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Emergency Registries
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Abstract

Multiple emergency services standards organizations are developing standards based on IETF emergency call standards and other IETF protocols. There is a desire among these organizations to use common registries not tied to a particular country or national SDO, in the long term pursuit of a single worldwide standard. This document asks IANA to create a set of registries and provides processes for expanding the set and populating them.

Status of This Memo

This Internet-Draft is submitted in full conformance with the provisions of BCP 78 and BCP 79.

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This Internet-Draft will expire on 30 January 2022.

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1. Introduction

[RFC6443] establishes a framework for carrying emergency calls over the Internet using the SIP ([RFC3261]) protocol. Various regional organizations are developing standards for how calls conforming to this framework are handled within the Emergency Services IP Networks (ESInets) established by local, regional or national authorities to handle such calls and deliver them to the appropriate Public Safety Answering Point (PSAP). Many of these standards have needed registries of values used in the protocols and services the services

define. Prior to this document, such registries were managed by the regional SDOs themselves. There is a desire among many of the regional emergency services SDOs to have a single world-wide standard for handling emergency calls and as part of that effort, a single set of registries managed by a neutral party. This document requests IANA to establish a new registry area called "Emergency" and to create a set of registries within that area. This document does not describe initial contents of the registries. That will be accomplished by requests from the regional SDOs, including The NENA i3 Standard [NENAi3].

1.1. Requirements Language

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in RFC 2119 [RFC2119] .

2. Acknowledgements

Thanks to the workgroups and committees at NENA: The 9-1-1 Association, especially the Core Services Agency Systems Committees, as well as ETSI and EENA for their contributions to unify international emergency calling standards.

3. IANA Considerations

This document creates a number of registries. The initial values for these registries are not defined and will be submitted by regional and international SDOs such as NENA and ETSI.

3.1. "Emergency" Area

IANA is requested to establish the registries within this section under the "Emergency" area. These registries contain enumerated values used for emergency calling. Unless otherwise specified, these registries operate under "Expert Review" rules per RFC 5226 [RFC5226]. The expert should also determine that the entity requesting a new value follows any special rules enumerated for each registry within the following subsections, such as whether a registry requires new entries come from a request from a reputable SDO through a consensus standard.

These registries are required to implement the NENA i3 Standard for Next-Generation 9-1-1 [NENAi3] as well as the NENA Standard for Emergency Incident Data Object [EIDO]. These standards, unless otherwise specified, populate the registries created by this document. Some registries previously existed in the NENA Registry System [NRS], but the intent of international SDOs is to maintain

next-generation emergency calling registries under IANA in the future. [NRS] will be maintained only for backwards compatibility, and for registries required only for North America

In this document, "NG9-1-1" is use to describe next-generation emergency calling services generally and is meant to include NG112 initiaves ongoing in Europe ([NG112]).

3.2. "urn:emergency" namespace

This document creates a registry for the "urn:emergency" namespace. urn:emergency is the top-level entry for a series of sub-registries used for routing of calls and queries within an ESInet. The intial values for the "emergency" namespace are as indicated in [NENAi3].

3.2.1. Information Needed to Create a New Value

Specification Required

3.2.2. Content

This registry contains:

* The UTF-8 "Name" of the "top level" label (a short string)

* The UTF-8 "Purpose" of the label (explanatory text)

* A "Reference" (URI) to the standard that defines the label

3.2.3. Subregistries

Following are several subregistries under "urn:emergency".

3.2.3.1. "urn:emergency:service" URN Subregistry

This document creates a subregistry for "urn:emergency:service" under urn:emergecy.

When calls are routed within an ESInet, the routing element (PSAP or ESRP) queries the ECRF for the (nominal) route. It does so with a service URN. Esternal routing is accomplished with "urn:service:sos", as defined by RFC 5031. Within an ESInet, values under this registry are used.

Service URNs as defined here begin with "urn:emergency:service". The sub-namespace defined by this registry MAY be further subdivided (potentially several times), by sub-registries under this sub-registry. A new entry starting with "urn:emergency:service" SHOULD

denote a new type of route, which MUST be distinguished by the PSAP or ESRP from other uses. For example, 9-1-1 calls being routed within the ESInet use "urn:emergency:service:sos" (or a subspace of it). Calls routed by a PSAP to a responder use "urn:emergency:service:responder" (the type of responder is also included, e.g., "urn:emergency:service:responder.police"). A PSAP or ESRP specifies the URN in a LoST query, and the ECRF uses it to choose a (nominal) route. In this entry in the "urn:emergency" registry, "service" means a path towards a service, as it does for "urn:service" as defined by RFC 5031.

