Tor

TorProject.org

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The Tor Project, Inc.

2009
ANNUAL REPORT

Universal Declaration of Human Rights

Article 19

❝❝ Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers.

Article 20

❝❝ Everyone has the right to freedom of peaceful assembly and association.

About The Tor Project

We are the leading 501 (c)(3) non-profit organization researching and developing tools and technologies for online privacy and anonymity. Our core mission is to research, develop technologies for, and to educate the global population on free speech, free expression, privacy, and anonymity. In 2009, we increased our research and development efforts and expanded our work force and sub contractors by over 40% to meet the needs of our sponsors for a faster Tor network, easier to use technologies, and increased global advocacy.

The Tor Project, based in Walpole Massachusetts, continues to work with a number of diverse organizations to research and develop core technologies, improve education and understanding of the benefits and risks to online privacy, and to advocate for the positive uses of online anonymity. As the world moves online, traditional methods of controlling your personal information vary, and in many cases people are unaware of the enhanced possibility of surveillance and data retention in this online environment.

Mission Statement

The Corporation is organized and shall be operated exclusively for scientific, charitable and educational purposes within the meaning of section 501(c)(3) of the Internal Revenue Code, including (a) to develop, improve and distribute free, publicly available tools and programs that promote free speech, free expression, civic engagement and privacy rights online; (b) to conduct scientific research regarding, and to promote the use of and knowledge about, such tools, programs and related issues around the world; (c) to educate the general public around the world about privacy rights and anonymity issues connected to Internet use.

Letter from the Executive Director

Dear Friends,

After being a victim of online harassment including death threats and identity theft, I wanted to find a better way to protect myself and others while online. Many people in both the online and offline community provided much needed advice, assistance, and support. The majority of this advice came down to staying offline. In today's increasingly connected world, this just isn't possible if you want to conduct business, learn more about topics of interest, or simply connect with friends and family. As a former ethologist, I started with the academic research publications on online privacy and anonymity.

In 2003, I discovered Tor. At the time, it was a loose collection of volunteers and researchers working to build tools to support online privacy and anonymity. It was rough around the edges, but based on real research and it seemed to be on the right track with a bright future. Since then, the progress we've made on research, development, the size of the public Tor Network, the millions of people who have downloaded and installed the various Tor software packages, and the individuals we've helped to improve their lives is simply astounding.

In 2009 alone, we have seen dramatic events unfolding around the world helped by uncensored access to the Internet, data losses divulging the identities and personal details of millions of people, and an ever growing surveillance and control infrastructure being deployed on the Internet. The Tor Project has grown to respond to the demands of more people wanting to maintain their online privacy, assist those in immediate need of censorship circumvention and control infrastructures, and to be a strong advocate for online anonymity.

Many challenges remain. We will continue to dramatically increase the performance of the Tor network, reach out to and educate many of the billion people online, and sustain efforts to scale Tor to handle the millions more who wish they had the ability to control their online personas and access the uncensored Internet to learn, explore, and change the world.

Sincerely,

Andrew Lewman
Executive Director

Year In Review

Tor makes technological progress each year, helping millions of people around the world maintain their privacy and anonymity online. In 2009 we improved performance of the Tor network by 50% through core protocol fixes and additional capacity; more, faster volunteer-run nodes. Bridge relay optimizations and reports from users in China, Iran, Burma, and the United Arab Emirates helped solve problems rapidly as censors ramped up efforts. We released a total of 54 software upgrades over the year.
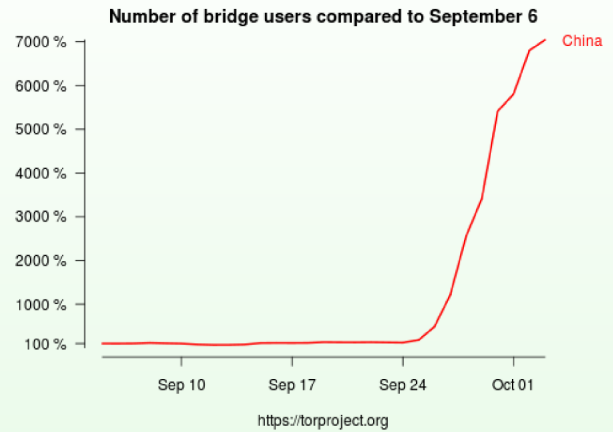
The events of the past year showed the need for technology that allows citizens to report securely on events in their neighborhoods. In Iran, questions about the election in June sparked protests and a crackdown on journalists and human rights activists. Videos and photos of the regime's response to rallies in the streets, taken with mobile phone cameras, were posted online and seen on the news all over the world. The government rounded up bloggers and students who were using social media sites, but could not stop the flow of information.

