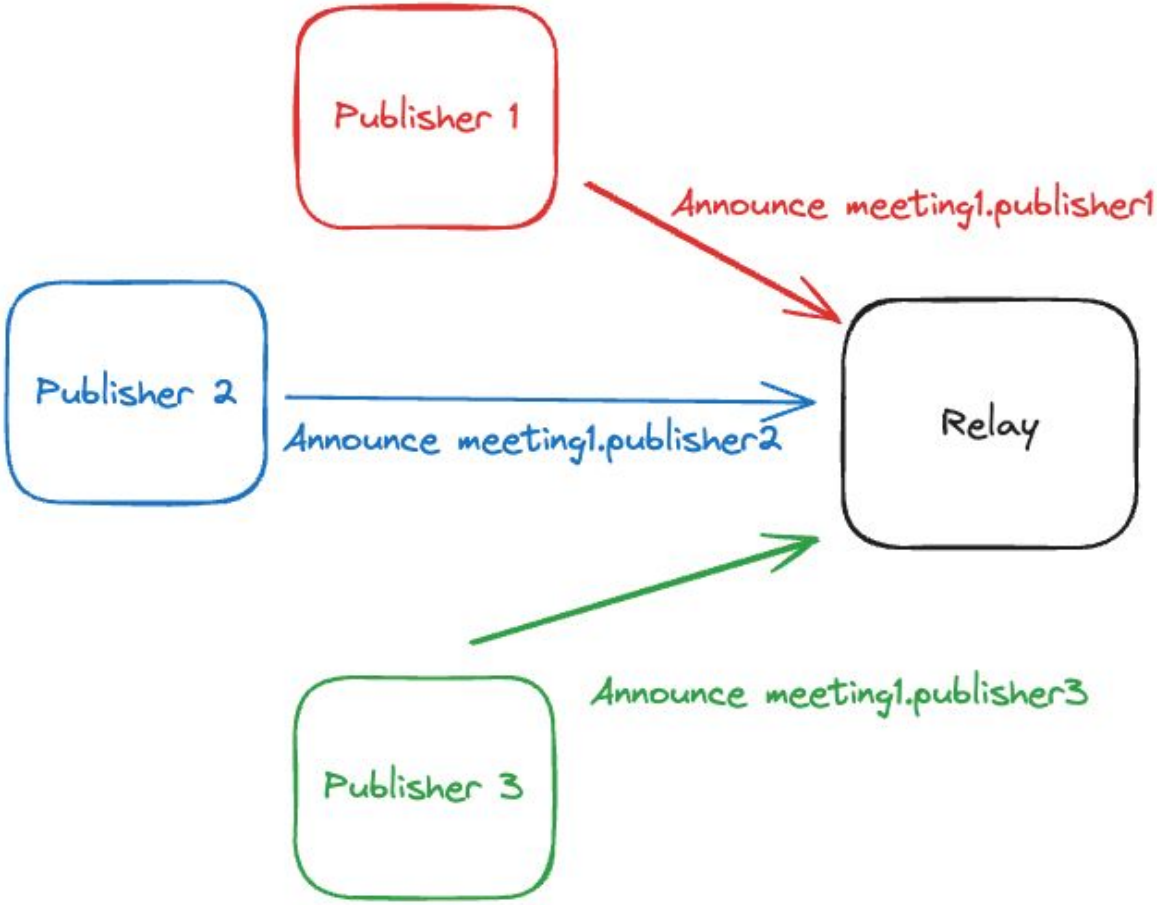
Catalog-less discovery of publishers via relay (#484)



Relays route via namespace

Namespaces must be unique for each publisher

It would be nice to get a list of publishers connected to this relay in "meeting1".

Why not a catalog?

In a distributed application, who is the original publisher of the catalog track?

