

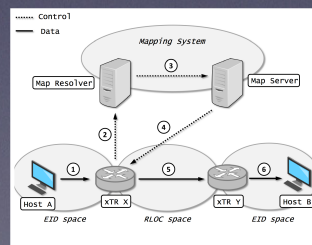
LISP EID Mobility

*LISP Working Group - Berlin IETF
July 2016*

*Dino Farinacci, David Meyer, Darrel Lewis, Chris White,
Marc Portoles Comeras, Vrushali Ashtaputre, Victor Moreno, Fabio Maino
Padma Pillay-Esnault*

Agenda

- Why LISP Solves the Mobility Problem
- There are Two Forms of Separation
- Handoffs with Near-0 Packet Loss
- Should we do a 1 slide/minute LISP Overview?



Really Only 3 Ways

- Host Routes
- Notion of Home
- Locator/ID Separation

Host Routes

- A non-starter
 - You want to move fast and talk to anyone
 - You can't send routes around the entire Internet fast enough
 - There will simply be too much state
 - There will be policy restrictions in accepting host routes
 - Multi-homing causes even more state!

Notion of Home

- If you are moving around, there is no home location
 - Why are we trying to force a “home subnet”
 - Conventional wisdom says triangle routing is not going to work
 - How does multi-homing work when you have multiple homes?
 - You roam to a high bandwidth location but your home location is slow!

Locator/ID Separation

- Is the only solution where you keep the moving entity's address fixed (an EID)
- And the location changes when you “(re)attach” to the network (an RLOC)
- The moving entity has a **single** address (an EID)
- The EID can be multi-homed (with an RLOC-set)
- You will always get shortest paths to RLOCs and the routing system does not know anything about EIDs (a feature)

2 Forms of Separation

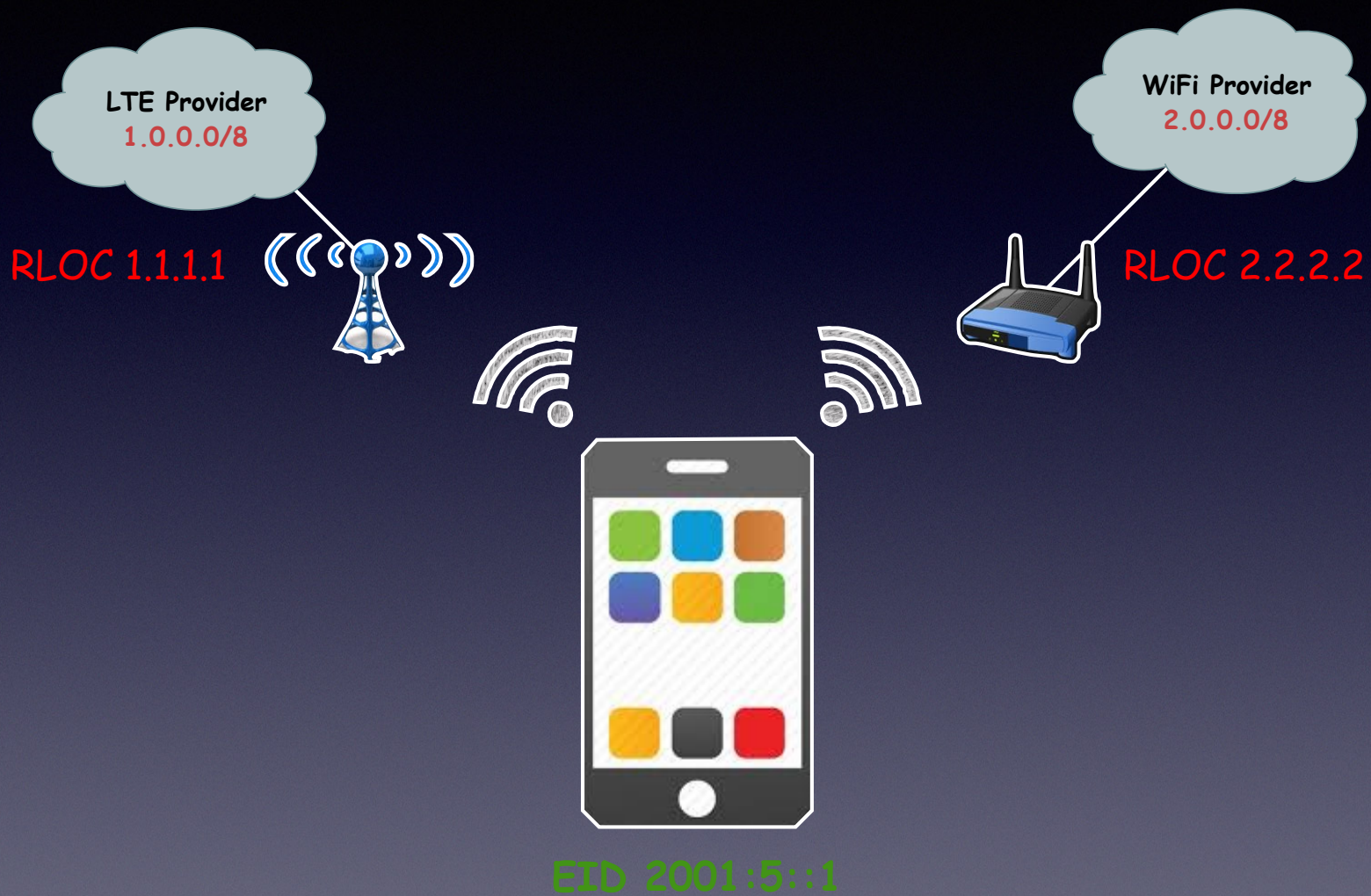
- The EID and RLOC-set are co-located in same moving entity
 - `draft-meyer-lisp-mn-15`
- The EID is the moving entity and the RLOC is a stationary network node
 - `draft-portoles-lisp-eid-mobility-00`

