Corporate Threats

Guillaume Lovet & Sr. Manager EMEA Threat Response Team

PARTNER CONFERENCE 2009
9 - 10 June 2009 Fairmont St Andrews, Scotland

FORTINET®

Agenda

- Risks for Enterprises and Infrastructures
- Vectors of infection
- Defence

Agenda

- **Risks for Enterprises and Infrastructures**
- Vectors of infection
- Defense

Risks: What you don't want to happen

- Denial of Service (DoS) attack
  - From outside, by a Botnet / Zombie network
  - From inside, on purpose or not (eg: Conficker)
- Data Theft
  - Via **stolen credentials** (Phishing / Social Engineering)
  - Via **Trojan Horses / Bots**
  - Data **Gathering** phase
  - Data **Exfiltration** phase
- Loss of Reputation
  - Top risk identified by UK companies (Aon Ltd, 2005)
  - Eg: Heartland payment system

Loss of Reputation: Heartland Breach

USA TODAY

Home | News | Travel | Money | Sports | Life | Tec

Hackers breach Heartland Payment credit card system

Updated 1/23/2009 12:14 PM | Comments 79 | Recommend 81 E-mail | Save | Print | Reprints & Permissions

By Byron Acohido, USA TODAY

Heartland Payment Systems (HPY) on Tuesday disclosed that intruders hacked into the computers it uses to process 100 million payment card transactions per month for 175,000 merchants.

The Washington Post

TODAY'S NEWSPAPER
Subscribe | PostPoints

chives | Security Fix Live: Web Chats | E-Mail Brian Krebs

Payment Processor Breach May Be Largest Ever

A data breach last year at Princeton, N.J., payment processor **Heartland Payment Systems** may have compromised tens of millions of credit and debit card transactions, the company said today.

Heartland Data Breach Could Leave 100 Million Accounts Exposed

By Stefanie Hoffman, ChannelWeb
7:22 PM EST Wed. Jan. 21, 2009

Discuss This

In what could be the biggest security incident in history, Heartland Payment Systems announced on Tuesday that it was the victim of a data breach that possibly compromised more than 100 million accounts after malicious software was found in its payment processing system.

Loss of Reputation: Heartland Breach

WIRED SUBSCRIBE » SECTIONS » BLOGS » REVIEWS » VIDEO » HOW-TO

Sign In | RSS Feeds

THREAT LEVEL

PRIVACY, CRIME AND SECURITY ONLINE

Heartland Breach Cost Company $12.6 Million So Far

By Kim Zetter May 7, 2009 | 5:42 pm | Categories: Breaches

Heartland Payment Systems reported on Thursday that the hack it experienced last year has cost the company $12.6 million so far. The amount includes legal costs and fines from Visa and MasterCard, who say the company was not compliant with payment card industry rules.

Heartland PAYMENT SYSTEMS

The Highest Standards | The Most Trusted Transactions

Network World reports that during the company's financial earnings call, Heartland executives acknowledged that the breach was a heavy financial burden that had not reached a final tally yet.

Risks: Attackers' Motivation

- **Financial**: Blackmail / Ransom
  - Pay or I DdoS you!
  - Holding Intellectual Property
- **Competitive**: Intellectual Property Theft / Industrial Spying
  - Example: the "Israeli Trojan" case
- **Political**
  - Example: GhostNet

Agenda

Risks for Enterprises and Infrastructures

Vectors of infection

Defense

Multiple Infection Vectors

- **E-Mail & IM**
  - **Attachments: executable, archives AND documents**
  - **Links**
- Web Sites
  - The “Drive-By Install” attack strategy
  - “Packs” available for purchase on the underground market
  - 2008: the year of SQL injections
- Social Networks
  - Intelligence source for targeted attacks
  - Worms (eg: Koobface)
- Physical Infection Vectors
  - Laptops
  - USB Keys
  - CDs

You've received A Hallmark E-Card!

