Commercial Hacking & Lessons from the Pay-Media Industry

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Speaker Background

- Currently the Senior Director of Cyber Services and Investigations at Irdeto
- Formerly the Manager of Fraud and Operational Security at Foxtel, Australia.
- Served 16 years in New South Wales Police Service, special assignments in
  - Drug Enforcement Agency
  - National Crime Authority
- Served as a prosecutor for 3 Years
- Admitted as a solicitor to the Supreme Court of New South Wales in 2004. Please don't hold that against me!
- I am not an engineer…..but

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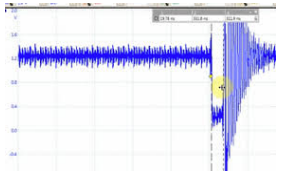
The Evolution of Pay-Media Piracy: A Cat and Mouse Story

Pay TV industry introduces CAS and smart cards to secure content

Pay TV Industry deploys counter measures and next generation chips in an effort to re-secure platforms

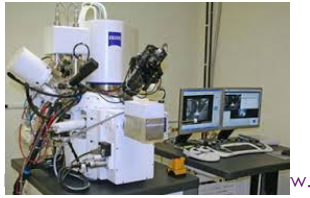
1995 | **1996**

Researchers/Academics develop early hacking techniques including glitching and software disassembly



1996-2000

Hackers develop broadcaster specific attacks with specialized equipment (microprobes, SEM, FIB)

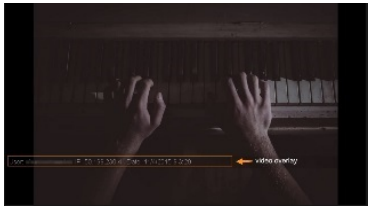


2001

Hacks were then commercialized and sold as pirate emulators, MOSCs and cloned smartcards

The Evolution of Pay-Media Piracy: A Cat and Mouse Story

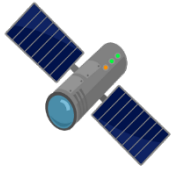
Pay TV Industry develops secure silicon to combat CWS



Pay TV Industry develops watermarking technology

2002

Hackers switch focus to Control Word Sharing which is commoditized in conjunction with 3rd party STBs like the Dreambox



2013

2014

Pirates switch focus to content theft and internet rebroadcasting via streaming sites, IPTV, apps and software media centres.

