# Hierarchical J/P attributes

draft-ietf-pim-hierarchicaljoinattr-04

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# Introduction

- An hierarchical scheme with the following properties
  - If an attribute type and value applies to every (S,G) in the message, only include it once in the message
  - Also, if an attribute type and value applies to every (S,G) for a given group G, only include it once for the group G

- Allows more efficient encoding

- Useful for J/P attributes that naturally apply to an entire J/P message, or all J/Ps for a specific group

# J/P message format

| PIM Ver\| Type \| Reserved \| | Checksum |
|---|---|
| Upstream Neighbor Address (Encoded-Unicast format) | |
| Reserved \| Num groups \| | Holdtime |
| Group Set 1 | |
| … | |
| Group Set n | |

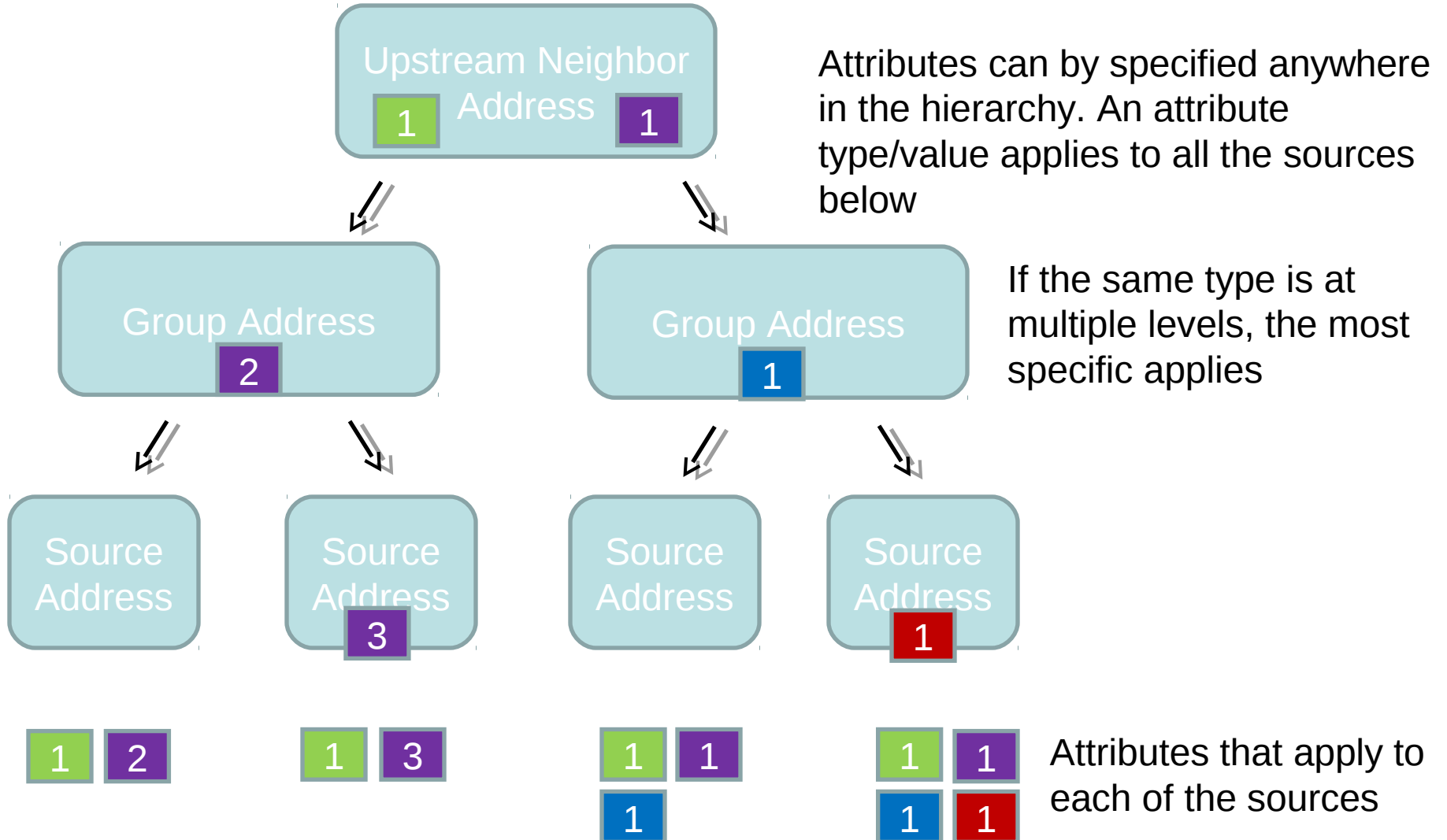| Multicast Group Address 1 (Encoded-Group format) |
|---|
| Number of Joined Sources \| Number of Pruned Sources |
| Joined Source Address 1 (Encoded-Source format) |
| ... |
| Joined Source Address m (Encoded-Source format) |
| Pruned Source Address 1 (Encoded-Source format) |
| ... |
| Pruned Source Address k (Encoded-Source format) |

Each message contains a single Upstream Neighbor Address and a number of group sets

Each Group Set contains a Group Address followed by lists of joined sources and pruned sources

We have 3 different address objects, all in an encoded format

Upstream Neighbor Address
Multicast Group Address
Source Address

# J/P Attribute Hierarchy

**Upstream Neighbor Address** `1` `1`

Attributes can by specified anywhere in the hierarchy. An attribute type/value applies to all the sources below

**Group Address** `2`

**Group Address** `1`

If the same type is at multiple levels, the most specific applies

**Source Address**

**Source Address** `3`

**Source Address**

**Source Address** `1`

`1` `2`

`1` `3`

`1` `1`
`1`

`1` `1`
`1` `1`

Attributes that apply to each of the sources

# Next steps

- Used by draft-ietf-pim-join-attributes-for-lisp-02
  - That draft is hopefully ready for last call
  - It has been on hold due to the IESG not wanting to take on new LISP work until LISP WG progressed, they are now rechartering
- Hope to get this published soon so that the LISP draft can progress
- draft-ietf-pim-hierarchicaljoinattr-04 ready for working group last call?
  - Draft has been stable for a long time and has been implemented