



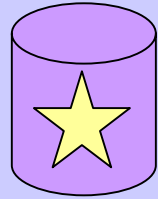
SECRET STRAP1



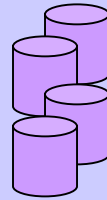
**NEXT GENERATION**  
**events**

# Scope and Aims

Ingest more events feeds as new accesses come online



Increase maturity and availability of QFDs



Pull through more QFDs based on Ops priority



Deliver QFDs capable of holding 'Convergence' data and wider event types



Provide a data mining and collaborative QFD development facility (BLACK HOLE - part of ROUGH DIAMOND)

Enable sharing of QFD data with 2<sup>nd</sup> and 3<sup>rd</sup> Parties

Interface with visualisation services in FIRE STORM



# What is a QFD?

Designed to answer single analytic question (e.g. 'where is my target?')

Simple table structure compared to traditional multi-function databases (e.g. HAUSTORIUM)

Pioneered by ICTR, now developed by a community including Next Gen Events, ICTR, SD, GTE, ...

No specialised database technologies so simpler to develop and maintain

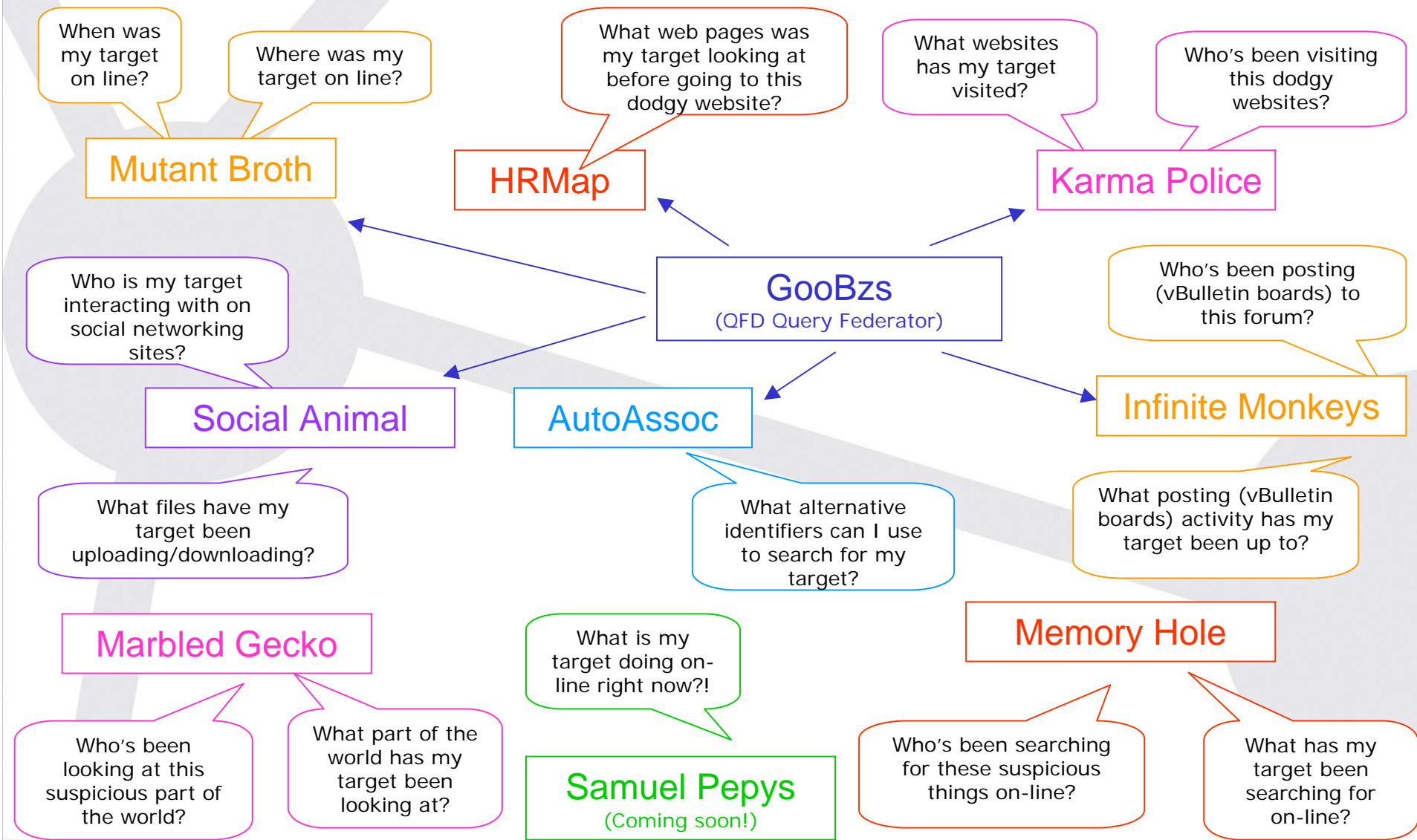
**Question  
Focused  