PLEX

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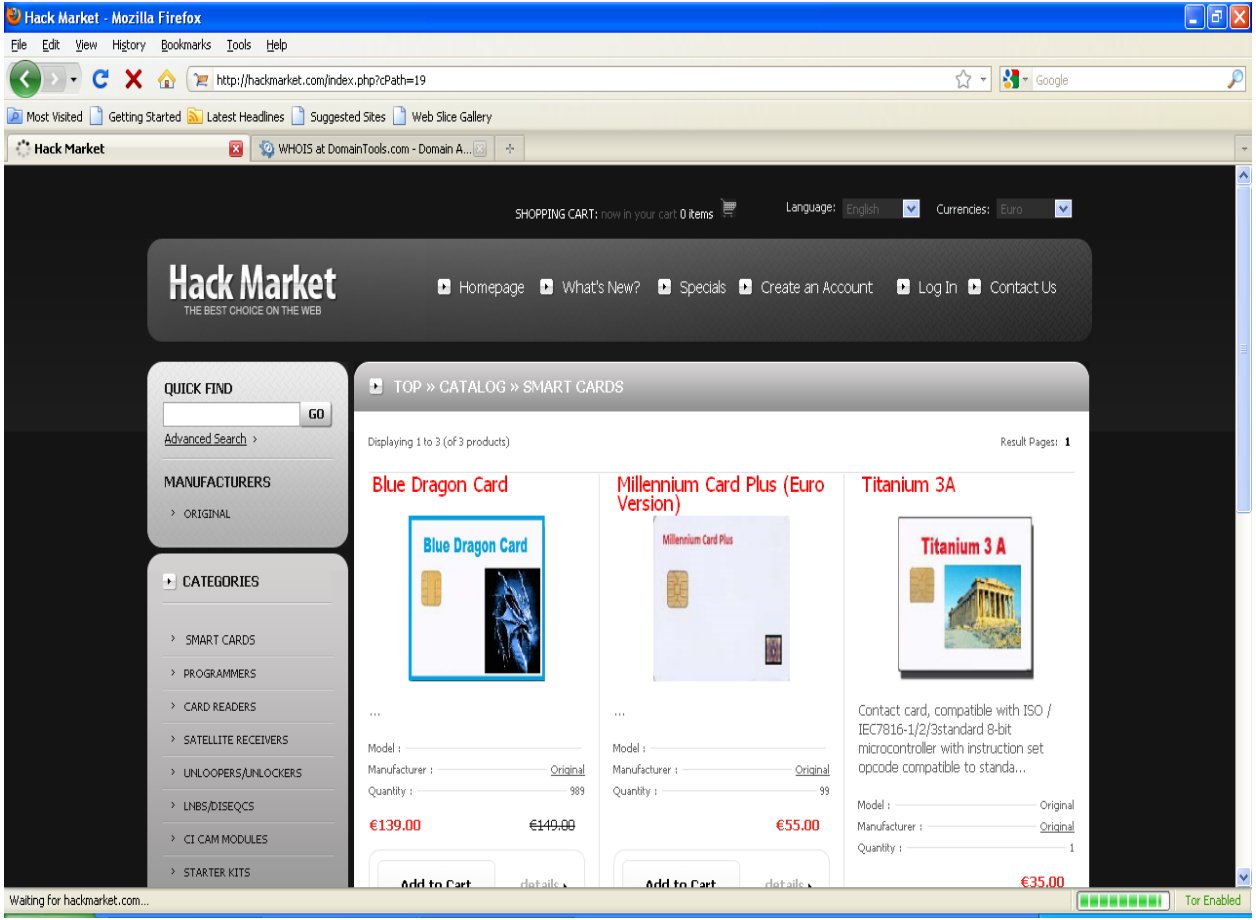
Pay Media Hacking: Show Me the Money



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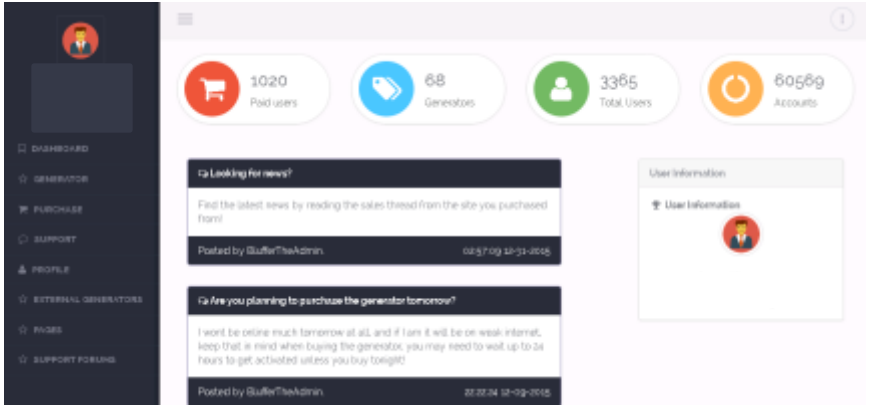
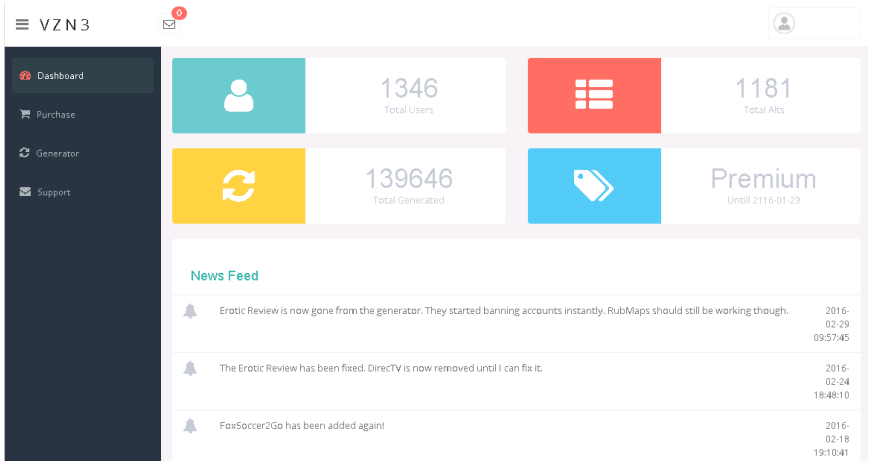
OTT Customer Credential Theft



