A Guide to Vetting New Clients

ESPC Full Group Call – 11/7/13

Email Sender & Provider Coalition

Agenda

- Introduction
  - Speakers: Peter Cholnoky, Arnie Bjorkland; E-HAWK
  - Tara Natanson, Gene Gusman, Sweeney Williams, Andrew Bonar
- What is vetting? Why do you need to do it?
- Stopping the "real" bad guys
- Stopping the "accidental" bad guys
- What to do when you miss a bad actor
- Questions

E-HAWK

- Peter Cholnoky, CEO / Arnie Bjorkland, VP sales
- Born out of MAAWG. Founders from SURBL and cyber security
- Goal of creating a service to keep out bad actors
- Vetting Service now live and in production with large ESPs
  - Identifies risk areas of sign-ups and users by automating hundreds of tests
  - Community data shared to help tune scoring and stop account hopping
- How it Works
  - API call with user data -> JSON Risk Score
  - Processed over 800k vets, 150k community

What is vetting? Why do it?

The Goal of Vetting

- Create an effective and efficient on-boarding process that limits risk and accelerates sales
- Keep out bad actors – they impact reputation, cost money and time to stop and fix
- Focus sales teams on real opportunities vs. scams

The Challenges

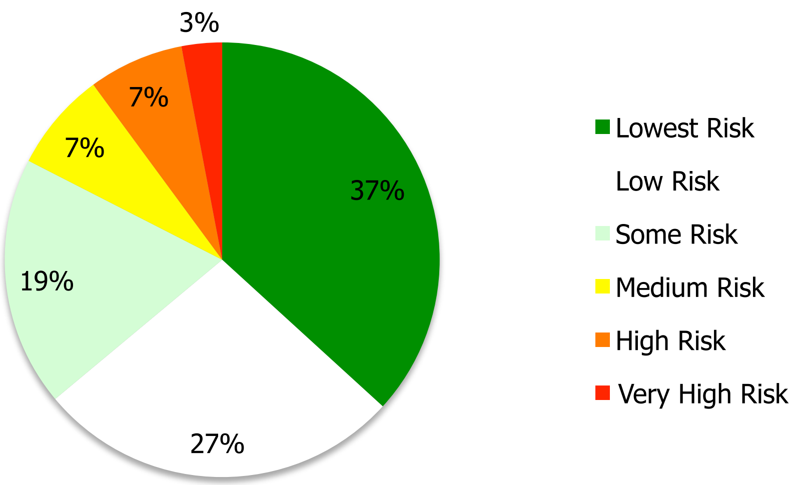
- ESPs are in the business of selling email services, not vetting
- Vetting can be complicated with a lot of tests, both on individual data and linked data
- The bad actors change tactics and it’s a cat and mouse game trying to keep up
- No vetting process or system is perfect. But, a good vetting process will keep out very bad actors who significantly impact your business and reputation

Some Stats from E-HAWK Vetting

Our Experience and Findings (as of Oct 2013)

(800k+ vets, 10M+ tests processed, 150k+ in community data)

- 83% of vets from Lowest to Some Risk
- 17% are Medium to Very High Risk
- 3% are Very High Risk
- Risk needs to be factored from multiple data points
  - 30% have some risk with IPs
  - 25% have some risk with email or domain
  - 20% have some risk with geo or location
  - 5% hitting community
  - 2,400 activity/frequency entities in 11 days
- An Interesting Find
  - 110 emails in a frequency incident. At 10K emails per account = 1.1M spam messages



2 Types of Bad Actors

Malicious / Criminal

- Companies
- Gangs
- Consumers

Primary purpose is to leverage your platform as a delivery mechanism for their criminal activity

