	Interface MO	If so, GEPIR Party information is returned with correct response codes
6	Interface MO	If not handled locally, request sent to resolving MO, using routing information provided by GEPIR Root Directory
7	Resolving MO	Receives Get Key Licensee request
8	Resolving MO	Determines if request gets cascaded to a Cascaded Source
9	Cascaded Source	Receives Cascade request
	NOTE	Requests can be cascaded up to 9 times

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	<table><tr><td>10</td><td>Cascaded Source</td><td>Resolves Party Information</td></tr><tr><td>11</td><td>Cascaded Source</td><td>Returns Party Information to Resolving MO</td></tr><tr><td>12</td><td>Resolving MO</td><td>Receives Response and formats it</td></tr><tr><td>13</td><td>Resolving MO</td><td>Sends GEPIR Party to Interface MO</td></tr><tr><td>14</td><td>Interface MO</td><td>Receives GEPIR Party</td></tr><tr><td>15</td><td>Interface MO</td><td>Formats the Party Information for GEPIR User</td></tr></table> **Ends when**... the Key Licensee and the related Party information are provided to the GEPIR User.
Alternative Scenario	<table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1a</td><td>Interface MO</td><td>Authenticates GEPIR User</td></tr><tr><td>2a</td><td>Interface MO</td><td>Identify Validation Error(s)</td></tr><tr><td>3a</td><td>Interface MO</td><td>Create Error Message</td></tr><tr><td>4a</td><td>Interface MO</td><td>Send Error Message with Failure Details</td></tr><tr><td>5a</td><td>GEPIR User</td><td>Receive Error Message with Failure Details</td></tr><tr><td>6a</td><td>GEPIR User</td><td>Process Errors : Request not processed</td></tr></table> <table><tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr><tr><td>1b</td><td>Interface MO</td><td>Validates if GEPIR User is a Premium User</td></tr><tr><td>2b</td><td>Interface MO</td><td>If not, then identify if Premium Limit has been reached</td></tr><tr><td>3b</td><td>Interface MO</td><td>If Premium Limit reached, create Error Message</td></tr><tr><td>4b</td><td>Interface MO</td><td>Send Error Message with Failure Details</td></tr><tr><td>5b</td><td>GEPIR User</td><td>Receive Error Message with Failure Details</td></tr><tr><td>6b</td><td>GEPIR User</td><td>Process Errors : Request not processed</td></tr></table>
Related Requirements	
Related Rules	

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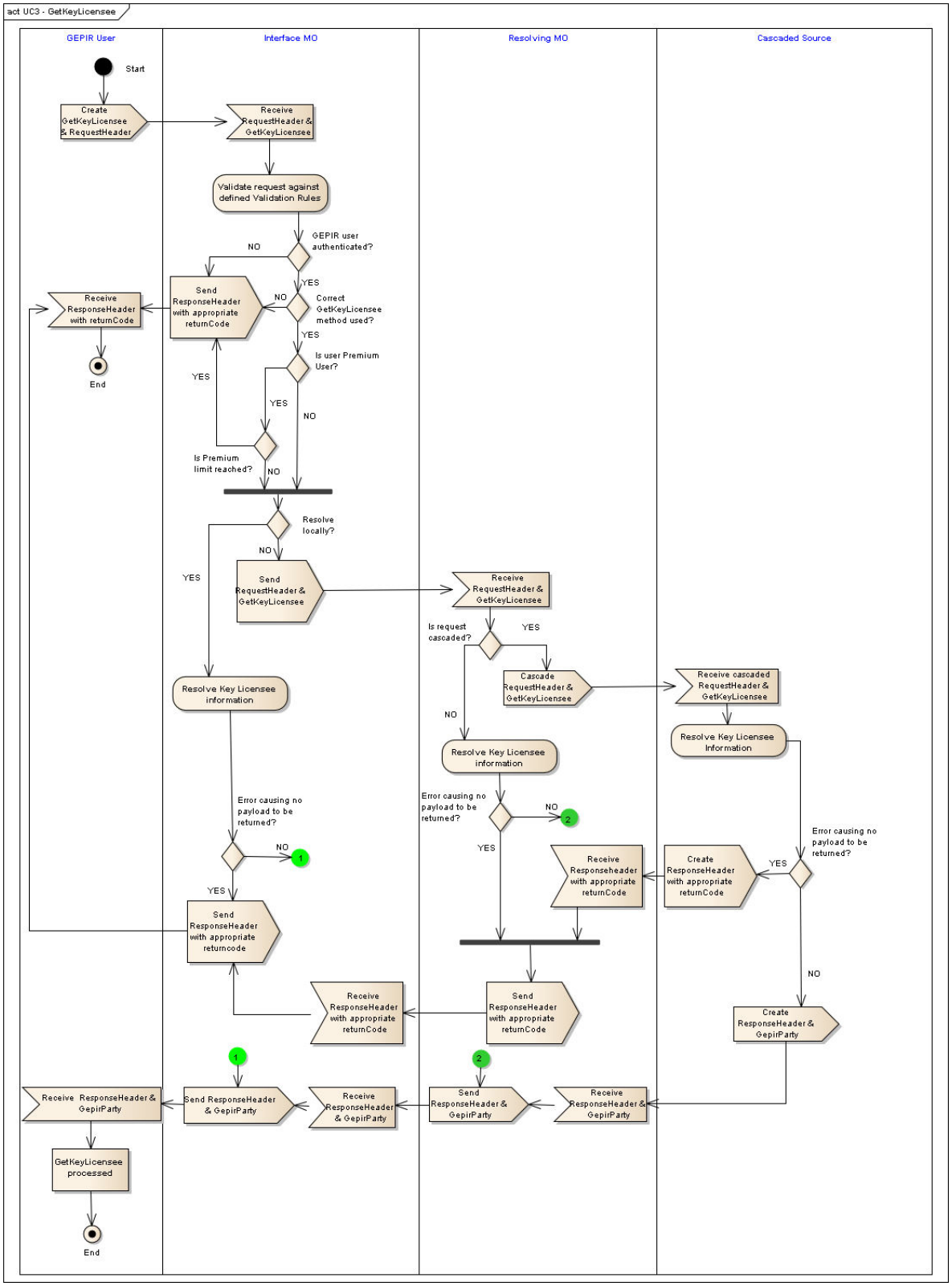
7.1.3.6. Activity Diagram



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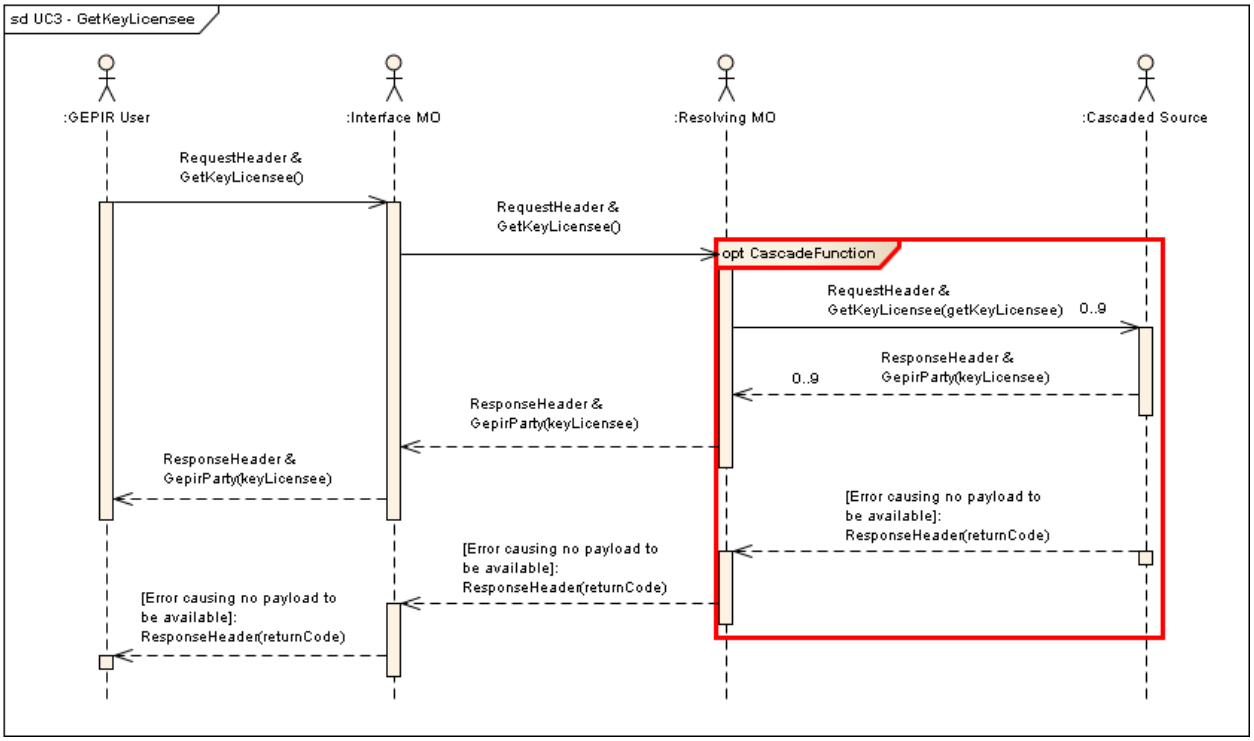
7.1.3.7. Sequence Diagram



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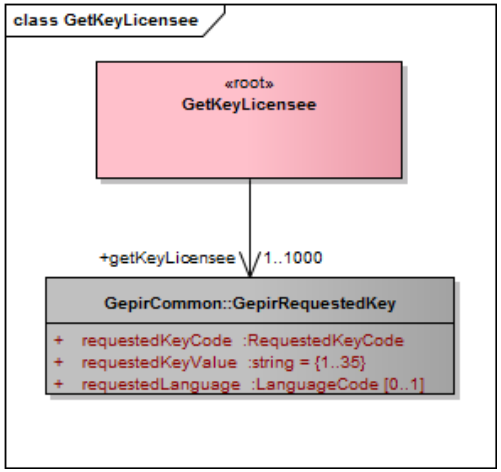
7.1.3.8. Class Diagram & GDD Report



Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/Constraints	Definition
GetKeyLicensee					Gepir method used for retrieving GEPIR party information on the licensee of a requested GS1 key.
Association	getKeyLicensee	GepirRequestedKey	1..1000		
GepirRequestedKey					Details on the key used to retrieve information on the related entity.
Attribute	requestedKeyCode	RequestedKeyCode	1..1		The type of the key used for the request for example GLN.
Attribute	requestedKeyValue	string	1..1	{1..35}	The value of the GS1 key used for the request.
Attribute	requestedLanguage	LanguageCode	0..1		Specifies the language of the request text fields if other than provided by default by the information provider

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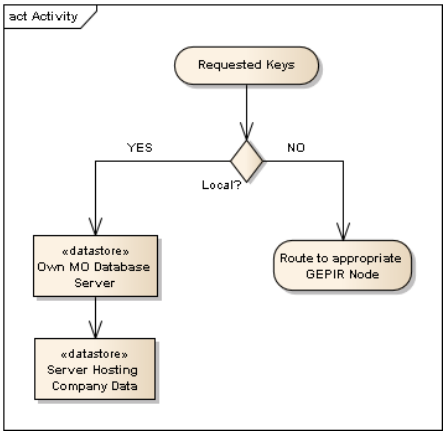
7.1.4. Get Prefix Licensee

The router receiving the request first checks its formal validity and rejects the request if the parameter is not numeric, is the wrong length or has an incorrect check digit.



When an MO receives one or more requested keys, it must, if a requested key is local, pass on the request to the MO's own database server, which will in turn pass on the request to the server hosting the company key data if one exists.

If no such server exists, the data from the MO database will be returned (in the chosen language, if supported), or an error if the company prefix is not found.

If there are any keys in the request, which are not local, the MO should route the request(s) for these key(s) to the appropriate GEPIR node(s).

If the country prefix is invalid, then an error is returned.

7.1.4.1. Single-Assigned Key

If the getPrefixLicensee method is used and the requested key is a single-assigned by the MO (i.e. no GCP is issued the end user), then the GEPIR PARTY is the detailed information of the MO.

7.1.4.2. List of Supported GS1 Keys

GEPIR supports the resolution of the owner of any of the following GS1 Identification Keys:

- Global Trade Item Number (GTIN) [14 numeric]
- Global Location Number (GLN) [13 numeric]
- Serial Shipping Container Code (SSCC) [18 numeric]
- Global Returnable Asset Identifier (GRAI) [14 numeric]
- Global Individual Asset Identifier (GIAI) [30 alpha]
- Global Service Relation Number (GSRN) [18 numeric]
- Global Document Type Identifier (GDTI) [13 numeric]

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- Global Shipment Identification Number (GSIN) [17numeric]
- Global Identification Number for Consignment (GINC) [30 alpha]
- Global Coupon Number (GCN) [13 numeric]

As additional Identification keys are introduced, they should be scheduled for deployment into the GEPIR network as soon as it is possible.

7.1.4.3. Formatting of the GS1 Identification Keys for use with GEPIR

The GS1 Identification Key shall be formatted according to the GS1 General Specifications. If the key allows an optional serial number, the serial number shall be removed before the query. Additionally, any references to Application Identifiers should be removed before the query. In the case of the GTIN, values shorter than 14 digits shall be padded with leading zeroes.

7.1.4.3.1. Global Trade Item Number (GTIN)

The GEPIR network can handle requests for GTIN-8, GTIN-12, GTIN-13, and GTIN-14. When any of these GTINs is encoded in a data carrier that must encode a fixed-length data string of 14-digits, the GTINs less than 14-digits in length must be prefixed by leading zeroes that simply act as filler characters. The presence or lack of these leading zeroes does not change the GTIN concerned. These series of GTINs may be stored with or without leading zeroes in the same database field, depending on the requirements of the particular application.

7.1.4.3.2. Global Location Number (GLN)

The GLN is supported in the GEPIR Network as a 13-digit number.

7.1.4.3.3. Serial Shipping Container Code (SSCC)

The Serial Shipping Container Code (SSCC) is supported in the GEPIR Network as an 18-digit number.

7.1.4.3.4. Global Returnable Asset Identifier (GRAI)

The Global Returnable Asset Identifier (GRAI) is supported in the GEPIR Network as a 14-digit number.

7.1.4.3.5. Global Individual Asset Identifier (GIAI)

The Global Individual Asset Identifier (GIAI) is supported in the GEPIR Network as a 30 character alphanumeric entry.

7.1.4.3.6. Global Service Relation Number (GSRN)

The Global Service Relation Number (GSRN) is supported in the GEPIR Network as an 18-digit number.

7.1.4.3.7. Global Document Type Identifier (GDTI)

The Global Document Type Identifier (GDTI) is supported in the GEPIR Network as a 13-digit number

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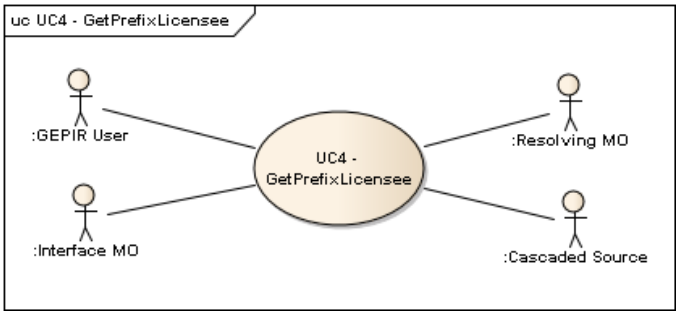
7.1.4.3.8. Global Shipment Identification Number (GSIN)

The Global Shipment Identification Number (GSIN) is supported in the GEPIR Network as a 17 digit number.

7.1.4.3.9. Global Identification Number for Consignment (GINC)

The Global Identification Number for Consignment (GINC) is supported in the GEPIR Network as a 30 character alphanumeric entry.