File Edit View Tools Message Help

Reply Reply All Forward Print Delete Previous Next Addresses

From: postcards@hallmark.com
Date: Friday, March 06, 2009 11:59 AM
To: [redacted]
Subject: You've received A Hallmark E-Card!
Attach: postcard.zip (86.9 KB)

Hallmark | Shop Online | Hallmark Magazine | Cards & E-Cards | At Gold Crown

You have recieved A Hallmark E-Card.

Hello!

You have recieved a Hallmark E-Card from your friend.

To see it, check the attachment.

There's something special about that E-Card feeling. We invite you to make a friend's day and send one.

Hope to see you soon,
Your friends at Hallmark

Your privacy is our priority. Click the "Privacy and Security" link at the bottom of this E-mail to view our policy.

Hallmark.com | Privacy & Security | Customer Service | Store Locator

You've received A Hallmark E-Card!

File Edit View Tools Message Help

Reply Reply All Forward Print Delete Previous Next Addresses

From: hallmark.com
Date: Friday, March 06, 2009 7:10 AM
To: [redacted]
Subject: You've received A Hallmark E-Card!

Hallmark | Shop Online | Hallmark Magazine | Cards & E-Cards | In Gold Crown Stores

You have recieved A Hallmark E-Card.

Hello!

You have recieved a Hallmark E-Card.

To see it, click here.

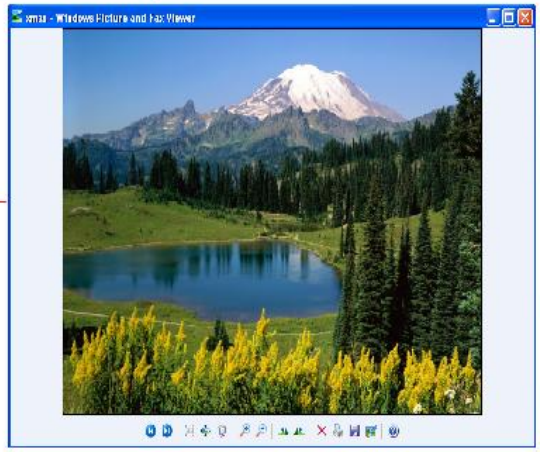
There's something special about that E-Card feeling. We invite you to make a friend's day and **send one**.

Hope to see you soon,
Your friends at Hallmark

Your privacy is our priority. Click the "Privacy and Security" link at the bottom of this E-mail to view our policy.

Hallmark.com | Privacy & Security | Customer Service | Store Locator

http:/[redacted]sites.com/hallmark/postcards/postcard.gif.exe



Targeted attacks against Tibetan communities: Email infection

```
All,

Attached here is the update Human Rights Report on Tibet issued by
Department of State of U.S.A on March 11, 2008.

You may also visit the site:

Tashi Deleg,

Sonam Dagpo

Secretary of International Relations
Department of Information & International Relations
Central Tibetan Administration
Dharamshala -176215
H.P., INDIA
Ph.: [obfuscated]
Fax: [obfuscated]
E-mail: [obfuscated]@gov.tibet.net or diir-pa@gov.tibet.net
Website: http://www.tibet.net/en/diir/
```

Targeted attacks against Tibetan communities: Email infection

- Exploits (source ISC SANS)

CHM Help files with embedded objects;
CVE-2008-0655: Acrobat Reader **PDF** exploit
CVE-2006-2492, CVE-2007-3899: **Word**
CVE-2006-3590, CVE-2006-0009: **Powerpoint**
CVE-2008-0081: **Excel**
CVE-2005-0944: **Microsoft Access**
CVE-2006-3845: LHA files exploiting vulnerabilities in **WinRAR**.

