

## WHAT IS RANSOMWARE?

Over the course of the last few years we have witnessed the increasing trend of hackers attempting to extort money from both private users, and more recently businesses, via the proliferation of various Ransomware Trojans such as CryptoLocker.

These malicious pieces of software are designed to gain access to and encrypt data and files by generating a private-public pair of keys. The data is impossible to decrypt without the private key which is usually stored on the attacker's server until the ransom is paid. Unfortunately, in many cases even once the ransom has been paid the attackers fail to provide the decryption key leaving victims without their money or their files.

Whilst Ransomware has been around for many years, the more recent advancements in encryption technologies coupled with the ease with which hackers can conceal their identities has resulted in an increase in the number of them adopting this strategy.

## THE RISE AND FALL OF CRYPTOLOCKER

The current wave of Ransomware threats began in late 2013 with the emergence of what is probably the most well-known family of Ransomware, CryptoLocker. In May 2014, as a result of a joint operation by enforcement and security agencies the CryptoLocker Trojan was shut down, thanks largely to the disruption of the GameOver Zeus network which was one of its major distribution agents.

Although the original CryptoLocker Trojan has been shut down we still see imitations of it circulating while at the same time many other families of Ransomware have since sprung up, the most prolific being CTB-Locker, CryptoWall, TorrentLocker and more recently, TeslaCrypt. Regardless of the name, they all aim to do the same thing - extort money from victims in return for decrypting their data and files.

## WHY IS RANSOMWARE SUCH A BIG THREAT?

These types of attack pose a considerable danger for several reasons;

- They use very clever and evasive techniques to circumvent security software. This often results in the creation of "Zero-Day Malware", meaning the Trojan will be unknown to security experts so will not have been identified as a risk in any security software.

## Ransomware-Mitigating The Threat

- Security experts consider encrypted data to be unrecoverable. As many victims also report that the decryption key is not provided even if the ransom has been paid, it is not recommended to give in to the hacker's demands.
- Through the use of the Tor network and virtual currencies such as Bitcoin, hackers are largely untraceable by security agencies.
- The attacks are directed for the most part at users in more affluent countries - In 2015 50% of all CTB-Locker attacks detected were in the US and 35% in Europe.
- Specific to businesses, in late 2014 another Ransomware family to appear, SynoLocker, specifically targeted mass-storage and network attached storage (NAS) disks. This trend of targeting "high-value" victims already has and is likely to continue increasing.

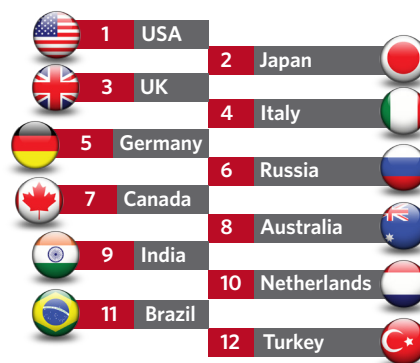


Figure 25. Top countries impacted by binary-based ransomware

## WHAT ARE WE LIKELY TO SEE IN 2017?

Unfortunately the use of Ransomware seems only to be on the rise. The first quarter of 2015 alone saw a 165% rise. McAfee Labs researchers then reported more than 4 million samples of ransomware in Q2, of which 1.2 million were new. A recent report by SonicWall identified over 638 million Ransomware attacks in 2016 - a staggering increase on previous years.

New focuses have been seen and are expected against, in particular, the financial industry and Public Sector organisations. You will no doubt have seen numerous articles in the global news about organisations across the Public Sector, Healthcare, Transport & Logistics, Financial Services industries and more, all suffering from increased Ransomware attacks.

The use of the Tor Network has also enabled cybercriminals to begin offering Ransomware-as-a-Service (RaaS) models, meaning more inexperienced cybercriminals will be able to leverage these attacks as well.

Cybercriminals are also becoming more corporate focused as they understand that businesses rely on their critical systems to survive and so consider them more likely to pay – and pay a significantly higher amount – to have their data decrypted.

## SO HOW DO WE PROTECT OURSELVES FROM THIS THREAT?

As cybercriminals leverage more and more intelligent methods of attack, the need to protect ourselves becomes ever-more crucial.

Ensuring you have suitable Anti-Virus and security software, as well as ensuring it is kept up-to-date, is the obvious starting point. As we have seen in many cases, however, Zero-Day Malware is becoming more and more common so AV software does not necessarily provide any guarantee of protection against this threat.

User-Education is also key, as many Trojans gain initial access to systems through links contained in (often very official looking) phishing emails. Human Error can and does happen though, so extra layers of protection are still required.

Backing-up your data is crucial, but many businesses either do not have a backup program in place, or have such infrequent backups that should their systems become infected they will potentially stand to lose months' worth of data.

*“Most ransomware attacks can be avoided through good cyber hygiene and effective, regular data backups that are continually tested to ensure they can be restored if needed. Our recommendation is that businesses need to be proactive because the decryption keys are not always provided when ransoms are paid and being proactive is often easier and less costly than a reactive approach.”*

*Raj Samani, CTO for Europe at Intel Security*

## THE ANSWER? THREAT MITIGATION

Sometimes you just have to accept that prevention isn't always possible, but mitigating the threat certainly is.

Let's say you've been the unfortunate victim of a Ransomware attack. Your files are locked down, you start to break a sweat... Your last backup might have been from last night, last week, or maybe last month. How much data do you stand to lose? What's the cost to the business going to be? How will the public perceive your inability to counter this threat? What happens when all your public-facing services are down while you try to fix the problem? How much time is it going to take you to get back up and running?

## THE SOLUTION-ZERTO

- Rewind your systems to the last point-in-time before the infection struck, to within a matter of seconds.
- Recover all your critical systems within the space of a few minutes, with only a few clicks of a button.
- Not only restore entire applications and databases with consistency, but provides the granularity to restore individual file-level objects
- Perform non-disruptive failover tests at any time, so you know you can bring the business back online straight away when needed.
- Use off-site cloning for longer-term data retention in the cloud or on-prem, in addition to giving you Continuous Data Protection for up to 30 days.

## ABOUT ZERTO

In today's connected world, businesses need to be available to their customers, 24/7/365. Zerto provides Resilience for Evolving IT™, ensuring enterprises and their customers always have access to applications without any IT interruption, downtime or delay. Zerto's award-winning Cloud Continuity Platform, protecting thousands of enterprises worldwide, is the simplest, most reliable BC/DR software solution built to protect applications on any virtualized IT environment, be it public, private or hybrid cloud. Zerto's proactive approach to recovery gives companies confidence in their ability to withstand any disruption, incorporate new technology easily, and quickly adapt to accommodate evolving IT priorities. Learn more at [www.zerto.com](http://www.zerto.com).