RIPE Database Template for Networks and Persons

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ABSTRACT

This paper describes the format and syntax for the representation for Internet network numbers and associated contact persons in the RIPE database.

1. Introduction

The features described in this document will be usable in the RIPE database at a time specified in [3]. Please refer to this document for more details.

RIPE (Reseaux IP Europeens) coordinates TCP/IP networking for the research community in Europe.

One of the activities of RIPE is to maintain a database of European IP networks, DNS domains and their contact persons along with various other kinds of network management information. This database content is public information for agreed Internet operational purposes. This supports NICs/NOCs all over Europe and beyond to perform their respective tasks.

This document describes the format and syntax for Internet network number assignment information and the closely related contact person information.

Each object in the database describes a single entity in the real world. This basic principle means that information about that entity should only be represented in the corresponding database object and not be repeated in other objects.

Objects are described by attributes value pairs, one per line. Objects are separated by empty lines. An attribute that consists of multiple lines should have the attribute name repeated on consecutive lines. The information stored about network 192.87.45.0 consists of three objects, one network object and two person objects and looks like this:

```
inetnum:   192.87.45.0
netname:   RIPE-NCC
descr:     RIPE Network Coordination Centre
descr:     Amsterdam, Netherlands
country:   NL
admin-c:   Daniel Karrenberg
tech-c:    Marten Terpstra
rev-srv:   ns.ripe.net
rev-srv:   ns.eu.net
notify:    ops@ripe.net
changed:   tony@ripe.net 940110
source:    RIPE

person:    Daniel Karrenberg
address:   RIPE Network Coordination Centre (NCC)
address:   Kruislaan 409
address:   NL-1098 SJ Amsterdam
address:   Netherlands
phone:     +31 20 592 5065
fax-no:    +31 20 592 5090
e-mail:    dfk@ripe.net
nic-hdl:   DK58
changed:   ripe-dbm@ripe.net 920826
source:    RIPE

person:    Marten Terpstra
address:   RIPE Network Coordination Centre (NCC)
address:   PRIDE Project
address:   Kruislaan 409
address:   NL-1098 SJ Amsterdam
address:   Netherlands
phone:     +31 20 592 5064
fax-no:    +31 20 592 5090
e-mail:    Marten.Terpstra@ripe.net
nic-hdl:   MT2
notify:    marten@ripe.net
changed:   marten@ripe.net 931230
source:    RIPE
```

1.1. How to access the Database ?

The database is public information for agreed Internet operational purposes. It can be accessed via a whois server on host whois.ripe.net (tcp port 43). The whole database is also available via anonymous ftp from ftp.ripe.net as file ripe.db in directory ripe/dbase. There is also a compressed version of the database available in that same directory, as well as a version of the database in which the different objects have been collected in different files. This "split" version of the database can be found in the subdirectory `split`.

1.2. How to submit information to the database ?

Database updates should be sent via electronic mail to

```
auto-dbm@ripe.net
```

Below you find two templates, one for network objects and one for person objects. Be sure to supply a person object for each contact person mentioned in the network objects. Of course you need not supply person objects if they are already present in the database and the information is still correct.

Updates sent in should only contain the objects that need to be updated. The mail is automatically parsed by software that cannot intercept any messages that may be in the mail. If an update needs human intervention, or you have general questions on the procedures, please refer to `ripe-dbm@ripe.net`.

Currently no special authorisation is needed to create, modify or delete objects that describe persons or address space. However extensive audit trails of all changes are being kept.

2. Format and syntax of the network number object

The network number object is often referred to as the *inetnum* object, because the line containing the network number information has the name *inetnum*. In a short summary below, the attribute column indicates the name of the attribute inside the object, the second column indicates whether this attribute is optional or mandatory, and the third column indicates whether this attribute can appear more than once per object:

```
attribute   optional/mandatory  multiple/single

inetnum:    mandatory           single
netname:    mandatory           single
descr:      mandatory           multiple
country:    mandatory           single
admin-c:    mandatory           multiple
tech-c:     mandatory           multiple
rev-srv:    optional            multiple
remarks:    optional            multiple
notify:     optional            multiple
mnt-by:     optional            mutliple
changed:    mandatory           multiple
source:     mandatory           single
```

Below each of these attributes and their format and syntax are described in more detail, and examples are given.

inetnum: The inetnum attribute contains the range of IP address space this object gives information on. The syntax of this attribute can be either of the following:

inetnum: 192.87.45.0

This indicates one class C network number, which covers IP address space 192.87.45.0 up to 192.87.45.255. The network number can be a class A, class B or class C network number.