- Generator interface is easy to understand, making piracy accessible and desirable to the mainstream public



- Generator allows vendor to provide users with updates and interactive support, increasing customer satisfaction with pirated accounts

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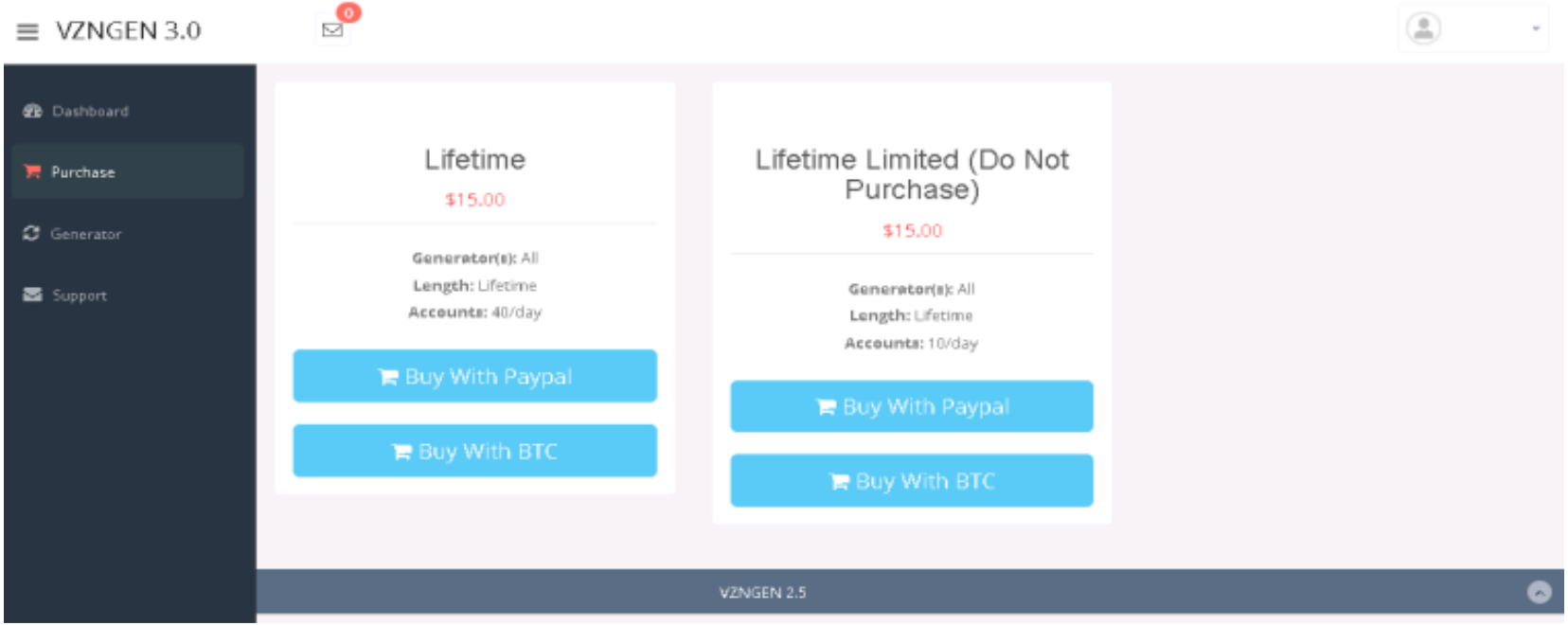
OTT Customer Credential Theft



- $15 one time payment provides user with Lifetime access to generator
- Subscription to generator allows user to create up to 40 accounts daily!

