

# How Much is Your Hacked Site Worth? An Overview of Online Shops Selling Access to Compromised Services

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#### Introduction

A key component in the ecosystem used by online criminals, e-commerce sites, colloquially known as "shops," are geared towards providing a specific range of goods and services frequently used by SEO spammers, scammers, identity thieves, and other small-scale for-profit threat actors. This includes access to hacked servers, websites, and email accounts. In this context, "small-scale" means that we have seen no evidence that the threat actors buying and selling on these shops are closely affiliated with nation-states or APTs, though it is true that the goods and services for sale may occasionally be of use to more skilled attackers for watering-hole attacks, C2 infrastructure, and spear phishing.

Most of these marketplaces are not technically on the dark web, and several of them are clearly indexed and advertise their offerings on search engines. While "pop-up" shops selling hacked accounts on third-party services such as sellpass.io are common, this white paper will focus specifically on standalone e-commerce sites whose core products and services include access to infrastructure used to perform attacks on websites, as well as access to hacked websites and accounts themselves.

The short answer to "how much is a hacked site worth?" is "not much," though we will go into specific price ranges in a later section.

## I. Why are "Shops" Proliferating?

Shops are primarily proliferating thanks to the escrow services they provide that protect buyer and seller. Telegram channels have become a primary communication nexus for cybercriminals<sup>1</sup>, and are frequently used to buy and sell malware and leaked or hacked data, but transactions involving illicit goods run a high risk of deception for all parties involved.

Escrow services, where a trusted third party holds on to payment until goods are delivered, are often necessary to facilitate transactions between actors who make a living out of scams and theft<sup>2</sup>. However, for lower-risk verified goods packaged individually at

<sup>&</sup>lt;sup>1</sup> "Why cybercriminals are flocking to Telegram," intel471.com. https://intel471.com/blog/why-cybercriminals-are-flocking-to-telegram.

<sup>&</sup>lt;sup>2</sup> Photon Research Team, "Escrow systems on cybercriminal forums: The Good, the Bad and the Ugly," digitalshadows.com.

https://www.digitalshadows.com/blog-and-research/escrow-systems-on-cybercriminal-forums/.

lower unit prices, such as hacked sites or email accounts, it's not quite as practical to involve a live third party for every single transaction.

In addition to these factors, the source code of one of the most popular shops, Olux, has been available for some time<sup>3</sup>. These factors have led to the proliferation of shops, which act as automated escrow services.



Pictured: The Odin marketplace welcome popup indicating its purpose as an Escrow service

<sup>&</sup>lt;sup>3</sup>O. Maksuti, "Olux Shop Script" [source code], github.com. <a href="https://github.com/omermaksutii/olux">https://github.com/omermaksutii/olux</a>.

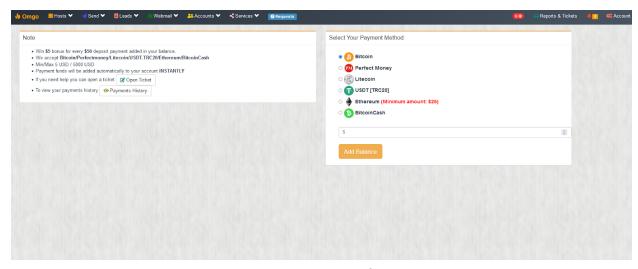
## II. Commonalities Across "Shops"

We investigated six different online "shops" for this white paper, though many more exist. Each shop requires registering an account in order to view their products, though no email verification takes place. Nearly every shop we investigated used a CAPTCHA as well as Cloudflare, to hide the server origin, for DDOS mitigation, or both.

It is important to note that not every item for sale was the result of a compromise - in some cases sellers appear to be reselling access to hosting accounts they created, and some shops indicated the source of the product as "Cracked" or "Created". "Created" hosting or email typically includes a .tk domain, as these can be registered in bulk and are free for the first year. "Created" products are typically less expensive than equivalent "Cracked" products.

