A Vocabulary of Path Properties

draft-irtf-panrg-path-properties-03

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Revise Transparency Path Property

- A **node** performs an **action** on a **flow** transparently with respect to some **(meta-)information** if it performs the action independently of the (meta-)information.

- Action: block, modify, or forward packet(s) in flow

- (Meta-)information: Existence or Content of protocol headers, payloads, ...
## Transparency Examples

<table>
<thead>
<tr>
<th>Node</th>
<th>is transparent to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCP/UDP Headers</td>
<td>IP Headers</td>
</tr>
<tr>
<td>IP Router</td>
<td>Yes</td>
</tr>
<tr>
<td>TCP SYN blocking firewall</td>
<td>No (action = blocking)</td>
</tr>
<tr>
<td>NAT</td>
<td>No (action = blocking, forwarding, modifying)</td>
</tr>
</tbody>
</table>

Both a transparent HTTP proxy (RFC2616) and a node reacting to Transport Protocol Path Signals (RFC8558) are **not** considered transparent given this definition.
Add Formal Entity Definition

- Entity is the most basic term:
  - Can be a physical device or virtual device/function
  - Can be on- or off-path
  - Can be in the data- or control-plane
  - Can process packets
  - Can measure path properties
  - Can access information about paths
  - ...

- Every node is an entity
- Not every entity is a node (e.g., entity may be off-path)
Questions & Next steps

- Thoughts on Transparency and entity definition?
- Ready for Last Call?