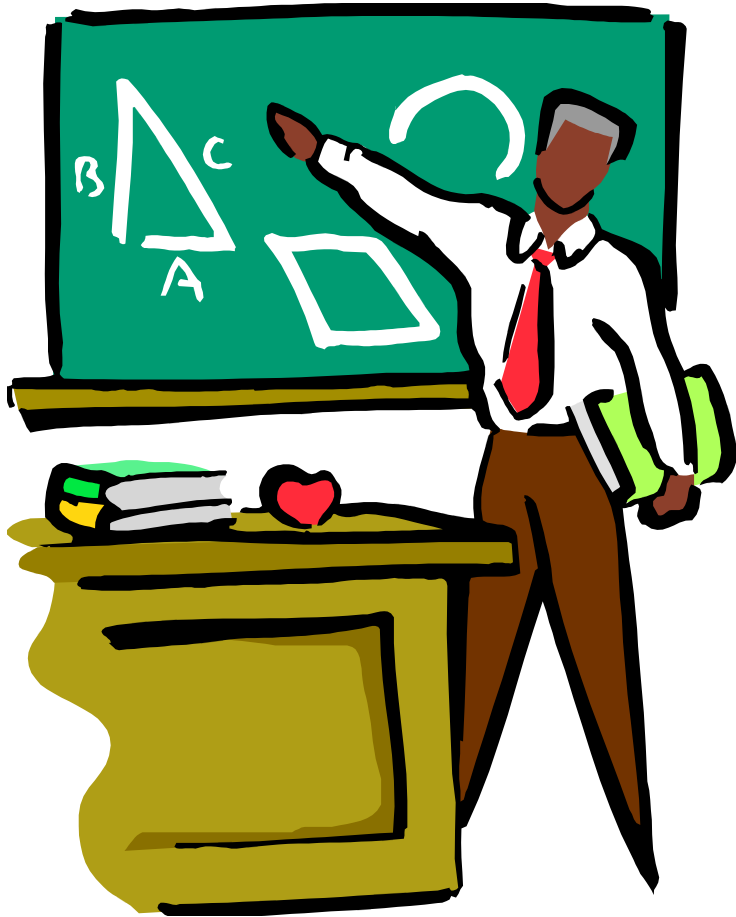# Addendum to Chapter 3 (Network layer)

Note:
 Addendums are integral parts of lectures and their content is included in the scope of exams.

Roch H. Glitho

Addendum to chapter 3 (Network layer)