## **Funding Sources**

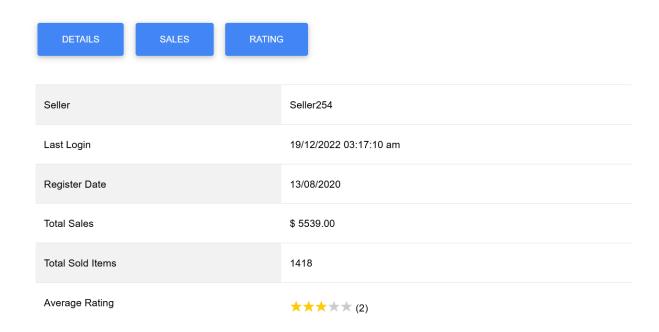
Each shop accepts payments in cryptocurrency, though some also accept other digital payment options such as Perfect Money. Most shops had a maximum deposit amount of \$5,000 USD in a single transaction, which may be intended to help circumvent money-laundering regulations.



Pictured: The Omgo shop's Payment screen, used to add funds

## Buyer and Seller Anonymity

Buyers and Sellers on all shops are anonymous and are identified by a number, for example "seller254". Some shops also include seller metrics including total sales and reviews.



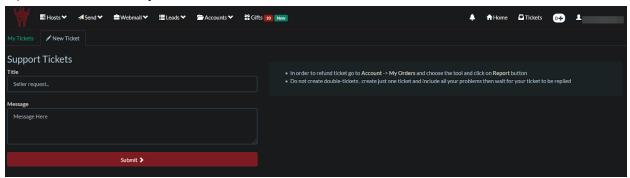
Pictured: Seller Details. Note that this shop provides additional information about the seller including their average rating.

## Verification Functionality

Most shops also provide a verification functionality that tests the offered product or service to see if it is still working, for instance, to send an email from a PHP email script known as a leafmailer to the customer's account to verify that it can successfully send mail. We reviewed the headers of an email we received after testing this verification functionality on one of the shops and determined that verification requests are being routed through TOR in order to disguise the shop's origin IP, though the headers did reveal the location of the mailer itself.

## Support Ticketing System

Shops typically offer a support ticketing system and a 12 to 24-hour return or replacement warranty.



Pictured: the Hades Shop support ticket system

## Stock Status Display

The number and variety of products in stock varies wildly by shop, and from week to week, indicating a great degree of turnover. For this reason each shop has a stock status display on the dashboard indicating how many of each product it has in stock.



Pictured: The Stock Status Display on Olux[.]so

## III. The "Shops" We Investigated

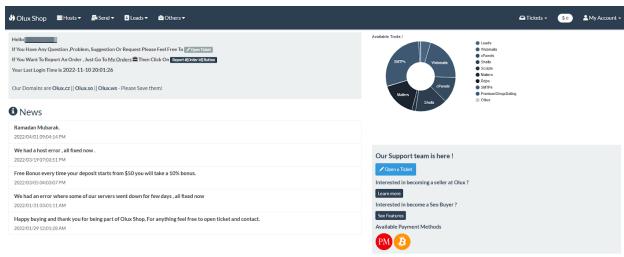
We investigated 6 shops in this overview, please note that this is not an exhaustive list of the ecosystem.

#### Olux

The Olux shop is one of the most popular marketplaces of the past few years, and forks of its laravel source code appear to power each of the other shops mentioned in this white paper. While the Olux shop source code was "leaked" by another threat actor in late 2021, we were also able to find older versions of it online, indicating that it has been publicly available for some time. Unlike the other shops we surveyed, the "test" functionality on the Olux shop appears to use encryption rather than simply passing in the ID of the product being offered, indicating ongoing development.

