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Vulnerability and Threat Management and Prevention

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

Slide 1

A1 Author, 9/16/2013

About Me

- About Me: CISSP, CEH, CCNP Security, Certified Microsoft Professional, Security + Licensed Penetration Tester, Computer Science/Geophysics, and spoke at Defcon 22
- About 10 years pen-testing, disaster recovery, security design, and security research experience
- Research including DHS contract to attack 911 systems in the USA. Skim Bad software project.
- NERC, FFIEC, FISMA/NIST, ISO, GLBA and FDIC, Compliance audits HIPAA, Omnibus, HI-TECH

What is being covered

- How is it different in The Midwest? What are hackers using to compromise networks?
- How has it changed, Why is hacking in the news so much.
- Tools of the trade “Fleet of Fake I phones”.
- Key loggers and Raspberry Pi hacking machines.
- RFID “Radio Badges” and physical security portion of Pentesting.
- Distributed Denial of Service Phone Systems “What it is how its used” “How it affects businesses”
- Credit card skimming methods, POS memory scraping malware, and phone DDOS.

Methods Blackhat Hackers Use to Get Into Networks/Methods Found In ND

- Findings from Pentests in ND and the Midwest
- How does it differ from rest of USA
- Why would people target ND we are to small to be noticed …
- Types of audits
- Need for Security Framework
- Forced compliance
- What can IT staff do to secure their networks
- When does a 3rd party pay? Everyone thinks North Dakota has oil money why are companies still paying 90s prices for security services

Fleet of Fake iPhones With Teensy 3.0

Key Stroke Catchers Rouge USB Drives

Computers Used Specifically for Password Cracking, USB Plugged into USB Monitor

GPU Farm Built for $2400, 13 Billion Password attempts a second

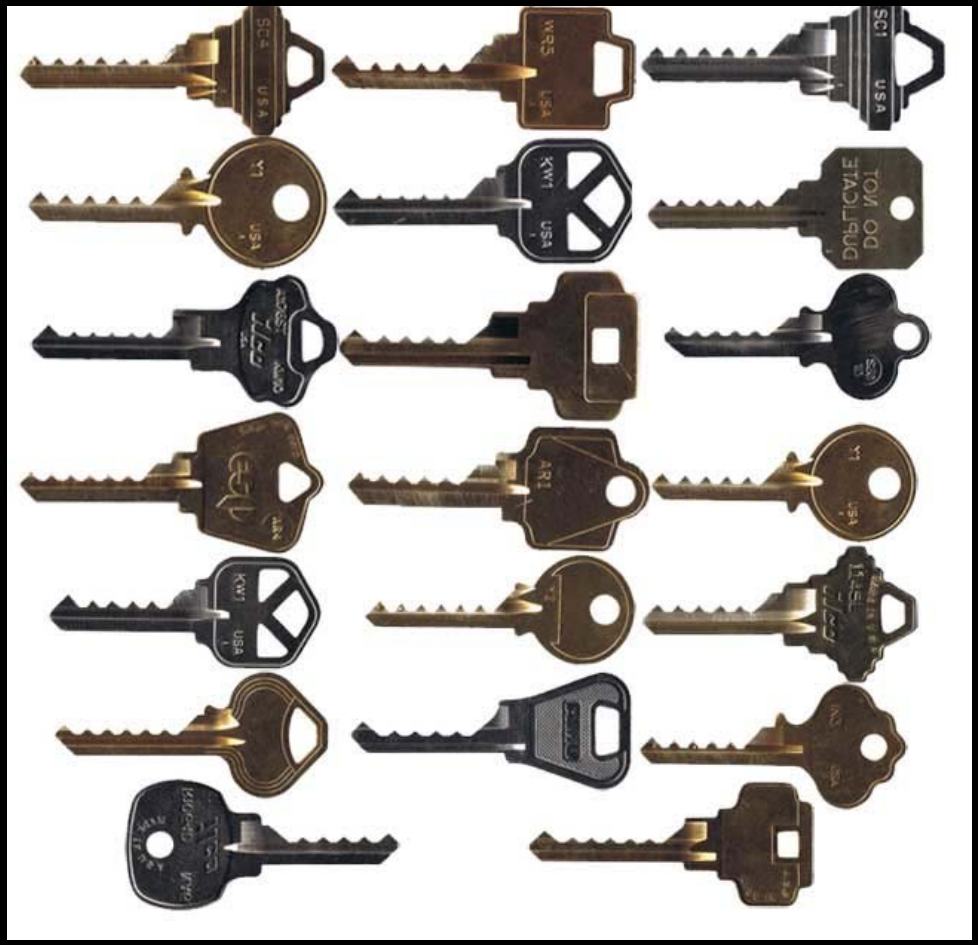
Raspberry Pi Hacking Boxes, Alfa Card with promiscuous mode chip set, RP Recording calls from VOIP phone.