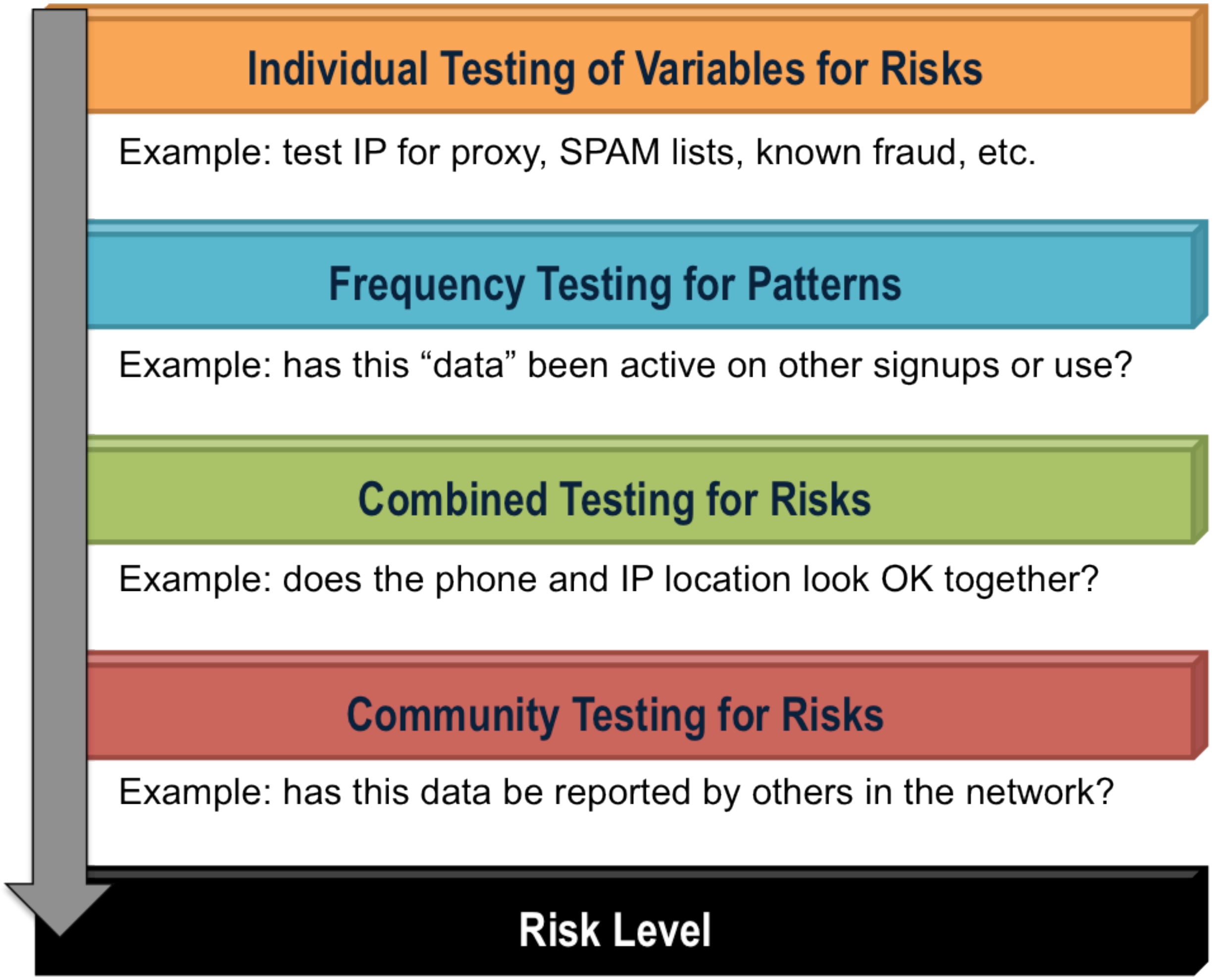
Ignorant / Misguided

- Buy lists
- Send improper content
- Typically companies or consumers
- “Don’t know what they are doing”
- Ask for forgiveness, not for permission

Stopping the "real" bad actors

- Overview – The basics
- Member examples
  - The self-serve model
  - Others

Vetting Process Example



Individual Testing of Variables for Risks

Example: test IP for proxy, SPAM lists, known fraud, etc.

Frequency Testing for Patterns

Example: has this “data” been active on other signups or use?

Combined Testing for Risks

Example: does the phone and IP location look OK together?

Community Testing for Risks

Example: has this data be reported by others in the network?

Risk Level

Vet Scoring Process

- Start each test at Zero
- When your find good things like a clean IP, add a few points
- When you find bad things like a history of spam, subtract a bunch of points
- Risk Score should be based on 3+ data points and many tests
- Risk Score is a point in time and changes quickly – re-vet often

- Define risk policies that align with scoring thresholds for your business.

Verify vs. Vetting

Verify

Does this email exist on the server?

gec01@gecmarrakech.com ✓

The email exists and is valid.

Vetting

Is this email or domain associated with risk? Is there a spam, fraud, or phishing history?

The email and domain have a history of trying to create multiple accounts using gec01, gec02, gec10 and has been identified with fraud. Consider high risk. ✗

Simple verification is not enough to combat bad actors into today's environment.

Vetting Individual Data Points

Vetting IP

On sign-up forms, the IP is something end users cannot lie about and should be vetted thoroughly

- Check for any history or activity on blacklists
- Check IP location for high risk
- Check IP for proxy, TOR, black VPNs or other risky elements

Vetting strategies: use public and private data to check for risk

- IP DNSBL Services
  - SPAMHAUS
  - SPAMCOP
  - URIBL BLACKLIST
  - SORBS
  - SWINOG URIBL
  - MAILSPIKE
- Geo Services
  - IPADDRESSAPI
- Private Services

Vetting email

Email address provides many areas to vet

- Check if from free services (gmail, yahoo, qq, etc.)
- Check on history of email. Is it associated with fraud, scams, etc. Check email blacklists
- Take domain from email address and run domain testing
- Cross check for email history of previous accounts, sign-ups, or fraud
- Verification of email address to start account does not help with bad actors

Vetting strategies:

- Maintain a list of free email services with risk levels
- Search public and private email blacklists for both email and email domain activity
- Incorporate a lookup of past account activity for the email and email domain to flag repeat offenders

Vetting Phone

Phone can provide insight to location and validity of user

- Verify the number is real and not made up
- Check for history of crime or fraud
- Check if number is forwarded
- Check if number is un-allocated