At the time of publication, Olux was stocked with thousands of mailer accounts, webshells, and cPanel accounts. The Olux shop uses a number of domain names for redundancy in case any one domain is suspended. Additionally, as this was the only shop we investigated that was not protected by Cloudflare, we were able to find several additional shops with different branding hosted on the same server, including spyxe[.]to and xleet[.]ws, though we did not investigate these in depth.

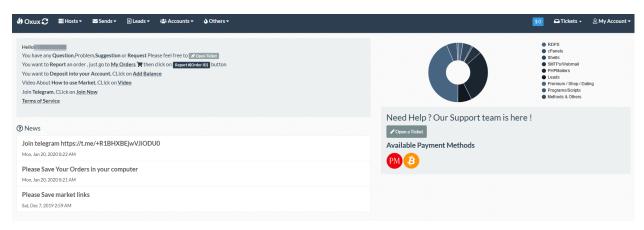
Of particular note is the fact that the Olux shop has started offering Credit Card information (referred to as "fullz") as well as Bank Accounts for sale, which may attract additional attention from law enforcement. None of the other shops we investigated offer fullz at this time.



Pictured: The Olux Dashboard

#### Oxux

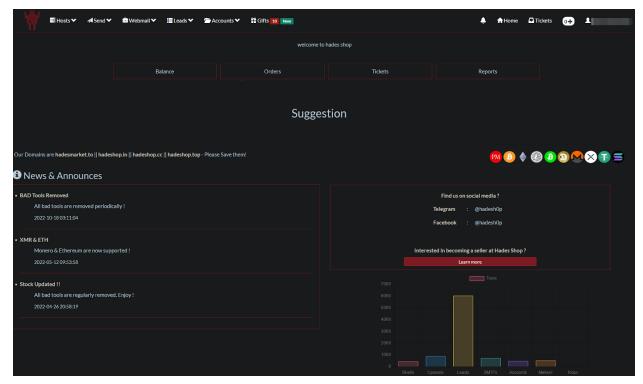
A number of similar-sounding domains capitalizing on the Olux brand, such as "Oxux", also appear to be hosting functional shops, though these typically lack many of the features of the official Olux shop. The Oxux shop was the first shop we encountered in this investigation and appears to be actively in use. At the time of publication, it was stocked with several hundred RDP accounts, more than any other shop. While we only investigated this particular Olux knockoff, a number of other knockoff, fake, or abandoned Olux-adjacent shops appear to exist, many in various states of disrepair.



Pictured: The Oxux Dashboard

## Hades Shop

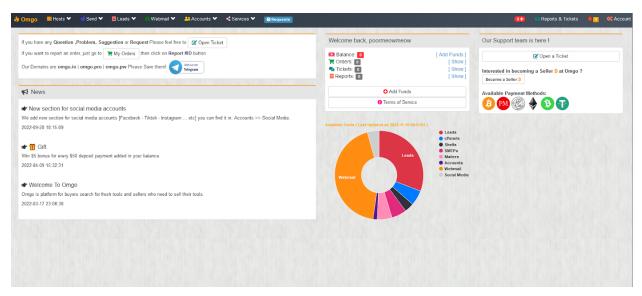
The Hades Shop was one of the more full-featured shops we investigated, including features such as SEO and alexa rank checking for cPanel offerings, and even going as far as to offer promotional giveaway items on depositing funds. Its primary offering at the time of publication was a few thousand email leads and combo lists. Like the Olux shop, the Hades Shop uses a number of domain names for redundancy.



