

draft-nexagon
LISP-H3 based Mobility Network
IETF 104
Sharon Barkai

<http://34.219.56.157/mot.html#nexagons&hexagons=10100&location=tlv&date=2019-03-19>

Mobility Networks

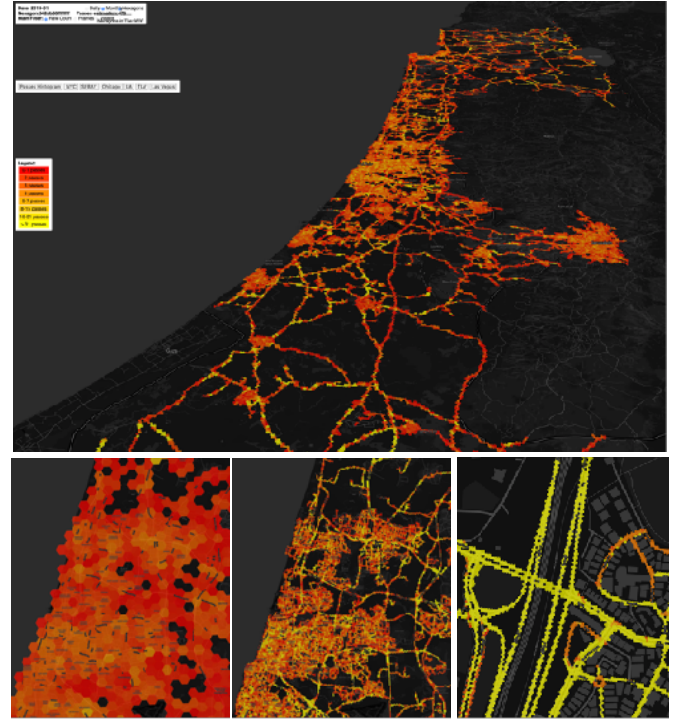
- Vehicle to Vehicle / Vehicle to Infrastructure
- Goal: share information while on shared road
- Facilitate safety and efficiency use-cases
- **Very slow** progress over the passed decade
- **Layer2 battles** between Wifi and Cellular
- Logical **interoperability-privacy challenges**



Sharing jittery GPS vectors not very valuable - Sharing deeper annotations interoperability nightmare

LISP-H3 Approach

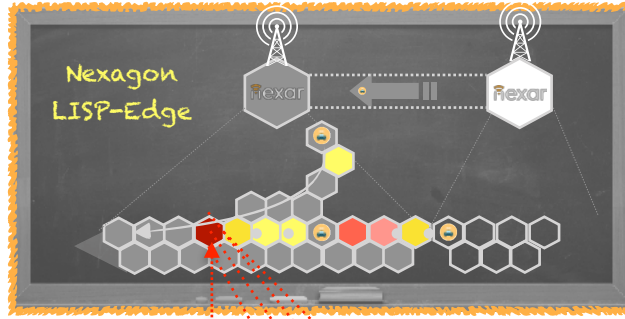
- Not share sensor (visual-lidar) data peer-to-peer
- Instead communicate through in-network state
- State of road (not cars) represented by H3 tiles
- EIDs (cars) communicate with HIDs (tiles)
- pXTRs use mapping to route between them
- EIDs publish-subscribe to HID ucast-mcast



LISP-Based Mobility-Network Indirection: Cars Ucast Tiles, Tiles Mcast Cars & Infrastructure



