

Identity-aware mobility architectures

1. Research group and interests:

The Multimedia and Communications Scientific Area inside Institute of Telecommunications in Aveiro contains a sub-area, which is mainly centred on architectures for Heterogeneous Networks (<http://hng.av.it.pt/>). The main interests of this group are in the areas of integration of heterogeneous networks, covering both infrastructure, ad-hoc and mesh networks, and covering technologies such as WLAN, WiMax, DVB and Ethernet. The main areas of research consider issues such as Quality of Service (QoS), mobility, multicast and broadcast, security and privacy, inter-domain, communities, mobile GRIDs and IMS/MBMS integration.

This group participates in national and european projects. In particular, currently is involved in the FP6 Integrated Projects **Daidalos**, **Akogrimo**, **WIP**, **C-Mobile**, and has several cooperations established with national and international industry. During the next year, three new EU-funded projects will start, on the areas of new security architectures, novel multicast environments, and clean-slate design. The group has thus a well-established research record on the area of new generation networks and on new identity concepts.

Advisor:

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Research objectives in Identity-aware Architectures

Overall, the key objectives consider for this position aim to:

- A. Develop solutions, which use identity as a key enabling technology for convergence between networks, services, applications and content.
- B. Design a cross-layer identity framework with major emphasis on the network to supports rather than change the user's habits and enhance experience.
- C. Provide cross-layer usability features, such as ubiquitous connectivity, user-centred mobility

In particular, (some or all of) the problems surrounding User-centric and Cross-layer Identity-Driven Architectures and (unicast and multicast) Name Resolution, Directory and Discovery Protocols, and its interaction with Mobility Management, should be addressed in this line of work.

For further detail on previous work, it is advisable to read the papers:

- Joao Girao et al. Preserving privacy in mobile environments with virtual network stacks. In *50th Annual IEEE Global Telecommunications Conference*, Washington, DC, USA, November 2007. GLOBECOM 2007
- Rui Aguiar et al, Embedding Identity in Mobile Environments, in ACM MobiArch 2007 Workshop, August 2007, Kyoto.

Extra Financial Sources:

Potential extra financial sources will be mainly EU-funded FP7 projects. In particular, the main source of funding will be the SWIFT project, which will frame the overall project.