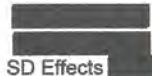






# Full-Spectrum Cyber Effects

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SIGINT Development as an enabler  
for GCHQ's "Effects" mission

# Effects

Destroy | Deny | Degrade | Disrupt | Deceive | Protect

**Computer Network Attack (CNA)  
Computer Network Information Operations (CNIO)  
Disruption**

# Effects in

- Definition: having an impact in the real world
- Key deliverers: JTRIG and CNE
- Now major part of business – 5% of Operations
- Across all target types
- Continuous innovation of new tools and techniques

UK TOP SECRET STRAP1

# CNIO

Computer Network Information Operations

- Propaganda
- Deception
- Mass messaging
- Pushing stories
- Alias development
- Psychology

twitter

flickr YouTube

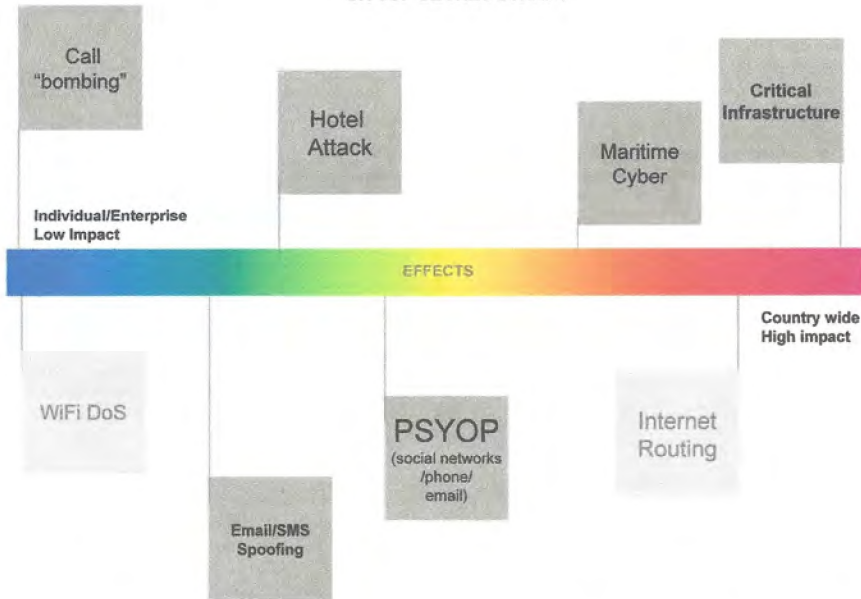
facebook

# Disruption / CNA

- Masquerades
- Spoofing
- Denial of service
  - Phones
  - Emails
  - Computers
  - Faxes



UK TOP SECRET STRAP1



# Information Operations

## INFINITE CURVATURE/MOUNTAIN SLOPE

*Sending messages across the full spectrum of communications*

**Telephony**

**SMS**

**FAX**

**Email**





UK TOP SECRET STRAP1

# ROYAL CONCIERGE

A SIGINT driven hotel reservation tip-off service

From: reservations@expensivehotel.com  
To: new-target@mod.gov.xx

"Thank you for reserving....."



ROYAL CONCIERGE exploits these messages and sends out daily alerts to analysts working on governmental hard targets

**What hotel are they visiting?  
Is it SIGINT friendly?**

**An enabler for effects – can we influence the hotel choice? Can we cancel their visit?**

**We can use this as an enabler for HUMINT and Close Access Technical Operations**

# Mobile Information Ops



**50 new mobile TDIs being  
Developed by end of 2010**

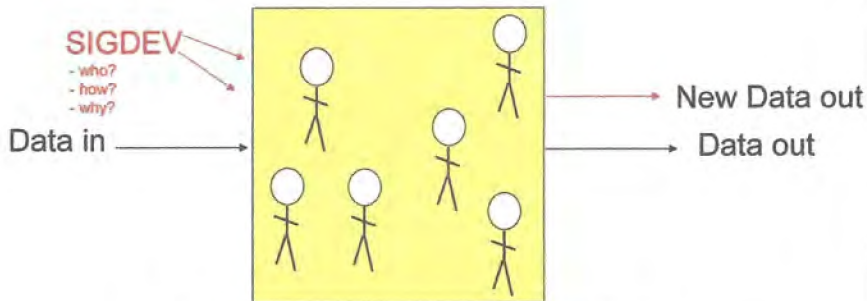
**Also - Target Geographical  
Identifiers (TGI)**

***We can shape CNIO against  
specific locations, users with  
a high degree of cognition***

# Human Systems Analysis

Foreign News Agencies:

- Credential Harvesting
- Employee Analysis



**Social not technological solution**

# Future?

## Formalising Tradecraft for Analysts:

“What SIGDEV needs to be done prior to starting an Effects operation?”



**Joining up with 5 EYES where possible (cyber development)**

**SIP and VoIP Effects – Denial of Service, Psychological Operations**

**Provide the defensive advice from the offensive perspective**