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GCHQ
GTE
Exploiting Facebook traffic in the passive environment to obtain specific information
NAME REDACTED
Capability Developer
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Why OSNs?

- Targets increasing usage of Facebook, BEBO, MySpace etc.
- A very rich source of information on targets:
  - Personal details
  - 'Pattern of Life'
  - Connections to associates
  - Media

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Looking to the Passive Environment

- Many targets on Facebook lock down their profiles, so it is not possible to view all of their information…

But passive offers the opportunity to collect this information by exploiting inherent weaknesses in Facebook's security model.

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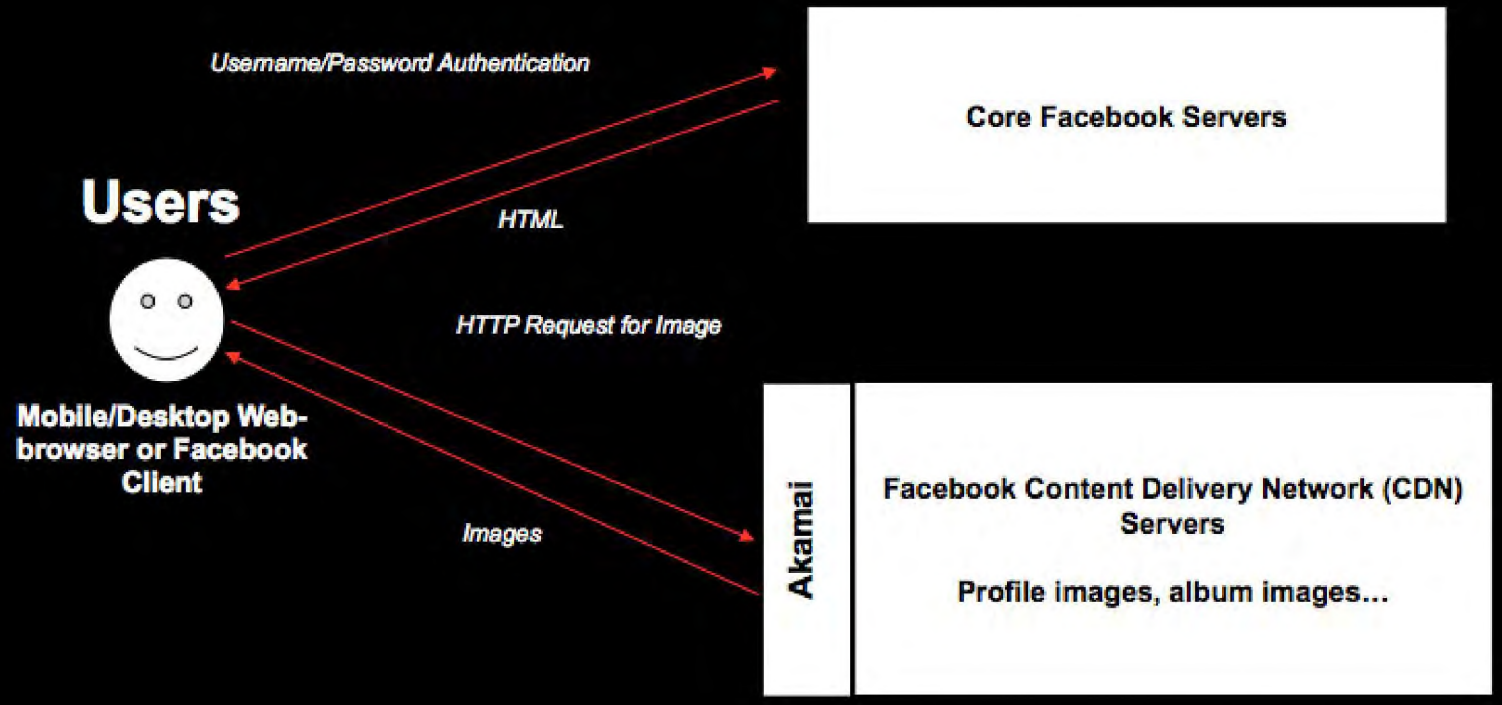
Facebook's use of the Akamai CDN