7.1.4.4. Use Case Description



Use Case ID	UC-4
Use Case Name	Get Prefix Licensee
Use Case Description	Process used to discover the GS1 Company Prefix Licensee information about any GS1 Key that is requested
Actors (Goal)	GEPIR User, Interface MO, Resolving MO, Cascading Source
Performance Goals	
Preconditions	Use of the correct “getPrefixLicensee” method is used, including the “getPrefixLicensee” schema definition
Post conditions	

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Scenario

Begins when... A GEPIR user requesting GS1 Company Prefix Licensee Information for a GLN

Continues with...

Step #	Actor	Activity Step
1	Interface MO	Identifies request as a Get Prefix Licensee request
2	Interface MO	Validates request against the defined validation rules
3	Interface MO	Determines if user is a Premium User
4	Interface MO	Determines if request can be handled at Interface MO
5	Interface MO	If so, GEPIR Party information is returned with correct response codes
6	Interface MO	If not handled locally, request sent to resolving MO, using routing information provided by GEPIR Root Directory
7	Resolving MO	Receives Get Prefix Licensee request
8	Resolving MO	Determines if request gets cascaded to a Cascaded Source
9	Cascaded Source	Receives Cascade request
	NOTE	Requests can be cascaded up to 9 times
10	Cascaded Source	Resolves Party Information
11	Cascaded Source	Returns Party Information to Resolving MO
12	Resolving MO	Receives Response and formats it
13	Resolving MO	Sends GEPIR Party to Interface MO
14	Interface MO	Receives GEPIR Party
15	Interface MO	Formats the Party Information for GEPIR User

Ends when... the Prefix Licensee and the related Party information are provided to the GEPIR User.

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<table>
<tr><td>Alternative Scenario</td><td>
<table>
<tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr>
<tr><td>1a</td><td>Interface MO</td><td>Authenticates GEPIR User</td></tr>
<tr><td>2a</td><td>Interface MO</td><td>Identify Validation Error(s)</td></tr>
<tr><td>3a</td><td>Interface MO</td><td>Create Error Message</td></tr>
<tr><td>4a</td><td>Interface MO</td><td>Send Error Message with Failure Details</td></tr>
<tr><td>5a</td><td>GEPIR User</td><td>Receive Error Message with Failure Details</td></tr>
<tr><td>6a</td><td>GEPIR User</td><td>Process Errors : Request not processed</td></tr>
</table>
<table>
<tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr>
<tr><td>1b</td><td>Interface MO</td><td>Validates if GEPIR User is a Premium User</td></tr>
<tr><td>2b</td><td>Interface MO</td><td>Identify if Premium Limit has been reached</td></tr>
<tr><td>3b</td><td>Interface MO</td><td>If Premium Limit reached, create Error Message</td></tr>
<tr><td>4b</td><td>Interface MO</td><td>Send Error Message with Failure Details</td></tr>
<tr><td>5b</td><td>GEPIR User</td><td>Receive Error Message with Failure Details</td></tr>
<tr><td>6b</td><td>GEPIR User</td><td>Process Errors : Request not processed</td></tr>
</table>
</td></tr>
<tr><td>Related Requirements</td><td></td></tr>
<tr><td>Related Rules</td><td></td></tr>
</table>

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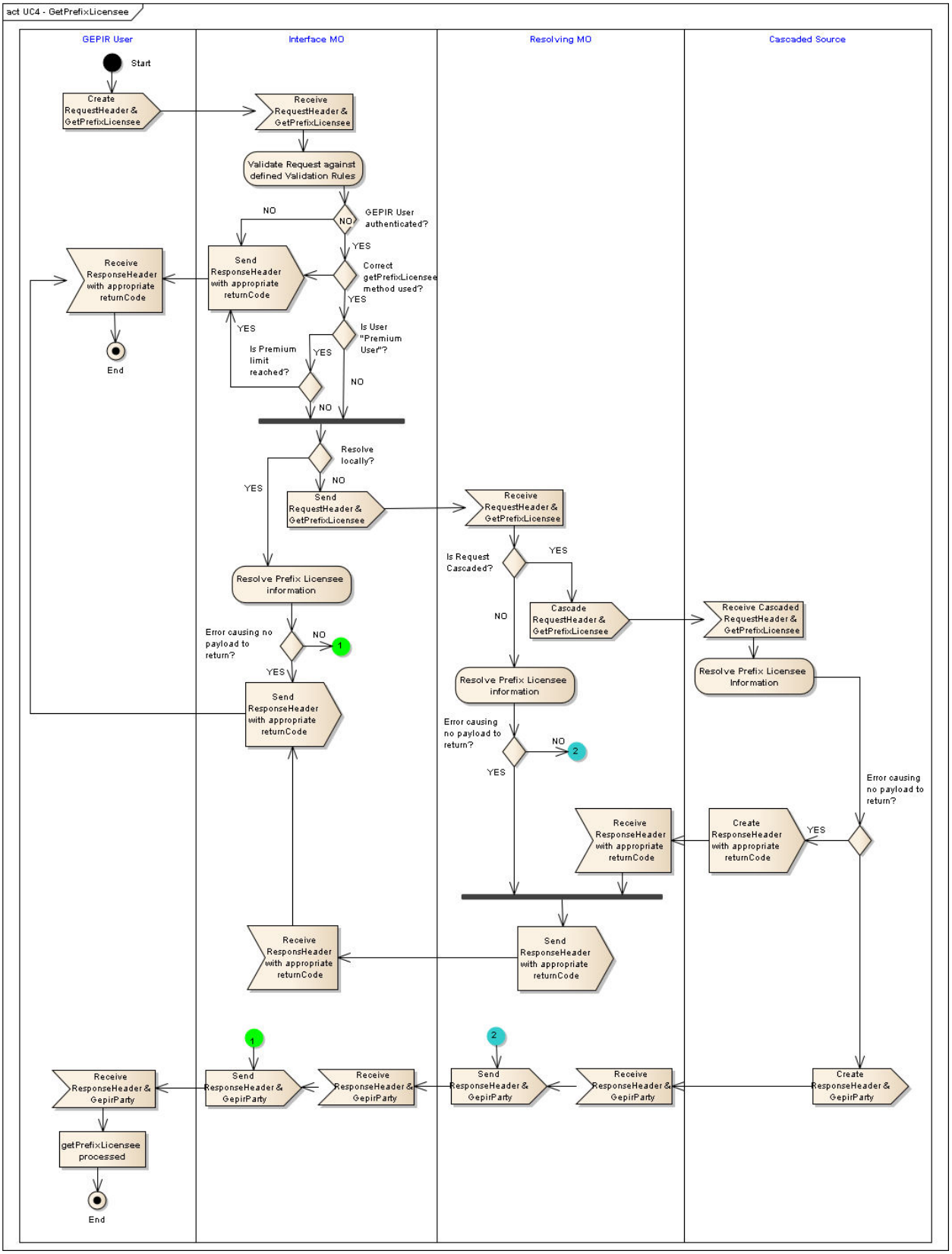
7.1.4.5. Activity Diagram



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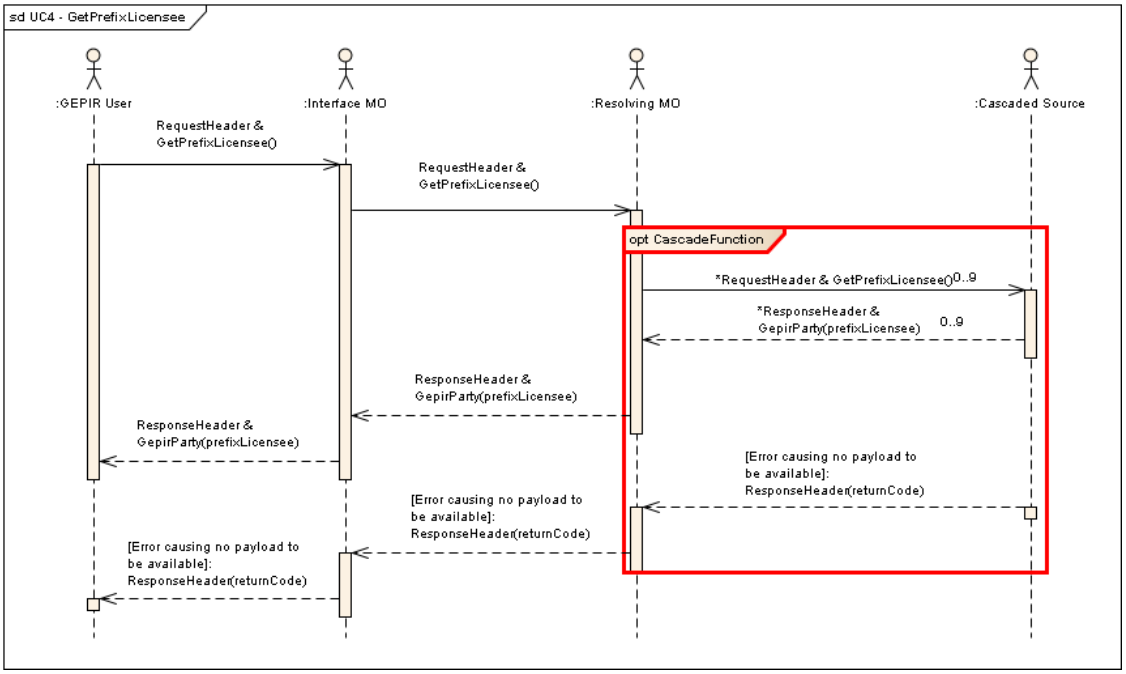
7.1.4.6. Sequence Diagram



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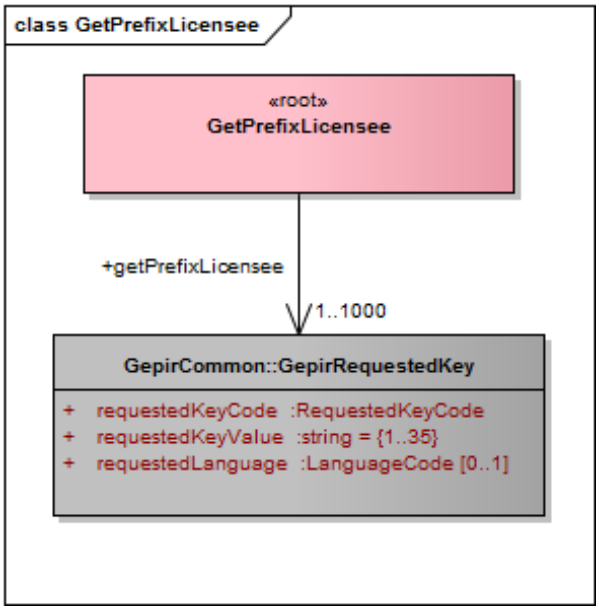
7.1.4.7. Class Diagram & GDD Report



Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/ Constraints	Definition
GetPrefixLicensee					Gepir method used for retrieving GEPIR party information on the licensee of the company prefix of a requested GS1 key.
Association	getPrefixLicensee	GepirRequestedKey	1..1000		
GepirRequestedKey					Details on the key used to retrieve information on the related entity.
Attribute	requestedKeyCode	RequestedKeyCode	1..1		The type of the key used for the request for example GLN.
Attribute	requestedKeyValue	string	1..1	{1..35}	The value of the GS1 key used for the request.
Attribute	requestedLanguage	LanguageCode	0..1		Specifies the language of the request text fields if other than provided by default by the information provider

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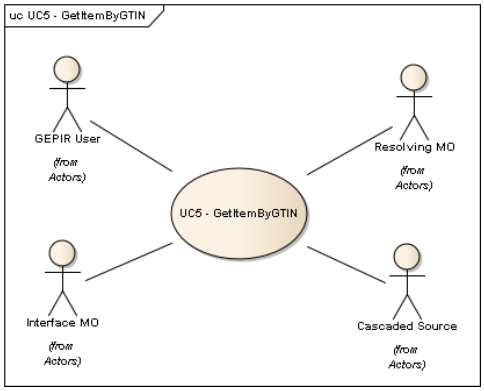
7.1.5. Get Item by GTIN

7.1.5.1. Use Case Description



Use Case ID	UC-5
Use Case Name	Get Item by GTIN
Use Case Description	Process used to discover the Item information based on a requested GTIN
Actors (Goal)	GEPIR User, Interface MO. Resolving MO, Cascading Source
Performance Goals	
Preconditions	Use of the correct “GetItemByGtin” method is used, including the “GetItemByGtin” schema definition
Post conditions	

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Scenario

Begins when... A GEPIR user requesting Item Information for an Item that matches the requested GTIN

Continues with...

Step #	Actor	Activity Step
1	Interface MO	Identifies request as a Get Item by GTIN request
2	Interface MO	Validates request against the defined validation rules
3	Interface MO	Determines if user is a Premium User
4	Interface MO	Determines if request can be handled at Interface MO
5	Interface MO	If so, GEPIR Item information is returned with correct response codes
6	Interface MO	If not handled locally, request sent to resolving MO, using routing information provided by GEPIR Root Directory
7	Resolving MO	Receives Get Item by GTIN request
8	Resolving MO	Determines if request gets cascaded to a Cascaded Source
9	Cascaded Source	Receives Cascade request
	NOTE	Requests can be cascaded up to 9 times
10	Cascaded Source	Resolves GEPIR Item Information
11	Cascaded Source	Returns GEPIR Item Information to Resolving MO
12	Resolving MO	Receives Response and formats it
13	Resolving MO	Sends GEPIR Item to Interface MO
14	Interface MO	Receives GEPIR Item

Ends when… the GTIN and the related GEPIR Item information are provided to the GEPIR user.

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<table>
<tr><td>Alternative Scenario</td><td>
<table>
<tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr>
<tr><td>1a</td><td>Interface MO</td><td>Validates GEPIR User</td></tr>
<tr><td>2a</td><td>Interface MO</td><td>Identify Validation Error(s)</td></tr>
<tr><td>3a</td><td>Interface MO</td><td>Create Error Message</td></tr>
<tr><td>4a</td><td>Interface MO</td><td>Send Error Message with Failure Details</td></tr>
<tr><td>5a</td><td>GEPIR User</td><td>Receive Error Message with Failure Details</td></tr>
<tr><td>6a</td><td>GEPIR User</td><td>Process Errors : Request not processed</td></tr>
</table>
<table>
<tr><th>Step #</th><th>Actor</th><th>Activity Step</th></tr>
<tr><td>1b</td><td>Interface MO</td><td>Validates if GEPIR User is a Premium User</td></tr>
<tr><td>2b</td><td>Interface MO</td><td>Identify if Premium Limit has been reached</td></tr>
<tr><td>3b</td><td>Interface MO</td><td>If Premium Limit reached, create Error Message</td></tr>
<tr><td>4b</td><td>Interface MO</td><td>Send Error Message with Failure Details</td></tr>
<tr><td>5b</td><td>GEPIR User</td><td>Receive Error Message with Failure Details</td></tr>
<tr><td>6b</td><td>GEPIR User</td><td>Process Errors : Request not processed</td></tr>
</table>
</td></tr>
<tr><td>Related Requirements</td><td></td></tr>
<tr><td>Related Rules</td><td>1. Search Criteria must be valid as defined in this use case</td></tr>
</table>

