

## Player 1 Limpes Back Into the Ring - Hello again, Locky!

By Alexander Chiu

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WILDER DENNISON

Today at 8:49 AM

WD

To: no-reply@jaeson.net

Reply-To: NoReply@uppermill.com

Copy of Invoice 95651955

Please find attached file containing your order information.

If you have any further questions regarding your invoice, please call Customer Service.

Please do not reply directly to this automatically generated e-mail message.

Thank you.  
Customer Service Department





95651955.zip

Wednesday, June 21, 2017 17:00

This post was authored by [Alex Chiu](#), [Warren Mercer](#), and [Jaeson Schultz](#). [Sean Baird](#) and [Matthew Molyett](#) contributed to this post.

Back in May, the Necurs spam botnet jettisoned Locky ransomware in favor of the new Jaff ransomware variant. However, earlier this month Kaspersky [discovered](#) a vulnerability within Jaff which allowed them to create a decryptor. This turn of events seems to have caused the miscreants behind Necurs to scramble to distribute a different ransomware payload. Falling back on their old tricks, they have selected to re-distribute Locky ransomware. The malware is being transmitted via email using an .exe file encapsulated within two compressed .zip archives.

**The Spam Campaign** The spam that is distributing this ransomware campaign is not significantly different from other ransomware spam campaigns that [we have seen](#) from Necurs. Ransomware-oriented spam campaigns from Necurs typically involve order confirmations, payment receipts, business documents, and so on -- all with the common goal of social engineering victims into opening the attachment. The messages Talos observed in this particular campaign are disguised as fake invoices.

**WILBER DENNISON**  Today at 8:49 AM 

To: no-reply@jaeson.net  
Reply-To: NoReply@uppermill.com  
Copy of Invoice 95651955


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Please find attached file containing your order information.

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95651955.zip

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An example spam message propagating Locky ransomware

The volume of Locky spam Necurs has sent since the start of this particular campaign is notable. In the first hour of this campaign, Talos observed that Locky spam accounted for up to 7.2% of email volume on one of our systems. While the campaign has since decreased in the number of messages being sent per minute, Necurs is still actively sending messages containing Locky, though only in small quantities.

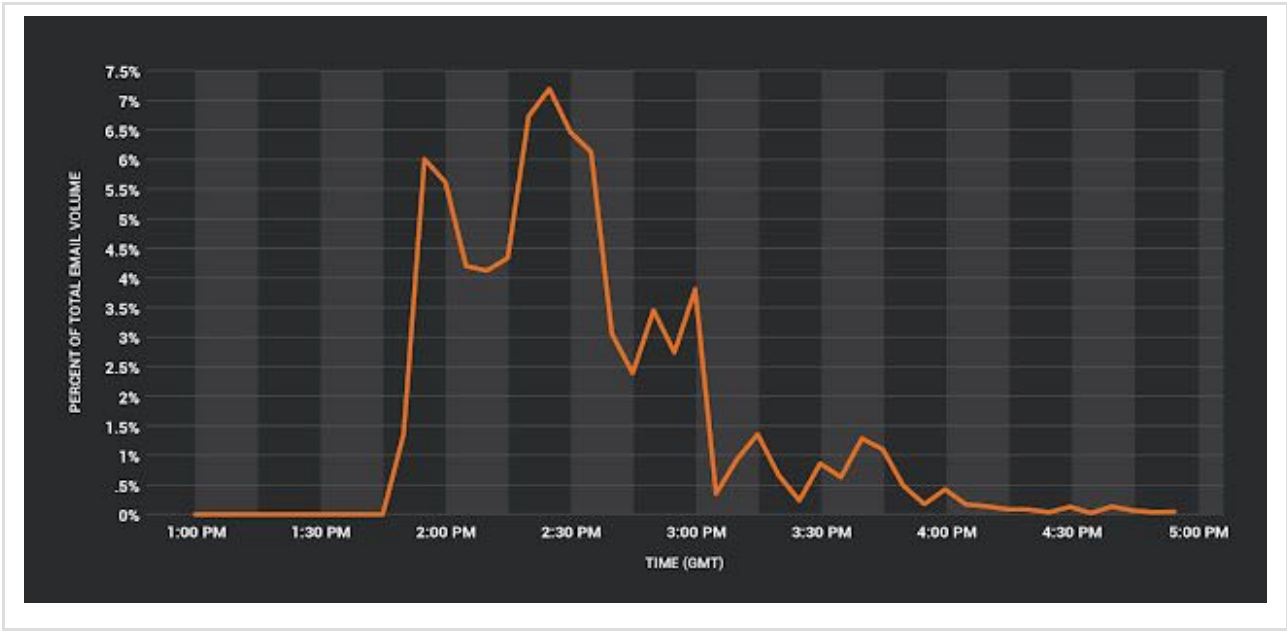


Chart illustrating the volume of Locky spam as a percent of total email volume one of our systems observed.

```
eax=00000020 ebx=00000047 ecx=0018cb74 edx=00000baa esi=0004c923 edi=00000bab  
eip=0018cb74 esp=0018c064 ebp=000281bd iopl=0         nv up ei pl zr na pe nc  
cs=0023  ss=002b  ds=002b  es=002b  fs=0053  gs=002b             efl=00010246  
0018cb74 e80d020000 call 0018cd86  
0:000> !address 0018cb74
```

```
Mapping file section regions...  
Mapping module regions...  
Mapping PEB regions...  
Mapping TEB and stack regions...  
Mapping heap regions...  
Mapping page heap regions...  
Mapping other regions...  
Mapping stack trace database regions...  
Mapping activation context regions...
```

```
Usage:                               Stack  
Base Address:                        0018a000  
End Address:                          00190000  
Region Size:                          00006000 ( 24.000 kB)  
State:                                00001000 MEM_COMMIT  
Protect:                               00000004 PAGE_READWRITE  
Type:                                  00020000 MEM_PRIVATE  
Allocation Base:                      00090000  
Allocation Protect:                   00000004 PAGE_READWRITE  
More info:                             ~0k
```

```
Content source: 1 (target), length: 48c
```

Locky's unpacker crashes when trying to execute stack memory on systems more recent than Windows XP.

