Entering IPv6 Zone Identifiers into User Interfaces

draft-carpenter-6man-zone-ui

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Summary

• What happened to rfc6874bis?
• New proposal
draft-ietf-6man-rfc6874bis

• Make browsers accept:
  http://[fe80::abcd%eth0]
  https://[fe80::abcd%eth0]

• Sent to IESG in March 2023

• No concrete progress resolving DISCUSSes despite several new versions & side meetings
Issues

Two unresolved DISCUSS ballots:

- Ops AD (Rob Wilton) – concern about devices whose interface names don’t conform. *Essentially an issue about the scope of the draft. Probably soluble, but...*

- ART AD (Murray Kucherawy) – concerns from the W3C and browser community (WHATWG) about parsing, and cross-origin (in)security of locally significant URIs. *After almost a year and 6 updates to the draft, no prospect of compromise solution.*
Our conclusion

When in a hole, stop digging.

• It’s time to try a different approach.
• Focus on the user interface, not on the wire format.
• Entering IPv6 Zone Identifiers in User Interfaces

• In practice, that’s “Entering Link Local Addresses in User Interfaces”

• The scope is strictly nodes that support RFC4007, e.g. fe80::1234%eth0 or fe80::1234%7
Use cases for manual entry of LLAs

- All become critical for IPv6-only or -mostly LANs:
  - Existence check:
    ```
    ping fe80::1234%eth0
    ```
  - Configure device (e.g. home router)
  - Monitoring tools such as Wireshark
  - Microsoft WSD virtual printer port mechanism
“Devices whose network stack does not support the RFC 4007 model of a human-readable zone identifier are out of scope for this document.”
Normative content

A UI that supports entry of an IPv6 address SHOULD provide a means for entering a link-local address qualified with a zone identifier.

• Ideally, it will support the complete format specified by RFC 4007 (e.g., fe80::1%eth0).

• If impractical, it could support an alternative delimiter. Hyphen is suggested (e.g., fe80::1-eth0).

• If impractical, it could support two separate input fields (e.g., fe80::1 in one box, eth0 in another).
The browser issue remains

In this model, the zone identifier would not be considered to be part of a URL.

This does not resolve the difficulties in considering the zone identifier as part of the HTTP origin model [RFC6454].

Therefore, this approach does not resolve the issue of how browsers should support link-local addresses.

(See draft-schinazi-httpbis-link-local-uri-bcp, on HTTPBIS agenda Friday morning.)
Programming note

• The program providing the UI will store the address and the zone identifier (separately or together).

• The zone identifier will be converted to an interface index (via the socket API).

• A faulty zone identifier will be detected during conversion and should be reported to the user.

• The resulting interface index will be used for any socket calls using the link-local address.
Housekeeping issues

• The draft obsoletes RFC 6874, which has never been implemented.

• Alternatively, should that be done by draft-schinazi-httpbis-link-local-uri-bcp?

• The draft effectively extends RFC 4007 – should that be “updates 4007”?
Questions? Comments?