

Scales of Justice and Cell Phone Evidence

Presentation to the
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Telco Subject Matter Expert



Presented by
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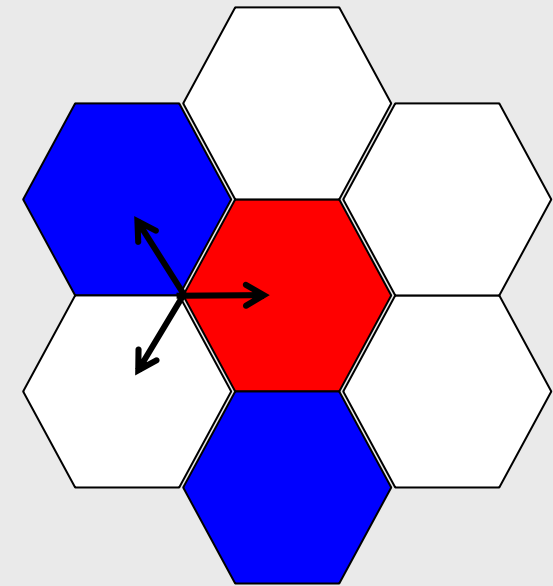
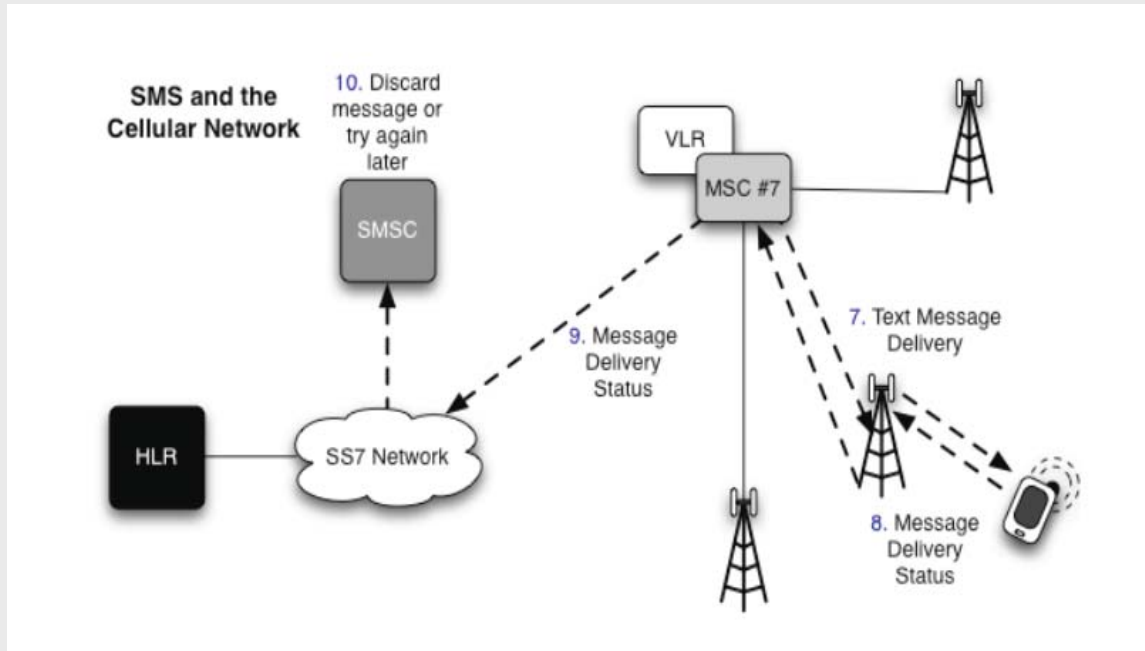


Overview

- Introduction – CPRF'08 paper
- Cell Phone Evidence Review
 - ❖ Mobile (phone) forensics (eg messages, phone book, calls)
 - ❖ Surveillance & phone taps
 - ❖ **Call charge records & 'cell ID'**
- The 'Phuong Ngo' Case
- Other Case Experience
- Observations



Call Charge Records (CCR) & Cell ID



Base Stations and Cell Sites

Call Charge Records (Cell ID)

