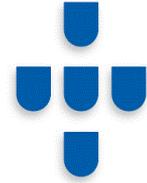




**CNCS**

Centro Nacional  
de Cibersegurança  
PORTUGAL



# **CIBERCRIME**

Uma aproximação  
técnica

Ivo Vacas



# Olá!

**Eu sou o Ivo Vacas**

Departamento de Operações.

Podem contatar em:

▶ [Ivo.vacas@cncs.gov.pt](mailto:Ivo.vacas@cncs.gov.pt)



# 300%

## Crescimento de ataques phishing(2020)



# CENTRO NACIONAL DE CIBERSEGURANÇA



# CENTRO NACIONAL DE CIBERSEGURANÇA (CNCS)

- ▶ Estabelecido em 2014, é a Autoridade Nacional de Cibersegurança
- ▶ Treino, sensibilização e criação de capacidades
- ▶ Normas e regulação
- ▶ Cooperação nacional e internacional
- ▶ CERT.PT é o CSIRT Nacional
  - ▶ Coordenação da Resposta a Incidentes
  - ▶ Coordenação da Gestão de Vulnerabilidades
  - ▶ Alertas



# CENTRO NACIONAL DE CIBERSEGURANÇA

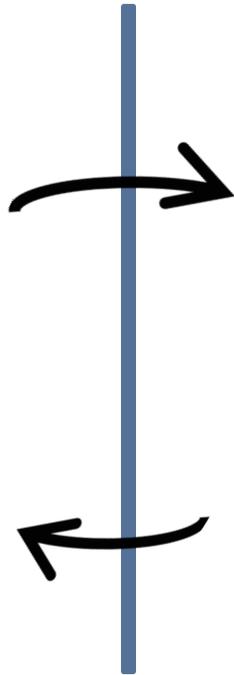


## MISSÃO

*”(...) implementação das medidas e instrumentos necessários à antecipação, à deteção, reação e recuperação de situações que, face à iminência ou ocorrência de incidentes ou ciberataques, ponham em causa o funcionamento das infraestruturas críticas e os interesses nacionais.”*

CERT.PT

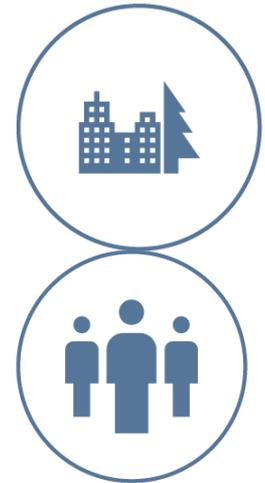
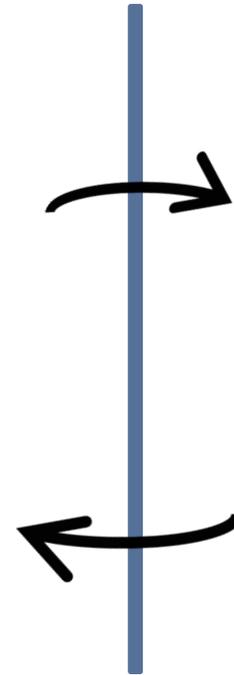
ENTIDADES DO  
ESTADO



OPERADORES DE  
INFRAESTRUTURAS  
CRÍTICAS



CIBERESPAÇO  
NACIONAL



# CERT.PT

- ▶ Coordenação da Resposta a Incidentes
- ▶ Análise Forense
- ▶ Gestão de Vulnerabilidades
- ▶ Cooperação (Inter)Nacional
- ▶ Capacitação de CSIRT

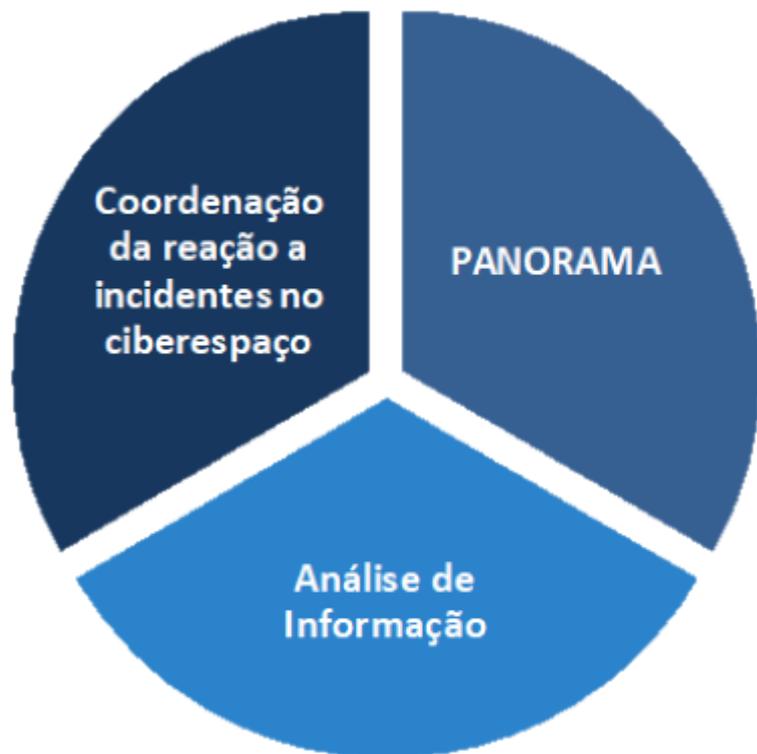


# CERT.PT

- ▶ Troca de informação através de canais privilegiados
- ▶ Grupos de trabalho
- ▶ Briefings
- ▶ Cooperação em casos (Inter)Nacionais



CERT.PT



# FASES DE UM ATAQUE

«Na guerra, o mais importante é atacar a estratégia do inimigo» – Sun Tzu

# FASES DE UM ATAQUE

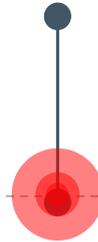
**Recolha de  
Informação**



**Intrusão**



**Manter Acesso**



**Enumeração**



**Limpeza**



## RECOLHA DE INFORMAÇÃO

«Se eu tivesse 8 horas para cortar uma árvore, gastava seis a afiar o meu machado» - Abraham Lincoln

- ▶ Conhecer a organização
- ▶ Conhecer colaboradores da organização
- ▶ Conhecer sistemas disponíveis publicamente



Web

Imagens

Notícias

Mapas

Mais ▾

Ferramentas de pesquisa

Cerca de 66 resultados (0,09 segundos)

Promoção Google

## Experimente as Ferramentas do Google para Webmasters

[www.google.com/webmasters/](http://www.google.com/webmasters/)

É o proprietário de **www.cncs.gov.pt**? Receba da Google dados de indexação e de classificação de página.

## CNCS | Centro Nacional de Cibersegurança

[www.cncs.gov.pt/](http://www.cncs.gov.pt/) ▾

Página inicial; SOBRE CNCS. Missão · Estrutura funcional · Contatos. CERT.PT.  
Coordenação da resposta a incidentes · Notificação de Incidentes · Suporte on- ...

## Sensibilização | CNCS

[www.cncs.gov.pt/sensibilizacao/](http://www.cncs.gov.pt/sensibilizacao/) ▾

O CNCS promove eventos no âmbito das iniciativas de divulgação, sensibilização e discussão aberta das temáticas relacionadas com a segurança e cidadania ...

## Sensibilização | CNCS

[www.cncs.gov.pt/sensibilizacao2/](http://www.cncs.gov.pt/sensibilizacao2/) ▾

O CNCS promove eventos no âmbito das iniciativas de divulgação, sensibilização e discussão aberta das temáticas relacionadas com a segurança e cidadania ...

intitle:"webcam 7" inurl:'/gallery.html'



**Tudo**

Imagens

Mapas

Vídeos

Notícias

Mais

Definições

Ferramentas

4 resultados (0,25 segundos)



# WHOIS

```
root@kali:~/tools/penteslab# whois google.pt
Nome de domínio / Domain Name: google.pt
Data de registo / Creation Date (dd/mm/yyyy): 09/01/2003
Data de expiração / Expiration Date (dd/mm/yyyy): 28/02/2018
Estado / Status: ACTIVE
```

```
Titular / Registrant
  Google, Inc.
  1600 Amphitheatre Parkway
  Mountain View
  94043 CA
  Email: ccops@markmonitor.com
```

```
Entidade Gestora / Billing Contact
  MarkMonitor Inc.
  Email: ccops@markmonitor.com
```

```
Responsável Técnico / Tech Contact
  MarkMonitor Inc.
  Email: ccops@markmonitor.com
```

```
Nameserver Information
  Nameserver: google.pt      NS      ns4.google.com.
  Nameserver: google.pt      NS      ns2.google.com.
  Nameserver: google.pt      NS      ns1.google.com.
  Nameserver: google.pt      NS      ns3.google.com.
```

# ENUMERAÇÃO

Detetar possíveis vulnerabilidades dos sistemas:

- ▶ Portos abertos
- ▶ Serviços disponíveis
- ▶ Tecnologias usadas

# NMAP

Nmap scan report for 192.168.56.102

Host is up (0.00028s latency).

Not shown: 977 closed ports

PORT	STATE	SERVICE	VERSION
------	-------	---------	---------

21/tcp	open	ftp	vsftpd 2.3.4
--------	------	-----	--------------

|\_ftp-anon: Anonymous FTP login allowed (FTP code 230)

22/tcp	open	ssh	OpenSSH 4.7p1 Debian 8ubuntu1 (protocol 2.0)
--------	------	-----	--

|\_ssh-hostkey:

| 1024 60:0f:cf:e1:c0:5f:6a:74:d6:90:24:fa:c4:d5:6c:cd (DSA)

| 2048 56:56:24:0f:21:1d:de:a7:2b:ae:61:b1:24:3d:e8:f3 (RSA)

23/tcp	open	telnet	Linux telnetd
--------	------	--------	---------------

25/tcp	open	smtp	Postfix smtpd
--------	------	------	---------------

|\_smtp-commands: metasploitable.localdomain, PIPELINING, SIZE 10240000, VRFY, ETRN, STARTTLS, ENHANCEDSTATUSCODES, 8BITMIME, DSN,

|\_ssl-cert: Subject: commonName=ubuntu804-base.localdomain/organizationName=OCOSA/stateOrProvinceName=There is no such thing outside US/countryName=XX

|\_Issuer: commonName=ubuntu804-base.localdomain/organizationName=OCOSA/stateOrProvinceName=There is no such thing outside US/countryName=XX

|\_Public Key type: rsa

|\_Public Key bits: 1024

|\_Not valid before: 2010-03-17T13:07:45+00:00

|\_Not valid after: 2010-04-16T13:07:45+00:00

|\_MD5: dcd9 ad90 6c8f 2f73 74af 383b 2540 8828

|\_SHA-1: ed09 3088 7066 03bf d5dc 2373 99b4 98da 2d4d 31c6

|\_ssl-date: 2015-05-14T12:33:17+00:00; +1s from local time.

# NIKTO

```
root@kali:~# nikto -h http://192.168.56.102
```

```
- Nikto v2.1.6
```

```
-----  
+ Target IP:          192.168.56.102  
+ Target Hostname:    192.168.56.102  
+ Target Port:        80  
+ Start Time:         2015-05-14 08:32:12 (GMT-4)  
-----
```

```
+ Server: Apache/2.2.8 (Ubuntu) DAV/2  
+ Retrieved x-powered-by header: PHP/5.2.4-2ubuntu5.10  
+ The anti-clickjacking X-Frame-Options header is not present.  
+ Apache/2.2.8 appears to be outdated (current is at least Apache/2.4.7). Apache  
2.0.65 (final release) and 2.2.26 are also current.  
+ Uncommon header 'tcn' found, with contents: list  
+ Apache mod_negotiation is enabled with MultiViews, which allows attackers to e  
asily brute force file names. See http://www.wisec.it/sectou.php?id=4698ebdc59d15. The following alternatives for 'index' were found: index.php  
+ Web Server returns a valid response with junk HTTP methods, this may cause fal  
se positives.  
+ OSVDB-877: HTTP TRACE method is active, suggesting the host is vulnerable to X  
ST  
+ OSVDB-3233: /phpinfo.php: Contains PHP configuration information  
+ OSVDB-3268: /doc/: Directory indexing found.  
+ OSVDB-48: /doc/: The /doc/ directory is browsable. This may be /usr/doc.  
+ OSVDB-12184: /?=PHPB8B5F2A0-3C92-11d3-A3A9-4C7B08C10000: PHP reveals potential
```

# INTRUSÃO

Através da exploração da vulnerabilidades, garantir o acesso privilegiado (ou não).

- ▶ Metasploit
- ▶ Security-focus.com
- ▶ Exploit-DB
- ▶ SQLMap
- ▶ Burp
- ▶ Aircrack-ng

# FASES DE UM ATAQUE

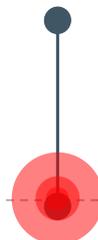
**Recolha de  
Informação**



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**Enumeração**



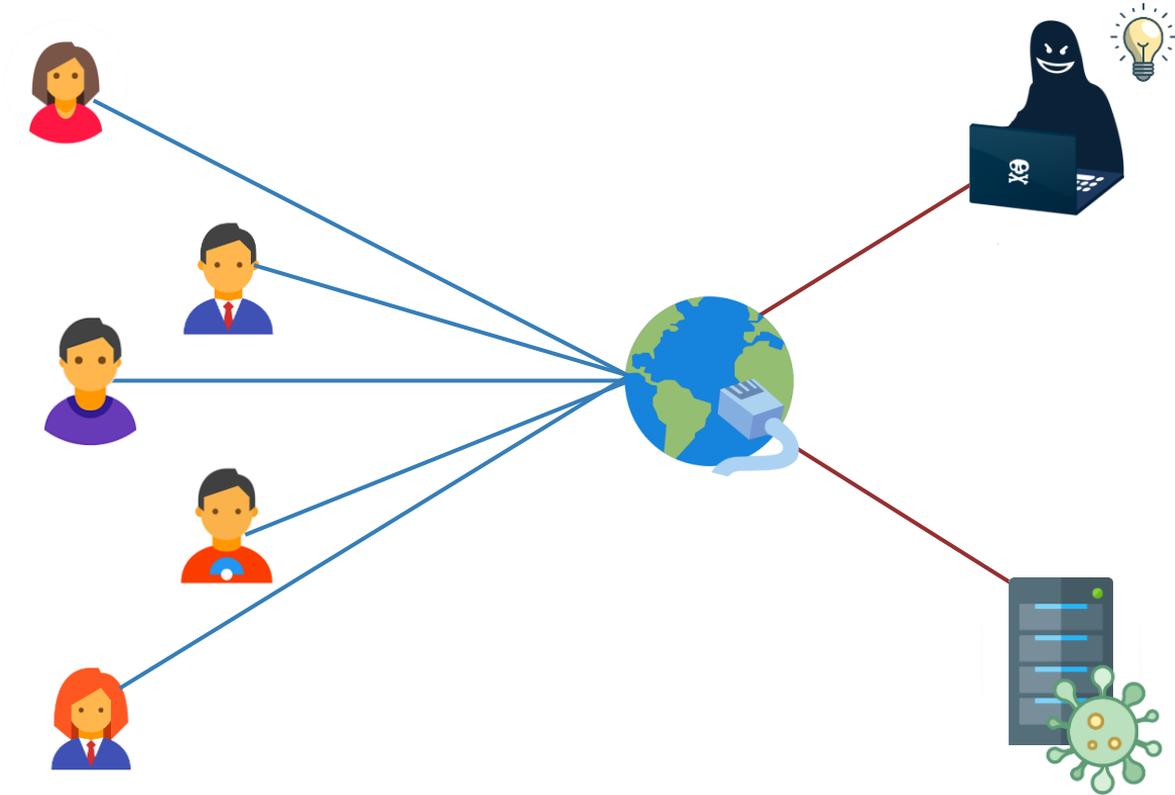
**Limpeza**



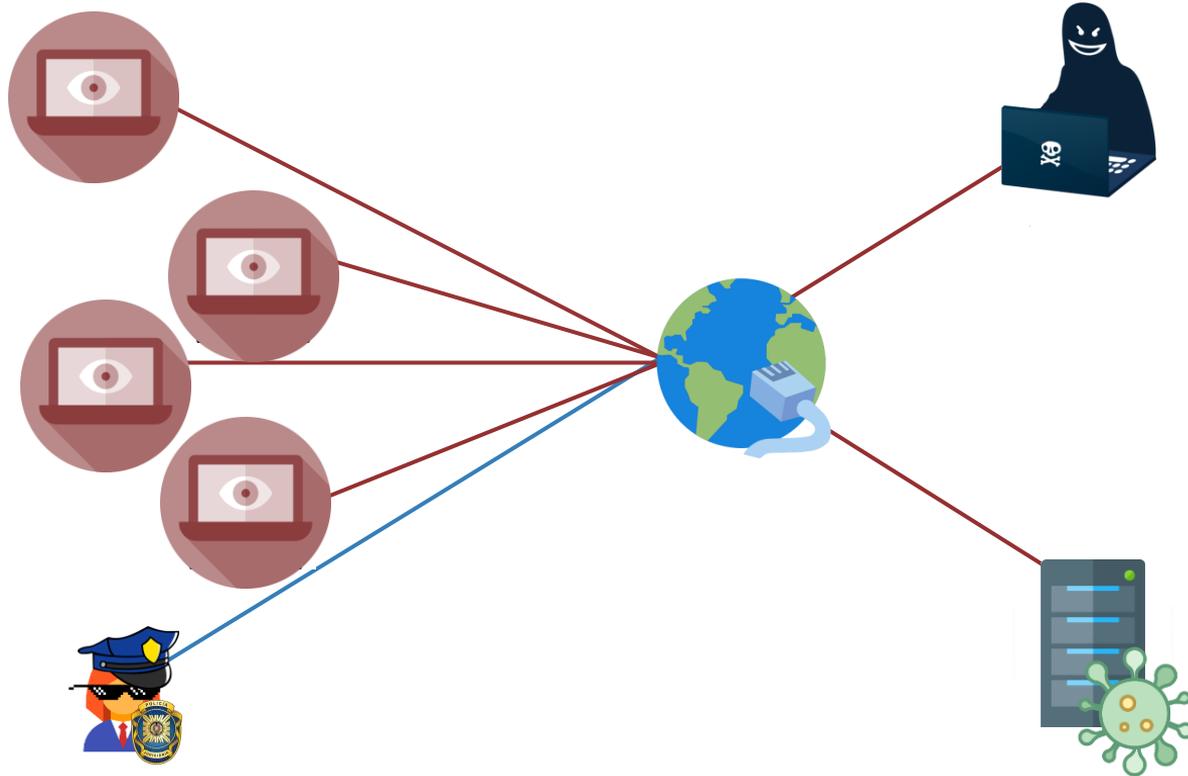
# ANONIMIZAÇÃO

Now you see me! ..... now you don't.