draft-meyer-lisp-mn-15



LISP Mobile Node

draft-portoles-lisp-eid-mobility-00



EID Mobility

draft-portoles-lisp-eid-mobility-00

- An EID is assigned to:
 - Mobile Device
 - Roaming Service or Application
 - VM or Container
- An RLOC is assigned to:
 - Base-Station (eNodeB, WiFi AP, RSU, etc)
 - Top-of-Rack Switch in Data Center
 - Edge Router in Data Center
 - CPE Router in Branch Office
 - Virtual Router close to the Application

draft-portoles-lisp-eid-mobility-00

- EID is discovered dynamically by LISP xTR(s)
- Registers EID-to-RLOC-set to LISP Mapping Database
- Informs encapsulators to get new mapping

LISP Predictive RLOCs

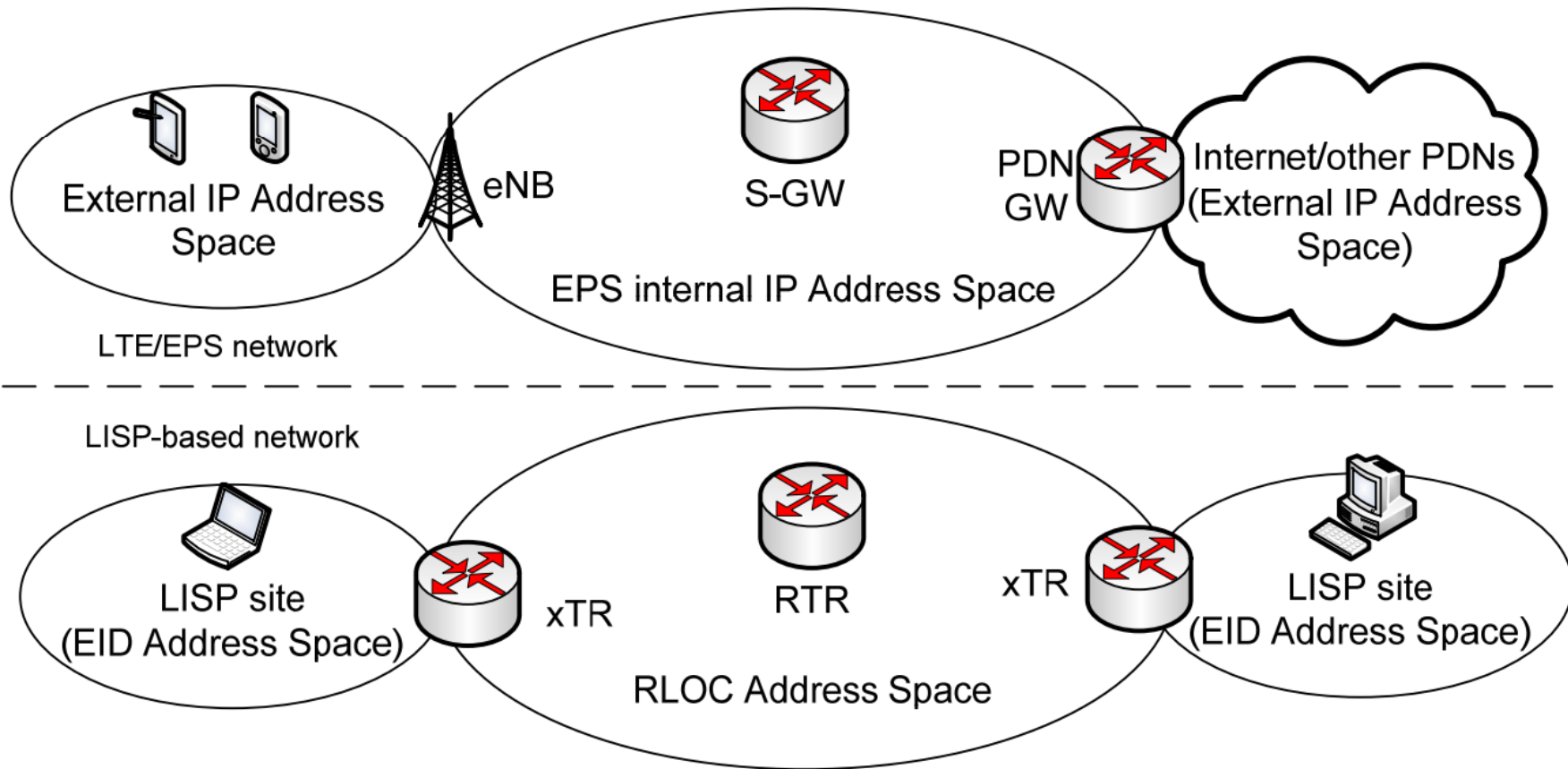
- If you know what direction you are going ...
 - You can “make-before-break”
 - Encapsulate to all the future RLOCs in a directional path
 - Later stop encapsulating to the past RLOCs
 - The RLOC that has EID attached delivers packet
 - Near Zero Packet Loss