Database**

Additional instances can easily be deployed at new locations or to increase capacity

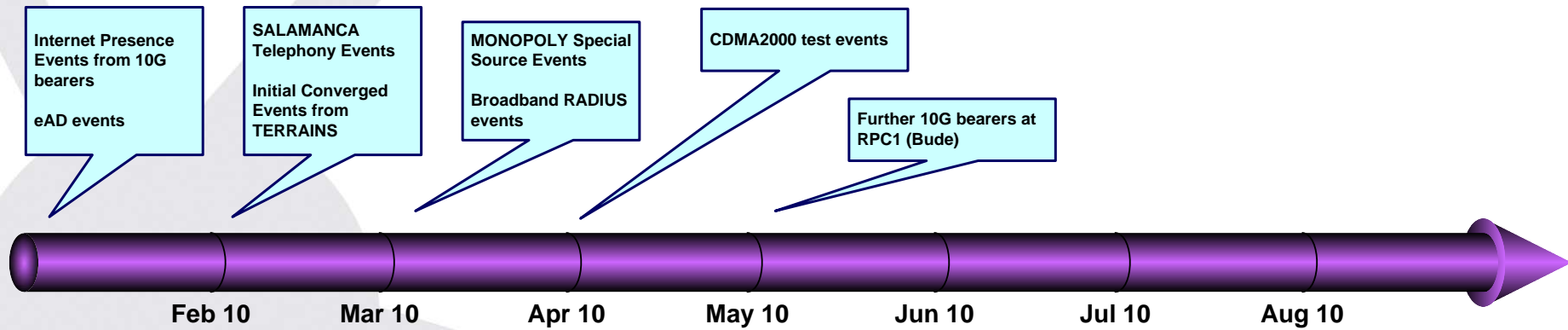
Smaller size and lower complexity means easier and quicker to develop and change



# What does each QFD answer?



# Ingest roadmap



Trial part 1 - MUTANT BROTH, INFINITE MONKEYS, HRMAP, MEMORY HOLE from mobile tunnels

Experiment    Explore    Deployed across CPC and RPC1

Trial part 2 - MMS, Blackberry, Google Maps, mobile Hotmail, mobile Gmail from mobile tunnels

Explore    Deployed across CPC and RPC1

Trial part 3 - Hotmail, Gmail, mail RU, Yahoo webmail from internet bearers

Experiment    Explore    Deployed across CPC and RPC1

Trial part 4 - Windows Live IM, Yahoo Mail, SIP from internet bearers

Explore    Deployed across CPC and RPC1

TPS are working with the NGE Project and SMO Mobile theme to produce internet presence and application usage events from within mobile phone 'tunnels' in internet bearers. These will be trialed before full operational rollout

