PeeringDB

Data Ownership Taskforce

Problem Statement / Background

Barry O'Donovan, INEX - October 10th, 2019

Introduction

I volunteered for this TF to help from a number of perspectives:

- IXP view as a member of the ops team at INEX.

- Wider IXP community view as lead dev / project manager of IXP Manager (in ~80 IXs).

- One of the maintainers of the IX-F Export schema.

- Also have the smaller - admin access for ~10 networks on PeeringDB

What Happened?

- PeeringDB updates netixlan records from IX provided data.

- If a network asserts: we are in such an IX with such an IP address but the IX says otherwise, PeeringDB removes the network's netixlan entry.

- This affected Amazon when provisiong a port at INEX last August (PDB issue #518).

- This raised the question of data ownership - who should own and control this data.
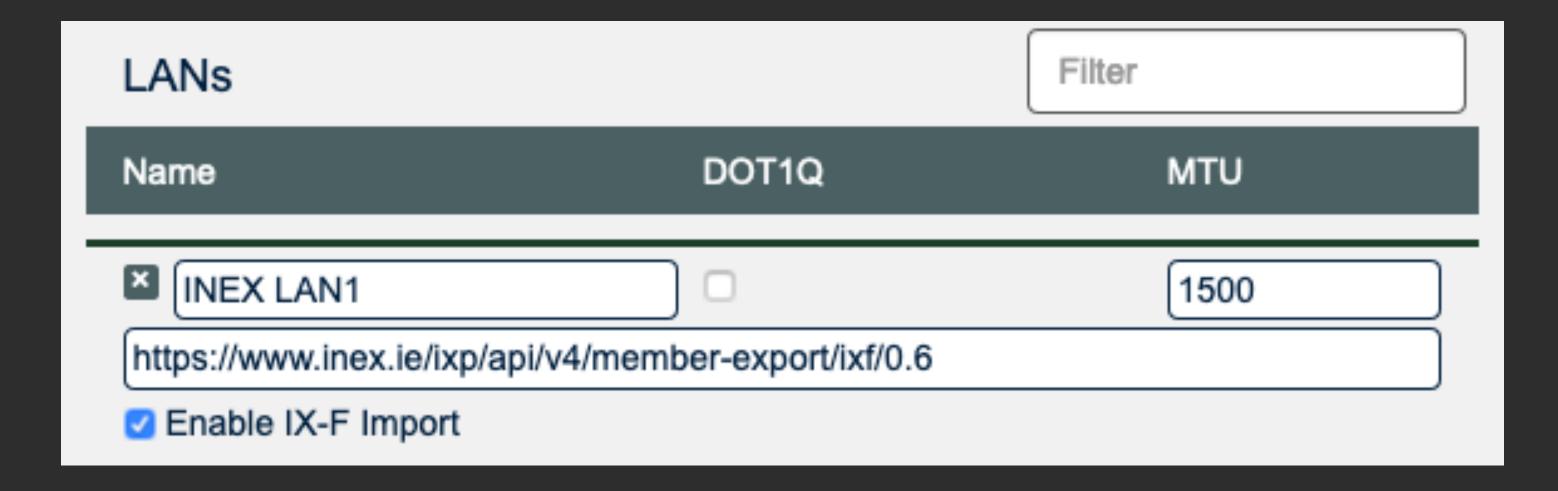
IX-F Member Export

The IX-F Member Export is an agreed and standardized JSON schema which allows IXPs to make their member lists available for consumption by tools such as PeeringDB, networks with automated peering managers, prospective members and the many other tools appearing in the peering eco-system.

The key element of the IX-F Member Export is that it makes the individual IXP the canonical trusted source for data about their own IXP. Data that is guaranteed to be correct and up to date.

- See: https://github.com/euro-ix/json-schemas/

- Now widely used for the IX-F IXP Database and supported in IXP Manager 'out of the box' (e.g. INEX's version here).
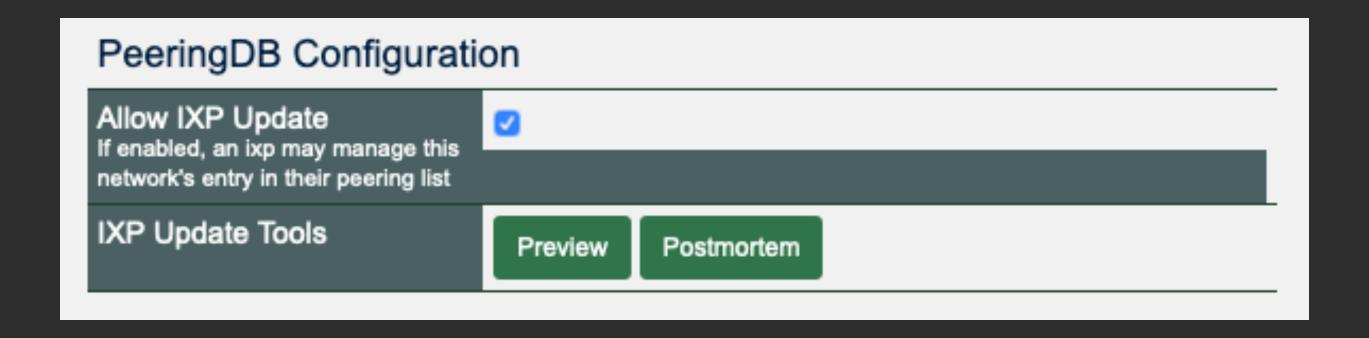
PeeringDB and IX-F Export for IX's

IXP's can indicate if they support the IX-F Export and provide URL for same.

PeeringDB has excellent tooling which shows errors and a preview of actions.

PeeringDB and IX-F Export for Networks's

Networks can indicate if they wish their data to be updated by an IX's IX-F Export.

PeeringDB also excellent tooling which shows a preview of actions and history. Note that it's all IX's or no IX's for this feature.

PeeringDB Rules for IX-F Import

allow_ixp_update: no (default)

- If a network has an IXP entry with differing (asn, ipaddr4, ipaddr6), the network IXP entry is removed **

- If a network has an IXP entry with any other differing information (speed, route server peer), this information is not changed

- If a network does not have an entry for the IXP, nothing is done

PeeringDB Rules for IX-F Import (cont.)

allow_ixp_update: yes

- If a network has an IXP entry with any differing information, the entry is updated (IPv4, IPv6, speed, route server peer)

- If a network does not have an entry for the IXP, one is added

PeeringDB Tickets / References

- [#474](#) - New IX-F JSON importer procedure

- [#505](#) - IX-F JSON postmortem/preview for networks

- [#518](#) - Improve IX-F JSON importer

- [#540](#) - IX-F JSON importer indication of conflict rather than deletion of data

- https://docs.peeringdb.com/ix-f-json-import-rules/

Issues the TF Needs to Address

netixlan: should the IX or the network "own" this data?

- IX's rightly assert that it's their IP range, their network, etc. so they should be the data owners.

- Some networks assert that if they enter the IX connection in PeeringDB then it's the network's data.

- Is there a mechanism that can keep both parties happy (e.g. #518)?

There are real issues here:

- stale data, IP address stomping, typos, network-size inflation, deception.

Issues the TF Needs to Address (cont.)

ixfac / netfac: does a facility get to reject a network / ix that declares themselves as present there?

- As it stands, networks/ix's declare themselves present.

- Facility owners may ask the admin committee to remove a net/ix.

- What does present mean in the world of remote peering / cloud exchanges / third party co-location?

Again, there are real issues here:

- stale data, network-size inflation, deception, (anti-)competitive actions.