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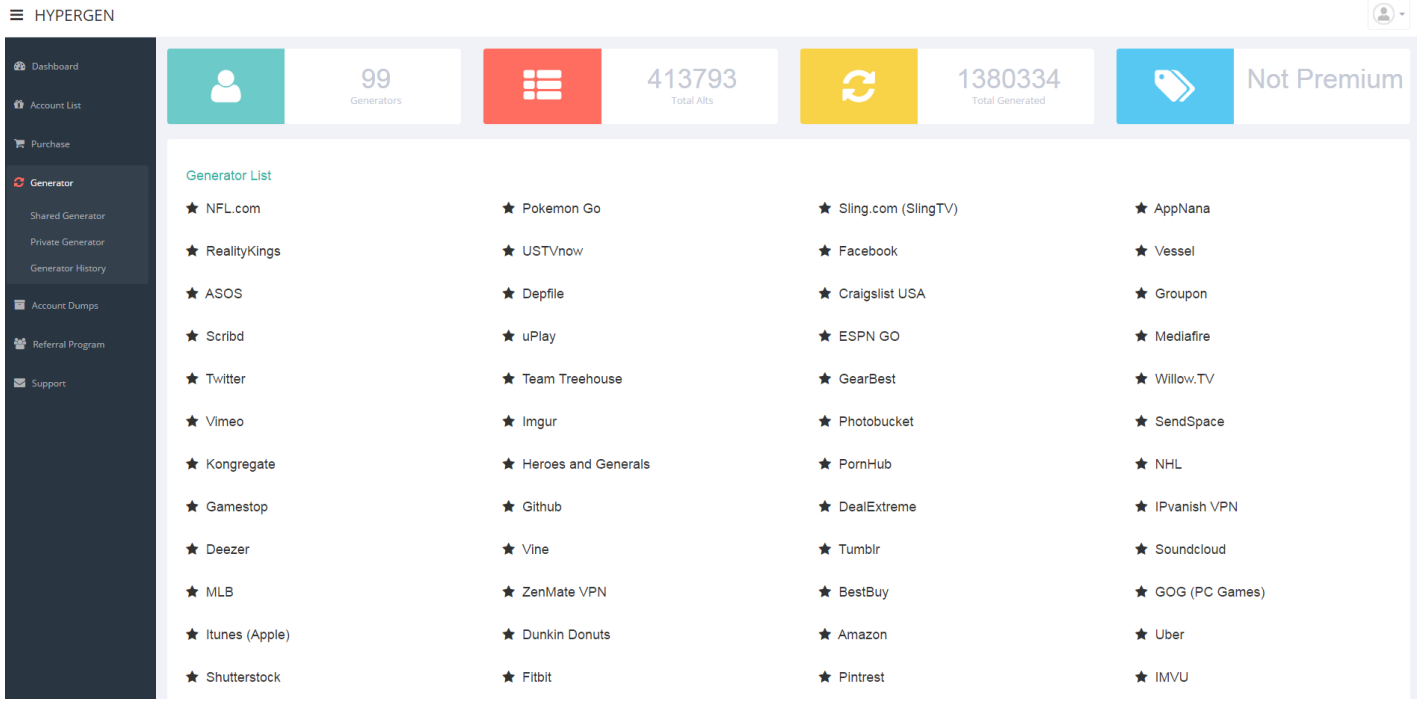
OTT Customer Credential Theft



- As of August 2016 over 1 million pirated accounts have been disseminated from Hypergen alone!

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Pay Media, Mobile and Automotive: Similar Consumer Drivers for Piracy and Hacking

Drivers Pay-Media	Drivers Mobile	Drivers Auto
I want to get premium content for free	I want to get premium apps, games and in-game purchases for free	I want to get premium features for free
I can't get the content I want because it is not available in my country	I can't get the app or game when I want because it is not available or released yet in my country	I can't get the features I want because they are not available in my country
I want to modify the s/w in my box to get additional services	I want to personalize my device in my way	I want to personalize my car and get additional services just like I do with my phone

Consequence: hackers will create products and services that satisfy consumer demand in exchange for profit

