### Strawman Framework

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One analysis of the problem Available as *draft-zorn-roamreq-00.txt* Related Work

# Example Problem

Fred has signed up for Internet access with ISP A in his local area.

ISP A has joined an association of other ISPs (which we will call ISPGROUP) in order to offer service outside the local area.

Fred travels to another part of the world, and wishes to dial into a phone number offered by ISP B (also a member of ISPGROUP), possibly retaining his IP address from ISP A.

# Problem Breakdown

#### Phone number presentation

Fred must be able to find and select the phone number offered by ISP B

#### Phone number exchange

When there is a change in the status of phone numbers, there must be a way for providers in ISPGROUP to notify each other and propagate the changes.

#### Phone book compilation

When these updates occur, there must be a way to compile a new phone book for ISP A, based on the submitted changes.

Issue: are policy-based phonebooks necessary?

#### Phone book update

Once a new phone book is compiled, there must be a way to update Fred's phone book.

#### Connection management

Fred's machine must be able to dial the phone number, successfully connect, and interoperate with the Network Access Server.

#### Authentication

Fred must be able to secure access to the network.

One approach: use of RADIUS/TACACS+ authentication proxies and "realms", I.e. use of fred@ispa.com as userID in PPP authentication.

#### NAS Configuration/authorization

- The Network Access Server (NAS) must receive configuration parameters in order to set up Fred's session.
- Issue: RADIUS/TACACS+ servers may send network specific parameters not relevant to ISP B Solution: RADIUS/TACACS+ proxies can shield servers
- from network specific knowledge by inserting/modifying parameters

### Security

If desired, additional security measures should be supported for Fred's session. These could include use of token cards, or tunneling.

Requires definition of token card attributes

Issue: if security attributes are requested, modification by proxies may be problematic

### Routing

Fred may wish to retain the IP address given to him by ISP A

Through tunneling, this can be supported

symmetric tunneling

asymmetric tunneling

#### Accounting

ISP B must keep track of what resources Fred used during the session: time, speed, ISDN/modem, etc.
Many accounting protocols in use SNMP, RADIUS, syslog, TACACS+, etc.
Not clear that accounting protocols need to be standardized for this purpose, just accounting record formats, and transmission protocols.

### Related Work

NAS protocols RADIUS, TACACS+, etc. IP mobility routing Tunneling PPTP, L2F, etc.