

Breaking the digital blockade



на СВЯЗИ



ОЗИ

ОБЩЕСТВО ЗАЩИТЫ ИНТЕРНЕТА

Stages of blocking (May 2023)

1. Blocking political resources and the media
2. Social media blocking
3. Attempts to block large VPNs
4. Youtube blocking
5. Telegram blocking
6. Attempts to block VPNs and protocol bypasses, networks /8
7. Implementation of "white lists"
8. Complete isolation of Runet — Splinternet “Looks like North Korea”



You are here

Stairway to the Splinternet (December-23)

You are here

Blocking political resources and the media

Social media blocking

Attempts to block large VPNs

Attempts to block VPNs and protocol bypasses

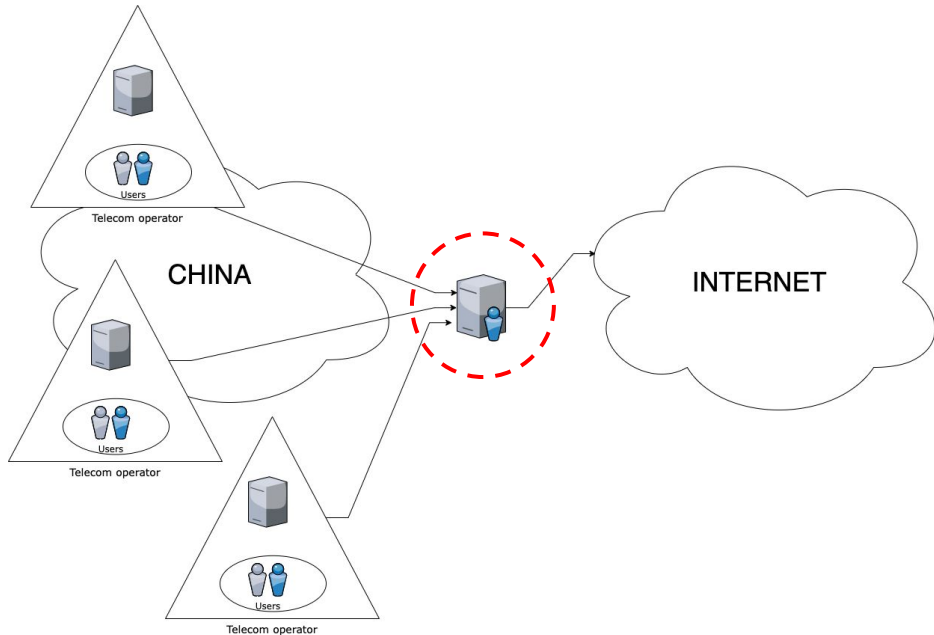
Youtube & Telegram blocking

Implementation of "white lists", block networks /8

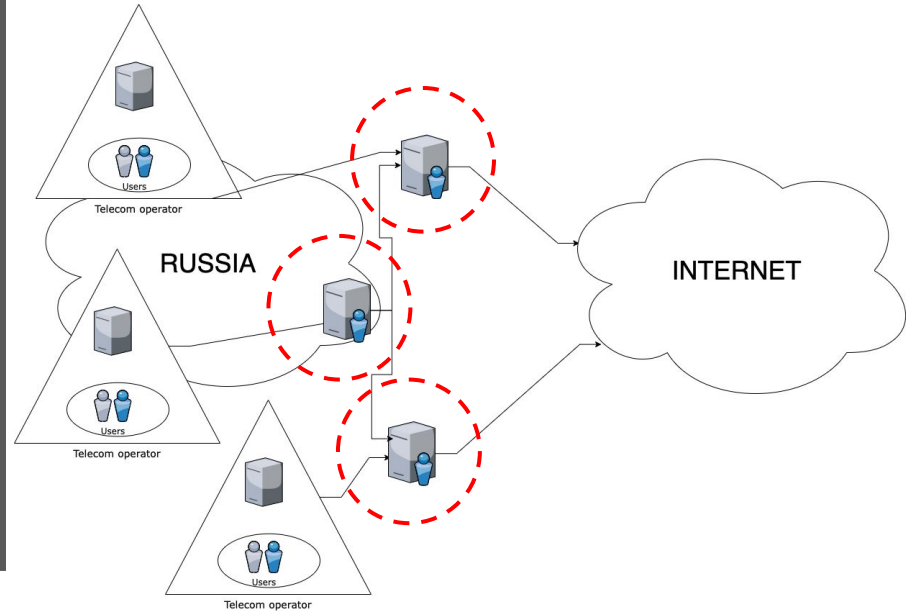
Complete isolation of Runet — Splinternet "Looks like North Korea"