- time & duration
- originating cell ID
- terminating cell ID

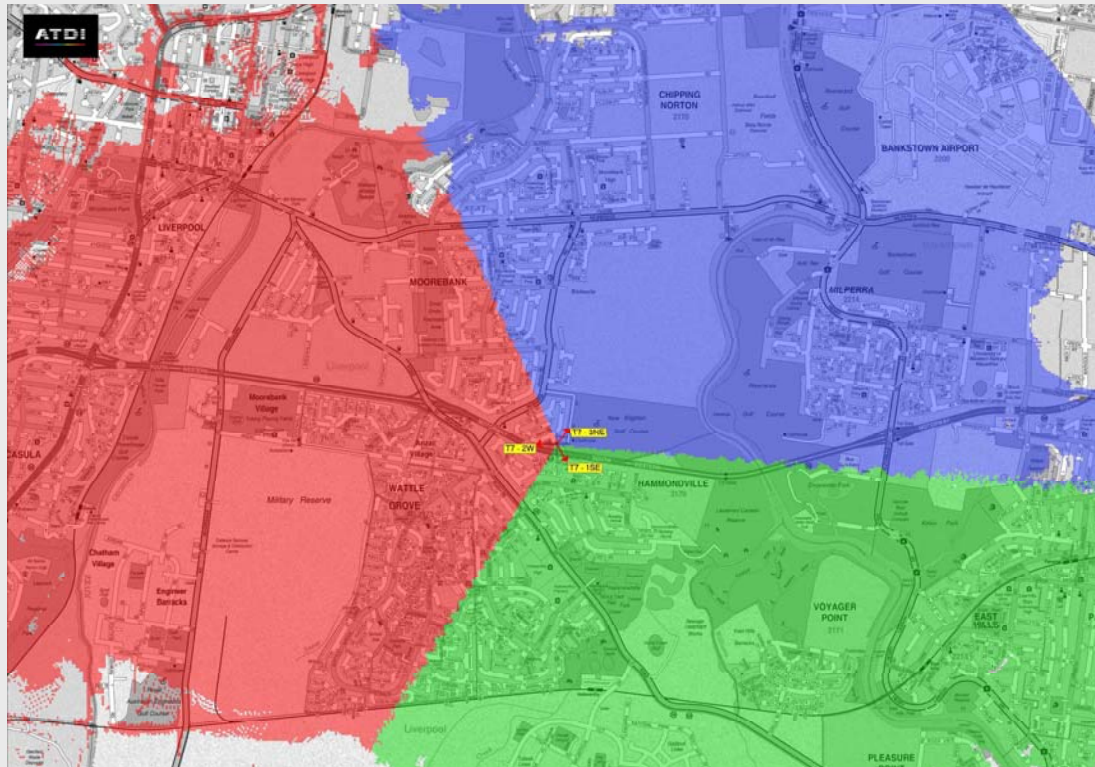


The 'Phuong Ngo Case'

- Social context in Cabramatta
 - ❖ Vietnamese refugees & 'crime'
 - ❖ Newman First 'political murder' - 1994
- Legal process – Phuong Ngo & 'the shooters'
 - ❖ 3 trials – the use of cell phone 'evidence'
 - ❖ An unsuccessful appeal
 - ❖ Concerns of 'unsafe verdict'
 - My investigation of cell phone scenario
 - 4 Corners programme
 - ❖ Judicial Enquiry - 2009