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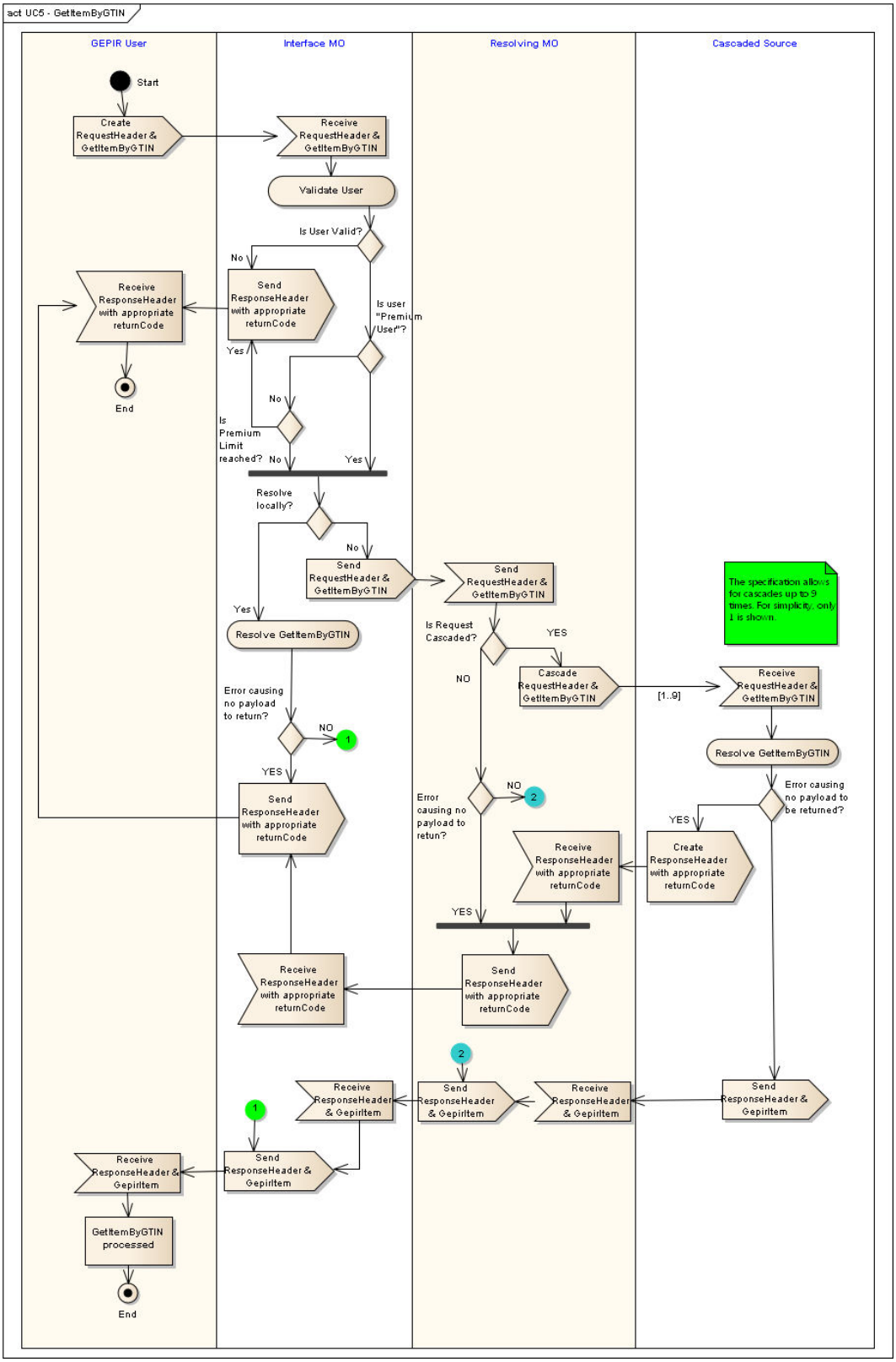
7.1.5.2. Activity Diagram



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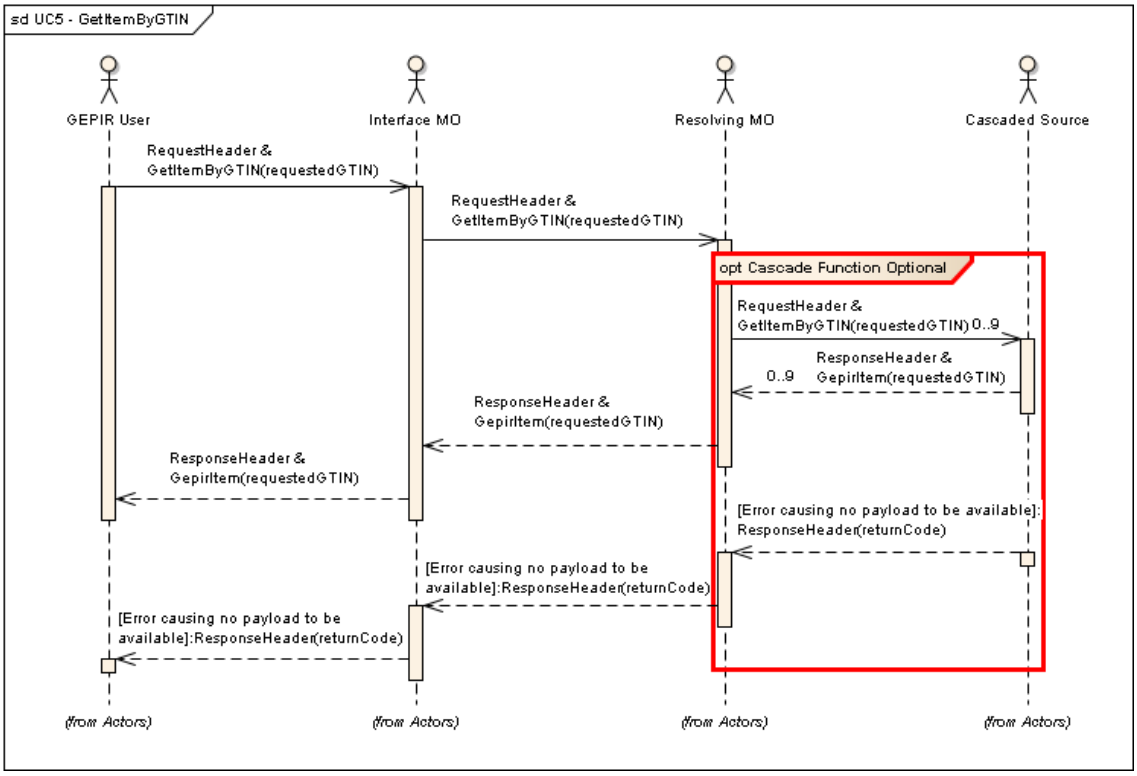
7.1.5.3. Sequence Diagram



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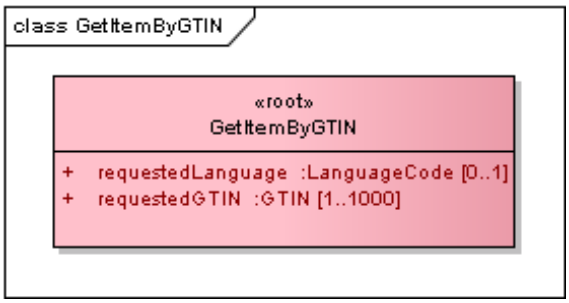
7.1.5.4. Class Diagram & GDD Report



Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/Constraints	Definition
GetItemByGTIN					Gepir method used for retrieving GEPIR item information on a requested GTIN.
Attribute	requestedGTIN	GTIN	1..1000		Get item details for just this specific GTIN
Attribute	requestedLanguage	LanguageCode	0..1		Specifies the language of the request text fields if other than provided by default by the information provider

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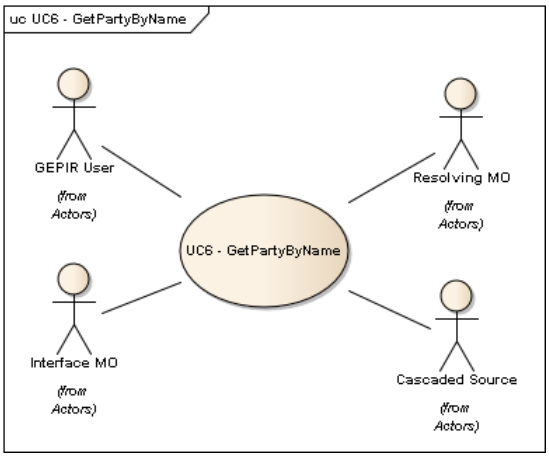
7.1.6. Get Party by Name

This method provides the ability to search by name and other well-defined parameters.

7.1.6.1. Use Case Description



Use Case ID	UC-6
Use Case Name	Get Party By Name
Use Case Description	Process used to discover the Party information based on search criteria
Actors (Goal)	GEPIR User, Interface MO. Resolving MO, Cascading Source
Performance Goals	
Preconditions	Use of the correct “getPartyByName” method is used, including the “getPartyByName” schema definition
Post conditions	
Scenario	**Begins when**... A GEPIR user requesting Party Information for a party that matches the requested search criteria **Continues with**...

Step #	Actor	Activity Step
1	Interface MO	Identifies request as a Get Party By Name request
2	Interface MO	Validates request against the defined validation rules
3	Interface MO	Determines if user is a Premium User
4	Interface MO	Determines if request can be handled at Interface MO
5	Interface MO	If so, GEPIR Party information is returned with correct response codes
6	Interface MO	If not handled locally, request sent to resolving MO, using routing information provided by GEPIR Root Directory
7	Resolving MO	Receives Get Party By Name request
8	Resolving MO	Determines if request gets cascaded to a Cascaded Source

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	9 | Cascaded Source | Receives Cascade request NOTE | Requests can be cascaded up to 9 times 10 | Cascaded Source | Resolves Party Information 11 | Cascaded Source | Returns Party Information to Resolving MO 12 | Resolving MO | Receives Response and formats it 13 | Resolving MO | Sends GEPIR Party to Interface MO 14 | Interface MO | Receives GEPIR Party **Ends when**… the GLN and the related Party information are provided to the GEPIR user.
Alternative Scenario	**Step # | Actor | Activity Step** 1a | Interface MO | Validates GEPIR User 2a | Interface MO | Identify Validation Error(s) 3a | Interface MO | Create Error Message 4a | Interface MO | Send Error Message with Failure Details 5a | GEPIR User | Receive Error Message with Failure Details 6a | GEPIR User | Process Errors : Request not processed **Step # | Actor | Activity Step** 1b | Interface MO | Validates if GEPIR User is a Premium User 2b | Interface MO | Identify if Premium Limit has been reached 3b | Interface MO | If Premium Limit reached, create Error Message 4b | Interface MO | Send Error Message with Failure Details 5b | GEPIR User | Receive Error Message with Failure Details 6b | GEPIR User | Process Errors : Request not processed
Related Requirements	
Related Rules	1. Search Criteria must be valid as defined in this use case

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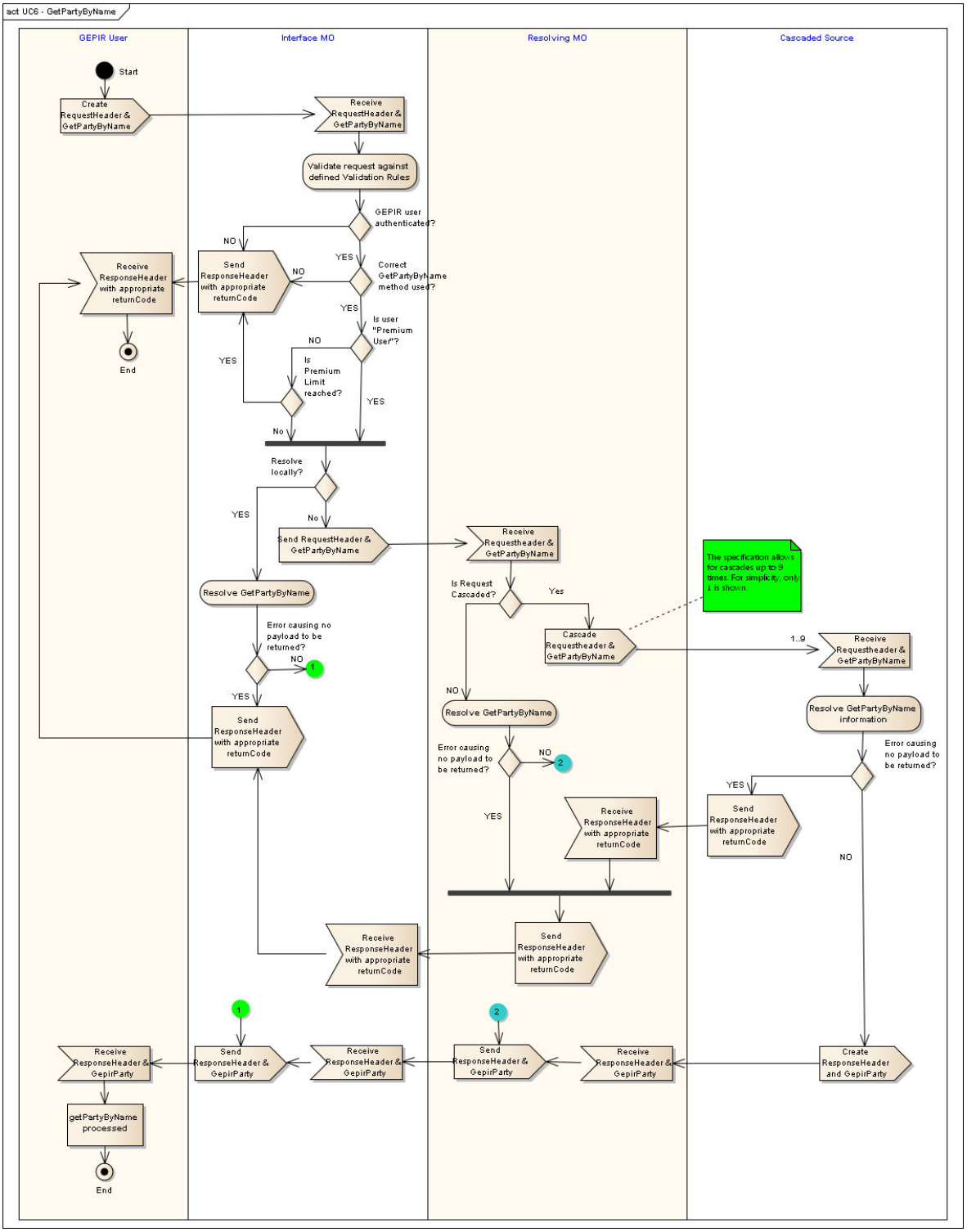
7.1.6.2. Activity Diagram



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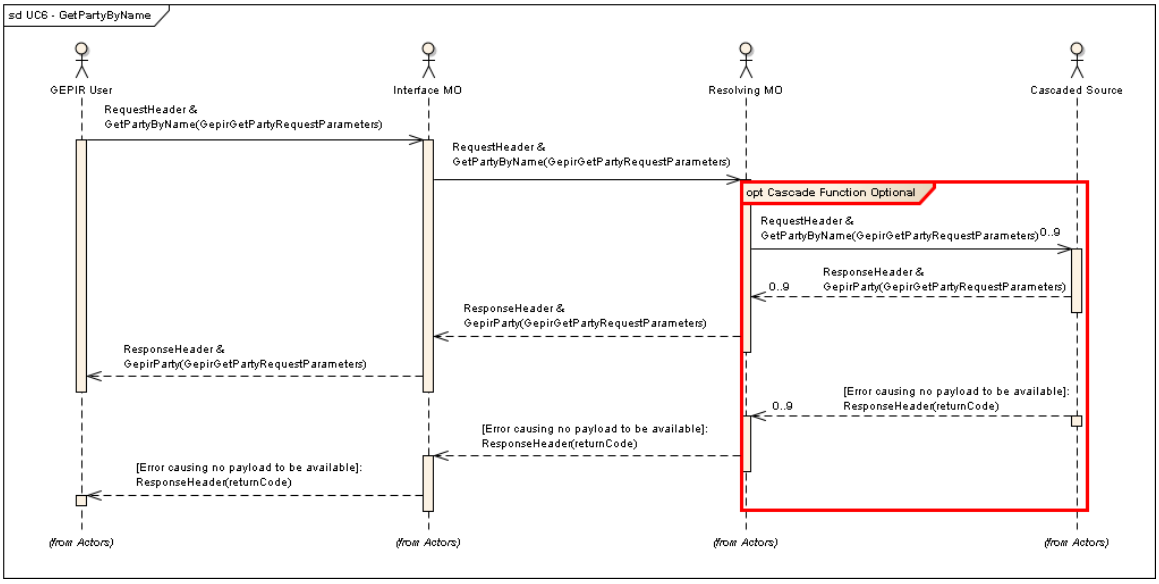
7.1.6.3. Sequence Diagram



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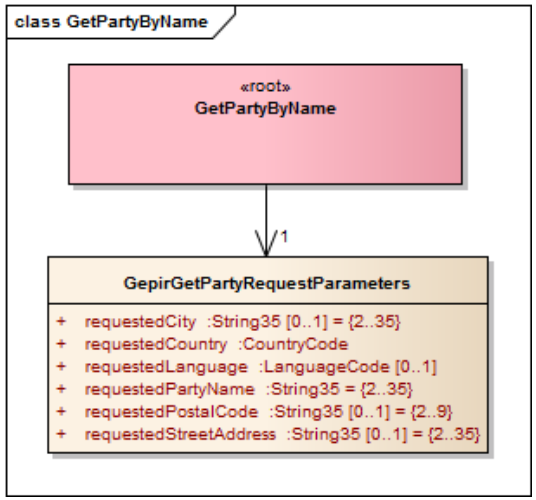
7.1.6.4. Class Diagram & GDD Report



Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/Constraints	Definition
GetPartyByName					Get any party(ies) matching the parameter(s)
Association		GepirGetPartyRequestParameters	1..1		
GepirGetPartyRequestParameters					
Attribute	requestedCity	String35	0..1	{2..9}	All or part of the city name by which the GepirParty is being searched.
Attribute	requestedCountry	CountryCode	1..1		ISO 3166-1 alpha-2 code for the country by which the GepirParty is being searched. Code "ZZ" may be used at an initiating MO to request a worldwide search.
Attribute	requestedLanguage	LanguageCode	0..1		Specifies the language of the request text fields if other than provided by default by the information

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Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/Constraints	Definition
					provider
Attribute	requestedPartyName	String35	1..1	{2..35}	All or part of the company name by which the GepirParty is being searched.
Attribute	requestedPostalCode	String35	0..1	{2..9}	All or part of the postal code by which the GepirParty is being searched.
Attribute	requestedStreetAddress	String35	0..1	{2..35}	All or part of the street address by which the GepirParty is being searched.

