Content Acquisition Optimization

[redacted]

Yahoo Webmessenger

- Update data sent to individuals logged into Yahoo's Instant Messenger service online
  - Online contact status, unread emails in Yahoo inbox
  - Usually small sessions (2-4kB)
- Sporadic collection (30,000 – 60,000 sessions per day)
- Intermittent bursts of collection against contacts of targets
  - Large numbers of sessions (20,000+) against a single targeted selector
  - Not collected against the target (online presence/unread email from target)
  - No owner attribution (metadata value limited to fact-of comms for emails, online presence events for buddies)
- Over a dozen selectors detasked in two weeks
  - Because a target's contact was using/idling on Yahoo Webmessenger
  - Several very timely selectors (Libyan transition, Greek financial related)

Address Books

- Email address books for most major webmail are collected as stand-alone sessions (no content present*)
- Address books are repetitive, large, and metadata-rich
- Data is stored multiple times (MARINA/MAINWAY, PINWALE, CLOUDs)
- Fewer and fewer address books attributable to users, targets
- Address books account for ~ 22% of SSO's major accesses (up from ~ 12% in August)

Access (10 Jan 12)	Total Sessions	Address Books
US-3171	1488453	237067 (16% of traffic)
DS-200B	938378	311113 (33% of traffic)
US-3261	94132	2477 (3% of traffic)
US-3145	177663	29336 (16% of traffic)
US-3180	269794	40409 (15% of traffic)
US-3180 (16 Dec 11)	289318	91964 (32% of traffic)
TOTAL	3257738	712366 (22% of traffic)

Provider	Collected	Attributed	Attributed%
Yahoo	444743	11009	2.48%
Hotmail	105068	1115	1.06%
Gmail	33697	2350	6.97%
Facebook	82857	79437	95.87%
Other	22881	1175	5.14%
TOTAL	689246	95086	13.80%

Buddy Lists,Inboxes

- Unlike address books, frequently contain content data
  - Offline messages, buddy icon updates, other data included
  - Webmail inboxes increasingly include email content
  - Most collection is due to the presence of a target on a buddy list where the communication is **not** to, from, or about that target
- NSA collects, on a representative day, ~ 500,000 buddylists and inboxes
  - More than 90% collected because tasked selectors identified only as contacts (not communicant, content, or owner)
- Identifying buddylists and inboxes without content (or without useful content) an ongoing challenge

Scenario: [redacted]@yahoo

- [redacted] Sep 2011 [redacted]@yahoo.com (tasked S2E, asw Iran Quds Force) has his/her Yahoo account hacked by an unknown actor, sends out spam email to his/her contact list:


DNI Parser Webmail Display YAHOO! MAIL Active user: [redacted]

Message

Date 2011-09-[redacted]

Subject [redacted]!!!!! (New)