Multiple Infection Vectors

- E-Mail & IM
  - Attachments: executable, archives AND documents
  - Links
- **Web Sites**
  - **The “Drive-By Install” attack strategy**
  - **“Packs” available for purchase on the underground market**
  - **2008: the year of SQL injections**
- Social Networks
  - Intelligence source for targeted attacks
  - Worms (eg: Koobface)
- Physical Infection Vectors
  - Laptops
  - USB Keys
  - CDs

ftpcom/stats.php?pass=mpack2

MPack v0.86 stat

Attacked hosts: (total/uniq)	
IE XP ALL	87093 - 79152
QuickTime	37 - 34
Win2000	3953 - 3393
Firefox	18028 - 17796
Opera7	25 - 25

Traffic: (total/uniq)	
Total traff:	112525 - 102044
Exploited:	13765 - 10705
Loads count:	14103 - 5224
Loader's response:	102.46% - 48.8%
User blocking:	[illegible]
Country blocking:	OFF
Efficiency: 12.53% - 5.12%	

Country	Traff	Loads	Efficiency
IT - Italy	76625	11539	15.06
ES - Spain	8042	466	5.79
US - United states	3877	133	3.43

Multiple Infection Vectors

- E-Mail & IM
  - Attachments: executable, archives AND documents
  - Links
- Web Sites
  - The “Drive-By Install” attack strategy
  - “Packs” available for purchase on the underground market
  - 2008: the year of SQL injections
- **Social Networks**
  - **Intelligence source for targeted attacks**
  - **Worms (eg: Koobface)**
- Physical Infection Vectors
  - Laptops
  - USB Keys
  - CDs

es | Notifications | Updates | + Compose Message

Sommebody uupload a viideo witth you on utubee. you shuold ese.

Between [illegible]

[illegible]
Today at 1:00am
Reply

Oh noooooo
http://google.fr/reader/shared/[illegible]
watch=[illegible]

Reply All:

Attach: Record Video | Share Link | Add (fluff) | Smack Talk!

Send To All | Back to Inbox | Mark as Unread | Delete

Picasa™ Web Albums | My Photos | Favorites | Explore | Leo's Gallery | Upload

Leo > **Youtube**

Slideshow | Share | Download | Prints

Photo 1 of 1 «View album

http://[illegible].info/go/fb.php?_ENTER_&_SEE_VIDEO

Leo Oct 29, 2008 6

COOL!

Jan Oct 29, 2008 7

Why cant I open the flippen video. Ive got Flash player 10


Video ActiveX Object Error.
Video ActiveX Object Error:
Your browser cannot display this video file.
You need to download new version of Video ActiveX Object to play this video file.
Click Continue to download and install ActiveX Object.
Continue
Cancel
Details...

Multiple Infection Vectors

- E-Mail & IM
  - Attachments: executable, archives AND documents
  - Links
- Web Sites
  - The “Drive-By Install” attack strategy
  - “Packs” available for purchase on the underground market
  - 2008: the year of SQL injections
- Social Networks
  - Intelligence source for targeted attacks
  - Worms (eg: Koobface)
- **Physical Infection Vectors**
  - **Laptops**
  - **USB Keys**
  - **CDs**

Agenda

Risks for Enterprises and Infrastructures

Vectors of infection

Defense

Key Elements to Modern Defense

You need AV, IPS, AS, WCF

Above all, you need them **altogether**

And most importantly, you need them **working altogether**

Goal: when facing a threat, be able to tackle it from **different angles**

=> Intelligent Redundancy

Two Examples of Enhanced Security by Intelligent Redundancy

Phishing

- Phish Letter blocked by **AS**
- If not, blocked by **AV**
- If not, Phish Site blocked by **WCF**

