Changes to RPSL Specification

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Slides: **`ftp://ftp.isi.edu/rps/montreal-ietf`**

RPSL Names

Composed of a-z, 0-9, “_”, “-”

Starts with a-z

Ends with a-z, 0-9

Case insensitive

```
as-foo as-226-customers cENgiZ cengiz
```

Reserved words:

```
from to announce accept action
any as-irr rs-irr atomic
and or not
```

AS Number

AS0, AS226, AS3561

IP Address

128.9.128.10

Address Prefix

128.9.0.0/16, 0.0.0.0/0

~~0/0, 128.8/16~~

Date

19/08/1966

~~190866~~

19660819 ???

Object Representation

Lines of attribute-value pairs

- ends at a blank line
- attribute name at column 0 followed by "`:`" then value
- lines continued by placing space or tab at column 0
- order of attribute-value pairs is significant

```
aut-num: AS1
as-in:   from AS2
         accept AS2
as-out:  to AS2 announce ANY

route: 128.9.0.0/16
```

Maintainer Class

Maintainer names start with “**`MAINT-`**”

`MAINT-FOO`, **`maint-as226`**

Route Class

```
route: 128.7.0.0/16
origin: AS1
aggregate-by: ATOMIC ANY
inject-at: foo.bar.net
export-components: { 128.7.9.0/24 }
```

`inject-at` is a list of router names

`export-components` replaces `supress-components`

Components are exported to all neighboring ASes

Before: exported to all peer routers of injecting routers

Policy Expressions

The following keywords are no longer optional:

`from, action, accept, to, announce`

```
aut-num: AS1

as-in: from AS2 action pref = 1 accept AS2
```

~~as-in: AS2 10 AS2~~

Peering Specification

`<local-router>` and `<peer-router>` are router names:

```
Before:  as-in: from AS1 7.7.7.1 7.7.7.2
                accept AS1

Now:     as-in: from AS1 rtr.foo.net rtr.bar.net
                accept AS1
```

* form is removed

```
Before:  as-in: from AS1 * *                  accept AS1

Now:     as-in: from AS1                      accept AS1

Before:  as-in: from AS1 7.7.7.1            * accept AS1

Now:     as-in: from AS1 rtr.foo.net          accept AS1
```

More Specific Operators

`128.9.0.0/16+`	inclusive more specifics
`128.9.0.0/16*`	exclusive more specifics
`128.9.0.0/16/25`	length 25 more specifics
`128.9.0.0/16/25-32`	length 25-32 more specifics
`128.9.0.0/16^+`	inclusive
`128.9.0.0/16^-`	exclusive
`128.9.0.0/16^25`	length 25
`128.9.0.0/16^25-32`	length 25-32

Need better suggestions!

Peering via 3rd Party

```
as-in: from AS1 7.7.7.1 7.7.7.2 via AS3 7.7.7.3 accept AS1
```

GONE!!!