

LISP & LISPmob

Overview and use cases

ALBERTO RODRIGUEZ-NATAL

ARNATAL@AC.UPC.EDU

Questions

- ▶ Who has heard about LISP?
 - ▶ ... and knows a use case other than routing scalability?
- ▶ Who has heard about LISPmob?
 - ▶ ... and is already using it?

Intro

Use cases

LiSP

LISP 101

- ▶ Locator/Identifier Separation Protocol
 - ▶ RFC 6830
- ▶ Two disjoint namespaces
 - ▶ Endpoint Identifiers (EIDs)
 - ▶ Routing Locators (RLOCs)
- ▶ Map-and-encap approach

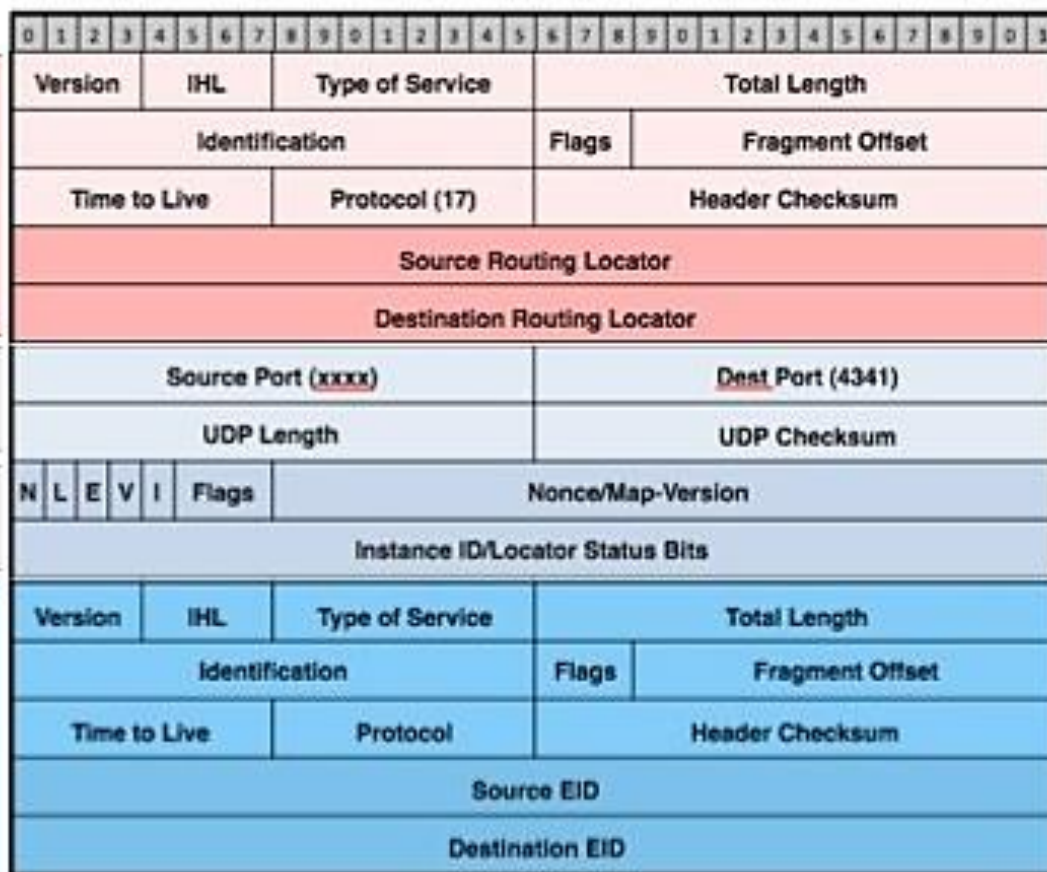
LISP encapsulation

IPv4 Outer Header:
Router supplies
RLOCs

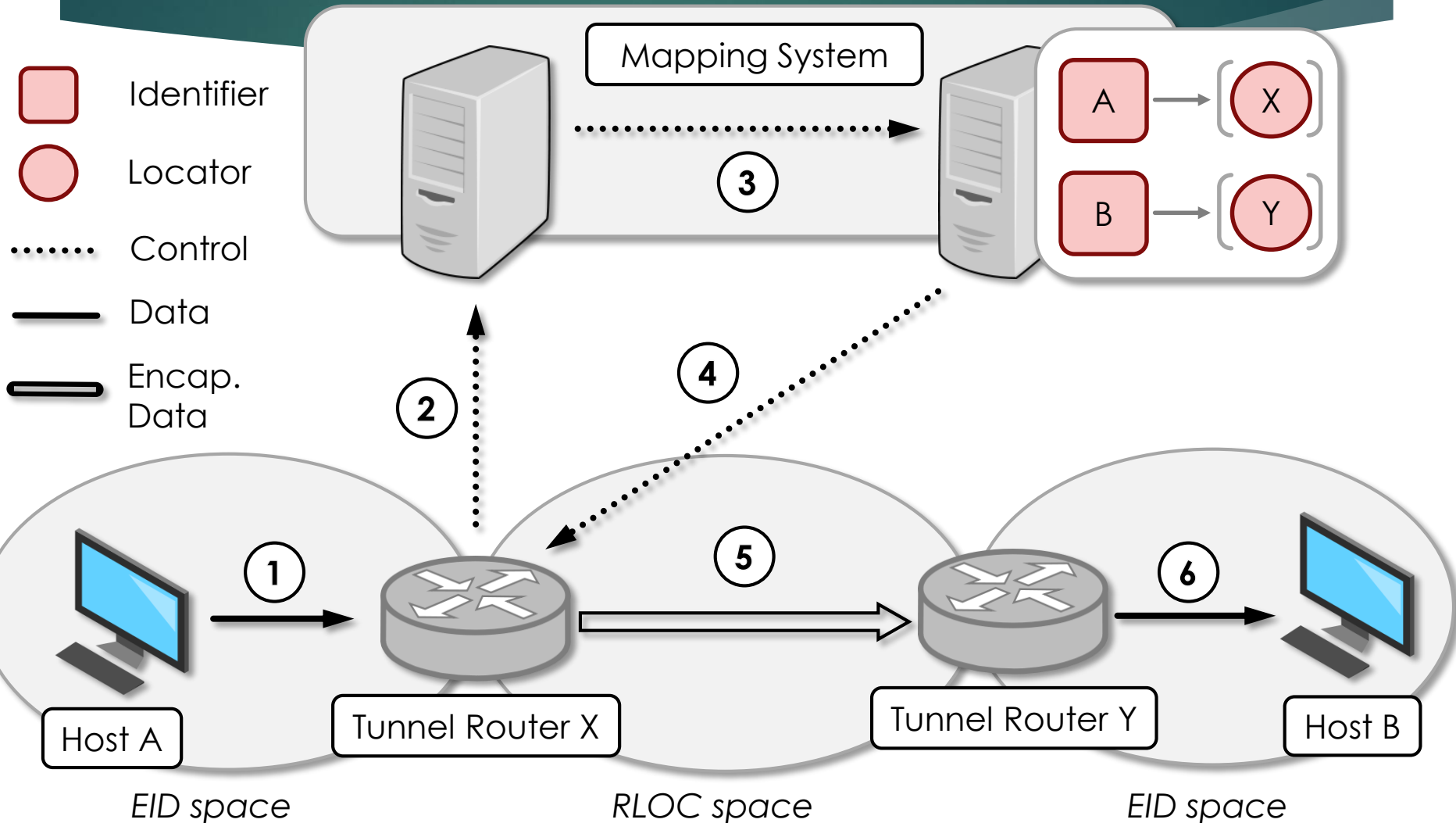
UDP

LISP
header