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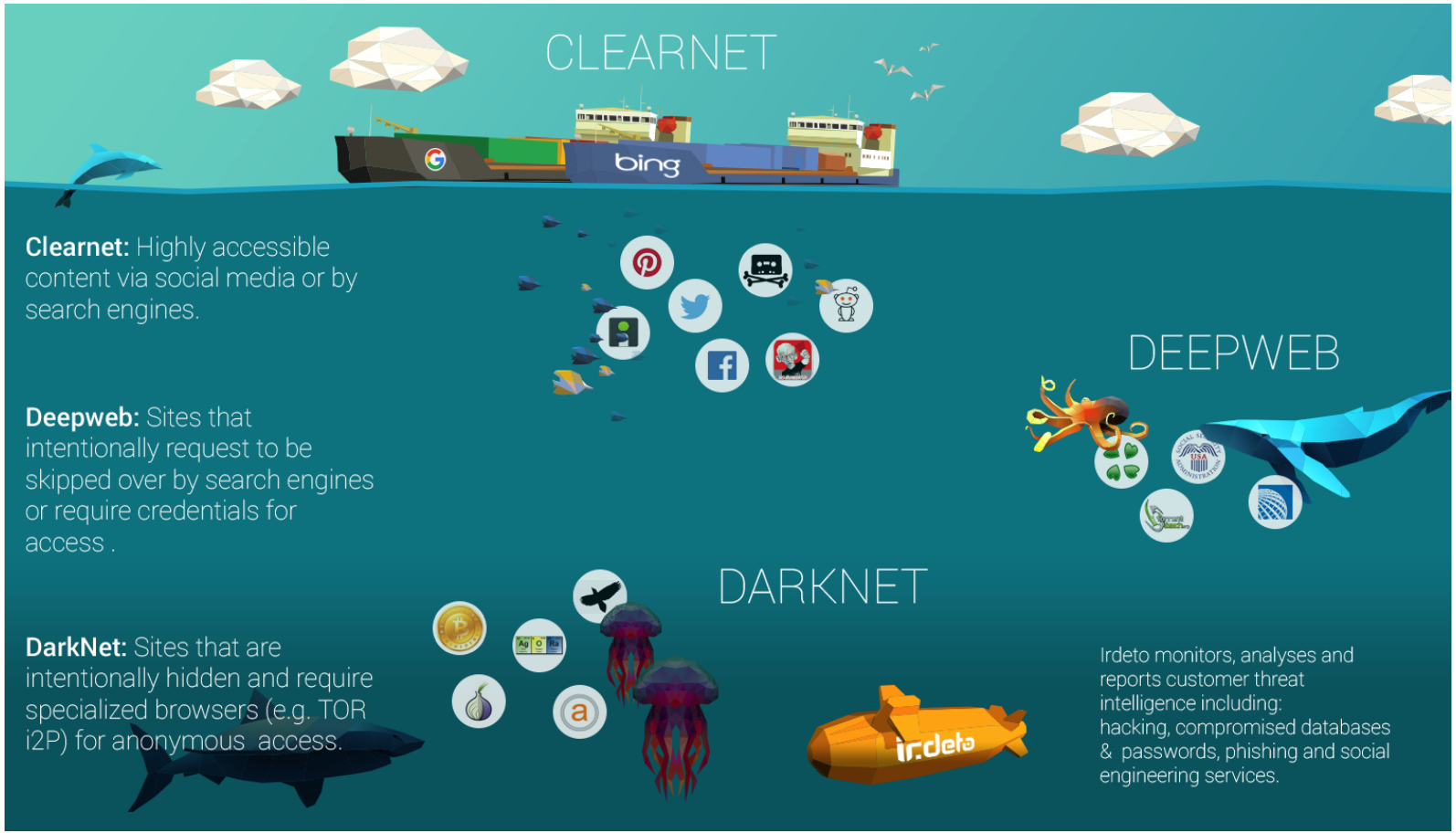
Activating navigation FORD SYNC

Examples of satisfying customer needs of product localization, getting premium features for a lower price, and personalizing my car

- *Activating navigation to SYNC II -. 6000 rubles (requires SD card navigation FM5T-19H449-FC version of the F4 and above)*
- *Activating the rear view camera for SYNC II - 2000 rubles.*
- *Setting the rear view camera and activation - 5000 rubles.*
- *Russification of the dashboard (for the US market cars)*
- *Translation RADIO on the European rate (for the US market cars)*
- *Activating the factory remote start (XLT) you can set the unit increases the radius of action of startup or register a new original key button remote key startup BB5Z15K601A estimated cost from 6300 TR +2000 TR Activation.*
- *Enabling full-time (orange) navigation lights - 500 rubles*
- *Configuration changes such as the inclusion of SYNC booster heater (requires the installation of the unit and steering wheel)*