Internet comparison in Russia and China

Great China Firewall



Small Russian Fences



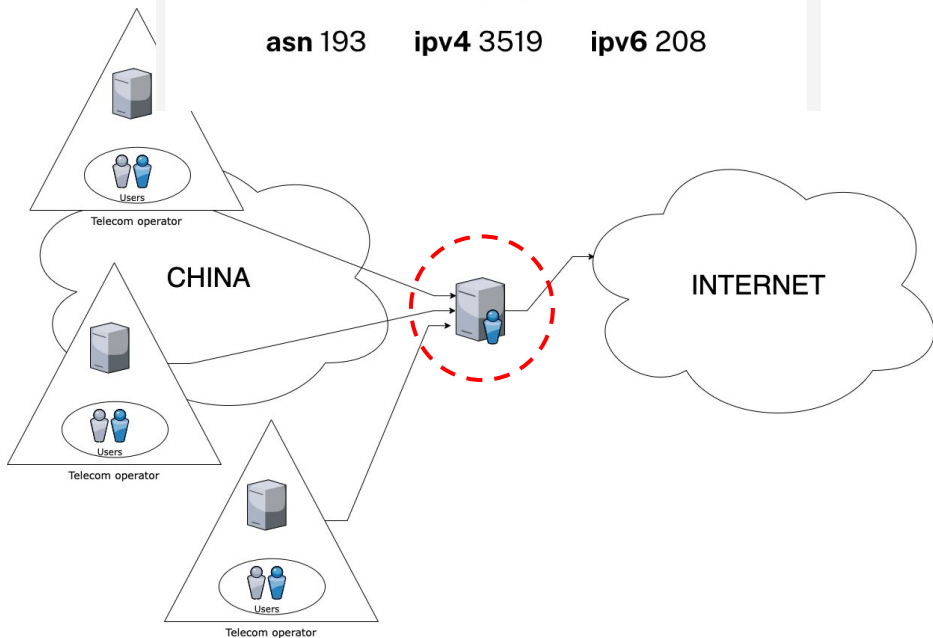
Internet comparison in Russia and China

Country Resource List



Resources for **China (CN)** as of **2012-09-01**

asn 193 **ipv4 3519** **ipv6 208**

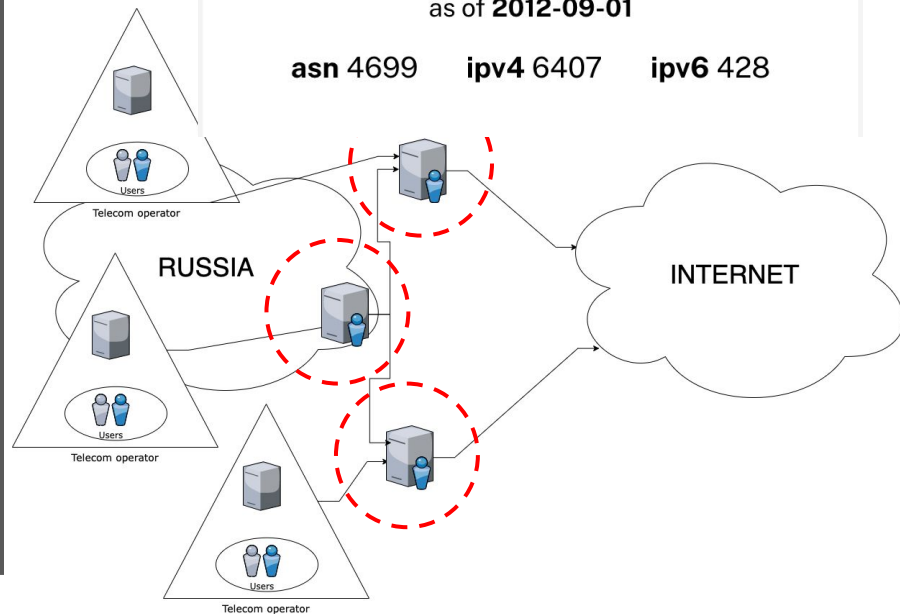