Pictured: The Hades shop dashboard

## Omgo

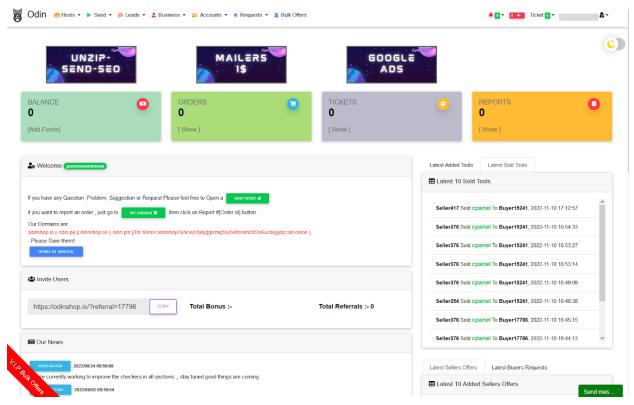
The Omgo shop is also one of the more full-featured shops, and provides prospective buyers the full domain name as well as SEO information about cPanels for sale. It was one of the most fully-stocked shops we visited, offering tens of thousands of individual hacked webmail accounts and several thousand cPanel accounts, shells, and leafmailers. Like the other shops, Omgo uses multiple domains for redundancy.



Pictured: The Omgo shop dashboard

#### Odin

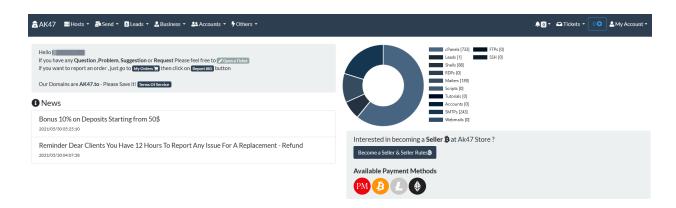
The Odin shop seems to be one of the most actively developed shops we investigated and is promoting itself heavily. It had the largest stock of cPanels for sale, more than 10,000 at the time of writing, and actively advertises that its webshells are intended for black-hat SEO.



Pictured: the Odin shop dashboard

#### AK47

The AK47 shop was the least active shop we investigated and the most limited and similar in functionality to the original Olux/Oxux shop, with a few hundred cPanels for sale and very few other offerings.



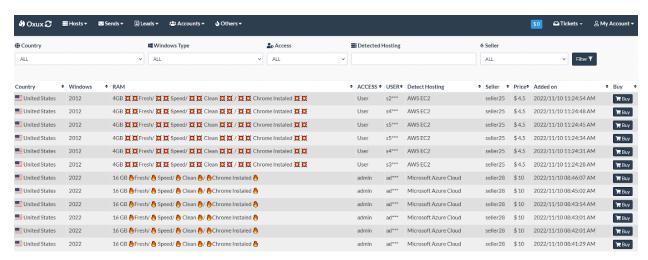
Pictured: the AK47 shop dashboard

## IV. Core Products Across the "Shops"

#### **RDP** Credentials

A core offering of nearly all the shops we investigated is Remote Desktop Protocol (RDP) credentials for Windows Servers, hosted on Microsoft Azure, DigitalOcean, AWS, or another cloud platform. These provide a remote Windows Desktop from which to conduct attacks and are typically used as an additional layer of anonymity in order to actually run the scripts used to send out mass-exploitation and credential stuffing attacks, as well as to bulk-manage exploited sites using tools such as the F-Automatical script. These provide key functionality and it is likely that many of the sellers on the shop sites themselves are using these to compromise and manage their cPanel, webshell, and leafmailer offerings.

Pricing appears to be in the \$3.50 to \$15 USD range, depending on the access level being sold and the amount of RAM the server is provisioned with.