Darknet – the pirate marketplace



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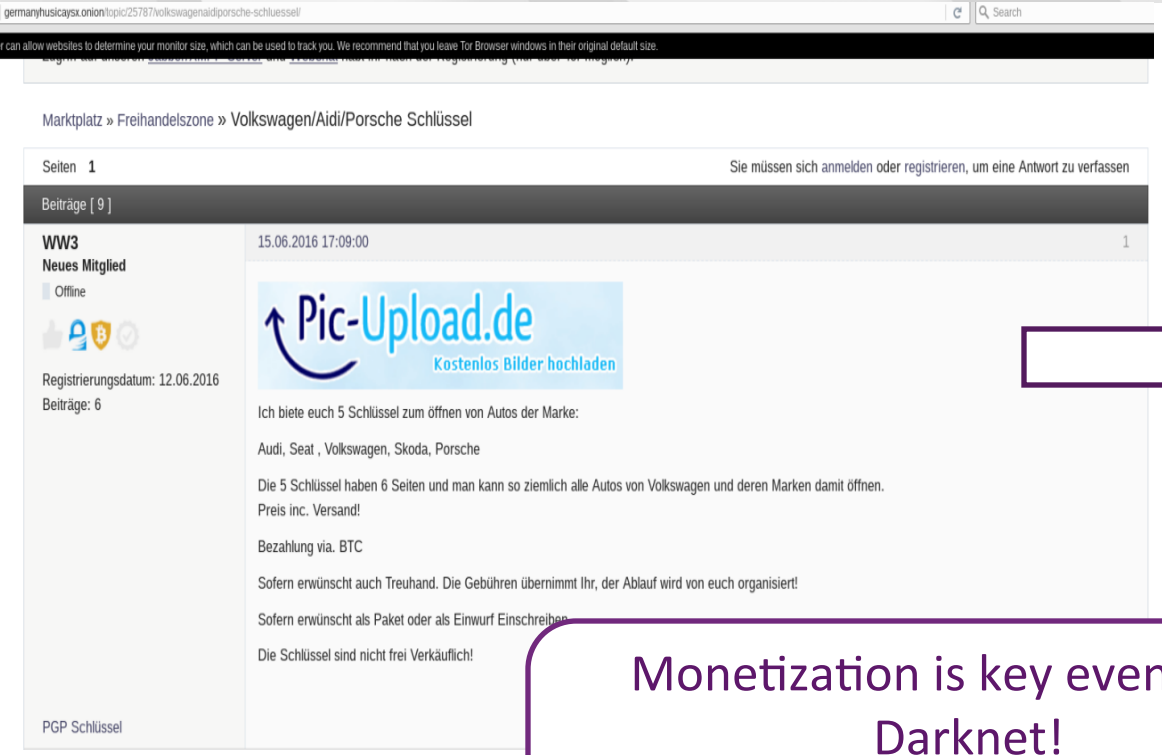
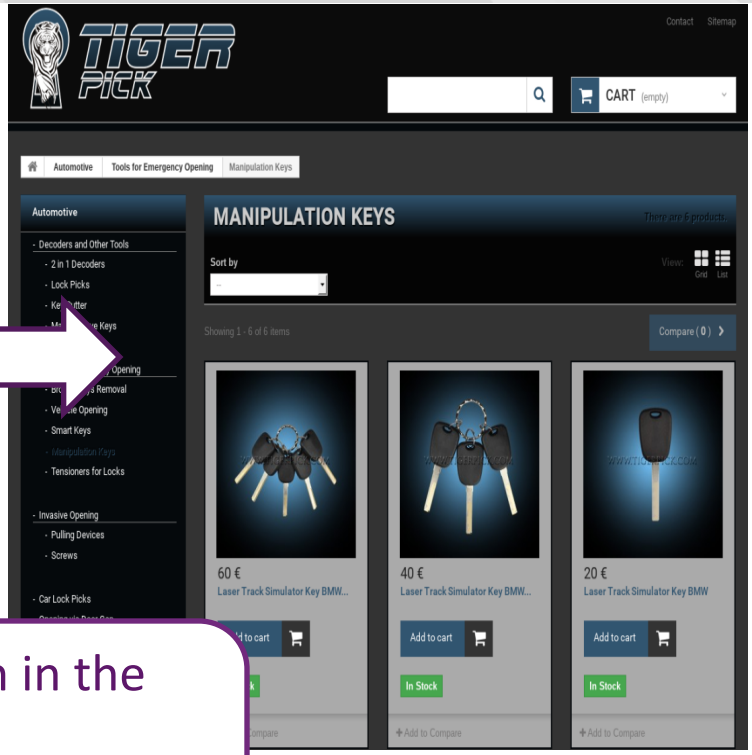
Darknet monitoring





