IXP Neutrality Foundation
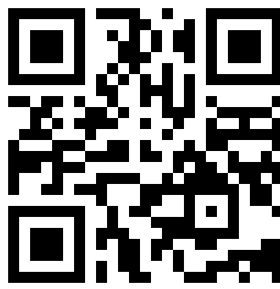defining neutrality for IXPs

the
IXP Neutrality Project

Katsuyasu TOYAMA

APIX meeting #26
Sep 12, 2022
Singapore

What is IXP neutrality?

- A term used by many (most?) IXPs to describe themselves

- However, largely undefined:

  - Possible interpretations may include fairness, transparency, published price list, non-competence with its participants, non-competence with the carriers, ownership/governance by its own members, ...

  - Even if we did agree on the high-level definition, still a lot of room of interpretation of how this would be implemented by each IXP

- Eventually, the term "neutrality" does not add any value and it is often confusing or misleading

The IXP Neutrality Project

- Will attempt to define IXP neutrality in the form of a Standard

- IXP Neutrality Standard: A list of well defined, measurable/verifiable criteria

Why?

- guide and protect IXPs that want to become/remain neutral;
- help IXP participants identify such IXPs and
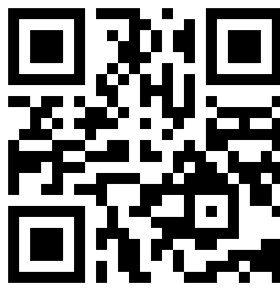- set the right expectations in the IXP<-> IXP participants relationship

For IXP participants:

- reduce uncertainty and fear of provider-lock; help in building trust.
- Minimize commercial and contractual negotiation.

For neutral IXPs:

- Shorter negotiations; quicker sales
- neutrality can act as a tool to defend pricing, contractual terms and service offerings.
- better service portfolio; consistent, uniform service implementations -> quicker delivery and simpler ops.
- a "trusted partner" within the local market
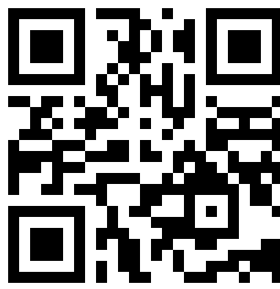
How we perceive IXP neutrality

Neutrality = Fairness + Transparency

- Fair & equal treatment by an IXP towards its members

- Extends to: Services, Delivery, SLA, Pricing, Contractual/Terms, ...

- At least some transparency, to the degree required fairness

- Important in cases of "deviations"

>>>   the community will provide definition and answers   <<<

A community-centric approach

- Working Group members
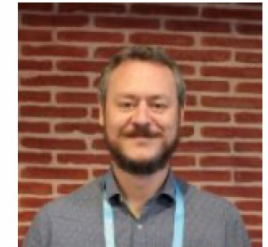
Ian Cleary	Ariel Graizer	Flavio Luciani	Kevin Meynell	Harald Michl	Michalis Oikonomakos
Europe, **Content**	**Latin A.**, **IXP**	**Europe**, **IXP**	**Oceania**, **Expert**	**Europe**, **IXP**	**Europe**, **IXP**
Bryan Olynyk	Andreas Polyrak	Ben Ryall	John Souter	Kyle Spencer	Katsuyasu Toyama
North A., **IXP**	**Europe**, **Expert**	**Europe**, **Content**	**Europe**, **IXP**	**Africa**, **IXP**	**Asia**, **IXP**

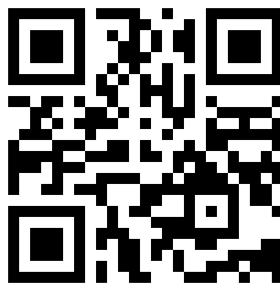# IXP Neutrality Project

- Home page -> https://neutral-inter.net

- Cautions:
    - The definitions are not fixed; it's still ongoing project
        - *not yet at the formal draft for public comment stage*
    - Therefore, **feedbacks from community is very important**

- We are open to feedback via

    theinternetneutralityproject@gmail.com
    - (the internet neutrality project) _at_ gmail dot com
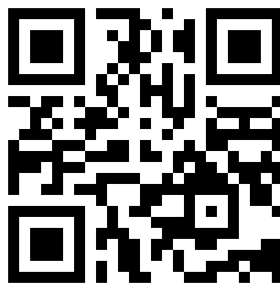
Clauses of the draft standard

1. Domain of applicability

2. Mandatory or advisory clauses?

3. Neutrality Clauses

Domain of applicability

- **IXP core services**
  - The services that relate to the core IXP business and are necessary for it
    - including at least the physical access ports, the local peering service, the route servers (if provided by the IXP) and the support for these services.
- **IXP additional services**
  - Other services that directly relate to the IXP operation (and would not make sense to be provided by the IXP operator if it was not running an IXP business)
    - for example, colocation services, cloud exchange services, consulting services etc. that it might be also offering.
- **Non-IXP-related services:**

Mandatory or advisory clauses

- **Mandatory**:
  - meaning any IXP claiming to be neutral in accordance to the standard must fulfil these requirements

- **Advisory**:
  - meaning that a neutral IXP may or may not take any notice of these clauses

  - the word "*shall*" in respect of the mandatory clauses,
    but not for advisory clauses.