3.2.3.1.1. Information Needed to Create a New Value

Specification required

3.2.3.1.2. Content

This registry contains:

* The UTF-8 "Name" of the "top level" label (a short string)

* The UTF-8 "Purpose" of the label (explanatory text)

* A "Reference" (URI) to the document that defines the label

3.2.3.2. "urn:emergency:service:sos" Registry

This document creates a subregistry for "urn:emergency:service:sos".

Routing of emergency calls within the ESInet is a primary function of prevailing standards for NG9-1-1, including The NENA i3 Standard [NENAi3]. When ESRPs must route calls within the ESInet, they query the ECRF for the route. Routing for emergency calls may involve multiple levels of ESRPs. Each level may need a different URN to be distinguishable (it is also possible for the ECRF to distinguish by the identity of the ESRP that queries it). Routing of emergency calls, including instant messages and non-interactive calls, is accomplished with a URN beginning with "urn:emergency:service:sos".

The "urn:emergency:service:sos" registry contains label values appropriate for the various levels of routing within the ESInet.

3.2.3.2.1. Information Needed to Create a New Value

Specification required.

3.2.3.2.2. Content

This registry contains:

* The UTF-8 "Name" of the "top level" label (a short string)

* The UTF-8 "Purpose" of the label (explanatory text)

* A "Reference" (URI) to the document that defines the label

3.2.3.3. "urn:emergency:service:test" Registry

This document creates a subregistry for "urn:emergency:service:test".

Test calls are directed to "urn:service:test.sos". To route such test calls where the routing infrastructure uses multiple levels of routing, and thus uses URNs in the "urn:emergency:service:sos" registry, service URNs are needed for test calls with similar levels. IANA is requested to create an entry in the "urn:emergency:service" registry with the name "test" and with the purpose noted as "routing test calls within the ESInet toward a primary PSAP". The reference will be to the registry created by this section, "urn:emergency:service:test". The separator between the "test" label and the service ("urn:emergency:service:test" registry name) is a period ".". The "urn:emergency:service:test" registry contains label values corresponding to the levels in the "urn:emergency:service:sos" registry. These registries are normally kept in sync, an entry added to "urn:emergency:service:sos" should also add a corresponding entry to urn:emergency:service:test.

3.2.3.3.1. Information Needed to Create a New Value

Expert Review

3.2.3.3.2. Content

The content of this registry should mirror the content of urn:service:test:sos except with the "test" label as described above.

3.2.3.4. "urn:emergency:service:responder" Registry

Once a PSAP gets a call, they may have to transfer the call to a secondary PSAP. The secondary PSAP is chosen based on the type of responder, and the location of the caller. Routing of emergency calls from a PSAP towards a responder is accomplished with a URN beginning with "urn:emergency:service:responder". IANA is requested to create an entry in the "urn:emergency:service" registry with the name "responder" and with the purpose noted as "routing emergency

calls within the ESInet towards a responder". The reference will be to the registry created by this section, "urn:emergency:service:responder".

The "urn:emergency:service:responder" registry contains label values appropriate for the types of responders within the ESInet. The separator between the "responder" label and the type of responder ("urn:emergency:service:responder" registry name) is a period ".". This registry is also used in other contexts where an agency type is useful. For those purposes, a 'psap' entry is provided. "urn:emergency:service:agencyType.psap" must not be used to route emergency calls. It is not equivalent to, or a substitute for "urn:service:sos".

3.2.3.4.1. Information Needed to Create a New Value

Expert Review.

3.2.3.4.2. Content

This registry contains:

* The UTF-8 "Name" of the "top level" label (a short string)

* The UTF-8 "Purpose" of the label (explanatory text)

* A "Reference" (URI) to a document that defines the label

3.2.3.5. "urn:emergency:service:responder.police" Subregistry

There are many different kinds of law enforcement agencies that have distinct differences in jurisdiction and formation (for example, police department organized under a municipal government as opposed to the sheriff's office organized under an elected sheriff). This subregistry dilineates different types of police agenices uder the urn:emergency:service:responder registry.

3.2.3.5.1. Information Needed to Create a New Value

Expert Review.

3.2.3.5.2. Content

This registry contains:

* The UTF-8 "Name" of the agency type

* The UTF-8 "Description" of the agency type

* A "Reference" with a URI either to the document requested the registry entry or contact contact information for the individual who contributed the value.