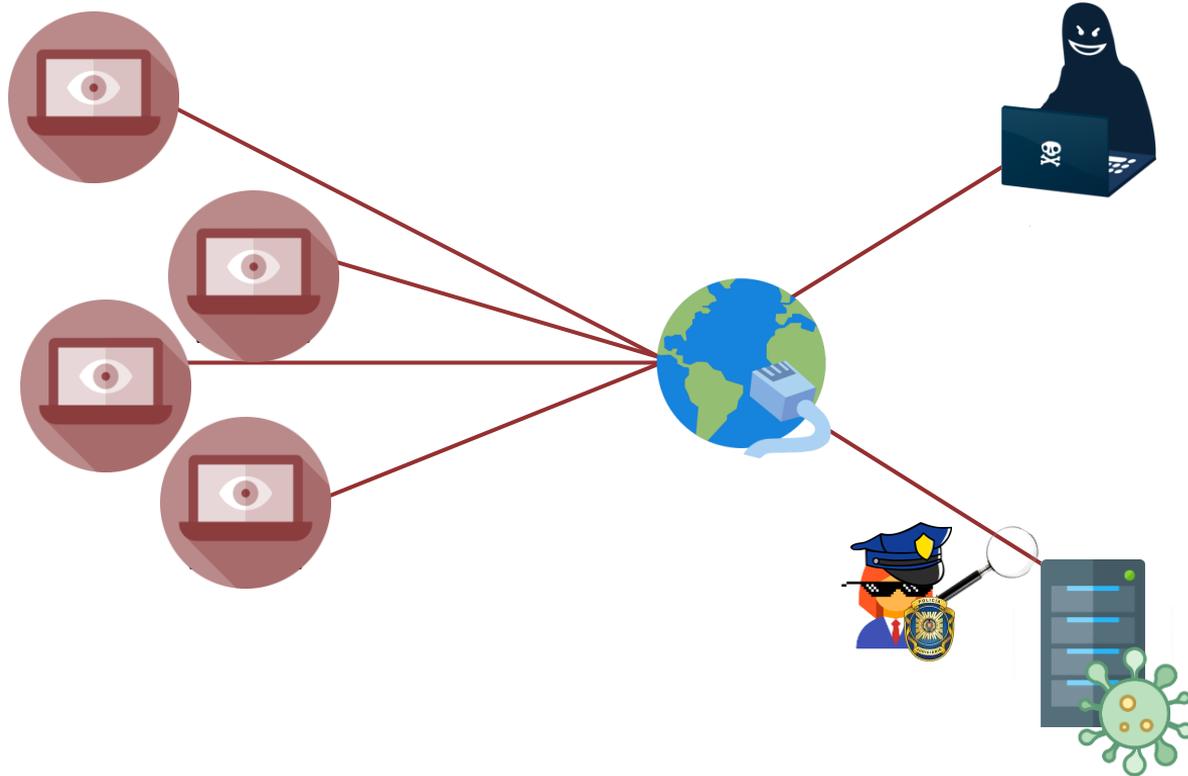
# O DESAFIO DE UMA SITUAÇÃO REAL



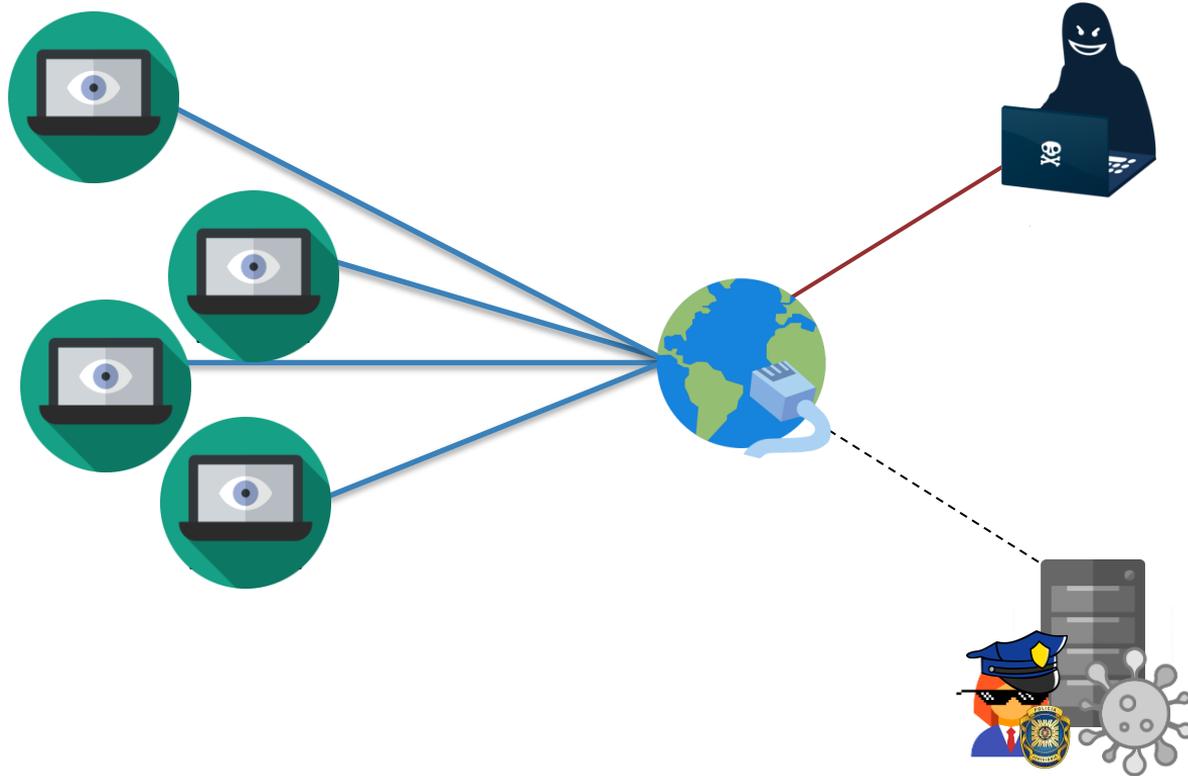
# O DESAFIO DE UMA SITUAÇÃO REAL



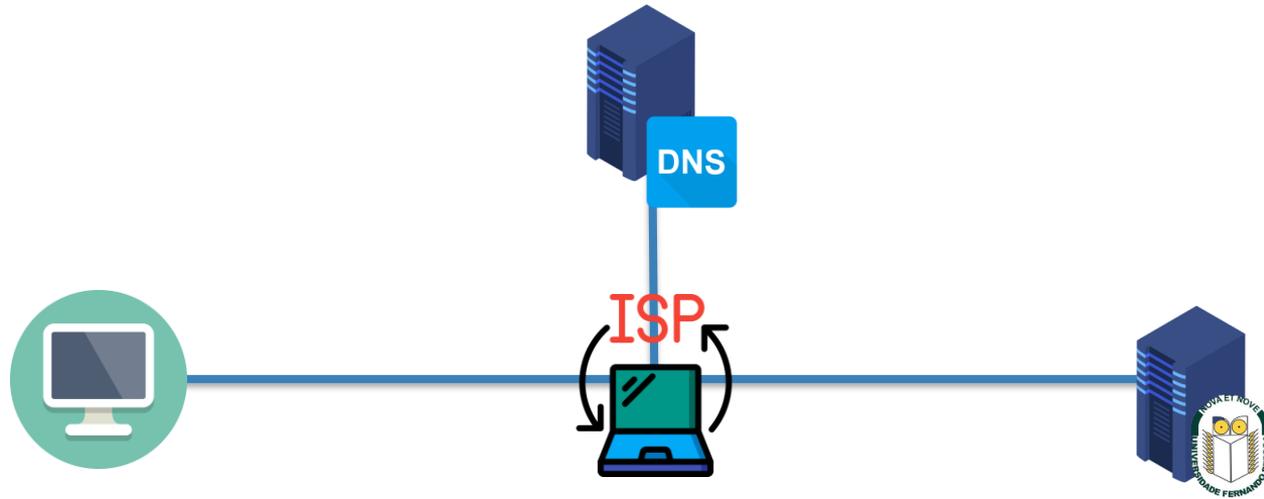
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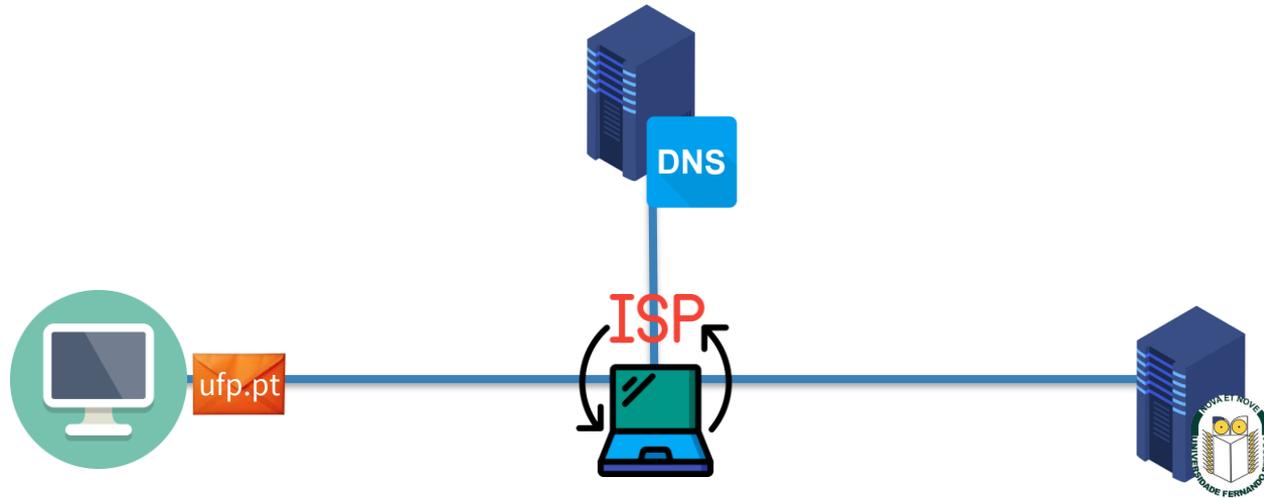
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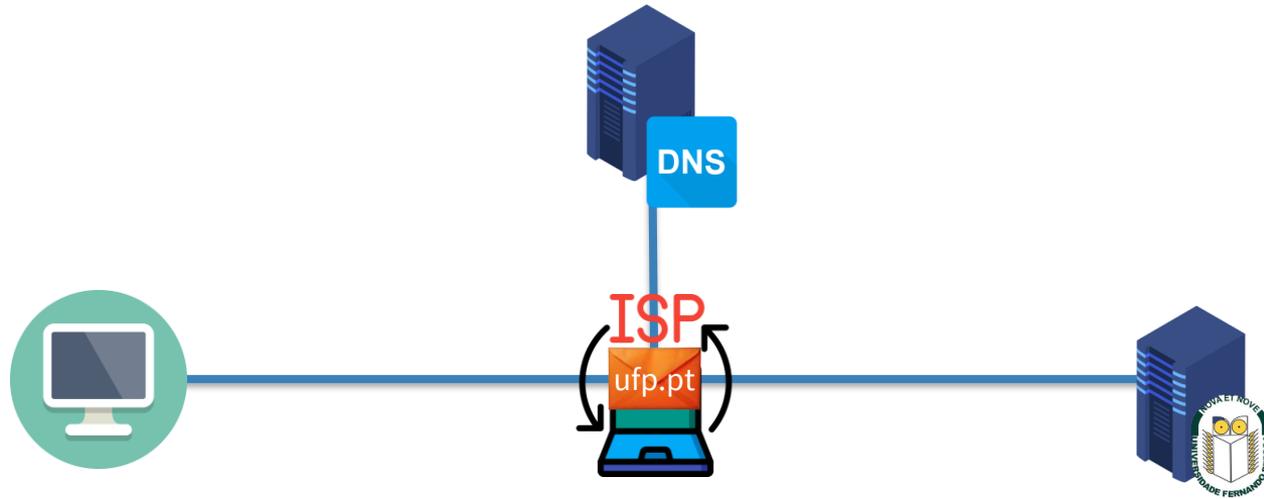
# INTERNET COMUM



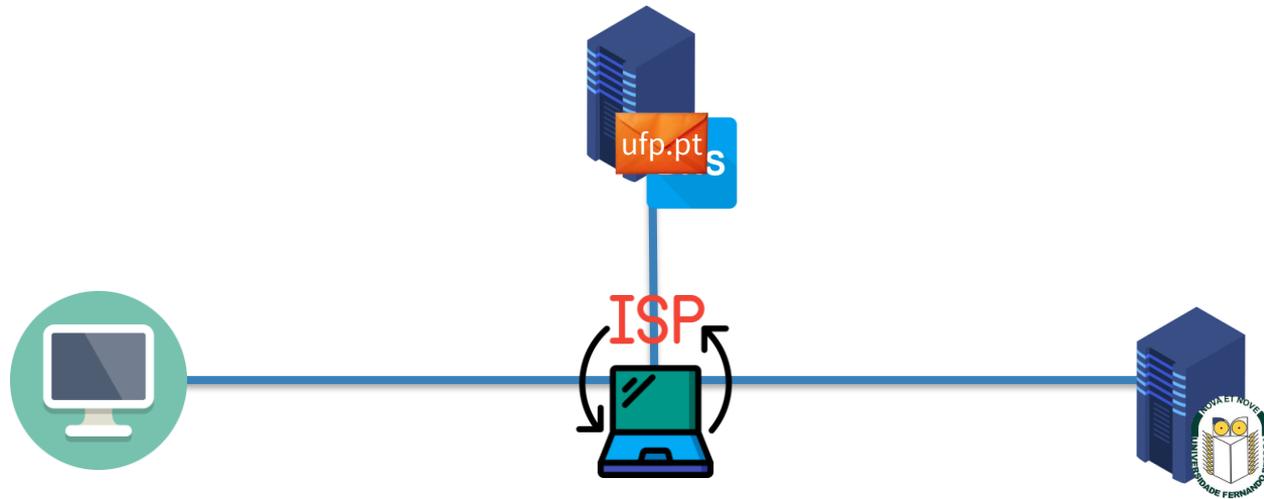
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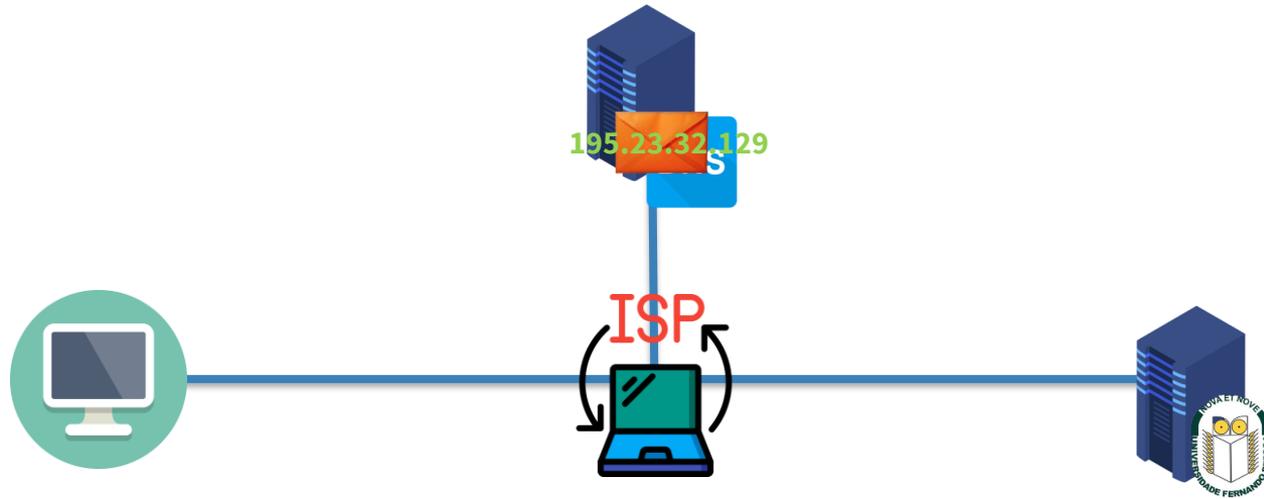
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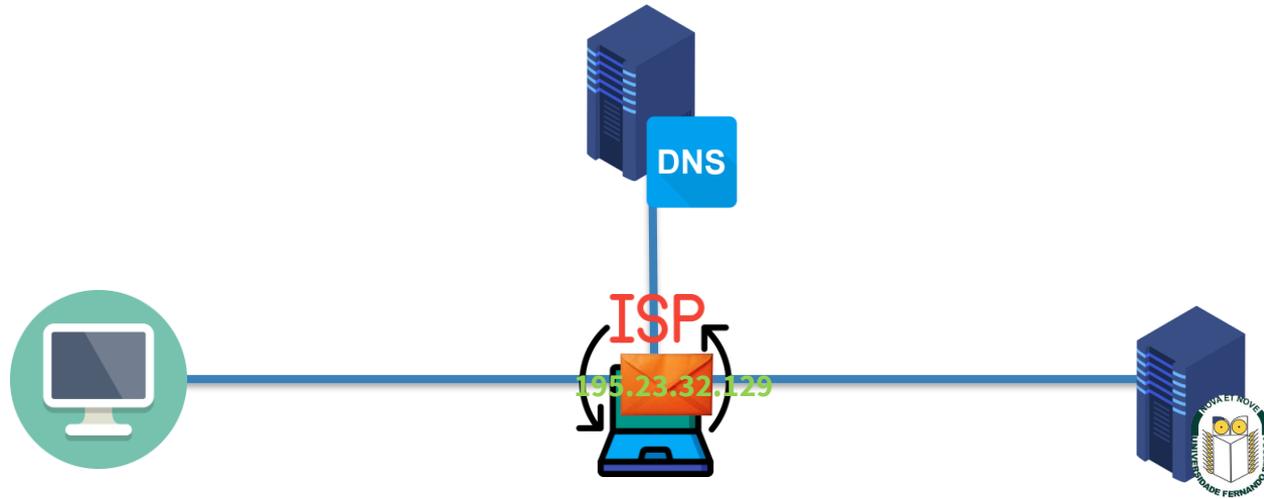
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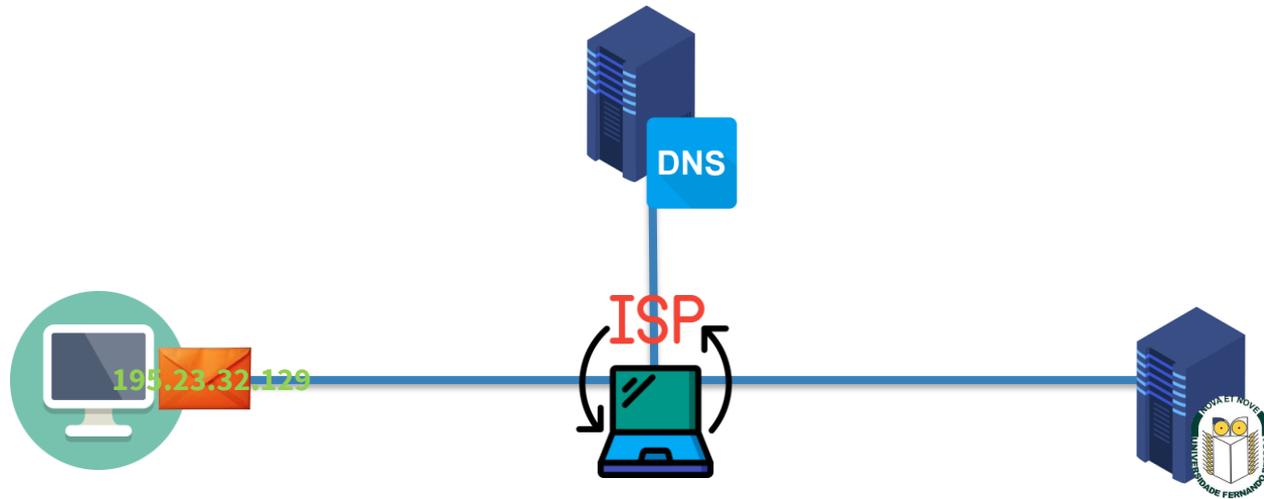
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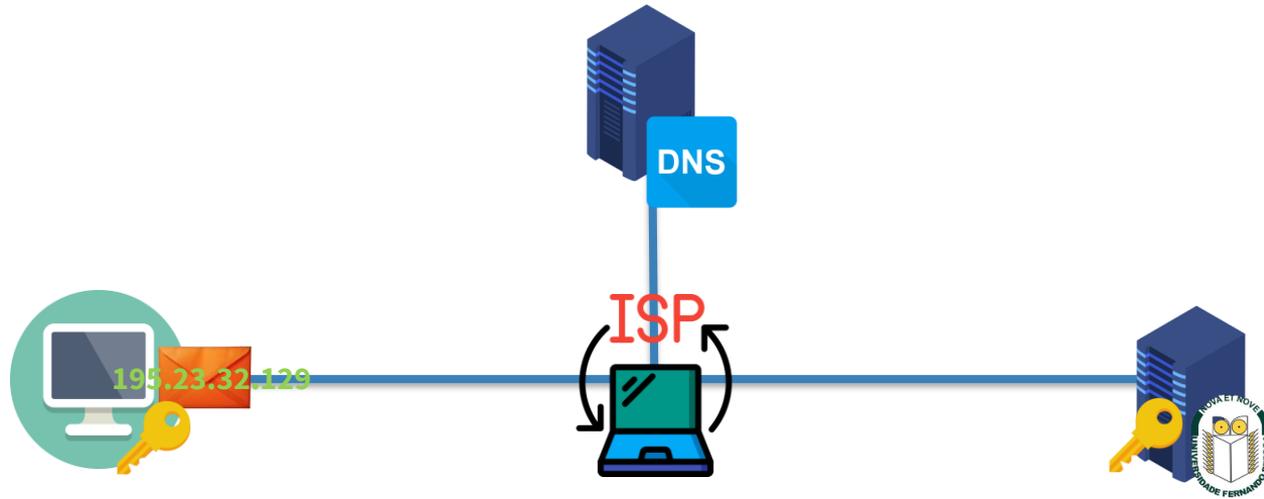
# INTERNET COMUM