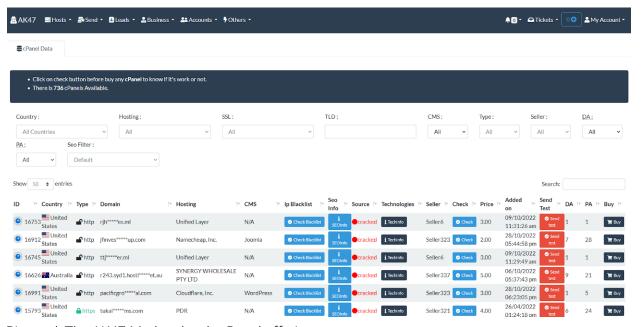


Pictured: The Oxux marketplace's RDP offerings

#### cPanel Credentials

cPanel credentials that provide access to a hosting account that includes a domain and webmail are another core product. These credentials effectively grant the buyer full access to any websites hosted under the cPanel. All shops list the TLD, host, and hosting country. Some shops also include the partial or full domain as well as SEO ranking information, traffic to the site, and whether the domain is on a blocklist. We were unable to determine whether any of the webshells or leafmailers for sale were on the same domains as the cPanels, but this would be a trivial way for a seller to make additional money off of a hacked site.

Pricing for cPanel Credentials appears to range from \$2-\$15 USD, with most offerings in the \$7-\$10 USD range.

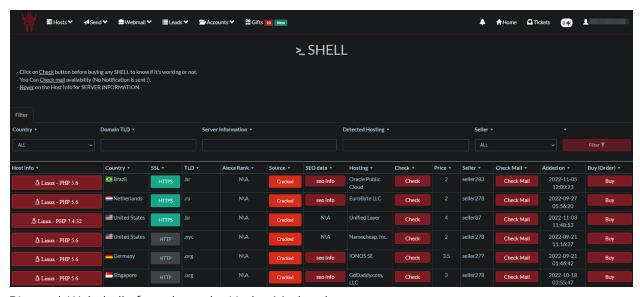


Pictured: The AK47 Marketplace's cPanel offerings

#### Webshell Access

The WSO shell in particular has become something of a de facto standard for maintaining persistent access on compromised sites, and provides file manager access and remote code execution capability. Unlike RDPs and cPanels, these are almost always "Cracked". In many cases purchasing a "Webshell" simply provides the buyer the location of the purchased webshell, though some variants are also password protected.

Pricing for webshells appears to range from \$1-\$6 USD.

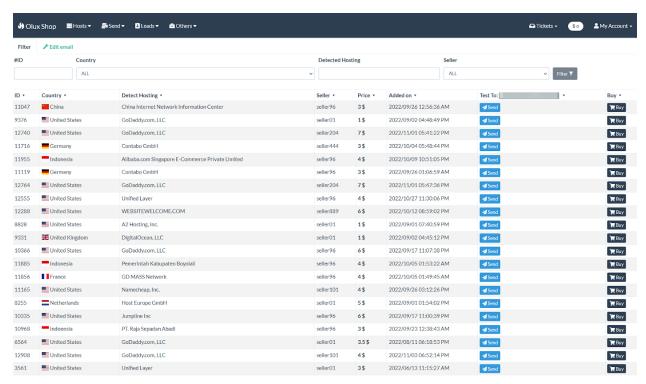


Pictured: Webshells for sale on the Hades Marketplace

#### Leafmailers and SMTP Accounts

Leafmailers are PHP scripts that run on a webserver and are typically used to send spam or phishing messages and other mass mail. While the leafmailer script itself is legitimate its presence on a site is a very strong indicator of compromise. Pricing for Leafmailers was surprisingly variable, ranging from \$1 to \$55 USD, likely depending on the spam reputation of the compromised site. Leafmailers are typically password protected, since the test functionality frequently discloses the location of the script in the email headers.

"SMTP" access consists of credentials to SMTP email servers and are typically used to send spam or phishing messages and other mass mail. These typically range from \$5-\$10 USD.

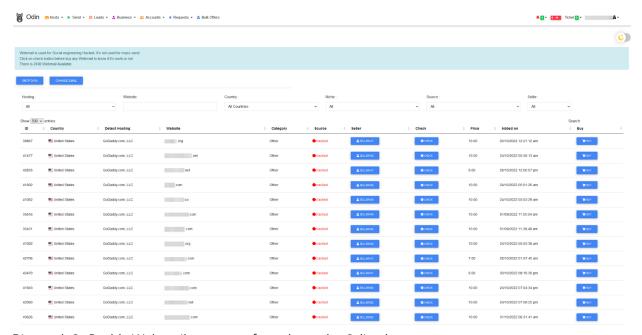


Pictured: Olux shop's Leafmailer offerings. The send verification functionality is visible in this image.

