Personal Broadband Architecture Update

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Context

- The Personal Broadband architecture should support multiple business models.

- In order to test the flexibility of the architecture, we identified the following models:
  - The user pays a home provider on an on-going basis (e.g. cell phones).
  - The user pays a 3rd party aggregator (e.g. iPass, Boingo, Paypal).
  - The user pays on the spot market.
  - The user does not pay for connectivity directly, but the cost is subsidized through other channels (e.g. advertising and equipment purchases).

Proposed Functional Elements

Function	*Description*
Network Discovery	Identify which networks are available
Access Network Selection	Select the appropriate network
Authentication and Authorization *(optional)*	Gain access to the network
Accounting *(optional)*	Track usage of the network
Revenue Generation *(optional)*	Pay for the usage
Risk Management	Mange the risk

- The initial architecture work will focus on network selection
- The party responsible for selecting the network will likely vary with the business model
- However, each party will need access to the same subset of network information in order to perform the selection

Network Service Profiles

- What parameters should be included in a network's "service profile"?
- The MIT Personal Router project identified some parameters
  - Assumption is that user's agent will perform the network selection
  - More information available at http://pr.lcs.mit.edu/research
- Two categories of parameters
  - Technical characteristics: performance and quality
    - Bandwidth
    - Average throughput, burst rate, burst ratio
    - How should the quality metric be described in order to address the requirements of elastic and inelastic applications?
  - Cost
    - Price per kilobyte, price per time period
    - Should both of these cost metrics always be required or should it depend on the user's application?

Discussion