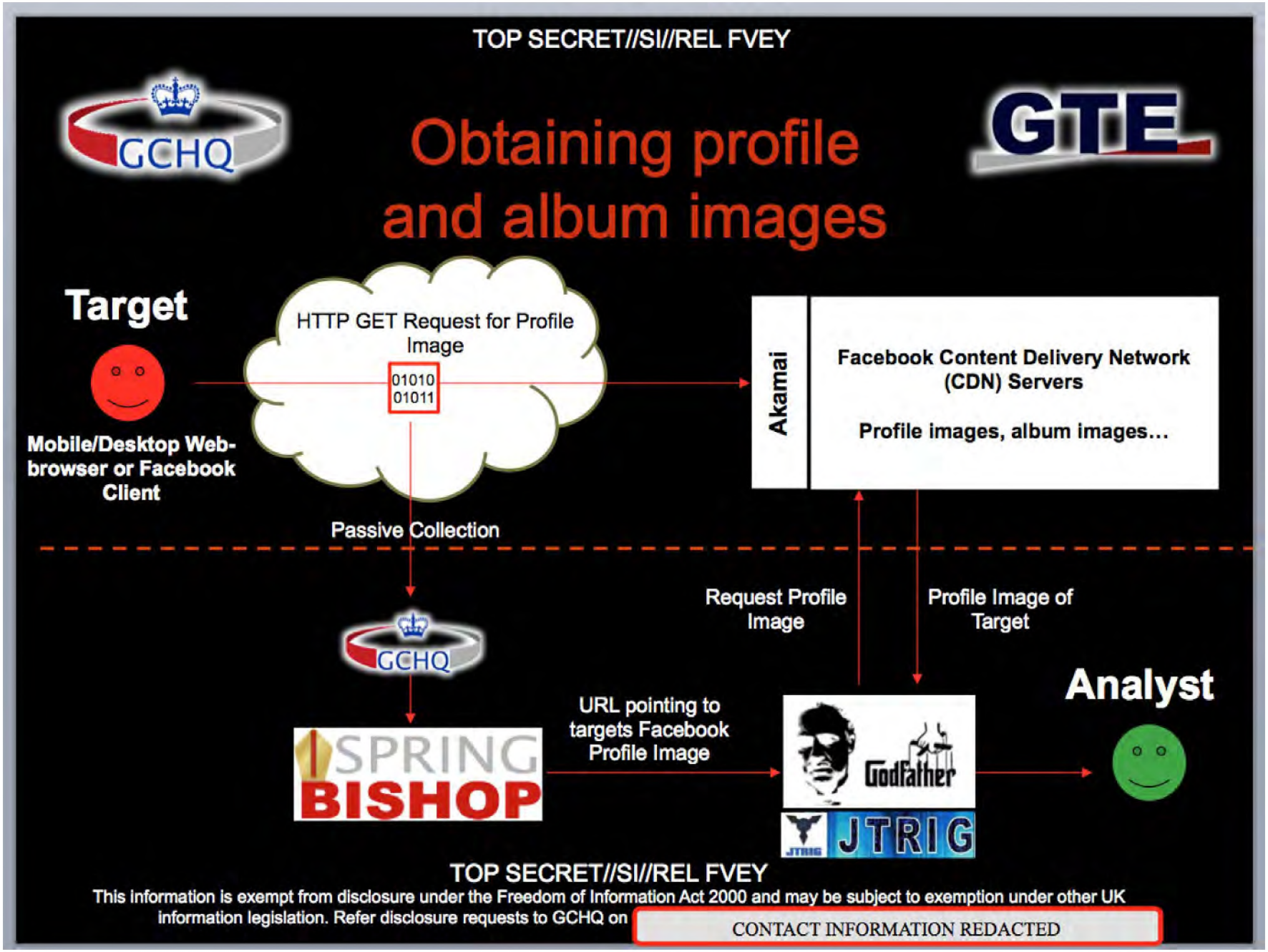
Exploiting the FB CDN

- Weaknesses
  - Assumed Authentication
  - Security through obscurity

It is possible to dissect the CDN URL's generated by Facebook in order to extract the Facebook User ID of the user whose picture the file pertains to. For example, below is a typical profile image URL:

http://**profile.ak.fbcdn.net**/hprofile-ak-sf2p/
hs621.snc3/27353_ REDACTED _2215_q.jpg

The text highlighted in green specifically relates to the specific server within Facebooks CDN. And the text highlighted in yellow is the users Facebook User ID.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GCHQ
Obtaining profile and album images
GTE
Target
HTTP GET Request for Profile Image
01010
01011
Akamai
Facebook Content Delivery Network (CDN) Servers
Profile images, album images…
Mobile/Desktop Web-browser or Facebook Client
Passive Collection
Request Profile Image
Profile Image of Target
GCHQ
Analyst
URL pointing to targets Facebook Profile Image
SPRING BISHOP
GodFather
JTRIG
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THIEVING MAGPIE

