

## Mobile-IP Enhancements

M. C. Chuah ([chuahlucent.com](mailto:chuahlucent.com))

Bell Labs

Holmdel NJ 07733

## Outline

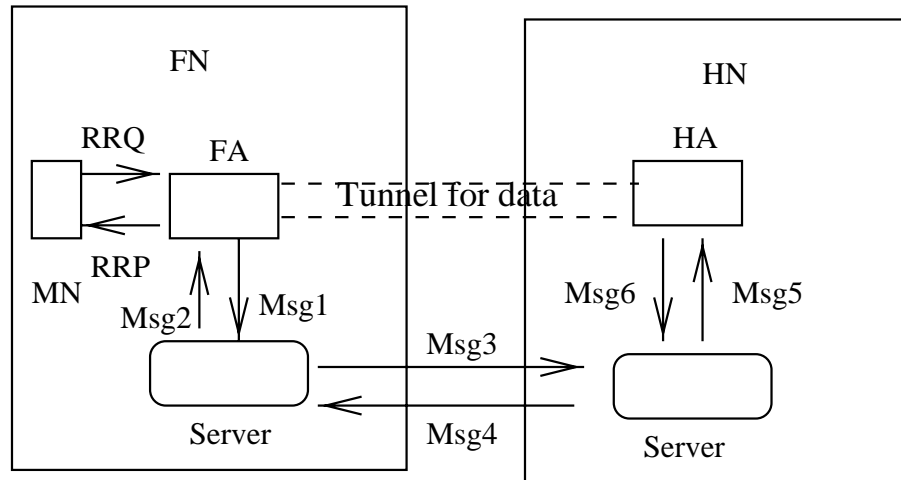
- History of DREMIP
- Features of Generic Mobile IP
- Enhanced Features
- Performance/Implementation Experience



## History of DREMIP

- first draft submitted in April,1997
- revised draft submitted in Aug, 1997, presented in Munich, Germany by Milo Orsic
- two implementations: Bell Labs, Malaysia Multimedia University

# Generic Mobile IP I



FN: Foreign Network

HN: Home Network

Msg1: RRQ (DREMIP), AAA Access Request (Client/Server)

Msg2: RRP (DREMIP), AAA Access Reply (Client/Server)

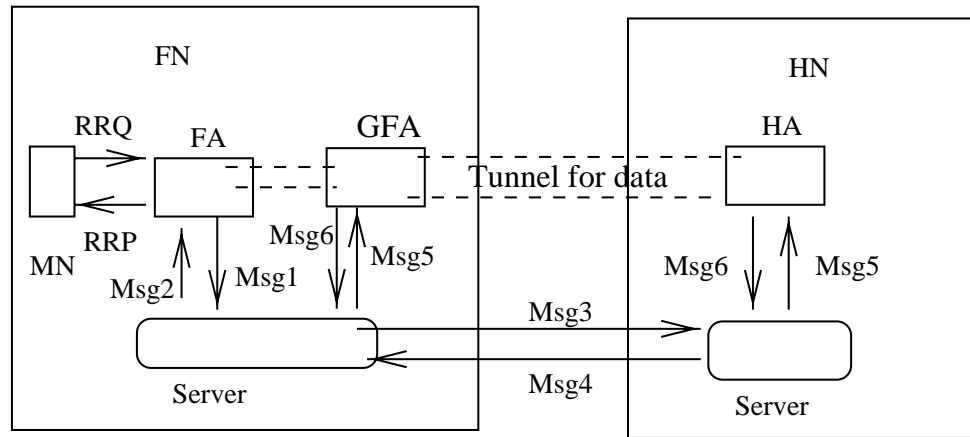
Msg3: RRQ (DREMIP), AAA Access Request (Server/Server)

Msg4: RRP (DREMIP), AAA Access Reply (Server/Server)

Msg5: Route Req (DREMIP), AAA Tunnel Setup Request (Server/Client)

Msg6: Route Reply (DREMIP), AAA Tunnel Setup Response (Server/Client)

## Generic Mobile IP II



FN: Foreign Network

HN: Home Network

GFA: Care of Agent (DREMIP), Gateway FA

Msg1: RRQ (DREMIP), AAA Access Request (Client/Server)

Msg2: RRP (DREMIP), AAA Access Reply (Client/Server)

Msg3: RRQ (DREMIP), AAA Access Request (Server/Server)

Msg4: RRP (DREMIP), AAA Access Reply (Server/Server)

Msg5: Route Req (DREMIP), AAA Tunnel Setup Request (Server/Client)

Msg6: Route Reply (DREMIP), AAA Tunnel Setup Response (Server/Client)

## Enhanced Features

- can be enhanced to work with MIPv6.
- coupled with Mobile L2TP can provide wireless dialup private network access services.
- can provide QoS support.
- enhanced features to be described in an upcoming draft.
- interested party can contact me for details.

## Performance Comparison

- Assume 30% is local movement in foreign site
- Assume Refresh Frequency (RF) of 1.0/unit time
- Assume Local Movement Frequency (LMF) ranging from 0.05 to 0.5/unit time
- Assume Packet Loss Rate of 1, 5, and 10%
- Original Registration Time  $(1+k)*(1+p)$  where k is the ratio of the transit time between FA/FRS and FRS/HRS, p is the packet loss rate
- DREMIP Registration Time  
 $(RF*(1+k*(1+p))+(1+p)*k*LMF)/(RF+LMF)$

# Improvement in Registration Latency