Bump Keys

80% of Locks Can Be “Bumped”

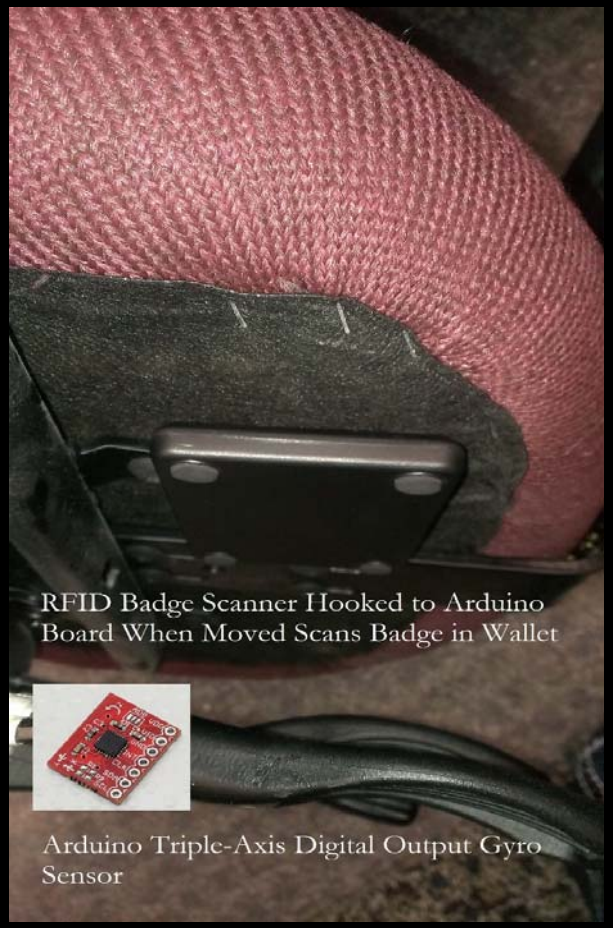
Physical Security
RFID Badge Hacking

Tailgating Doors Left Open



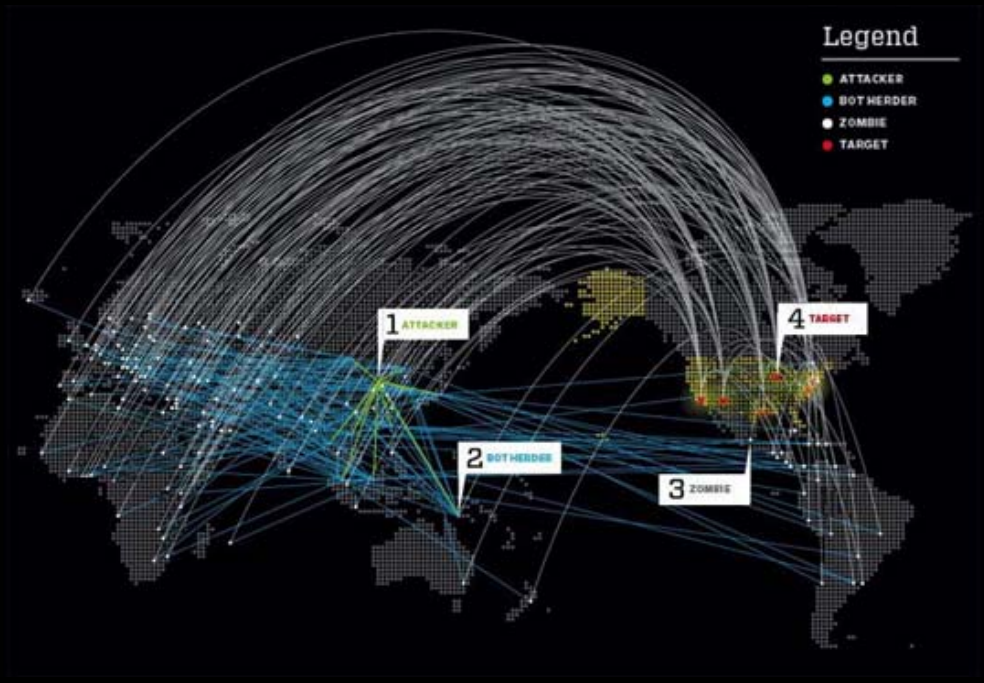
RFID Badge Cloning Hardware, Front door Cards Read up to 10ft Away

