IOAM (IPv6) in Linux kernel

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Summary

Patch is online:

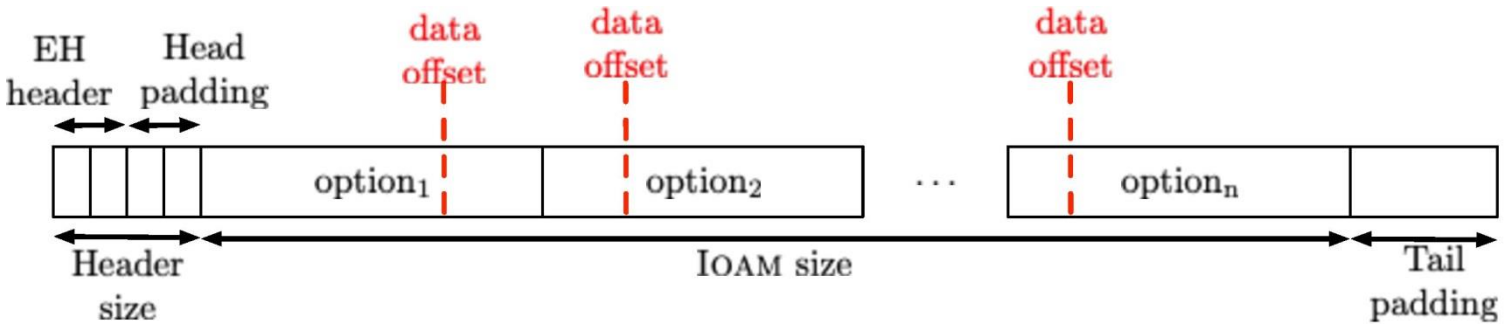
- https://github.com/iurmanj/kernel_ipv6_ioam

Based on drafts:

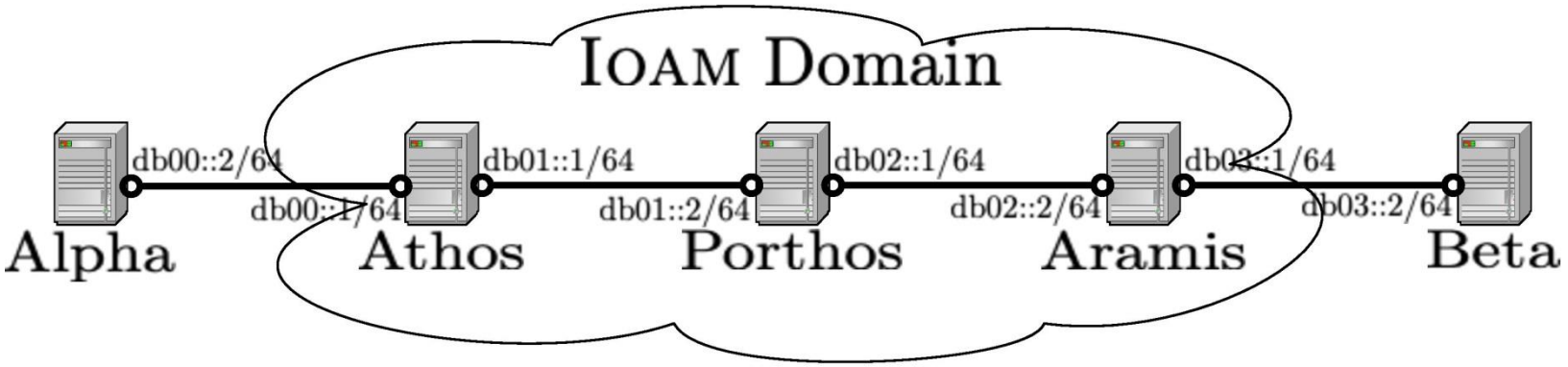
- In-situ OAM IPv6 Options (draft-iometal-ippm-6man-ioam-ipv6-options-02)
- Data Fields for In-situ OAM (draft-ietf-ippm-ioam-data-05)