Country Resource List

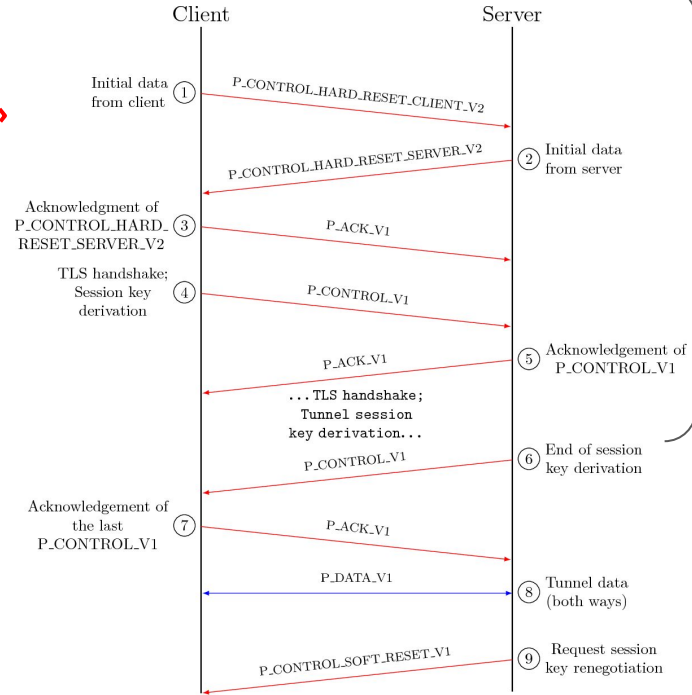
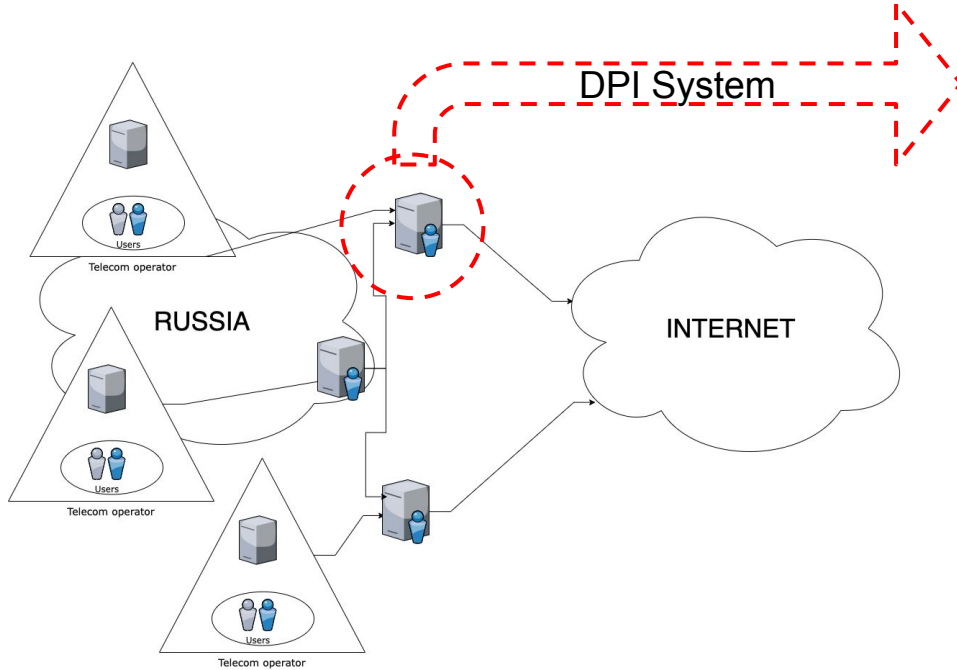


Resources for **Russian Federation (RU)**
as of **2012-09-01**

asn 4699 **ipv4 6407** **ipv6 428**



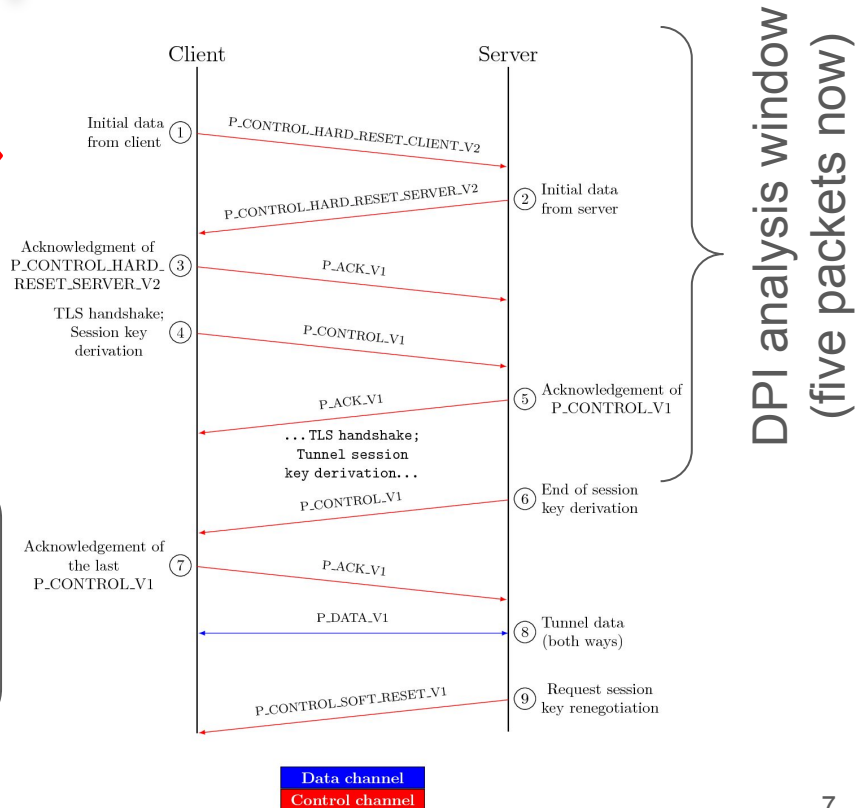
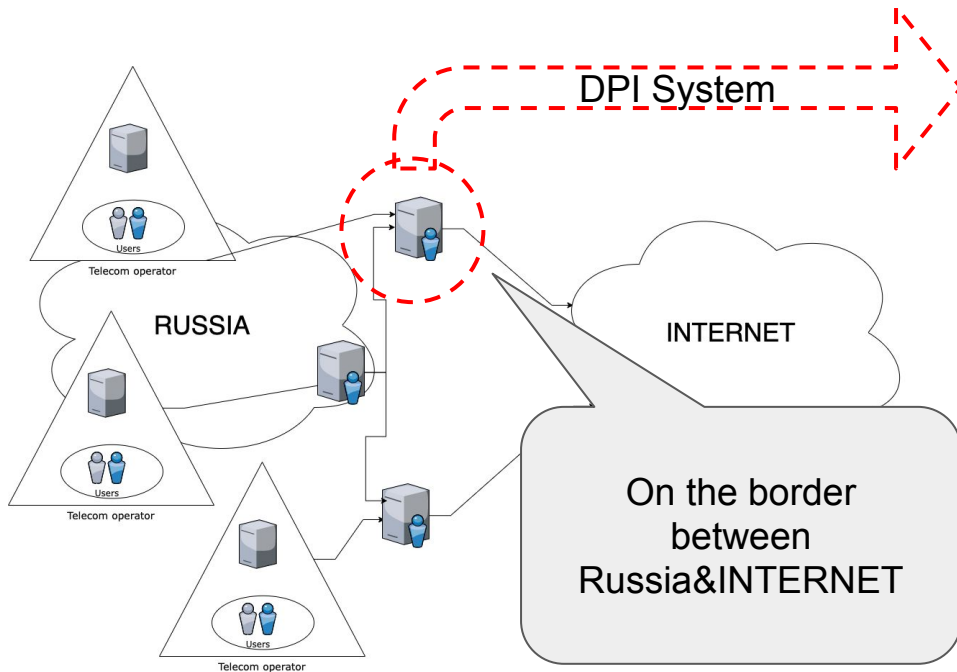
How VPNs are blocked by protocols



