



organisation object

Linking organisations to objects

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Idea

- Provide information about an organisation
 - LIR
 - Any other company, university, charity
- Add mechanism to ‘tag’ objects (resources)
 - Reference via the “org:” attribute
- Ability to find objects (resources) held by an organisation
 - with an inverse query



Object template

organisation:	[mandatory]	[single]	[primary/look-up key]
org-name:	[mandatory]	[single]	[look-up key]
org-type:	[mandatory]	[single]	[]
descr:	[mandatory]	[multiple]	[]
remarks:	[optional]	[multiple]	[]
address:	[mandatory]	[multiple]	[]
country:	[mandatory]	[single]	[]
phone:	[optional]	[multiple]	[]
fax-no:	[optional]	[multiple]	[]
e-mail:	[mandatory]	[multiple]	[look-up key]
admin-c:	[mandatory]	[multiple]	[inverse key]
tech-c:	[mandatory]	[multiple]	[inverse key]
ref-nfy:	[optional]	[multiple]	[inverse key]
notify:	[optional]	[multiple]	[inverse key]
mnt-by:	[mandatory]	[multiple]	[inverse key]
changed:	[mandatory]	[multiple]	[]
source:	[mandatory]	[single]	[]



“organisation:” attribute

- Unique ID for each organisation
- Composed of ORG-, 2-4 letters, digits, '-', source

Example: ORG-RT34-RIPE

- Basically a NIC handle
- Auto-generated

```
organisation:      org-auto-1
org-name:          Example Internet Services
```

Result:

```
organisation:      ORG-EIS23-RIPE
org-name:          Example Internet Services
```

- Reuse not allowed



org-name : , org-type : " attributes

- "org-name : "
 - Name of the organisation (surprising?)
 - ASCII-only
 - Look-up key
- "org-type : "
 - Possible values:
 - IANA
 - RIR
 - NIR
 - LIR
 - NON-REGISTRY



"org:" attribute I

- Points to an organisation object representing the entity that holds the resource
- May be in any non-organisation object
- Single-valued
 - Only one organisation holds each resource

"org:" attribute II

- Mandatory in allocation inet(6)nums
 - "status:"
 - ALLOCATED-BY-IANA
 - ALLOCATED-BY-RIR
 - ALLOCATED-BY-RIR NON-PORTABLE
 - ALLOCATED-BY-RIR PORTABLE
 - ALLOCATED-BY-RIR UNSPECIFIED(ALLOCATED PA,PI,UNSPECIFIED in the current notation)
- Mandatory in aut-nums (?)
- Optional otherwise



Authorisation checks

- Adding "org:" attribute requires authorisation
 - Attribute indicates holder, so the holder approves
 - Usual auth mechanisms are used too
 - "mnt-by:" of the object itself
 - E-mail box in "ref-notify:" notified
- Removing "org:" does not require auth
 - E-mail box in "ref-notify:" notified
 - "mnt-by:" of the object itself is always used



Example object I

```
organisation: ORG-RSIS54-RIPE
org-name:     Random Street Internet Services
org-type:     LIR
descr:       An example organisation
address:     Random St.
address:     Amsterdam
country:     NL
phone:       +31 123 4567
fax-no:      +31 123 4568
e-mail:      contact@randomstreet.net
admin-c:     EXAM1-RIPE
tech-c:      EXAM2-RIPE
notify:      ripe-mailbox@randomstreet.net
ref-notify:  ripe-mailbox@randomstreet.net
mnt-by:      EXAMPLE-MNT
changed:     services@randomstreet.net 20030121
source:      RIPE
```



Example object II

```
inetnum: 192.168.86.0 - 192.168.86.255
netname: EXAMPLE-NET-86
descr: Sample network
org: ORG-RSIS54-RIPE
country: NL
admin-c: JE1-RIPE
tech-c: JE2-RIPE
status: ALLOCATED-BY-RIR PORTABLE
mnt-by: EXAMPLE-MNT
changed: services@randomstreet.net 20030122
source: RIPE
```

Queries I

- Finding all resources held by an organisation

```
$ whois -r -i org ORG-RT34-RIPE
```

```
aut-num: AS65535
```

```
[...]
```

```
inetnum: 12.0.0.0 - 12.0.0.255
```

```
[...]
```

```
inetnum: 12.0.4.0 - 12.0.4.255
```

```
[...]
```

Queries II

- Queries return the relevant organisation objects:

```
$ whois 12.0.0.1
```

```
inetnum:                12.0.0.0 - 12.0.0.255
```

```
org:                    ORG-RSIS54-RIPE
```

```
admin-c:                EXAM1-RIPE
```

```
[...]
```

```
organisation:          ORG-RSIS54-RIPE
```

```
[...]
```

```
person:                John Example
```

```
nic-hdl:                EXAM1-RIPE
```

- Can be turned off with '-r'

Deployment

- Each LIR obtains an `organisation` object
- A preliminary implementation plan
 - The NCC implements the new object, changes internal procedures accordingly
 - The whois software with new capability is put into production
 - All existing LIRs get an organisation object automatically
 - All `aut-nums` and allocation objects get "`org:`" attribute
 - The NCC begins applying new procedures
 - Some details can be changed through LIR Portal

Open issues

- Another attribute? `"business-id:"` ?
 - Motivation is not clear
 - The query user would not know what to do with it
 - `"remarks:"` can be used instead
- `"org:"` attribute in organisation object itself?
 - Could be useful to show dependencies among orgs
- `"org:"` attribute mandatory in aut-nums or not?
 - RIPE NCC does not have enough info to put in organisation objects

Questions?