RFID Badge Reader Scans Through Seat Where Customers Wallet Would Be.

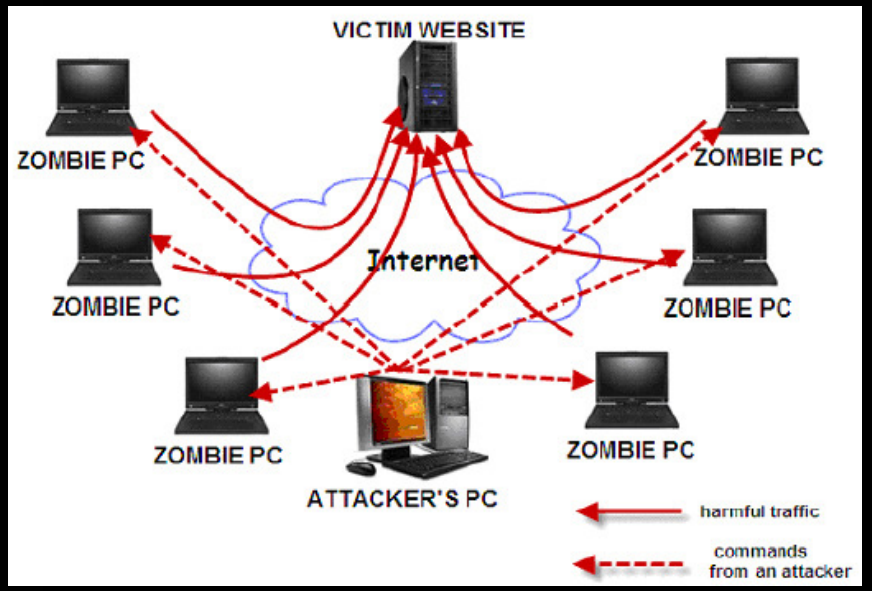


Everyone is familiar with DDOS it has been a problem for more than 15 years

Computers are asked to respond to more requests than it can handle



Think of it as 30 people driving threw a drive threw at lunch hour and ordering food then driving off.



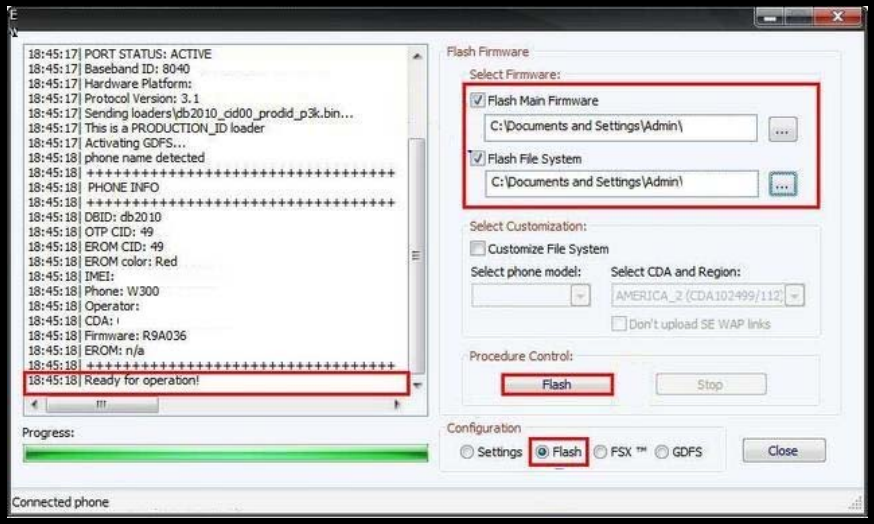
This Prepaid Cell Phone Can Deny Legitimate Phone Calls for 5 Days Strait

- Anonymous Purchase
- 2 Dollars Days That it is Used
- Untraceable Can be Charged With Solar USB Charger PRL List Hopping.
- GPS Not Recoverable Unless in 911 Mode.