3.2.3.6. "police.federal" Subregistry

There are several federal police agencies. This registry is a subregistry of "urn:emergency:service:responder.police." and lists each police agency operating at the federal/national level in North America. The "federal.police" registry contains label values appropriate for the types of national police responders within the ESInet. This is distinct from the parent subregistry, "police.federal", is the police.federal subregistry includes the names for specific federal agencies, as opposed to the "responder.police" subregistry which indicated the agency TYPE (police). The separator between the "police.federal" label and the type of responder ("urn:emergency:service:responder.police.federal" registry name) is a period ".".

3.2.3.6.1. Information Needed to Create a New Value

Expert Review.

3.2.3.6.2. Content

This registry contains:

* The UTF-8 short "Name" of the agency, usually an abbreviation (e.g., "FBI")

* The UTF-8 "Full Name" of the agency (e.g., "Federal Bureau of Investigation")

* A "Reference" with a URI either to the document requested the registry entry or contact contact information for the individual who contributed the value.

3.2.3.7. "urn:emergency:service:responder.fire" Subregistry

This registry has similar purposes as the "responder.police" subregistry, except for types of fire response agencies (for example, "forest" or "private").

3.2.3.7.1. Information Needed to Create a New Value

Expert Review.

3.2.3.7.2. Content

This registry contains:

* The UTF-8 "Name" of the agency type
* The UTF-8 "Description" of the agency type
* A "Reference" with a URI either to the document that requested the registry entry.

3.2.3.8. "urn:emergency:service:responder.ems" Subregistry

This registry has similar purposes as the "responder.police" subregistry, except for types of Emergency Medical Service response agencies (for example, "Local" or "countyParish").

3.2.3.8.1. Information Needed to Create a New Value

Expert Review

3.2.3.8.2. Content

This registry contains:

* The UTF-8 "Name" of the agency type
* The UTF-8 "Description" of the agency type
* A "Reference" with a URI either to the document that requested the registry entry or contact contact information for the individual who contributed the value.

3.2.3.9. "urn:emergency:uid" Registry

Various entities need to create globally unique identifiers. A simple way to do that is to combine a locally unique identifier and a domain name (which is globally unique). However, many entities need to create more than one type of globally unique identifier and knowing what type of identifier is helpful in diagnosing problems. For this purpose, the uid URN subregistry creates unique strings used to prepend identifiers that indicate the type of identifier it is.

3.2.3.9.1. Information Needed to Create a New Value

Specification required.

3.2.3.9.2. Content

This registry contains:

* The UTF-8 "Name" of the identifier prefix
* The UTF-8 "Purpose" of the identifier prefix
* A "Reference" with a URI to the document that requested the registry entry.

3.3. i3 Registries

Following are additional registries needed to implement [NENAi3]

3.3.1. "serviceNames" Registry

The NENA i3 standard includes various services which provide interfaces to access information or to engage in interactions in NG9-1-1, which are queried either using SIP or HTTP. These services are discoverable through the ESInet that has deployed an instance of these services according to the URI scheme of registries and subregistries created by the i3 standard and by this document. In order to faciliate interoperability there is need to codify their names in a registry. This document requests that IANA creates this registy. Other standards documents may create additional services, which will then be added to this registry.

3.3.1.1. Information Needed to Create a New Value

Specification required.

3.3.1.2. Content

This registry contains:

* The short "Service Name" of the service (e.g., "ADR")
* The long "Service" name of the service (e.g., "Additional Data Repository")
* A "Reference" with a URI to the document that requested the registry entry.

3.3.2. "serviceState" Registry

The serviceState event returns an enumerated value of the current state of a service as defined in .

3.3.2.1. Information Needed to Create a New Value

Specification required.

3.3.2.2. Content

This registry contains:

* The short "Name" of the service state (e.g., "Normal" or "Scheduled Maintenance Down")

* The long "Description" of the service state (e.g., "The service is operating normally. Calls can be sent to this destination normally.")

* A "Reference" with a URI to the document that requested the registry entry.

3.3.3. "elementState" Registry

The elementState event returns an enumerated value of the current state of an element or agency as defined in the NENA i3 Standard [NENAi3].

3.3.3.1. Information Needed to Create a New Value

Specification required.

3.3.3.2. Content

This registry contains:

* The short "Name" of the element state (e.g., "Normal" or "Scheduled Maintenance Down")

* The long "Description" of the element state (e.g., "The service is operating normally. Calls can be sent to this destination normally.")

* A "Reference" with a URI to the document that requested the registry entry.

3.3.4. "urn:emergency:service:serviceAgencyLocator" Subregistry

The ESInet will connect to many services and public safety agencies. A directory ("white pages" and "yellow pages") of agencies, together with key information about the service or agency, is the function of the Service/Agency Locator. The Service/Agency Locator is a distributed database. There are several mechanisms by which the Service/Agency Locator can be searched to locate a specific service or agency. One primary way to search the Service/Agency Locator is by name. The Service/Agency Locator provides a name (white page) search function, with wild cards, to find a specific service or agency. The search by name is more useful for agencies than services. The name that is searched comes from the "org" field of the Agency jCard that is returned in the Service/Agency Locator Record. Another method to search is by location and agency type.

