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Case Study: Trouble with Messy IRR

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Back ground of this presentation

- **IRR is the ledger for Internet routing**
- **Some ISP use it to generate route-filter**
- **So if the data in it is unreliable, we can not use it**
- **I think we should maintain its accuracy for good internet operation**



Back ground of this presentation(cont.)

What is IRR? (quoted from RADB introduction)

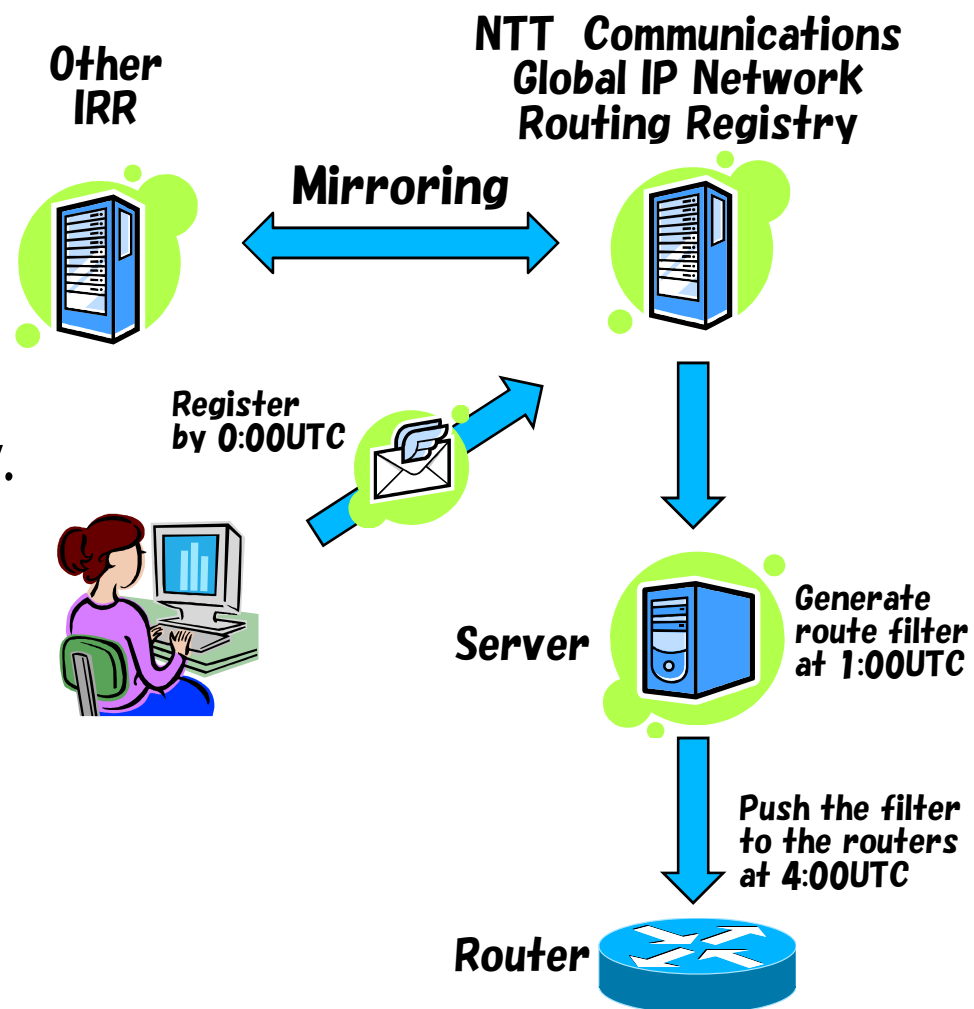
The Internet Routing Registry (IRR) is a distributed routing database development effort. Data from the Internet Routing Registry may be used by anyone worldwide to help debug, configure, and engineer Internet routing and addressing. The IRR provides a mechanism for validating the contents of BGP announcement messages or mapping an origin AS number to a list of networks.

Back ground of this presentation(cont.)

In AS2914 network

We apply filters to routes advertised by customer BGP peers.

Our server will check our IRR then, generate/update the route filter as often as daily.

