

#westonhecker #skimbadsoftware

Goodbye Memory Scrapping Malware

Hold Out Till "Chip And Pin".
Weston Hecker Security Expert With KLJ



Systems Network
Analyst/Penetrations
Tester/President Of Computer
Security Association Of
North Dakota

Who Am I What Do I Do What's the Talk About,

- About Me: Speaker at Defcon 22 Tons of Computer Certs, Computer Science/Geophysics
- About 11 years pen-testing, security research , Spoke at Defcon 22 Las Vegas on Burnerphone DDOS
- NERC, FFIEC, FISMA/NIST, ISO, GLBA and FDIC, Compliance audits HIPAA, Omnibus,
- Wrote custom exploits for obscure Internet service provider gear and PMS software.
- Tools of the trade “Fleet of Fake I phones” And now android variance.
- Co-writer of Skimbad Software Open source anti malware skimming software OPEN SOURCE. This talk today will be going of this new concept of protecting Data
- Pentesting for a living everything from banks, hospitals and ISP in the Mid-west. I live and work in North Dakota
- Security projects including Reverse engineering of malware and tracking software. Working on 911 Attack mitigation projects.

TEENSY 3.1 Container!!!



Build Your Own There Awesome !!!
Hit me up on Twitter or E-mail me.

START THE DEMO !!!

- This will Run while I speak
- We will check the number at the end of the Presentation
- The Graphical demonstration version is available on Skimbad.com
- Source Code and EXE are Available on GitHub

The screenshot shows a web application interface with a table. The table has two columns: 'date' and 'data'. The 'date' column contains timestamps from January 2015. The 'data' column contains a long alphanumeric string.

| date | data |
|--------------------------|---------------------------------------|
| 28 January 2015 16:54:07 | 6682190121332853=15051010000000000000 |
| 28 January 2015 16:54:07 | 531815 |

The problem of Data skimming malware/ Large Profile cases



Why do people skim data / how much does it cost










Find the bin you were looking for? Need more dumps of particular bin? Try our partner's shop - [Bulk Orders - Low Prices!](#)

Clear

Search

| Bin | Card | Debit/Credit | Mark | Expires | Track 1 | Code | Country | Bank | Base | Price | Cart |
|--------|--|--|----------|---------|---------|------|---|--|--|---------|--|
| 524337 |  MASTERCARD | CREDIT | STANDARD | 05/15 | Yes | 201 |  Canada, , 0 | CAPITAL ONE BANK (CANADA BRANC H) <i>Dump or cc of this particular bank (BIN) cannot be replaced or refunded.</i> | Canada Goose  | 14.58\$ | <input data-bbox="2423 478 2509 526" type="button" value="+"/> |
| 452002 |  VISA | YET ANOTHER USA DUMPS UPDATE! /  25 MAY 2015 / COMMENTS: | | | | | | | RLD | 3.37\$ | <input data-bbox="2423 721 2509 769" type="button" value="+"/> |
| 452005 |  VISA |  Base name: <i>Mark Zuckerberg</i> <i>Track 2 Only</i> <i>Valid rate: 95%</i> <i>Replacement time: 30 minutes</i> | | | | | | | RLD | 4.21\$ | <input data-bbox="2423 963 2509 1012" type="button" value="+"/> |
| 452005 |  VISA | | | | | | | | RLD | 4.21\$ | <input data-bbox="2423 1063 2509 1112" type="button" value="+"/> |