Monetization is key even in the Darknet!

Hackers use forums to drive traffic to their underground website

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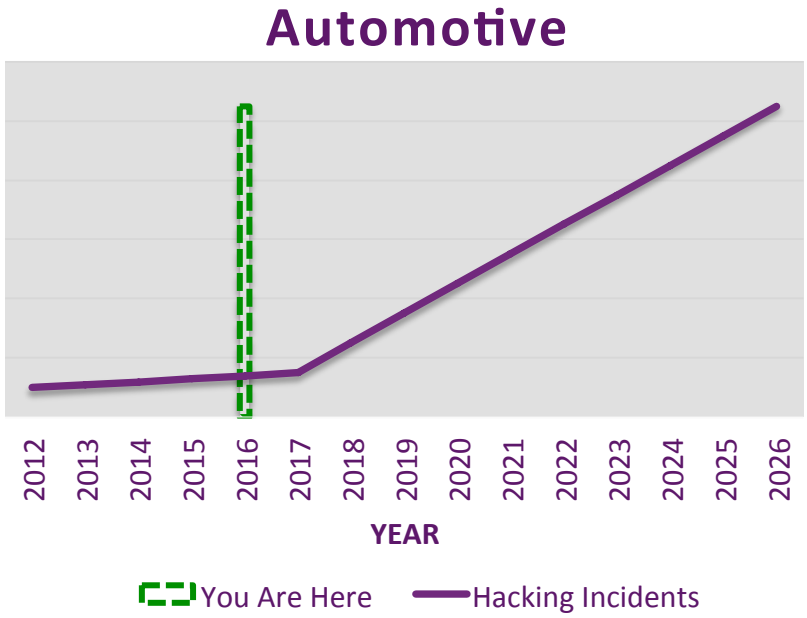
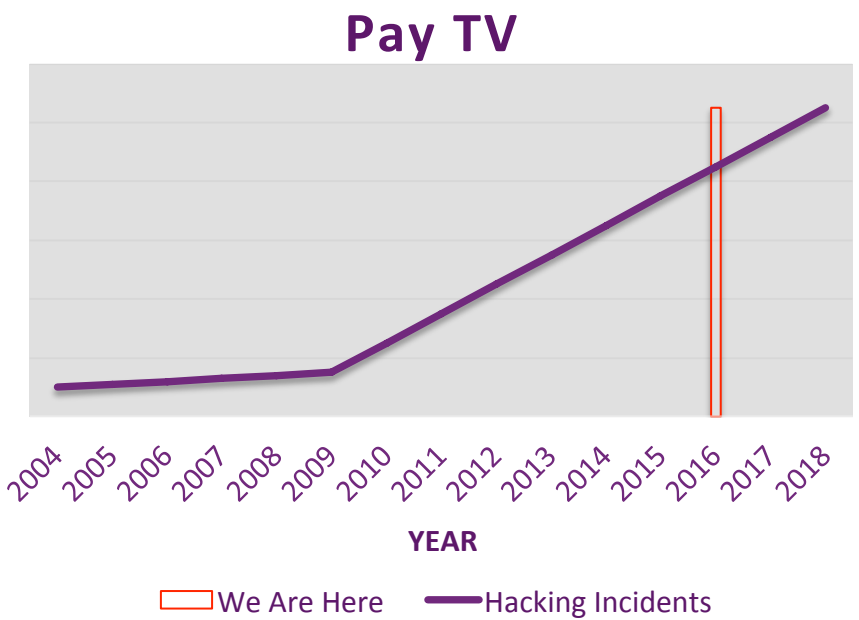
Commercialized Hacking: Show Me the Money