The relay has all the necessary information

Proposal: SUBSCRIBE_NAMESPACE

Tell the relay you are interested in a set of announcements

If the relay has matching announcements, reply includes them

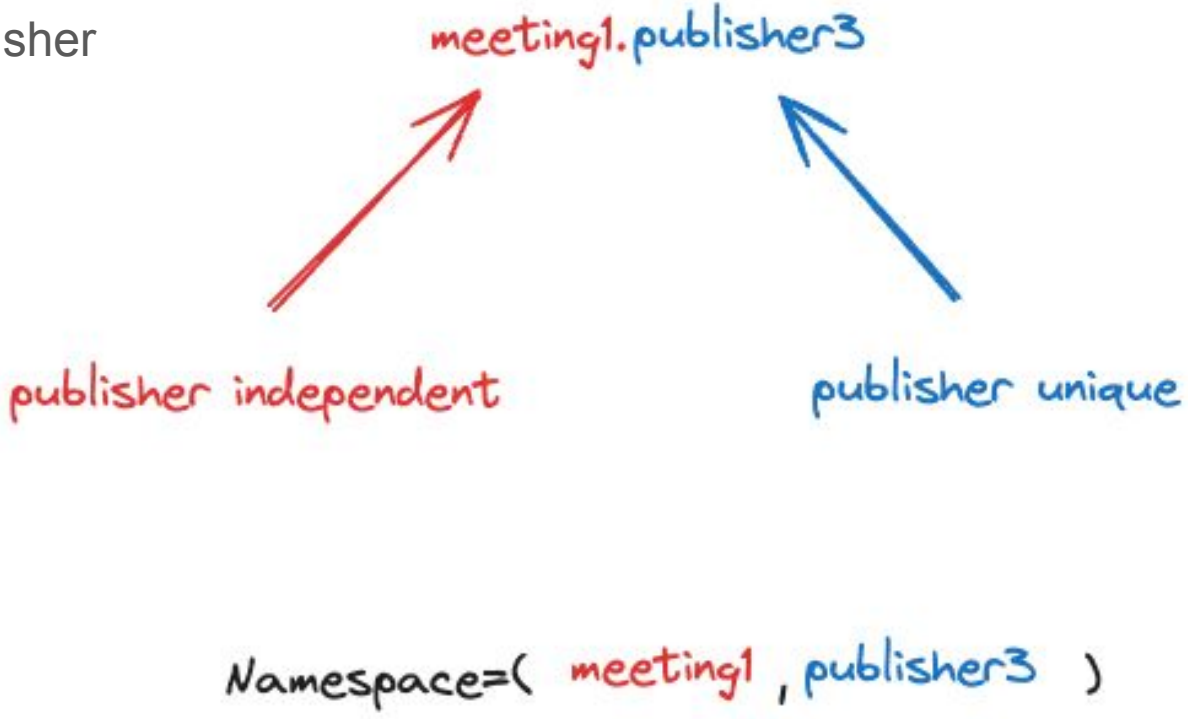
If new matching announcements arrive, forward them

If matching announcements are canceled/disappear, forward that too

How to match namespaces - tuples

Split Track Namespace into a tuple

Exact matching on publisher independent part



How to match namespaces - prefixes

Require namespaces to be structured

➔ Publisher independent first, publisher unique second

Require namespaces to be coordinated

➔ Publisher independent prefix from different “meetings” cannot be substrings of each other, or “bad things™” happen

We’ve previously decided that tuple=good, prefix=bad

➔ See original split of Full Trackname into (Namespace, Name)

Other possible uses of publisher unique field

1. Unique Track Token (#335)

2. Endpoint ID Debugging (#461)

Other uses cases like this …

Use cases:

- Subscribe to only publishers in a region (Europe / North America)
- Subscribe to only publisher with given shard id for load balancing
- Subscribe to all a users devices

Can use the same solution:

- namespace.region-europe.publisher777.shard55

All the relay needs to know is match part of the namespace

- Example: Namespace.region-europe

This would get you all shard and all publishers inside europe region. Each application can define the names to allow the types of subscriptions they need.

Extended Proposal - N tuples

Split namespace into an array of one or more sub-namespaces.

Each sub-namespace is an array of bytes

The SUBSCRIBE_NAMESPACE will have an array of N sub-namespaces and match any namespace where the first N sub-namespaces in the Announce exactly match the sub-namespaces in the SUBSCRIBE_NAMESPACE