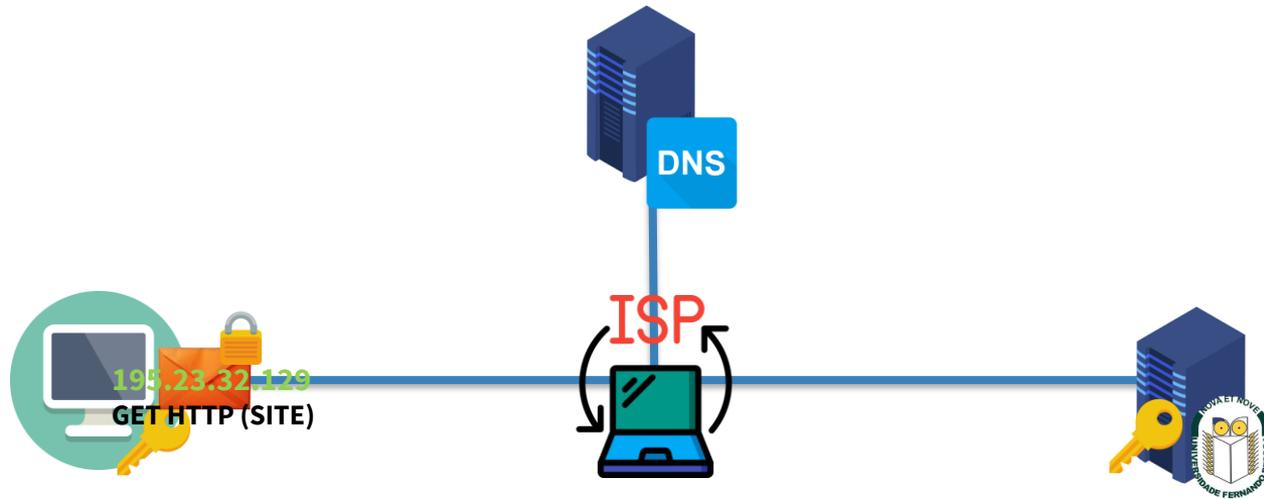
# INTERNET COMUM



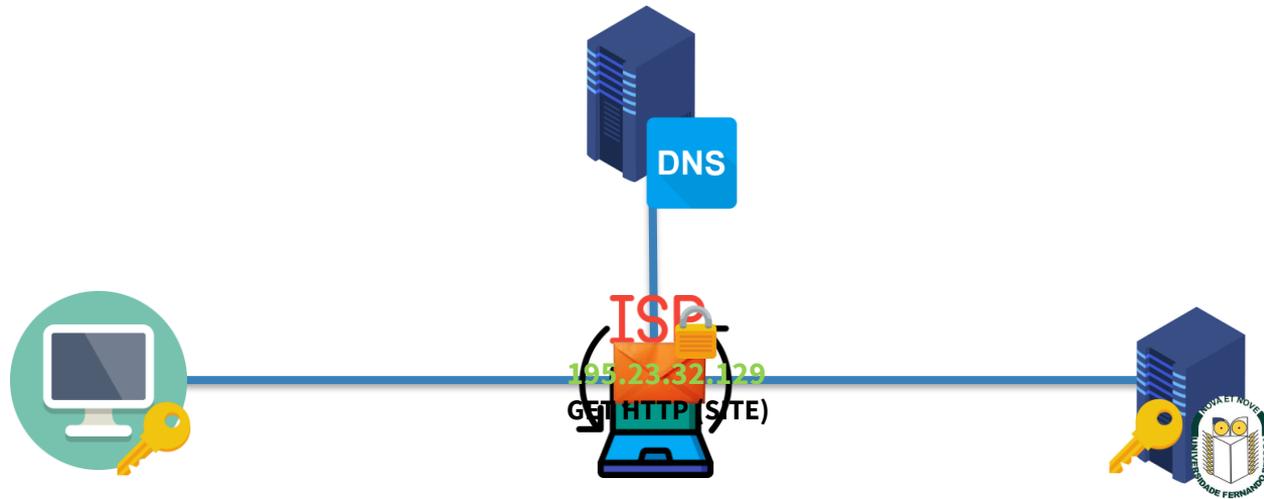
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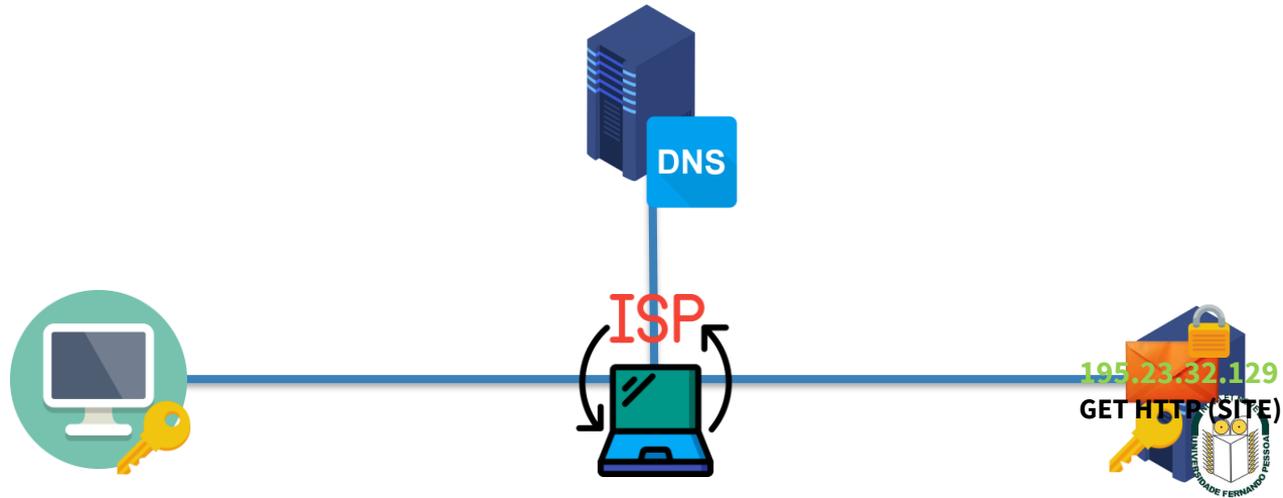
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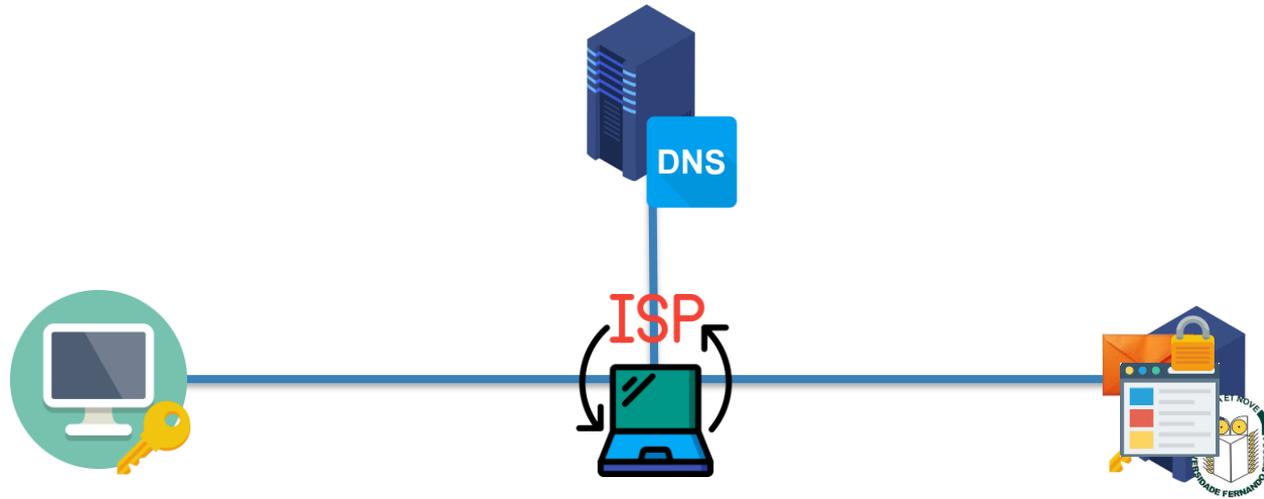
# INTERNET COMUM



# INTERNET COMUM



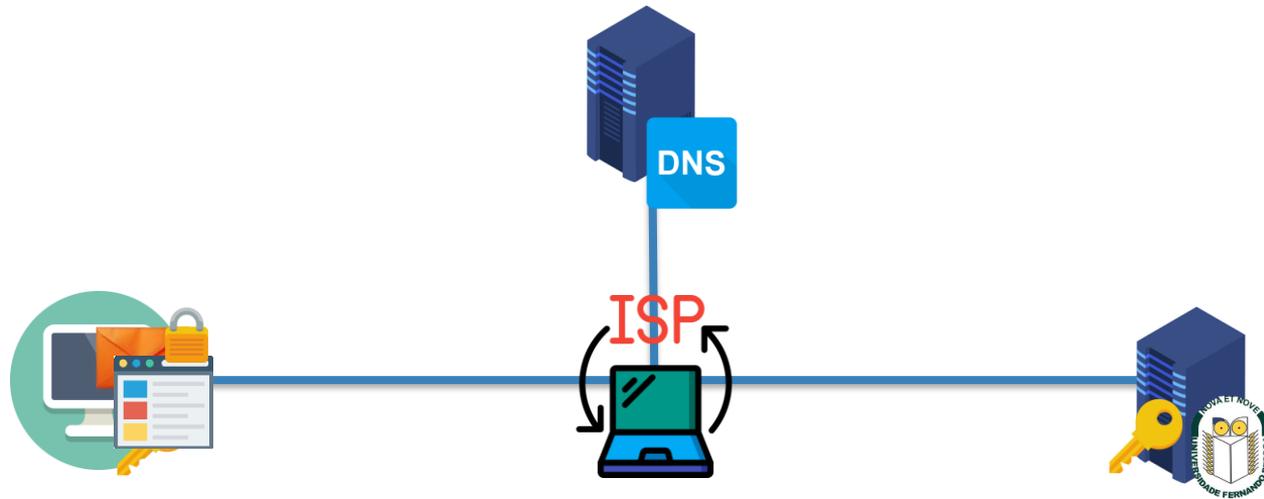
# INTERNET COMUM



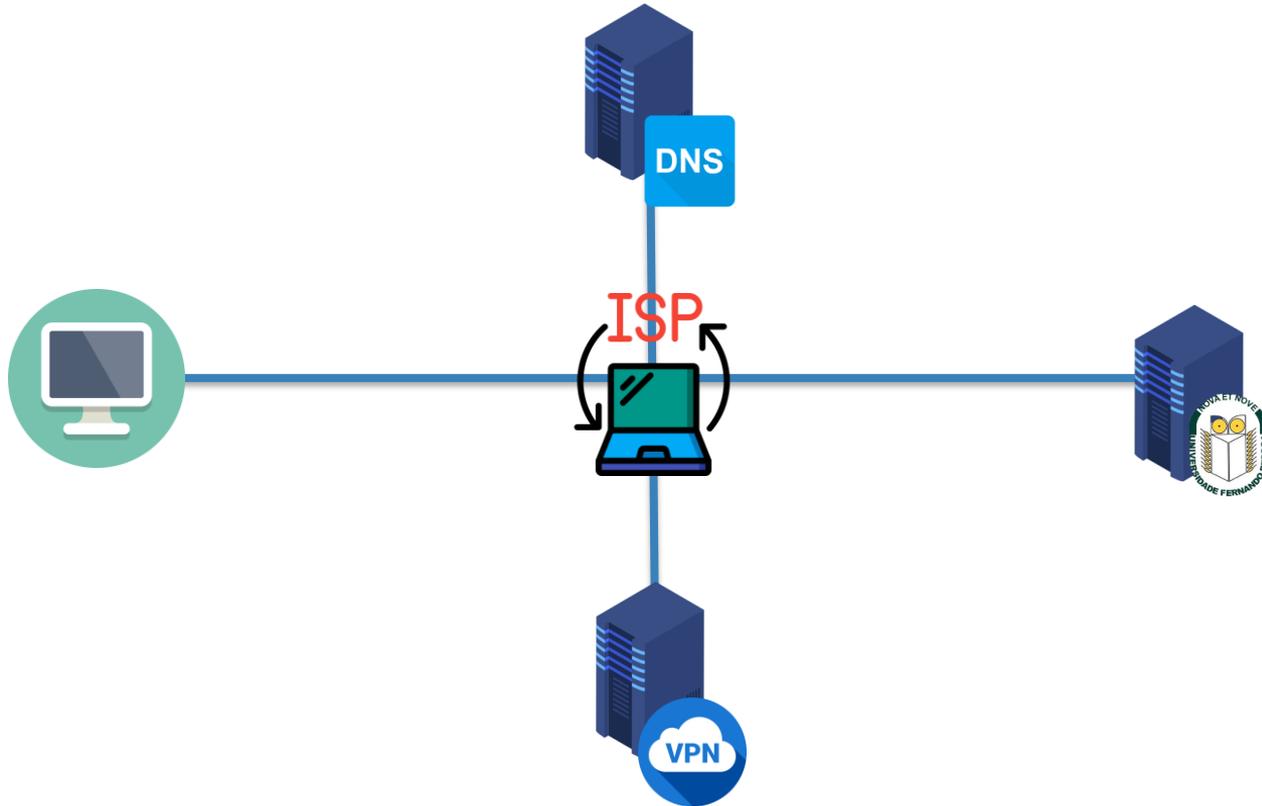
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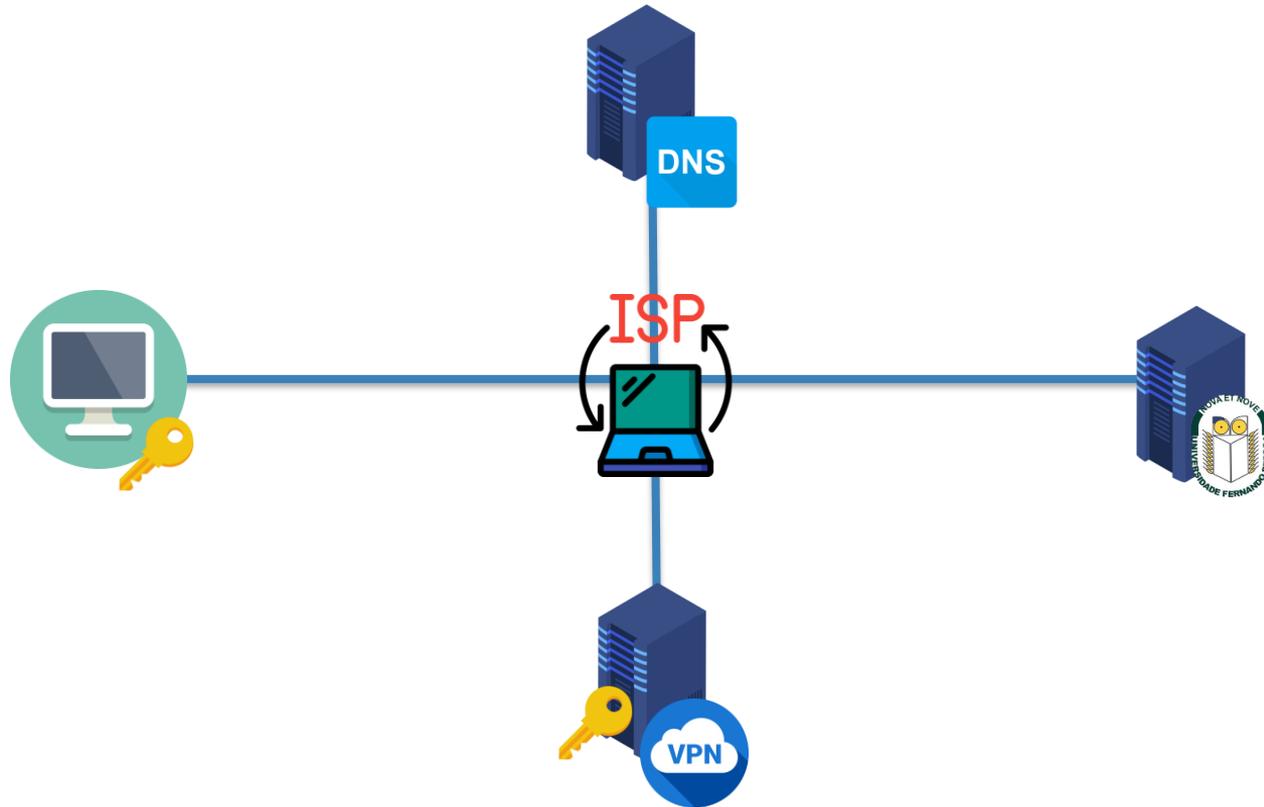
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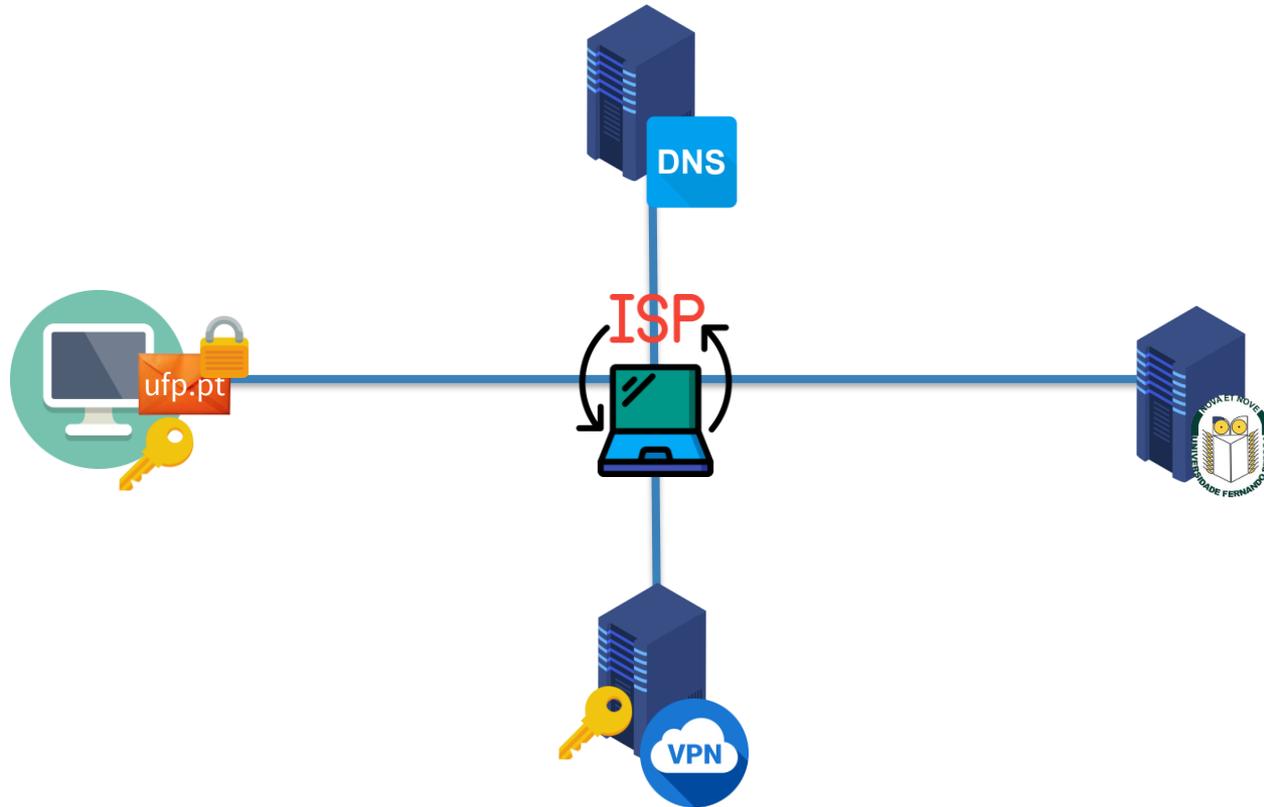
# VPN (VIRTUAL PRIVATE NETWORK)