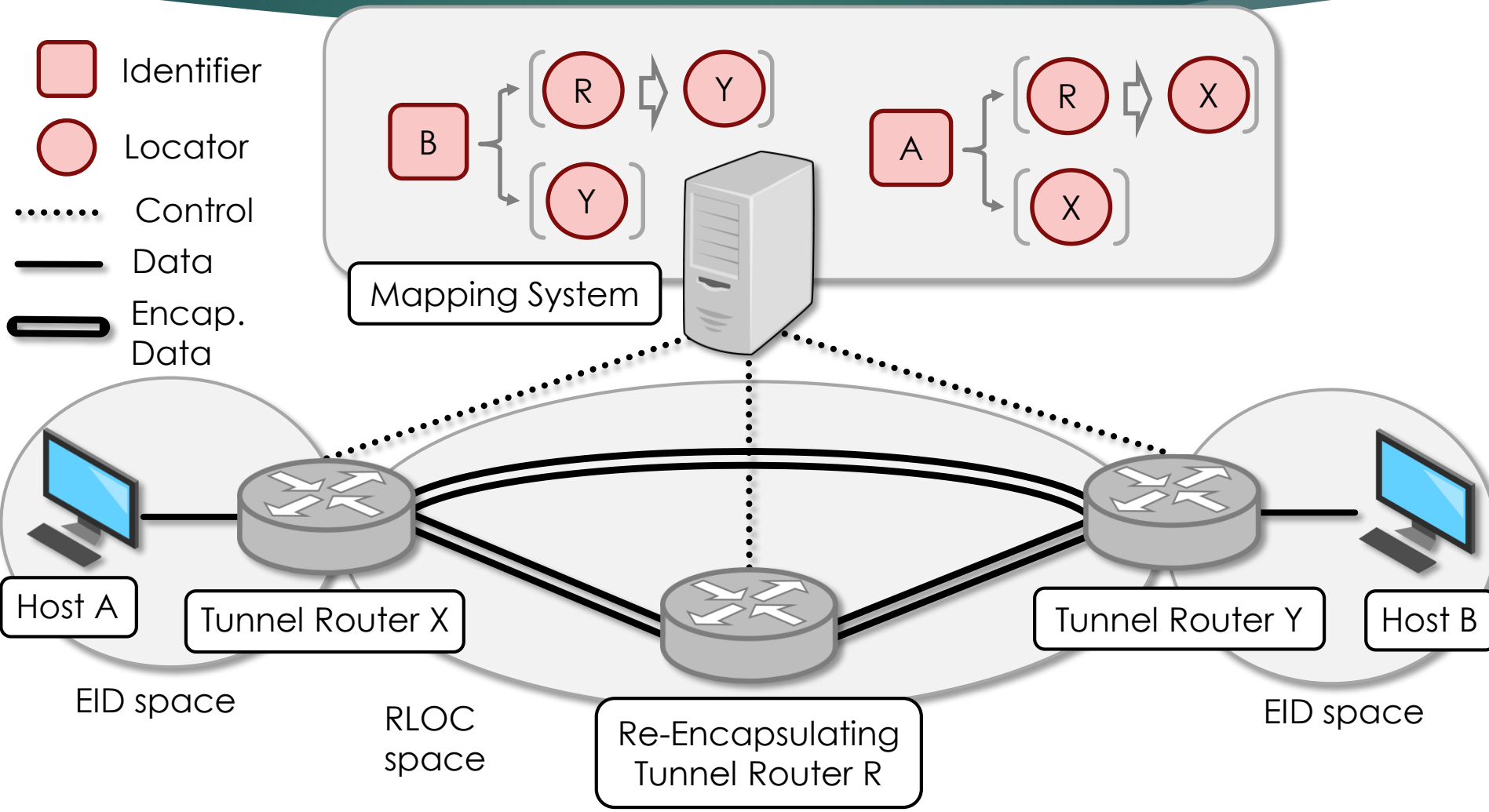
IPv4 Inner Header:
Host supplies
EIDs



LISP architecture at a glance



Traffic Engineering



Use cases

- ▶ Multihoming
- ▶ IPv4-IPv6 co-existence
- ▶ VPNs
- ▶ VM mobility

Future

- ▶ Software Defined Networks
- ▶ Network Function Virtualization
- ▶ Service Function Chaining