Why do people skim data / how much does it cost











| | | | | | | |
|-----|-----|---|---------------------------|---|--------|----------------------------------|
| | | CHEERTOWAGA, 14225 | DOMINION BANK | (valid 26%)  | | |
| Yes | 201 |  Canada, OH, COLUMBUS, 43240 | TORONTO- DOMINION BANK | Barbarossa - WORLD (valid 26%)  | 4.21\$ | <input type="button" value="+"/> |
| Yes | 201 |  Canada, WA, BELLINGHAM, 98226 | TORONTO- DOMINION BANK | Barbarossa - WORLD (valid 26%)  | 4.21\$ | <input type="button" value="+"/> |
| Yes | 201 |  Canada, WA, BELLINGHAM, 98226 | TORONTO- DOMINION BANK | Barbarossa - WORLD (valid 26%)  | 4.21\$ | <input type="button" value="+"/> |
| Yes | 201 |  Canada, WA, BELLINGHAM, 98226 | TORONTO- DOMINION BANK | Barbarossa - WORLD (valid 26%)  | 4.21\$ | <input type="button" value="+"/> |
| Yes | 201 |  Canada, MI, FORT GRATIOT, 48059 | TORONTO- DOMINION BANK | Barbarossa - WORLD (valid 26%)  | 4.21\$ | <input type="button" value="+"/> |
| Yes | 201 |  Canada, MI, FORT GRATIOT, 48059 | TORONTO- DOMINION BANK | Barbarossa - WORLD (valid 26%)  | 4.21\$ | <input type="button" value="+"/> |
| Yes | 201 |  Canada, AZ, GILBERT, 85296 | TORONTO- DOMINION BANK | Barbarossa - WORLD (valid 26%)  | 4.21\$ | <input type="button" value="+"/> |
| Yes | 201 |  Canada, MI, | TORONTO- | Barbarossa - WORLD | 4.21\$ | <input type="button" value="+"/> |

how its sold/used to defraud

find the bin you were looking for? Need more dumps of particular bin? Try our partner's shop - [Bulk Orders - Low Prices!](#)

Clear

Search

| Bin | Card | Debit/Credit | Mark | Expires | Track 1 | Code | Country | Bank | Base | Price | Cart |
|--------|--|--------------|----------|---------|---------|------|--|---|---|---------|---|
| 524337 |  MASTERCARD | CREDIT | STANDARD | 05/15 | Yes | 201 |  Canada, , , 0 | CAPITAL ONE BANK (CANADA BRANC H) Dump or cc of this particular bank (BIN) cannot be replaced or refunded. | Canada Goose  | 14.58\$ | <input data-bbox="2407 411 2484 464" type="button" value="+"/> |
| 452002 |  VISA | CREDIT | CLASSIC | 05/15 | Yes | 201 |  Canada, NY, PLATTSBURGH, 12901 | TORONTO- DOMINION BANK Dump or cc of this particular bank (BIN) cannot be replaced or refunded. | Barbarossa - WORLD (valid 26%)  | 3.37\$ | <input data-bbox="2407 654 2484 706" type="button" value="+"/> |
| 452005 |  VISA | CREDIT | | | | | | TORONTO- DOMINION BANK | Barbarossa - WORLD (valid 26%)  | 4.21\$ | <input data-bbox="2407 896 2484 949" type="button" value="+"/> |
| 452005 |  VISA | CREDIT | | | | | | TORONTO- DOMINION BANK | Barbarossa - WORLD (valid 26%)  | 4.21\$ | <input data-bbox="2407 996 2484 1049" type="button" value="+"/> |



how its sold/used to defraud







- Carding/ Ordering things online
- Duplicating cards and using them in stores.
- ATM Cashout runs / Pin Skimmed Data.
- Theft of resources / Gas Food.
- Theft of online services or Licenced materials / Digital Movies /subscriptions to sites.
- Using Card data to transfer money WU runs.