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7.2. Output Functions ("Responses")

7.2.1. Introduction

Responses are sent from routers to clients or from MO servers or third-party servers to routers. They are formatted with a header containing control information and a body part containing the response data parameters. The header is common to all responses. The body part is unique for each response type.

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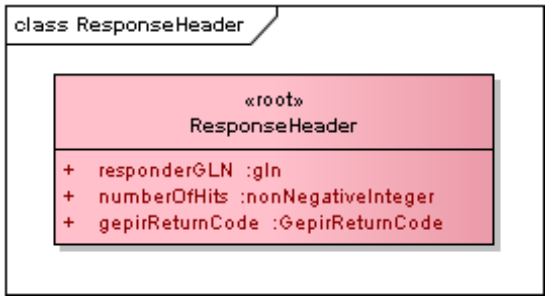
7.2.2. Response header

Within the header there must be a GEPIR response header named ResponseHeader .

7.2.2.1. Class Diagram & GDD Report



Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/Constraints	Definition
ResponseHeader					Header to be included in all GEPIR response methods.
Attribute	gepirReturnCode	GepirReturnCode	1..1		Indicates the success or otherwise of the request.
Attribute	numberOfHits	nonNegativeInteger	1..1		The number of records meeting the search criteria. Not all requests can generate multi-line responses, but this element is always used.
Attribute	responderGLN	gln	1..1		GLN of the originator of the response (Resolving MO Router). This remains unchanged if the request is cascaded through another server, with the following exceptions: For worldwide searches, the responder is the router aggregating the responses. For batch requests, the responder is the router handling the request.

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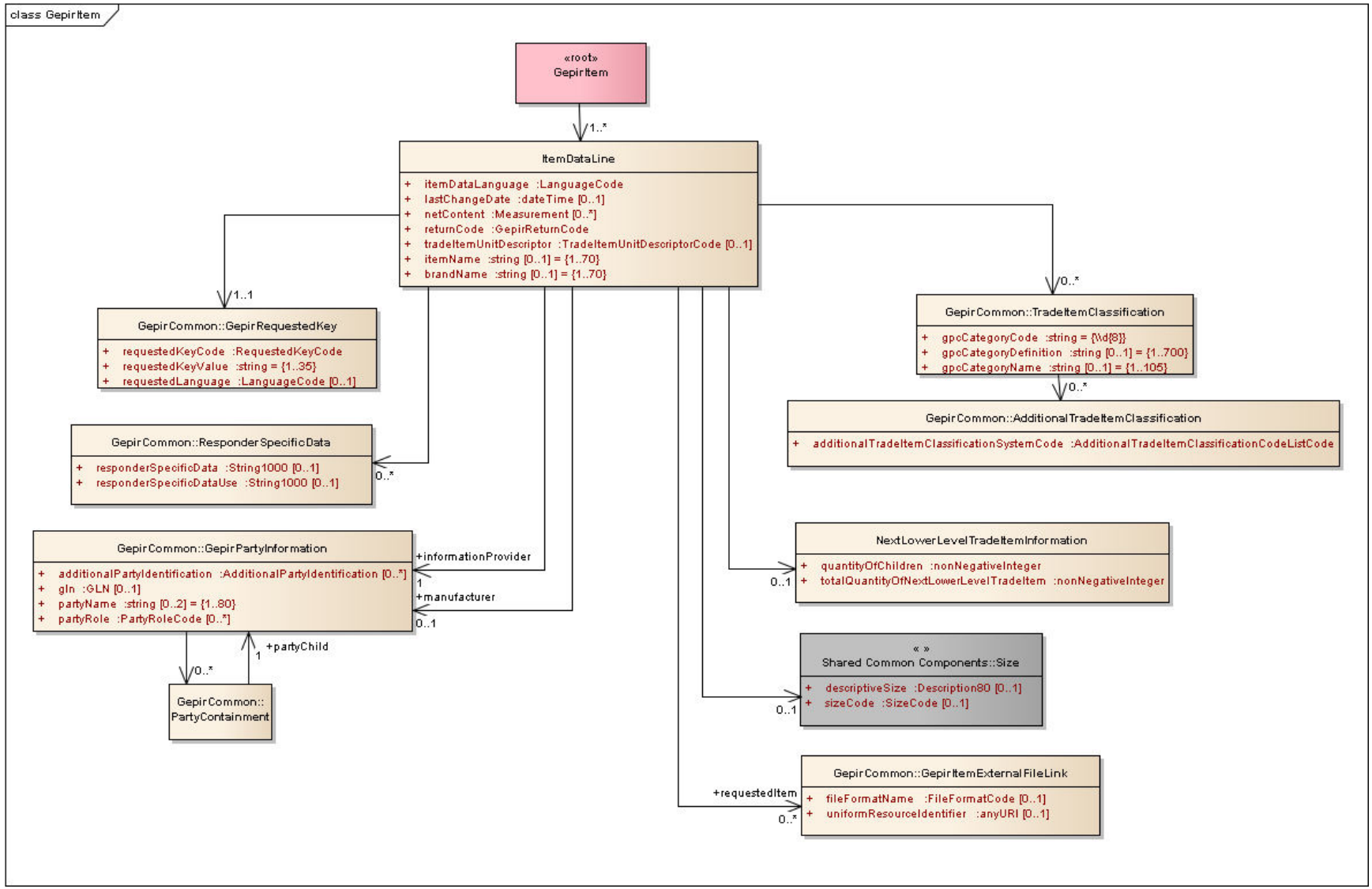
7.2.3. GEPIR Item

7.2.3.1. Class Diagram & GDD Report



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Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/Constraints	Definition
GepirItem					Gepir method used for returning GEPIR item information on a requested GTIN.
Association		ItemDataLine	1..*		
ItemDataLine					Detailed item information returned by GEPIR on a requested GTIN
Association		GepirRequestedKey	1..1		
Association		ResponderSpecificData	0..*		
Association	informationProvider	GepirPartyInformation	1..1		
Association	manufacturer	GepirPartyInformation	0..1		
Association		NextLowerLevelTradeItemInformation	0..1		
Association		TradeItemClassification	0..*		
Association		Size	0..1		
Association	requestedItem	GepirItemExternalFileLink	0..*		
Attribute	brandName	string	0..1	{1..70}	The recognisable name used by a brand owner to uniquely identify a line of trade item or services. This is recognizable by the consumer.
Attribute	itemDataLanguage	LanguageCode	1..1		Language used to represent the data on the requested item.
Attribute	itemName	string	0..1	{1..70}	An understandable and useable description of a trade item using brand and other descriptors.
Attribute	lastChangeDate	dateTime	0..1		Date assigned by system indicating last time the information was changed. This date is generic and will be stored where assigned and will accompany every message.
Attribute	netContent	Measurement	0..*		The amount of the trade item contained by a package, usually as claimed on the label. For example, Water 750ml - net content = "750 MLT" ; 20 count pack of diapers, net content = "20 ea.". In case of multi-pack, indicates the net content of the total trade item. For fixed value trade items use the value claimed on the

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Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/Constraints	Definition
					package, to avoid variable fill rate issue that arises with some trade item which are sold by volume or weight, and whose actual content may vary slightly from batch to batch. In case of variable quantity trade items, indicates the average quantity.
Attribute	returnCode	GepirReturnCode	1..1		Indicates the success or otherwise of the request.
Attribute	tradeItemUnitDescriptor	TradeItemUnitDescriptorCode	0..1		Describes the hierarchical level of the trade item. TradeItemUnitIndicator is mandatory. Examples: "CASE" , ”PALLET”
GepirRequestedKey					
Attribute	requestedKeyCode	RequestedKeyCode	1..1		The type of the key used for the request for example GLN.
Attribute	requestedKeyValue	string	1..1	{1..35}	The value of the GS1 key used for the request.
Attribute	requestedLanguage	LanguageCode	0..1		Specifies the language of the request text fields if other than provided by default by the information provide
ResponderSpecificData					
Attribute	responderSpecificData	String1000	0..1		A user defined field for Information for use in additional value-add services (for example the cascading of additional item-related data.)
Attribute	responderSpecificDataUse	String1000	0..1		A definition of the use of the responderSpecificData field for Information for use in additional value-add services (for example the cascading of additional party-related data.
GepirPartyInformation					
Association		PartyContainment	0..*		
Attribute	additionalPartyIdentification	AdditionalPartyIdentification	0..*		Identification of a party by use of a code other than the Global Location Number.
Attribute	gln	GLN	0..1		Global Location Number (GLN), the GS1 key used for the identification of parties and locations.
Attribute	partyName	string	0..2	{1..80}	The name of the referenced party.
Attribute	partyRole	PartyRoleCode	0..*		A code that identifies the role of a party in a business transaction.

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Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/Constraints	Definition
PartyContainment					
Association	partyChild	GepirPartyInformation	1..1		Gepir Party Information for a subentity of an information provider or manufacturer.
TradeItemClassification					Information specifying the product class to which a trade item belongs and the classification system being applied.
Association		AdditionalTradeItemClassification	0..*		
Attribute	gpcCategorycode	string	1..1	{\\d{8}}	Code specifying a product category according to the GS1 Global Product Classification (GPC) standard.
Attribute	gpcCategoryDefinition	string	0..1	{1..700}	A GS1 supplied definition associated with the specified Global Product Classification (GPC) category code.
Attribute	gpcCategoryName	string	0..1	{1..105}	Name associated with the specified Global Product Classification (GPC) category code.
AdditionalTradeItemClassification					
Attribute	additionalTradeItemClassificationSystemCode	AdditionalTradeItemClassificationCodeListCode	1..1		Category code based on alternate classification schema chosen in addition to the Global Product Classification (GPC).
NextLowerLevelTradeItemInformation					Information on the next lower level trade items in the trade item hierarchy.
Association		ChildTradeItem	1..*		
Attribute	quantityOfChildren	nonNegativeInteger	1..1		Value indicates the number of unique next lower level trade items contained in a complex trade item. A complex trade item can contain at least 2 different GTINs.
Attribute	totalQuantityOfNextLowerLevelTradeItem	nonNegativeInteger	1..1		This represents the Total quantity of next lower level trade items that this trade item contains.
Size					Code specifying the size of an object and the size coding system being applied, for example L (buyer assigned).
Attribute	descriptiveSize	Description80	0..1		A description of the size of an object.

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Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/Constraints	Definition
Attribute	sizeCode	SizeCode	0..1		Code specifying the size of an object and the size coding system being applied, for example L (buyer assigned).
GepirItemExternalFileLink					Provides information on a referenced external electronic file.
Attribute	fileFormatName	fileformatCode	0..1		The name of the file format.
Attribute	uniformResourceIdentifier	anyURI	0..1		Simple text string that refers to a resource on the internet, URLs may refer to documents, resources, people, etc.

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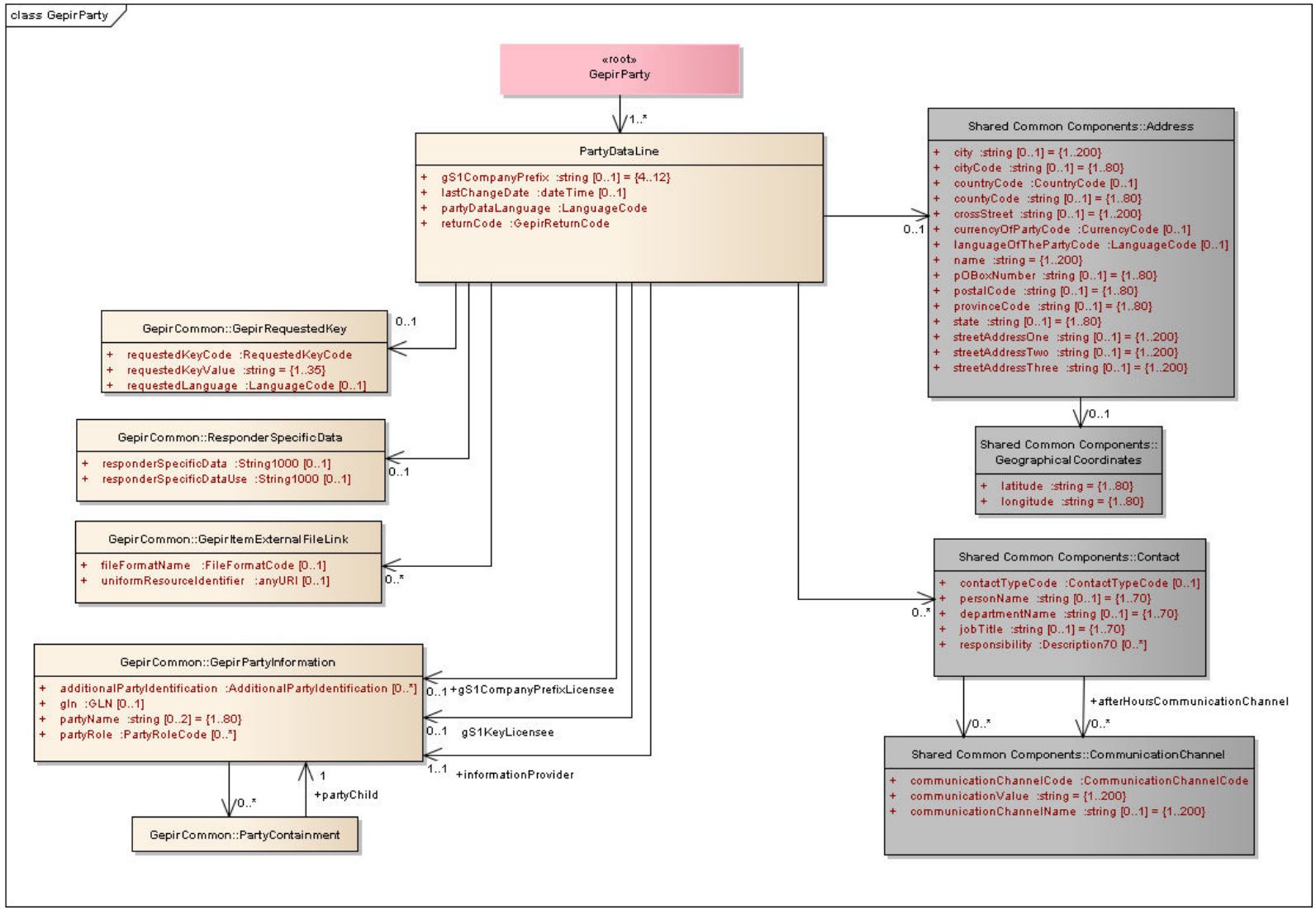
7.2.4. GEPIR Party