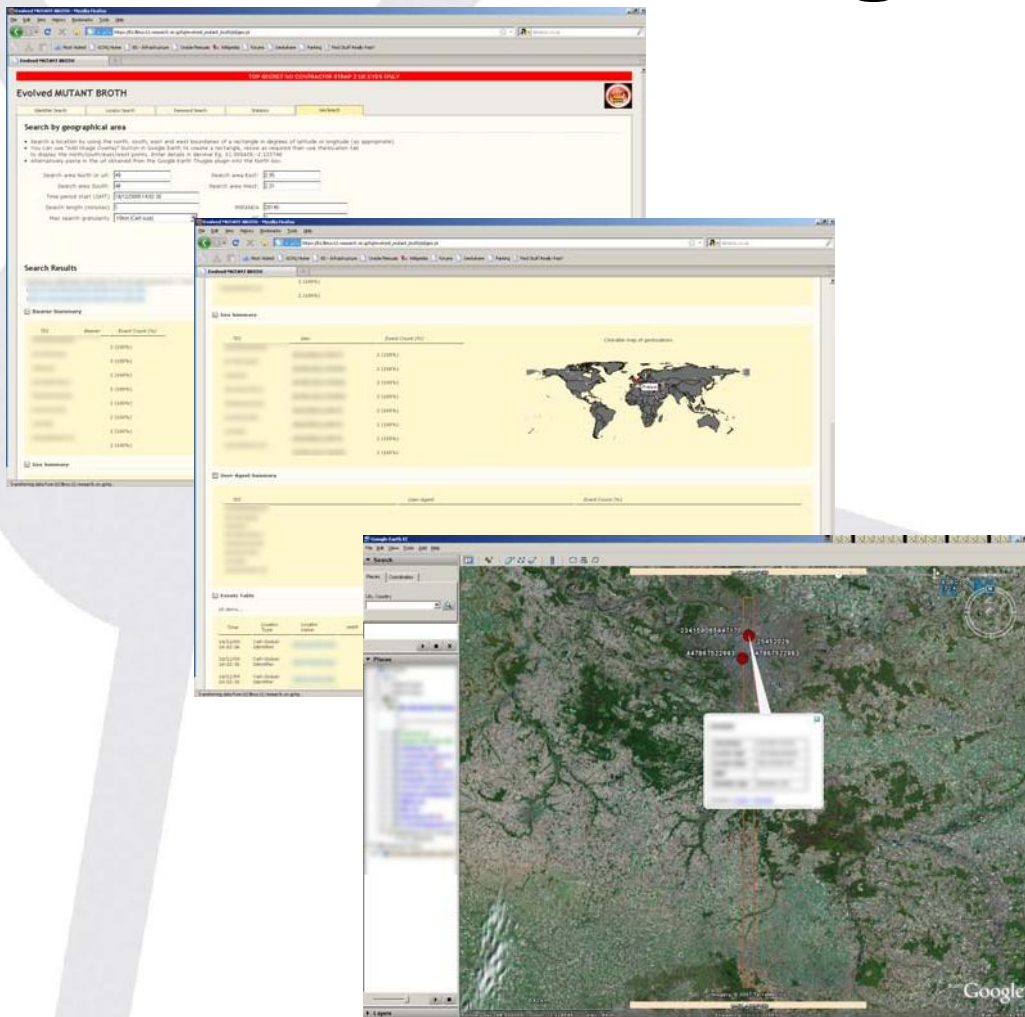
'QFD style' events will also be produced for types of event traditionally fed into the older HAUSTORIUM and HARBOUR PILOT databases



**NEXT GENERATION**  
events

SECRET STRAP1

# Convergence QFDs



Screenshots from evolved MUTANT BROTH web interface, and an export of it's data to Google Earth

This major thread of work will:

- Store events where internet applications are accessed from a mobile device
- Allow analysts to relate mobile device identifiers to internet identifiers such as email addresses
- Enable QFDs to store other more diverse event types, such as telephony events (currently SALAMANCA), and email events (currently HAUSTORIUM / HARBOUR PILOT)
- Interface to LOOKING GLASS visualisation coming soon (in FIRE STORM work package)



# SAMUEL PEPYS QFD

Purpose: Provide a near-real-time diarisation of any IP address

Results

GeoFusion reports IP address 90.237. [REDACTED] as MALMO (low confidence), SE (medium confidence).