How batches of data are ex-filtrated and sold

BACKDOORS, RATS, TROJANS & ROOTKITS

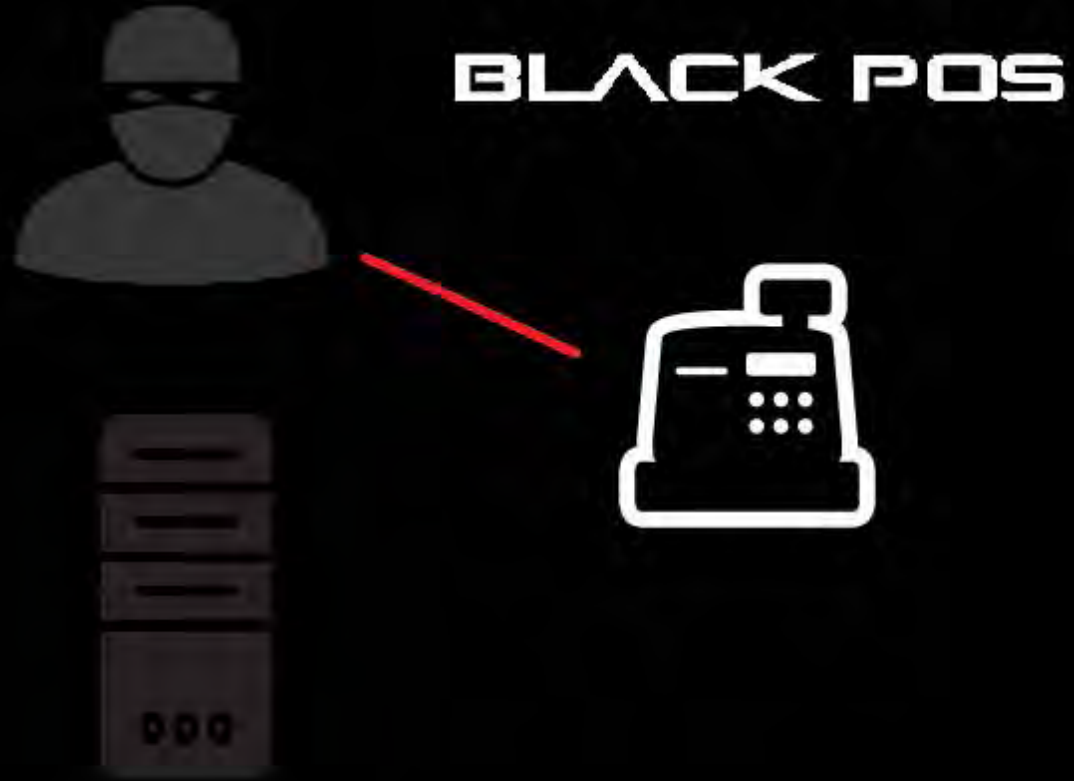
Thread / Author

-  → [New !! DroidJack Android RAT \[Cracked\] for android phone hacking](#)
klaudovsky
-  → [Winlocker/Cryptolocker/Torrentlocker Affiliatty/Bitcoins And make Build individual](#)
convertbiz
-  → [DEXTER POS Skimming Software 2015 FORSALE!!! 4 Bitcoins](#)
CCBASHUP
-  → [Citadel 1.3.5.1 Cracked By: MR BOTNET](#)
Mr.BOTNET
-  → [unrecom 1.4 crack](#)
faria8902
-  → [Anti-Zeus Tracker](#)
Mr.BOTNET