Another notable aspect of this latest campaign was the C2 URL structure. Adversaries behind this latest Locky campaign have reused the /checkupdate path as part of the URL structure -- the same URL structure found in [previous](#) Locky campaigns. This is perhaps another indication that adversaries were hasty in their developing and distributing this campaign.

### HTTP Traffic

POST http://185.115.140.170:80/checkupdate <a href="#">↗</a> Server IP: 185.115.140.170 <a href="#">↗</a> Server port: 80	Resp. content: <unknown>	Network stream: 3 Transaction: 0 Timestamp: +98.0s
POST http://185.115.140.170:80/checkupdate <a href="#">↗</a> Server IP: 185.115.140.170 <a href="#">↗</a> Server port: 80	Resp. content: <unknown>	Network stream: 3 Transaction: 1 Timestamp: +100.0s
POST http://185.115.140.170:80/checkupdate <a href="#">↗</a> Server IP: 185.115.140.170 <a href="#">↗</a> Server port: 80	Resp. content: <unknown>	Network stream: 3 Transaction: 2 Timestamp: +101.0s
POST http://185.115.140.170:80/checkupdate <a href="#">↗</a> Server IP: 185.115.140.170 <a href="#">↗</a> Server port: 80	Resp. content: <unknown>	Network stream: 4 Transaction: 0 Timestamp: +187.0s

Threat Grid sandbox run illustrating Locky C2 communication

## Conclusion

**This updated version of Locky appears to have been hastily deployed, and as a result it has not affected users running Windows operating systems other than**

**Windows XP. The attackers behind this ransomware are likely already aware of this, so we can expect a fixed version of Locky to appear in a future round of Necurs' ransomware spam.**

Despite sounding like a broken record, we at Talos feel it's our duty to re-iterate that it's always risky clicking on links or opening attachments in strange email messages. Users that fail to heed this advice can easily become ransomware victims, and if the subsequent ransom is paid, the monies will no doubt fund another round of attacks. As always, organizations are encouraged to make regular backups of their data, practice restoring said data, and store your backups offline far out of the reach of potential criminals.

**Coverage Open Source Snort Subscriber Rule Set customers can stay up to date by downloading the latest rule pack available for purchase on [Snort.org](http://Snort.org).**

Additional ways our customers can detect and block this threat are listed below.

PRODUCT	PROTECTION
AMP	✓
CloudLock	N/A
CWS	✓
Email Security	✓
Network Security	✓
Threat Grid	✓
Umbrella	✓
WSA	✓

Advanced Malware Protection ([AMP](#)) is ideally suited to prevent the execution of the malware used by these threat actors.

[CWS](#), [WSA](#), and [Umbrella](#) can help identify hosts that have been compromised by Locky by detecting outbound C2 traffic.

[Email Security](#) can block malicious emails sent by threat actors as part of their campaign.

Network Security appliances such as [NGFW](#), [NGIPS](#), and [Meraki MX](#) with Advanced Security can detect malicious activity associated with this threat.

[AMP Threat Grid](#) helps identify malicious binaries and build protection into all Cisco Security products.

[Stealthwatch](#) detects network scanning activity, network propagation, and connections to CnC infrastructures, correlating this activity to alert administrators.

## IOCs

### SHA256

- 49184047c840287909cf0e6a5e00273c6d60da1750655ad66e219426b3cf9cd8
- 3285c3f37aa192a173f62fee82f7a966a6df6e5db4642d63a6784f39a63012b6 **File Extension for Files Encrypted by Locky**

.loptr

#### Hard-coded Locky C2 URL

hxxp://185.115.140[.]170/checkupdate

#### Locky DGA C2s (20th/21st June - DGA seed 65123)

- hxxp://emtsgdqsik[.]pl/checkupdate
- hxxp://tqathwvfaqfisj[.]pl/checkupdate
- hxxp://dqutuujymgc[.]info/checkupdate
- hxxp://ddgtdcgoysuq[.]ru/checkupdate
- hxxp://lrsjplrlaceugxw[.]work/checkupdate
- hxxp://cstfxgufaj[.]biz/checkupdate
- hxxp://gcbdwbtslh[.]xyz/checkupdate
- hxxp://wxcjqfevrkosp[.]biz/checkupdate
- hxxp://hllfhiqwneuwwx[.]biz/checkupdate
- hxxp://agnfmqvhomsa[.]work/checkupdate
- hxxp://ythjvjhtgsfgesd[.]biz/checkupdate
- hxxp://kabssqyef[.]info/checkupdate

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Source: <http://blog.talosintelligence.com/2017/06/necurs-locky-campaign.html>