IPv6 Wireless Telephony

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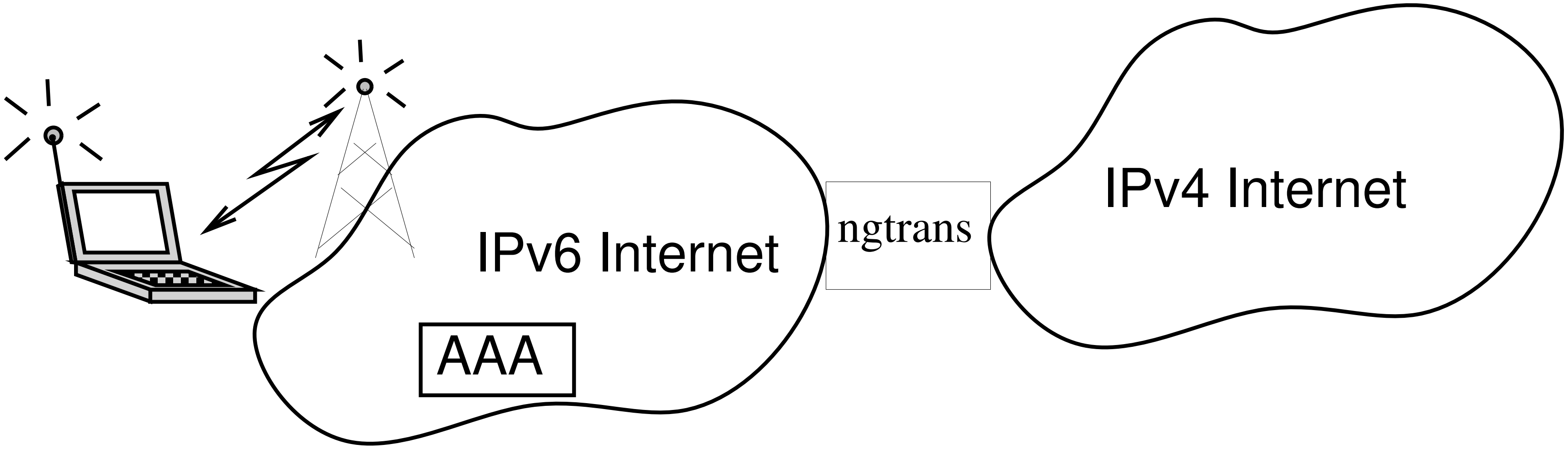
Presentation at http://www.iprg.nokia.com/~charliep/txt/ietf46/ip6tel.ps

Outline of Presentation

- Advantages of IPv6 for Future Telephony
- Challenges of Wireless
- Header Compression
- UDP Lite
- AAA
- Using DNS for phone numbers
- Feature management
- Interface with IPv4

Advantages of IPv6 for Future Telephony



- Number of "telephones" will exceed IPv4 address space
- Mobility is nicely solved by Mobile IPv6
  ... including presumably, smooth handovers
- Autoconfiguration, leading to *always on*
- Mandatory security for voice handsets
- Presumed easier routability

Challenges of Wireless

- Errors leading to lost packets
- Bandwidth constraints, requiring spectral efficiency
- Base Station selection

Note that these problems do not necessarily fall within in the jurisdiction of IPv6

Solution components

- Header Compression
- UDP Lite
- AAAv6
- Key Distribution & Management
- DNS
- Call Control
- Integration with WWW ("*webtone*")

Header Compression

- RFC 2507
- ROCCO
- `robhc` BOF (yesterday)
  - Can we have a report?

UDP Lite

- Allows errors to get past UDP checksum, to tolerant application
- Only enabled by direct action of application, not the default
- Only makes sense with certain tolerant framing protocols

AAAv6

- Allows local connectivity to be controlled depending upon validation by trusted remote service
- Lack of foreign agent removes IPv4 target for protocol design
- IPv6 control must be exerted on destination cache updates at default router
- Possible strategies include:
  - ⋆ Extensions to Router Solicitation, Advertisement
  - ⋆ Requiring DHCPv6 interactions
  - ⋆ AAA redirect along with additional router logic
- Desirable to perform authorization for network access, not radio link establishment

Key Distribution and Management

- Does AAA create key between home agent and mobile node?
- How does local router get key with mobile node for smooth handover?
- Mobility introduces need for local service fulfillment; how is authorization handled?

What's next?

Are relevant work items being worked on in other working groups?

Is there interest for a BOF in Adelaide?

Is there interest for a working group?

Proposed BOF Charter at:

Presentation at http://www.iprg.nokia.com/~charliep/txt/ietf46/ip6tel.txt