In China we helped hundreds of thousands of people gain access to the unfiltered Internet throughout the year, despite tightened censorship surrounding the Sichuan earthquake, violent reactions to protests in Tibet, rebellions of Uighurs in Xianjiang, and the 60th anniversary of the Communist Party. In South Ossetia, Tor was used to report on Russian military actions. The ability to send stories out online before cameras and computers could be confiscated helped citizens monitor the behavior of armed forces.

Growth

Tor expanded its outreach and educations efforts. The Tor network helped the FBI, Department of Justice, and other law enforcement agencies maintain their agents' privacy and anonymity while conducting online investigations into child pornography, organized crime, and other criminal activities. Tor developers spoke at 40 conferences around the world advocating for online privacy and censorship circumvention technologies, and met with human rights non-governmental organizations to show them how anonymity and secure communication online can help field workers and citizens fulfill their missions safely.

Number of bridge users compared to September 6

https://torproject.org

The Tor project would be nowhere without its world class staff and volunteers. Tor added staff and contractors to tackle the research, advocacy, tool development, and operational needs. We continued to fund two grants, one at MITACS in Canada to assist the University of Waterloo, Canada to continue their Tor performance research; and another at the University of Cambridge in the United Kingdom to continue research into technological attacks on and defenses of online anonymity.
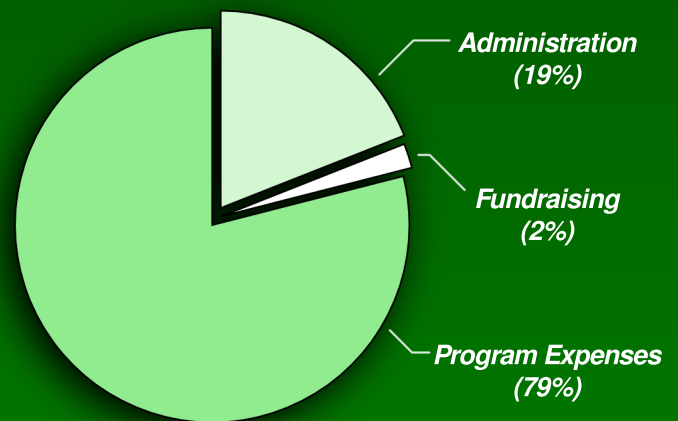
Finances

2009 Tor Project Funding Sources

Individuals (20%)

Corporations (8%)

Governments (72%)
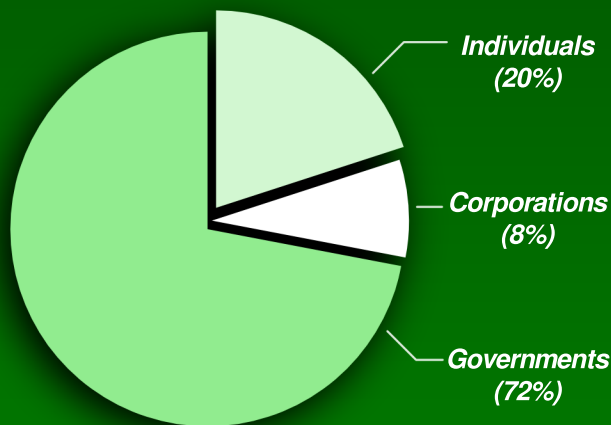
2009 Tor Project Funding Allocation

Administration (19%)

Fundraising (2%)

Program Expenses (79%)

We grew from an organization with $679,000 in gross funding to $1.25 million in 2009.