From [redacted]@yahoo.com>

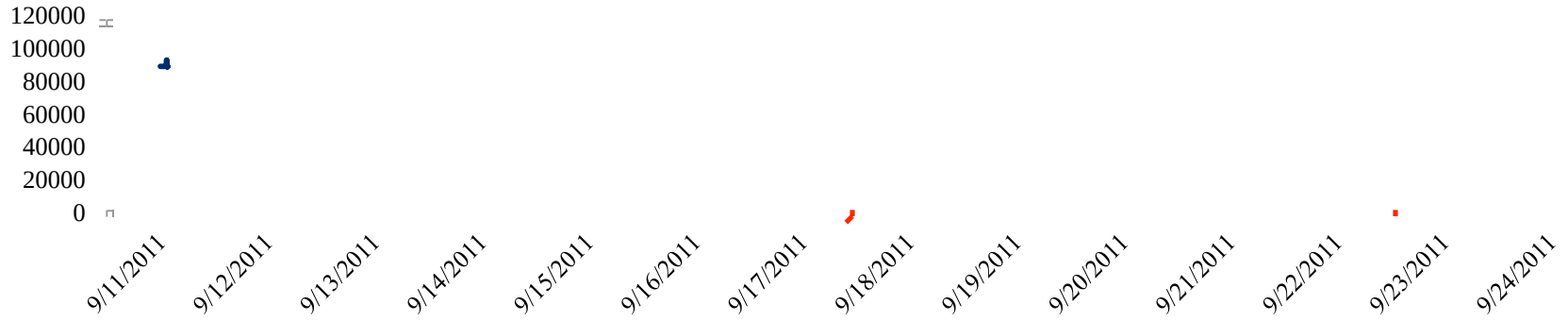
To [redacted]@yahoogroups.com

Scenario: [redacted]@yahoo

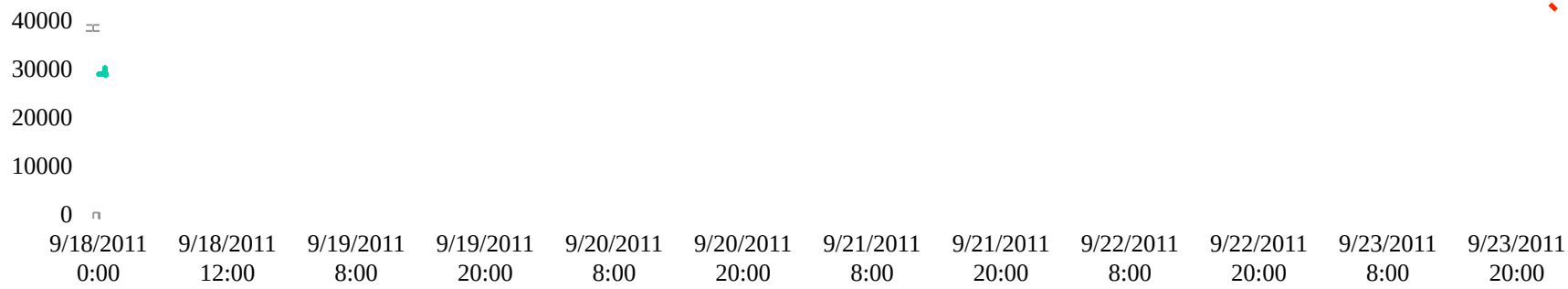
- [redacted]@yahoo.com has a number of Yahoo groups in his/her contact list, some with many hundreds or thousands of members
- At DS-200B in particular, collection spiked as:
  - The initial spam messages were sent (and collected)
  - Inboxes of email recipients were viewed by [redacted] contact list
  - Messages were sometimes viewed, but more often sent as precached views on Google and Yahoo (along with inboxes)
  - Inboxes where the recipient did not delete the spam message continued to be collected every time they were viewed
  - Some recipients added [redacted]@yahoo.com to their address books (possibly as a spam defeat?) – address books were collected every time

Scenario: [redacted]@yahoo

DS-200B Collection By Day - 11 Sep - 24 Sep (in MB)



DS-200B Collection By Hour – 18 Sep – 23 Sep (in MB)



