



## The Tor system: Welcome to the dark internet

Charlotte Philby | 11th Jun 2013 8:00 AM

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EVERY day, 15,000 people in Britain log on to an obscure online domain where they can search for anything they want in secret. The NSA whistleblower is a fan. It is anonymous. It is growing.

Pioneered in 2002 by the US Navy for protecting government communications and soon adopted by techies across the world, the Tor software system has built a reputation as the "dark internet" - an ungoverned and seemingly ungovernable space where web users can surf with complete anonymity.

As the Government calls for Google and other major web companies to block "harmful" content and online links to child pornography and extremist material, fears have been raised that increased policing online is pushing users towards the proxy, which obscures the identity of both users and the sites it hosts.

The Tor Project, a non-profit company which launched across the Atlantic in Walpole, Massachusetts in 2002, exists with the objective of making anonymous web-surfing mainstream.

It claims the numbers of users of its free software doubled between 2011 and 2012, reaching around 600,000 people each year - and, though the numbers are hard to trust, its data suggests there are 15,715 unique daily users in Britain. But as whole companies could be operating from one address, calculating the true usage is impossible.

Tor, whose name is short for The Onion Router, is best-known for hosting outlawed sites such as Pirate Bay. It works by sending web traffic over a series of nodes - or onion routes - adding layers of encryption coding at various stages resulting in online users and browsers, along with the people hosting the websites it features, being untraceable by the authorities.

The fact that those requiring anonymity are extremely mindful of the prying eyes of authorities was reiterated last night as details emerged of the 29-year-old that blew the whistle on the US surveillance system, Prism. Edward Snowden, a former technical assistant for the CIA and security contractor, has a sticker on his laptop hailing The Tor Project.

On the face of it, Tor is now cultivating a reputation as a family-friendly, mainstream alternative to the web, which in its own words is now something "used every day for a wide variety of purposes by the military, journalists, law enforcement officers, activists, and many others".

Andrew Lewman, Tor's executive director, told The Washington Post that Tor had seen its popularity grow in the US and Europe amid concerns about online privacy. "Ten years ago, no one had this concept of privacy. But with the [former General David] Petraeus scandal and cellphones recording your location, now this doesn't seem so far-fetched any more."

However, according to the Child Exploitation and Online Protection Centre (CEOP), of the 15,000 Brits now thought to be using Tor every day, around 5,000 are believed to be doing so for criminal reasons. With a wide range of services on offer, those illegal purposes are many, varied, and complex.

William (not his real name), 30, who works in film and has a "limited knowledge of computers", started using Tor a couple of months ago to buy illegal drugs on a site called Silk Road, which has become infamous for allowing people to order narcotics online.

After downloading a Tor browser, which gave him "deep web access, which search engines like Google don't access", and entering a numerical address "which can be found pretty easily online", he found himself on Silk Road. "You sign up like any other site: username, password, etc, and that's it, you're there," he said. "I couldn't believe what I was seeing: every drug under the sun listed, from all over the world. It seemed unreal. Pictures, ratings, candid reviews about people's experiences with them," he said.

Having picked a selection, and spent a couple of hundred pounds worth of Bitcoins - the preferred currency on Tor - "a few days later a letter arrives from Holland, flat-packed with a birthday card within it and a vacuum-packed plastic bag of coke."

He added: "The same thing happened with the hash, I couldn't believe it. Drugs had been delivered to my door by Royal Mail. Madness."

There have been calls for some systems such as Tor to be outlawed. They will likely be repeated after Prime Minister David Cameron said that websites and search engines should take more responsibility for their actions, especially for those that could aid paedophiles in finding images of children being sexually abused.

"I am sickened by the proliferation of child pornography. It pollutes the internet, twists minds and is quite simply a danger to children," he said on Sunday. "Internet companies and search engines make their living by trawling and categorising the web. So I call on them to use their extraordinary technical abilities to do more to root out these disgusting images. That is why the Government is convening a round-table of the major internet companies, and demanding that more is done."

But one computer security consultant, who spoke on condition of anonymity, explained that when an online service was taken away, people were pushed underground. "Following Government collusion with record companies and copyright holders to crack down on file-sharing copyrighted material, users were led to using networks like Tor previously only used by computer geeks and people seeking out illicit material. Same thing applies here, more so. The people who are targeted by this type of legislation will spend hours and go to every effort to seek out material."

A UK-based blogger who uses Tor for both his writing - so that anything he writes can't be traced, making him immune to extended online libel laws - and to host a forum on internet security, said that people who have increasing concerns over how their personal information is used were turning to proxy sites like Tor. "These are innocent family people who are not guilty of anything. [They use Tor] because they don't want themselves or family followed around by councils or the police."

While a spokesperson for CEOP conceded that "whatever online environment is out there, there will be people who will use it for their own reasons", she warned potential users: "Even the most technically sound person will make mistakes and leave footprints."



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