

Not-so-Limited Warranty: Target Attacks
on warranties for fun and profit

Who am I?

- High school Student
 - Senior in fall
- Warranty Enthusiast
 - Reading long paragraphs is fun
- Programmer for Cyberdyne Security Solutions
 - New startup – cyberdynesecuritysolutions.com
 - Email me: Darkred@cybdss.com

What is a serial number?

- Any number used to identify a product
 - Can be for recall uses or warranty support
- Types of serial number
 - Identifying – contains information such as year of production
 - Random – random values with no meaning
 - Sequential – Used mainly in food (123,124,125,etc.)
- Usually located on the product
 - Sometimes accessible via software

Why are serial numbers important?

- Proof of ownership
 - I can now cancel your warranty – “I don’t agree to the terms of the warranty”
- Information Disclosure
 - Apple Information (See C# code)
 - Date of Purchase – “Where were you on day X?”
 - Report Stolen – Bye bye warranty

How people get serial numbers

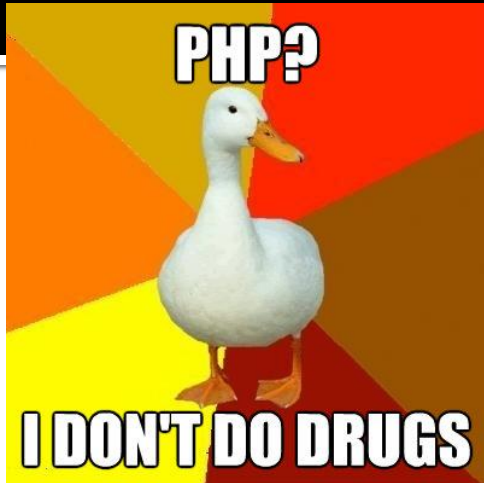
- The Internet
 - Google Images is your friend
 - Calling people on craigslist
 - Emailing people on eBay
- Stores
 - Flip over demo models
- Guessing
 - Sequential serials are terrible
- Owning the product



Things customer service does for legitimate repairs

- Makes up “Managers” and “Replacement departments”
 - “Let me just check with my head of imaginary replacements”
- Hangs up on you
 - “Let me just check with my manager” <Click>
- Treats you like a criminal
 - “You broke the product not a defect!”

Approaches of a bad guy



Technology impaired user

"It just wont turn on"

"No I don't know how to reformat it"



Angry guy

"No its not my fault its yours!"

"Let me speak to your manager!"



Business Owner

"I'm losing money every day!"

"We need to get those reports done!"

Examples of Security

Ranked on:

- Protection (higher score is better)
- Obnoxiousness (lower is better)

Pringles

Countermeasures used:

- Not really designed to protect against attacks
 - This is a good thing
- Batch Code (sequential)
 - Good for recalls, not good for protection



Low protection per product.

Protection 2/10

Obnoxious Rating 1/10

Lenovo

Countermeasures used:

- Serial Number
 - As many attempts as you want
 - Bulk checker (see C# code)
- Regional Locks
 - Online warranty status displays what country

Good protection per product.

The image shows the Lenovo logo, which consists of the word "lenovo" in a blue, italicized, sans-serif font.

Protection 4/10

Obnoxious Rating 4/10

Amazon (Kindles)

Countermeasures used:

- Serial Number (non sequential)
 - As many attempts as you want
 - Gives you a month of Amazon prime when you are correct (Free bonus for doing bad things?)
- Credit card on hold
 - Only \$2 initially charged

Over the top protection per product.



Protection 7/10

Obnoxious Rating 5/10

Apple

Countermeasures used:

- Serial Number (non sequential)
 - Easy to generate (see C# Code)
- Asks for ICCID or IEMI
 - See C# Code for our solution
- Credit card on hold
 - Full amount Initially Charged

Insane protection per product .

Protection 9/10

Obnoxious Rating 10/10



Protecting companies

- No unlimited invalid serials
 - Nobody is going to misread their serial 200 times
- Register Serial to account
 - Amazon has the right idea here
- Non Intrusive replacement
 - Amazon does this and it works perfectly
- No serials on demo models

Credits

■ Special thanks to:

Cyberdyne security solutions

Jared "Revelation" M.

Niko "Lulzpid" R.

■ Images:

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