Vetting strategies:

- Use public or private phone verification databases to check for validity and location
- Incorporate a lookup of past account activity for the phone number to flag repeat offenders

Vetting Individual Data Points

Vetting Location

Location (address, city, state, postal code and country)

- For US, check if state and postal code match
- Check location for risk
- Check for history of crime or fraud

Vetting strategies:

- Use public or private address verification databases to check for validity and proper correlation between items
- Maintain a location list with risk levels

Vetting Domain

Domain can provide insight into the user and legitimacy

- Verify domain exists and has a clean record
- Check for domain age -newly created domains are suspect
- Check domain modification for recent changes
- Check domain country

Vetting strategies:

- Use public or private domain lookups (whois) to find domain age, modified dates, and owners
- Use lookup services for domain blacklists
- Maintain a country list with risk levels to associate with domain countries

Stopping the “accidental” bad actors

- Overview – The basics
- Member examples
  - On-boarding at the enterprise level
  - More on self-serve models
  - Community aspects
  - Other

Vetting Activity – Frequency Testing for Patterns

Activity patterns can identify phishers, bots, and high risk users

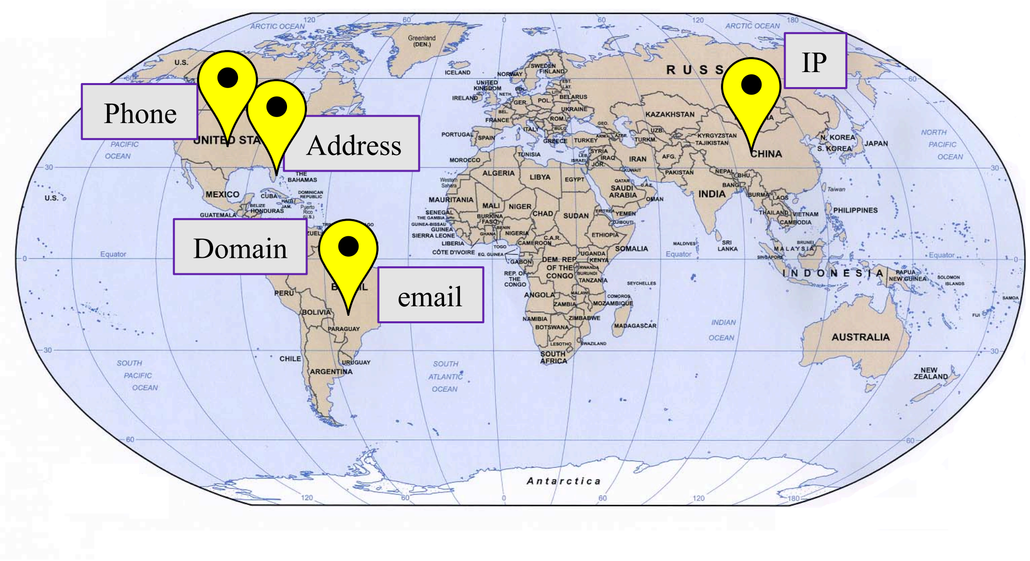
- Check for patterns in emails jim1@domain.com, jim2@domain.com, jim3@domain.com
- Check for patterns in IP (1.1.1.1, 1.1.1.2, 1.1.1.3)
- Test for patterns across domains, phones, and locations

Vetting strategies:

- Track short-term activity for repetitive patterns of key data points
- When identified, link all history to remove threat. Example: when seeing repetitive emails, all current and past similar emails need to be tagged.

Effective for combatting Waterfalling and Snowshoe Spamming Tactics.

Vetting Geo-location



Email: jim@yahoo.com.br
IP: from China
Phone: Ohio
Domain: xxx.br
Address: Florida, US

Geo data should be analyzed for consistency

- Create group checks, such as “Does the IP location make sense with the location data?”

Vetting strategies:

- Track as much geo data as possible
- Run region analysis and testing against groups of data that should be similar. Rank matches positive and miss-matches negative
- Use region and country risk factors in analysis

Community Data

Bad Actors jump between ESPs, already have "sleeping cells" in many accounts, and are very actively

- Vet and review all new sign-ups
- Vet all account updates to prevent account hijacking and Adobers re-do
- Vet all account owners before campaigns launch to see if they are high risk

Vetting strategies:

- Be proactive and share data with partners, competitors, and trusted third parties. We all have one enemy = Bad Actors
- Ensure your sharing data is ranked by category, type
- Automate the sharing process – real-time data is more effective

On-boarding models

- Self-service /small list senders
  - Automated vetting based only on registration info for the account and begin mailing (no DNS/whois/BBB look-ups)
  - Heavily weighted towards the content of mailing list and secondarily the content of individual campaigns
- Larger senders / B2B
  - Manual vetting done by human research
  - Remediation performed following initial sends

More examples

- Other tools
- What to do when you miss a bad actor
  - Why you might miss a bad actor
  - What you can do on a going forward basis to catch any bad actors you might miss initially

Questions