

# COLT as a Research Testbed: Where Lawful Interception and Mobile Internet collide

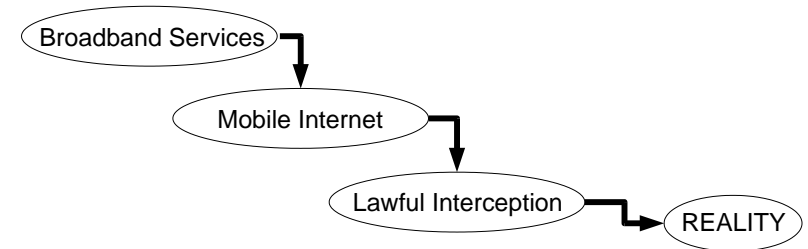
*A joint research program between Ballarat  
University and Swinburne University of  
Technology*

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<http://www.caia.swin.edu.au>

## Ballarat and Swinburne

- Bringing different strengths together
- Ballarat University
  - Centre for Informatics and Applied Optimization
    - Professor Alex Rubinov, Shahnaz Kouhbor
- Swinburne University of Technology
  - Centre for Advanced Internet Architectures
    - Associate Professor Grenville Armitage, Dr Philip Branch

## Mobility, Broadband, Interception



- Optimal engineering of mobile, broadband services is a business imperative
- Lawful Interception is a 'new' reality for ISPs
- CAIA and CIAO: tackling this area together

## Lawful Interception

- A regulatory reality, ISPs are not immune
- Current IP solutions are crude hammers
  - Give a copy of all IP traffic to Law Enforcement, let them figure it out
- What we need are scalpels
  - Automate the extraction of correct IP traffic based on abstract metrics such as user identity, only give Law Enforcement what they need
- A challenge: define precise, auditable Lawful Interception methods in IP networks

## Internet Mobility – Not just Wireless

- A virtual IP overlay network - your IP identity is active and retained while you move:
  - From cable modem to wireless LAN
  - From wireless LAN to cellular modem
  - From cellular (wireless) to DSL modem
  - From one ISP to another
- Poorly supported by current IP networks
- A challenge to optimally place wireless and wired access points for mobile users

## Project Goals

- IP-based Lawful Interception
  - Identify technical and operational issues
  - Specify and demonstrate prototype solutions in ISP operational environments
  - Feed into Government and ISP communities
- Optimisation of network planning
  - Analysis of, and recommendations for, optimal support of mobile Internet services over fixed, broadband infrastructure with LI capabilities
  - Feed into the ISP communities

## Impact of Broadband

- Ubiquitous broadband: concurrent Mobility and Lawful Interception are more challenging
  - Larger user populations and increased information speeds raises the amount of data an LI system needs to scan and filter
- COLT is an excellent testbed for trialling new techniques
  - Broadband wired network
  - Overlay wireless network of hotspots
  - Real-world applications

## Project Status

- Initial human resources from CAIA & CIAO
  - Professor Alex Rubinov & Shahnaz Kouhbor (network optimisation analysis)
  - A/Prof Grenville Armitage, Dr Philip Branch (LI/mobility architectures)
- COLT support committed
  - Access to testbed in Ballarat
- Seed money from internal funds
  - Currently developing a larger, longer term program (2004-2006) with industry partners