

IRR Power Tools

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What IRR Power Tools Does

- Automatic retrieval of prefixes behind an IRR object.
- Automatic filtering of bogon or other undesirable routes.
- Automatic aggregation of prefixes to reduce config size.
- Tracking and long-term recording of prefix changes.
- E-mails the customer and ISP with prefix changes.
- Exports the change data to plain-text format, for easy interaction with non-IRR enabled networks.
- Generates router configurations for easy deployment.

What IRRPT Doesn't Do

- Evaluate RPSL import/export policies of any kind.
 - Too complex, not needed for what we do.
- Filter-set, rtr-set, peering-set, inet-rtr objects.
- AS-PATH filters
 - These depend on import/export policies to be effective.
- Any of that other funky stuff!

How is this different from IRRToolSet?

- This tool was originally built around IRRToolSet.
 - This was later rebuilt to bypass IRRToolSet, after getting feedback from dozens of network engineers who couldn't manage to compile IRRToolSet.
 - This is not a complete replacement, IRRToolSet is still far more powerful for generic IRR functions.
- IRR Power Tools builds upon simple queries, and adds features necessary for production use as a prefix-list manager.

Example Usage:

IRRDB.CONF:

```
#####  
#ASN      IRR Object                               Update Email  
#####  
1234      AS-EXAMPLEOBJECT1      noc@examplecustomera.com  
2345      AS-EXAMPLEOBJECT2      noc@examplecustomera.com  
3456      AS3456                  noc@examplecustomerc.com
```

EXCLUSIONS.CONF: Bogons and other filters

IRRPT.CONF: General configuration, aggregation, etc.

NAG.CONF: E-Mailing providers who don't speak IRR.

Example Usage: Fetching New Prefixes

```
$ ./irrpt_fetch
```

```
Processing AS812 (Record 1)
```

- Importing /usr/local/irrpt/db/812 version 1.1
- Importing /usr/local/irrpt/db/812.agg version 1.1
- Sending update notification to noc@rogers.com

```
Processing AS8001 (Record 2)
```

- Updating /usr/local/irrpt/db/8001 version 1.1 -> 1.2
- Updating /usr/local/irrpt/db/8001.agg version 1.1 -> 1.2
- Sending update notification to eng@nac.net

```
Completed processing of 2 IRR object(s).
```

Example Usage: Prefix database

```
-rw-r--r--  1 user  group  49197 Nov 24 03:39 8001
-rw-r--r--  1 user  group  19086 Nov 24 03:39 8001.agg
-rw-r--r--  1 user  group   5520 Nov 24 03:39 812
-rw-r--r--  1 user  group    366 Nov 24 03:39 812.agg
```

```
$ wc -l db/8001
  3149 8001
```

```
$ wc -l db/8001.agg
  1213 8001.agg
```

```
$ wc -l db/812
   379 812
```

```
$ wc -l db/812.agg
    26 812.agg
```

Example Usage: E-Mail Updates

From: eng@yourcompany.com

Subject: [IRRPT] Changes to AS8001 (Aggregated)

Remove 8.9.3.0/24

Remove 8.9.4.0/23

Remove 24.228.0.0/18

Add 4.17.225.0/24

Add 12.26.83.0/24

Add 12.31.6.0/24

Complete list for AS8001 (object AS-NAC) (Aggregated) :

4.17.225.0/24

4.17.226.0/23

4.17.251.0/24

...

Example Usage: Prefix-list Generation

```
$ ./irrpt_pfxgen 8001
conf t
no ip prefix-list CUSTOMER:8001
ip prefix-list CUSTOMER:8001 permit 4.17.225.0/24
ip prefix-list CUSTOMER:8001 permit 4.17.226.0/23 le 24
ip prefix-list CUSTOMER:8001 permit 4.17.251.0/24
ip prefix-list CUSTOMER:8001 permit 4.17.252.0/23 le 24
```

```
$ ./irrpt_pfxgen -f juniper 8001
policy-options {
    replace: policy-statement CUSTOMER:8001 {
        term prefixes {
            from {
                route-filter 4.17.225.0/24 upto /24;
                route-filter 4.17.226.0/23 upto /24;
            }
        }
    }
}
```

...

Example Usage: Nagging Providers

Hello,

This is an automated e-mail message requesting a prefix list modification from providers who still build their prefix filters manually, rather than from Internet Routing Registry (IRR) databases.

A list of requested changes is contained below, followed by a complete list of prefixes for your reference. Also please note that the prefixes are pre-aggregated, and should always be applied with at least "upto /24" (Juniper) or "le 24" (Cisco).

Requesting Company.....	Your Company Name, Inc.
Requesting Autonomous System Number (ASN)...	12345
Customer Identifying Information.....	Customer Identifier 1
Routine / Successful Completion Notices.....	ops-list@company.com
Failures, Problems, Questions, Etc.....	ops-alert@company.com

Where can I get it?

- Sourceforge:
 - <http://irrpt.sourceforge.net>

Send questions, complaints, to:

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