Neutrality Clauses

- Self-Statement *
- Published Portfolio
- Published Price List *
- Promotions, discounts & offers *
- Contract *
- Terms of Use
- Member list *
- PeeringDB
- Traffic graphs
- Right to participate
- Communication Channels

- Service Uniformity
- Service provisioning
- Service costs
- Ordering & Charging
- Maintenance
- Support levels/response times

Clauses with *
are proposed for
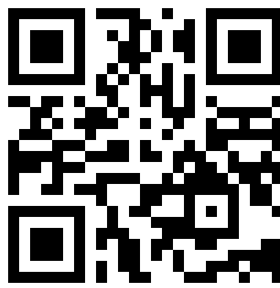active discussion
in this workshop.

Self-Statement *

- ## Draft requirement:

  - The IXP operator shall publish a self-statement of transparency and neutrality per IXP that it operates.

- ## Should this clause be mandatory or not?

  - It is proposed to be **_mandatory_**

  - This is the key compliance clause, so must be mandatory.

  - It has the role of making any claims of neutrality really clear.

Published Portfolio

- Draft requirement:
    - A published service portfolio shall exist which will list all the IXP services offered by the IXP and all their options that affect pricing. If applicable, delivery times and SLA of these services shall be included.

- Should this clause be mandatory or not?
    - It is proposed to be **mandatory**
    - Without this, the defined scope of a particular IXP claiming to be neutral is unclear, so it makes no sense for it to be optional

Published Price List *

- Draft requirement:

  o A published price list shall exist, including setup and recurring fees for provisioning, upgrading and terminating of all IXP services within the published portfolio. Each version of the pricelist shall include its effective start date and shall describe how it will be applied to existing IXP services (e.g., if pricing of existing services will be updated to the effective pricelist or not, etc.).

- Should this clause be mandatory or not?

  o It is proposed to be **mandatory**

  o For many people, this is going to be the very visible '*acid test*' of IXP neutrality, so it makes no sense for it to be optional

Promotions, discounts & offers *

- ## Draft requirement:

  o Promotions, discounts and offers shall be published. The IXP operator shall not provide promotions, discounts or offers that are photographic to a specific member. Waiving of fees (e.g., for DNS operators or other services or infrastructure for the "common good") are clearly stated according to these terms.

- ## Should this clause be mandatory or not?

  o It is proposed to be ***mandatory***

  o Without this being mandatory, it will leave plenty of scope for the published price list clause to be less effective than it seems at face value
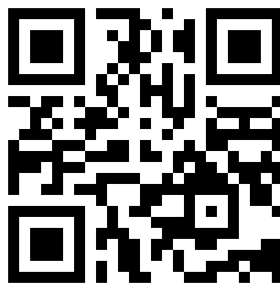
Contract *

- Draft requirements:

  - A published contract template shall exist.

  - This contract shall include all articles that constitute the business relationship between the IXP operator and an IXP participant.

  - This contract shall be common for all IXP participants.

  - Any referenced or related document with this contract (e.g., order forms for services, annexes, appendixes) shall be published as well.

  - If the IXP operator offers non-IXP services, such services (and their terms) do not need to be included into the template as long as they are sufficiently separated.

- Should this clause be mandatory or not?

  - It is proposed to be ***mandatory***

  - This will be another of the '*acid test*' of IXP neutrality clauses, so it should probably be mandatory

Terms of Use

- Draft requirement:
  - The IXP terms of use shall be published.

- Should this clause be mandatory or not?
  - It is proposed to be **mandatory**
  - If the contract clause is mandatory, it doesn't make too much sense for this to be optional

Member list *

- ## Draft requirement:

  - o The list of connected networks shall be listed publicly and shall be available via APIs (e.g., IX-F Member Export).

- ## Should this clause be mandatory or not?

  - o It is proposed to be **_mandatory_**

  - o The vast majority of IXP users (99+%?) will want this to be mandatory, and there are just a few unusual/untypical ASNs that want to be present at IXPs and not in lists
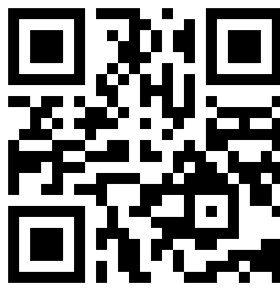
PeeringDB

- Draft requirement:
  - The IXP operator shall be listed and maintain an updated record in PeeringDB.

- Should this clause be mandatory or not?
  - The mandatory/advisory aspect is up for debate
  - There will be huge (overwhelming?) support for this to be mandatory, but it is open for debate
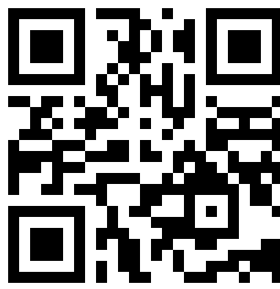
Traffic graphs

- Draft requirement:

    - The IXP shall have its aggregated traffic graphs publicly available.