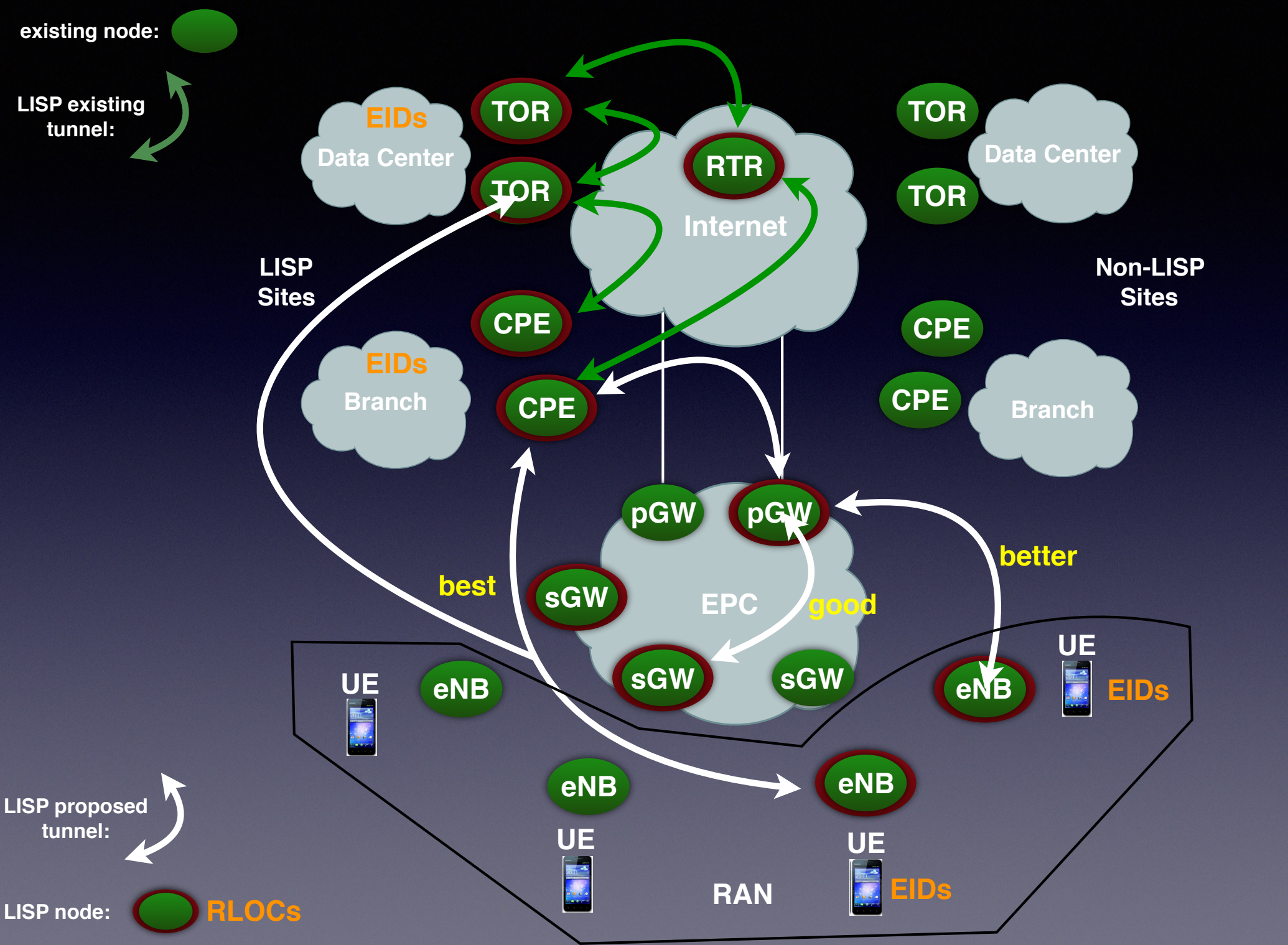
`draft-farinacci-lisp-predictive-rlocs-00`

Questions/Comments/Tomatoes?



Backup Slide
(for discussion)





..... Control

LISP At-a-Glance (circa 2007)

— Data

