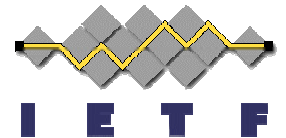
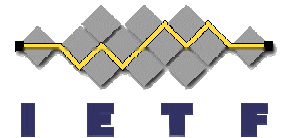


NAT Traversal for Mobile IP v4



Background

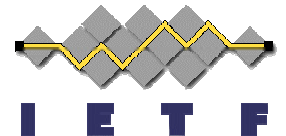
- Before the London IETF, several vendors had independently found the need to do something about NAT traversal for Mobile IP, and submitted drafts.
- In London, a design team was formed to merge the proposals which focused on NAT traversal:
 - draft-ietf-mobileip-nat-traversal-00.txt
- VPN co-existence problems were also to be looked at (*covered in a separate agenda point*):
 - draft-adrangi-mobileip-natvpn-traversal-01.txt
 - draft-sjostrand-mobileip-vpn-problem-stat-00.txt



Design team input

- -draft-vaarala-mobileip-nat-traversal-00.txt
- -draft-levkowetz-mobileip-nat-ipu-tunnel-00.txt
- Discussions on the mip-nat-vpn mailing list, covering numerous issues. Contributors include:

Farid Adrangi, Frode B. Nilsen, George Tsirtsis, James Kempf, Phil Roberts, Qiang Zhang, Roy Jose, and more.



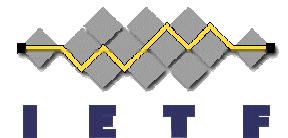
Design team discussions

- From Aug. to Nov. 3 revisions of the text was posted on the list and discussed, leading up to the submitted -00 draft of 8 November.

Some major points discussed:

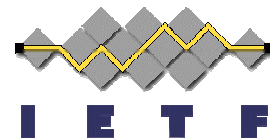
- Use port 434 or some other? 434
- Extend UDP tunneling for FA-HA use too? Yes
- Providing for triangular routing, instead of only reverse tunneled traffic? Yes

Numerous minor points were also covered.



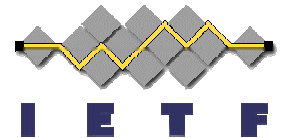
Basic Solution

- IP-in-UDP encapsulation instead of IP-in-IP
- 2 new Mobile IP extensions to set up this mode
- This mode by preference uses reverse tunneling
- Multiplexed through port 434 by using a new MIP message type
- No changes to NAT boxes



Interop

- During the recent Connectathon, simple interop tests were run between two independent implementations, without functional problems.
- The draft does not currently give provisional numbers for the new extensions and the new message – this is needed for further interop tests.
- Proposed are new message number 4, extension numbers 41 and 141.



- 01 draft

- Submitted 5 march
- Adds support for operation with the advertisement 'R' (registration through FA required) bit set.
- Now gives explicit response from HA also in the case where UDP tunneling is not needed