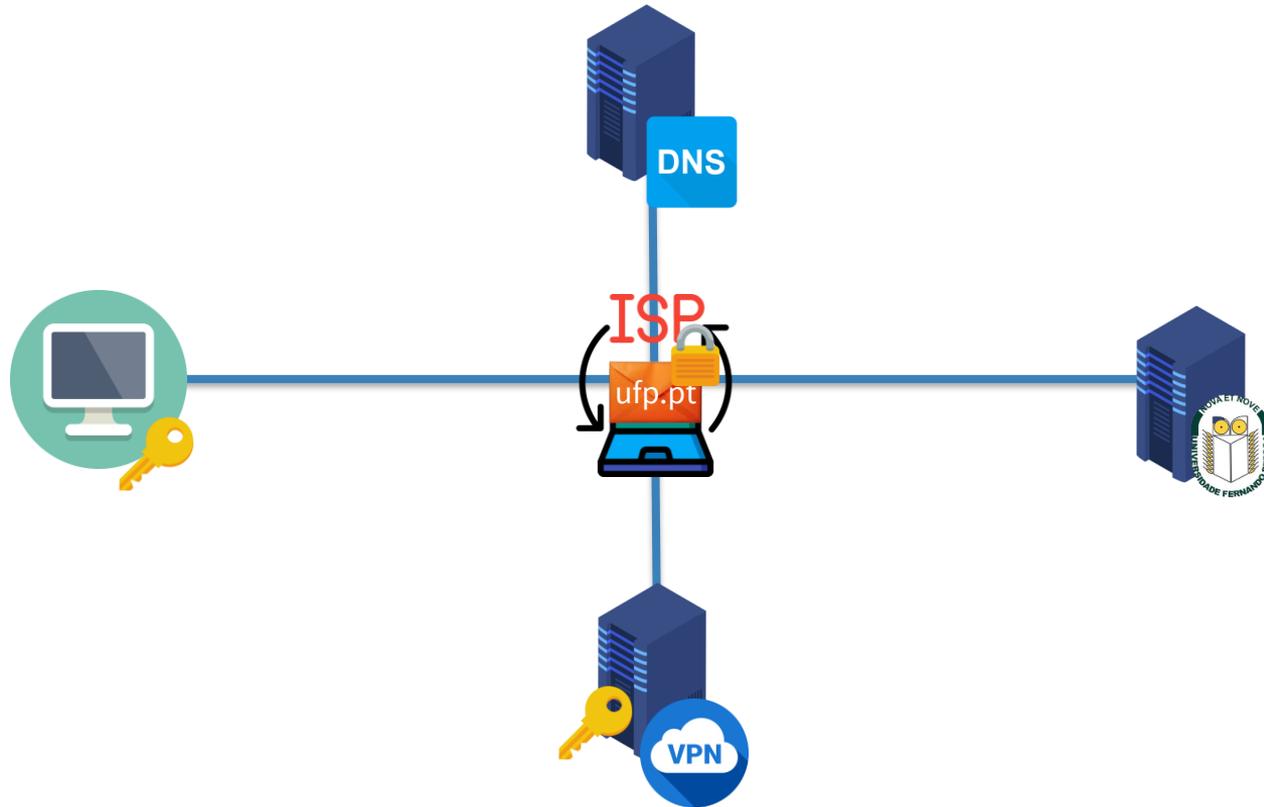
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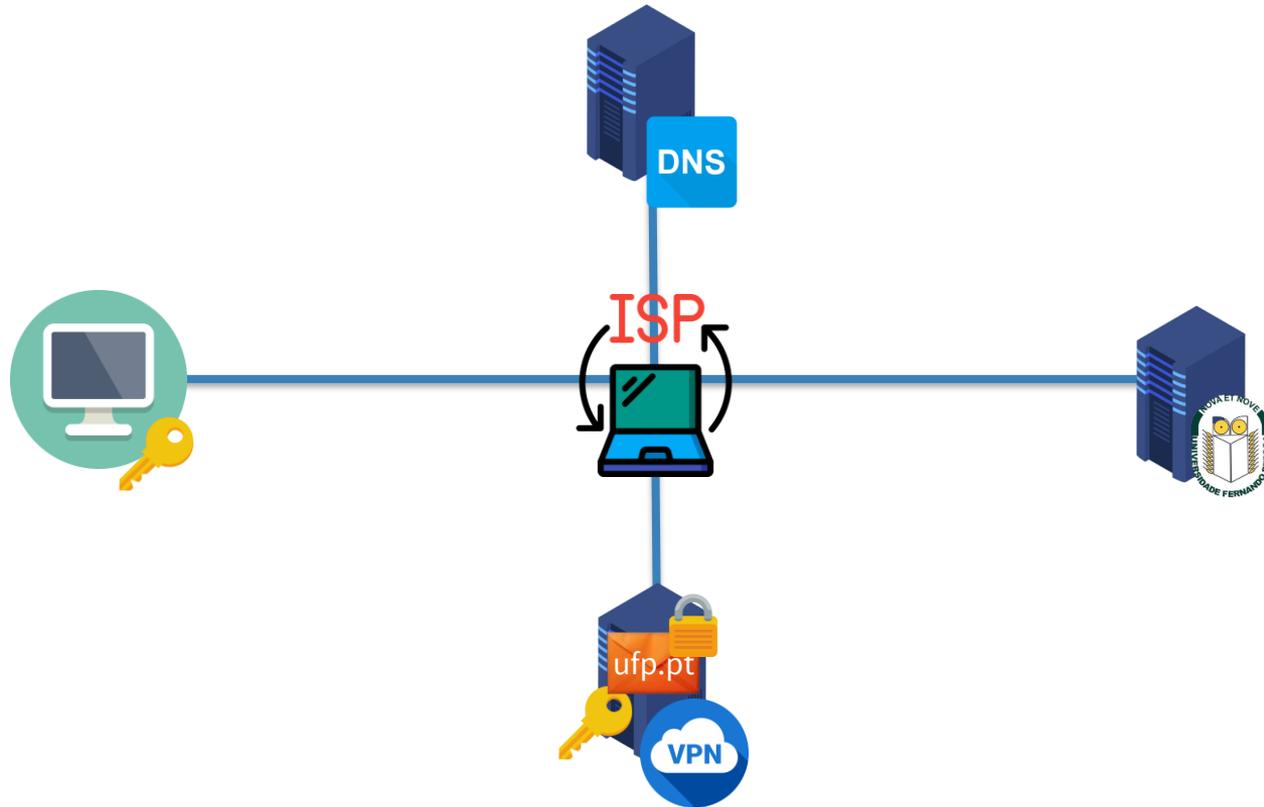
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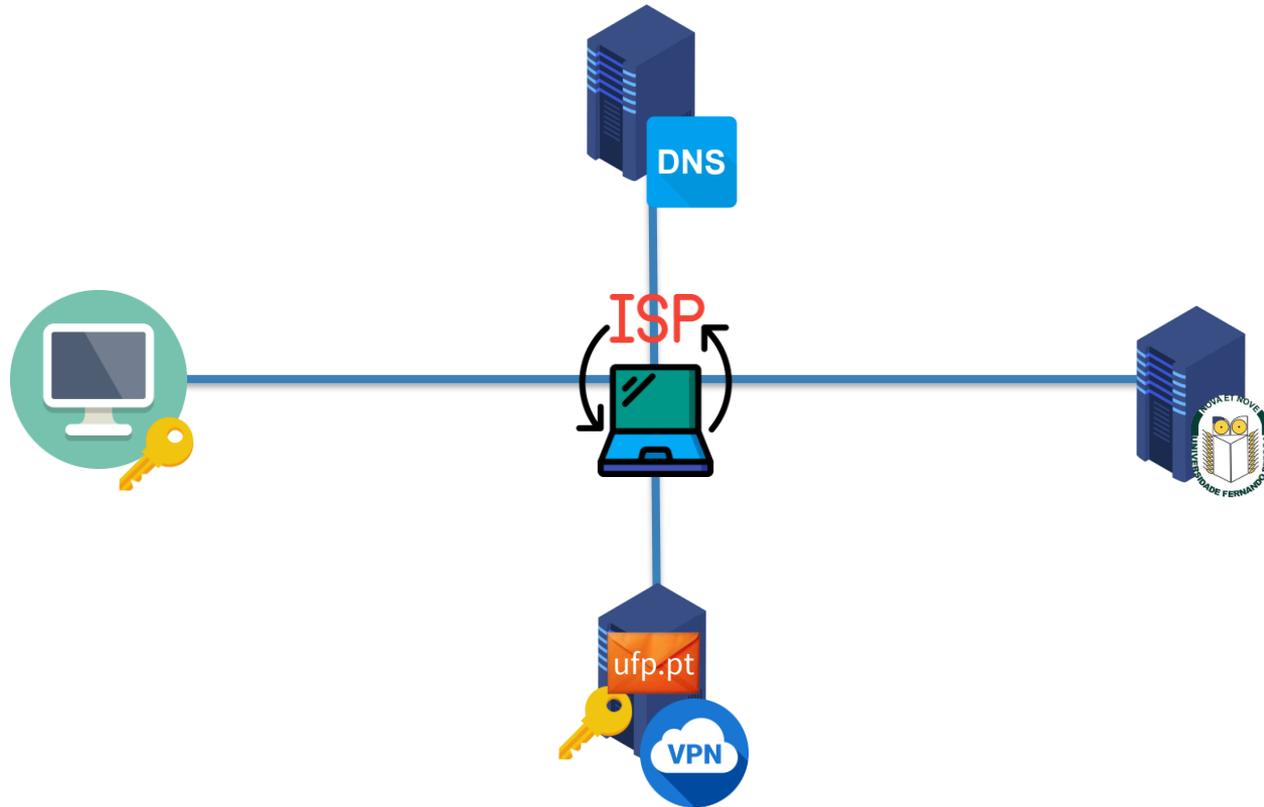
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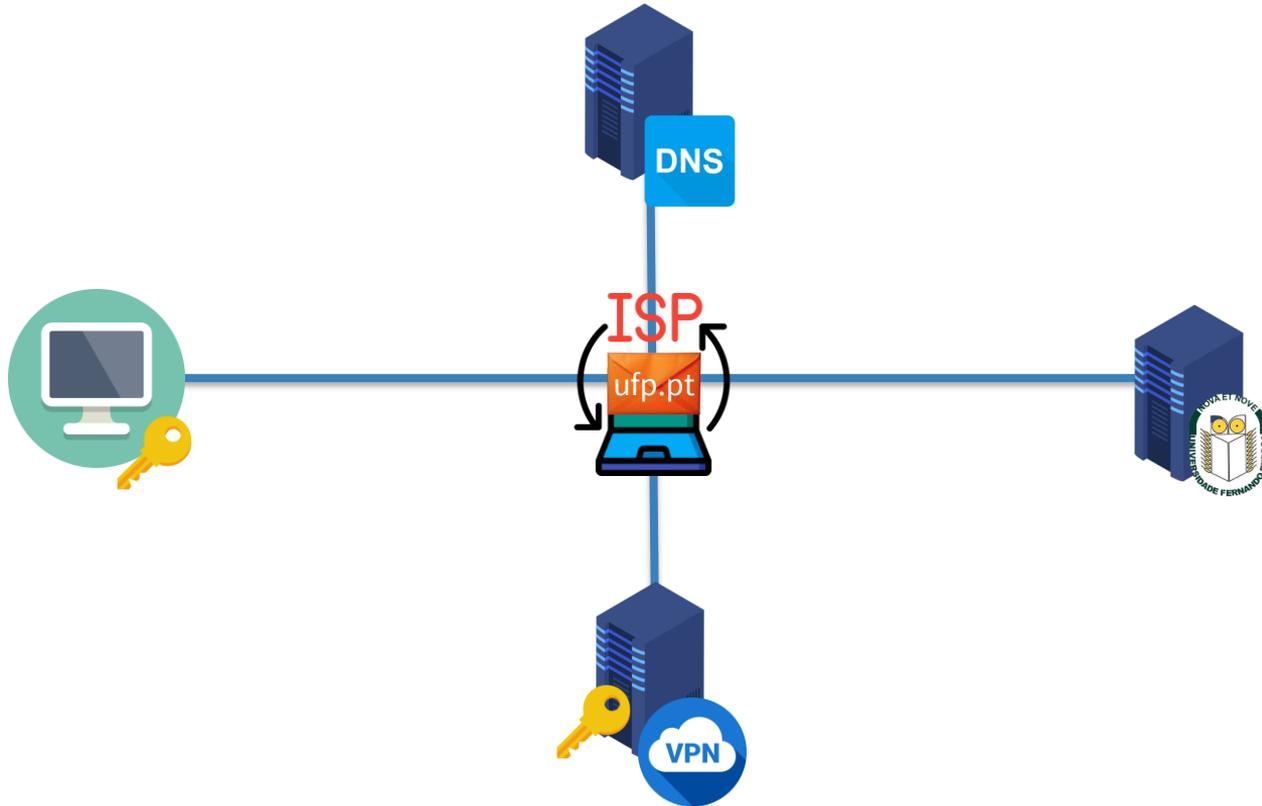
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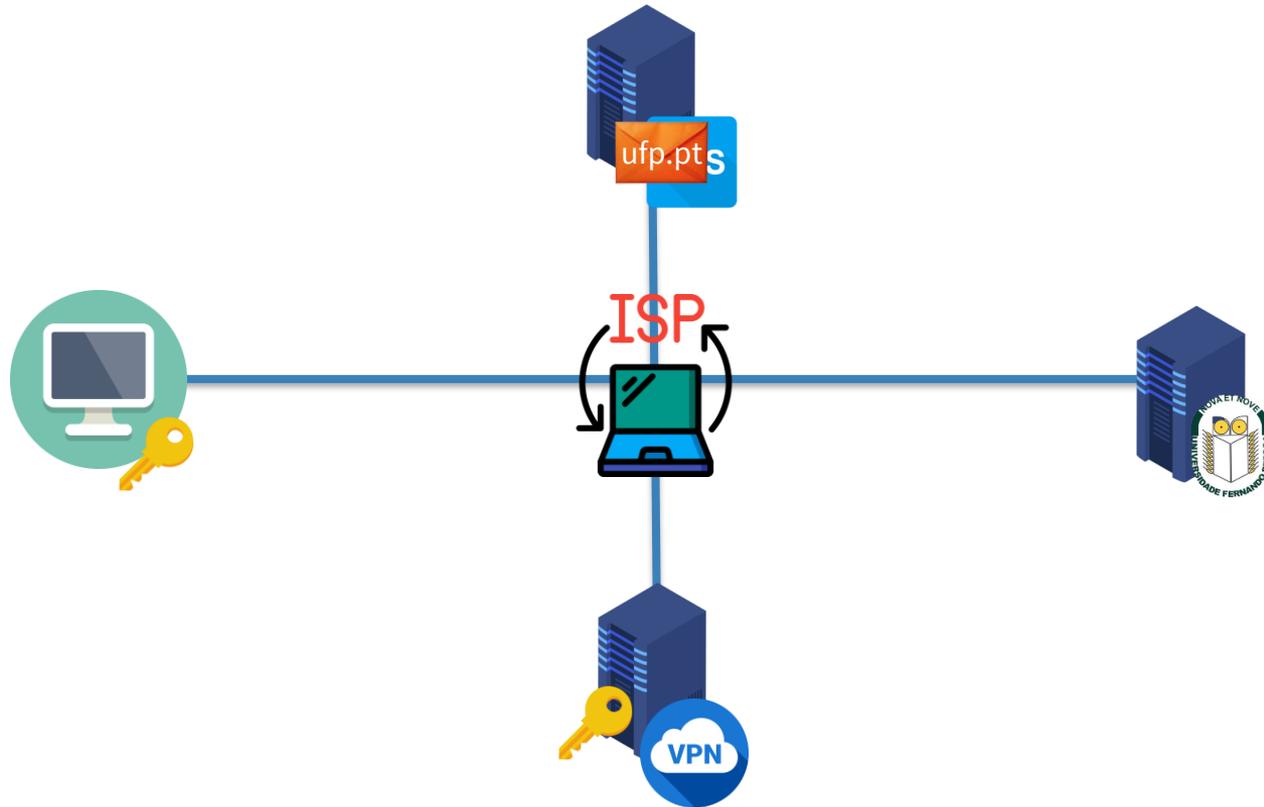
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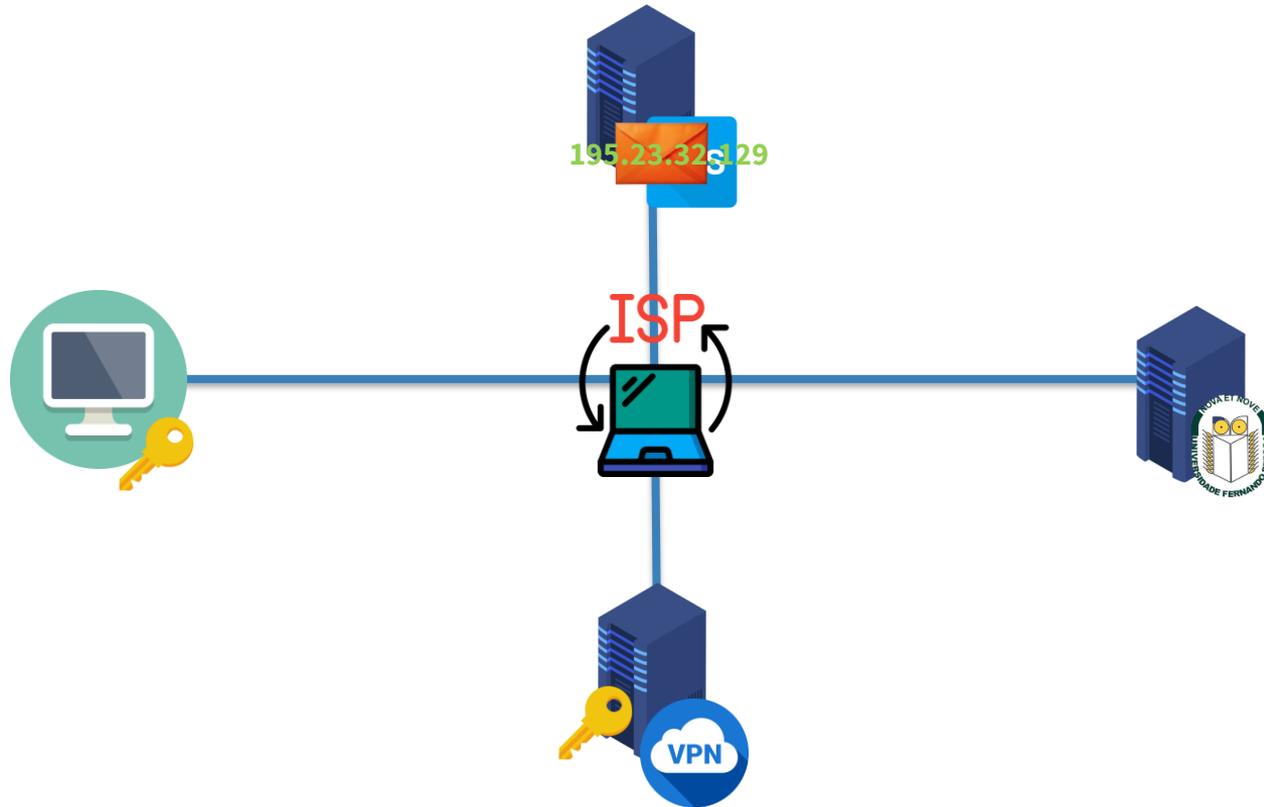
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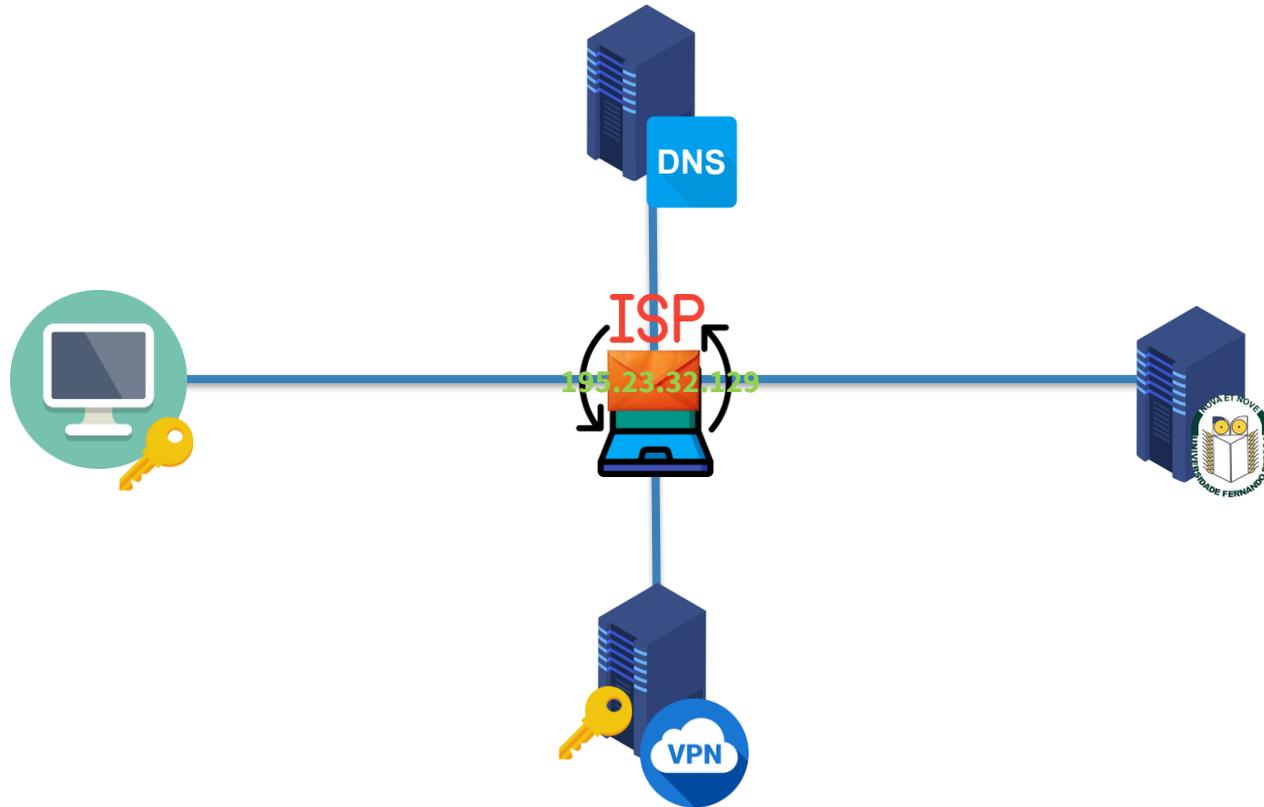