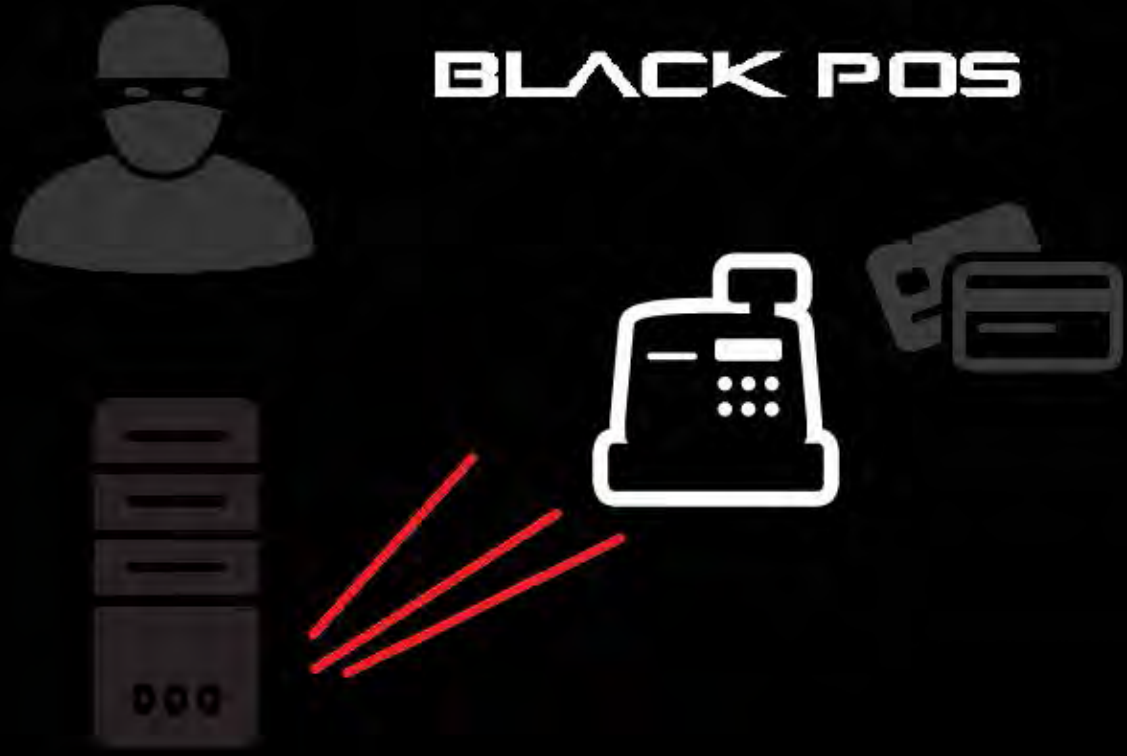
How batches of data are ex-filtrated and sold

- USB devices used to jump “Air” gapped or tighter security
- Use if spearfishing campaigns
- Software is loaded on to systems by classic hacking methods USB, HID.
- Batches are pull to servers most of the time using POST requests every time a card is found in memory the malware sends the data to a Dump
- Dumps are compiled by BIN number and sold on carding pages price is determined by the banks usual Point of Sale and Debit limit.
- The validity rate is how many cards out of a 100 will work . Most batches sold on proper carding forums are 98% plus
- Two year old Target breach still has about a 10% validity Rate.

Initial POS terminal is breached and malware is loaded



As cards are swiped they now are send to a Server where they will be sold online.



For the demonstration this all will be ran on one computer normally the POS is separate from the card catching Server.



For This Demo

BLACK POS

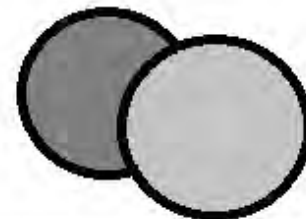


How does malware tell credit card data from other data

Bank Of SkimBad

4342 5712 3456 7891

Valued Customer



Most Search Memory Using Custom Search Algorithms



It works against...

