

Status update on HIP deployment research

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Motivation

Significant effort has been put to develop HIP...

...but it has not been widely deployed.

- Why not?
- What are the chances that it happens one day?
- And how could we facilitate deployment?

Research question

- Why HIP has not been deployed yet?
 - Missing demand?
 - Weaknesses in technical design?
 - Disadvantages compared to substitutes?
 - Disincentives for key stakeholders?
 - Problems in standardization or implementations?
- Which are the primary reasons?
- Are suggested use cases relevant/feasible?

Research method: Expert interviews

- 15-20 interviews (of which 8 conducted)
- People with different backgrounds
 - Technology experts and business managers
 - HIP opponents and advocates
- Theoretical frameworks
 - Diffusion of Innovations theory (Rogers, 1983)
 - Internet standards adoption model (Hovav et al., 2004)
 - RFC 5218 – What makes for a successful protocol (Thaler & Aboba, 2008)

PRELIMINARY

Some reasons for non-deployment

- No demand (lack of real need)
 - No homegrown use case or killer app
 - Other (deployed) solutions available
- **Stack** change required in **both** ends
- Point solutions favored
 - Optimized to single problem and easier to deploy
- Many decision makers abandoned once
- No production level implementation available

cost
>
benefit

PRELIMINARY

What should happen that HIP would get deployed?

- External event to trigger, *e.g.*,
 - Increasing mobility & multihoming create use cases
 - People would get more interested in security
- Production level (commercial) implementation
 - Possibly co-deployed with attractive application
- HIP would find its niche
 - Company internal, governmental networks, health care, military...
- Some parts of HIP reused in other protocols

What next?

- Interview more people
 - In IETF 81 until Sunday – someone interested?
 - In Finland in August
- Transcribe notes and recordings
- Write an academic paper
- Ask for reviews (any volunteers here?)
- Present the results in IETF 82