DPI analysis window
(five packets now)

Data channel
Control channel

How VPNs are blocked by protocols



What is TSPU



<https://theins.press/en/politics/265749>

THE INSIDER REPORTS ANALYTICS INVESTIGATIONS USD 88.88 EUR 97.65 OIL 80.66 DONATE Русский

POLITICS

Putin's digital Iron Curtain: Russia bypasses sanctions, buys equipment to block YouTube and Telegram

Mikhail Klimarev, Andrey Zayakin, Dada Lyndell
10 October 2023

CONTENT

1. What is "protocol-based" blocking?
2. The war on VPN
3. How GRChTs and Usmanov will "filter" the Russian segment of the Internet (Runet)
4. What equipment is used for the Russian "Cheburnet"?
5. Unsanctioned "Russian" equipment from Taiwan, China, and Slovakia
6. Intel's unintentional contribution to blocking the Runet

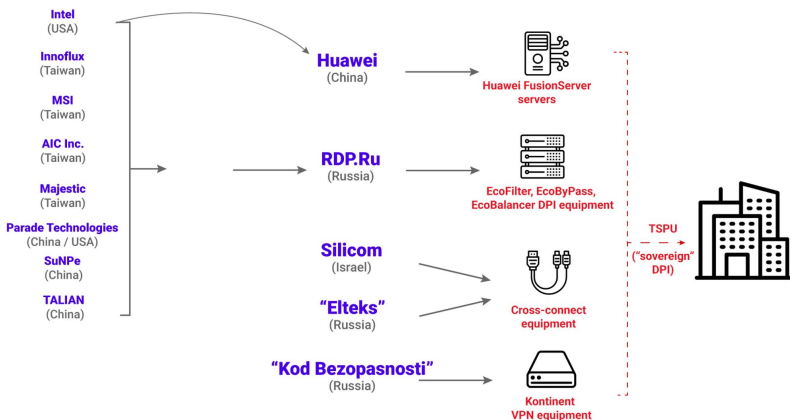
The Insider has unearthed documents indicating that Russia acquired technologies to block websites and applications based on the protocol they use. This would enable the Russian government to restrict access to YouTube, WhatsApp, Telegram, and other services. Given that Russia does not manufacture microprocessors and complex motherboards domestically, most components are imported. The technology is manufactured by the Chinese company Huawei, as well as the Russian companies RDP.ru and Yadro. All sanctions notwithstanding, it relies on components, including those sourced from the U.S.'s Intel Corp.