CHEWBACCA

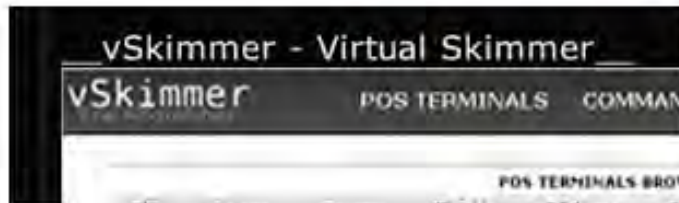
BLACK POS

JackPos

FREE

Back Off

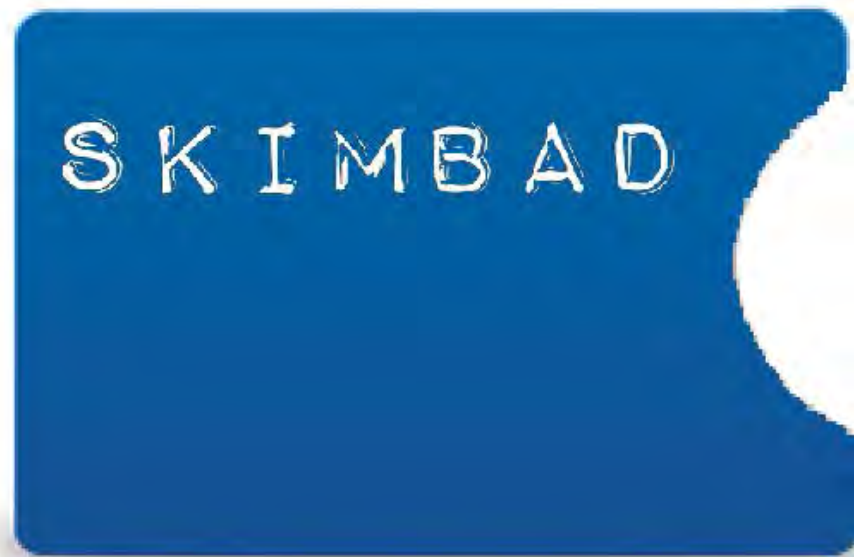
DEXTER



BrutPOS

- Rdasrv
- Alina
- VSkimmer
- Dexter
- BlackPOS
- Decebal
- JackPOS
- Soraya
- ChewBacca
- BrutPOS
- Backof

II. The approach to stopping Breaches / the tool



what currently exists to stop skimming/data exfiltration



how this concept would make batches unusable



how are random credit cards made what are Bins

Bank Of SkimBad

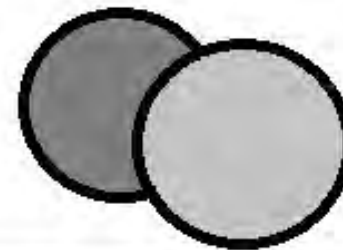
First 6 Digits are BIN #

4342 5712 3456 7891

Bank Identification Number

Valued Customer

Check Digit



How random card numbers are made

Bank Of SkimBad

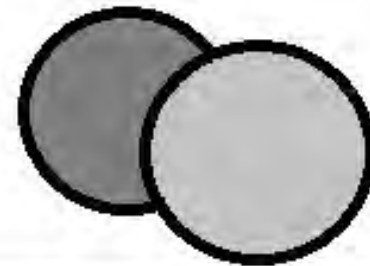
First 6 Digits are BIN #

4342 5712 3456 7891

Bank Identification Number

Valued Customer

Check Digit



How it makes random names.



Honey-pot card numbers to let them know breach has occurred.