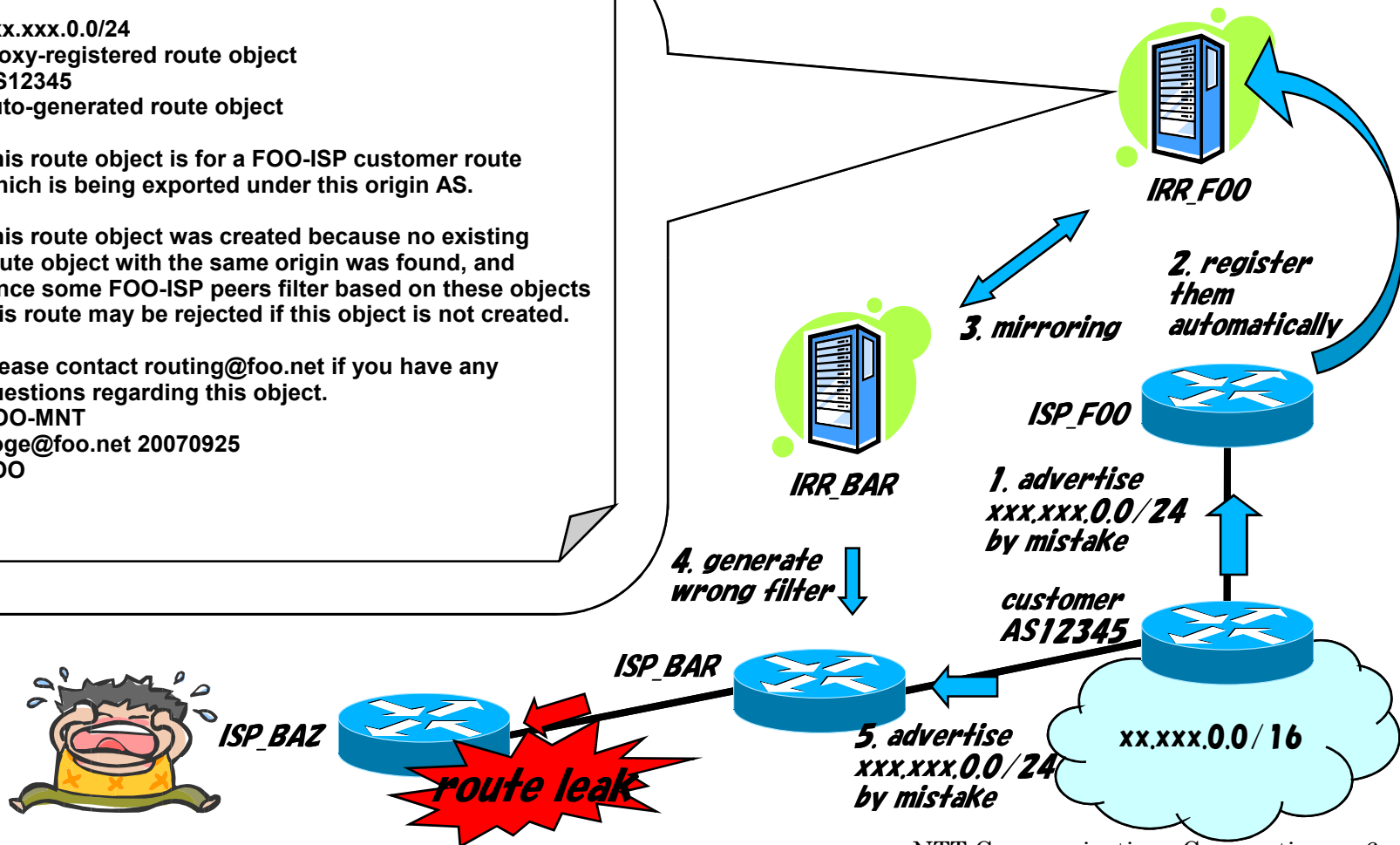


Case 1: route leak trouble

Some IRR register routes automatically

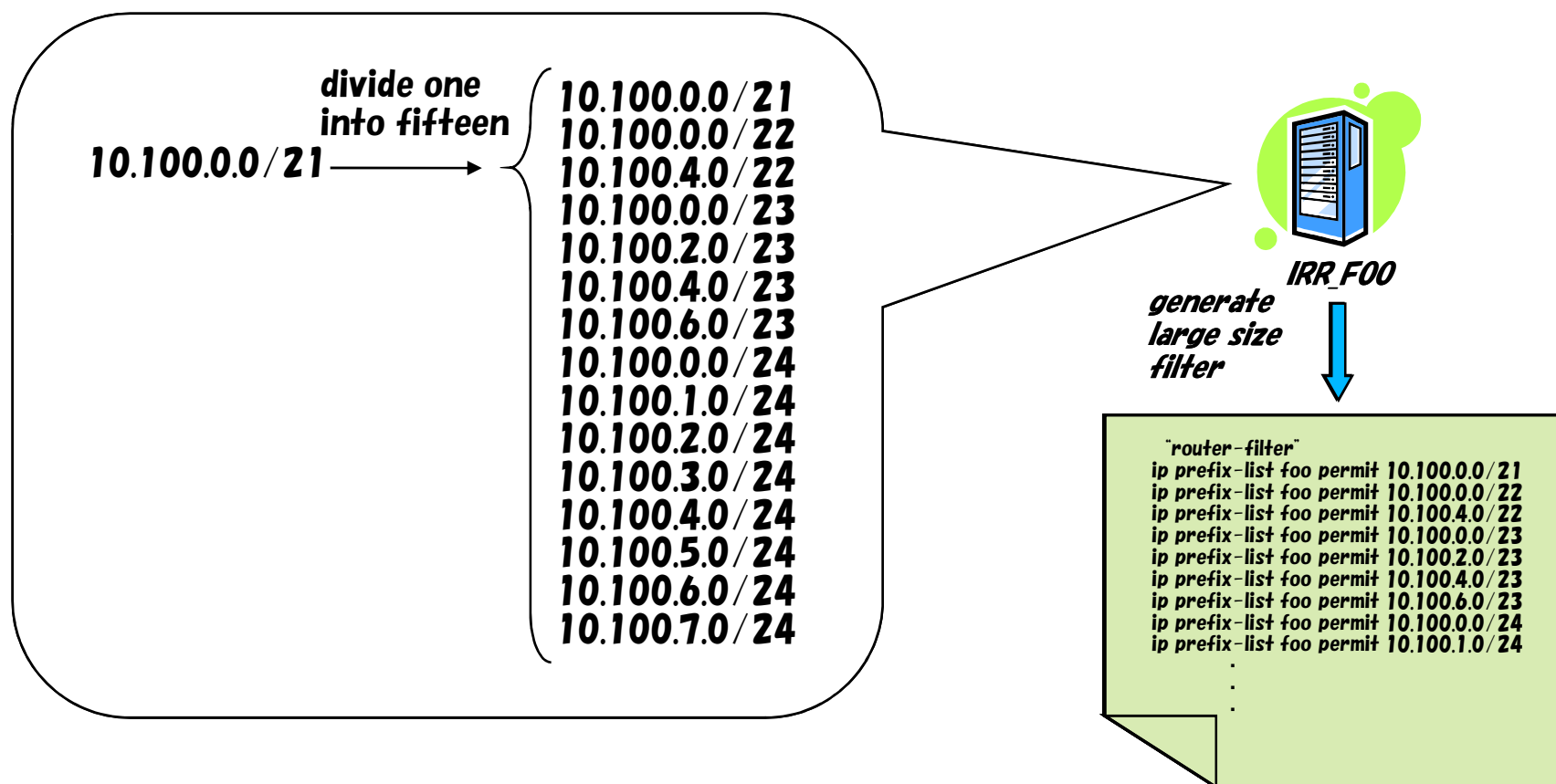
```

route:      xxx.xxx.0.0/24
descr:     Proxy-registered route object
origin:    AS12345
remarks:   auto-generated route object
remarks:
remarks:   This route object is for a FOO-ISP customer route
remarks:   which is being exported under this origin AS.
remarks:
remarks:   This route object was created because no existing
remarks:   route object with the same origin was found, and
remarks:   since some FOO-ISP peers filter based on these objects
remarks:   this route may be rejected if this object is not created.
remarks:
remarks:   Please contact routing@foo.net if you have any
remarks:   questions regarding this object.
mnt-by:    FOO-MNT
changed:   hoge@foo.net 20070925
source:    FOO
    
```



Case2: growing the size of route-filter

Overlapped registration generate many lines of router-filter



What can we do?

- **for ISPs**
 - **Don't register routes automatically.**
 - **If you need to do so, please set expire date at the same time.**
- **for IRR users**
 - **Please try to aggregate routes.**

What can we do?

- **for IRR implementer**
 - **Please add some feature to IRR to solve this situation like these:**
 - **prefix range for route-object**
for example:
route: **61.120.144.0/20-24**
 - **marking for route-object**
for example:
route: **61.120.144.0/24**
mark: **2914:7777**
 - **If we could use these feature, we might reduce filter size!**

please keep it neat!



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Q&A