

**A Roadmap to Policy Research:
Accomplishments and Future Challenges**

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Personal research background in Policy

Mainly centred on Access Control – RBAC

Detailed case study for EHRs for UK NHS in 1999 (unfunded)

*Keynote on Policy Federation at IFIP Workshop in August 2000
(IFIP WG 11.3 – Database and Application Security)*

UK EPSRC research grant for Policy coordination, 2000-2003

Demonstrator above J2EE deployed for distributed courseware

Publications on Policy generation from NL, meta-policies, aspects

No knowledge of either network management or configuration

Regrettable lack of practical experience (the NHS's loss!)

Recent and future research grants

SECURE (EU framework 5 consortium on Trust, led by TCD)

prejudice – cooperation is good for trade ?

excellent keynote by Steve Kimbrough at i-Trust 2005

- ** *EDSAC21* securing wide-area pub/sub, including Policy
with UK *Police Information Technology Organisation*
- ** CareGrid access and privacy for patient monitoring, with *IC*
research proposal includes specific support for Trust Domains
- ** *TIME-EACM* – Event Architecture and Context Management
setting up an *open* sensor-based traffic monitoring framework
- ** **public sector applications that need to be aware of the law**

Achievements and state-of-the-art (*prejudices again!*)

being able to reason about policies is essential

good experiences with **First-Order Logic** approach

the cost of resolution must be controlled (e.g. **Cassandra**)

application-related tools are a good idea (e.g. EHR graphical tool)

mixing paradigms can confuse the designer's intuition

choice of paradigm is a matter of horses-for-courses

automatic policy generation is **hard**, but possible in some contexts

(easy for me to say that, it's out of sheer ignorance)

both verification and testing are important (as always?)

Challenges for the future *(personal research interests)*

cooperation within a federated framework is a critical problem

rational decision making (utility functions) is not the full answer

policies may need to provide for random experiments

autonomous systems controlled by policy must respect the law

formal expression of aspects of the law is a prerequisite

law-makers are often unsophisticated about technology

policy must be responsive to context – the law is one example

autonomous systems require active consistency checking

our current research is *policy-driven*, *wide-area*, *event-based*