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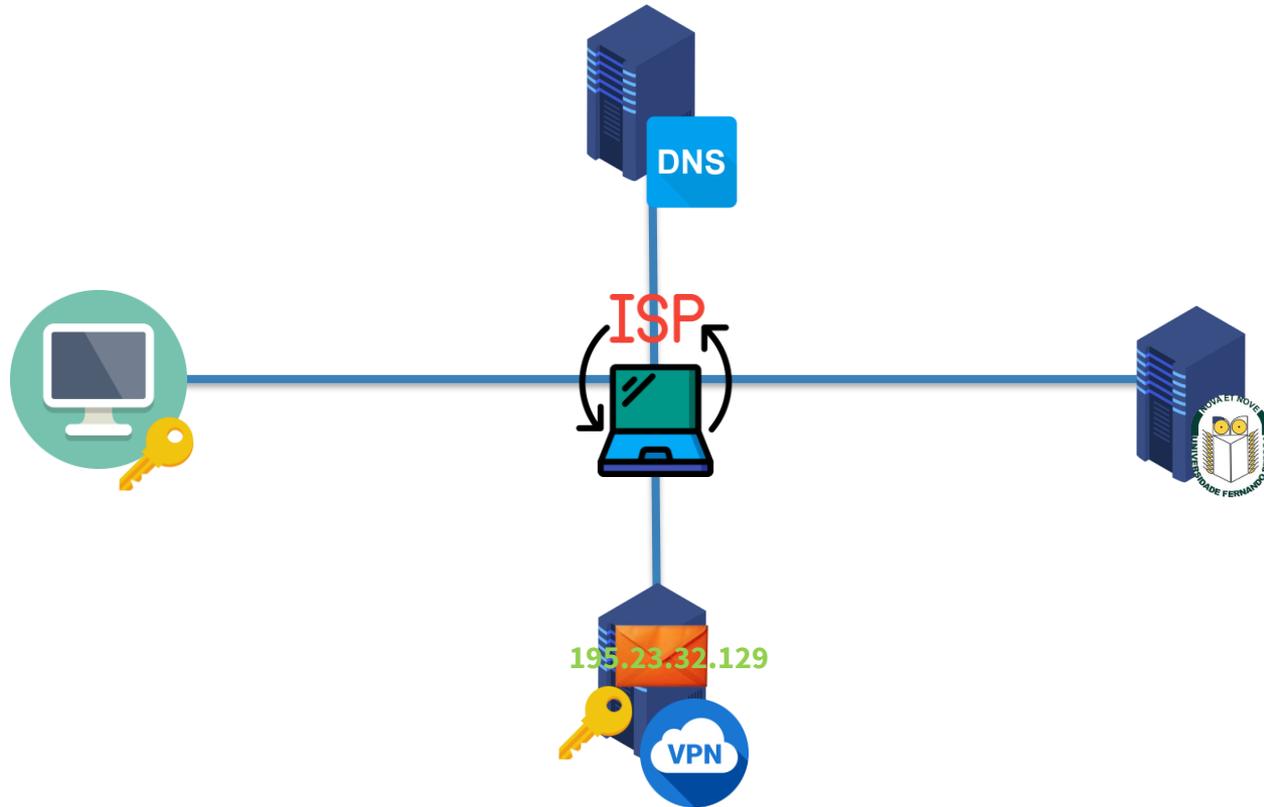
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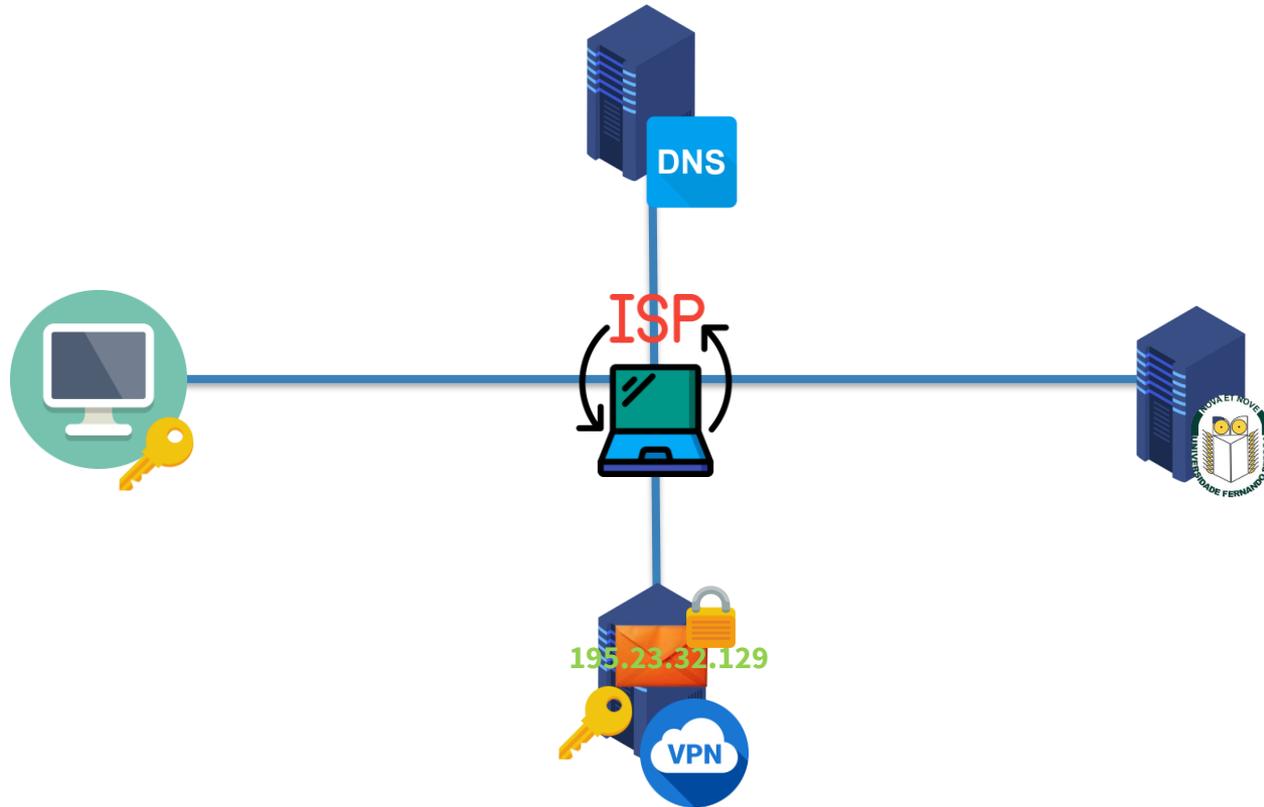
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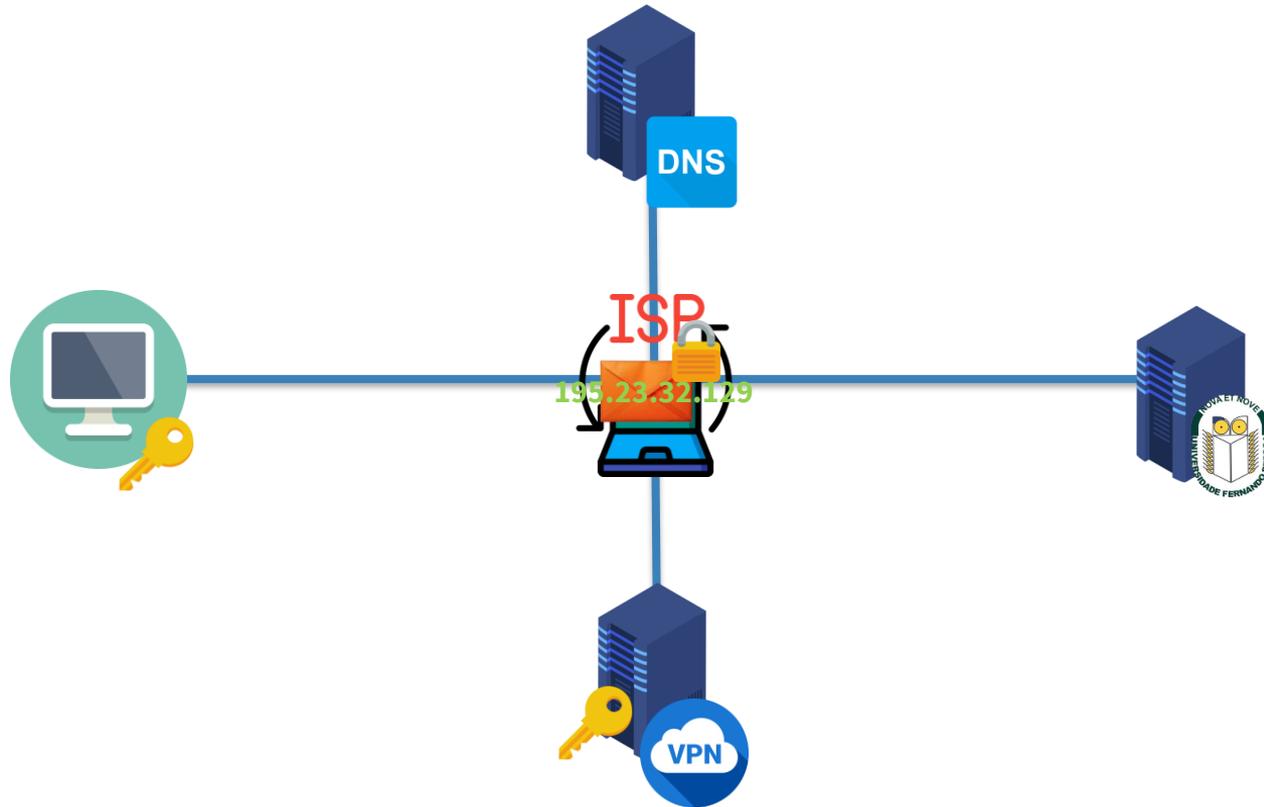
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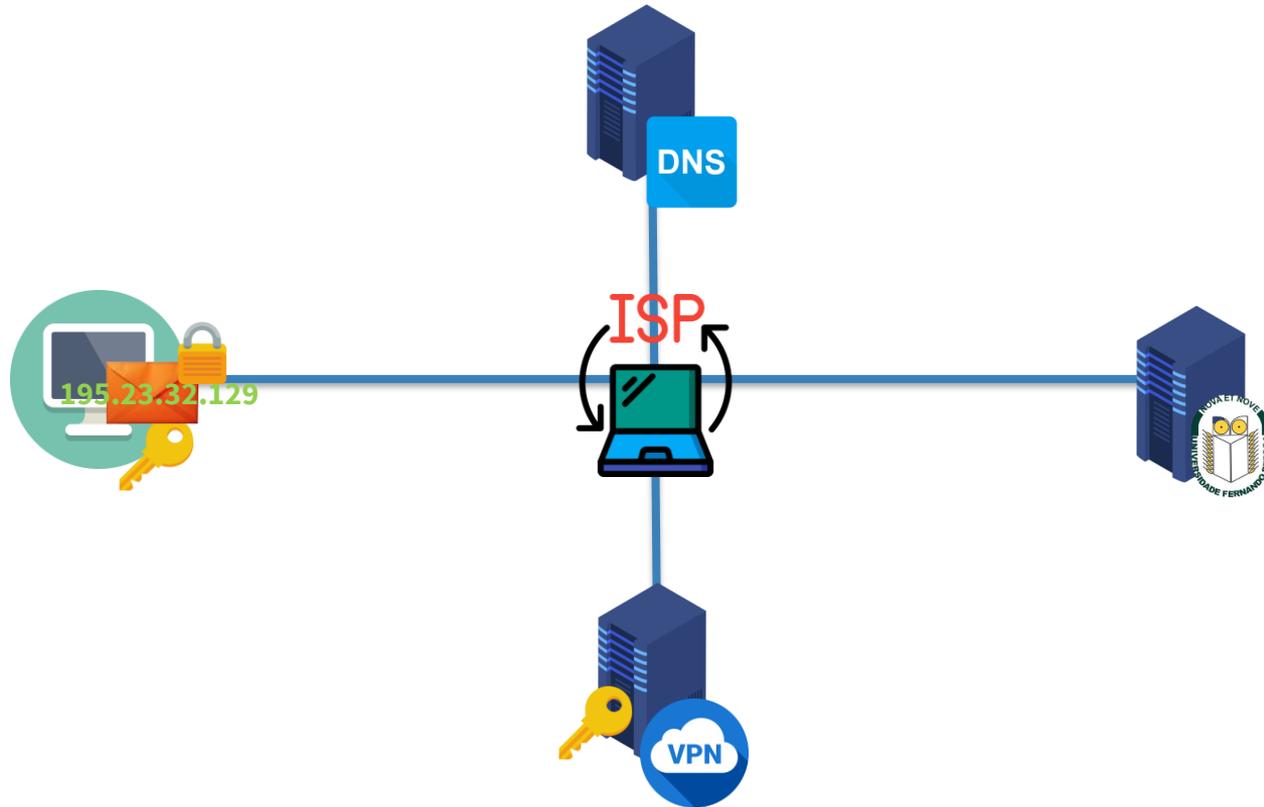
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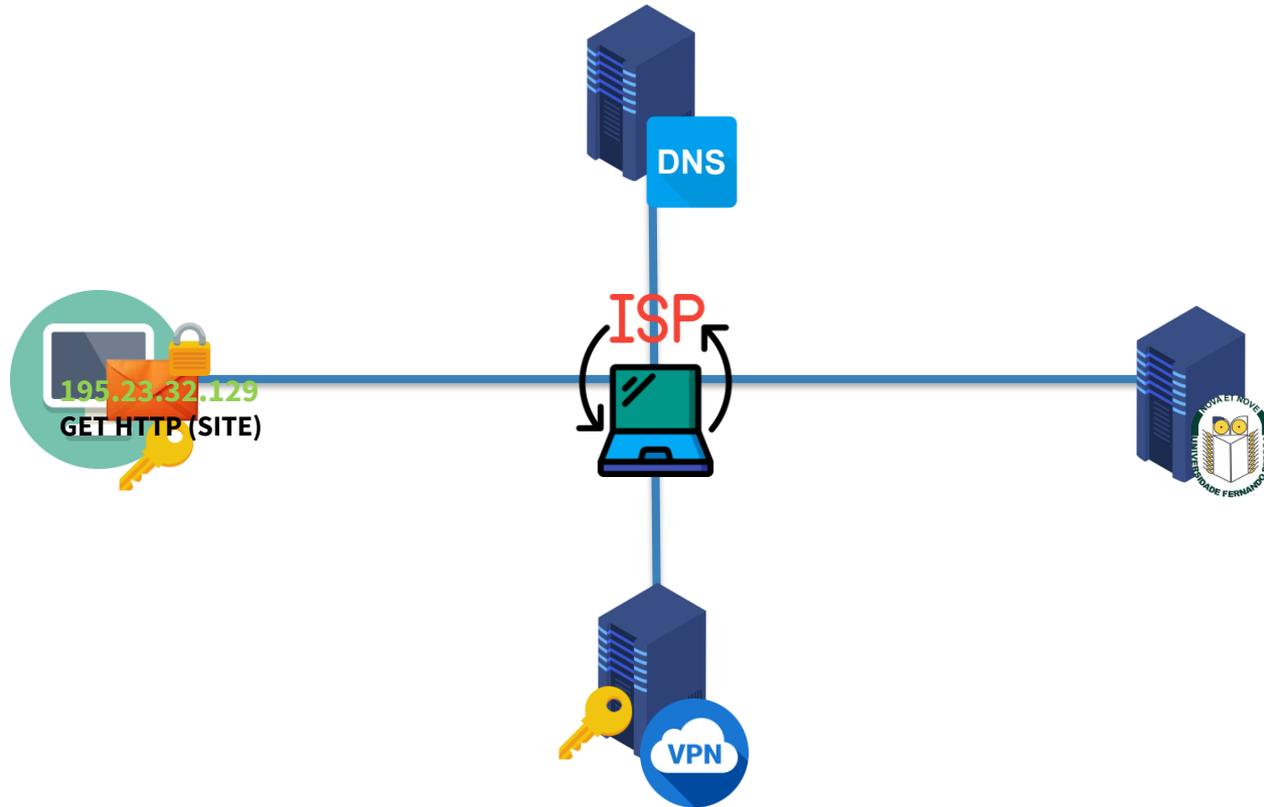
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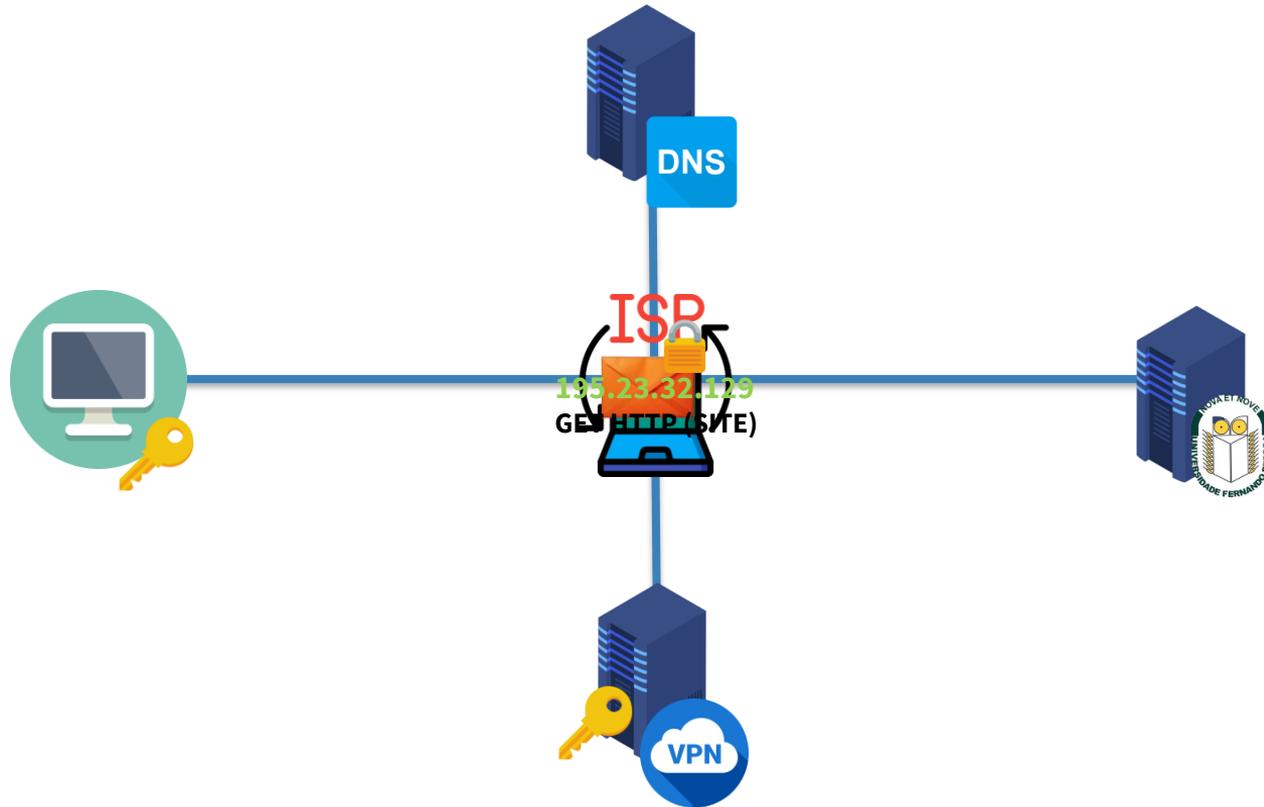
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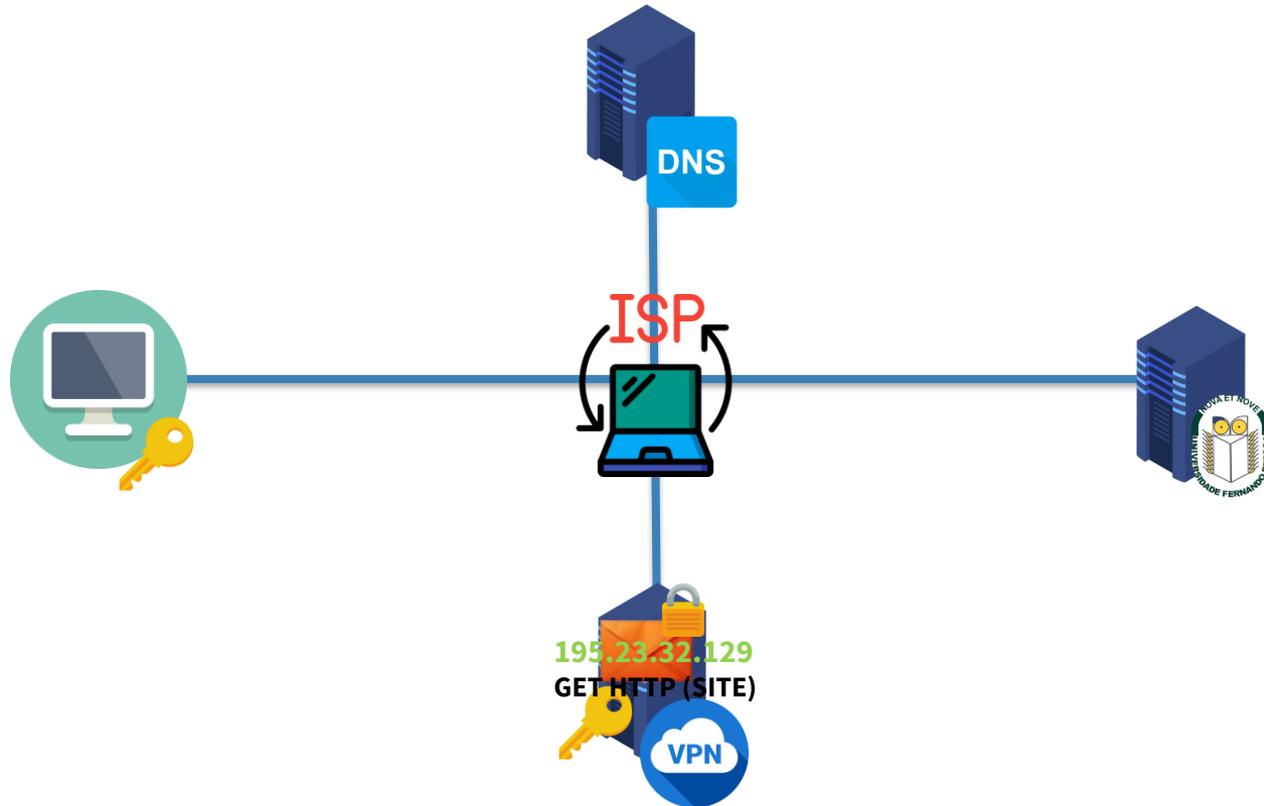