Three Sector Coverage - A cell



Actual Design

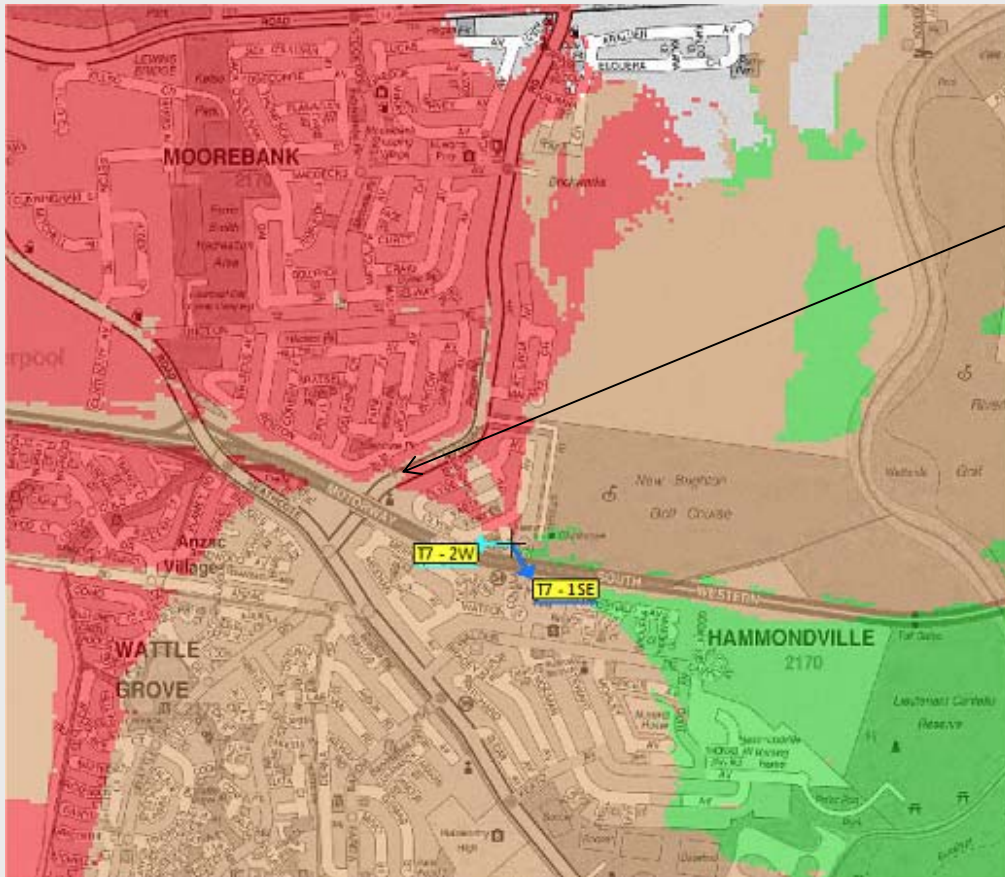
- 1 base for 3 cells
- 120 degree arcs
- variable extent

'sector positioning'



Near the Base Station

(‘Assumed’ parameters in the Phuong Ngo Case – My Report - March 2008)



Area of uncertainty

- NE sector - off
- antenna pattern (assumed)
 - F/B - 31.6dB
 - 0 deg tilt
 - Height 20 m
 - Power (rel) 3dB
- terrain
 - no info
- system features (eg directed retry)