7.2.4.1. Class Diagram & GDD Report



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Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/Constraints	Definition
GepirParty					Gepir method used for returning GEPIR party information.
Association		PartyDataLine	1..*		
PartyDataLine					Detailed party information returned by GEPIR on a party search method.
Association		GepirRequestedKey	0..1		
Association		ResponderSpecificData	0..1		
Association		GepirItemExternalFileLink	0..*		
Association	gS1CompanyPrefixLicensee	GepirPartyInformation	0..1		
Association	gS1KeyLicensee	GepirPartyInformation	0..1		
Association	informationProvider	GepirPartyInformation	1..1		The party information for the originator of the response line.
Association		Address	0..1		
Association		Contact	0..*		
Attribute	gS1CompanyPrefix	string	0..1	{4..12}	GS1 Company Prefix in the GS1 Key being requested
Attribute	lastChangeDate	dateTime	0..1		Date assigned by system indicating last time the information was changed. This date is generic and will be stored where assigned and will accompany every message.
Attribute	partyDataLanguage	LanguageCode	1..1		Language used to represent the data on the requested item.
Attribute	returnCode	GepirReturnCode	1..1		Indicates the success or otherwise of the request.
GepirRequestedKey					Details on the key used to retrieve information on the related entity.
Attribute	requestedKeyCode	RequestedKeyCode	1..1		The type of the key used for the request for example GLN.
Attribute	requestedKeyValue	string	1..1	{1..35}	The value of the GS1 key used for the request.
Attribute	requestedLanguage	LanguageCode	0..1		Specifies the language of the request text fields if other than provided by default by the information provide

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Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/Constraints	Definition
ResponderSpecificData					
Attribute	responderSpecificData	String1000	0..1		A user defined field for Information for use in additional value-add services (for example the cascading of additional item-related data.)
Attribute	responderSpecificDataUse	String1000	0..1		A definition of the use of the responderSpecificData field for Information for use in additional value-add services (for example the cascading of additional party-related data.
GepirItemExternalFileLink					Provides information on a referenced external electronic file.
Attribute	fileFormatName	fileformatCode	0..1		The name of the file format.
Attribute	uniformResourceIdentifier	anyURI	0..1		Simple text string that refers to a resource on the internet, URLs may refer to documents, resources, people, etc.
GepirPartyInformation					GEPIR party information
Association		PartyContainment	0..*		
Attribute	additionalPartyIdentification	AdditionalPartyIdentification	0..*		Identification of a party by use of a code other than the Global Location Number.
Attribute	gln	GLN	0..1		Global Location Number (GLN), the GS1 key used for the identification of parties and locations.
Attribute	partyName	string	0..2	{1..80}	The name of the referenced party.
Attribute	partyRole	PartyRoleCode	0..*		A code that identifies the role of a party in a business transaction.
PartyContainment					
Association	partyChild	GepirPartyInformation	1..1		Gepir Party Information for a subentity of an information provider.
Address					The location at which a particular organization or person may be found or reached.
Association		GeographicalCoordinates	0..1		Geographical Coordinates for the address.
Attribute	city	string	0..1	{1..200}	Text specifying the name of the city.
Attribute	cityCode	string	0..1	{1..80}	Identifier for a city, expressed as a short code rather than the full name
Attribute	countryCode	CountryCode	0..1		Code specifying the country for the address.

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Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/Constraints	Definition
Attribute	countyCode	string	0..1	{1..80}	A code that identifies a county. A county is a territorial division in some countries, forming the chief unit of local administration. In the US, a county is a political and administrative division of a state.
Attribute	crossStreet	string	0..1	{1..200}	A street intersecting a main street (usually at right angles) and continuing on both sides of it
Attribute	currencyOfPartyCode	CurrencyCode	0..1		Code specifying the currency of an addressed party.
Attribute	languageOfThePartyCode	LanguageCode	0..1		Code specifying the language of an addressed party.
Attribute	name	string	1..1	{1..200}	The name of the party expressed in text.
Attribute	pOBoxNumber	string	0..1	{1..80}	The number that identifies a PO box. A PO box is a box in a post office or other postal service location assigned to an organization where postal items may be kept.
Attribute	postalCode	string	0..1	{1..80}	Text specifying the postal code for an address.
Attribute	provinceCode	string	0..1	{1..80}	Text specifying a province in abbreviated format.
Attribute	state	string	0..1	{1..80}	One of the constituent units of a nation having a federal government.
Attribute	streetAddressOne	string	0..1	{1..200}	The first free form line of an address. This first part is printed on paper as the first line below the name. For example, the name of the street and the number in the street or the name of a building.
Attribute	streetAddressTwo	string	0..1	{1..200}	The second free form line of an address. This second part is printed on paper as the second line below the name. The second free form line complements the first free form line to locate the party e.g. floor number, name of a building, suite number or
Attribute	streetAddressThree	string	0..1	{1..200}	The third free form line of an address. This third part is printed on paper as the third line below the name. The third free form line complements the first and second free form lines where necessary.
GeographicalCoordinates					The longitude and latitude of a geographical location.
Attribute	latitude	string	1..1	{1..80}	Angular distance North or South from the earth's equator measured through 90 degrees.

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Class/Type	Attribute Name/ Association Name	Data Type/ 2nd Class of Association	Cardinality	Facets/Constraints	Definition
Attribute	longitude	string	1..1	{1..80}	The arc or portion of the earth's equator intersected between the meridian of a given place and the prime meridian and expressed either in degrees or in time.
Contact					Information on an individual or department acting as point of contact for an organization.
Association		CommunicationChannel	0..*		The channel or manner in which a communication can be made with the contact, such as telephone or email
Association	afterHoursCommunicationChannel	CommunicationChannel	0..*		
Attribute	contactTypeCode	ContactTypeCode	0..1		Code specifying the function or role of a contact.
Attribute	personName	string	0..1	{1..70}	The name of the individual that can be contacted to provide additional information
Attribute	departmentName	string	0..1	{1..70}	The name of the department that can be contacted to provide additional information
Attribute	jobTitle	string	0..1	{1..70}	The job title of the person that can be contacted.
Attribute	responsibility	Description70	0..*		Text further specifying the area of responsibility of the trade contact.
CommunicationChannel					The channel or manner in which a communication can be made, such as telephone or email.
Attribute	communicationChannelCode	CommunicationChannelCode	1..1		Code specifying the type of communication channel, for example TELEPHONE.
Attribute	communicationValue	string	1..1	{1..200}	Text identifying the endpoint for the communication channel, for example a telephone number or an e-mail address.
Attribute	communicationChannelName	string	0..1	{1..200}	The name of a specific communication channel for example Facebook, Twitter, etc.

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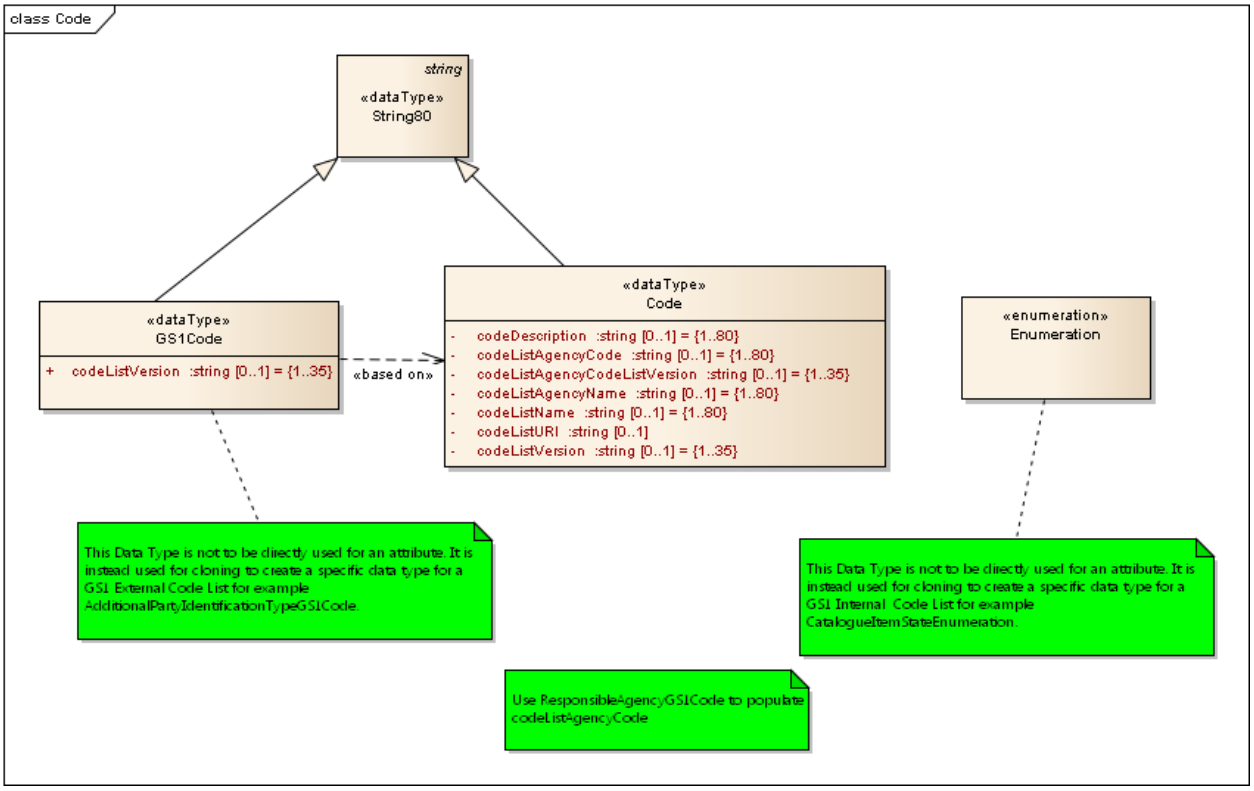
8. Codelists

8.1. GS1 Code construct as of this version of GEPIR



As of this version of GEPIR, all dataTypes referring to a codelist are a subset of the dataType GS1Code, which resides in Shared Common Components. The dataType GS1Code is not to be directly used for an attribute. It is instead used for cloning to create a specific dataType for a GS1 External Code List. External meaning external to schema.

This means that a number of properties and attributes are hidden from plain view.

The diagram above shows the possible attributes.

GDD Report

Content	Attribute / Role	Datatype /Secondary class	Multiplicity	Definition
Code				Generic code data type not linked to a specific code list. Besides the code value the code data type allows to specify additional information such as the responsible code list agency

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				and the code list identification.
Generalization		String80		
Attribute	codeDescription	string	0..1	A description for the code value provided.
Attribute	codeListAgencyCode	string	0..1	A code representing the agency which manages the code list for example 5 for ISO.
Attribute	codeListAgencyCodeListVersion	string	0..1	The snapshot of the Code List Agency code list at a certain point in time.
Attribute	codeListAgencyName	string	0..1	A name of the agency which manages the code list for example ISO.
Attribute	codeListName	string	0..1	The name of the code list which provides the code value.
Attribute	codeListURI	string	0..1	A string that refers to the location of the code list which provides the code value.
Attribute	codeListVersion	string	0..1	The snapshot of the code list at a certain point in time.
GS1Code				Generic code data type not linked to a specific code list. Besides the code value the GS1 code data type allows to specify the code list version.
Generalization		String80		
Dependency		Code		
Attribute	codeListVersion	string	0..1	The snapshot of the code list at a certain point in time.

NOTE: Please refer to the Shared Common Components BMS for the latest version of both the diagram and GDD Report.

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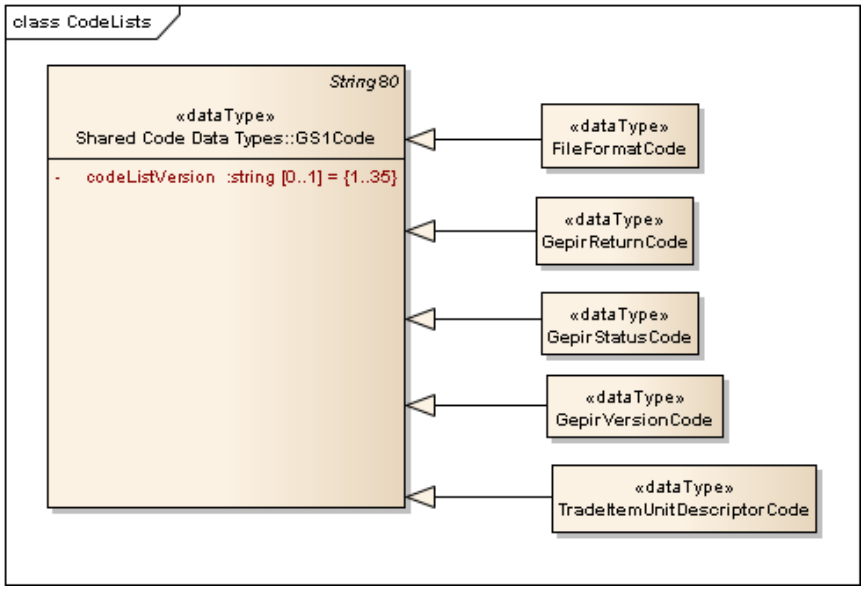
8.2. Codelists internal to GEPIR



NOTE: The most current version of the GS1 External Code Lists will be available in the GDD. The following section details these values as of release 4.0.0

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8.2.1. File Format Code

GS1 Code List	FileFormatCode
GS1 Code List Version	1
Managing Agency	GS1
Based on Code List	n/a
Type Of Management	n/a

Code Value	Code Name	Code Definition
HTML		
TXT		
XML		

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8.2.2. Gepir Return Code

GS1 Code List	GepirReturnCode
GS1 Code List Version	1
Managing Agency	GS1
Based on Code List	n/a
Type Of Management	n/a

Code Value	Code Name	Code Definition
0	Query Successful	The request has been successfully completed and the response is in the body of the message.
1	Missing or invalid parameters	One or more parameters is missing or incorrect. This might be wrong length, invalid GS1 check digit, non-numeric characters in a number, etc. No data is returned.
2	Record not found	No record exists in the MO database for this key or these search parameters. No data is returned.
3	No exact match on Requested Key	No record was found for this Requested Key. The data held in the MO database for this company prefix is returned.
4	Too many hits	Over twenty records match the search criteria. Only twenty are returned.
5	Unknown GS1 Prefix	The GS1 prefix (3 digit country code) does not exist.
6	Response may be incomplete	One or more servers failed to respond for the global search (“zz”). Such data as is available is returned.
7	Request timed out	There was a timeout somewhere in the server chain. No data is returned.
8	No catalogue exists	A request has been made for GTIN information, but there is no server for this company. No data is returned.
9	Company information withheld	The company prefix in the request exists, but the company has not released its information for publication. The name and address of the responsible MO is returned.
10	Prefix no longer subscribed	The company prefix in the request exists, but the company is no longer a member of GS1 under this prefix. The name and address of the responsible MO is returned.
11	Country not on the GEPIR network	There is no GEPIR MO server for this country. This should only be used with Get Party by Name.
12	Item information withheld	The GTIN in the request exists, but the company has not released its information for publication.
13	Unauthorised number	The company prefix in the request is known to be unauthorised. The name and address of the responsible MO is returned.
14	Daily request limit exceeded	The user has exceeded the number of ‘free’ requests permitted (30) and the request is rejected. No data is returned. The ‘responderGln’ element is set by the node refusing the request.
15	GS1 Key is valid; GLN not assigned	GS1 Key is valid; GLN not assigned

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Code Value	Code Name	Code Definition
16	Prefix 020-029 or 040-049 for internal use only	Prefix 020-029 or 040-049 are for company internal use. No information can be returned. The name and address of the MO inquired is returned.
17	Prefix 200-299 for internal use only	Prefix 200-299 is for company internal use. No information can be returned. The name and address of the MO inquired is returned.
18	Prefix 977 (ISSN)	Prefix 977 is used for serial publications (ISSN). No information can be returned. The name and address of the MO inquired is returned.
19	Prefix 978-979 (ISBN)	Prefix 978-979 is used for books. (ISBN). No information can be returned. The name and address of the MO inquired is returned.
20	Coupon Prefix	For example Prefixes 050-059 and 990-999 are used for coupons. No information can be returned. The name and address of the MO inquired is returned.
21	Prefix never allocated	No record exists in the MO database for this key. No data is returned. This code can only be used when historical data is available.
97	Unsupported request for this version.	The request contains elements which cannot be processed by a GEPIR Router on this version.
98	Authorization failed	The Authorization process has failed and access is not granted
99	Server error	Router is functional; however, there is no access to the data. The ‘responderGln’ element is set by the node detecting the error.