Date	Time (UTC)	Source	Destination	Type	Description
02/02/10	00:08:01	90.237. [REDACTED]	205.178.145.65	Websearch	Visited cryptome.org/eyeball/gchq-eyeball.htm (after se
		Bearer	GWUSC503		
		Connection	TCP: 90.237. [REDACTED] port 51475 to 205.178.145.65 port 80		
		Normalised query	gchq cotswold		
		Search Term	gchq cotswold		
		Search Host	www.google.se		
		Search-Clicked-Host	cryptome.org		
		Search-Clicked-URL	/eyeball/gchq-eyeball.htm		
		Accept-Language	sv-SE		
		User-Agent	Mozilla/1.0 (compatible; MSIE 8.0; Windows NT 6.1; WOW64; Trident/1.0; GTB6.1; SLCC2; .NET CLR 3.0.30729; .NET CLR 3.5.30729; Media Center PC 6.0; eSobiSubscriber 2.0.4.16)		
		Cookie	nginx_cached=1		
		Geo-IP-Src	55.60;13.00;MALMO;SE;61VV		
		Geo-IP-Dst	39.0062;-77.4288;SHERLING;US;5MMM		
02/02/10	00:07:59	90.237. [REDACTED]	205.178.145.65	HTTP	GET cryptome.org/eyeball/gchq-eyeball.htm
01/02/10	23:41:12	90.237. [REDACTED]	205.178.145.65	HTTP	GET cryptome.org/eyeball/site-r/site-r.htm
01/02/10	23:41:08	90.237. [REDACTED]	205.178.145.65	HTTP	GET eyeball-series.org/site-r/site-r.htm
01/02/10	23:38:28	90.237. [REDACTED]	205.178.145.65	Websearch	Visited cryptome.org/eyeball/siter-birdseye/siter-birdseye
01/02/10	23:38:26	90.237. [REDACTED]	205.178.145.65	HTTP	GET cryptome.org/eyeball/siter-birdseye/siter-birdseye.h

Expand all Collapse all Export CSV Export raw 1 / 1 6 Row(s)

Prototyped by ICTR – Currently being pulled through by ROCK RIDGE, will be scaled to full 10G volumes by May 2010



# BLACK HOLE

## What is BLACK HOLE?

- ❑ A flat file store housing all data from a wide range of feeds (events and content)
- ❑ Provides a set of tools for accessing that data.
- ❑ Intended to be the source of events (and limited content) for the development of new QFDs and analytics.
- ❑ Contains a rolling 6 months retention
- ❑ Part of ROUGH DIAMOND

## What does it enable?

- ❑ New QFDs to be rapidly prototyped, then to be added to the operational QFD suite
- ❑ Trialling of new bulk analysis ideas
- ❑ New sources of data to be introduced quickly into existing QFDs.
- ❑ Users to look for particular patterns and behaviours (target discovery)
- ❑ TR, GTAC and GTE access to more data for research purposes, which may not be QFD related.





# User Feedback

**'Absolutely FABULOUS  
well done '**  
(Iain Lobban, ref  
SUPERDRAKE reporting)

**'its amazing to see how the pace  
of delivery in TDB has increased  
and I have been impressed by  
your responsiveness to customer  
needs.'**  
(██████████, Senior User)

**'Almost exactly a year ago I set you the challenge of delivering  
an upscaled massive events capability ... in order to support  
Internet Operations being conducted by GCHQ.  
Through your stripy team working on BLAZING SADDLES,  
BLUESHIFT and SUPPORTING INO you successfully met this  
challenge and delivered us a significant new capability in July.'**  
(██████████, Deputy Director Cyber Operations)

**'It's working flawlessly'**  
(analyst, ref BLACK  
HOLE)

**'Bloody awesome'**  
(analyst, ref  
SUPERDRAKE QFD)