3.3.4.1. Information Needed to Create a New Value

Specification required.

3.3.4.2. Content

This subregistry contains:

* The "Service Identifier" of the service (e.g."ESRP")

* The long "Service" name of the service (e.g., "Emergency Services Routing Proxy")

* A "Reference" with a URI to the document that requested the registry entry.

3.3.5. "SIPHeaderIsOperatorConditions" Registry

the NENA i3 Standard [NENAi3] contains a test called "SIPHeaderCondition" which tests a SIP header field in the INVITE or MESSAGE of a call (such as "From", "To", "Contact", etc.). SIPHeaderCondition has an "operator" member has three potential values:

* "EQ" for an equality match

* "SS" for a substring match

* "IS" for a registry-defined match

It is the third of these potential values that requires that a registry be created. IANA is requested to create this registry.

3.3.5.1. Information Needed to Create a New Value

Specification Required

3.3.5.2. Content

This registry contains:

* A short UTF-8 "Name"
* The long UTF-8 "Description"
* A "Reference" with a URI to the document that requested the registry entry.

3.3.6. "urn:emergency:media-feature" Registry

the NENA i3 Standard [NENAi3] has numerous provisions for support of a "media-feature" tag to indicate in the SIP INVITE that the session will involve TTY interworking and/or PSAP Call Control. IANA is requested to create a registry that enumerates the allowable values for this field.

3.3.6.1. Information Needed to Create a New Value

Specification Required.

3.3.6.2. Content

This registry contains:

* A short UTF-8 "Tag"
* A long UTF-8 "Purpose"
* A "Reference" with a URI to the document that requested the registry entry.

3.3.7. "queueState" Registry

In the the NENA i3 Standard [NENAi3] and other NG9-1-1 standards literature, a PSAP is a service with defined interfaces, provisioning and functions. One of its interfaces is that which communicates the current state of a call queue. IANA is requested to create a registry to enumerate the values allow for comminicating a PSAP call queue’s state.

3.3.7.1. Information Needed to Create a New Value

Specification required.

3.3.7.2. Content

This registry contains:

* A short UTF-8 "Name"
* The long UTF-8 "Description"
* A "Reference" with a URI to the document that requested the registry entry.

3.3.8. "securityPosture" Registry

the NENA i3 Standard [NENAi3] allows for various elements, services and other entities to communicate their current security status, ranging on a color scale from Green to Red. This allows downstram and upstream entities to evaluate the current security conditions of a given entity, such as other parts of the system or a Security Operations Center. IANA is requested to create a registry to enumerate these values.

3.3.8.1. Information Needed to Create a New Value

Specification Required

3.3.8.2. Content

This registry contains:

* A short UTF-8 "Value"
* The long UTF-8 "Purpose"
* A "Reference" with a URI to the document that requested the registry entry.

3.3.9. "ESRP Notify Event Code" Registry

CAP messages are used for events sent to, and within an ESInet. CAP messages have an event code tag. For use of the "EsrpNotifyEventCode", CAP event code definitions are needed so that the recipient of the message knows why it received the message. A registry is needed for event codes defined by the NENA i3 Standard [NENAi3] in Section 5.2.1.6.

3.3.9.1. Information Needed to Create a New Value

Specification required.

3.3.9.2. Content

This registry contains:

* A short UTF-8 "Name"
* The long UTF-8 "Description"
* A "Reference" with a URI to the document that requested the registry entry.

3.3.10. "Route Cause" Registry

The ESRP routes calls using its Policy Routing Function. The result of evaluating a rule set is a Route action that routes the call towards a PSAP (or responder). The Route action includes a Cause value, which is placed in a Reason header associated with a History-Info header that informs the recipient why it got the call. A registry is provided for the values in the cause. The Route action cause is an enumeration, but the Reason header has a numeric cause value and a text string.[NENAi3] IANA is requested to create a registry to enumerate allowable Route Cause values.

3.3.10.1. Information Needed to Create a New Value

Specification required.

3.3.10.2. Content

This registry contains:

* The UTF-8 "Value" (a short string)
* The "Code" value (a 3-digit integer)
* The UTF-8 "Text" description (explanatory text, a string)
* A "Reference" (URI) to a document that requests the entry

3.3.11. "logEvent" Registry

Every interaction and event in NG9-1-1 core services under the the NENA i3 Standard [NENAi3] standard is logged using a standardized Logger. The "logEvent" registry enumerates the types of log records that can be logged. IANA is requested to create this registry.