- **1 - More on NAT**

- **2 - More on mobility**

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More on NAT

L. Zhang, A Retrospective View of Network Address Translation, IEEE Network, September / October 2008, Vol. 22, No5
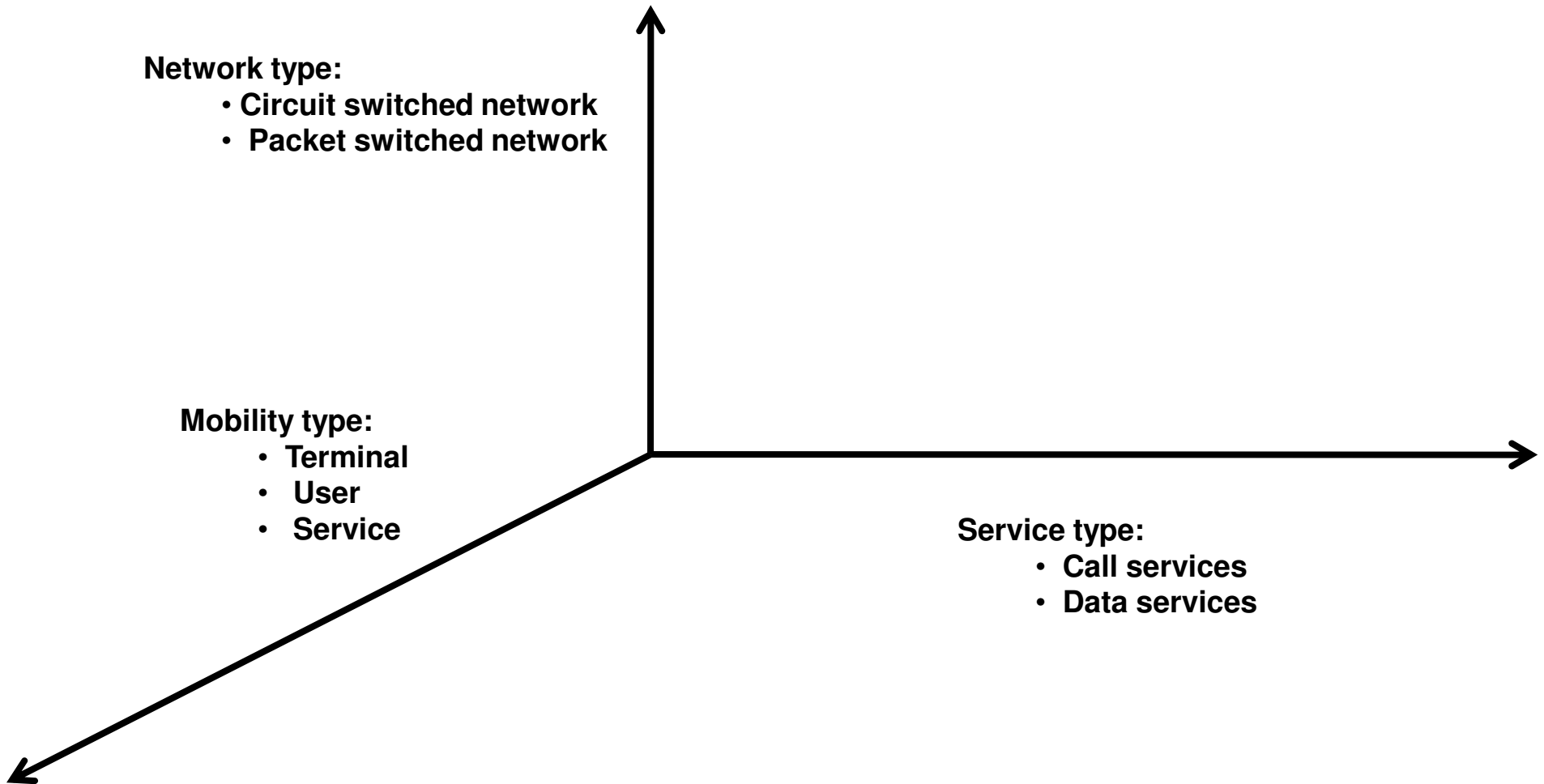
More on mobility management

The three types of mobility

- Terminal mobility (handoff / handover)
  - Keep on-going calls or data sessions while moving across cells
    - Cells are controlled by base stations / access points
    - Movement maybe within a domain or across domains
- User mobility
  - Can use any terminal in home or foreign domain (GSM SIM card)
- Service mobility
  - Have access to the very same set of services while in a foreign domain

