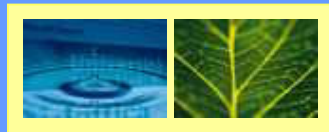# WIRELESS HOT SPOTS WITH LOCATION-AWARE SERVICES

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Trento on the Map

Contents

- Our project: WILMA

- The infrastructure

- Ongoing work with Bluetooth

- The first results

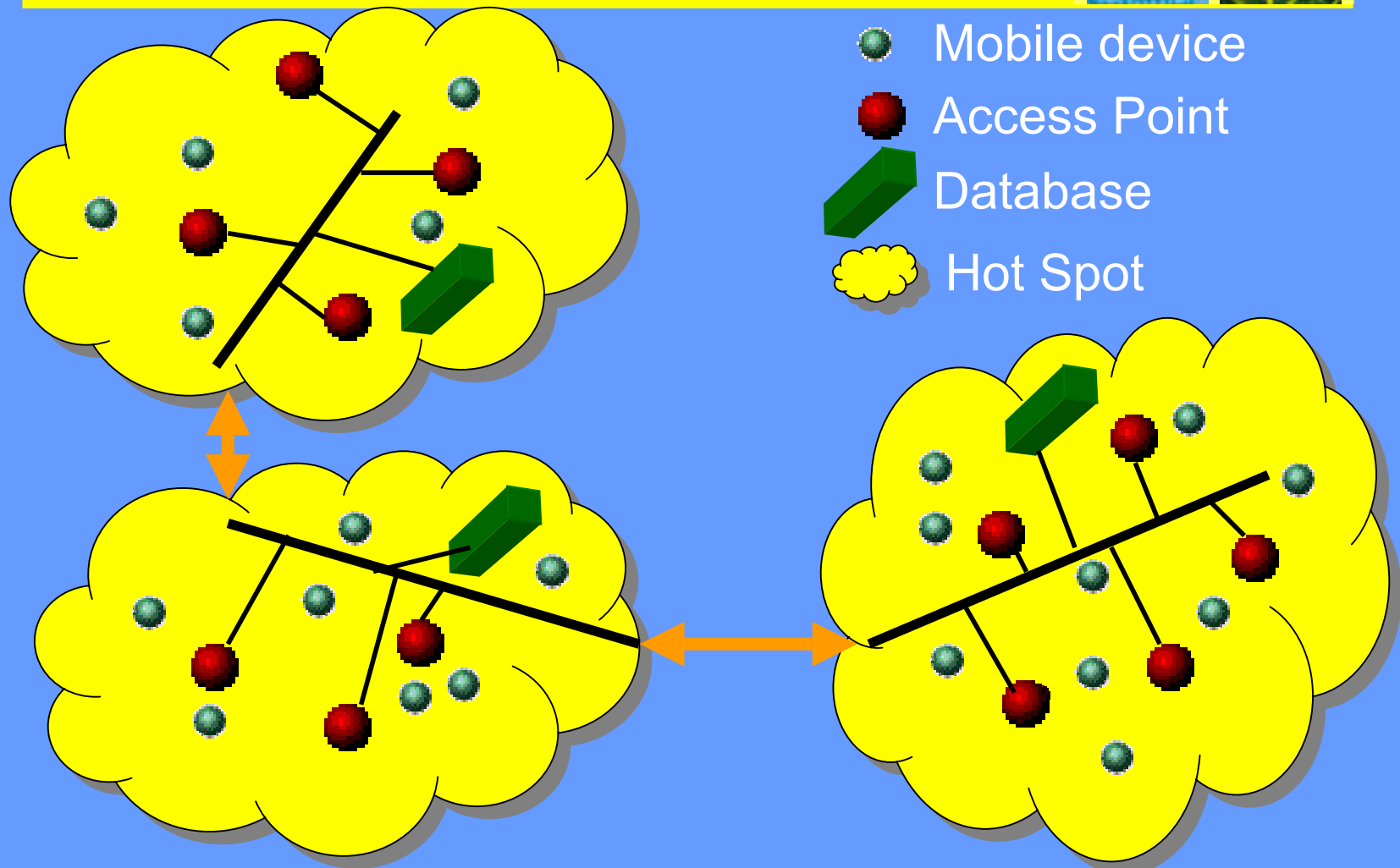- Concluding remarks

Our Project: WILMA

- WILMA: Wireless Internet and

  Location Management Architecture

- University of Trento and ITC-irst

- Goal: support for mobility through a wireless Internet architecture

- Research topics

http://www.wilmaproject.org/

The infrastructure

Mobile device

Access Point

Database

Hot Spot

Bluetooth: Ongoing Work

- Positioning based on the signal strength

    - No standard modality, cells

- Scatternet formation and optimization

    - Partitioning, location information

- Database management and applications

The First Results

Positioning with IEEE 802.11b

- Scenario

- Training data

- Algorithm for location estimation

- Average accuracy 178 cm

- Transparent solution

- No requirements for the mobile user

Concluding Remark

- Positioning is important for many reasons

    - Optimal path, energy consumption, applications

- Standard way for signal strength measurement in Bluetooth

- Future: improving existing results and developing new applications for the hot spots

- Questions