QFDs and BLACHOLE
Technology behind GCHQ/INOC

March 2009
‘BLACK HOLE’

Probes → Flat Store → Analytic engines

- Question specific DBs (INOC today)
- Data-mart extraction
- MESME/Netezza etc.
- Clouds

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• Flat data store – not a database
• ~1,100,000,000,000 events since 6th August 2007
  – 53.3TB compressed
  – 217TB uncompressed
  – 47% of data is from last 3 months
• ~10 Billion events per day
• Cheap system:
  – £1k per TB of storage
  – £20k per 10Gbps probe
  – ~£400k for 10x10Gbps prototype
Questions – INOC Today

Who, Where, When, What? – Online presence (TDI)

- MUTANT BROTH
- KARMA POLICE
- INFINITE MONKEYS
- MARBLED GECKO

Who, which website(s)? – Online browsing activity

Where? – Google maps/earth usage
Questions – INOC Today

Who, Where, When, What? – Online presence (TDI)
- MUTANT BROTH

Who, which website(s)? – Online browsing activity
- KARMA POLICE

Who, which fora? – Bulletin board usage
- INFINITE MONKEYS

Where? – Google maps/earth usage
- MARBLED GECKO

... And many more
Questions – INOC Today

Too many specific questions… Too much for analysts to learn.

Need analyst systems to be simple and intuitive.

Let analysts find & simply understand their targets easily…

drill in to systems only when they need to
Number of users who executed > 10 queries, by area

Area

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