- Should this clause be mandatory or not?

    - It is proposed to be ***mandatory***

    - Another '*acid test*' clause for neutrality.

    - It is probably only non-neutral IXPs that don't make their traffic graphs public.

Right to participate

- Draft requirement:
  - The IXP shall publish their legal, business and technical requirements for their participants and they shall accept all applications of new participants that meet these requirements, unless significant, justified, technical, legal or business constraint exists.

- Should this clause be mandatory or not?
  - It is proposed to be **mandatory**
  - Another '*acid test*' clause for neutrality.
  - Why would a genuinely neutral exchange turn away prospective members who met their joining criteria?

Communication Channels

- Draft requirement:
  - The IXP must clearly state and publish the channels of communications (including support) between the IXP and its members. This includes but not limited to: technical, financial, operational, policy and administrative issues.

- Should this clause be mandatory or not?
  - The mandatory/advisory aspect is up for debate
  - Perhaps some ASNs don't really care about this, judging by their level of engagement and how they ignore IXP communications?
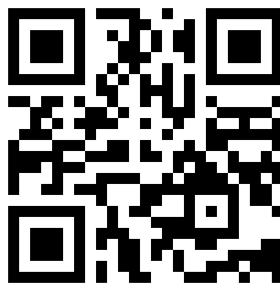
Service Uniformity

- Draft requirement:

  - The IXP shall implement the services of the service portfolio in a uniform manner, without implementing substantially different service offerings for different participants that are receiving the same service. The terms of use shall govern all IXP participants.

- Should this clause be mandatory or not?

  - It is proposed to be **mandatory**

  - In practice, neutrality implies service uniformity for production services; perhaps we can have an advisory note to say that this is not intended to apply to trials, which should at least be documented so that participants know they are happening? That last part could be controversial.

  - Still in active discussion
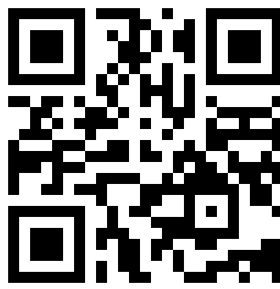
Service provisioning

- Draft requirement:

  - The IXP shall accept and implement without unnecessary delay all valid members' requests for provisioning, modification or decommission of services within the service portfolio. Requests shall not be rejected or unreasonably delayed unless a significant, justified reason exists.

- Should this clause be mandatory or not?

  - It is proposed to be **mandatory**

  - This is an '*acid test*' clause for neutrality. Why would a genuinely neutral exchange discriminate on service?

  - This has to do with service delivery times which should not vary based on the importance of a given member

Service costs

- Draft requirement:

  - All members shall be charged the same fee for the same services, according to the published price list. Any exception to this, shall be clearly known in advance to all participating members of the IXP.

- Should this clause be mandatory or not?

  - It is proposed to be **mandatory**

  - This is the implementation clause of the 'publish a price list' policy requirement.

Ordering & Charging

- Draft requirement:
  - Orders must clearly state the services and corresponding prices. Prices cannot be bundled or aggregated in ways not explicitly described on the public price list.

- Should this clause be mandatory or not?
  - To be resolved
  - This might be construed as a novel requirement in the standard, so we are still discussing this.
  - For orders, there should be no bundling or cross-selling in a way that pricing for the IXP services is unclear.
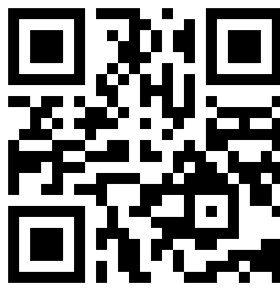
Maintenance

- Draft requirement:
  - o All maintenance and service related information shall be communicated equally to all members. Outages & service degradation issues must be communicated in a timely manner to all IXP members.

- Should this clause be mandatory or not?
  - o It is proposed to be ***mandatory***
  - o What has to be mandatory here is that any scheduled maintenance on the IXP should be properly announced and communicated to all IXP members. A neutral IXP should have published its scheduled maintenance slots.

Support levels/response times

- Draft requirement:
    - Clause text to be added

- Should this clause be mandatory or not?
    - It is proposed to be ***mandatory***
    - A neutral IXP should announce beforehand its service support levels and response times.

Neutrality Clauses

- Self-Statement *
- Published Portfolio
- Published Price List *
- Promotions, discounts & offers *
- Contract *
- Terms of Use
- Member list *
- PeeringDB
- Traffic graphs
- Right to participate
- Communication Channels

- Service Uniformity
- Service provisioning
- Service costs
- Ordering & Charging
- Maintenance
- Support levels/response times

Clauses with *
are proposed for
active discussion
in this workshop.

Thank you!

https://neutral-inter.net/