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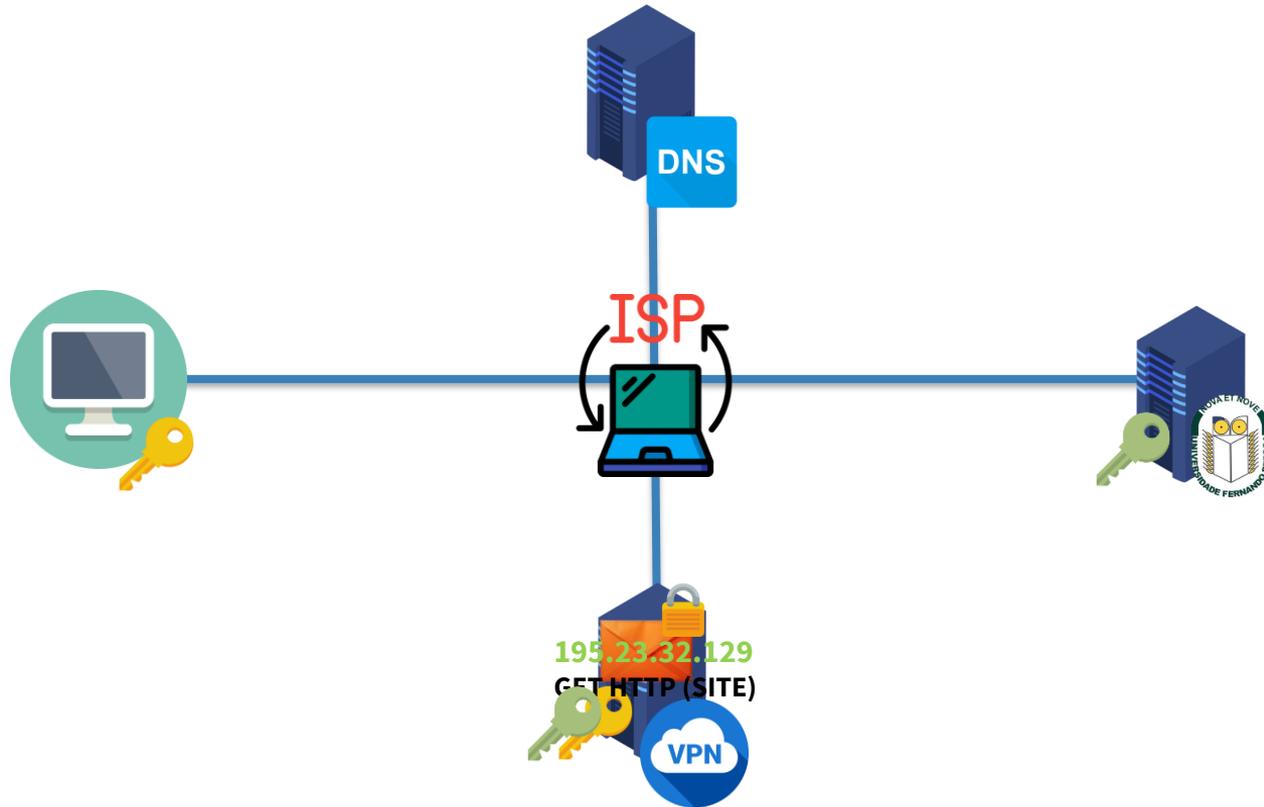
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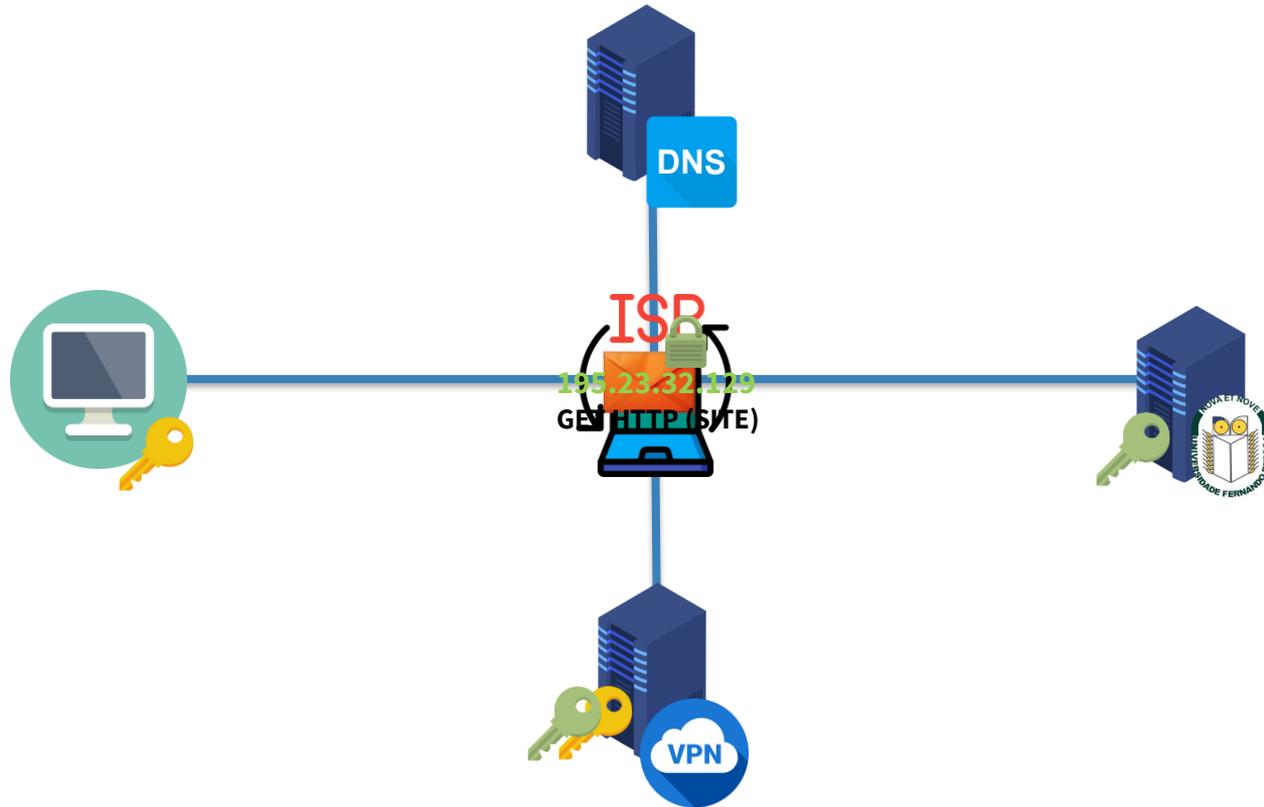
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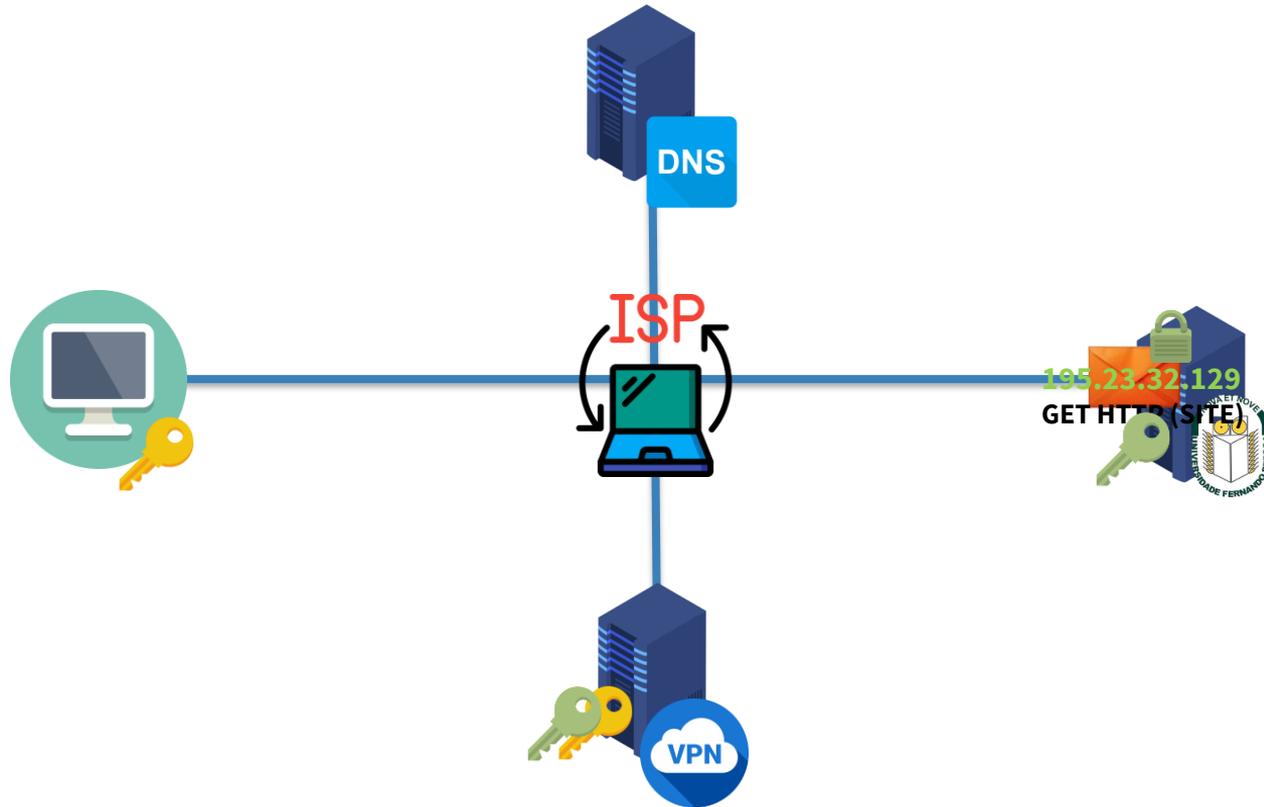
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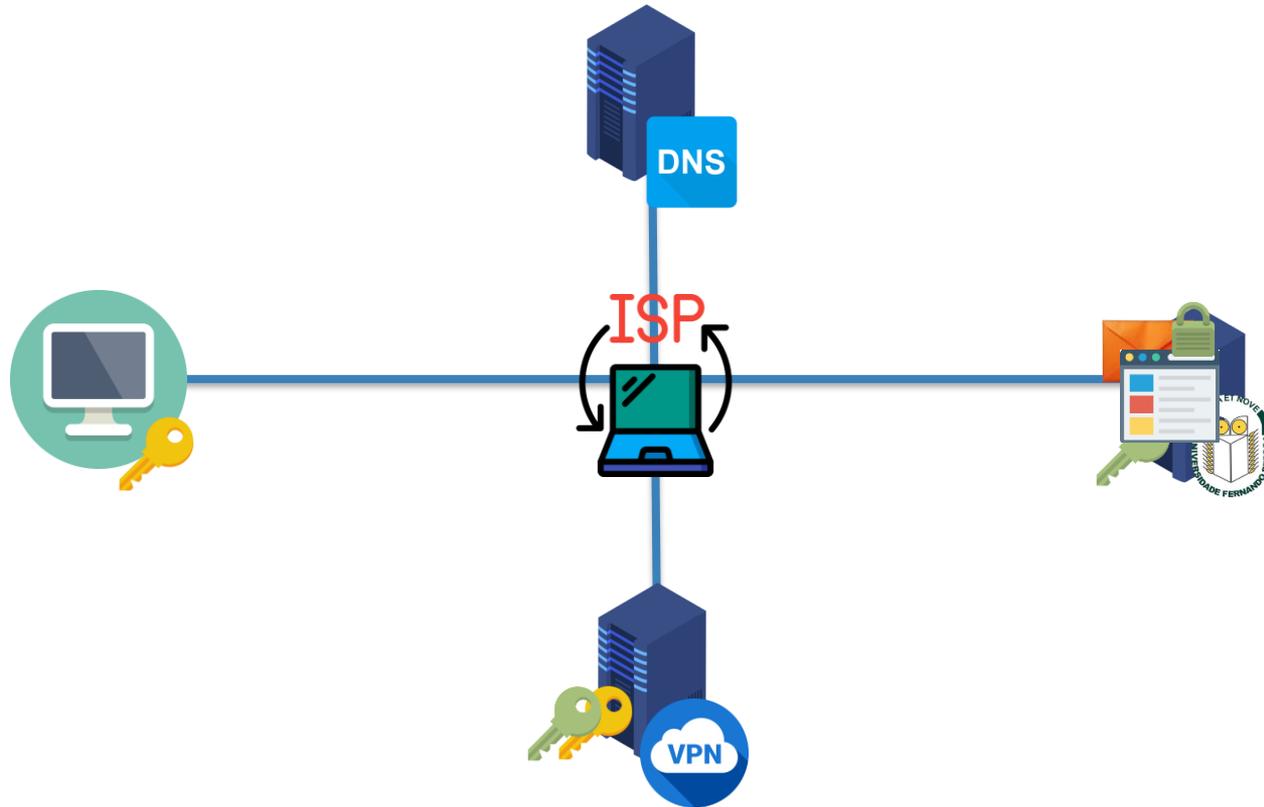
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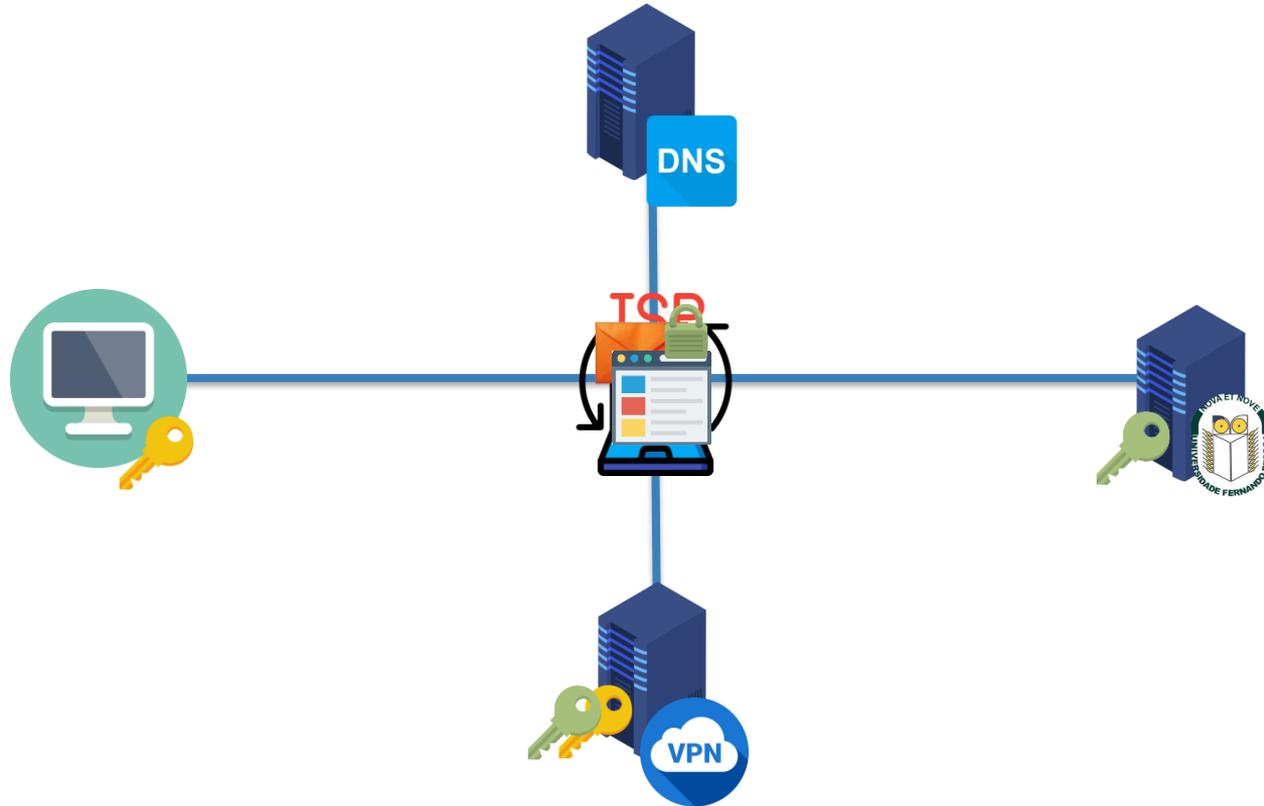
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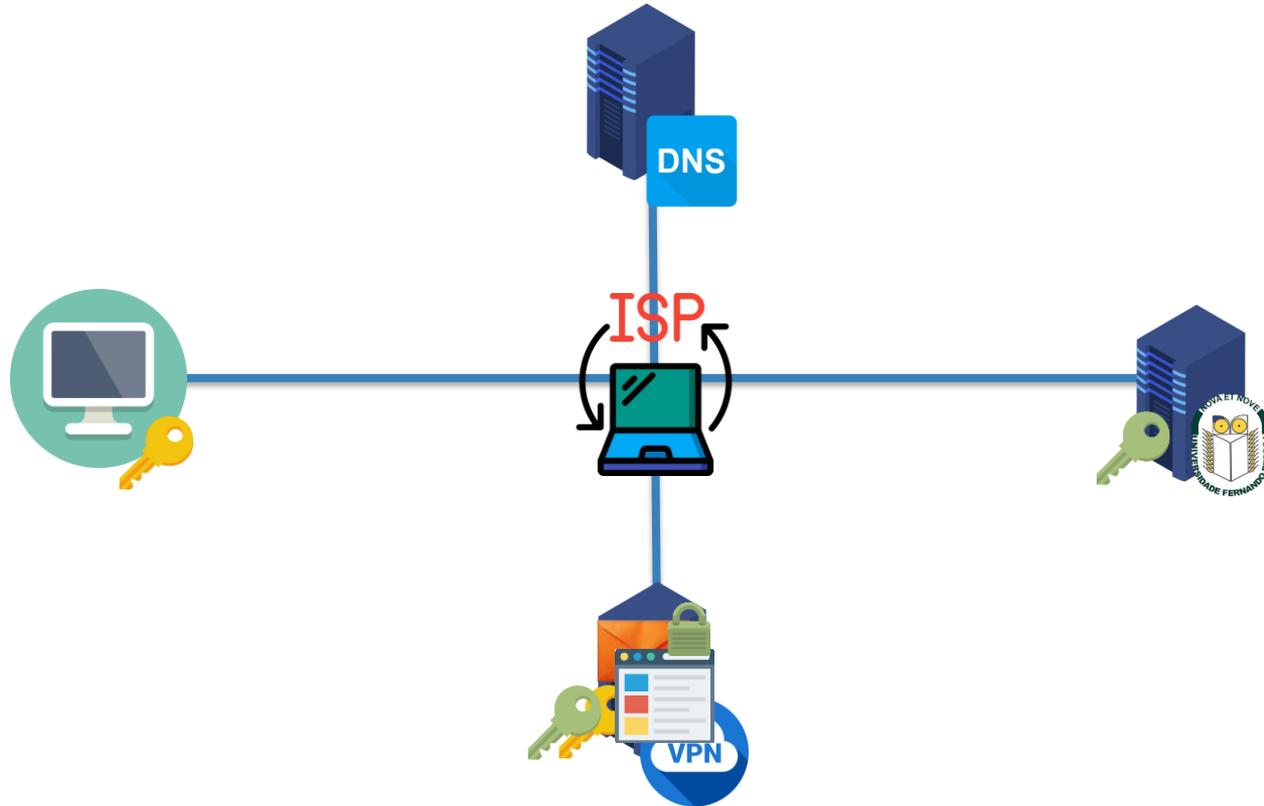
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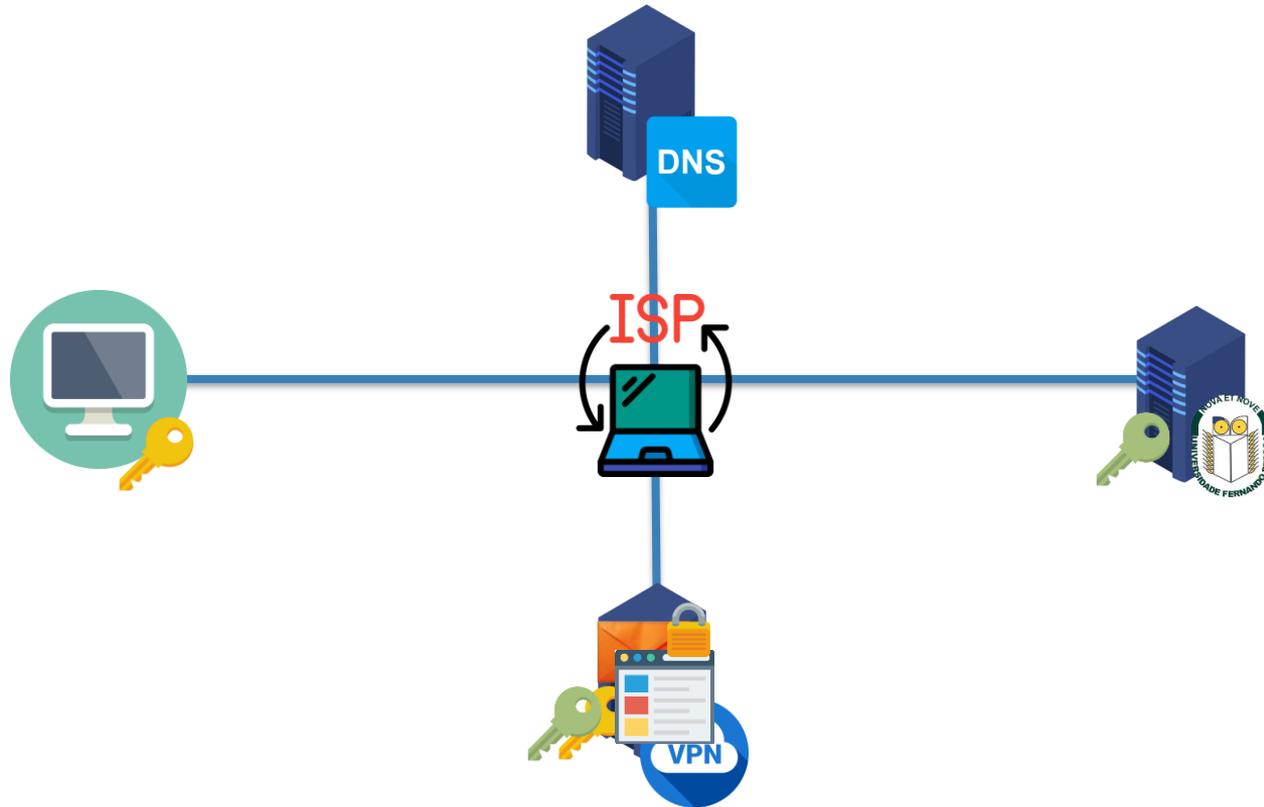