Tor values fiscal responsibility; as such, we've increased our cash reserves in response to increased funding levels to support potential cash flow fluctuations. Tor maintains a policy to have approximately 90 days of cash reserves on hand to ensure a financially stable organization. Therefore, we increased our reserves from $200,000 to $360,000 to allow us to take calculated risks, operate more programs, and to provide some much-needed stability in monthly operations.

We passed our first compliance and financial audit without any concerns. This has allowed us to attract a more diverse set of funding organizations, increase individual donations, and generally stabilize the organization. We kept overhead low, spending most of the budget on people who develop software and on travel to meet with organizations and individuals who need to stay safe online. Tor received and spent its funds as depicted in the charts above.

Software

The Tor Browser and Instant Messaging bundles already make installing and using Tor easier. More improvements are on the way, including secure automatic updates. Since many websites bypass proxy settings and leak information, Torbutton disables features like streaming video that have been useful to activists. A virtual machine version of Tor could offer users in restrictive environments more of the same experiences that people with access to the open Internet enjoy. Since the hardware, operating systems, and telecommunications networks in many countries are old and bandwidth is often intentionally limited, we are developing a version of Tor that takes less time to download and is configured for low bandwidth environments.

The research team at the University of Bamberg in Germany

Research

By providing grants to universities, participating in mentoring programs like the Google Summer of Code, and giving guest lectures, we are making connections to the next generation of Tor coders. Several students from past projects are now working full-time for Tor. By making our code available to anyone who wishes to improve it or use it in new projects, we hope to be a foundation for innovation. This is only one step, and by reaching out to similar organizations, we hope to go further. Ongoing evaluation of the Tor network and sharing of best practices will help the privacy and censorship circumvention community grow and provide better services to users.

Training

Regional gatherings provide activists and software developers the opportunity to hold training sessions and exchange ideas about improving tools. For those who can not attend conferences, we will make instruction manuals clearer and provide support in several languages. We will meet with consumer groups, with abuse survivors' advocates, and civil rights workers to give them the tools to protect information-sharing among people making positive changes in their communities.

The Carnegie Mellon Usability, Privacy, & Security team

The Tor Network

Each new relay increases the speed of the Tor Network. As censors block bridges, users in countries that filter the Internet will need more people to provide the first hop into the Tor Network. We will continue to reach out to relay operators to show our appreciation, and use social media along with face to face outreach to recruit more bandwidth donors. Since rules about data retention and lawful intercept technology can dissuade many from running a relay, we will expand our network of legal resources to support the people who make our work possible. With enough relays, we will be better prepared to handle demand surrounding political events and an increased awareness of the need for privacy protection online.

We remain committed to the research and development needed to make our technologies better for all.