Читать на русском языке

What is TSPU

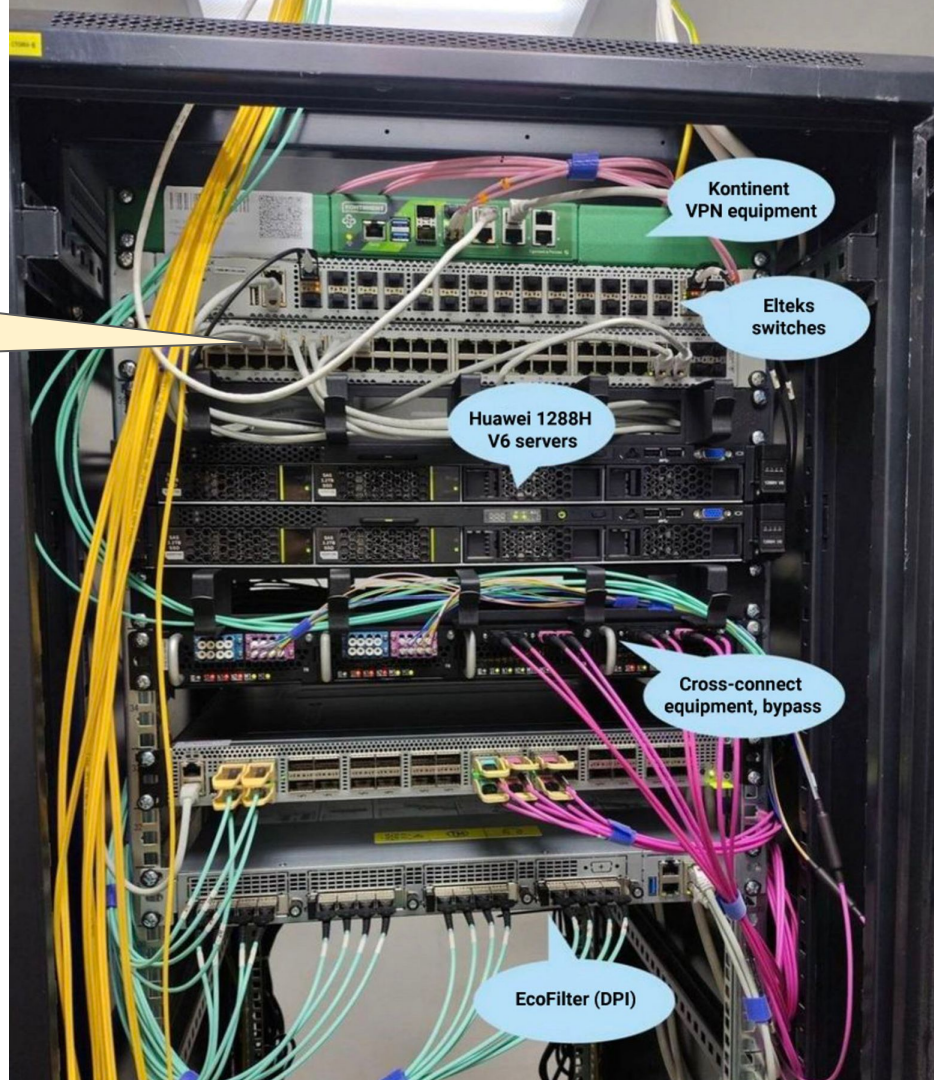
The more servers, the larger the "DPI analysis window" is

Equipment suppliers for Russia's "sovereign Internet"



Sources: contract and commercial offer between "Processing and Automation Center" and "General Radio Frequency Center" (Roskomnadzor), customs data