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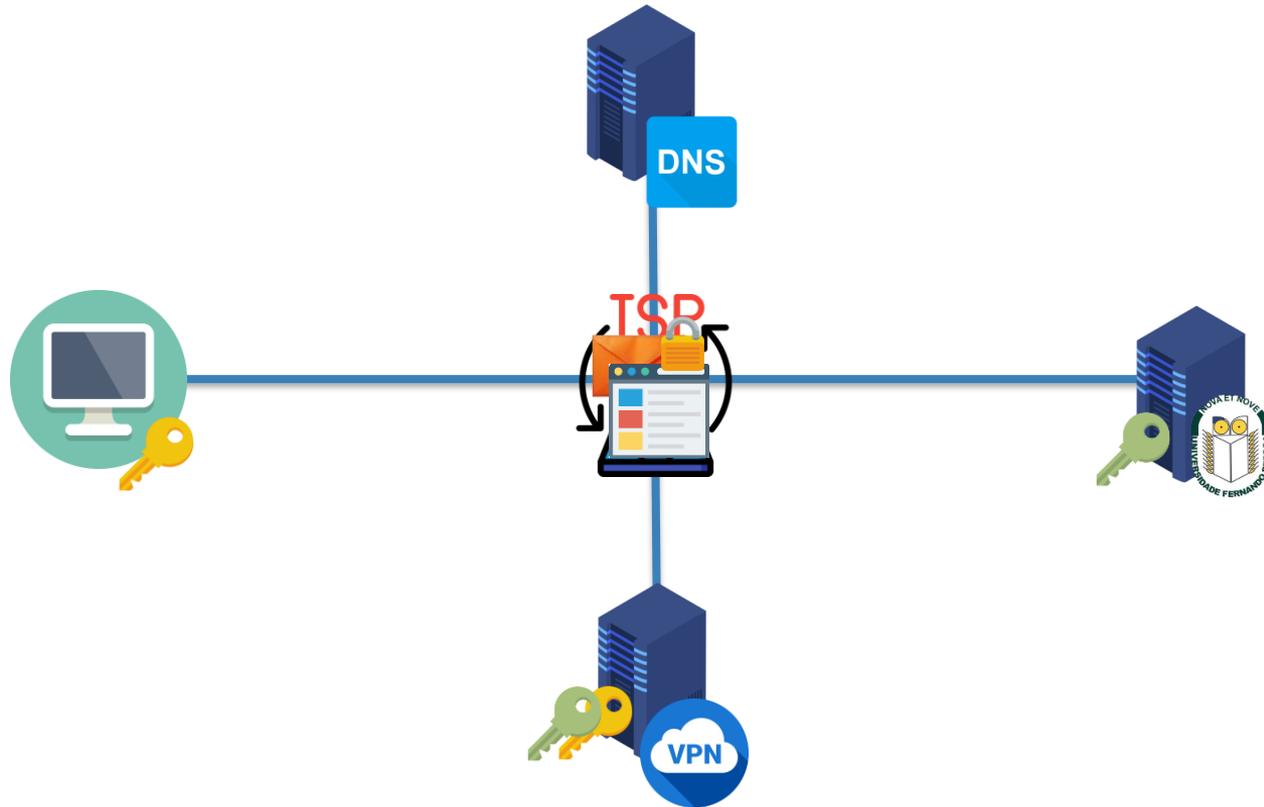
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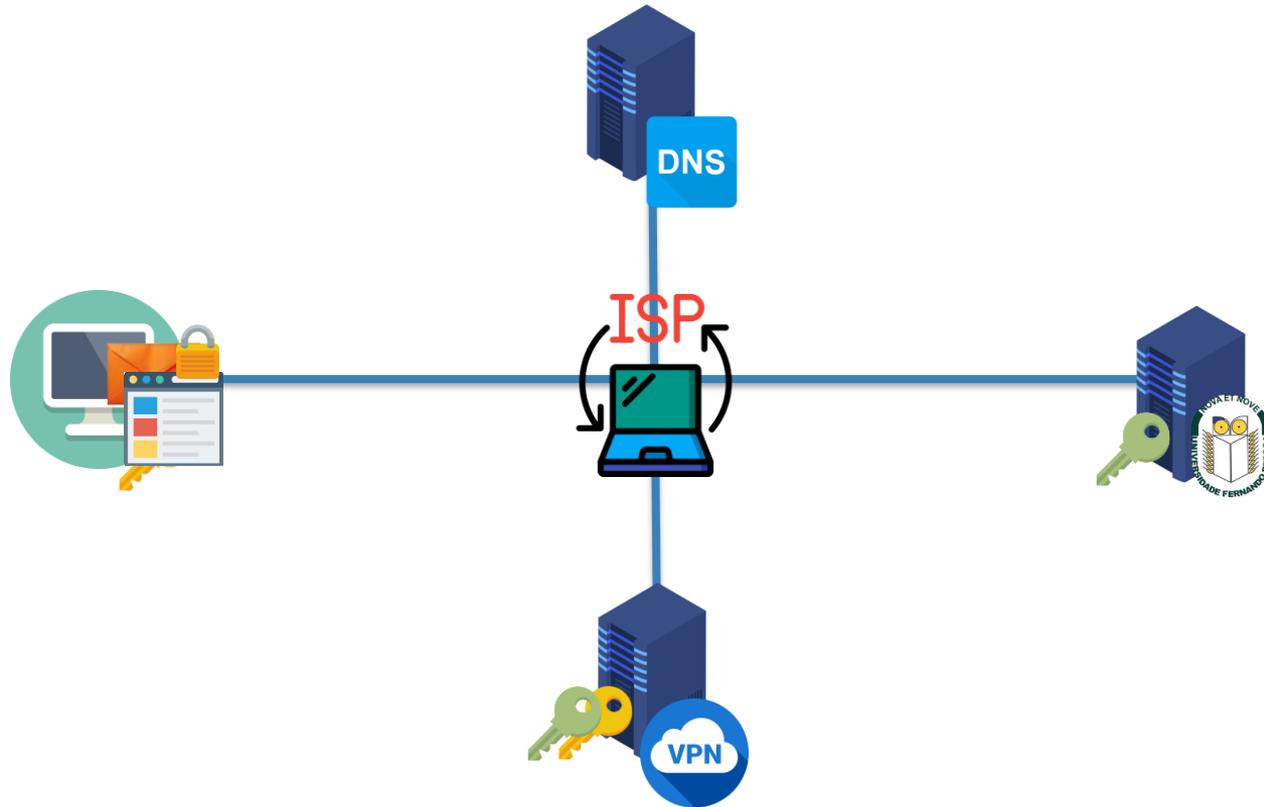
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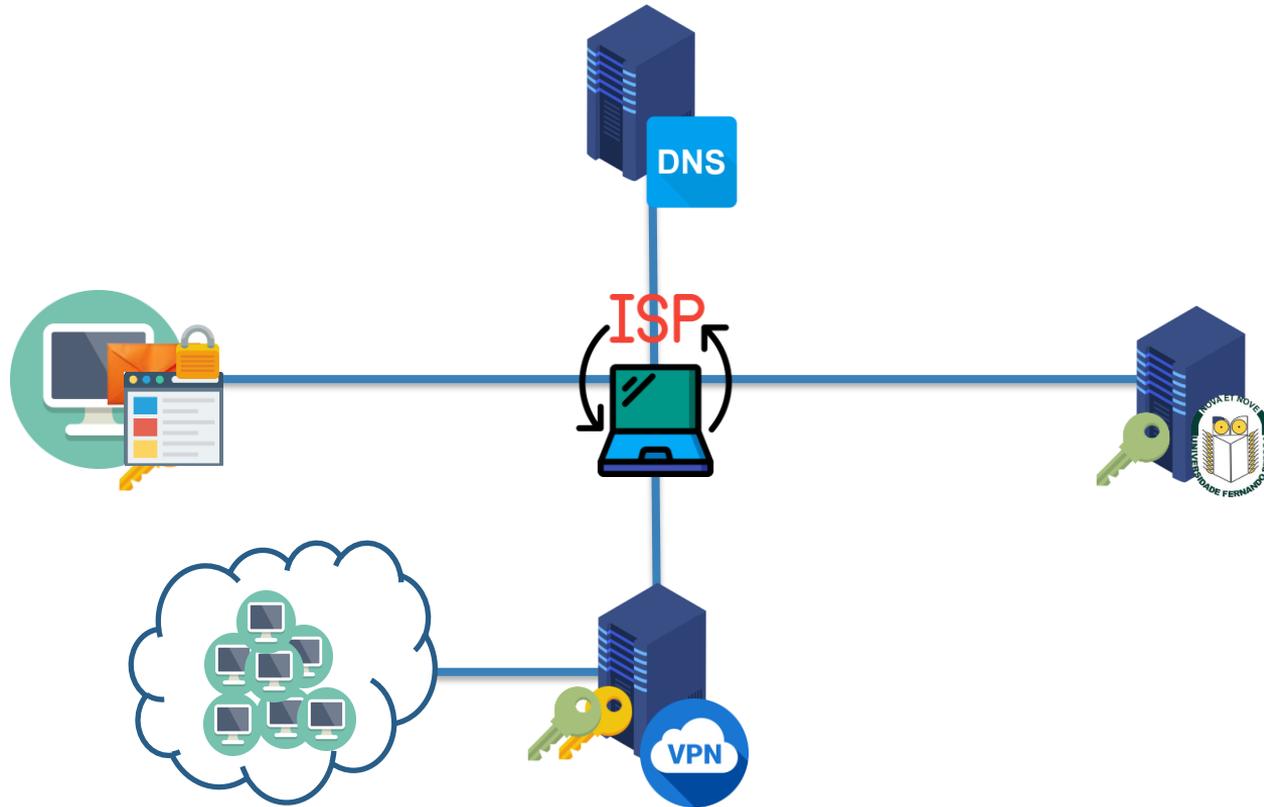
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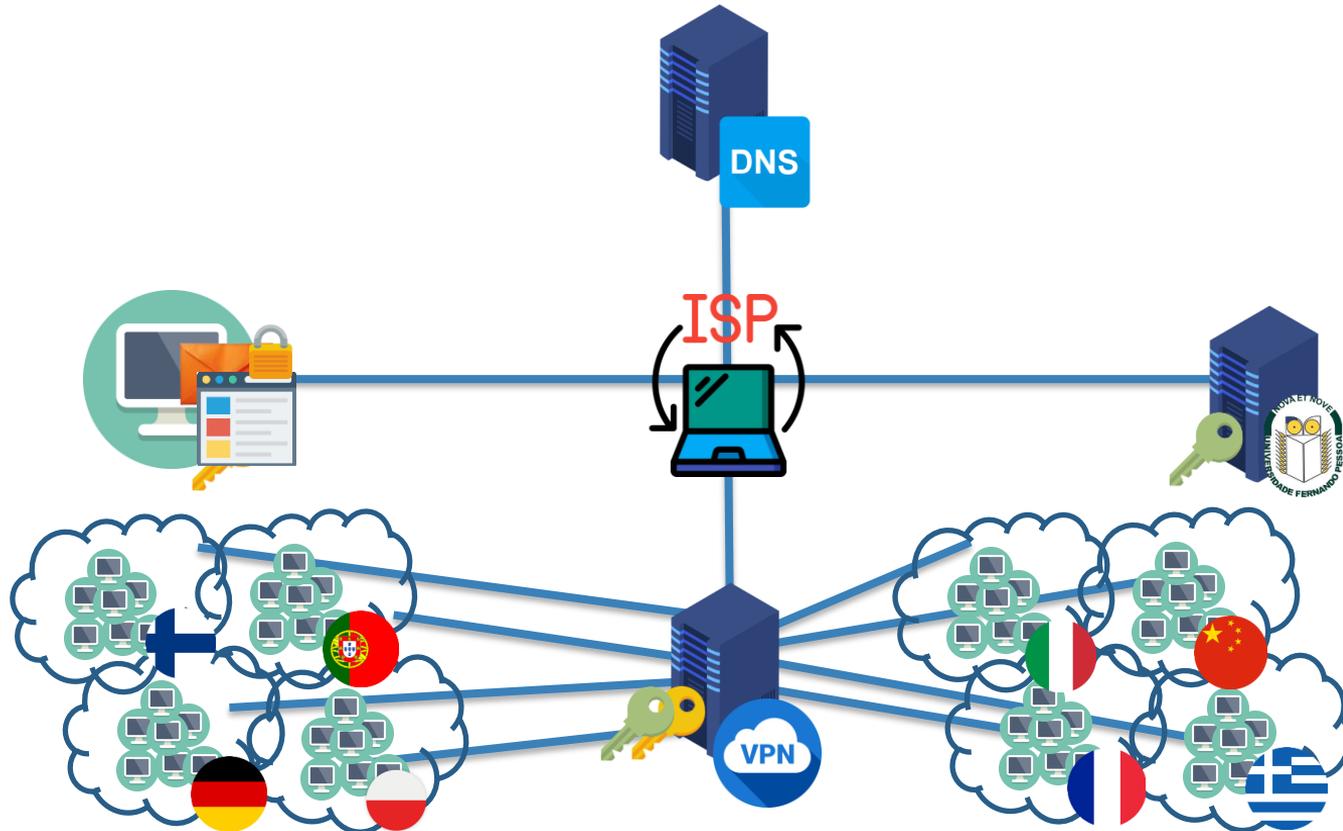
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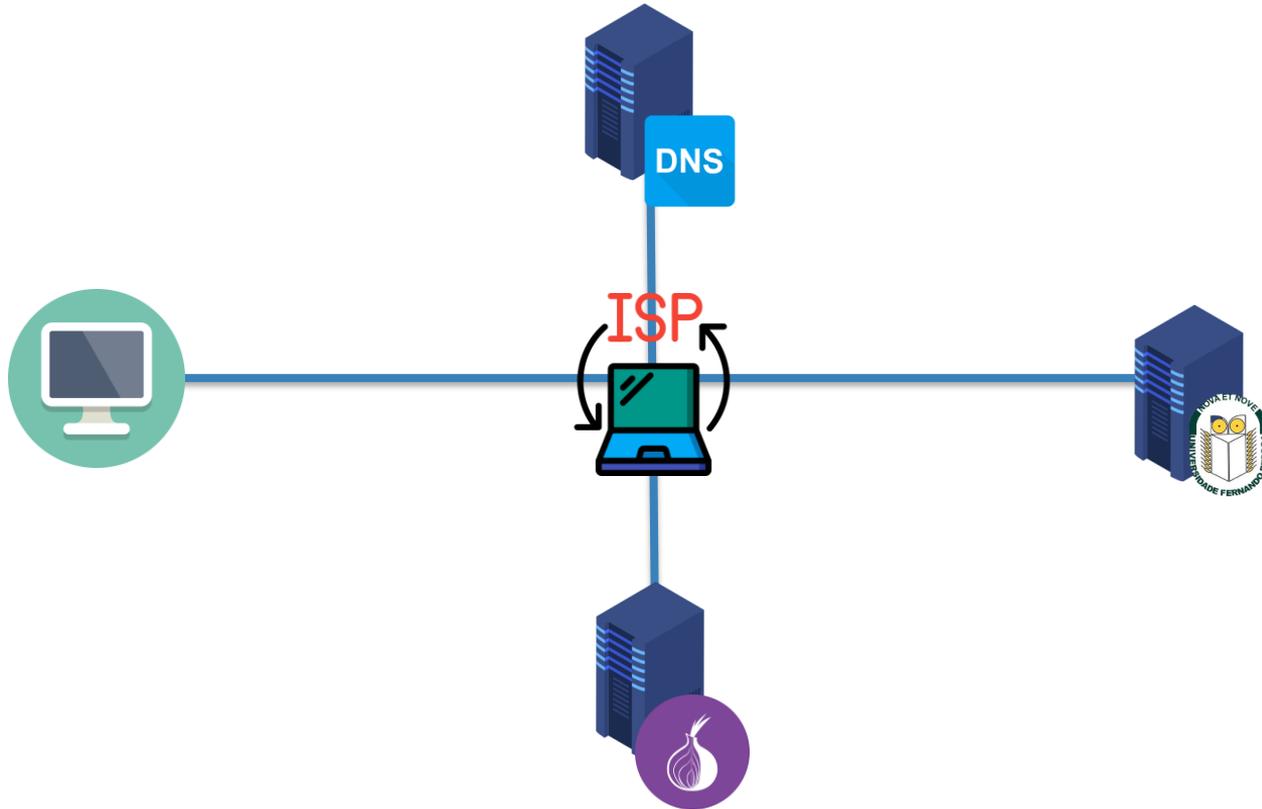
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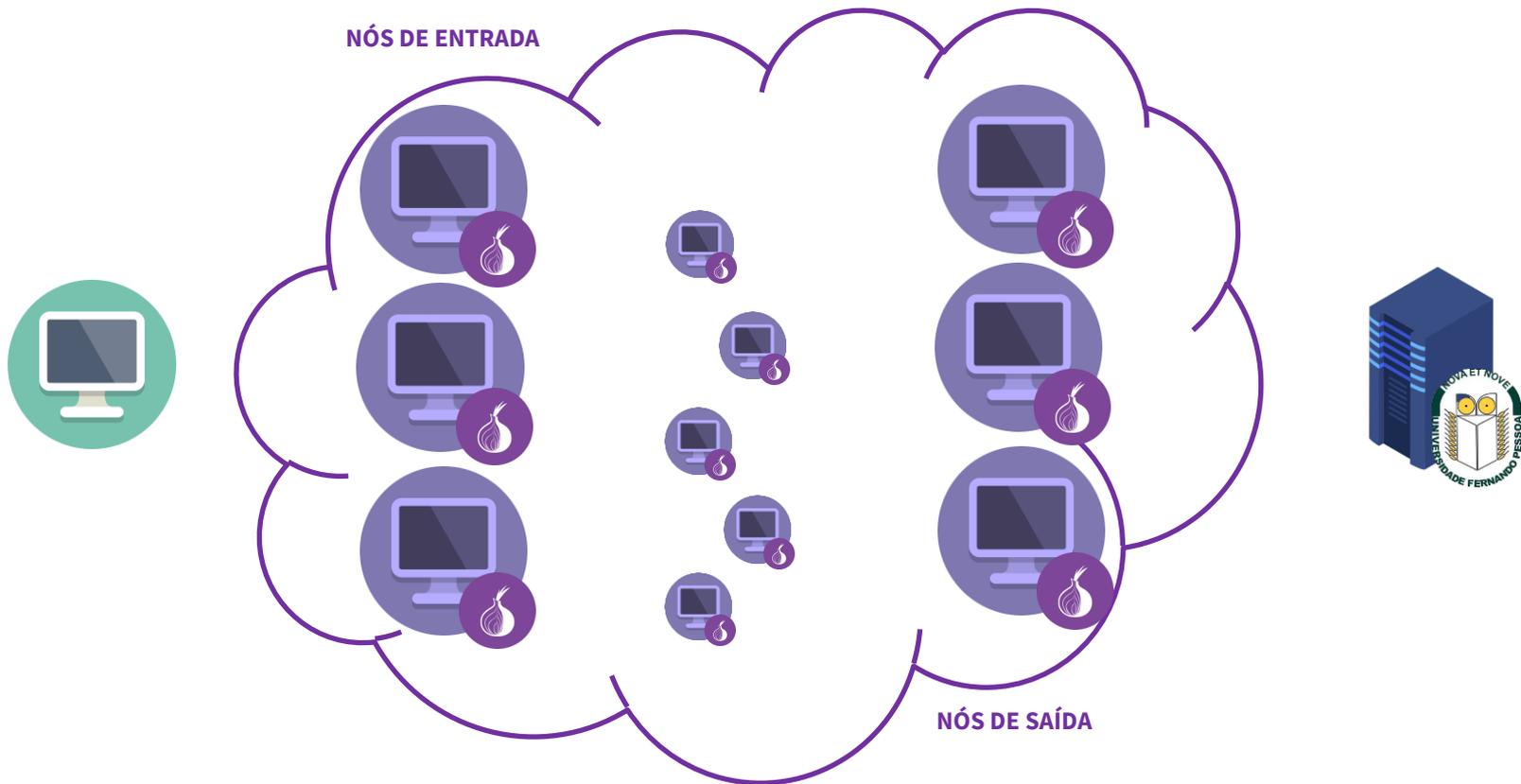
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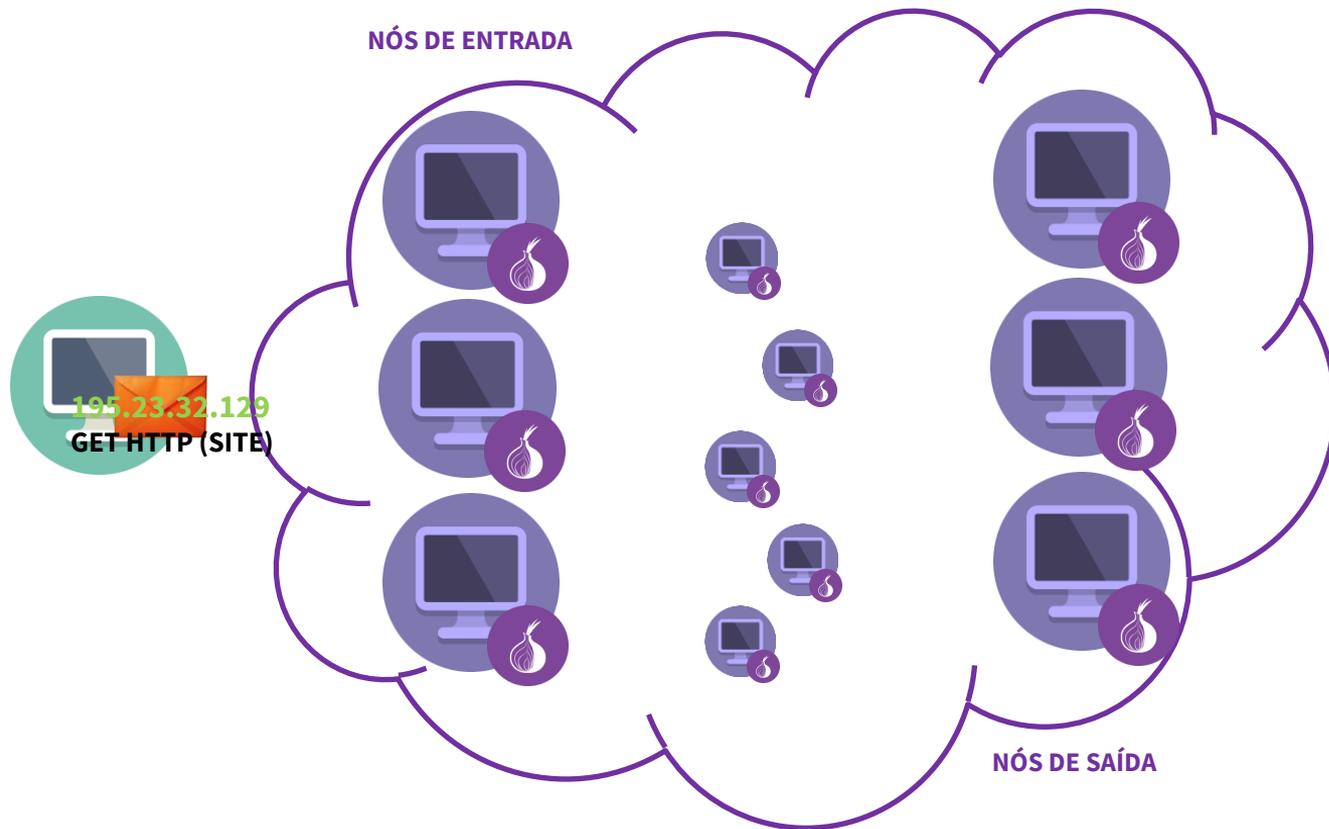
# TOR