#### Webmail accounts

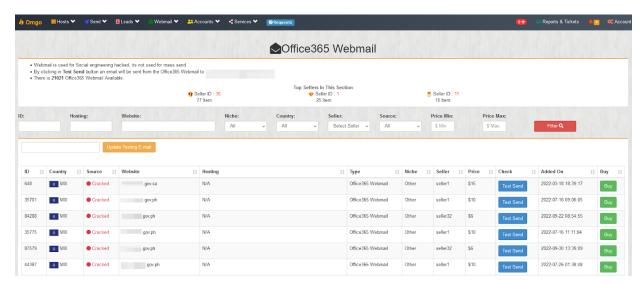
"Webmail accounts" are credentials to individual webmail accounts, and are typically intended to facilitate spear phishing, social engineering, and identity theft rather than mass mailing. Some shops broke webmail accounts out into a separate category while others categorized them under email sending or "premium" accounts, which also frequently included accounts to various online gaming and dating services.

In many cases shops will indicate the domain the account is associated with, as well as the email provider. Price varies wildly depending on provider and associated domain, typically between \$2 and \$50 USD, though accounts with additional identifiers or administrative roles might fetch \$125 or more.



Pictured: GoDaddy Webmail accounts for sale on the Odin shop

Office 365 and GoDaddy webmail accounts are common, and we noticed email addresses at a number of educational and international government subdomains for sale.

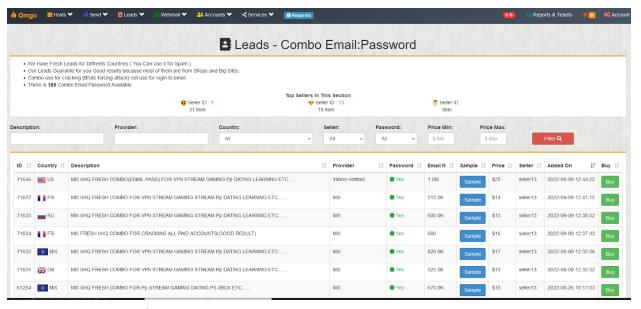


Pictured: Office365 accounts for sale on the Omgo shop

#### Leads and Combo Lists

"Leads" are large lists of email addresses and typically are sold either as standalone email addresses or as "combo" lists. Standalone email lists are intended for spam, phishing, or even traditional marketing purposes, while "combo" lists consist of full sets of leaked credentials to various services. Combo lists are frequently used for the credential stuffing "brute force" attacks blocked by the Wordfence plugin, as attackers are fully aware that most users reuse their passwords and that one set of credentials can grant access to multiple accounts.

Email-only lists are relatively inexpensive and tend to range from \$7-\$20 USD, while "combo" lists tend to start at \$13 and up, with many larger lists in the \$50 price range.