3.3.11.1. Information Needed to Create a New Value

Specification Required

3.3.11.2. Content

This registry contains:

* The UTF-8 "Name" (a short string)

* The UTF-8 "Purpose" (explanatory text, a string)

* A "Reference" (URI) to a document that requests the entry

3.3.12. "logEvent CallSignalingMessageProtocol" Registry

In the CallSignalingMessage log event, the protocol of the message must be logged. This registry provides a registry for the protocol used for the logging event. IANA is requested to create this registry.

3.3.12.1. Information Needed to Create a New Value

Specification Required.

3.3.12.2. Content

This registry contains:

* The UTF-8 "Name" of the protocol used (a short string)

* A "Reference" (URI) to a document that requests the entry

3.3.13. "logEvent callTypes" Registry

In NG9-1-1, the type of Call is loged with the StartCall/EndCall LogEvent (e.g., "emergency" or "legacyWireless"). These call types are enumerated in the "LogEvent CallTypes" Registry. IANA is requested to create this registry.

3.3.13.1. Information Needed to Create a New Value

Specification required.

3.3.13.2. Content

This registry contains:

* The UTF-8 "Name" (e.g., "emergency") (a short string)
* The UTF-8 "Description" (e.g., "Call is deemed urgent call and treated as such") (explanatory text, a string)
* The UTF-8 "Classification" (e.g., "Primary") (a string)
* A "Reference" (URI) to a document that requests the entry

3.3.14. "Call States" Registry

In NG9-1-1, the state of the call is logged when it changes (e.g., "callBegin" or "callAnswered"). Each change in state is associated with a log event for that change in state. Many of these log events correlate with transactions in SIP. IANA is requested to create a registry for changes of call states.[NENAi3]

3.3.14.1. Information Needed to Create a New Value

Specification required.

3.3.14.2. Content

This registry contains:

* The UTF-8 "Name" (a short string)
* The UTF-8 "Purpose" (explanatory text, a string)
* A "Reference" (URI) to a document that requests the entry

3.3.15. "logEvent Announcement Types" Registry

NG9-1-1 supports announcements using an Interactive Media Response System (in the media negotiated by the caller) and potentially accepts responses via DTMF, KeyPress Markup Language, or other interaction styles.[NENAi3] [RFC4240] [RFC4730] This service is inteded to allow an NG9-1-1 system to answer the call with an auto-attendant or similar mechanism when appropriate. IANA is requested to create a registry to enumerate the allowed values for Announcement Types.

3.3.15.1. Information Needed to Create a New Value

Specification required.

3.3.15.2. Content

This registry contains:

* The UTF-8 "Name" (a short string)

* The UTF-8 "Purpose" (explanatory text, a string)

* A "Reference" (URI) to a document that requests the entry

3.3.16. "non-RTP Media Types" Registry

[NENAi3] requires that most media must be communicated via RTP. However, there is need to mark non-RTP media (which in NG9-1-1 is normally an Instant Message as part of a Non-Interactive Call), which is expected to be MSRP. IANA is requested to create a registry for this marking.

3.3.16.1. Information Needed to Create a New Value

Specification required.

3.3.16.2. Content

This registry contains:

* The UTF-8 "Name" (a short string)

* The UTF-8 "Description" (explanatory text, a string)

* A "Reference" (URI) to a document that requests the entry

3.3.17. "Agency Roles" Registry

In NG9-1-1, every Agency is classified by a specified Agency Role (e.g., "Dispatch). These Agency Roles are validated and secured with non-repudiation in a certificate traceable to the PSAP Credentialing Agency (PCA) (see The NENA i3 Standard [NENAi3]). IANA is requested to create this registry.

3.3.17.1. Information Needed to Create a New Value

Specification Required.

3.3.17.2. Content

This registry contains:

* The UTF-8 "Role" (a short string)

* The UTF-8 "Description" (explanatory text, a string)

* A "Reference" (URI) with either contact information for the entity that or a URI to the document that requests the entry.

3.3.18. "Agent Roles" Registry

Agents authenticate to the ESInet in one or more Roles (e.g., "Dispatching", "Calltaking"). These Agent Roles are validated and secured with non-repudiation in a certificate traceable to the PCA (see The NENA i3 Standard [NENAi3]). IANA is requested to create this registry.

3.3.18.1. Information Needed to Create a New Value

Specification required.

3.3.18.2. Content

This registry contains:

* The UTF-8 "Role" (a short string)

* The UTF-8 "Description" (explanatory text, a string)

* A "Reference" (URI) with either contact information for the entity that or a URI to the document that requests the entry.