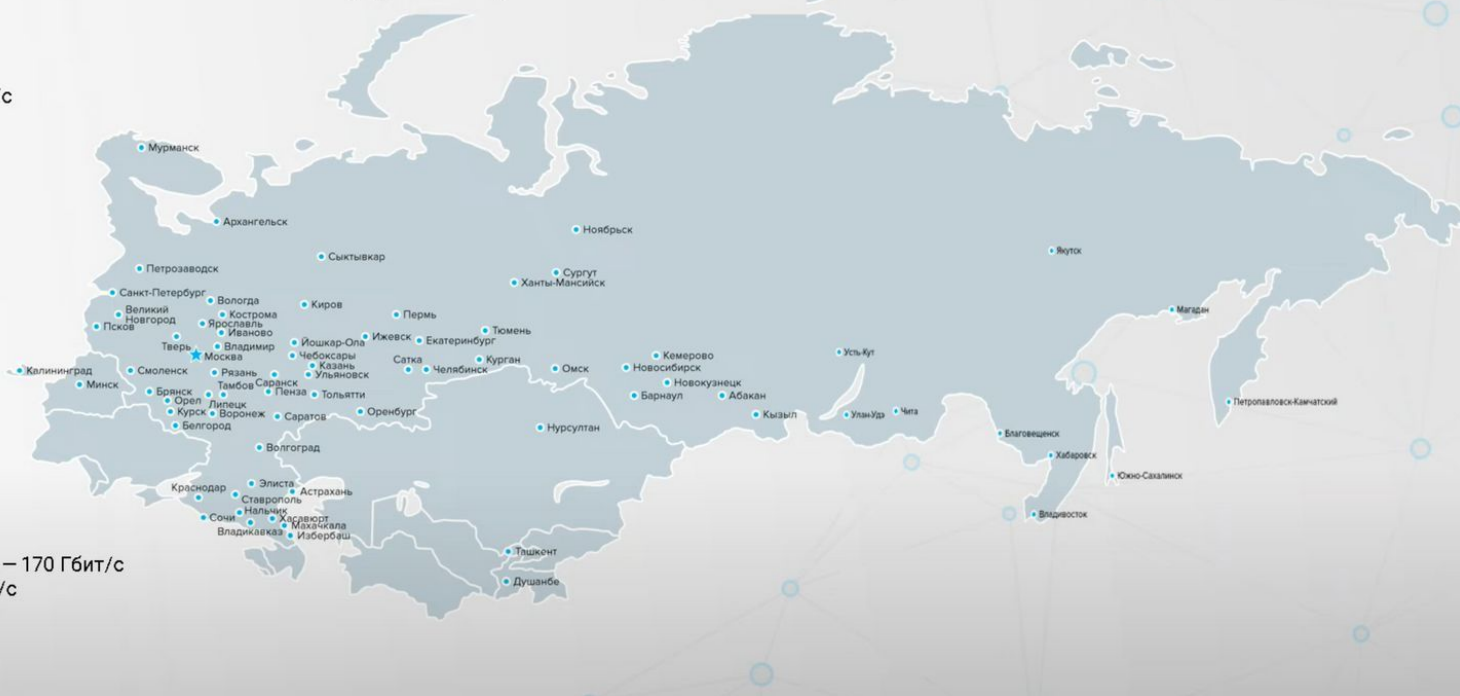
© The Insider, 2023



What is TSPU

Оборудование RDP, установленное на территории России и СНГ

Москва и МО – 720 Гбит/с
Санкт-Петербург – 960 Гбит/с
Владимир – 240 Гбит/с
Смоленск – 260 Гбит/с
Махачкала – 120 Гбит/с
Краснодар – 480 Гбит/с
Волгоград – 480 Гбит/с
Брянск – 240 Гбит/с
Калининград – 230 Гбит/с
Новосибирск – 240 Гбит/с
Симферополь – 240 Гбит/с
Нурсултан – 180 Гбит/с
Душанбе – 250 Гбит/с
Минск – 240 Гбит/с
Ташкент – 120 Гбит/с
Владивосток – 190 Гбит/с
Магадан – 240 Гбит/с
Хабаровск – 180 Гбит/с
Чита – 120 Гбит/с
Якутск – 110 Гбит/с
Петропавловск-Камчатский – 170 Гбит/с
Южно-Сахалинск – 140 Гбит/с
Благовещенск – 220 Гбит/с
Улан-Удэ – 100 Гбит/с
Усть-Кут – 120 Гбит/с



Сервер тип S5 Сервер централизованной обработки списков (СЦОС), PC Server, 2*6230R, 12*64GB, 12*3.5" 12*14TB-SATA HDD+2*480GB, 2*GE+2*10GE, 2*10GE, 1*3508 Raid+SuperCap, Chinese and English doc, 2*900W, S5 R8220H	8	2 006,10	16 048,80
Модуль оптический FT-SFP+-SR-0.3-D	56	1,10	61,60
Модуль оптический FT-SFP28-SR	10	215,61	2 156,10
ИТОГО дополнительная закупка оборудования			26 766,90
в том числе НДС			4 461,15

Итого стоимость оборудования, необходимого для проведения модернизации ранее установленных ТСПУ, установки ТСПУ на новых узлах, оборудования, необходимого для установки на дополнительном 121 узле ШПД, а также дополнительного оборудования ЦСУО в 2024 году составляет **8 613 328,76** тыс. руб.

Гарантийное обслуживание указанного оборудования 2024 года предоставляется на срок до 31 декабря 2024 года.

Срок действия данного коммерческого предложения – до 19 июня 2022 года.

**~ €100M
per year**

Генеральный директор



М. А. Иванов

YouTube is the main Internet media in Russia

Война санкций, 26 мая 2022, 00:00 | Поделиться ↗

Google отключит в России часть ускоряющих загрузку контента серверов

Это оборудование позволяет улучшать качество видео и

Google will switch off some servers in Russia that speed up content downloading (May 2022)

Отд
пол
сер
сер
опера

3DNEWS
Daily Digital Digest

06 декабря 2023

Павел Котов

YouTube замедлится в России из-за деградации сети доставки контента Google Global Cache

Google направила российским провайдерам письма с предложением организовать прямой стык с её сетью доставки контента в Москве или Санкт-Петербурге. Это позволит сохранить качественный доступ к её сервисам — в противном случае уже в 2024 году может заметно упасть качество видео на YouTube из-за деградации оборудования в сети Google Global Cache (GFC) в России, сообщает [ComNews](#).

YouTube will slow down in Russia due to the degradation of Google's Global Cache content delivery network (December 2023)

**CONCLUSION: We need more
VPNs and other blocking
bypasses**

VPN Generator



<https://vpngen.org> — Landing Page for donors (Eng, Deutch, Rus)

