IPv6 goes Peer-to-Peer

A proposal to add IPv6 support to GNUnet[1]

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[1] http://www.gnu.org/software/GNUnet/

Why is Peer-to-Peer important for IPv6?

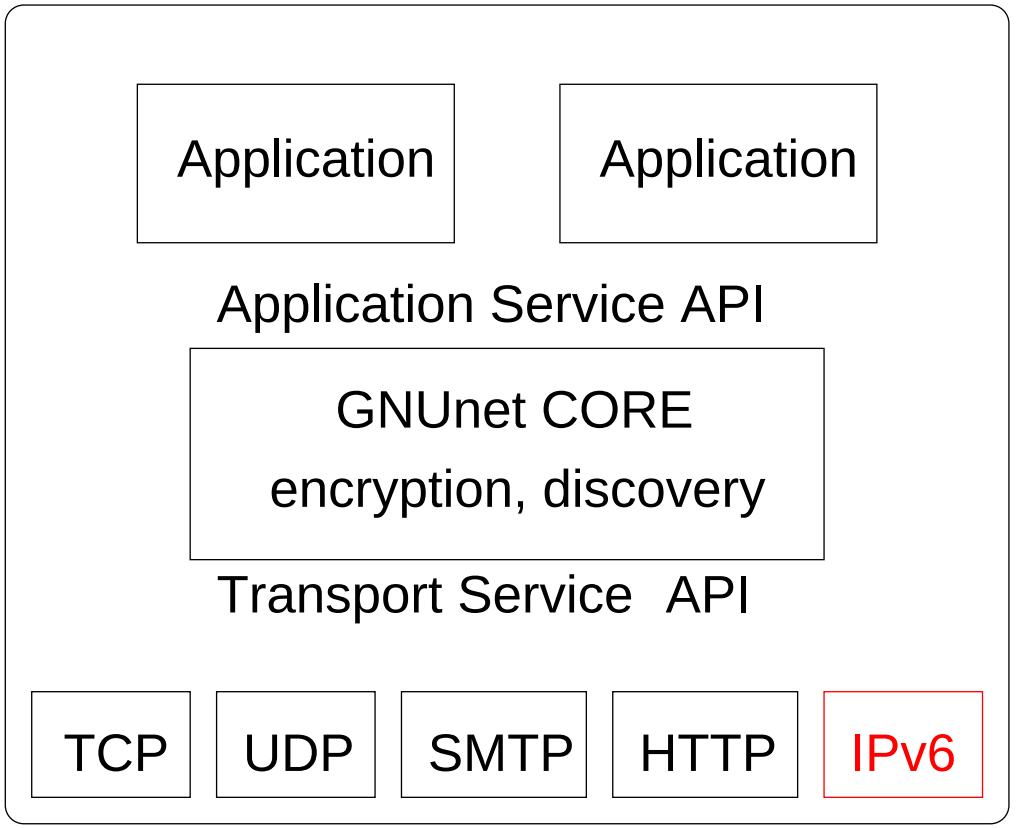
- Peer-to-Peer applications are very popular.
- Dominant Peer-to-Peer protocols such as gnutella do not support IPv6.
- Peer-to-Peer is also a common approach to networking with embedded and mobile devices, which in turn require IPv6 for addressing the multitude of devices.

Why implement it for GNUnet?

- GNUnet is a Peer-to-Peer **framework**, so many Peer-to-Peer applications will benefit.
- GNUnet is free software, allowing other developers to learn from the code and even directly re-use it.
- GNUnet is written in C, the most widely used language for systems software.
- Transport service abstraction supporting SMTP and IPv4 UDP and TCP is already in place[2]

[2] See our paper "A Transport Layer Abstraction for P2P Networks" to appear at GP2PC, Tokyo, May 2003

GNUnet System Design



Concluding Remarks

- GNUnet will allow IPv4- and IPv6-based peers to communicate.
- Hosts are identified by the application with their public keys, hiding transport details from the application programmer.
- If we get awarded the Idea Award, we will apply for an Implementation Award to do the implementation.
- We will then release our implementation as **free software** to the public.