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8.2.3. Gepir Status Code

GS1 Code List	GepirStatusCode
GS1 Code List Version	1
Managing Agency	GS1
Based on Code List	n/a
Type Of Management	n/a

Code Value	Code Definition
OWN	GEPIR Member Organisation has its own GEPIR node.
REFER	Member Organisation is hosted by a 3rd party excluding GS1 Global Office. (e.g. another MO)
HOSTED	Member Organisation is hosted by GS1 Global Office

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8.2.4. Gepir Version Code

GS1 Code List	GepirVersionCode
GS1 Code List Version	1
Managing Agency	GS1
Based on Code List	n/a
Type Of Management	n/a

Code Value	Code Definition
3.0	Gepir Version 3.0
3.1	Gepir Version 3.1
3.2	Gepir Version 3.2
4.0	Gepir Version 4.0

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8.2.5. Requested Key Code

GS1 Code List	RequestedKeyCode
GS1 Code List Version	1
Managing Agency	GS1
Based on Code List	n/a
Type Of Management	n/a

Code Value	Code Name	Code Definition
GTIN	Global Trade Item Number (GTIN) [14 numeric]	Reference GS1 General Specification Definition
GLN	Global Location Number (GLN) [13 numeric]	Reference GS1 General Specification Definition
SSCC	Serial Shipping Container Code (SSCC) [18 numeric]	Reference GS1 General Specification Definition
GRAI	Global Returnable Asset Identifier (GRAI) [14 numeric]	Reference GS1 General Specification Definition
GIAI	Global Individual Asset Identifier (GIAI) [30 alpha]	Reference GS1 General Specification Definition
GSRN	Global Service Relation Number (GSRN) [18 numeric]	Reference GS1 General Specification Definition
GDTI	Global Document Type Identifier (GDTI) [13 numeric]	Reference GS1 General Specification Definition
GSIN	Global Shipment Identification Number (GSIN) [17numeric]	Reference GS1 General Specification Definition
GINC	Global Identification Number for Consignment (GINC) [30 alpha]	Reference GS1 General Specification Definition
GCN	Global Coupon Number (GCN) [13 numeric]	Reference GS1 General Specification Definition

8.2.6. Trade Item Unit Descriptor Code

GS1 Code List	TradeItemUnitDescriptorCode
GS1 Code List Version	1
Managing Agency	GS1
Based on Code List	n/a
Type Of Management	n/a

Code Value	Code Name	Code Definition
BASE_UNIT_OR_EACH		The lowest level of the item hierarchy intended or labelled for individual retail sale.
CASE		The standard shipping unit level.
PACK_OR_INNER_PACK		A logistical unit between case and each. This may be a consumable innerpack (i.e. Carton of Cigarettes) or it may be simply a logistical pack (i.e. Dozens of toothbrushes).
PALLET		A pallet is a flat transport structure designed to support a variety of goods in a stable fashion while being lifted by any mobile forklift or other jacking device.

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TRANSPORT_LOAD		The trade item above the pallet level used for transporting trade items for example Truck Load, Container, Rail Car, Ship, Etc.

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8.3. Codelists from Services Common

NOTE: The most current version of the GS1 External Code Lists will be available in the GDD. The following section details these values as of release 4.0.0

NOTE: The most current version of the GS1 External Code Lists will be available in the GS1 Global Data Dictionary (GDD). The following section details these values as of release 4.0.0

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8.4. Codelists from Shared Common

NOTE: The most current version of the GS1 External Code Lists will be available in the GDD. The following section details these values as of release 4.0.0

8.4.1. Additional Party Identification Type Code

GS1 Code List	AdditionalPartyIdentificationTypeCode
GS1 Code List Version	1
Managing Agency	GS1
Based on Code List	n/a
Type Of Management	n/a

Code Value	Code Name	Code Definition
BUYER_ASSIGNED_IDENTIFIER_FOR_A_PARTY	Buyer assigned identifier for a party	An internal identifier assigned by a buyer, used to identify each trading partner with whom they engage in a commercial relationship.
CASHSSP	CASHSSP	Identifier assigned by the Cash Single Shared Platform, a cash distribution platform currently applied by several national central banks in Europe. Release notes: New in version 2.
DEA_DRUG_ENFORCEMENT_AGENCY	DEA	United States official Drug Enforcement Agency database of persons and organizations certified to handle controlled substances under the Controlled Substances Act.
DUNS	DUNS	Data Universal Numbering System. It is a nine-digit numbering system which uniquely identifies an individual business. The DUNS number is a nine-digit number issued by Dun & Bradstreet assigned to each business location in the D&B database having a unique, separate, and distinct operation for the purpose of identifying them. A DUNS number is also a way in which separate corporate entities, having no official relationship, can be branded as one by sharing one DUNS number among the affiliated companies.
DUNS_PLUS_FOUR	DUNS+4	The DUNS+4 refers to the DUNS number assigned by Dun and Bradstreet, plus a 4-character suffix that is assigned by the vendor to establish additional Central Contractor Registration (CCR) database records for identifying alternative electronic funds transfer (EFT) accounts for the same vendor located at the same physical address. Dun and Bradstreet has no affiliation with the 4-character suffix.
FOR_INTERNAL_USE_1	For internal use 1	Identification used for internal mapping purposes.
FOR_INTERNAL_USE_10	For internal use 10	Identification used for internal mapping purposes.
FOR_INTERNAL_USE_11	For internal use 11	Identification used for internal mapping purposes.
FOR_INTERNAL_USE_12	For internal use 12	Identification used for internal mapping purposes.
FOR_INTERNAL_USE_13	For internal use 13	Identification used for internal mapping purposes.
FOR_INTERNAL_USE_14	For internal use 14	Identification used for internal mapping purposes.
FOR_INTERNAL_USE_15	For internal use 15	Identification used for internal mapping purposes.
FOR_INTERNAL_USE_16	For internal use 16	Identification used for internal mapping purposes.
FOR_INTERNAL_USE_17	For internal use 17	Identification used for internal mapping purposes.

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Code Value	Code Name	Code Definition
FOR_INTERNAL_USE_18	For internal use 18	Identification used for internal mapping purposes.
FOR_INTERNAL_USE_19	For internal use 19	Identification used for internal mapping purposes.
FOR_INTERNAL_USE_2	For internal use 2	Identification used for internal mapping purposes.
FOR_INTERNAL_USE_20	For internal use 20	Identification used for internal mapping purposes.
FOR_INTERNAL_USE_3	For internal use 3	Identification used for internal mapping purposes.
FOR_INTERNAL_USE_4	For internal use 4	Identification used for internal mapping purposes.
FOR_INTERNAL_USE_5	For internal use 5	Identification used for internal mapping purposes.
FOR_INTERNAL_USE_6	For internal use 6	Identification used for internal mapping purposes.
FOR_INTERNAL_USE_7	For internal use 7	Identification used for internal mapping purposes.
FOR_INTERNAL_USE_8	For internal use 8	Identification used for internal mapping purposes.
FOR_INTERNAL_USE_9	For internal use 9	Identification used for internal mapping purposes.
HIN_CANADIAN_HEALTHCARE_IDENTIFICATION_NUMBER	HIN canadian healthcare identification number	Not Available
PARTITA_IVA	Agenzia delle Entrate	An identification number assigned to a party by the Italian “Agenzia delle Entrate” for fiscal purposes
SCAC	Standard Carrier Alpha Code	Standard Carrier Alpha Code, used for identifying truckers, railroads and other conveyors
SELLER_ASSIGNED_IDENTIFIER_FOR_A_PARTY	Seller assigned identifier for a party	An internal identifier assigned by a seller, used to identify each trading partner with whom they engage in a commercial relationship.
SIRET	SIRET	The SIRET is a 14 digit number composed by the SIREN (9 digits) and an internal classification number of 5n (NIC) identifying the company location. This code value is applicable in the French context and SIRET stands for Système d'Identification du Répertoire des Etablissements
TD_LINK_TRADE_DIMENSIONS	TD link trade dimensions	Nielsen assigned party identifier that allows companies to link their party master files to a corresponding Nielsen TDLinx Code. Nielsen TDLinx creates a link file between each customer number and Nielsen TDLinx Code, store to store and account to account.
USDA_ESTABLISHMENT_NUMBER	USDA establishment number	United States Department of Agriculture assigned identifier. All containers of meat, poultry, and egg products must be labeled with a USDA mark of inspection and establishment (EST number), which is assigned to the plant where the product was produced.

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8.4.2. Additional Trade Item Classification Code List Code

GS1 Code List	AdditionalTradeItemClassificationCodeListCode
GS1 Code List Version	2 (December 2012)
Managing Agency	GS1
Based on Code List	n/a
Type Of Management	n/a

Code Value	Code Name	Code Definition
1	GXS	GXS Product Data Quality (Formerly UDEX LTD)
2	IRI	IRI
3	AC Nielsen	AC Nielsen
4	ECCC Interim Class Code	ECCC Interim Class Codes
5	UNSPSC	UNSPSC - United Nations Standard Products and Services Code
6	ECCMA	ECCMA - Electronic Commerce Code Management Association
7	EAN Norges Multibransje Varegruppestandard	EAN Norges Multibransje Varegruppestandard - The ENVA code is used for classification and categorising of goods and it is used as an alternative to the GPC codes in the Norwegian marketplace
8	Supplier Assigned	Supplier Assigned – A manufacturer's own codification system
9	AMECE	AMECE – Code system used in the GS1 Mexico market
10	CCG	CCG - Code system used in the GS1 Germany market
11	EANFIN	EANFIN - Code system used in the GS1 Finland market
13	IFLS5	IFLS5 - Code system used in the GS1 France market
14	CBL	CBL - Code system used in the GS1 Netherlands market
15	JICFS	Catalogue Item Information Service of Japan JICFS. Classification system maintained by GS1 Japan and used mainly on the Japanese market.
16	European Union	European Union. The economic association of over a dozen European countries which seek to create a unified, barrier-free market for products and services throughout the continent. Category of product eligible for EU subsidy (applies for certain dairy products with specific level of fat content).
17	GS1 Spain	GS1 Spain. A product classification system maintained by GS1 Spain and used in the Spanish Market.
18	GS1 Poland	GS1 Poland. A product classification system maintained by GS1 Poland.
19	Federal Agency on Technical Regulating and Metrology	Federal Agency on Technical Regulating and Metrology of the Russia Federation: A Russian government agency that serves as a national standardization body of the Russian Federation.
20	ECR	Efficient Consumer Response (ECR) Austria
21	GS1 Italy	GS1 Italy
22	CPV	Common Procurement Vocabulary (CPV) was introduced in 1996 as a means of raising the level of transparency and efficiency in the field of public acquisition. The use of the standard names of the CPV facilitates the marking of the procurement contracts they are interested in. In addition, CPV facilitates the swift and exact translation of contract information for publication in the official EU Bulletin as well as the preparation of procurement statistics. The CPV code consists of eight characters as well as a control character. It is managed by the Office for Official Publications of the European Communities (OPOCE).
23	IFDA	International Foodservice Distributors Association (IFDA)
24	AHFS	American Hospital Formulary Service AHFS Pharmacologic - Therapeutic Classification© (AHFS)

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Code Value	Code Name	Code Definition
25	ATC	Anatomical Therapeutic Chemical classification (ATC)
26	ClaDiMEd	Classification des Dispositifs Médicaux (ClaDiMed)
27	CMDR	Canadian Medical Device Regulations (CMDR)
28	CND	Classificazione Nazionale dei Dispositivi Medici (CND)
30	UKDM&D	UK Dictionary of Medicines & Devices(DM&D) Standard Coding Scheme
31	eCl@ss	eCl@ss: Standardized Material and Service Classification and Dictionary
32	EDMA	Classification for in vitro diagnostics medical devices (EDMA)
33	EGAR	European Generic Article Register Classification (EGAR) standard for medical devices
34	IMS	IMS Healthcare Generic Product Classification
35	GMDN	Global Medical Devices Nomenclature (GMDN)
36	GPI	Generic Product Identifier (GPI). A drug code list managed by Medi-Span.
37	HCPCS	Healthcare Common Procedure Coding System (HCPCS): Pronounced as Hick Picks.
38	ICPS	International Classification for Patient Safety (ICPS). For use in Field Testing in 2007-2008 (WHO).
39	MedDRA	Medical Dictionary for Regulatory Activities (MedDRA): An international terminology employed by the pharmaceutical industry, medical product industry and regulatory agencies throughout the entire drug development process and product post marketing activities. The current version of MedDRA (version 10.0) contains a total of 84,906 unique terms. MedDRA terminology was developed under the auspices of the International Conference on Harmonization (ICH) of Technical Requirements for Registration of Pharmaceuticals for Human Use and is a registered trademark of the International Federation of Pharmaceutical Manufacturers Associations (IFPMA).
40	Medical Columbus	Medical Columbus: German Medical classification system.
41	NAPCS	North American Classification System (NAPCS)
42	NHS-eClass	National Health Service (NHS) eClass: NHS-eClass is a bespoke classification system for products and services, owned by the English National Health Service (NHS). The purpose of NHS-eClass is to facilitate the accurate analysis of expenditure.
43	US FDA PCCD	US FDA Product Code Classification Database: The Product Classification Database contains medical device names and associated information developed by the Center for Devices and Radiological Health (CDRH) in support of its mission. This database contains device names and their associated product codes. The name and product code identify the generic category of a device for FDA. The Product Code assigned to a device is based upon the medical device product classification designated under 21 CFR Parts 862-892.
44	SHPA	The Society of Hospital Pharmacists of Australia (SHPA)
45	SNOMED CT	Systematized Nomenclature of Medicine-Clinical Terms (SNOMED CT®)
46	UMDNS	Universal Medical Device Nomenclature System (UMDNS)
47	DTB	DTB (fashion) Dialog Textil – Bekleiding (DTB) a German group of companies who joined forces for the TC sector. The product classification can be found on their website http://www.dialog-dtb.de if you are a member.
48	FEDAS	FEDAS (sport) FEDAS represents the trans-border interests of specialist sports retailers forming part of associations in European countries. It provides services for members and third parties and is a dialogue partner for all questions concerning specialist sports retailing in Europe zie
49	EAS	EAS (footwear) European Article System: A harmonised system to classify and process the characteristics of shoes across Europe.
50	Australian TGA Type	The Australian Therapeutic Goods Administration (TGA) classifies products it authorizes for sale in Australia. These items are considered either: Registered, Listed, Included or Classified as Other on the Australia Register of Therapeutic Goods (ARTG).
51	Australian Medicines	An Australian classification and labelling of drugs and poisons named the

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Code Value	Code Name	Code Definition
	and Poisons Schedule Code	**Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)**. This was created and is maintained by the National Drugs and Poisons Scheduling Committee (NDPSC) which operates under control of the Therapeutic Goods Administration (TGA). This standard contains a list of **'Schedules',** which are a way of grouping products together that may have similar regulatory controls over their availability. Criteria for scheduling may include such considerations as *the purpose of use, potential for abuse, safety of use and the level of need for it.*
52	Australian Pharmaceutical Benefits Scheme	In Australia, medicine may be subsidized by its Government via the Pharmaceutical Benefits Scheme (PBS). The PBS is a program available to all Australian residents covered under the public healthcare system (known as Medicare). The Pharmaceutical Benefits Schedule lists all drugs available under the scheme and the conditions under which it may be used. The PBS is a way of the Australian government subsidising the cost of particular medicines to make them more affordable for the community. E.g. A consumer is entitled to purchase 100 tablets of aspirin under the scheme, the retail cost is $13.00, the government subsidizes $9.50, so the consumer will pay the difference of $3.50 for the medication. The Repatriation Pharmaceutical Benefits Scheme is effectively the same scheme, however, offered to eligible war veterans, war widows and their dependents.
53	Australian TGA Risk Classification	The Therapeutic Goods Administration (TGA) have their own classification system for medical devices within Healthcare. The purpose of this classification is to ascertain the potential risk of a device through analysing the intended purpose of the product and using a set of classification rules. This classification allows the regulator to determine how much intervention is required before the device becomes available on the market.
54	MIV-C	Milch Industrie Verband Cheese Class association of the German Dairy.
55	MIV-D	Milch Industrie Verband Milk Class (association of the German Dairy
56	BTE	Bundesverband des Deutschen Textileinzelhandels a German Association of Textile Retailers. The product classification can be found on their website http://www.bte.de -
57	REV	REV – The Office of the Revenue Commissioners: The Irish Government agency responsible for customs, excise, taxation and related matters. The division “Customs” of this office assigns classification codes to Alcohol and Tobacco for excise duties.
58	FDA 510k Premarket Notification	The purpose of this classification is to ascertain the potential risk of a device through analysing the intended purpose of the product and using a set of classification rules.