3.3.19. "Status Codes" Registry

[NENAi3] uses normal HTTP status codes wherever possible ([RFC7231] and [StatusCodes]. However, there are requirements to register custom status codes specific to NG9-1-1 operations that are not adequately covered by the standard ones; this is particularly the case with HTTP errors (4xx). IANA is requested to create this registry.

3.3.19.1. Information Needed to Create a New Value

Specification required. The specification requesting a new value SHOULD be a revision to [NENAi3].

3.3.19.2. Content

This registry contains:

* The UTF-8 "Status Code" (a short string)

* The UTF-8 "Description" (explanatory text, a string)

* A "Reference" (URI) to the document that requests the entry.

3.3.20. "Interface Names" Registry

NG9-1-1 includes numerous interfaces for which there are data rights management policies associated with them. These access rights policies are based on XACML [NENAi3]. IANA is requested to create a registry which will be populated with values enumerating the authoritative name for each of these interfacaes.

3.3.20.1. Information Needed to Create a New Value

Specification required.

3.3.20.2. Content

This registry contains:

* The UTF-8 "Name" (a short string)

* A "Reference" (URI) to a document that requests the entry

3.3.21. "Match Type" Registry

In NG9-1-1, the <matchType> element is intended to contain an indication of the type of data used by the Location Validation Function (LVF)’s geocoding logic when attempting to match the location supplied in the request to the GIS data that has been provisioned. The value of the element is an xsd:token, and must be a registered value. It is RECOMMENDED that Emergency Call Routing Functions (ECRFs) and LVFs implement match type. If more than one token would apply, then "Hybrid" is used. A registry for <matchType> tokens is defined in [NENAi3]. IANA is requested to create this registry.

3.3.21.1. Information Needed to Create a New Value

Specification required.

3.3.21.2. Content

This registry contains:

* The UTF-8 "Token" (a short string) (e.g., "Road Centerline" or "Hybrid").

* A "Reference" (URI) to a document that requests the entry

3.3.22. "GIS Layers" Registry

In NG9-1-1, a GIS system has GIS features in many GIS data layers (such as discipline-specific service regions, road centerlines, address points, etc. A query to the GIS system through the Mapping Data Service (MDS) may return GIS features from one or more data layers, or from all of its data layers[NENAi3] [GIS] . A registry is required to enumerate data layers that may be included in a query in NG9-1-1. IANA is requested to create this registry.

3.3.22.1. Information Needed to Create a New Value

Specification required.

3.3.22.2. Content

This registry contains:

* The UTF-8 "Name" (a short string)

* A "Reference" (URI) to a document that requests the entry

3.3.23. "Policy Type" Registry

In NG9-1-1, policies are used to configure NG9-1-1 elements and services based on configurable conditions and actions; for example, Route Policies can be used to configure emergency call routing to behave in specific ways under different conditions (such as to change routing when under duress or when the call contains a specific kind of media). Policies are stored into and retrieved from a Policy Store using a web service. The "Policy Store Web Service" facilitates agencies uploading and retrieving policies.

3.3.23.1. Information Needed to Create a New Value

Specification required.

3.3.23.2. Content

This registry contains:

* The UTF-8 "Type" of the policy (a short string) (e.g., ""ESRPNotify")

* The UTF-8 "Format" of the policy (e.g., "XACML")

* The UTF-8 "Use" of the policy (e.g., "Access rights for Spatial Interface")

* A "Reference" (URI) to a document that requests the entry

3.3.24. "Discrepancy Report Status Token" Registry

Errors and discrepancies may occur in any set of data, including databases, configurations, etc. The functional elements described in [NENAi3] MUST support the discrepancy report (DR) function. The DR function allows any entity to notify agencies and services (including the BCF, ESRP, ECRF, Policy Store, and LVF) when any discrepancy is found (for example, "LocationReferenceNotResolved" or "MalformedURI"). These discrepancies may reflect normal errors in HTTP or SIP, but may also reflect errors specific the NG9-1-1. The discrepancy report function is intended to be generated by any entity that is using the data and finds a problem. DRs are not intended to be an alarm function requiring immediate response. IANA is requested to create a registry enumerating the available and allowable DRs.