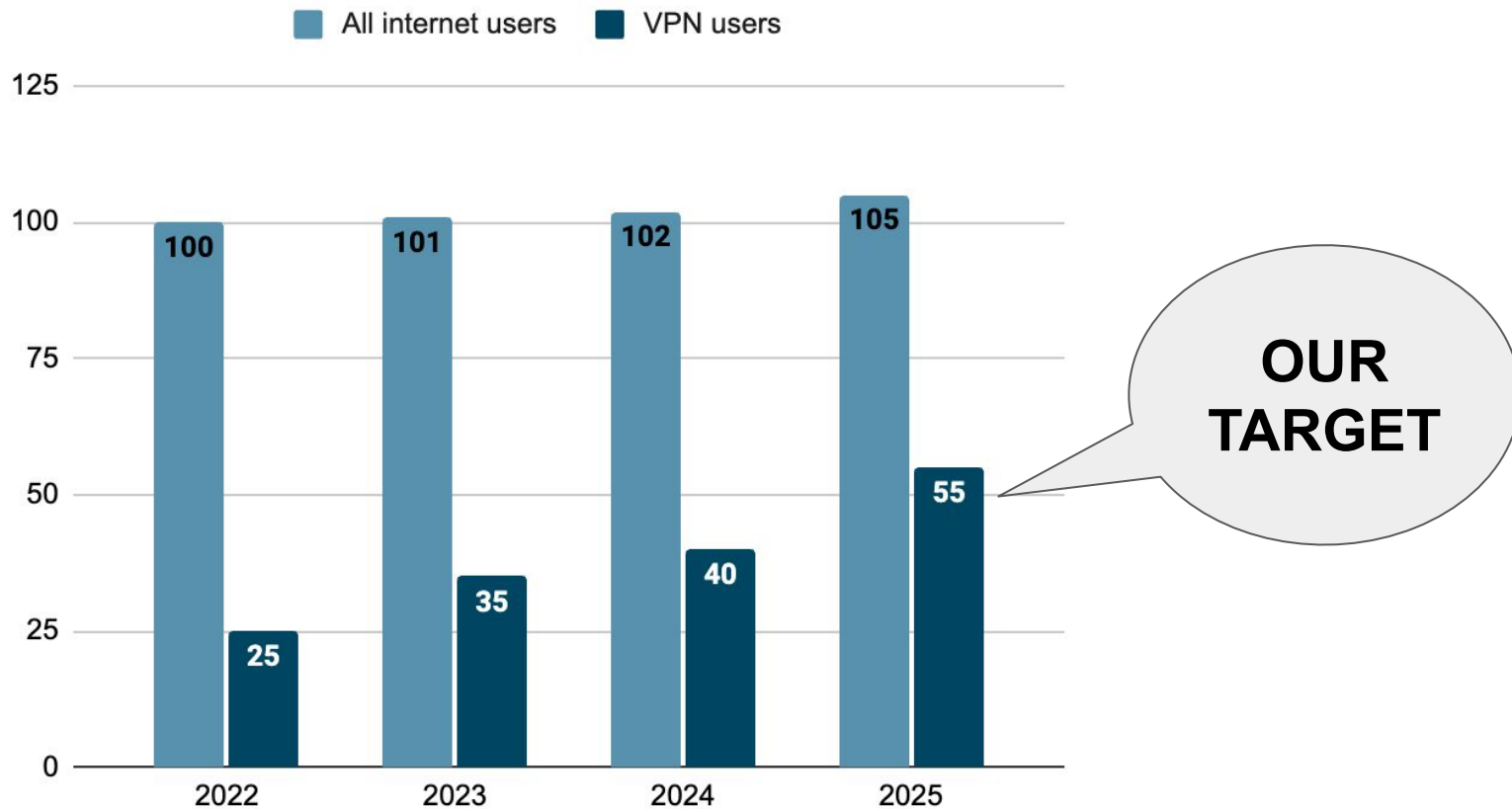
<https://t.me/vpngen> — TG-channel (17K (4,2K in May) subscribers, Russian)

<https://t.me/vpngeneratorbot> — main bot (Russian)

~3K brigades
~80K active users
~75TB of traffics

country_iso_code	count	city_name	count
RU	62060	Moscow	1998
UA	589	St Petersburg	760
BY	426	Kitezh	336
AE	288	Krasnodar	275
TR	144	Kazan'	234
KZ	136	Chelyabinsk	233
GE	87	Yekaterinburg	226
CN	83	Novosibirsk	221
DE	79	Ufa	149
TH	78	Nizhniy Novgorod	120
US	63	Perm	110
IL	47	Samara	101
ZZ	42	Voronezh	97
AM	40	Rostov-on-Don	90
IT	39	Kirov	73
LV	34	Omsk	45
GB	32	Tomsk	43
NL	30	Khabarovsk	40
ES	27	Ryazan	40
IN	26	Ulyanovsk	39
FR	22	Krasnoyarsk	37
KR	19	Tyumen	34
LK	18	Volgograd	32
RS	18	Saratov	31
PL	16	Smolensk	25
UZ	16	Irkutsk	23
BG	13	Yaroslavl	22
EE	13	Naberezhnyye Chelny	19
KG	12	Sevastopol	19
LT	12	Novocheboksarsk	18