Using on-board GSM/GPRS services to track targets

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On board GSM Services
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•Many airlines are offering on-board mobile phone services, particularly for long haul and business class (list is growing)
•At least British Airways are restricting the service to data and SMS only – no voice
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Access
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•Global coverage via SOUTHWINDS is planned in the next year
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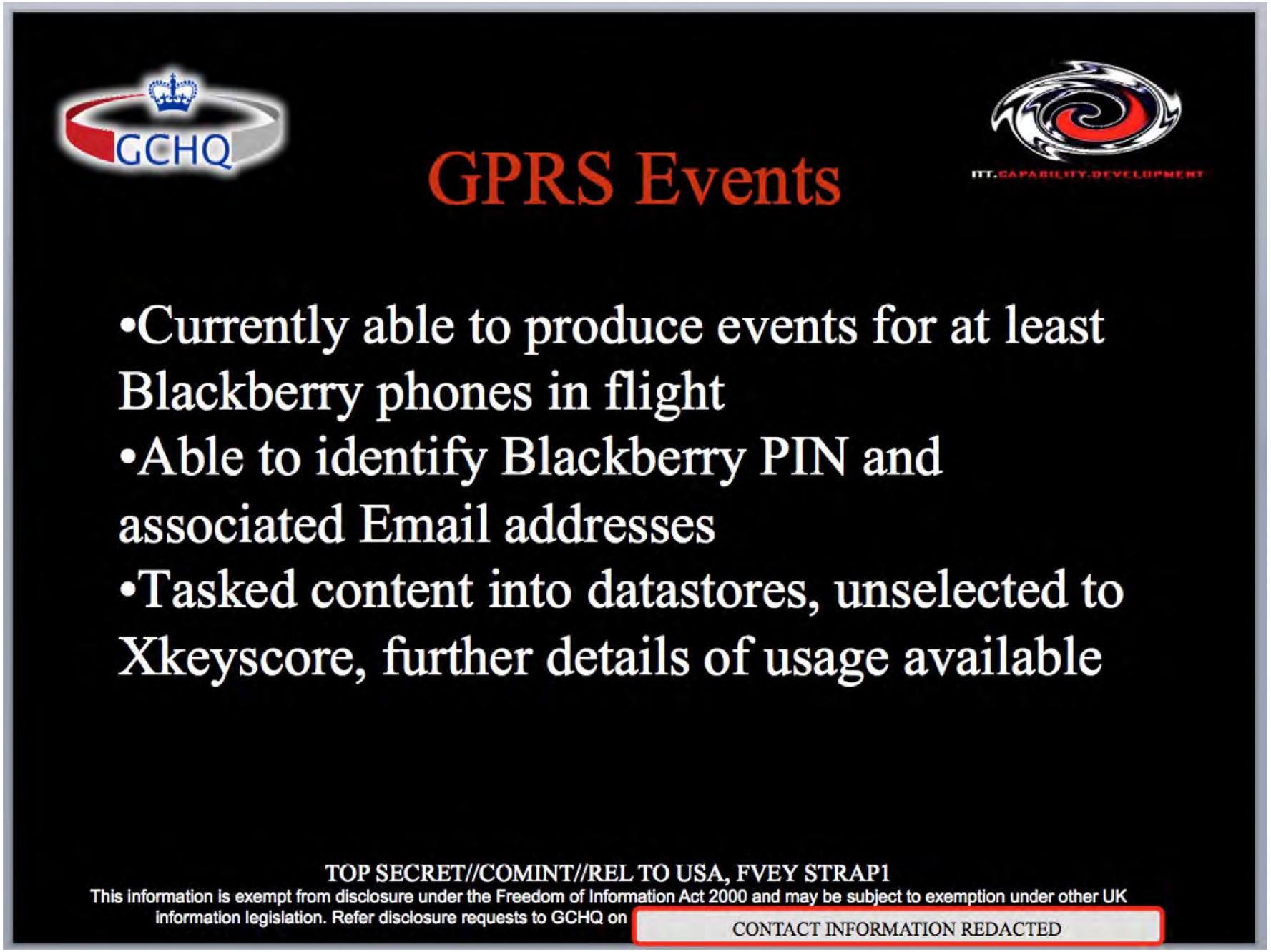
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GPRS Events