3.3.24.1. Information Needed to Create a New Value

Specification Required

3.3.24.2. Content

This registry contains:

* The UTF-8 "Token" of the DR (a short string) (e.g., "LocationReferenceNotResolved")

* The UTF-8 "Name" of the type of DR (e.g., "Problem" or "Query")

* The UTF-8 "Discrepancy Reports" of included discrepancy report(s) included (e.g., "LoSTDiscrepancyResponse, BCFDiscrepancyReport, LoggingDiscrepancyResponse, SIPDiscrepancyResponse, PermissionsDiscrepancyResponse"

* A "Reference" (URI) to a document that requests the entry

3.3.25. "Event Package" Registry

In NG9-1-1, events are communicated within and between ESInets using the SIP SUBSCRIBE/NOTIFY mechanism described in [RFC6665]. In addition to using standard event packages, [NENAi3] defines a number of new event packages specific to NG9-1-1 needs. IANA is requested to create a registry to enumerate these event packages.

3.3.25.1. Information Needed to Create a New Value

Documentation required.

3.3.25.2. Content

This registry contains:

* The UTF-8 "Name" (a short string)

* A "Reference" (URI) to a document that requests the entry

3.3.26. "LoggingServiceMediaErrorReasonCodes" Registry

This document creates a registry for "LoggingServiceMediaErrorReasonCodes".

In NG9-1-1, everything is logged, including media associated with any Log Event. If an error is encountered in logging media, a Log Event with an error code is logged. IANA is requested to create this registry with initial values defined in this document. This registry was originally created in a previous version of [NENAi3] (see [i3v2]).

3.3.26.1. Information Needed to Create a New Value

Expert review. An entry to this registry REQUIRES a new name and description of the condition that is to be defined. New values must have clear differentiation from current values.

3.3.26.2. Content

This registry contains:

* The UTF-8 "Name" (a short string)

* The UTF-8 "Description" (explanatory text, a string)

* A "Reference" (URI) to a document that requests the entry

3.3.26.3. Initial Values for LoggingServiceMediaErrorReasonCodes

Name	Description	Reference
lostConnection	The connection to the SRS was lost and could not be re-established	This document
dropOuts	There were significant number of missing media packets	This document

Table 1: Initial Values

4. EIDO Registries

Following are registries needed to implement [EIDO].

4.1. "EIDO-AgencyRole" Registry

The role of the agency in relation to the Incident (e.g., "Call Receiving", "Dispatching", "Dispatched"). IANA is requested to create a registry to enumerate these values.

4.1.1. Information Needed to Create a New Value

Specification required.

4.1.2. Content

This registry contains:

* The UTF-8 "Value" (a short string)

* The UTF-8 "Literal Description" (a short string)

* A "Reference" (URI) to a document that requests the entry

4.2. "EIDO-IncidentType-Common" Registry

Incident type code that most closely corresponds to the Incident Type internal code. APCO has developed an ANS set of globally unique common Incident type codes ([APCO]), which forms the basis for this registry. Each Agency should maintain a mapping of its internal incident types to the list of Common Incident Types (IncidentTypeCommon). The Common Incident Type should be selected from this mapping when the EIDO is created to identify the Incident type using a common code that is globally understood. IANA is requested to create a registry to enumerate these values.

4.2.1. Information Needed to Create a New Value

Specification required.

4.2.2. Content

This registry contains:

* The UTF-8 "Value" (a short string)

* The UTF-8 "Literal Description" (a short string)

* A "Reference" (URI) to a document that requests the entry

4.3. "EIDO-IncidentStatus-Common" Registry

Incident status code that most closely corresponds to the Incident Status-Internal. Typically used to track significant changes in an Incident’s status. Each Agency should maintain a mapping of its internal Incident status (IncidentStatusInternal) to the list of common Incident status (IncidentStatusCommon). The common Incident status should be selected from this mapping when an EIDO is created to identify the Incident status using a common code that is globally understood. IANA is requested to create a registry to enumerate these values.

4.3.1. Information Needed to Create a New Value

Specification required.

4.3.2. Content

This registry contains:

* The UTF-8 "Value" (a short string)

* The UTF-8 "Literal Description" (a short string)

* A "Reference" (URI) to a document that requests the entry

4.4. "EIDO-ReportNumberType" Registry

Used to indicate the current status of the report number associated with an incident. If a report number is present in an EIDO, it is required to indicate the current status of the report number (.e.g, "New" or "Ongoing"). IANA is requested to create a registry to enumerate allowable values for this field.

4.4.1. Information Needed to Create a New Value

Specification required.

4.4.2. Content

This registry contains:

* The UTF-8 "Value" (a short string)

* The UTF-8 "Literal Description" (a short string)

* A "Reference" (URI) to a document that requests the entry

4.5. "EIDO-CommonDispositionCode" Registry

An agency assigns a disposition to an incident when its participation in the incident ends. The disposition code indicates whether follow-up reports are required and conveys other information about the incident, such as whether it resulted from a false or actual alarm. They are used to exchange the status and follow up requirements of an incident upon its closure. The disposition codes are drawn from a registry containing common disposition codes for Police, Fire EMS disciplines. These codes are defined by [APCO1.111] and implemented by [EIDO].