We remain committed to defending online privacy and anonymity as a human right.
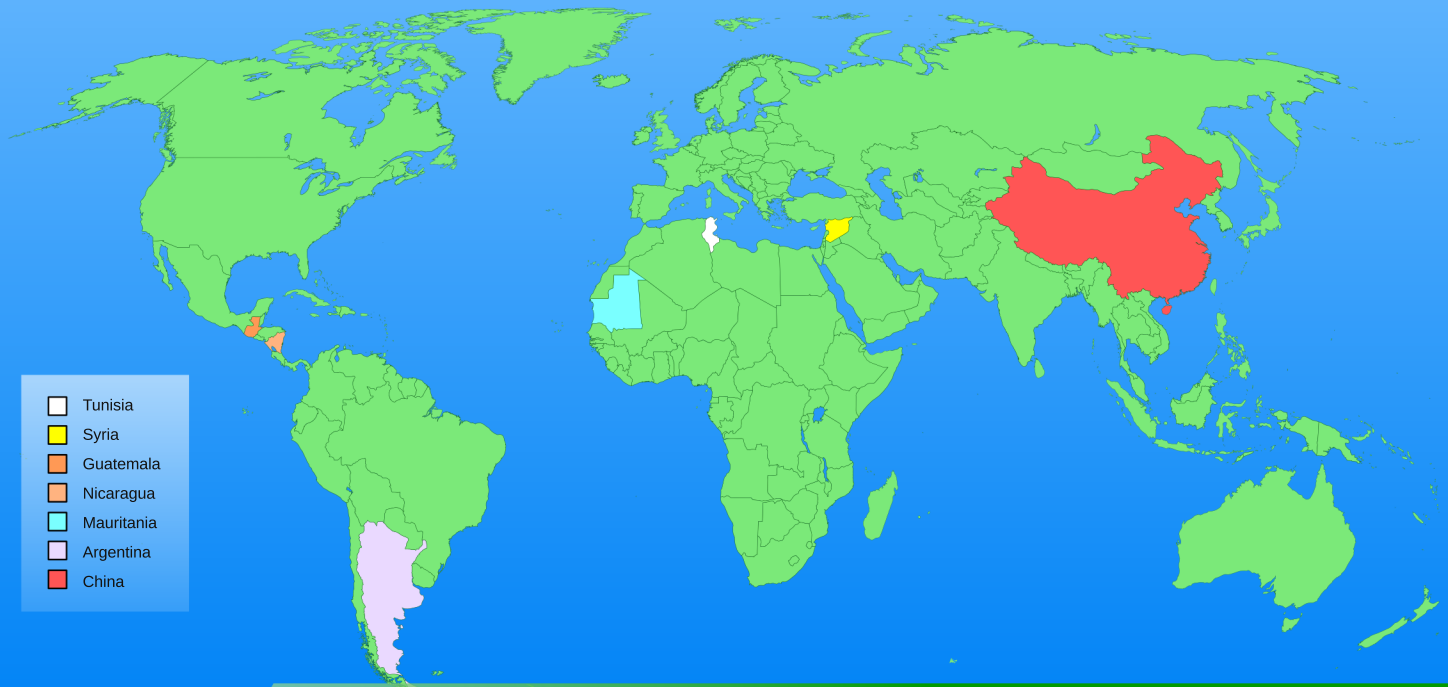
Tunisia

``Tor is important for accessing to some websites prohibited for example related to Islamism or political opposition. As for myself, I know that there may be DPI (deep packet inspection) so I am keen to use secure channels at least for websurfing but also avoiding leaving details like IP address.''

Syria

``You could still open Blogger and post but no one in Syria can access a blogspot.com blog without circumvention software. It was really discouraging and frustrating.''

Guatemala and Nicaragua

``These people work in human rights organizations in Central America and before our workshops with them, they've never thought about anonymity on the Internet. They never thought that every step they take when they are navigating leaves a path. So, we started by talking about those things, talking about which personal information is public and which one shouldn't be public, talking about times of peace and information war...They have much more experience than me about war times, they lived it...''

Mauritania

``Tor rendered the government's efforts completely futile. They simply didn't have the know-how to counter that move. Ironically, we felt ever more secure because we learned an invaluable lesson: encrypt and anonymize.''

Argentina

``Tor is not more important in my country than anywhere else. Even in countries with exemplary governments it is not wise to disclose too much about yourself to anyone who doesn't need to know: governments, institutions, even crime are not static. Data that was disclosed in relative safety can become a concern if the next government in turn is not as respectful, or if crime rates go up, or any combination of a lot of unfortunate turns of events.''

China

``I use Tor primarily to get to some of the information needed for work.''