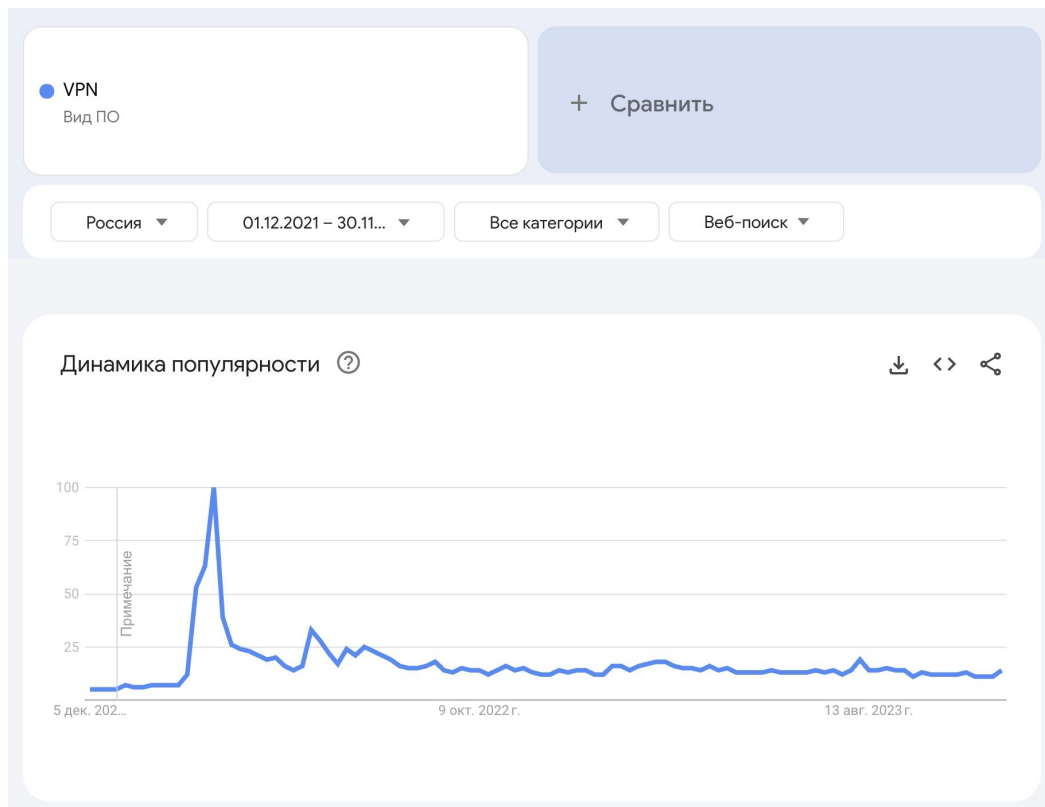
Growth of VPN users

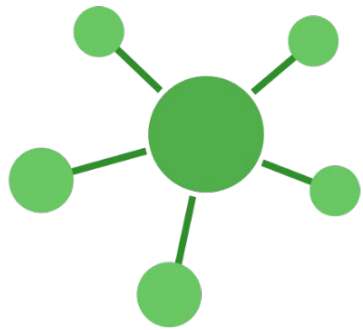


Five points of technological warfare

1. Block bypass tools
2. Opposition to propaganda and counter-propaganda
3. Resource Exchange - Cryptocurrency
4. Technology Sanctions
5. BigTech relationship

Propaganda VPN's





На СВЯЗИ

Служба поддержки по вопросам цифровой безопасности

“Na svyazi” is New Media



<https://nasvyazi.org/>

https://t.me/na_svyazi_helpdesk — TG-channel (6K subscribers)

https://t.me/Na_svyazi_helpdesk_bot — main bot (Russian)

“Na svyazi” is monitoring center



VPN's
protocol
blocking



“Na svyazi” is monitoring center



Inversion (South of Russia): Telegram & Shadowsocks blocking when there were Jewish pogroms in Dagestan



BigTech relationship

[Google One](#) [About](#) [Plans](#) [Storage & Backup](#) [Benefits](#) [Support](#) [Security](#) [FAQ](#)

[Open Google One](#)



Increase your online security with VPN by Google One

You can encrypt your online activity for an extra layer of protection and privacy across Android, iOS, Windows, and Mac devices.

Doesn't work in Russia

BigTech relationship

Store Mac iPad iPhone Watch Vision AirPods TV & Home Entertainment Accessories Support

About iCloud Private Relay

iCloud Private Relay — part of an iCloud+ subscription — helps protect your privacy when you browse the web in Safari.

How Private Relay works

Normally when you browse the web, information contained in your web traffic, such as your DNS records and IP address, can be seen by your network provider and the websites you visit. This information could be used to determine your identity and build a profile of your location and browsing history over time.

iCloud Private Relay is designed to protect your privacy by ensuring that when you browse the web in Safari, no single party — not even Apple — can see both who you are and what sites you're visiting.

When Private Relay is enabled, your requests are sent through two separate, secure internet relays.

- Your IP address is visible to your network provider and to the first relay, which is operated by Apple. Your DNS records are encrypted, so neither party can see the address of the website you're trying to visit.
- The second relay, which is operated by a third-party content provider, generates a temporary IP address, decrypts the name of the website you requested, and connects you to the site.



**Doesn't
work in
Russia**