InfraHIP2

Miika Komu <miika@iki.fi>
Helsinki Institute for Information Tech.
Helsinki University of Technology

IETF70 Vancouver
6.12.2007

InfraHIP2 Research Goals

- Deploy HIP
  - Attract more users
  - Software and usability enhancements
  - Some protocol hacks / extensions
  - Adapt HIP to different network environments
- Test HIP with different networking applications and systems
  - VPN / Mobile IP compatibility
  - Referral issues
  - Unmodified legacy hosts

Work In Progress

- Test HIP with more applications
- Popularize HIP
  - Linux distros
  - Articles, book, etc
- Bugfixes, releases
- Impl. features
  - Userspace IPsec
  - LSI support

- E2E NAT traversal
- DNS and HIP proxy
- TCP option
- API standards
- Multihoming for fault tolerance
- Hardware integration

Status of HIP for Linux (HIPL)

- Binaries for Ubuntu and Fedora

- Supports both IPv4 and IPv6 apps

- Minimally intrusive: HIP-enable applications at..

  – Application level

  – User level

  – System level

- GPL licence

- Developer support

- Base exchange

  – Opportunistic mode

- Mobility

  – Interfamily support

- Rendezvous

- Client-only NAT traversal

- Hi3 support

- OpenDHT support

- Firewall

- Graphical UI

- Firefox plugin

BEET IPsec Mode for Linux

- Half of the BEET patch included in 2.6.19 vanilla linux kernel by Diego Beltrami

- The remainer of the BEET patch is not included yet in vanilla kernel yet

  – Joakim Koskela has been adjusting the patch based on linux netdev comments

  – BEET patches available up to 2.6.23

  – 2.6.25 includes radical changes to IPsec which delays contribution of the remaining patch

- Userspace IPsec is work in progress

- BEET patches for Symbian from Nokia

Some Tested Applications

- Sendmail + spam assassin
- Apache2 + proxy
- Firefox
- Gaim
- Mplayer
- Vlc
- Icecast2

- OpenSSH
- Telnet
- Tcpdump / ethereal
- Iperf
- Ping6
- Nc6
- OpenLDAP
- MiniSIP
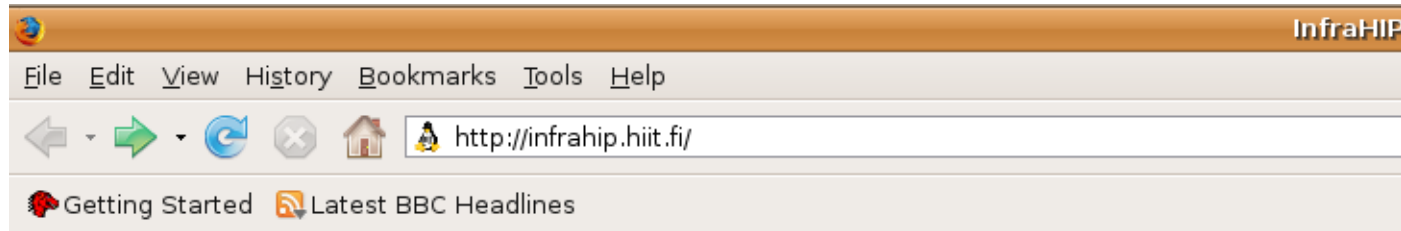
Questions?

A List of Contributors

- Joakim Koskela
- Samu Varjonen
- Diego Beltrami
- Mika Kousa
- Janne Lundberg
- Alberto Garcia
- Andrey Lukuanenko
- Tobias Heer
- Laura Takkinen
- Janne Lindqvist
- Catharina Candolin
- Bing Zhou
- Kristiina Karvonen
- Anthony D. Joseph
- Oleg Ponomarev

- Kamran Yaqub
- Jai Kumar
- Andrey Khurri
- Juha-Matti Tapio
- Teemu Koponen
- Miika Komu
- Niklas Karlsson
- Andrei Gurtov
- Abhinav Pathak
- Lauri Silvennoinen
- Antti Partanen
- Anu Markkola
- Kristian Slavov
- Antti Louko
- Essi Vehmersalo