



Position Paper submitted to  
Pioneering Advanced Mobile Privacy and Security  
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“Organisational innovation as a pre-requisite  
for digital identity in a world of pervasive networks”

Edentity Limited

25 Eckstein Road  
London  
SW11 1QE

Tel: + 44 20 7350 1990

e-mail: [john.harrison@ednty.net](mailto:john.harrison@ednty.net)

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## **1. Introduction & Background**

Eentity is a small UK company founded in 2000 to work in the linked fields of digital identity and the management of personal information.

Our main focus is on a concept – Virtual Home (VH) – which aims to give each individual a point of presence in the network space, from which he or she can exercise control over personal information provided or verified by third parties. VH is a generic solution with many possible applications, ranging from health (electronic transmission of prescriptions, electronic health records), to various education (validated CV and references), marketing, delivery, voting, tax, and access control. And, since Virtual Home is conceived to work with a range of different security tokens and offers a number of different security levels, the initiative can also be seen as a way of linking together many of the potential actors in the digital identity field, including the mobile phone operators, the digital TV companies, and various smart card issuers.

The challenges involved in implementing VH are technical, commercial / organisational, and sociological. Eentity has studied the technical challenges in collaboration with the Computer Lab at Cambridge, in a project part financed by the UK's Department of Trade & Industry. It is now clear that VH is technically feasible, and can be realised using a (patented) amalgam of ideas from role-based access control, from internet-style e-wallets, and from public key cryptography.

The organisational / commercial challenges are perhaps less tractable. Eentity believes that there is a need for a new type of organisation to act as host for lifelong VH type digital identities, and as the true agent of the individual. Since most people, at least in the UK, would not trust government in this role, and a conventional commercial company is clearly ill-suited, the new entity will probably have to be a not-for-profit trust – or Virtual Home Trust – positioned half-way between government and the private sector.

To this end, Eentity has facilitated the submission of a bid to the UK Treasury's 'Invest to Save Budget' (ISB), a fund used to finance innovative projects that cut across traditional departmental boundaries. We hope to secure start-up funding for a Virtual Home Trust. Partners to the bid are the Improvement & Development Agency, the North East Regional Smart Card Consortium, Newcastle Hospitals NHS Trust, and the Department for Education and Skills. We also have tentative 'buy-in' from Office of the e-Envoy, and from the NHS nationally. We will learn in September whether the ISB bid has survived the Treasury's first-round sift and, if so, will then go on to prepare a detailed proposal for submission before Christmas.

Note that Eentity bid for development funding to the last call of FP5, working in collaboration with City of Newcastle, Newcastle Hospitals Trust, City of Rome, City of Madrid, Unisys Italia and others. That bid missed funding by a whisker – for reasons that neither we, nor it seems the European Commission, can adequately explain.

## **2. Requirements for Research**

By working with partners to create a live Virtual Home Trust, Eentity hopes to implement some basic applications for digital identity on a national scale, and by so doing stimulate further research work. Obvious topics for future research include:

- 2.1 Legal and institutional barriers to the creation of a network of not-for-profit digital identity hosts across the EU
- 2.2 Consumer reaction to the use of a multi-application digital identity scheme, for which there may be several keys – such as smart cards, and mobile handsets.
- 2.3 Technical problems involved in using a mobile handset as an authentication token
- 2.4 Commercial models that may be adopted by a digital identity host.