Host Identity Protocol Related Research

(A working name, better ones called for. Maybe
SPLIT: Separating Protocol Locator and Identifier Tags)

Monday, March 1 2004, 1930-2200
IETF59, Lotte Hotel, Seoul

Agenda bashing

1930	Agenda bashing	Chairs
1935	RG background & Status	Chairs & Vern
1945	HIP related research elsewhere	Pekka Nikander
2000	HIP proxy service	Lars Eggert
2015	NAT problem statement	Jürgen Quittek
2030	LHIP or delayed state setup	Pekka Nikander
2045	SLAP / CELP	Dave Crocker
2115	Referrals problem statement	Pekka Nikander
2135	Some thoughts on HIP rendezvous	Tim Shepard
2145	Summary & steps forward	Chairs

RG background

- HIP BOF at Minneapolis was a success
- IESG wanted to charter a short term, focused working group
  - Infrastructure bits for experimentation
- Longer term work pushed to a RG
- IAB still discussing the charter

HIP Research in the IRTF
## Vern Paxson (IRTF chair)

- High-level IETF strategy for developing ID/locator split architecture not finalized ....

- .... but will be explored this week (IAB plenary)

- Three possible outcomes:
  - a Research Group specific to HIP
  - a more general ID/locator RG
    - which will include HIP research
  - both of these

- = HIP will soon have a home within the IRTF

HIP Related Research elsewhere

- DARPA NewArch project
- European Union 6th Framework projects
  - Ambient networks
  - Daidalos

NewArch

- Future Generation Internet Architecture

- USC ISI, MIT LCS, ICSI

- Braden, Clark, Shenker, ...

- Small design team approach
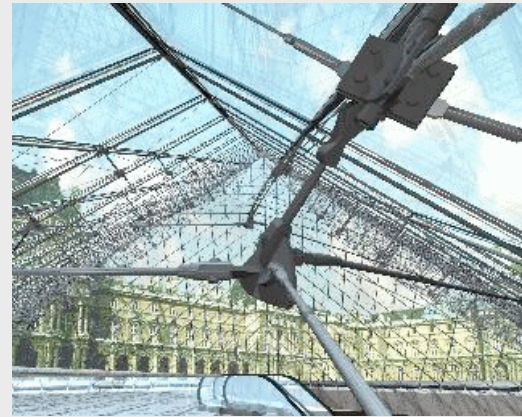
Ambient Networks

- European Union 6th Framework Project
- 6 years, 2004 being the first year
- Still working on scenarios and requirements
- Focusing on "IP based control plane" for B3G
  - A management overlay for managing network composition, basic & advanced mobility, etc.
- 45 partner organization
- http://www.ambient-networks.org/

Daidalos

- EU 6th FP, 11-2003 – 04-2006, 49 partners
- MIPv6 centric Mobility, AAA, QoS, Security
- Edge mobility, adhoc, mobile networks
- Uplink and Downlink separation (DVB, satellite)
- Creating a pervasive service platform
- Vertical and horizontal federations of providers, user profiles and privacy
- HIP issues in Daidalos: identity, mobility

What DAIDALOS might gain from a visible Locator / Identifier split

(Web) Services & Processes

… built in can support Web Services with …

- bootstrapping / key-enrollment
- subscriber certificates

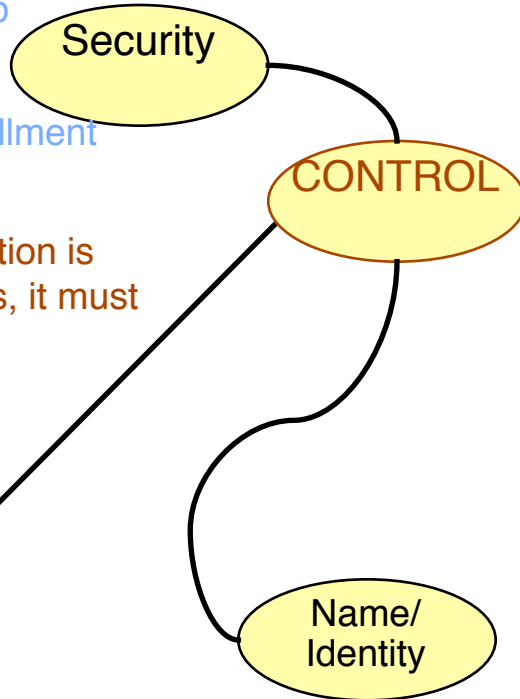BUT complete flow encryption is overkill in mobile scenarios, it must be adjustable

Security

CONTROL

Name/ Identity

Any Transport

Visible Glue/Handle

IP Layer

Layer 2

Physical

integrates a flexible embedded E2E Control Layer providing …
- more than only mobility / MIP
- flow identification/control becomes easier
- A4C improvements might be possible
- payload mechanisms (stamp ?, NSIS ?)
- secure IP Layer Heterogeneity (IPv4 and IPv6 interworking) might be realistic

… becomes an integral, flexible and tunable part in the architecture …
- existing and deployed key infrastructures (SIM/ USIM) could be integrated (DNSSEC is only one choice)
- What about the interworking with e.g. SIP ?
- Context sensitivity might be supported as integral part (e.g. AKAMAI structures build in, CDN-Content Delivery Networks, ..)
- flow specific personalization, QoS and filtering might be integrated easier in the scenarios
- trusted context-transfer possible

Summary and next steps

- There will be a Research Group
- Currently chartered goal:
  Give a recommendation to the IETF on the mechanism(s) for separating the identifier and locator nature of IP addresses
- Is this a useful approach?
- Are we working on the right problems?