Backwards Compatible API

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Terminology

- AID = Application Identifier
- ULP = Upper Layer Protocol
- EID = Endpoint Identifier
- Resolver
- Referral

API Specifications

- draft-ietf-hip-base-00.txt
  - informal
  - describes three APIs
- native HIP API
  - out of the scope in WG
  - better control of HIP layer

Some Design Considerations

- application uses HIP explicitly or transparently

- what is the AID
  - referral applications

- host/peer is HIP capable or incapable
  - fallback to IP addresses

Approach 1: Native API

- application is HIP aware

- AID = HI/HIT (or a reference to HI)

- the socket API has been extended

- application uses the extended socket API to gain a better control of the HIP layer

- more on this topic in the RG session tomorrow

Approach 2: Transparent API

- the application is unaware of HIP

- AID = HIT

- application maintainer configures the resolver to return HITs instead of IP addresses

- resolver sends HIT-IP mappings to the stack

- no changes to the application code

Approach 3: Referral API

- application is unaware of HIP

- AID = IP

- the userspace is unmodified

- HIP is used (in opportunistic mode) for IP addresses that match a policy rule

- bind locators to HITs within the stack

Pros

- transparent API

  - no changes required to the application code

  - secure bindings of AID to EID (they are the same)

- referral API

  - no changes in the userspace

  - IP addresses can be reverse resolved

  - supports referrals

Cons

- transparent API
  - may confuse diagnostic applications
  - no reverse lookups
- referral API
  - how can you bind the address securely to the identity?
  - (CGAs may be used to secure the binding)

Conclusion

- referral based API

  - AID=IP (routable locator)

  - preserve maximum backward compatibility

  - referrals, reverse lookups, diagnostic tools

- transparent API

  - no changes to the application

- native API

  - better utilization of HIP

Questions?

- Email: miika@iki.fi

- http://hipl.hiit.fi/hipl/hip-native-api-snapshot-20040708.pdf

- come to the RG session tomorrow at 9-11:30 in Harbor 1