IETF-69 Autoconf WG

Prefix Distribution Framework for Connected MANETs

Kenichi Mase, Niigata University, Japan

July , 2007

Niigata University

Problem Statement and Motivation

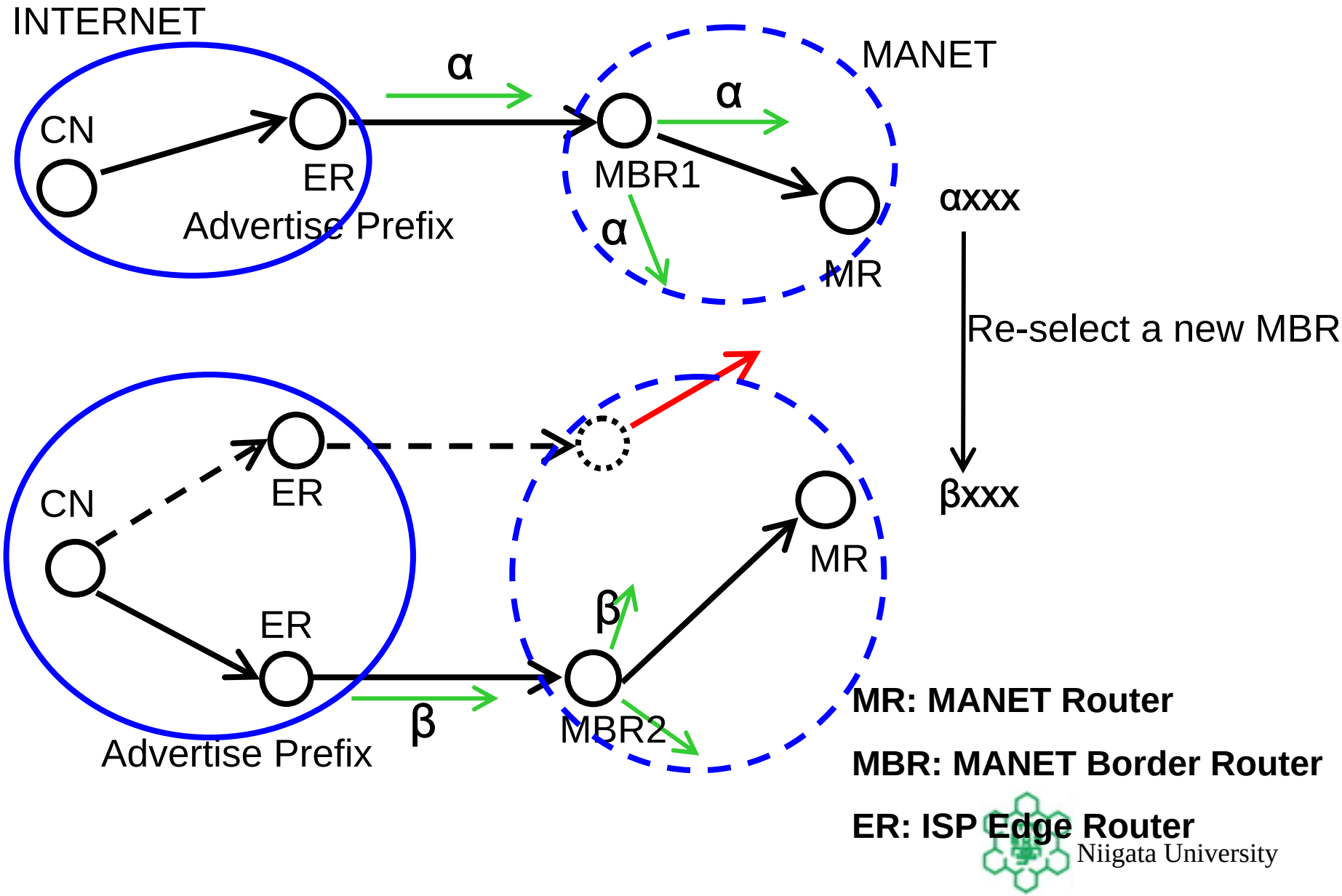
- Consider a MANET connected to the Internet via multiple MANET Border Routers (MBRs).
- A MANET Router selects one among multiple available MBRs for communication with a remote host in the Internet.