inetnum: 192.87.44.0 - 192.87.45.0

This indicates a block of (2) class C network numbers, which covers IP address space 192.87.44.0 up to 192.87.45.255. The spaces between the beginning address, the dash ("-") and the end address of this classful *range* must be present. The range can consist of any block of class A, class B or class C network numbers.

inetnum: 192.87.45.0 > 192.87.45.255

This notation represents a classless range of IP address space, and does not make any assumptions on the class (A, B or C) of this specific piece of address space. See [1] for more details of the various classful versus classless IP address representations. Where this above example covers exactly the same address space as the first classful class C example, it is only in this syntax possible to specify any other range of address space that is not aligned on the conventional class A, B or C boundaries. Again, the spaces between the start address, the greater-than sign (">") and the end address must be present.

Please also note that in the dotted quad notation of IP addresses, all trailing zeros must be present.

Status: mandatory, only one line allowed

netname: The netname attribute specifies a name for this range of IP address space. It should be a reasonably descriptive name, consisting of capitals, dashes ("-") and digits, but must start with a capital. The network name used to be a unique name identifying the address space. Nowadays it is mainly used to guard against errors by requiring both the address and the name for certain operations. You will most likely never find this name anywhere else than in a database like the RIPE database. An example:

netname: RIPE-NCC

Status: mandatory, only one line allowed

descr: The descr attribute consists of a short description of the organisation and location where this address space is used. The description can have multiple lines. It need not contain the full postal address as this is required in the contact person object (see further in this document). Free text is allowed. An example:

descr: RIPE Network Coordination Centre
descr: Amsterdam, Netherlands

Status: mandatory, multiple lines allowed

country: The country attribute gives the two letter ISO 3166 country code for the country where the organisation is located. An up-to-date version of ISO 3166 can be obtained using anonymous ftp from ftp.ripe.net:iso3166-codes. In cases where the address space is used across national boundaries, it should contain the most appropriate country, usually based on the address of the administrative contact person. The format is two letter uppercase country code. An example:

country: NL

Status: mandatory, only one line allowed

admin−c: The admin−c attribute contains the name or the NIC handle of the administrative contact person. Wheverever possible, this should be a person that works at the organisation the address space has been allocated to. A NIC handle (if known) is preferred. Please do not use formal titles like 'Dr', 'Prof' or 'Sir'. Do not add full stops between names or initials. This value should be exactly the same as the attribute in the person object (see further below). More than one administrative contact person can be specified, by simply repeating the attribute.An example of both the NIC handle and normal name use:

admin−c: Daniel Karrenberg
or (preferred)
admin−c: DK58

Status: mandatory, multiple lines allowed

tech−c: The tech−c attribute contains the name or the NIC handle of the technical contact person. The format and syntax is the same as the admin−c attribute above.

Status: mandatory, multiple lines allowed

rev−srv: The rev−srv attribute contains the fully qualified domain name of the machine that runs a reverse domain name service for the address space. If there are multiple reverse name servers for this address space, they should all be specified on different lines. Only one hostname is allowed per line. An example:

```
rev−srv: ns.ripe.net
rev−srv: ns.eu.net
```

Status: optional, multiple lines allowed

remarks: The remarks attribute contains any remarks about this address space that cannot be expressed in any of the other attributes. Although multiple lines are allowed, it should be only be used if it provides extra information to users of the database, and usage should be kept to a minimum. For format is like the description attribute free text. An example:

```
remarks:   will be returned to NIC 950101
```

Status: optional, multiple lines allowed

notify: The notify attribute contains an email address to which notifications of changes to this object should be send. This can be useful if more than one person manage the same object. A more detailed description can be found in [2]. The format is one RFC822 electronic mail address per line. Although multiple lines are allowed, usage should be kept to a minimum. An example:

```
notify:    operations@ripe.net
```

Status: optional, multiple lines allowed

mnt-by: The maintainer attribute contains a registered maintainer name. This attribute is used for authorisation of database update requests. It is described in more detail in [2]. The format is a registered maintainer name. An example:

```
mnt-by: RIPE-DBM
```

Status: optional, multiple lines allowed

changed: The changed field contains information on who last changed this object, and when this change was made. The format is an RFC 822 electronic mail address of the person who made the change, and the date of change in YYMMDD format. Multiple lines are allowed and shows the update history of an object. An example:

```
changed:   marten@ripe.net 940328
```

Status: mandatory, multiple lines allowed

source: The source contains a source of information. For the RIPE database, the value should always be "RIPE". This field is used to combine and exchange information between various database sources around the world. Fixed value:

```
source:    RIPE
```