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Lessons to take from Pay TV piracy

- Build in diversification and secure renewable security systems from the on-set
- Pirates are quicker at exploiting technology than legitimate service providers
- Academic hacks become commercial very quickly
- Brand and reputation damage from hacking is hard to recover from
- Monitoring hacking networks gives you early-warning of an upcoming attack
- Wherever there's money to be made – there will be piracy

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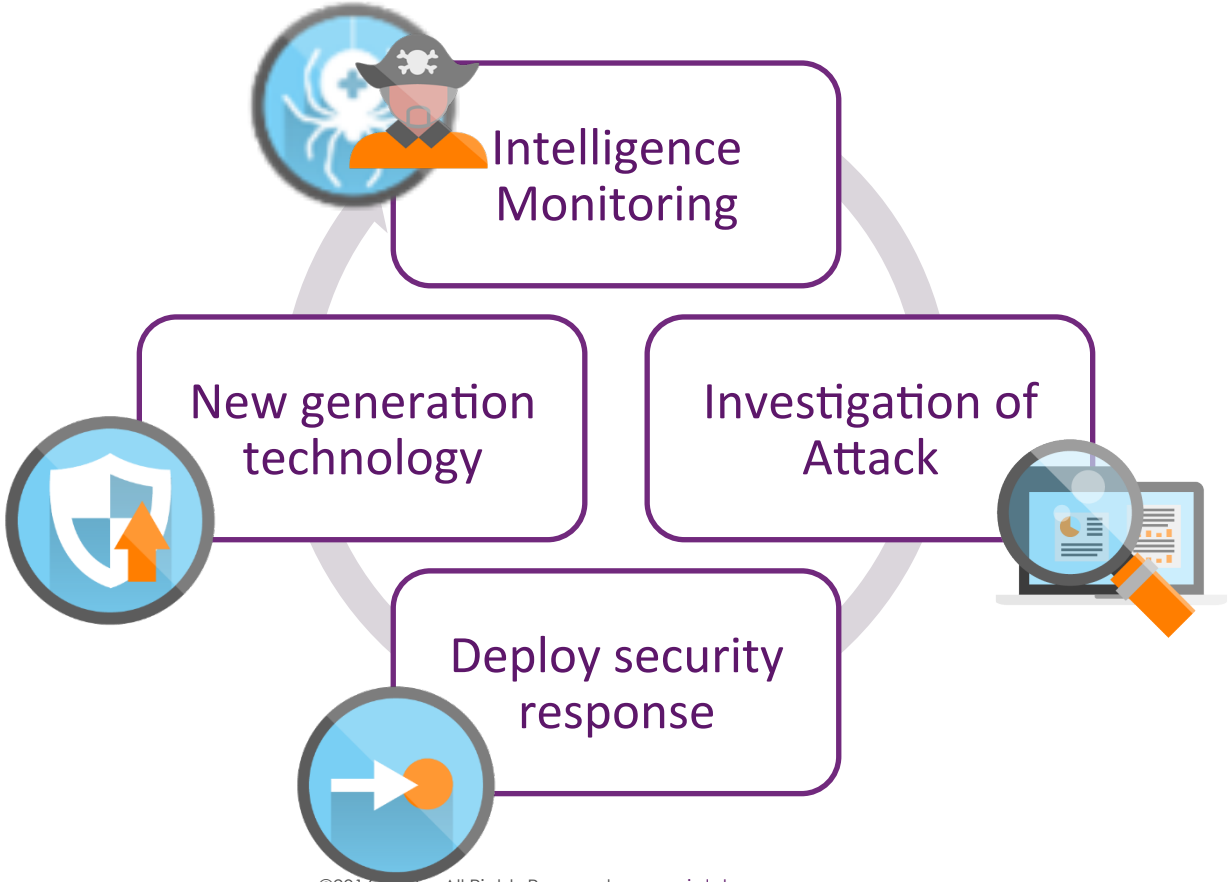
Security Best Practices: From Pay Media to Automotive



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Thank you!

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