Intro

Architecture

Features

Use cases

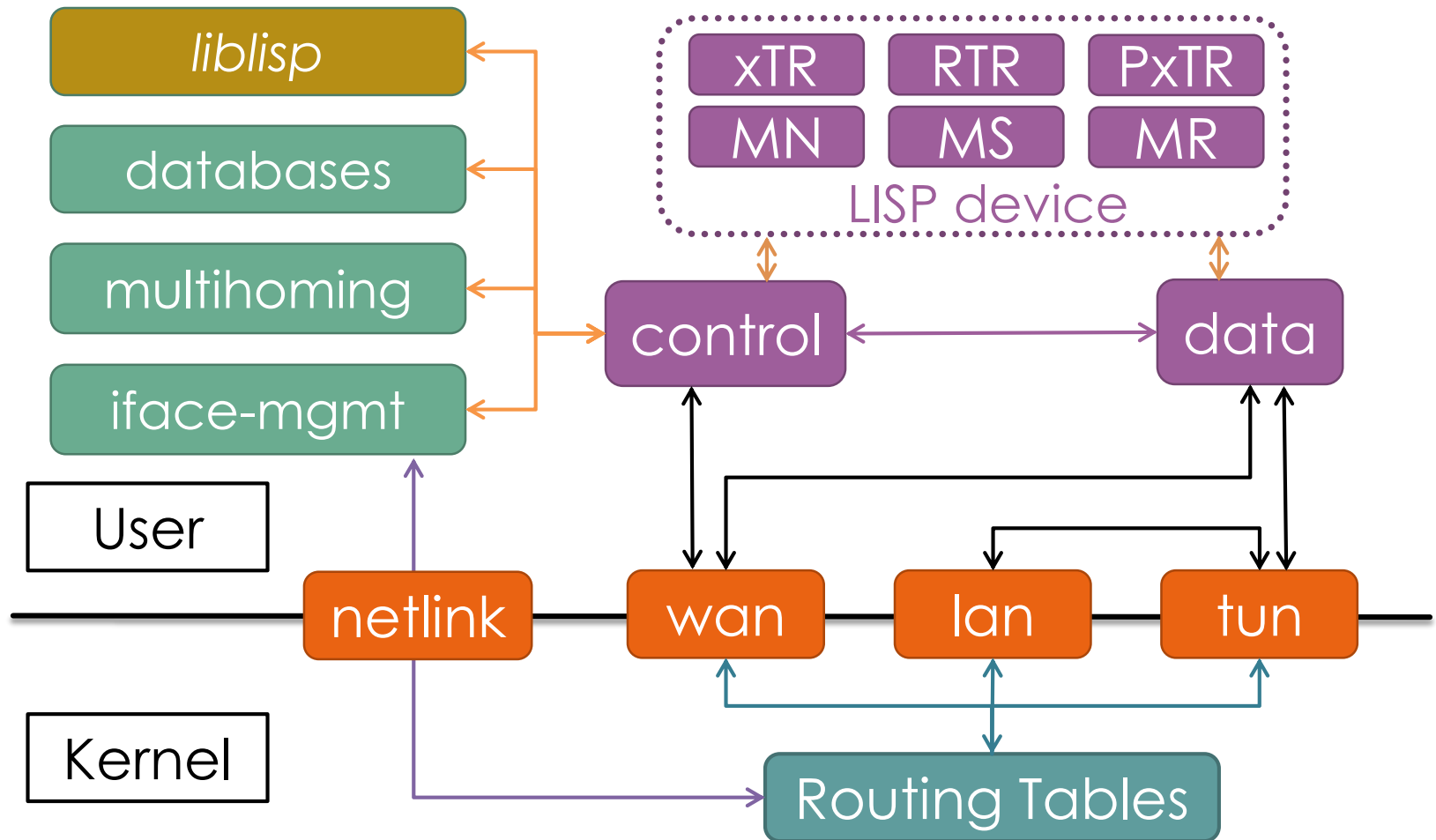
LISPmob

What is LISPmob?

- ▶ LISP open-source implementation
 - ▶ Linux, Android, OpenWrt
- ▶ Full featured implementation
 - ▶ With focus on home xTRs and MNs
- ▶ Growing community
 - ▶ Individuals/companies/academia
- ▶ Since 2011 in active development



LISPmob internals



Features

- ▶ Implementing RFC6830 & companions
- ▶ Full IPv4/IPv6 support
- ▶ Interface management
 - ▶ Handovers
- ▶ Multihoming
 - ▶ Active-Backup / Active-Active
 - ▶ Ingress & Egress Traffic balancing
- ▶ NAT traversal

Use cases: end users

- ▶ IPv6 over IPv4
 - ▶ ...and sometimes the other way around
- ▶ Home multihoming
 - ▶ Two DSL lines

Use cases: industry/academia

- ▶ To learn and prototype
 - ▶ LISP proof-of-concept deployments
- ▶ Easy LISP provision
 - ▶ Plug'n'Play LISP boxes (OpenWrt+LISPmob)
- ▶ Research
 - ▶ LISPmob as a framework

Future

- ▶ Improved configuration
 - ▶ NETCONF & YANG
- ▶ Performance
 - ▶ Intel DPDK
- ▶ Beyond IP
 - ▶ Layer 2 support

Try it!

- ▶ Visit the webpage
 - ▶ <http://lispmob.org>
- ▶ Check out the code
 - ▶ <https://github.com/LISPmob/lispmob>
- ▶ Connect to the LISP beta-network
 - ▶ Fill the form at <http://lispmob.org/contact>
- ▶ Get the binaries