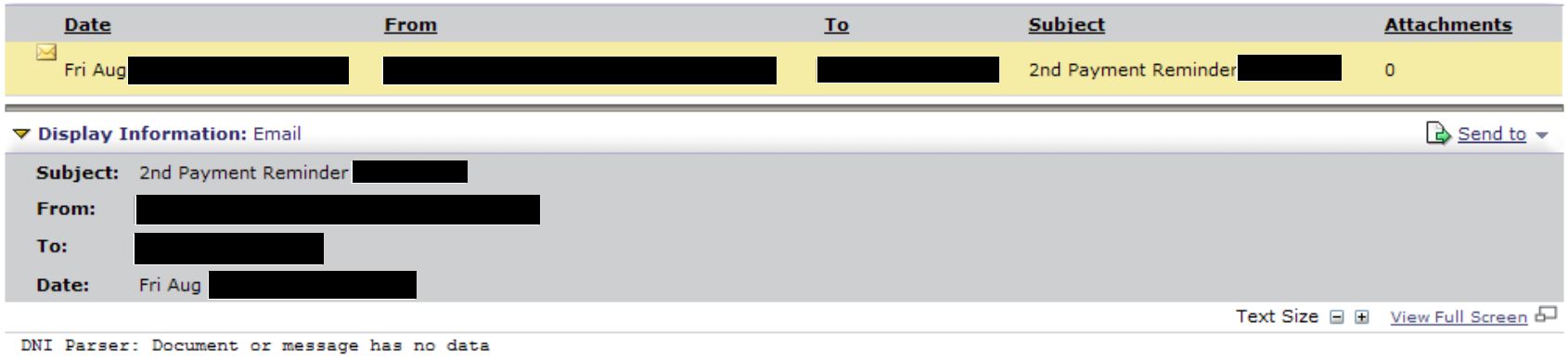
Scenario: [redacted]@yahoo

- [redacted]@yahoo.com emergency detasked from DS-200B and US-3171 at 13:04Z on 20 Oct
- Numerous first-order address books and inboxes collected meant tasked selectors on address books or buddy lists of contacts of [redacted]@yahoo.com also affected:
  - [redacted]@yahoo.com and [redacted]@gmail.com emergency detasked off US-3171 at 13:10Z on 20 Sep
- Memorializing to PINWALE only address books and inboxes owned by target selectors would have reduced PINWALE volumes 90%+
  - Site XKEYSCOREs would buffer data for SIGDEV purposes
  - Metadata from known owner address books and inboxes stored regardless

Mobile IMAP

- IMAP protocol used by email clients to fetch mail from server(s)
- Not designed for devices with intermittent connections (i.e. mobile phones)
- Android implementation in particular uses a lot of bandwidth

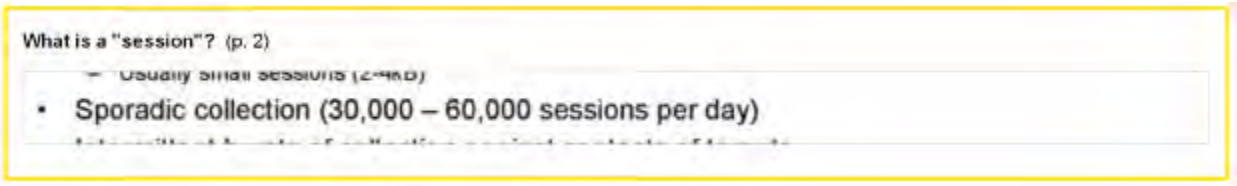
```
A0 CAPABILITY
A1 LOGIN [redacted]
A2 CAPABILITY
A3 EXAMINE INBOX
A4 LIST "" INBOX
A5 LIST "" "INBOX.%"
A6 SEARCH SINCE 15-Aug-2011 UNDELETED ALL
A7 FETCH 17 (ENVELOPE INTERNALDATE RFC822.SIZE
A8 FETCH 17 (BODY.PEEK[HEADER])
A9 CLOSE
A10 LOGOUT
```