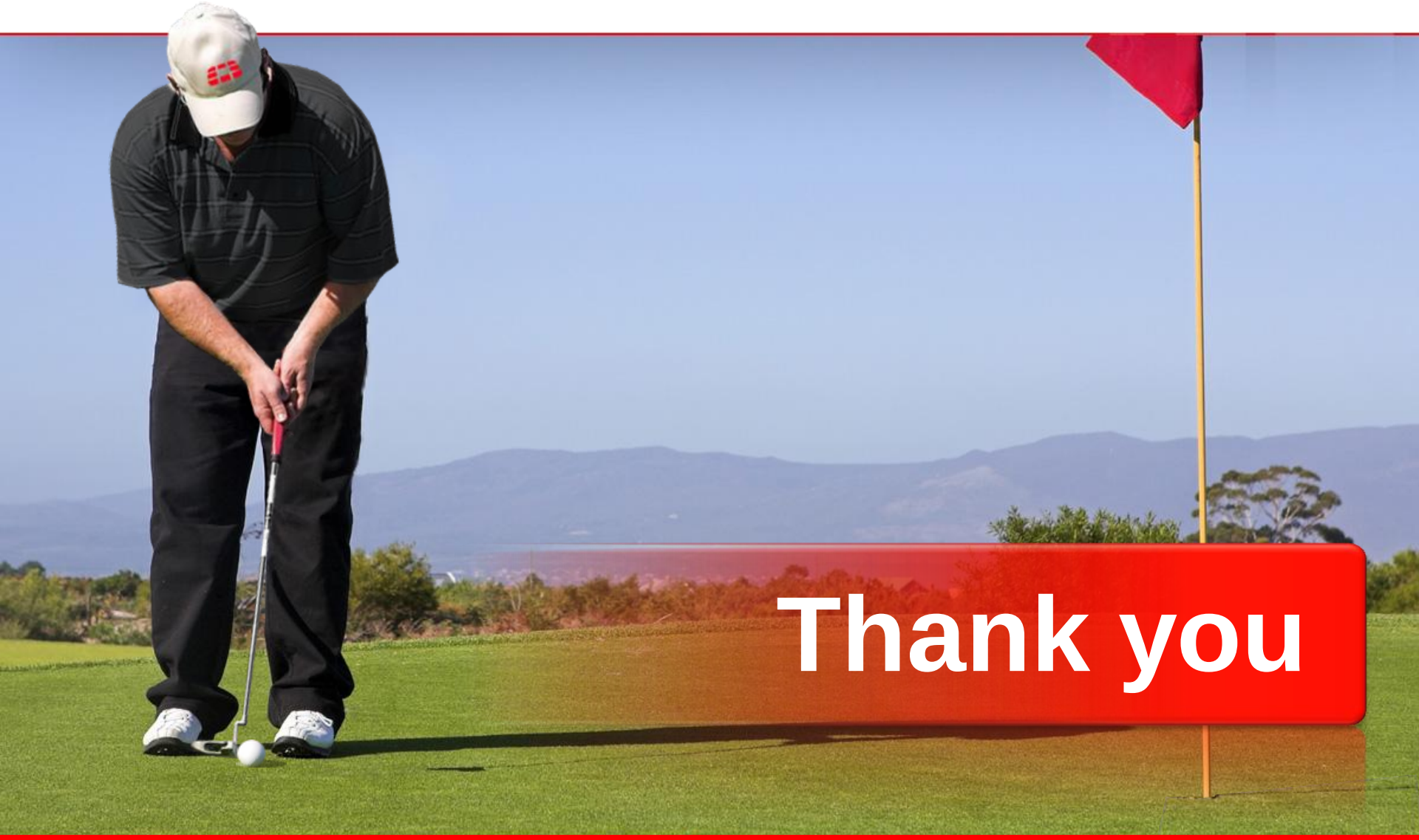
Backdoor / Bot

- Binary blocked by **AV**
- If not, access to C & C blocked by **IPS**
- If not, by **WCF**

=> The bot cannot “phone home”

Example of IPS antibackdoor signature (simplified)

F-SBID(--vuln_id 17280; --attack_id 20488; --name "Backdoor.EvilFTP"; --group backdoor; --protocol tcp; --default_action pass; --revision 2602; --severity medium; --app Other; --os Windows; --status disable; --flow from_server; --service FTP; --pattern "220- Welcome To EvilFTP :)|0d 0a|"; --data_size >100; --seq =,1,relative;)



Thank you