CSI: Malware & Cybercrime

Learning to trust the tools to dissect and measure the unknown

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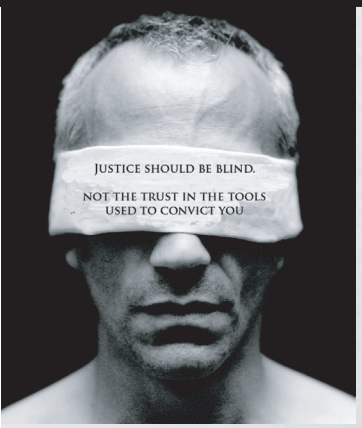
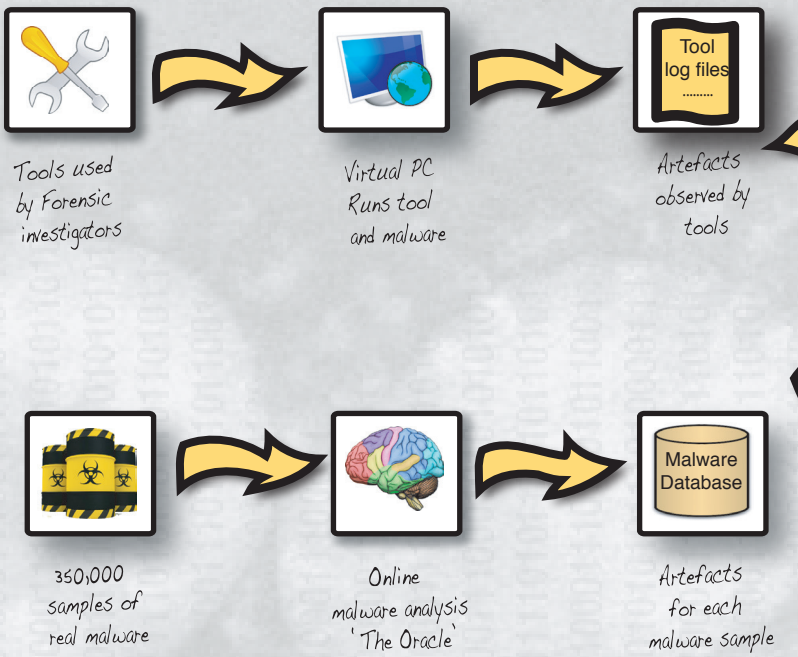


Background & Motivation

- Miscarriages of justice linked to flawed Expert evidence
- Lack of scientific foundation in forensic 'junk' science
- Address emerging standards introducing more science
- Malware can mislead tools used in forensic examinations
- Lack of statistically significant repeatability testing



Malware artefacts

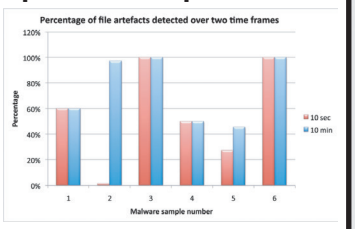
- Individual identifiers that leave clues to their presence on a PC
- Artefacts generated can change depending on the environment
- Artefacts can be in observed as files & registry keys
- The pattern of artefacts produced can form a footprint for the malware

Methodology

- Controlled experiments
- Compare observations with those reported by 'The Oracle'
- Observe footprints made by malware samples
- Entire population of malware is not visible, so consider using Bayes

Malware Analysis Tool Evaluation Framework

Early results and possible impact



Early studies indicate that increasing the duration of observations raises the number of observed artefacts

Percieved benefits include:

- Investigator has a more complete picture of events
- Increased confidence in the use of the selected tool

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