  → Configure a global address using a topologically correct prefix advertised through the selected MBR.
- Prefix distribution mechanism is required for MANET routers to configure a global address using an appropriate prefix.
- Who advertises prefix? MBRs? Edge routers? Others?
- How to minimize route reconstruction time when address change occurs?
- How to avoid address change?

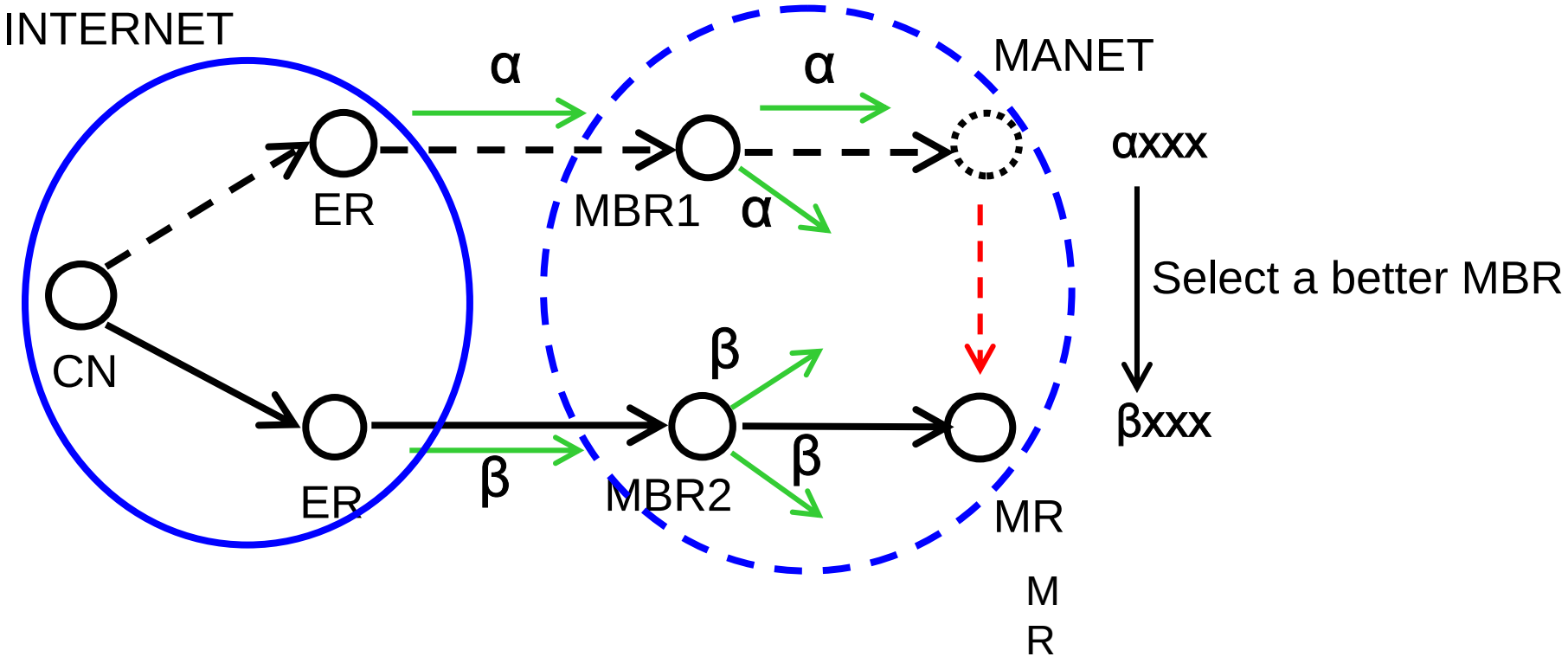
Two approaches for prefix distribution

- Individual prefix distribution
- Common prefix distribution

Individual Prefix Distribution Scheme
(Case Ⅰ: The selected MBR leaves)

