

Addressing

A story of code, tests, and interrops

Adapted from the best selling novel:

draft-herbert-nvo3-ila-02

Starring:

Pierre *FD.io - Cisco*

Tom *draft author - Facebook*

Maciek *FD.io - Cisco*

Damjan *FD.io - Cisco*

Bill *Arbor Networks*

Wolfgang *DT*

Shwetha *FD.io - Cisco*

Ole *FD.io - Cisco*

Ignas *Equinix*

One unique show:

IETF 96 - Hackathon - 17th July 2016



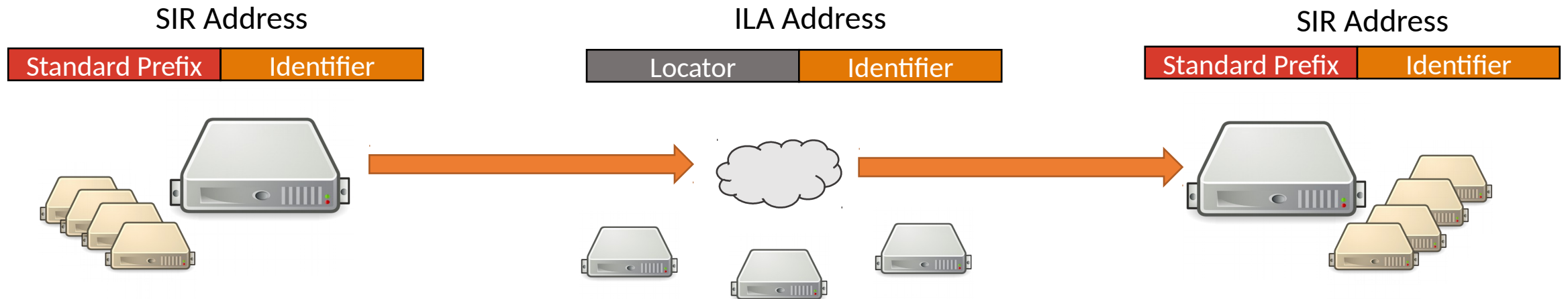
What the hell is ILA ?

« It builds on ILNP concepts (RFC 6740,6741,6115). But is not ILNP. » (Tom & Maciek)