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More on mobility management

Mobility management: a multidimensional problem

Network type:
- **Circuit switched network**
- **Packet switched network**

Mobility type:
- **Terminal**
- **User**
- **Service**

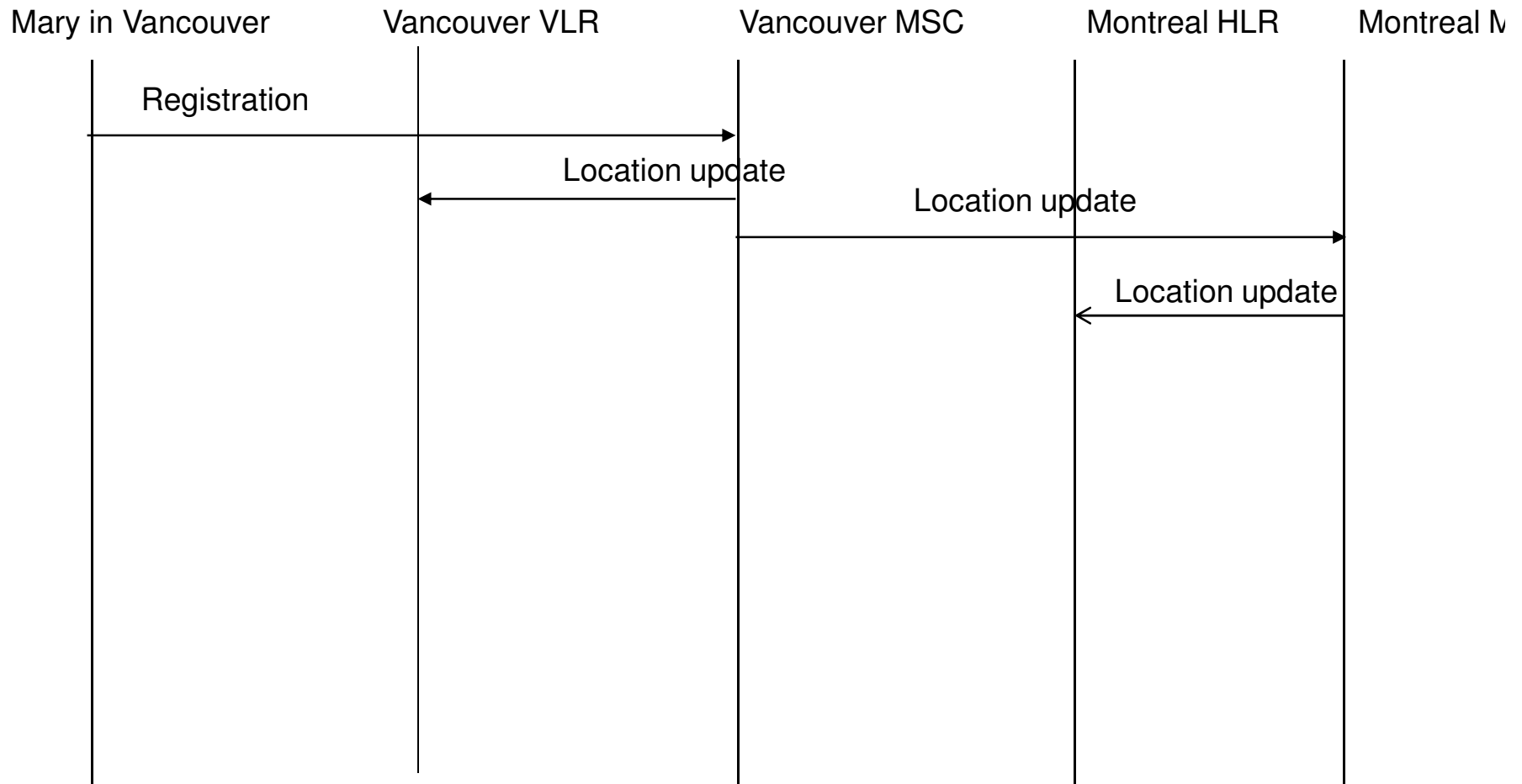**Service type:**
- **Call services**
- **Data services**

5

More on mobility management

Some approaches to solve the problem:

- – Telcos cellular network approach (Terminal mobility, user mobility in GSM)