Status: mandatory, only one line allowed, fixed value

3. Format and syntax of the person object

The person object contains details for the technical and administrative contact persons specified in the inetnum object (and in other objects not described in this document). A short form overview of the person object is:

```
attribute   optional/mandatory  multiple/single

person:     mandatory           single
address:    mandatory           multiple
phone:      mandatory           multiple
fax-no:     optional            multiple
e-mail:     optional            multiple
nic-hdl:    optional            single
remarks:    optional            multiple
notify:     optional            multiple
mnt-by:     optional            mutliple
changed:    mandatory           multiple
source:     mandatory           single
```

Below each of these attributes and their format and syntax are described in more detail, and examples are given.

person: The person attribute contains the full name as specified as a technical or administrative contact in another object. The name must be written identically to those given in the tech−c and admin−c attribute of for example the inetnum object (but must NOT be the NIC handle). Again here, official titles like ’Dr’, ’Prof’ or ’Sir’ should not be used. An example:

person: Daniel Karrenberg

Status: mandatory, only one line allowed

address: The address attribute contains the full postal address of this person. It should be written down as you would for ordinary postal mail using one line for each part of the address. An example:

address: RIPE Network Coordination Centre
address: Kruislaan 409
address: NL-1098 SJ Amsterdam
address: The Netherlands

Status: mandatory, multiple lines allowed

phone: The phone attribute contains the telephone number for this person. It has the following format: +<country code> <area code> <phone number>. The <phone number> can be split with spaces to denote exchange and subscriber number. Most countries should drop a leading zero when specifying their area code. Multiple phone numbers should be specified in order of preference on different lines. An extension reachable only through an operator can be specified by adding "ext." and the phone extension to the phone number. An example:

phone: +31 20 592 5065
phone: +31 20 592 5000 ext. 5089

Status: mandatory, multiple lines allowed

fax−no: The fax−no attribute contains the telefax number for this person. It has the same format as the phone number explained above. An example:

fax-no: +31 20 592 5090

e−mail: The e−mail attribute contains the electronic mail address for this person if applicable. This should be a valid RFC 822 electronic mail address, preferably in full domain syntax. An example:

e−mail: Daniel.Karrenberg@ripe.net

Status: optional, multiple lines allowed

nic−hdl: The nic−hdl attribute contains the officially assigned NIC handle for this person, if applicable. NIC handles are unique identifiers assigned and used by the InterNIC to unambiguously refer to Internet people. An example:

nic−hdl: DK58

Status: optional, only one line allowed

The rest of the attributes in the person object have the same syntax and meaning as in the inetnum object, but are repeated for completeness.

remarks: The remarks attribute contains any remarks about this address space that cannot be expressed in any of the other attributes. Although multiple lines are allowed, it should be only be used if it provides extra information to users of the database, and usage should be kept to a minimum. For format is like the description attribute free text. An example:

remarks: will be returned to NIC 950101

Status: optional, multiple lines allowed

notify: The notify attribute contains an email address to which notifications of changes to this object should be send. This can be useful if more than one person manage the same object. A more detailed description can be found in [2]. The format is one RFC822 electronic mail address per line. Although multiple lines are allowed, usage should be kept to a minimum. An example:

notify: operations@ripe.net

Status: optional, multiple lines allowed

mnt-by: The mnt-by attribute contains a registered maintainer name. This attribute is used for authorisation of database update requests. It is described in more detail in [2]. The format is a registered maintainer name. An example:

maintainer: RIPE-DBM

Status: optional, multiple lines allowed

changed: The changed field contains information on who last changed this object, and when this change was made. The format is an RFC 822 electronic mail address of the person who made the change, and the date of change in YYMMDD format. Multiple lines are allowed and shows the update history of an object. An example:

changed: marten@ripe.net 940328

Status: mandatory, multiple lines allowed

source: The source contains a source of information. For the RIPE database, the value should always be "RIPE". This field is used to combine and exchange information between various database sources around the world. Fixed value:

source: RIPE

Status: mandatory, only one line allowed, fixed value

4. References

[1] Bates, T., Karrenberg, D., Terpstra, M., "Support for Classless Internet Addresses in the RIPE Database", ripe-121, October 1994.

[2] Karrenberg, D., Terpstra, M., "Authorisation and Notification of Changes in the RIPE Database", ripe-120, October 1994.

[3] Bates, T., Karrenberg, D., Terpstra, M., "RIPE Database Transition Plan", ripe-123, October 1994.