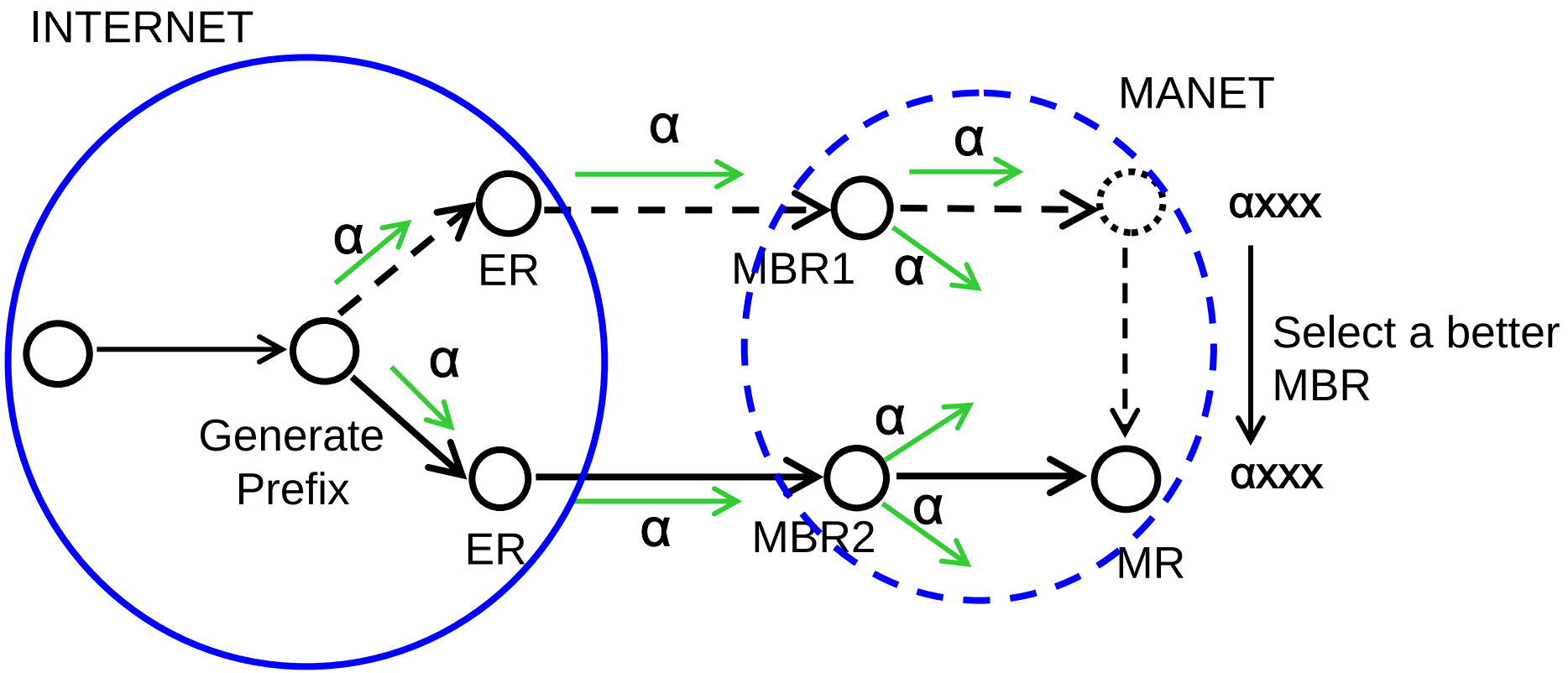


Individual Prefix Distribution Scheme
(Case Ⅱ:A MANET router roams)



Niigata University

Common Prefix Distribution Scheme



Niigata University

Classification of the proposed methods

(1) Individual Prefix Distribution

- draft-wakikawa-manet-globalv6-05
- draft-jelger-manet-gateway-autoconf-v6-02
- draft-ruffino-manet-autoconf-multigw-01
- draft-hofmann-autoconf-mran-00

(2) Common Prefix Distribution

- draft-mase-autoconf-gap-00
- draft-templin-autoconf-dhcp-07

Prefix Distribution Schemes for Connected MANETS

	Address Change	Route Reconstruction In MANET	Remarks
Individual Prefix Distribution	Yes	Yes	Route reconstruction can be suppressed using - Multiple address advertisement - MANET-local address-based routing
Common Prefix Distribution	No	No	Mobility Anchor Point, fixedly or dynamically configured, may be necessary.

Next steps

- A new Internet draft, entitled “Prefix distribution framework for connected MANETs”, will be submitted soon.
- Feedback is welcome.