- – Mobile IP

- More on the telco cellular network approach

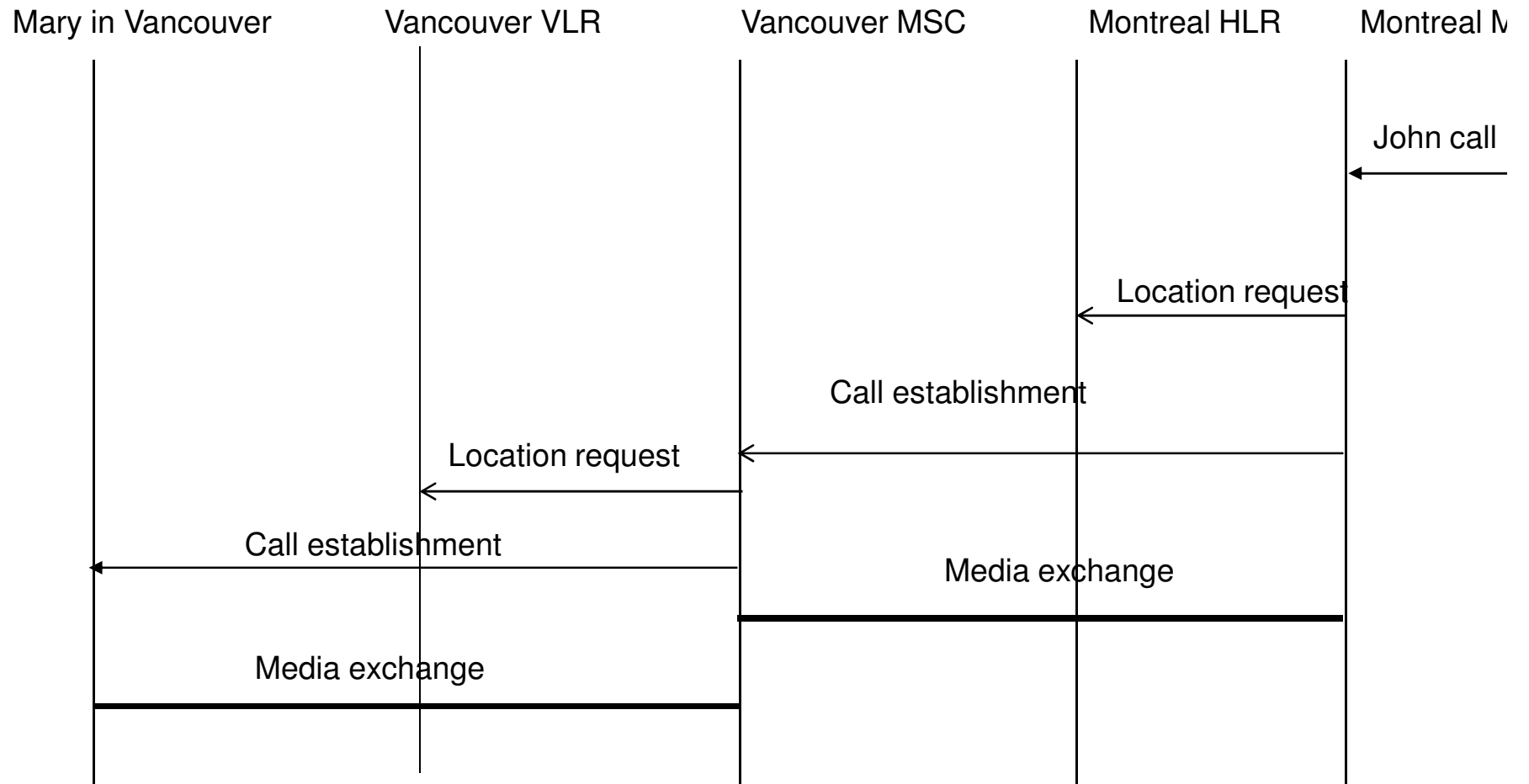 - – Cover both call services and data services

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Mary a Montreal subscriber turns her phone on while roaming in Vancouver

Roch H. Glitho

John in Montreal calls Mary

Alice in Vancouver calls Mary

Mary in Vancouver	Vancouver VLR	Vancouver MSC	Montreal HLR	Montreal M

Alice call

Call establishment

Location request

Call establishment

Location request

Call establishment

Media exchange

Media exchange