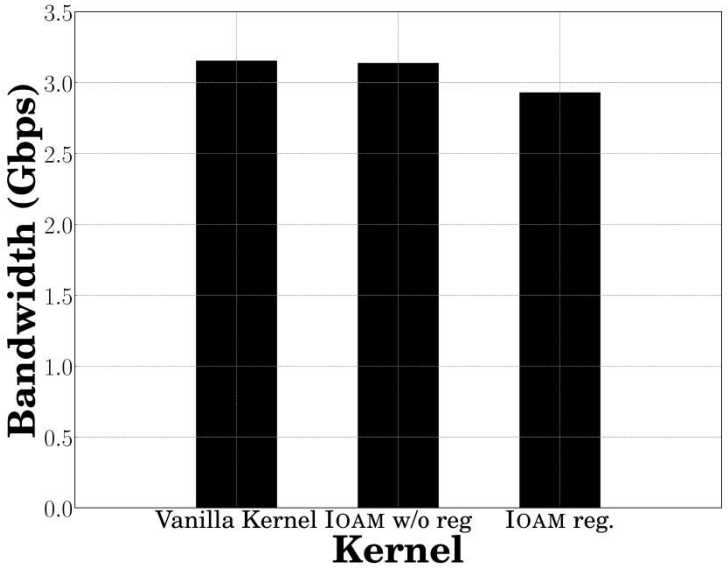
Implementation

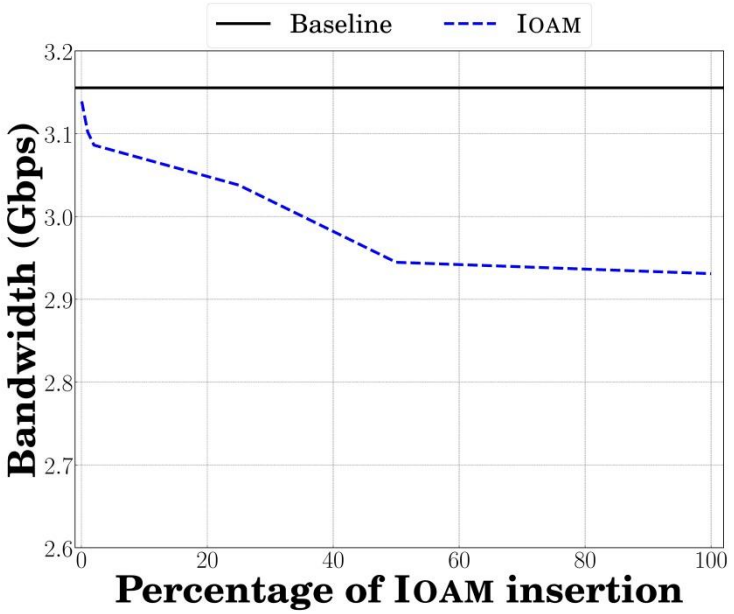
- ✓ Zero-allocation during packet processing
- ✓ User space API (node registration)
- ✓ Enhancement of EH parsing
  - IOAM Encap
  - IOAM Decap



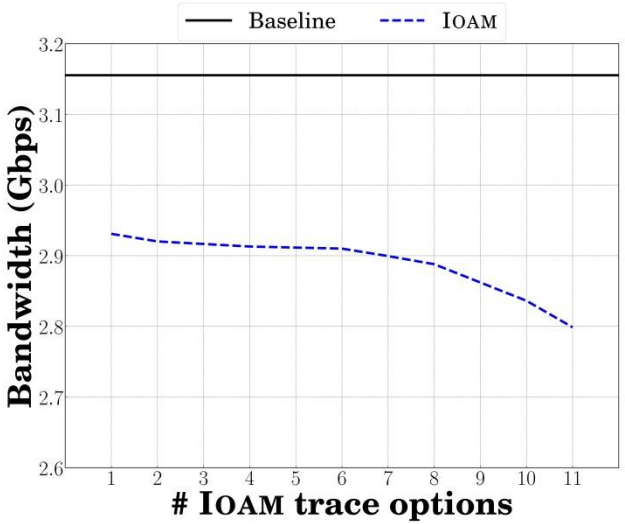
Early results

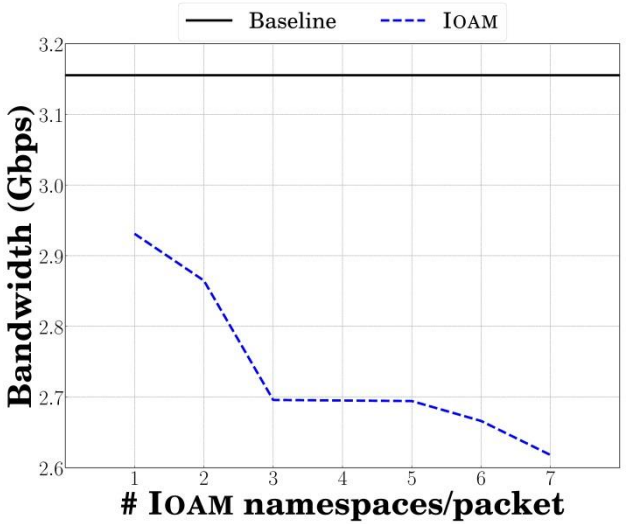


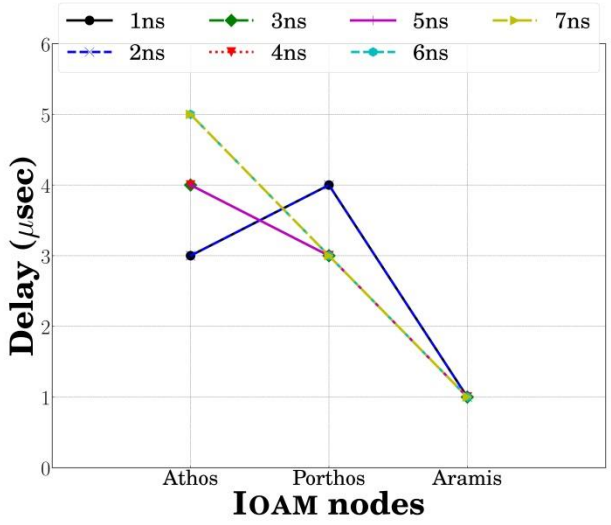




Early results







Discussion

- Opaque State Snapshot
- Incremental Trace
- RFC 8200 compliant → IPv6-in-IPv6
  - IOAM data leak (overlapping tunnels)
  - IOAM data not inserted (nested tunnels)
  - Dynamic tunnel output resolution

Thanks !

https://github.com/iurmanj/kernel_ipv6_ioam

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