6 5 1 6 5 7 6 7 4 6 1 1 6 1 4

2 1 3 5 4 6 8 4 6 5 1 6 5 1 9 8 1

Card Number Does not Occur In the Wild

8 7 1 1 1 8 4 3 6 1 1 5 1 4 1 3 5

2 4 3 5 6 8 9 4 2 4 5 8 1 3 4 7 9

4 6 1 1 6 1 4 6 5 1 6 5 7 6 7

4 2 4 5 8 1 3 4 7 9 2 1 3 5 4 6 8 4 6

Credit Processor



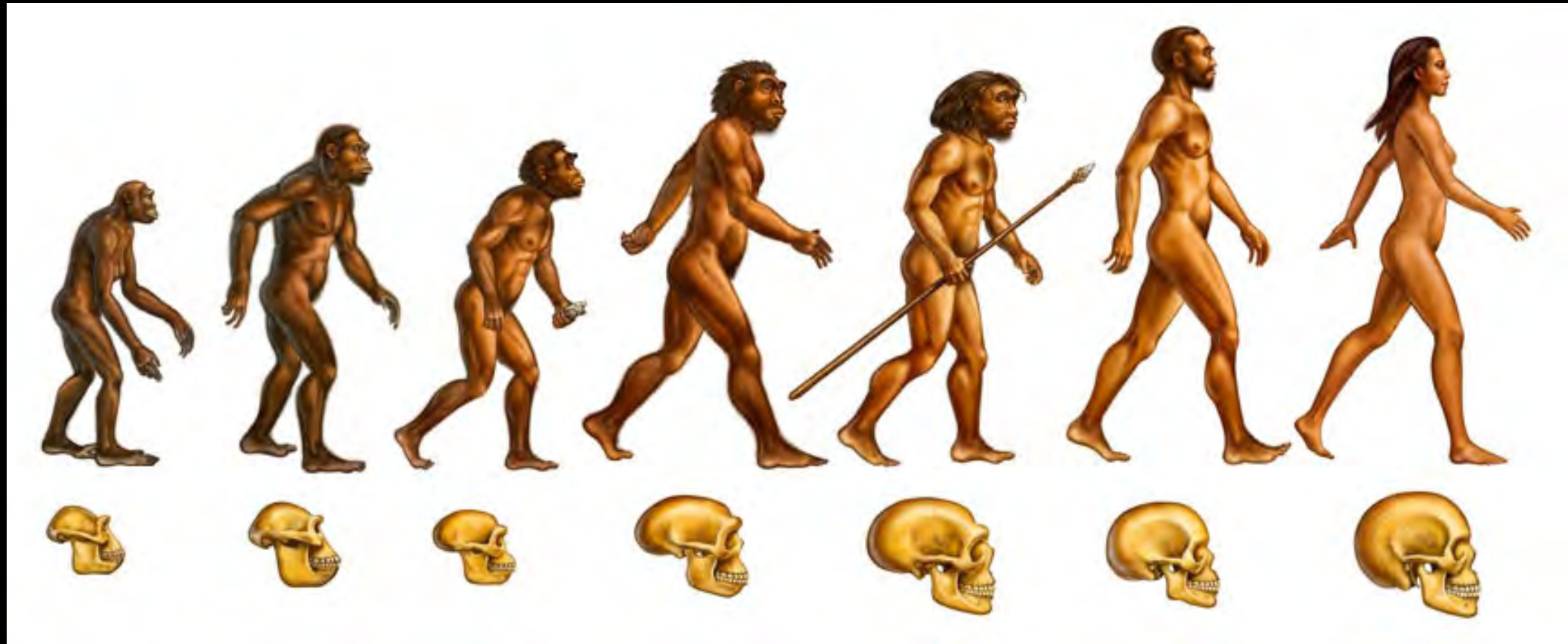
8 7 1 1 1 8 4 3 6 1 1 5 1 4 1 3 5



Anti-keystroke Catching



III. How will malware evolve and how we will stay on top of it



Malware gets smarter and detects BINs from area and other methods



watch dog portions (protection from malware)