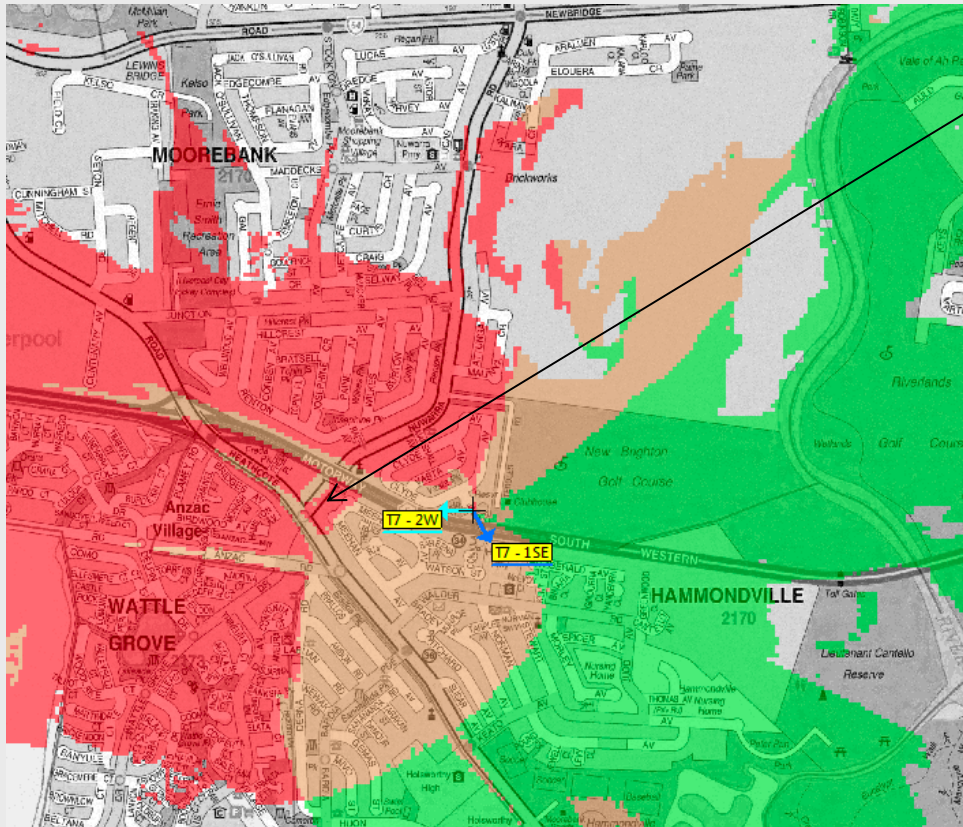
The Enquiry – Further Examination

- Telstra ‘expert’ provides ‘further’ data (2009) to dispute my findings re Tower 7
 - ❖ Eg Antenna characteristics
 - F/B ratio
 - Gain & tilt
 - ❖ Terrain not considered
- Enquiry conclusion
 - ❖ Cell phone evidence discounted



Revised 'area of uncertainty'

(not requested by the Enquiry!)



Area of uncertainty

- NE sector - off
- antenna pattern (revised)
 - F/B - 36.1dB
 - 6 deg tilt
 - Height 15 m
 - Power (rel) 0 dB
- terrain
 - Still to include
- system features (directed retry)



Further Explanation

(Phuong Ngo Case - Enquiry 2009)

- A critical call ‘interpreted’
 - The ‘voyager point’ call (Tower 7)
 - Cell ID identified as the SE sector
 - Call likely made in this sector
 - Language of the prosecution
 - ***“consistent with the defendant driving down to Voager Point to discard the weapon”***
 - YES but misleading
 - Could he have been ‘behind’ the SE sector!
 - YES but difficult to say how likely
- A critical call ‘rationalised’
 - The ‘cross roads call’ (Tower 13)
 - Cell ID identified as the SE sector General
 - Call “not consistent” with cell ID
 - Tests conducted for the prosecution
 - YES tests show it was possible!

Such evidence is suspect!



Lessons from the Phuong Ngo Case

- Cell phone ‘evidence’ of location
 - ❖ Open to misinterpretation of significance
 - wording ‘information of cell ID consistent with’ is misleading
 - over emphasis of ‘dominant cell’ coverage area
- Imbalance of sources of expert advice
 - ❖ Telecommunication carriers
 - Support the police & prosecution for free
 - Sometimes ‘resist/mislead’ data requests by the defense
 - ❖ Expert advice for the defense
 - Limited expertise and funding (ie Legal Aid)



Involvement in Other Cases

1	Case Descriptor	Date	Summary	Involvement	Outcome	State	Support	Carrier
2								
3	Matter of Huan Sun	2010	Murder - Mutiple calls	Assess evidence	Not helpful	NSW	Legal Aid	Telstra
4								
5	Matter of Mr May	2008	Murder case	Assess whether evidence could be disputed	Not helpful	NSW	Legal Aid	Telstra
6								
7	Kirk Crossley matter	2009	Armed robbery	Examination of complex evidence. Case transferred	No idea	NSW	Legal Aid	Telstra
8								
9	Peter Johnson appeal	2009	Murder	Not proceeded with as lack of funding	None	NSW	Legal Aid	Telstra
10								
11	Phung Nho Enquiry	2009	Cell phone evidence	Assessed in detail. Appeared at Jidicial Enquiry	Discounted!	NSW	NSW Governmen	Telstra
12								
13	Abbinay Khurana	2010	Cross Examination	In progress		VIC	Legal Aid	Vodafone
14								
15	Robert Chorbadjian	2008	Robbery	Not funded!	Not known	NSW	Legal Aid	Telstra
16								
17	Tyrone Heers	2010	Arson - 2 calls	Assessment of prosecution evidence	In process	NSW	Legal Aid	Telstra
18								
19	Unknown	2008		My paper to assist cross Examination of Evidence	Success	Queensland	Legal Aid	Telstra



Observations – Scales of Justice?

- **Complex evidence**
 - ❖ requires independent ‘interpretation’
- **Source & interpretation of call phone data**
 - ❖ The telecommunications carriers
 - ‘support’ police investigation & the prosecution
 - ❖ Data & interpretation onerous to the defense (legal aid!)
- **Uses of call charge record data**
 - ❖ Police interrogation versus ‘evidence’
 - ❖ Use of ‘misleading’ language such ‘consistent with’
- **Funding of ‘experts’ – not balanced**



References

- Coutts & Selby, 'Communications Policy Research Forum', Sydney, 29-30th September 2008 – paper provided
- Coutts, 'Public Defenders Criminal Law Conference', Sydney, 7-8th March 2009