Introduction to MobilityFirst

Motivation
• Historic shift from PCs to mobile devices
• ~4 B Cell phones vs. ~1 B PCs in 2010.

Challenge
• Host and network mobility
• Varying level of wireless connectivity
• Multi-homing

Demo Components

MobilityFirst Architecture

Demo Scenario: Dipping a Message

1. User identified by GUID 1 Drops a message at location identified by GUID A
2. User 1 updates the GNRS of the binding <GUID A -> GUID 1>
3. If the User moves to a new network it needs to update the GNRS with the new <GUID -> NA > pair

Demo Scenario: Retrieving a Message

1. User 2 arrives at location A and tries to retrieve available messages
2. The query to the GNRS return the mapping <GUID A -> GUID 1>
3. User 2 sends a request message with destination GUID 1
4. The MF router binds the chunks with destination 1 to NA2
5. User 1 receives the request and respond with the messages it has dropped at location A

References

• D. Raychaudhuri, K. Nagaraja and A. Venkataramani, "MobilityFirst: A Robust and Trustworthy Mobility-Centric Architecture for the Future Internet", ACM SIGMobile Mobile Computing and Communication Review (MC2R), Volume 16 Issue 4, October 2012