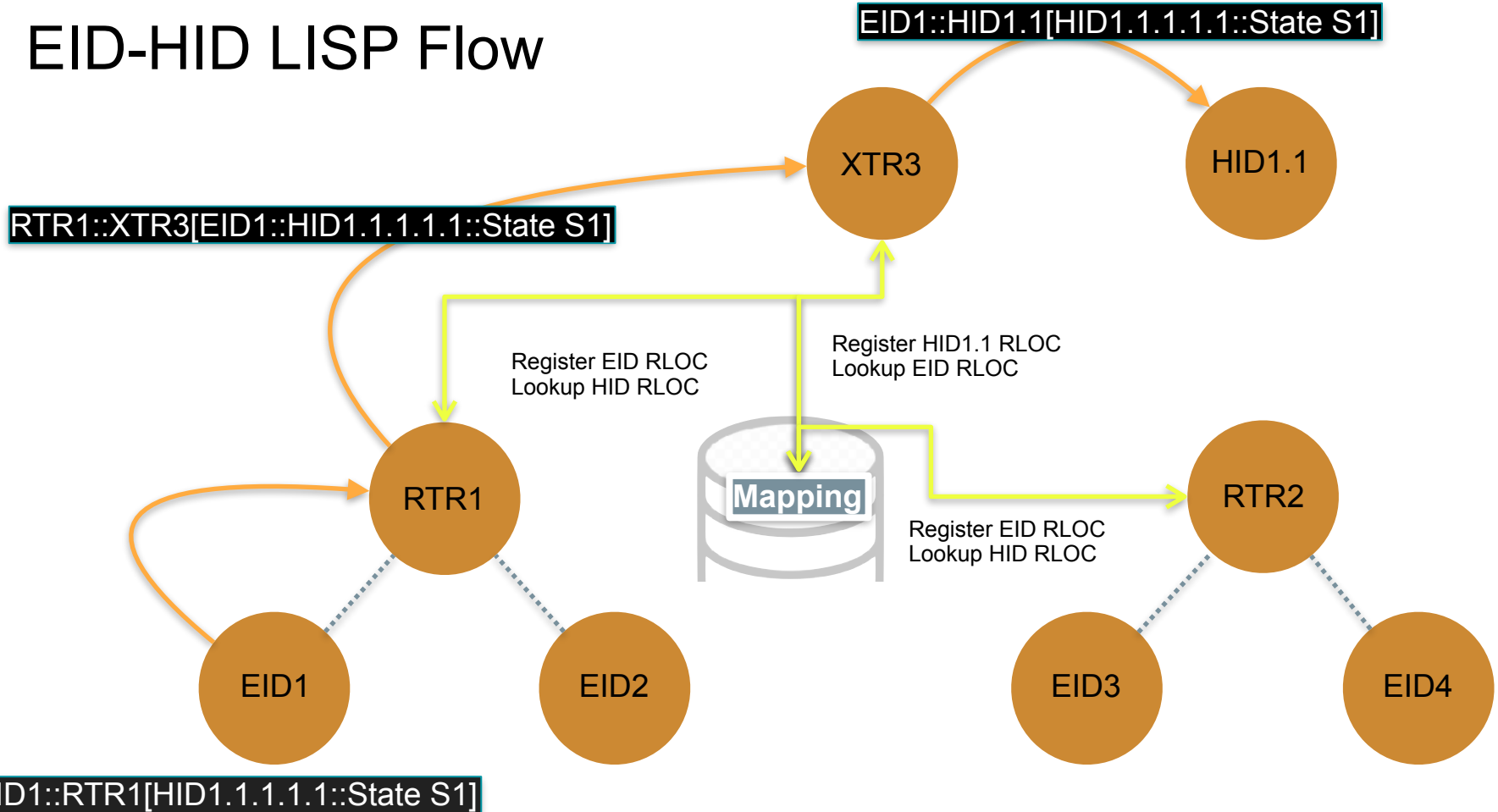
Publish>>



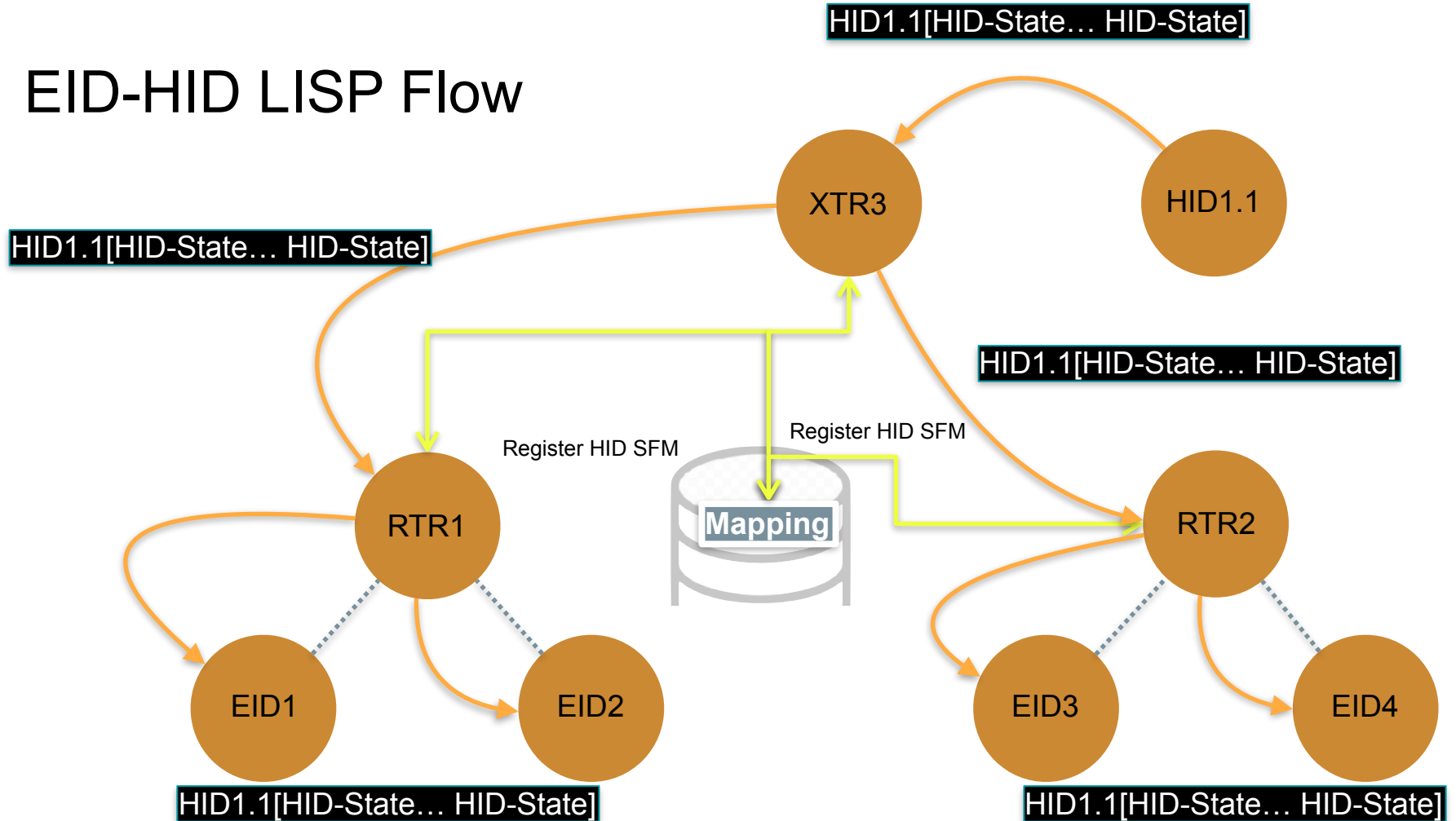
<<Subscribe



EID-HID LISP Flow

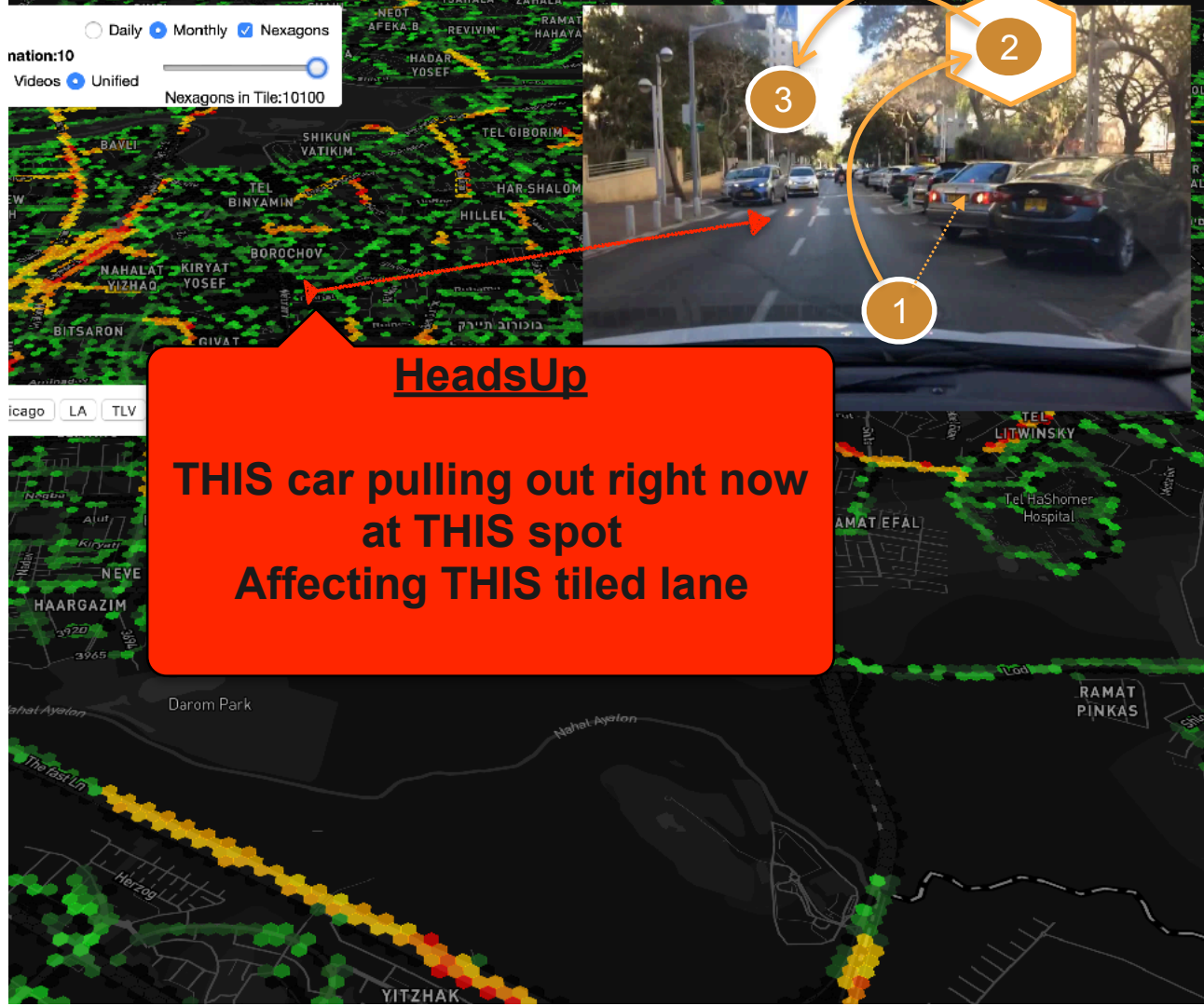


EID-HID LISP Flow



Example

- EID1 sees the problem
Car pulling out parking
- EID1 Ucasts HID2
- HID2 Mcasts EID3
- Shared Neural Vision
By simple indirection
Standard ID-CODEC
No peer-to-peer com

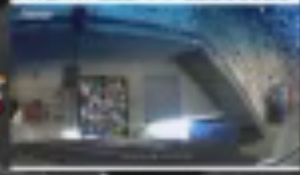