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8.4.3. Country Code

GS1 Code List	CountryCode
GS1 Code List Version	1 (September 2011)
Managing Agency	ISO
Based on Code List	ISO3166_1
Type Of Management	FULLY ADOPTED

NOTE: GEPIR must always use Alpha-2.

8.4.4. Currency Code

GS1 uses the ISO 4217 Code List to populate Currency Code.

GS1 Code List	CurrencyCode
GS1 Code List Version	1 (September 2011)
Managing Agency	ISO
Based on Code List	ISO4217
Type Of Management	FULLY ADOPTED

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8.4.5. Communication Channel Code

GS1 Code List	Communication Channel Code
GS1 Code List Version	2 (December 2012)
Managing Agency	GS1
Based on Code List	n/a
Type Of Management	n/a

Code Value	Code Name	Code Definition
EMAIL	email	Creating/sending/receiving of unstructured free text messages or documents using computer network, a mini-computer or an attached modem and regular telephone line or other electronic transmission media.
SOCIAL_MEDIA	Social Media	A social media address.
TELEFAX	Telefax	Device used for transmitting and reproducing fixed graphic material (as printing) by means of signals over telephone lines or other electronic transmission media.
TELEPHONE	Telephone	Voice/data transmission by telephone.
WEBSITE	Website	The identification of a world wide web address.

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8.4.6. Contact Type Code

GS1 Code List	ContactTypeCode
GS1 Code List Version	2 (December 2012)
Managing Agency	UN/ECE
Based on Code List	UN/EDIFACT 3139
Type Of Management	GS1 RESTRICTED AND EXTENDED

Code Value	Code Name	Code Definition
AA	Insurance contact	Department/person to contact for matters regarding insurance.
AD	Accounting contact	The contact responsible for accounting matters.
AE	Contract contact	Department/person to contact for matters regarding contracts.
AM	Claims contact	Department/person to contact for matters regarding claims.
AP	Accounts payable contact	Department/person responsible for the accounts payable function within a corporation.
AR	Accounts receivable contact	Department/person responsible for the accounts receivable within a corporation.
BC	Banking contact	Contact person for bank.
BJ	Department or person responsible for processing purchase order	Identification of the department or person responsible for the processing of purchase orders.
BO	After business hours contact	Department/person to contact after normal working hours.
BVP	Production Facility (GS1 Code)	General description of the contact for the trade item for example Production Facility 3
BXA	Administrative (GS1 Code)	This code specifies that this contact is of the type "Administrative".
BYF	Financial (GS1 Code)	This code specifies that this contact is of the type "Financial".
BZL	Licensee Registrar (GS1 Code)	The party having legal responsibility for the product in the target market. This party is responsible for licensing and regulations within the target market and can be the manufacturer, importer, sales agent or broker.
CB	Changed by	Person who made the change.
CKE	Cook (GS1 Code)	Person responsible for cooking.
CP	Responsible person for computer data processing	Responsible person to contact for matters regarding computer data processing.
CR	Customer relations	Individual responsible for customer relations.
CXC	Consumer Support (GS1 Code)	The party which provides product support to the end user of a trade item or a service (GS1 Code)
CYC	Customer Support (GS1 Code)	The party which provides product support to the trading partner party to which merchandise is sold. (GS1 Code)
CZL	Logistics (GS1 Code)	This code specifies that this contact is of the type "Logistics".
DE	Department/employee to execute export procedures	Department/employee which/who executes export procedures.
DI	Department/employee to execute import procedures	Department/employee which/who executes import procedures.
DL	Delivery contact	Department/person responsible for delivery.
DMO	Operations (GS1 Code)	This code specifies that this contact is of the type "Operations".
DNR	Recall Support (GS1 Code)	The contact where information about recalls for the item can be obtained.
DOG	GDS Contact (GS1 Code)	The contact where information in relation to Data Synchronisation can be obtained.

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Code Value	Code Name	Code Definition
DPP	Packaging engineer (GS1 Code)	The contact where information in relation to the packaging for the item can be obtained.
DQT	Target Market Information Provider (GS1 Code)	The contact information provider's business contact within the target market for the GTIN. This is a different GLN than the Information Provider of the item of record.
DSU	Unspecified (GS1 Code)	Value not stated.
ED	Engineering contact	Department/person to contact for matters regarding engineering.
GR	Goods receiving contact	Department/person responsible for receiving the goods at the place of delivery.
HE	Emergency dangerous goods contact	Party who is to be contacted to intervene in case of emergency.
HG	Dangerous goods contact	Department/person to be contacted for details about the transportation of dangerous goods/hazardous material.
IC	Information contact	Department/person to contact for questions regarding transactions.
LO	Place of collection contact	Department/employee to be contacted at the place of collection.
MGR	Manager (GS1 Code)	Person responsible for management within a department or company.
NT	Notification contact	Department/employee to be notified.
OC	Order contact	An individual to contact for questions regarding this order.
PD	Purchasing contact	Department/person responsible for issuing this purchase order.
PM	Product management contact	Department/person to contact for questions regarding this order.
PRC	Product Recall Contact (GS1 Code)	Contact responsible for creating, issuing and updating the product recall notification.
PRM	Product Recall Media Relation Contact (GS1 Code)	Contact who is responsible for providing information related to the product recall to media outlets.
PRO	Product Recall Consumer Contact (GS1 Code)	Contact who is responsible for providing information related to the product recall to consumers.
PRR	Product Removal Contact (GS1 Code)	Contact responsible for creating and issuing the product removal message to the product recall contact.
QC	Quality coordinator contact	Quality coordinator contact within an organization.
SA	Sales administration	Name of the sales administration contact within a corporation.
SD	Shipping contact	The shipping department contact within an organization.
SR	Sales representative or department	The sales representative or department contact within an organization.
TA	Traffic administrator	The traffic administrator contact within an organization.
TD	Test contact	Department/person responsible for testing contact.
TR	Transport contact	Department/person in charge of transportation.
WH	Warehouse	The warehouse contact within an organization.
ZZZ	Mutually Defined	A code assigned within a code list to be used on an interim basis and as defined among trading partners until a precise code can be assigned to the code list.

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8.4.7. Language Code

GS1 Code List	LanguageCode
GS1 Code List Version	n/a
Managing Agency	ISO
Based on Code List	ISO 639-1
Type Of Management	FULLY ADOPTED

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8.4.8. Party Role Code

GS1 Code List	PartyRoleCode
GS1 Code List Version	2 (December 2012)
Managing Agency	GS1
Based on Code List	n/a
Type Of Management	n/a

Code Value	Code Name	Code Definition
ACCEPTING_PARTY		Party accepting goods, products, services etc.
BILL_OF_LADING_RECIPIENT		Party to receive Bill of Lading.
BILL_TO		Party which receives goods and invoice.
BRAND_OWNER		The organisation that owns the specifications of the Party regardless of where and by whom it is manufactured is normally responsible for the allocation of the Global Trade Item Number (GTIN).
BROKER_AGENT		A person who buys or sells for another entity without having title to the property.
BUYER		Party to which merchandise are sold.
BUYERS_AGENT_REPRESENTATIVE		Third party who arranged the purchase of merchandise on behalf of the actual buyer.
CARRIER		A company, which physically transports goods from one place to another.
CENTRAL_PAYMENT_SERVICE		Master of the conveyance. A party providing central (or consolidated payment) services.
CHECKING_PARTY		Party or contact designated on behalf of carrier or his agent to establish the actual figures for quantities, weight, volume and/or (cube) measurements of goods or containers which are to appear in the transport contract and on which charges will be based
CHEQUE_ORDER		Party to which the cheque will be ordered, when different from the beneficiary.
CONSIGNEE		Party to which goods are consigned.
CONSOLIDATOR		Party consolidating various consignments, payments etc.
CONSUMER		The end user of a trade item or a service.
CORPORATE_IDENTITY		Identity of the party to whom all other parties of the same commercial organization are linked.
CUSTOMS		Identification of customs authority relevant to the transaction or shipment.
CUSTOMS_BROKER		Party responsible for the preparation of documents and/or electronic submissions, the calculation on behalf of the client of taxes, duties and excises, and facilitating communication between the importer/exporter and governmental authorities.
DECLARANTS_AGENT_REPRESENTATIVE		Any natural or legal person who makes a declaration to an official body on behalf of another natural or legal person, where legally permitted (CCC).
DELIVERY_PARTY		Party to which goods are delivered.
DESIGNER		A Party who designs.
DESPATCH_PARTY		Party where goods are collected or taken over by the carrier.
DISTRIBUTOR		Party distributing goods, financial payments or documents.

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Code Value	Code Name	Code Definition
DOCK_DOOR		A door or collection of doors where trucks or rail cars are loaded (shipping) or unloaded (receiving). Used to load or unload trade items for logistics.
EMPTY_EQUIPMENT_DESPATCH_PARTY		Party from whose premises empty equipment will be or has been despatched.
EMPTY_EQUIPMENT_RETURN_PARTY		Party to whose premises empty equipment will be or has been returned.
EQUIPMENT_OWNER		Owner of equipment (container, etc.).
EXPORTER		Party who makes - or on whose behalf a Customs clearing agent or other authorized person makes - an export declaration. This may include a manufacturer, seller or other person. Within a Customs union, consignor may have the same meaning as exporter
FACTOR		A party that purchases financial receiving instruments e.g. invoices
FREIGHT_FORWARDER		A person or firm that arranges for a pick up or deliver goods by a carrier on instructions of a shipper or consignee from or to a point by various necessary conveyances and common carriers.
GOODS_OWNER		The party which owns the goods.
HEAD_OFFICE		The executive or main office of an enterprise.
IMPORTER		Party who makes - or on whose behalf a Customs clearing agent or other authorized person makes - an import declaration. This may include a person who has possession of the goods or to whom the goods are consigned.
INFORMATION_PROVIDER		The Party providing the information contained in the document.
INSURER		A person or company offering insurance policies for premiums.
INTERMEDIARY_BANK_1		A financial institution between the ordered bank and the beneficiary's bank.
INTERMEDIARY_BANK_2		A financial institution between the ordered bank and the beneficiary's bank.
INVENTORY_CONTROLLER		To specifically identify the party in charge of inventory control.
INVENTORY_REPORTING_PARTY		Party reporting inventory information.
INVOICEE		Party issuing an invoice.
ISSUER_OF_INVOICE		Party which issues an invoice.
LOGISTICS_SERVICE_PROVIDER		An umbrella term for an entity, which provides a combination of many different logistics services for another entity.
MANUFACTURER_OF_GOODS		Party who manufactures the goods.
MANUFACTURING_PLANT		A physical location consisting of one or more buildings with facilities for manufacturing.
MARK_FOR		The ultimate destination of a unit load or transport package of goods where the Ship-To is a different location.
MESSAGE_FROM		Party where the message comes from.
MESSAGE_RECIPIENT		Party receiving the message.
OPERATING_DIVISION		An entity that is part of another entity. For example, a Regional Marketing Office. Operating Divisions may have multiple days and times of operation.
OPERATOR		A person or persons who own or operate a business establishment, which services consumers directly. For example a restaurant owner as part of a chain or an independent operation.
ORDERING_PARTY		To be used only if ordering party and buyer are not identical.

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Code Value	Code Name	Code Definition
OWNER_OF_EQUIPMENT		Party who owns equipment.
OWNER_OF_MEANS_OF_TRANSPORT		Party owning the means of transport. Not a synonym of carrier
PARTY_DECLARING_THE_VALUE_ADDED_TAX		A code to identify the party who is responsible for declaring the Value Added Tax (VAT) on the sale of goods or services.
PARTY_FOR_WHOM_ITEM_IS_ULTIMATELY_INTENDED		Party for whom item is ultimately intended.
PARTY_RECOVERING_THE_VALUE_ADDED_TAX		A code to identify the party who is eligible to recover the Value Added Tax (VAT) on the sale of goods or services.
PARTY_TO_RECEIVE_ALL_DOCUMENTS		A party which is named to be the recipient of all documents.
PARTY_TO_RECEIVE_COMMERCIAL_INVOICE		Party to whom payment for a commercial invoice or bill should be remitted.
PARTY_TO_RECEIVE_ELECTRONIC_MEMO_OF_INVOICE		Party being informed about invoice issue (via EDI).
PARTY_TO_RECEIVE_FREIGHT_BILL		Party to whom the freight bill should be sent.
PARTY_RECEIVING_PRIVATE_DATA		The party who is allowed access to master data information by the data owner when the data is viewed as private.
PARTY_TO_RECEIVE_REFUND		Party to whom a refund is given.
PAYEE		Party, which receives payment.
PAYER		Party which initiates payment.
POINT_OF_SALE		Refers to the retail type checkout where bar code symbols are normally scanned.
PRICE_LOCATION_PARTY		A party to which a price for a trade item is applicable. Within the context of GDSN Price Synchronization, it is also known as the 'Price Location' which is a GLN.
PROXY		A company that is selected by the Brand Owner to maintain their baseline attributes and Administrative Records in the GDSN.
PUBLIC_WAREHOUSE		A building, or a part of one, where storage space is offered to other companies for compensation (fee), for the storage of their goods, merchandise, etc.
PURCHASE_ORDER_RECEIVER		The party that receives the purchase order for the goods or services.
REGISTERED_AGENT		The party having legal responsibility for the product in the target market for example a company to which market authorization has been issued.
REMIT_TO		Party to whom funds are directed for payment of a commercial invoice.
RETURNABLE_ASSET_SERVICE_CENTRE		The location where a returnable asset is serviced.
SELLER		Party which sells products or services to a buyer.
SERVICE_PROVIDER		A party providing services for another party (e.g. re- packing supplier's products).
SHIP_FROM		Party from where goods will be or have been shipped.
SHIP_TO		Party which receives goods and invoices.
STORE		A physical entity that sells trade items to a consumer.
SUBSTITUTE_SUPPLIER		Party which may be in a position to supply products or services should the main usual supplier be unable to do so.
SUPPLIER		A party that provides goods or services.
TRANSPORTATION_CARRIER		Party undertaking or arranging transport of goods between

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Code Value	Code Name	Code Definition
		named points.
VISITING_ADDRESS		An enterprise's physical location where guests are received during set working hours
WAREHOUSE_AND_OR_DEPOT		Industrial department of a company equipped with appropriate equipment and fit-tings in which goods are stored in appropriate conditions.
WAREHOUSE_KEEPER		Party taking responsibility for goods entered into a warehouse.
WHOLESALER		Seller of articles, often in large quantities, to be retailed by others.