Cell Phone DDOS call Some one non stop two times a second for 5 days for $14.00

$14 Dollar Prepaid Phone

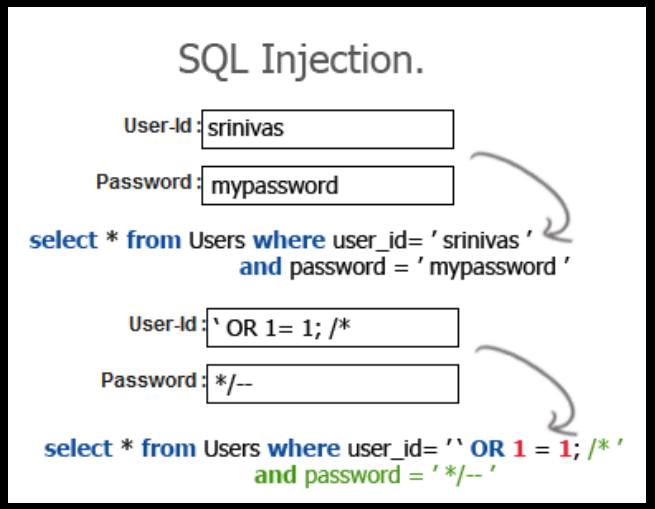
Firmware Flashed To Become Anonymous DDOS Attack



Malware, DDOS, Ransomware, Web Application Injection, Spearfishing.

What is a SQL Injection

Why Scanning tools don't always catch these methods?



Sanitize your inputs

- Most application exploits come from not sanitizing inputs.
- Assume that any data you do not have control over is malicious.
- Have web applications made by third parties undergo an audit.
- Scanning tools are ineffective at finding any more than the most basic vulnerabilities.

Malware, DDOS, Ransomware, Spearfishing. Targeted Malware In ND

Spoofed Emails, J:// Encrypted over the weekend Ooooo no.

Malware custom made for customers in ND

```php
// If we can read from the TCP socket, send
// data to process's North Dakota
if (in_array($sock, $read_a)) {
    if ($debug) printit("SOCK READ");
    $input = fread($sock, $chunk_size);
    if ($debug) printit("SOCK: $input");
    fwrite($pipes[0], $input);
}
```

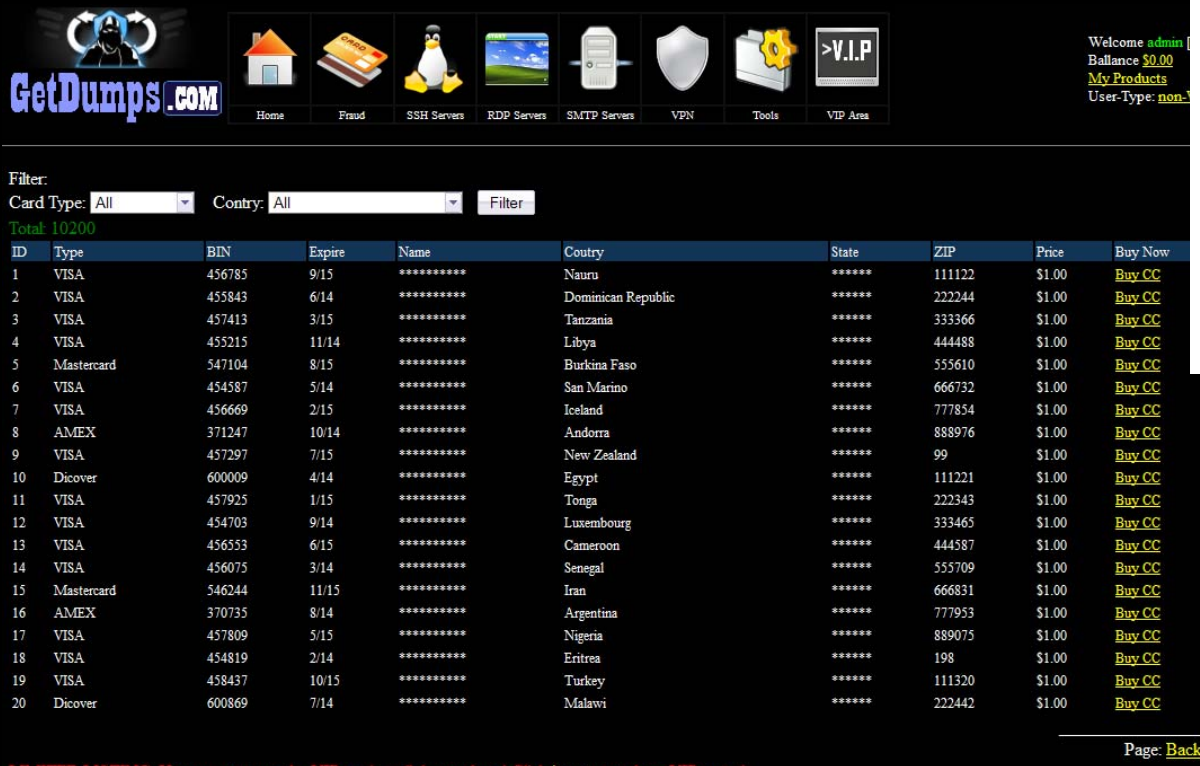
What Are The Hackers After?