IPv6 based

Provides host mobility

No tunnel

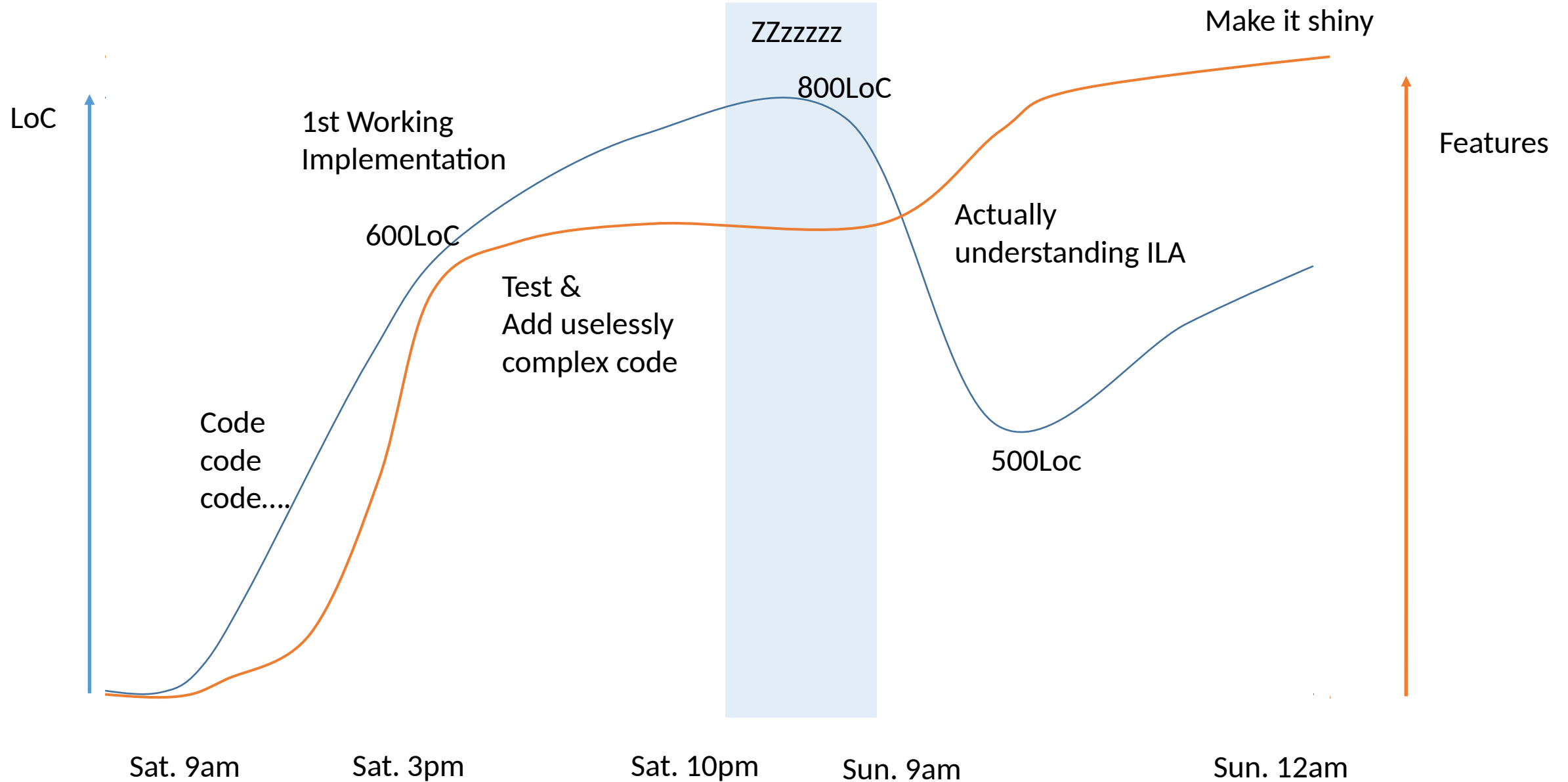


Implementation in VPP















- VPP = Vector Packet Processor
 - Part of FD.io Linux Foundation project
 - User-Space – Software-Based – DPDK Based – Router
 - <https://fd.io> - <https://git.fd.io> -
- For this Hackathon
 - ILA as a VPP Plugin
 - <https://github.com/vpp-dev/vpp/tree/ietf96>
 - <https://gerrit.fd.io/>-- Patch being reviewed for upstream

The Story



Implemented Features

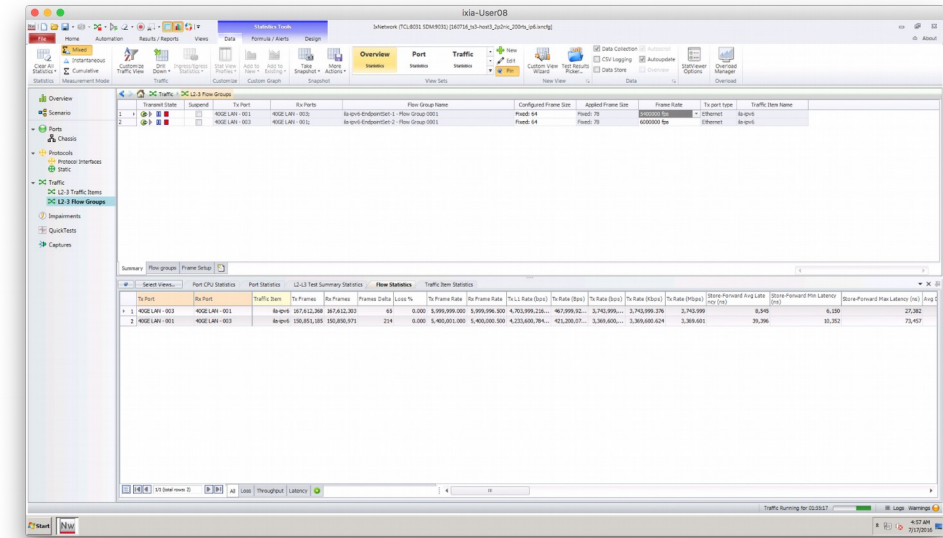
	Reference Linux	VPP
ILA basics		
Neutral Checksum		
Transport Checksum		
ILA UUID / LUID		
ILA Virtual Networks		
ILA IPv4		 To Be Tested

Performances

Tested with IXIA and DPDK-Pktgen

ILA to SIR: 8Mpps per core

SIR to ILA: 5Mpps per core



```

Kts/s Max/Rx : <UP-10000-FD> <UP-10000-FD> 0/0
Max/Tx : P---p-----:0 P---p-----:1 0/0
Mbits/s Rx/Tx : <UP-10000-FD> <UP-10000-FD> 0/0
Broadcast : 2711836/2711749 4400128/2711655 5423616/5423404
Multicast : 9191068/9191003 9191015/9191015 18382018/18382018
64 Bytes : 2863/9705 2863/9705 5727/19411
65-127 queue length should be close 0 0
128-255 queue length should be close 0 0
256-511 : 0 0
512-1023 : 0 0
1024-1518 : 0 0
Runt/Jumbos : 0 0
Errors Rx/Tx : 0 0
Total Rx Pkts : 0/0 0/0
Tx Pkts : 0/0 0/0
Rx MBs : 0/0 0/0
Tx MBs : 0/0 0/0
ARP/ICMP Pkts : 77410665 66208819
Pattern Type : 81745 69916
Tx Count/% Rate : 0/0 0/0
PktSize/Tx Burst : 64 / 32 64 / 32
Src/Dst Port : 1234 / 5678 1234 / 5678
Pkt Type/VLAN ID : IPv4 / TCP:0001 IPv4 / TCP:0001
Dst IP Address : 192.168.1.1 192.168.0.1
Src IP Address : 192.168.0.1/24 192.168.1.1/24
Dst MAC Address : 90:e2:ba:83:c9:25 90:e2:ba:83:c9:24
Src MAC Address : 90:e2:ba:83:c9:24 90:e2:ba:83:c9:25
Pktgen> n Ver: 3.0.00 (DPDK 16.04.0) Powered by Intel® DPDK
Pktgen> start 0
Pktgen> start 1
Pktgen>
```

Interoperability



VPP as an ILA router



Implementation Feedback for nvo3

ILA:

- Works

- Is easy to implement

- Is fast

Tom is a nice guy

Some nits in the draft:

- Ambiguity around the C bit

- Some configuration and data model for implementation would help

Thanks !