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8.4.9. Size Code List Code

GS1 Code List	SizeCodeListCode
GS1 Code List Version	1 (September 2011)
Managing Agency	GS1
Based on Code List	n/a
Type Of Management	n/a

Code Value	Code Name	Code Definition
1		National Retail Federation – Standard Colour & Size Codes This handbook provides guidelines for use in retailers' and vendors' merchandising and communications systems.
2		Assigned by Buyer
3		Assigned by Seller

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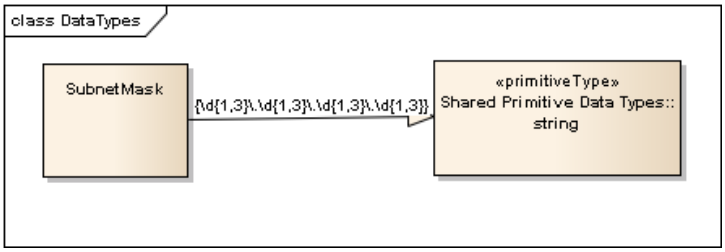
9. Data Types specific to GEPIR



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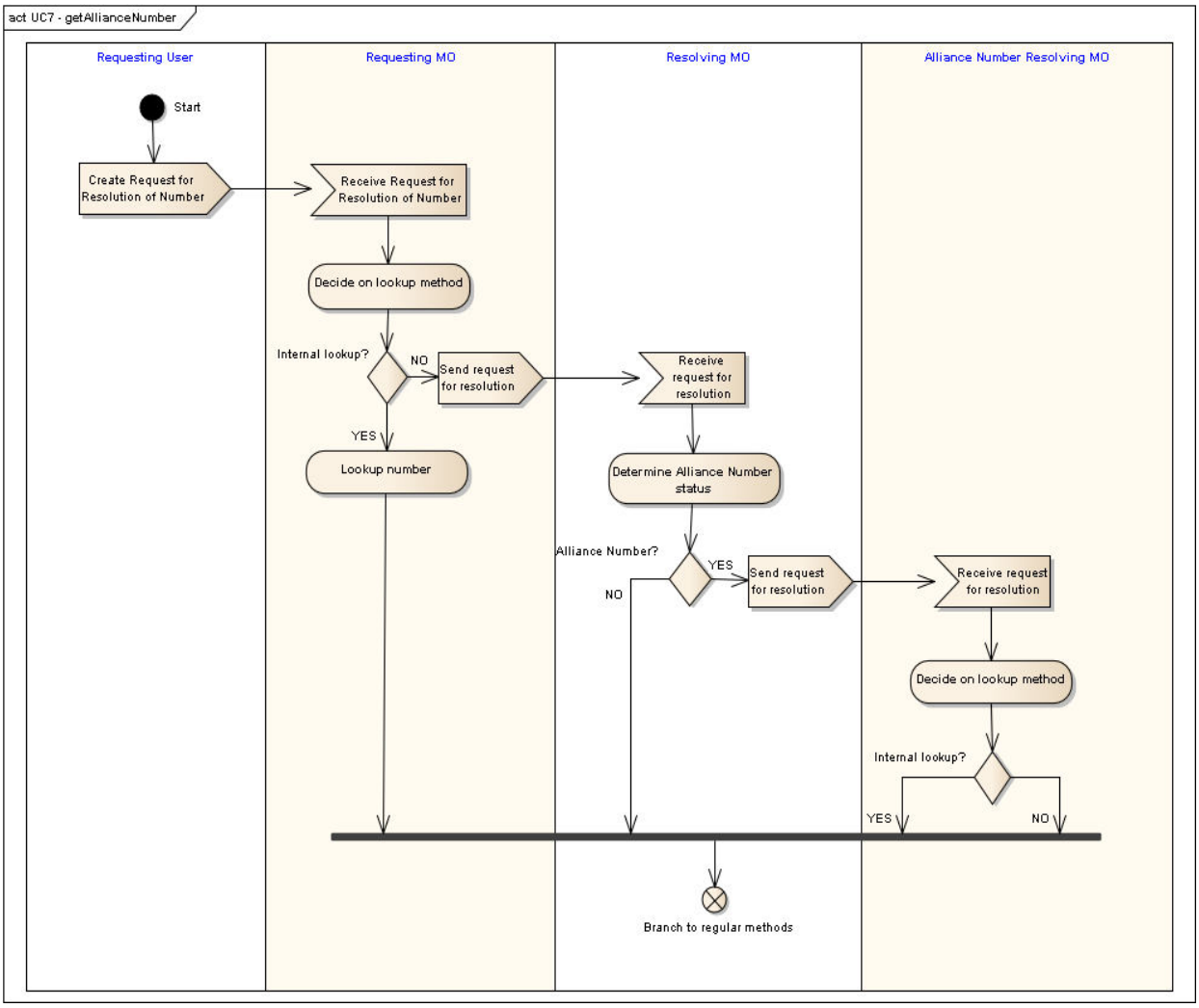
10. Alliance Numbers

An Alliance number is a GS1 Identification Key formed from a GS1 Company Prefix (GCP) that exists in the number range of one MO but is assigned to another MO for distribution in their market.

In the GEPIR context, if a search is done on a GS1 Identification Key, the results would show up as being owned by one MO (GCP Originating MO); however, the information actually should be maintained by another MO (GCP Distributing MO) that distributed the prefix to the end user. In this instance, the originating MO is aware that the number has been assigned to a distributing MO (at the instance that it is assigned). The distributing MO is the only MO that knows which company is now using that prefix in their market. However, the GEPIR Root Directory (routing file) does not know this level of detail.

10.1. Process for Alliance Number Resolution



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11. Implementation details

11.1. Transport Protocols

11.1.1. Transport protocols

For Version 4.0, GEPIR Routers MUST accept HTTP/1.0 as specified in RFC 1945, and MUST accept HTTP/1.1 as specified in RFC 2616.

GEPIR Version 4.0 MUST use SOAP 1.2 over HTTP

NOTE: Version 3.x and below only allowed for SOAP 1.0 encoded XML over HTTP; however, this version of the specification does not explicitly specify which combinations are allowed. For example, some GEPIR routers only accept HTTP/1.0 while routers accept both HTTP/1.0 and HTTP/1.1. Of the servers accepting HTTP/1.1 some do accept chunked transfer-coding, some do not.]

11.2. Character set and coding

Every component of the GEPIR network (clients, routers, GCP servers and external servers) must support requests and responses using UTF8 character set. No national extenders may be used, since the receiving system cannot be guaranteed to display or print these correctly.

Optionally, any component may support one or more national languages with their associated character set. In such cases, requests should only be sent to servers which are known to support this language. Servers are, in turn, entitled to reject requests in a language that they do not support.

The characters sent must be encoded in UTF-8.

11.3. International telephone number format

If ‘TELEPHONE’ or ‘TELEFAX’ elements are used in the ‘communicationChannel’ element they MUST be presented in the ITU-T (International Telecommunication Union-Telecommunication) I.654 format, which is represented by a “+” prefix and up to fifteen digits (e.g. +46850101043)

11.4. Country Code List

GS1uses the ISO 3166-1 Code List to populate Country Code. The use of the ISO 3166-1 numeric (e.g. 250) is required.

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11.5. Validation Rules

Rule #	Rule Description	Error Message	Affected Method	Affected Class	Affected Attributes	Status
1	At least one instance of GepirCountry/countryName must be equal to 'English'	At least one instance of GepirCountry/countryName must be equal to 'English'	RootDirectory	GepirCountry	countryName	Final
2	If ResponderSpecificData/responderSpecificData is empty, then ResponderSpecificData/responderSpecificDataUse must be empty	The use of ResponderSpecificData/responderSpecificDataUse is conditional on the use of ResponderSpecificData/responderSpecificData	GepirParty	ResponderSpecificData	responderSpecificDataUse responderSpecificData	Final
3	If GepirGetPartyRequestParameters/requestedCity is not empty, then the value must at least be two characters long, and not be more than 35 characters long.	If GepirGetPartyRequestParameters/requestedCity is not empty, then the value must at least be two characters long, and not more than 9 characters long.	GetPartyByName	GepirGetPartyRequestParameters	requestedCity	Final
4	If GepirGetPartyRequestParameters/requestedPartyName is not empty, then the value must at least be two characters long, and not be more than 35 characters long.	If GepirGetPartyRequestParameters/requestedPartyName is not empty, then the value must at least be two characters long, and not be more than 35 characters long.	GetPartyByName	GepirGetPartyRequestParameters	requestedPartyName	Final
5	If GepirGetPartyRequestParameters/requestedPostalCode is not empty, then the value must at least be two characters long, and not be more than 9 characters long.	If GepirGetPartyRequestParameters/requestedPostalCode is not empty, then the value must at least be two characters long, and not be more than 9 characters long.	GetPartyByName	GepirGetPartyRequestParameters	requestedPostalCode	Final
6	If GepirGetPartyRequestParameters/requestedStreetAddress is not empty, then the value must at least be two characters long, and not be more than 35 characters long.	If GepirGetPartyRequestParameters/requestedPostalCode is not empty, then the value must at least be two characters long, and not be more than 35 characters long.	GetPartyByName	GepirGetPartyRequestParameters	requestedStreetAddress	Final
7	If the method calling GepirParty does not equal GetPartyByName then the class RequestedKey in GepirParty must not be empty	It is mandatory to populate the class RequestedKey in the method GepirParty if it is not being called by GetPartyByName	GepirParty	RequestedKey	requestedKeyCode requestedKeyValue	Draft
8	If ItemDataLine does not contain any records, then lastChangeDate must be empty, else it must not be empty.	If ItemDataLine does not contain any records, then lastChangeDate must be empty, else it must not be empty.	GepirItem	ItemDataLine	lastChangeDate	Draft
9	If PartyDataLine does not contain any records, then	If PartyDataLine does not contain any records,	GepirParty	PartyDataLine	lastChangeDate	Draft

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Rule #	Rule Description	Error Message	Affected Method	Affected Class	Affected Attributes	Status
	lastChangeDate must be empty, else it must not be empty.	then lastChangeDate must be empty, else it must not be empty.				
10	If PartyDataLine does not contain any records, then gS1CompanyPrefix must be empty, else it must not be empty, unless the calling method is getPartyByName or One-Off Keys are queried.	If PartyDataLine does not contain any records, then gS1CompanyPrefix must be empty, else it must not be empty. Furthermore the gS1companyPrefix in GepirParty is mandatory for all calling methods with the exception of getPartyByName and One-Off Keys.	GepirParty	PartyDataline	gS1CompanyPrefix	Draft
11	ResponseHeader/returnCode must be (0, 4, 6, 98 or 99)	ResponseHeader/returnCode must be (0, 4, 6, 98 or 99)	ResponseHeader	ResponseHeader	returnCode	Draft
12	requestedCountry must not be equal to 'ZZ'.	requestedCountry must not be equal to 'ZZ'	GetPartyByName	GepirGetPartyRequestParameters	requestedCountry	Draft
13	If attribute datatype equals gln then it must be a 13 digit number and have a valid check digit.	If attribute datatype equals gln then it must be a 13 digit number and have a valid check digit.	All where a datatype is GLN			Draft
14	If attribute datatype equals gtin then it must be a 14 digit number and have a valid check digit.	If attribute datatype equals gtin then it must be a 14 digit number and have a valid check digit.	All where a datatype is GTIN			Draft
15	If requestedKeyValue is not empty, then its length must be as determined by the GS1 Key of the code value of requestedKeyCode	The length of requestedKeyValue is not in accordance with the GS1 code represented in requestedKeyCode.	All requests using a GS1 Key.	GepirRequestedKey	requestedKeyCode requestedKeyValue	Draft

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12. Security

12.1. Principles

Security is the responsibility of each host site. However, since the entire system runs over the Internet, minimum security standards must be met in order to prevent users simply accessing a server without restriction.

A suitable firewall should be configured to ensure that external users cannot attack or update the database.

All services provided by GEPIR are 'read-only'. No mechanisms are defined for programmatically updating the backbone databases. Access to the services is therefore unrestricted ('anonymous'), although there are some constraints on the size of a response and frequency of access in order to prevent abuse of the database or denial-of-service attacks.

As firm standards for digital signatures emerge, it is expected that the data returned will be signed to guarantee authenticity.

Since GEPIR is a global service, all backbone and secondary servers should be available 24x7.

12.2. Authorization

From version 4.0, routers should implement a simple authorization protocol to limit abuse of the system while ensuring quality of service for Premium Users.

12.2.1. Authentication

Authentication is ensuring that the party that is being communicated with in the GEPIR network. In GEPIR this is achieved by using the combination of the client's GLN and the IP address of the caller as an identity.

Once the caller is identified it is possible to apply authorization filters. Currently, the basic service is open for anonymous access. The following levels of authentication are possible.

A. Unidentified

   The client cannot be identified either because it is using a fake IP address or the caller GLN is missing or invalid.

B. Unregistered
   The caller is using a valid GLN and an apparently valid IP but is unknown to the router handling the query.

C. Registered
   The caller's IP and GLN are known to the router handling the query.

D. Participating Router
   The caller is another router on the GEPIR network, which implements these authorization specifications.

12.2.2. Access restriction

For each of the categories listed above, access should be restricted as follows:

A. None
   The caller should be rejected completely with "Access Denied".

B. Minimum
   The caller should be permitted access to basic data. The IP address and GLN should be

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logged with a counter which restricts the number of calls to 30 in any calendar day (or 24h period)[1] after which an “Access Denied” will be returned

C. Maximum
The caller may access all data that is not marked private. There is no limit to the amount that may be downloaded at any one time or in any period.

D. Unrestricted
As ‘maximum’. It is assumed that access control has been carried out by the calling router.

		Calling			
		None (A)	Minimum (B)	Maximum (C)	Unrestricted (D)
Called	Unrestricted (D)	None	30 calls /Keys/day	'home' router= unrestricted	Unrestricted

Table 1 – Summary of access restrictions

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13. Global Name Search

This is optional functionality for Member Organisations.

Two special cases are defined for country code:

i) If the country code is not present, then the router handling the request will cascade to *all* GCP servers directly attached to it.

ii) If the country code is set to “ZZ” then a worldwide search is initiated. The first router receiving such a request should remove the country code and cascade to all other routers. The first router is responsible for aggregating the replies into one response.

If the country code is invalid, then an error is returned.

NOTE: This should be restricted to MO usage only (Users should not have access to the whole system).

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14. Batch Functionality

The GEPIR Network allows for the ability to request multiple requests within a message. The Initiating MO MAY allow for its user to create an inquiry to create a batch request. A batch request is an inquiry of multiple GS1 Identification Keys. All GEPIR specifications MUST still be followed when the batch functionality is enabled. Batch functionality is restricted to GEPIR Premium users only.

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15. Legal Aspects on Data Protection and Privacy regarding GEPIR

15.1. Background

In GEPIR it is possible, but not mandatory, to give the Name and Telephone number of a contact person within a company. The question to be answered is whether making this information available in GEPIR constitutes a violation of a person's personal data protection rights in some countries.

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