TL/MIN_INTERVAL:300SEC



INTERVAL_SAMPLE:300SEC



INTERVAL_SAMPLE:300SEC



RANDOM_SAMPLE:5.0MIN

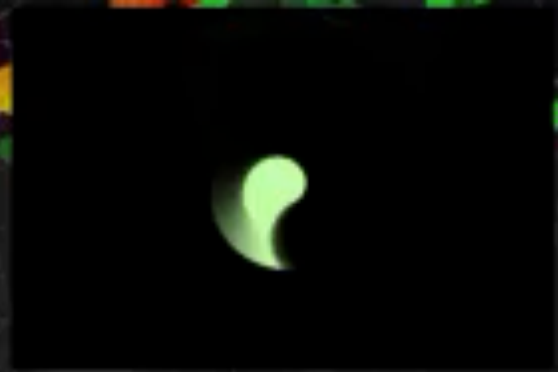


TL/MIN_INTERVAL:300SEC



Date: 2019-01 Daily by Month by Neighbors
Newspaper: 2019-01-01 Photos: estimation: 2019
Main Filter: News Count Frames Videos of Unfold Newspaper: The 11th

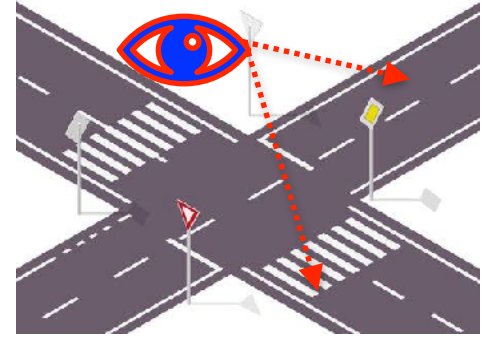
News Histogram: NYC SF&AT Chicago LA FL San Diego



Use Cases

- Sharing in-town annotations through tiles beyond line-of site
- Garbage trucks, unloading, double-park, jaywalkers
- Signage, markings, potholes, traffic-lights ..

- Sharing out-of-town annotations through tiles beyond bends
- Slow-downs, stopped-vehicles, responders, heavy-incoming
- Signage, markings, potholes, traffic-lights ..



Formal Tests