How to make batches look real

Fake Credit Card

65 1657674611614

Fake Credit Card

21354684651651981

Real Credit Card

87111843611514135

Fake Credit Card

24356894245813479

Fake Credit Card

461161465165767

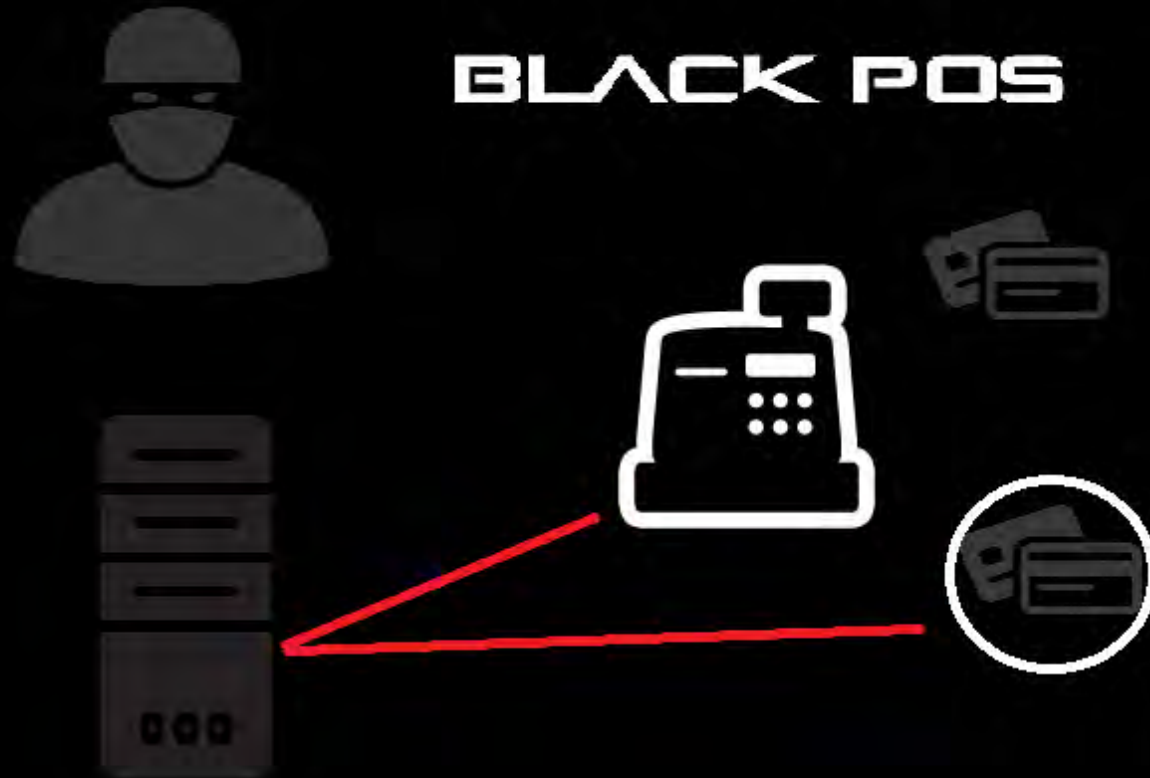
Fake Credit Card

4245813479213546846

Stolen Data Server

4245813479213546846
651657674611614 4245813479213546846
21354684651651981
4245813479213546846
24356894245813479 4245813479213546846
4245813479213546846
24356894245813479 4245813479213546846
87111843611514135
6516576 4245813479213546846
87111843611514135
24356894245813479
4245813479213546846
4245813479213546846
24356894245813479
4245813479213546846
4245813479213546846
24356894245813479
4245813479213546846
4245813479213546846
21354684651651981

The Legitimate Credit Cards are Covered with Fakes



How to make fake batches (unscrutable no reversing of process)

Fake Credit Card

65 1657674611614

Fake Credit Card

21354684651651981

Real Credit Card

87111843611514135

Fake Credit Card

24356894245813479

24356894245810470 4245813479213546846
-9458 047821334884E 24356894245813479
87111843611514135 -9458 047821334884E

Processor account banned after 10 cards declined in time frame
Real Number Hidden in 1000s of Fakes

Credit Processor

4245813479213546846
651657674611614 4245813479213546846
21354684651651981
-9458 047821334884E 4356894245813479
213546846 -9458 047821334884E
24356894245810470 4245813479213546846
-9458 047821334884E 24356894245813479
87111843611514135 -9458 047821334884E
6516576 4245813479213546846 -9458 047821334884E
87111843611514135
24356894245813479 -9458 047821334884E
4245813479213546846 4245813479213546846
4245813479213546846 -9458 047821334884E
24356894245810470
-9458 047821334884E 4245813479213546846
4245813479213546846 4245813479213546846
24356894245810470 -9458 047821334884E
-9458 047821334884E 4245813479213546846 -9458 047821334884E
4245813479213546846 4245813479213546846
21354684651651981

Blocked After 10 Fake Cards

Will Chip/Pin stop skimming ?



Software is Open Source Free Help make it better

There is no reason that this
concept should not be built
into every POS system



Conclusions: Thanks for Listening

Questions Concerns?

*Special Thanks to: Tim Swartz, My Family, My
Work Defcon Crew for approving my topic.*

Contact Information

- ***Weston Hecker***
- ***Weston@skimbad.com***
- ***www.skimbad.com***
- ***Twitter @westonhecker @skimbadsoftware.***