

A YANG Data Model for In-Situ OAM

draft-zhou-ippm-ioam-yang-00

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Overview

- Profiles
 - The IOAM model is organized as list of profiles.
 - Each profile associates with one flow and the corresponding IOAM information.
 - Multiple IOAM data types can be encapsulated into the same IOAM header.

```
+--rw ioam
  +--rw ioam-profiles
    +--rw enabled?    boolean
    +--rw ioam-profile* [profile-name]
      +--rw profile-name      string
      +--rw filter
        | +--rw filter-type?  ioam-filter-type
        | +--rw acl-name?    -> /acl:access-lists/acl/name
      +--rw protocol-type?    ioam-protocol-type
      +--rw incremental-tracing-profile
        | ...
      +--rw preallocated-tracing-profile
        | ...
      +--rw pot-profile
        | ...
      +--rw e2e-profile
        ...
```

Preallocated Tracing Profile

- The preallocated tracing option will create pre-allocated space for each node to populate its information.

`+++rw preallocated-tracing-profile`

<code>+++rw enabled?</code>	<code>boolean</code>
<code>+++rw node-action?</code>	<code>ioam-node-action</code>
<code>+++rw trace-type?</code>	<code>ioam-trace-types</code>
<code>+++rw enable-loopback-mode?</code>	<code>boolean</code>

Incremental Tracing Profile

- The incremental tracing option contains a variable node data fields where each node allocates and pushes its node data immediately following the option header.

`++rw incremental-tracing-profile`

<code>++rw enabled?</code>	<code>boolean</code>
<code>++rw node-action?</code>	<code>ioam-node-action</code>
<code>++rw trace-type?</code>	<code>ioam-trace-types</code>
<code>++rw enable-loopback-mode?</code>	<code>boolean</code>
<code>++rw max-length?</code>	<code>uint32</code>

Proof of Transit Profile

- The IOAM Proof of Transit data is to support the path or service function chain verification use cases.
- It's imported from "draft-brockners-proof-of-transit-04"

+++rw pot-profile

```
+++rw enabled?          boolean
+++rw active-profile-index? pot:profile-index-range
+++rw pot-profile-list* [pot-profile-index]
+++rw pot-profile-index  profile-index-range
+++rw prime-number       uint64
+++rw secret-share       uint64
+++rw public-polynomial  uint64
+++rw lpc                uint64
+++rw validator?        boolean
+++rw validator-key?    uint64
+++rw bitmask?          uint64
```

Edge to Edge Profile

- The IOAM edge to edge option is to carry data that is added by the IOAM encapsulating node and interpreted by IOAM decapsulating node.

`+++rw e2e-profile`

`+++rw enabled? boolean`
`+++rw node-action? ioam-node-action`
`+++rw e2e-type? ioam-e2e-types`

Next

- Comments?
- How about adopting this draft as the starting point for IOAM configurations?