- Personally identifiable information
- Financial information ex. Credit card number, Bank account numbers
- Trade secrets ex. Customer data, Bid information, Volume license information
- Network Resources ex. Servers, email accounts, desktops used to attack and infect other systems

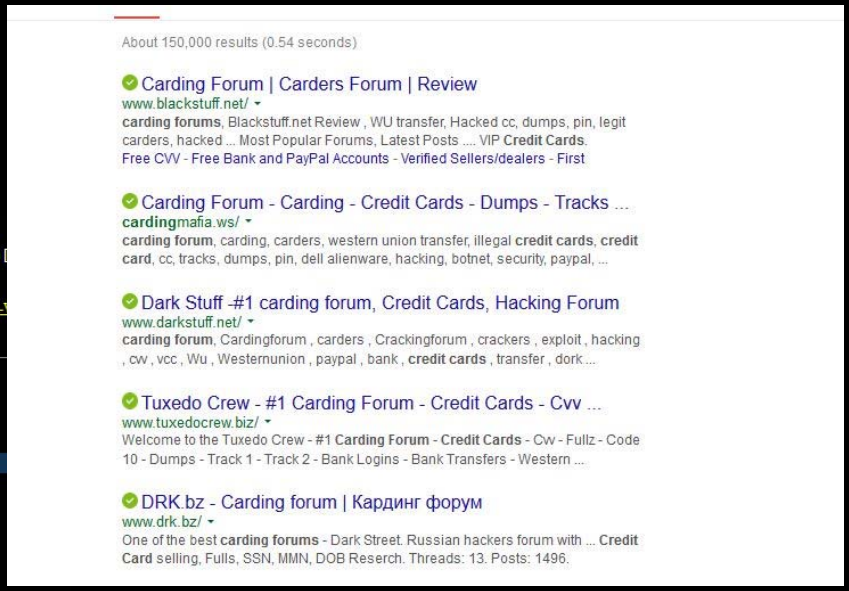
Credit Card Skimmer Used to Steal Magnetic Data on Cards.