•Currently able to produce events for at least Blackberry phones in flight
•Able to identify Blackberry PIN and associated Email addresses
•Tasked content into datastores, unselected to Xkeyscore, further details of usage available
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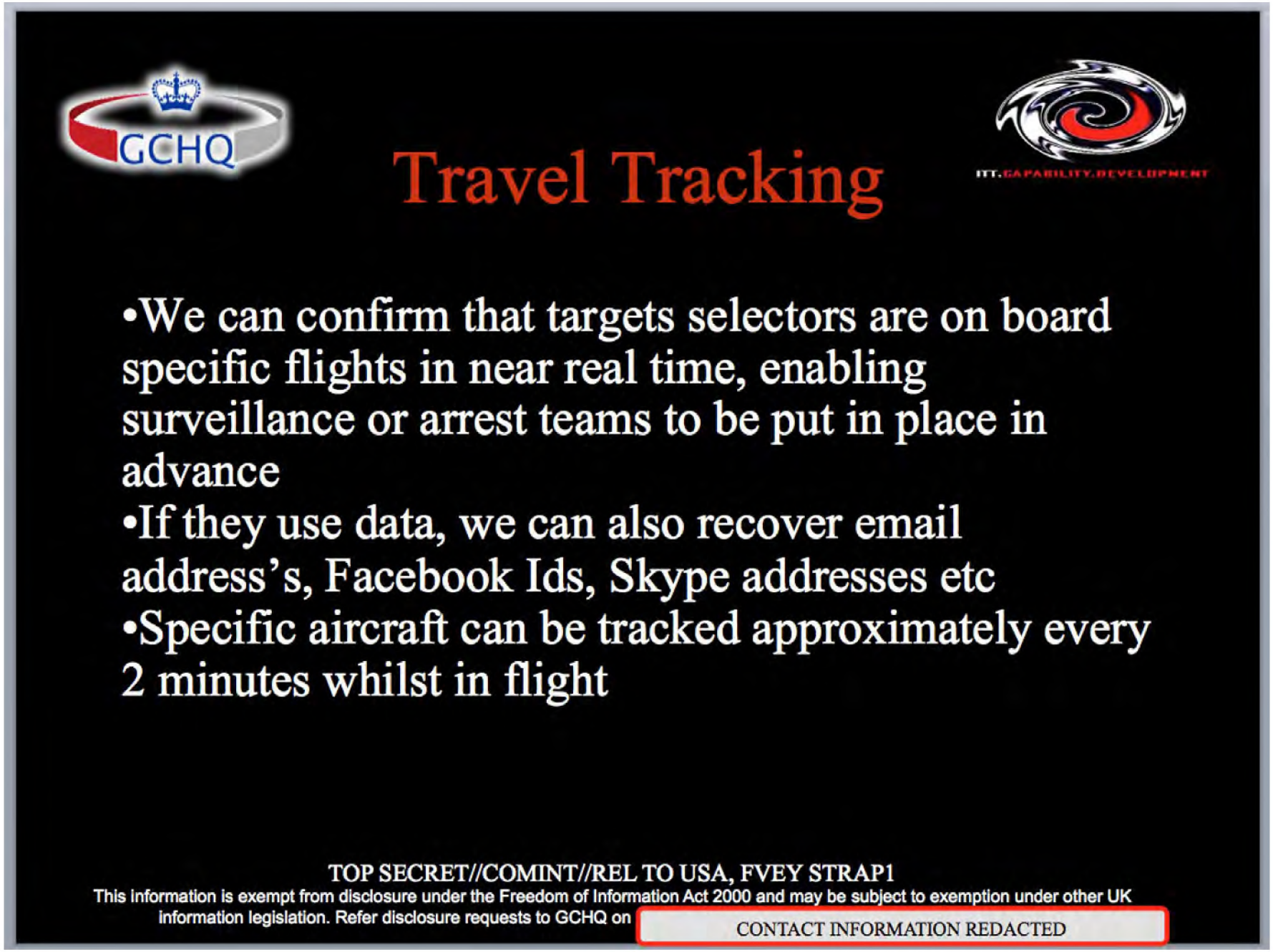
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Travel Tracking
•We can confirm that targets selectors are on board specific flights in near real time, enabling surveillance or arrest teams to be put in place in advance
•If they use data, we can also recover email address's, Facebook Ids, Skype addresses etc
•Specific aircraft can be tracked approximately every 2 minutes whilst in flight
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