IANA is requested to create a registry enumerating these values. Because APCO ANS 1.111.2-2018 uses a two-digit integer as an incident status code, IANA is also requested to hold values 46-100 for future versions of the standard.

4.5.1. Information Needed to Create a New Value

Specification required.

4.5.2. Content

This registry contains:

* The UTF-8 "Value" (integer)

* The UTF-8 "Literal Description" (a short string)

* A "Reference" (URI) to a document that requests the entry

4.6. "EIDO-PersonRole" Registry

Describes the relationship (Caller, Victim, suspect, etc.) of a person to the incident. Available person types are contained in the Person Role registry. Note that there could be multiple relationships as when the reporting party is also the victim. IANA is requested to create a registry to enumerate these values.

4.6.1. Information Needed to Create a New Value

Specification required.

4.6.2. Content

This registry contains:

* The UTF-8 "Value" (a short string)

* The UTF-8 "Literal Description" (a short string)

* A "Reference" (URI) to a document that requests the entry

4.7. "EIDO-VehicleRelationshipType" Registry

Describes the relationship (victim’s vehicle, accident vehicle, suspect vehicle, etc.) of a vehicle to the incident. Available vehicle relationship types are contained in the "EIDO-VehicleRelationshipType" registry. IANA is requested to create a registry to enumerate these values.

4.7.1. Information Needed to Create a New Value

Specification required.

4.7.2. Content

This registry contains:

* The UTF-8 "Value" (a short string)

* The UTF-8 "Literal Description" (a short string)

* A "Reference" (URI) to a document that requests the entry

4.8. "EIDO-LocationType" Registry

Conveys the location type (Caller, Initial, CurrentIncident, Staging, Investigation, Tower Location, Other) of a location and its relationship to an ongoing incident. IANA is requested to create a registry to enumerate these values.

4.8.1. Information Needed to Create a New Value

Specification required.

4.8.2. Content

This registry contains:

* The UTF-8 "Value" (a short string)

* The UTF-8 "Literal Description" (a short string)

* A "Reference" (URI) to a document that requests the entry

4.9. "EIDO-PrimaryUnitStatus-Common" Registry

A standard code for the current status of an emergency response units (e.g., whether a fire engine is "available" or "notAvailable"). IANA is requested to create a registry to enumerate these values.

4.9.1. Information Needed to Create a New Value

Specification required.

4.9.2. Content

This registry contains:

* The UTF-8 "Value" (a short string)

* The UTF-8 "Literal Description" (a short string)

* A "Reference" (URI) to a document that requests the entry

4.10. "EIDO-SecondaryUnitStatus-Common" Registry

Statuses that further qualifies the Primary Unit Status by providing more detail about the associated Primary status. IANA is requested to create a registry to enumerate these values.

4.10.1. Information Needed to Create a New Value

Specification required.

4.10.2. Content

This registry contains:

* The UTF-8 "Value" (a short string)

* The UTF-8 "Literal Description" (a short string)

* A "Reference" (URI) to a document that requests the entry

4.11. "EIDO-EmergencyResourceType-Common" Registry

A standard code for an emergency type (e.g., BombSquad, ParkRanger, TransitOfficer). IANA is requested to create a registry to enumerate these values.

4.11.1. Information Needed to Create a New Value

Specification required.

4.11.2. Content

This registry contains:

* The UTF-8 "Value" (a short string)

* The UTF-8 "Literal Description" (a short string)

* A "Reference" (URI) to a document that requests the entry

4.12. "EIDO-EmergencyResourceType-Common" Registry

A standard code for an emergency resource attribute (skill and equipment; e.g., "EMSPhysician, "EMT", "SCBA". Also indicates an interpreter's translation abilities, such as "UkranianInterpreter") possessed by an emergency resource). IANA is requested to create a registry to enumerate these values.

4.12.1. Information Needed to Create a New Value

Specification required.

4.12.2. Content

This registry contains:

* The UTF-8 "Value" (a short string)

* The UTF-8 "Literal Description" (a short string)

* A "Reference" (URI) to a document that requests the entry

5. Security Considerations

This document only defines registries populated by other documents, not how they are used. As such there are no special security considerations introduced by this document, outside of those considerations specific to a given registry (e.g., the "securityPosture" registry), although those considerations are introduced by the source document and not this one.

6. References

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Appendix A. Additional Stuff

This becomes an Appendix.

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