

Ethernet Proxying Support for HTTP

[draft-ietf-masque-connect-ethernet-01](#)



Alejandro Sedeño

Still Adopted...ish

Rechartering of the WG to properly include this work is in progress.

Thanks, Martin Duke!

Coordination with IEEE 802

MASQUE folks showed up at the last IETF/IEEE 802 coordination meeting.

Takeaways (thanks to Dennis Jackson for capturing these):

- No pressing concerns or red flags; formal liaison is not felt to be necessary.
- Draft is being circulated to the relevant IEEE 802 chair(s) for early feedback.
- Once the draft is in near-stable final form, we'll reach out to IEEE 802 again for review.

Open Issues

- MTU and Fragmentation
- MAC Address filtering
- Use by E-VPN: encourage or discourage?
- Supporting other L2 Protocols (connect-pseudowire?)
- Dropping and regenerating the Frame Check Sequence
- Concerns around frame delivery order
- Special considerations for Ethernet PAUSE frames
- Special considerations for VLANs

MTU and Fragmentation

<https://github.com/ietf-wg-masque/draft-ietf-masque-connect-ethernet/issues/1>

Bridging two ethernet segments with different MTU is troublesome.

MTU of the tunneled connection is very likely to be less than typical Ethernet MTU.

Fragmentation of Ethernet frames is undesirable.

Configuration / Negotiation for Fragmentation vs Dropping.

MTU and Fragmentation

<https://github.com/ietf-wg-masque/draft-ietf-masque-connect-ethernet/issues/1>

Suggestions to implementers: Deep Packet Inspection, meddle with IP traffic to limit packet size.

- For TCP/IP traffic, MSS clamping
- For other IP traffic, ICMP Packet Too Big, handle like other PMTU issues.

Not part of the protocol itself, implementers may have other ideas on this front.

Doesn't alleviate issues with non-IP protocols, though similar options may be available.

MAC Address Filtering

<https://github.com/ietf-wg-masque/draft-ietf-masque-connect-ethernet/issues/2>

Potentially useful for single clients, less so when bridging two ethernet segments.

Do we want to include this in the draft, or defer it to a future extension?

For single clients, perhaps the server could assign locally-administered MAC addresses.

Use by E-VPN: encourage or discourage?

<https://github.com/ietf-wg-masque/draft-ietf-masque-connect-ethernet/issues/3>

I think we need to get a bit further along on this draft and get input from folks with E-VPN expertise. Perhaps this is the topic of another draft entirely.

Connect Pseudowire?

<https://github.com/ietf-wg-masque/draft-ietf-masque-connect-ethernet/issues/4>

There are other Layer 2 protocols beyond Ethernet. This draft will stay focused on Ethernet, though it could be tweaked to provide an extension point with a more generic HTTP method and a header to select the Layer 2 protocol to use.

What does the WG want to do here?

Dropping / Regenerating Frame Check Sequence

<https://github.com/ietf-wg-masque/draft-ietf-masque-connect-ethernet/issues/5>

The current implementation transmits the Frame Check Sequence. That's four octets of payload we could recover if we drop it and recalculate it on the other end.

Do we have any reason to not do this?

Concerns around frame delivery order

<https://github.com/ietf-wg-masque/draft-ietf-masque-connect-ethernet/issues/6>

PWE3 (RFC 3985, Section 5.2) discusses configuration for frame delivery order, and mentions that some (and therefore not all) services need guarantees here.

Ethernet does not require strict frame ordering, though does impose some requirements on frame ordering when performing link aggregation.

Is this a configuration knob we need?

Dropping Ethernet PAUSE frames

<https://github.com/ietf-wg-masque/draft-ietf-masque-connect-ethernet/issues/7>

More from PWE3: <https://www.rfc-editor.org/rfc/rfc4448.html#section-4.4.5>

In a standard Ethernet network, the flow control mechanism is optional and typically configured between the two nodes on a point-to-point link (e.g., between the CE and the PE). IEEE 802.3x PAUSE frames MUST NOT be carried across the PW. See Appendix A for notes on CE-PE flow control.

<https://www.rfc-editor.org/rfc/rfc4448.html#appendix-A.2> has the specific notes on PAUSE frame.

Special considerations for VLANs

<https://github.com/ietf-wg-masque/draft-ietf-masque-connect-ethernet/issues/8>

Currently we don't make any considerations around VLANs; if frames are tagged, they are carried with those tags.

PWE3 distinguishes between service-delimiting VLAN tags set by the service provider vs consumer provided tags, and may operate in Tagged mode where all frames carry a service-delimiting tag, or Raw mode, where service-delimiting tags are stripped and other tags are carried and ignored.

We may want to consider carrying traffic for different service-delimiting tags in different connections.

Questions?

Ethernet Proxying Support for HTTP

[draft-ietf-masque-connect-ethernet-01](#)