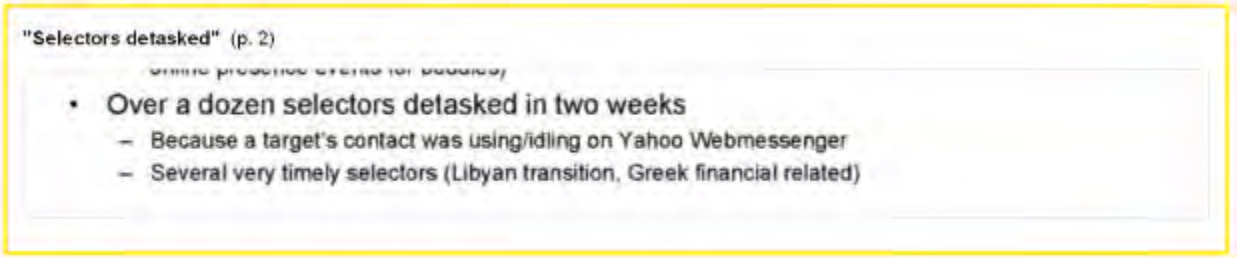


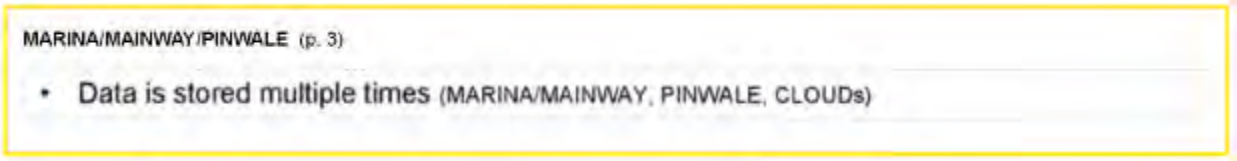
The NSA's overcollection problem

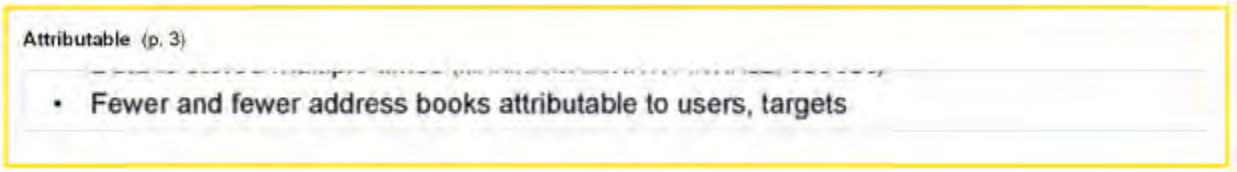
9 Pages - Contributed by Matt DeLong, Washington Post - Oct 14, 2013

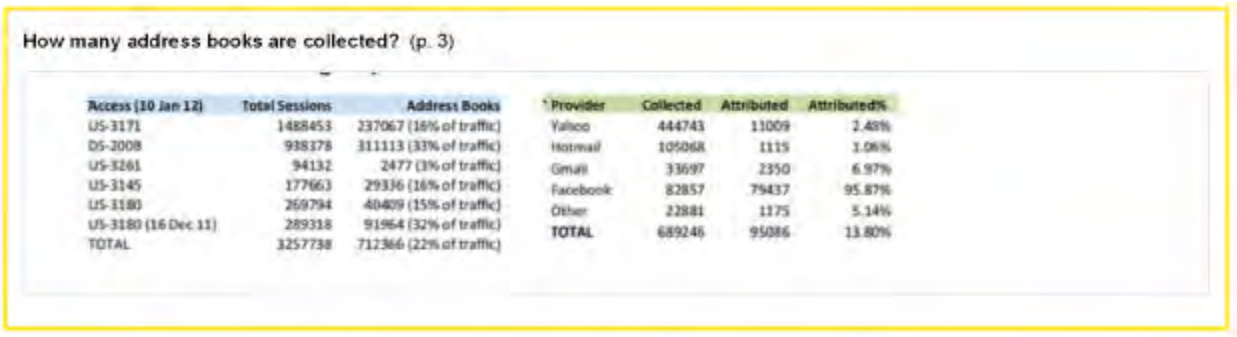
The NSA's Special Source Operations branch manages "partnerships" in which U.S. and foreign telecommunications companies allow the NSA to use their facilities to intercept phone calls, emails and other data. This briefing describes problems with overcollection and NSA efforts to filter out what it does not need.

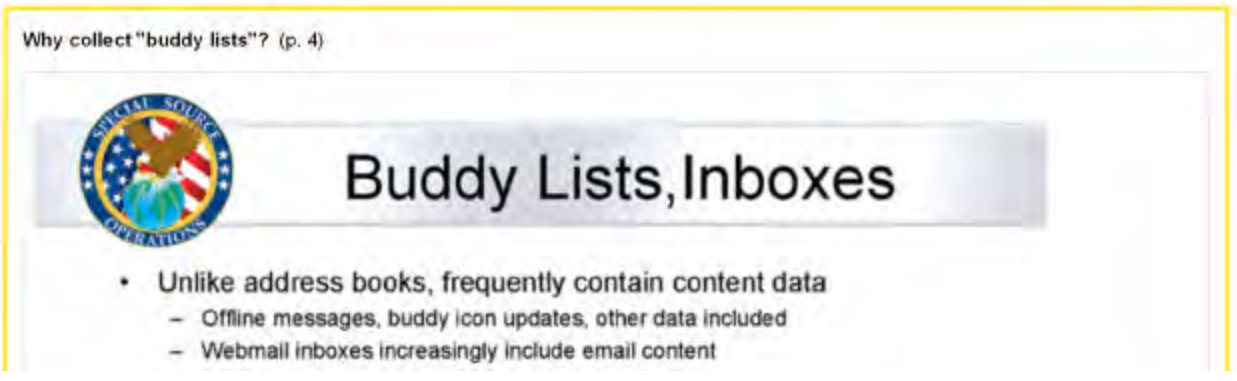












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~500,000 buddy lists and inboxes collected on a representative day (p. 4)

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  - More than 90% collected because tasked selectors identified only as contacts (not communicant, content, or owner)

A targeted account gets hacked (p. 5)

TOP SECRET//SI//NOFORN

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Spammers complicate collection (p. 6)

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Targeted account detasked (p. 8)

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