WITHOUT WITH

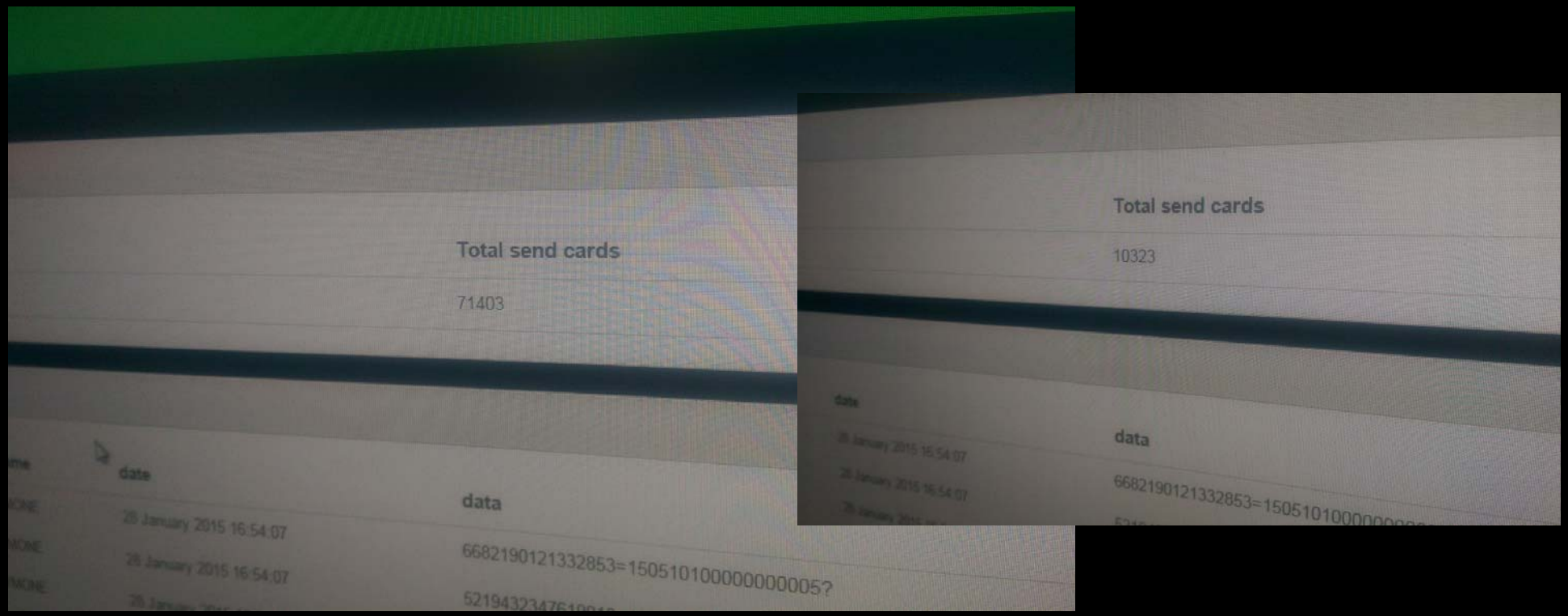
Where Do they Sell Credit card Data and SSN#



ID	Type	BIN	Expire	Name	Coutry	State	ZIP	Price	Buy Now
1	VISA	456785	9/15	**********	Nauru	******	111122	$1.00	Buy CC
2	VISA	455843	6/14	**********	Dominican Republic	******	222244	$1.00	Buy CC
3	VISA	457413	3/15	**********	Tanzania	******	333366	$1.00	Buy CC
4	VISA	455215	11/14	**********	Libya	******	444488	$1.00	Buy CC
5	Mastercard	547104	8/15	**********	Burkina Faso	******	555610	$1.00	Buy CC
6	VISA	454587	5/14	**********	San Marino	******	666732	$1.00	Buy CC
7	VISA	456669	2/15	**********	Iceland	******	777854	$1.00	Buy CC
8	AMEX	371247	10/14	**********	Andorra	******	888976	$1.00	Buy CC
9	VISA	457297	7/15	**********	New Zealand	******	99	$1.00	Buy CC
10	Dicover	600009	4/14	**********	Egypt	******	111221	$1.00	Buy CC
11	VISA	457925	1/15	**********	Tonga	******	222343	$1.00	Buy CC
12	VISA	454703	9/14	**********	Luxembourg	******	333465	$1.00	Buy CC
13	VISA	456553	6/15	**********	Cameroon	******	444587	$1.00	Buy CC
14	VISA	456075	3/14	**********	Senegal	******	555709	$1.00	Buy CC
15	Mastercard	546244	11/15	**********	Iran	******	666831	$1.00	Buy CC
16	AMEX	370735	8/14	**********	Argentina	******	777953	$1.00	Buy CC
17	VISA	457809	5/15	**********	Nigeria	******	889075	$1.00	Buy CC
18	VISA	454819	2/14	**********	Eritrea	******	198	$1.00	Buy CC
19	VISA	458437	10/15	**********	Turkey	******	111320	$1.00	Buy CC
20	Dicover	600869	7/14	**********	Malawi	******	222442	$1.00	Buy CC



POS Skimming Malware How It Works How It Can Be Defeated.



Thank You For Inviting Me and For Your Time Any Questions, Please Contact Me.

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