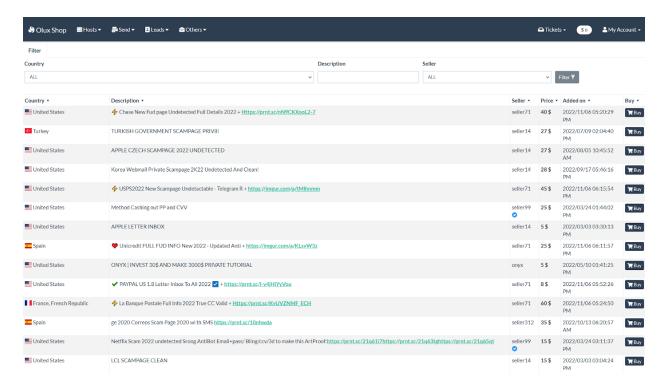


Pictured: Combo lists for sale on the Omgo shop

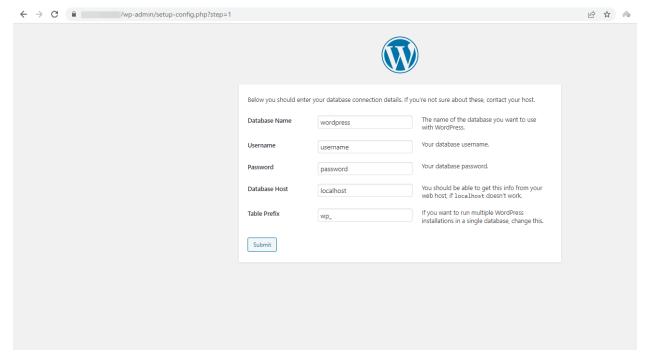
## Scripts and Scam Pages

Most sites also allow sellers to offer exploitation scripts, post-exploitation "checker" and "config" scripts, and "scam pages" (phishing toolkits and email templates) for sale.

The scam page offerings typically include screenshots to show how closely they match up-to-date versions of the service they are imitating and tend to range from \$25-\$100.



Pictured: the Olux Marketplace Scripts offerings.



Pictured: A fake WordPress installation "scampage" designed to harvest database credentials by replacing the legitimate setup-config.php file.

## V. Takeaways

#### **Customer Base**

The vast majority of these products and services are geared towards relatively unskilled actors taking advantage of known weaknesses, especially human error. That is, the individuals using these services and purchasing hacked accounts are frequently not writing exploits themselves and are relying primarily on mistakes such as credential reuse and victims falling for phishing scams.

Additionally, most of the goods and services for sale on these sites are instrumental rather than terminal - they're being sold to attackers hoping to use them as tools to turn a profit with extra steps. The vendors on these platforms are, effectively, selling stolen pickaxes during a gold rush. Individual hacked websites and even RDP servers are generally not worth very much, so most attackers will not expend extraordinary effort to gain or maintain access to a given service beyond the functionality provided by the tools they use. This is also why "hacking back" against an attacker is a futile tactic.

The actual techniques vary: some shop customers might use RDPs to perform credential stuffing or web application exploits in the hopes of taking over sites for resale on the very same marketplaces. Others might be engaging in low-effort, low-reward enterprises such as SEO and email spam. The shops do have offerings, such as combolists and individual webmail accounts, that can be useful to attackers taking part in riskier businesses, such as social engineering, carding, and identity theft, but with the exception of Olux shop, do not appear to sell credit cards or other information that might make them a priority target for law enforcement.

Highly skilled attackers do exist and almost certainly purchase products from shops to aid in their goals, but there are far more profitable ways for a skilled attacker to monetize their capabilities than selling access to commodity hosting and email accounts, such as ransomware or "priv8" (non-public, frequently zero-day) exploits.

#### Preventative Measures

In almost all cases, following security best practices such as using strong unique passwords and 2-factor authentication for every online account, including cPanel accounts, using a Web Application Firewall that blocks against known exploits, ensuring all software remains up to date, and being wary of social engineering attempts is enough to prevent a website from ending up on one of these marketplaces.

## **Appendix**

## Shop domains

## Olux

Olux[.]cz

Olux[.]so

Olux[.]ws

## Oxux/Knockoff Olux Shops (not exhaustive)

Oluxs[.]shop

Olux[.]store

Oxux[.]to

#### Hades

Hadesmarket[.]to

Hadeshop[.]in

Hadeshop[.]cc

Hadeshop[.]top

## Omgo

Omgo[.]io

Omgo[.]pro

Omgo[.]pw

#### Odin

Odinshop[.]io

Odin[.]pw

Odinshop[.]se

Odin[.]pm

## AK47

AK47[.]to