

# KAME Mobile IPv6 (MIPv6) current status and future plan

---

IIJ Research Laboratory

Keiichi SHIMA <keiichi@ij.ad.jp>

# Topics

---

- ▷ Problems
- ▷ Goals
- ▷ KAME MIP6 Design
- ▷ Current Status of KAME MIP6
- ▷ Open Issues
- ▷ Todo
- ▷ Releasing Plan

# Problems

---

- ▷ **General Problem of MIP6**
  - ▷ Authentication
  - ▷ Extension header
    - ▷ Ordering, Conflicting
  
- ▷ **KAME MIP6 related problems**
  - ▷ Different 3 implementations based on KAME
    - ▷ Ericsson (integrated before, removed now)
    - ▷ Keio University
    - ▷ NEC
  - ▷ No maintainer

# Goals

---

- ▷ Provide a single MIP6 base stack with KAME
- ▷ Provide an easy way for authentication
- ▷ Merge into \*BSD
- ▷ Keep stable/up-to-date as possible
- ▷ Continuous maintainance by the KAME team

# KAME MIP6 Design

---

- ▷ Heterogeneous network support with a virtual interface
  - ▷ Use the best coa while away from home
- ▷ Multiple Home Links support
  - ▷ Utilize their home network resources
  - ▷ Reduce communication latency and bandwidth consumption

# Current Status (1/3)

---

- ▷ MN functions
  - ▷ Movement detection
  - ▷ Binding Update List Management
    - ▷ Home (un)registration
    - ▷ Send BU, Recv BA (no authentication)
    - ▷ Recv BR
  - ▷ Dynamic Home Agent Discovery Request
    - ▷ (MN side only)

# Current Status (2/3)

---

- ▷ **CN functions**
  - ▷ Binding Cache Management
    - ▷ Recv BU (no authentication)
  - ▷ Route optimization
    - ▷ Add RTHDR when output

# Current Status (3/3)

---

- ▷ HA functions
  - ▷ Home (un)registration
    - ▷ Proxy ND
    - ▷ Packet intercept and encapsulate to MN



# Open Issues

---

- ▷ Authentication
    - ▷ IKE + IPSEC ?
    - ▷ AuthData (like draft-14) ?
    - ▷ Some other methods ?
  - ▷ Recommended IPv6 extension header order breakage
    - ▷ |IP|HBH|DST1|RTHDR|FRAG|AH|ESP|DST2|
    - ▷ HA destopt must be after RTHDR before FRAG
    - ▷ ADVAPI(RFC2292, 2292bis) cannot handle this
- => Seems solved. ADVAPI is under revising

# Todo

---

- ▷ Complete coding according to draft-14 (or later)
- ▷ Produce an easy key management mechanism (to create a SA)

# Releasing Plan

---

current the very alpha version of  
MIP6 code has been merged  
into KAME snap

2001 summer complete coding based on  
draft-14

2001 fall distribute with KAME

2002 sometime merge into \*BSD

# KAME MIP6 Information

---

- ▷ KAME MIP6 contact point  
KAME snap-users mailing list  
<snap-users@kame.net>
  
- ▷ KAME Project (General Information)  
<http://www.kame.net/>