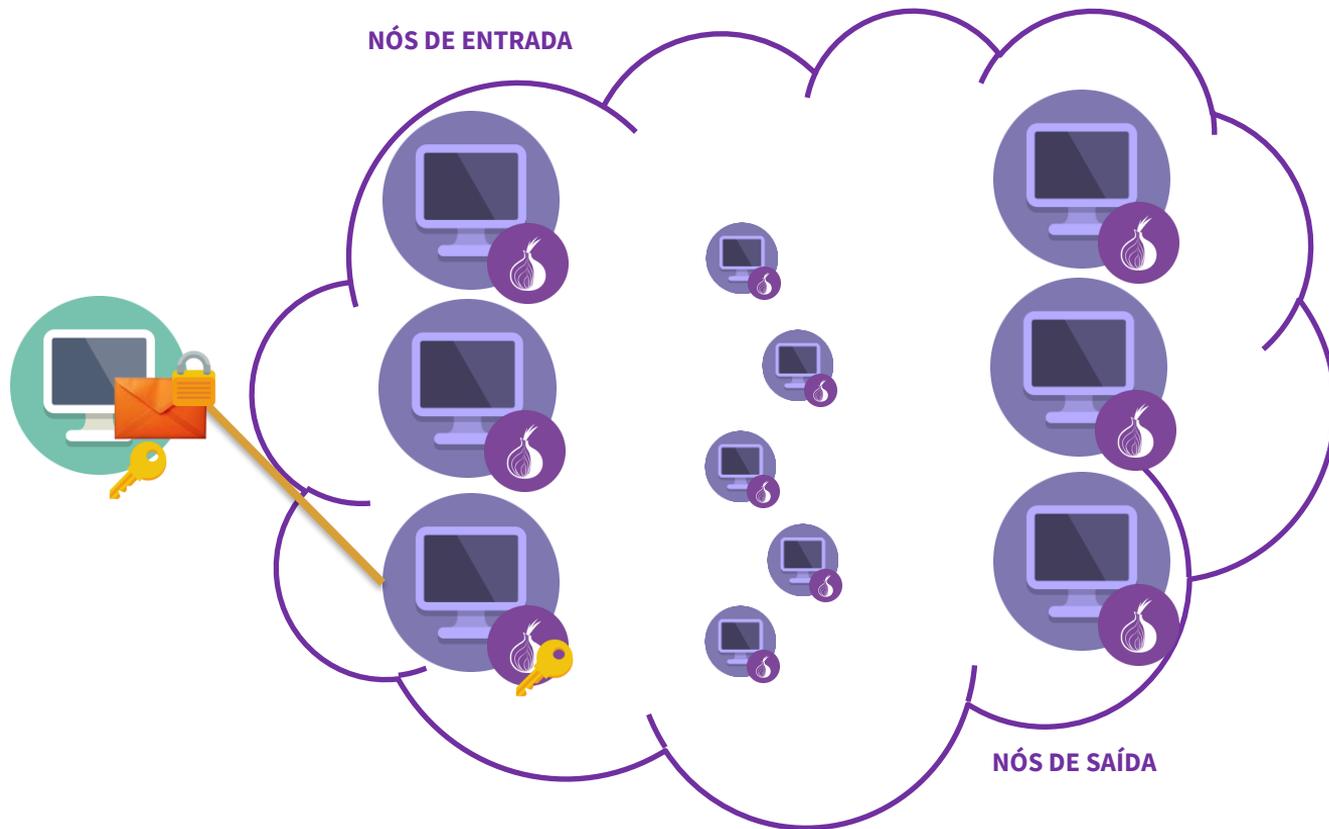
# TOR



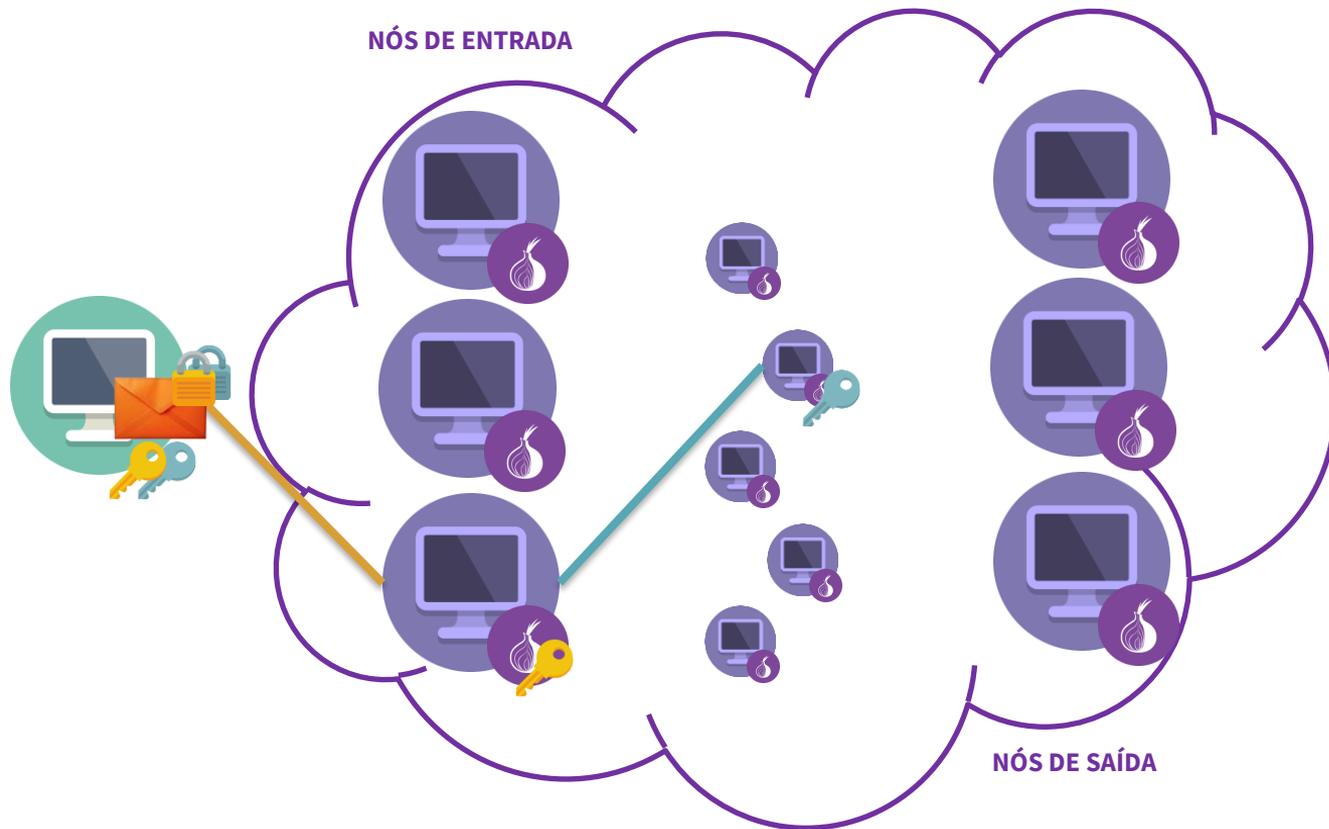
# TOR



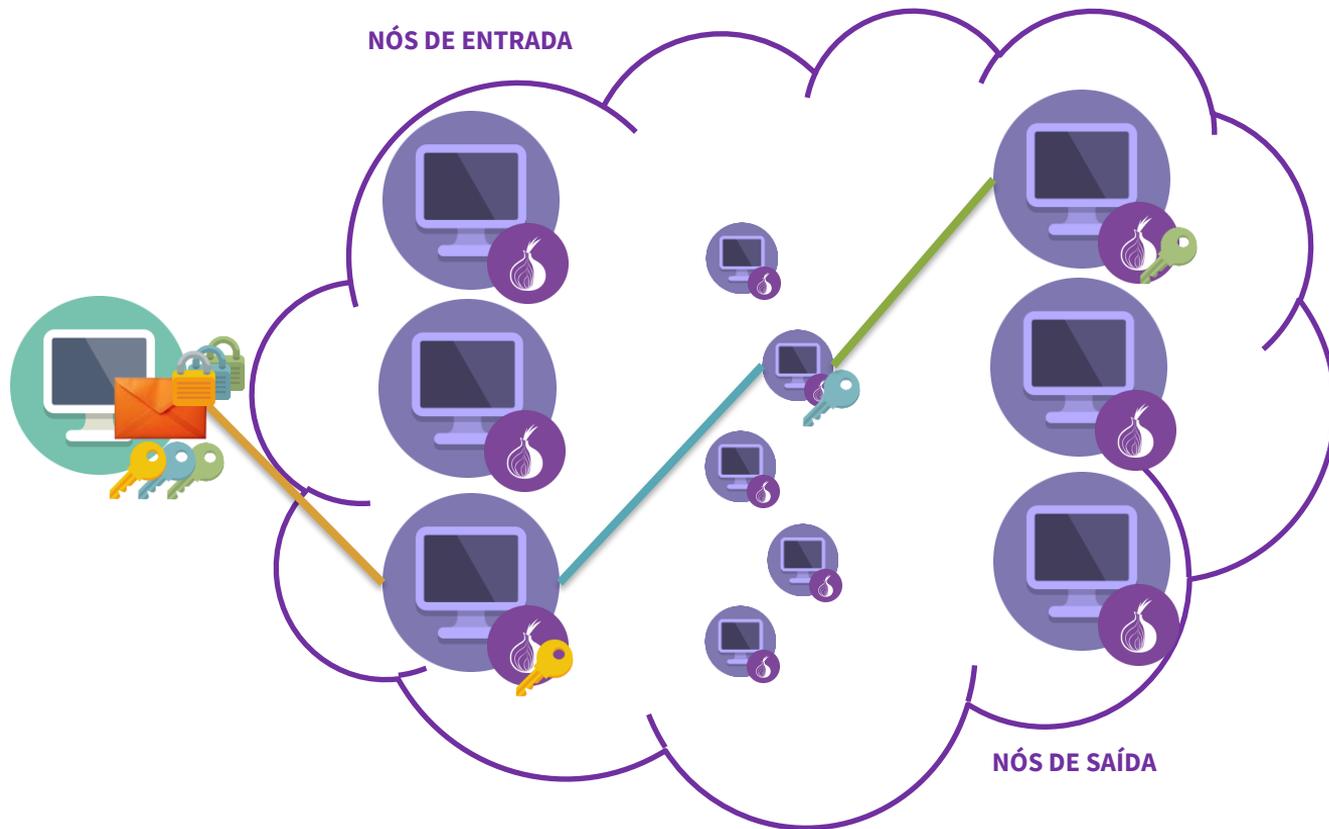
# TOR



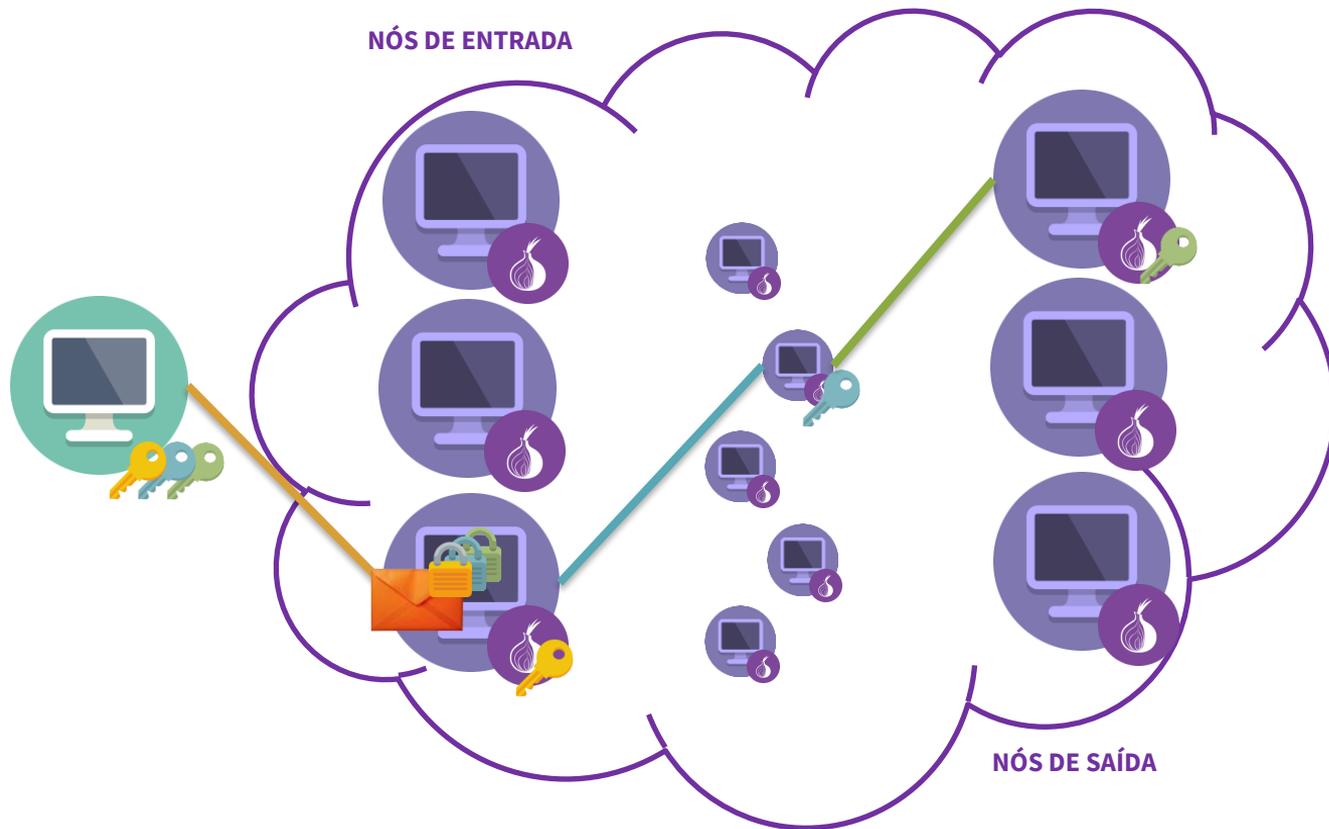
# TOR



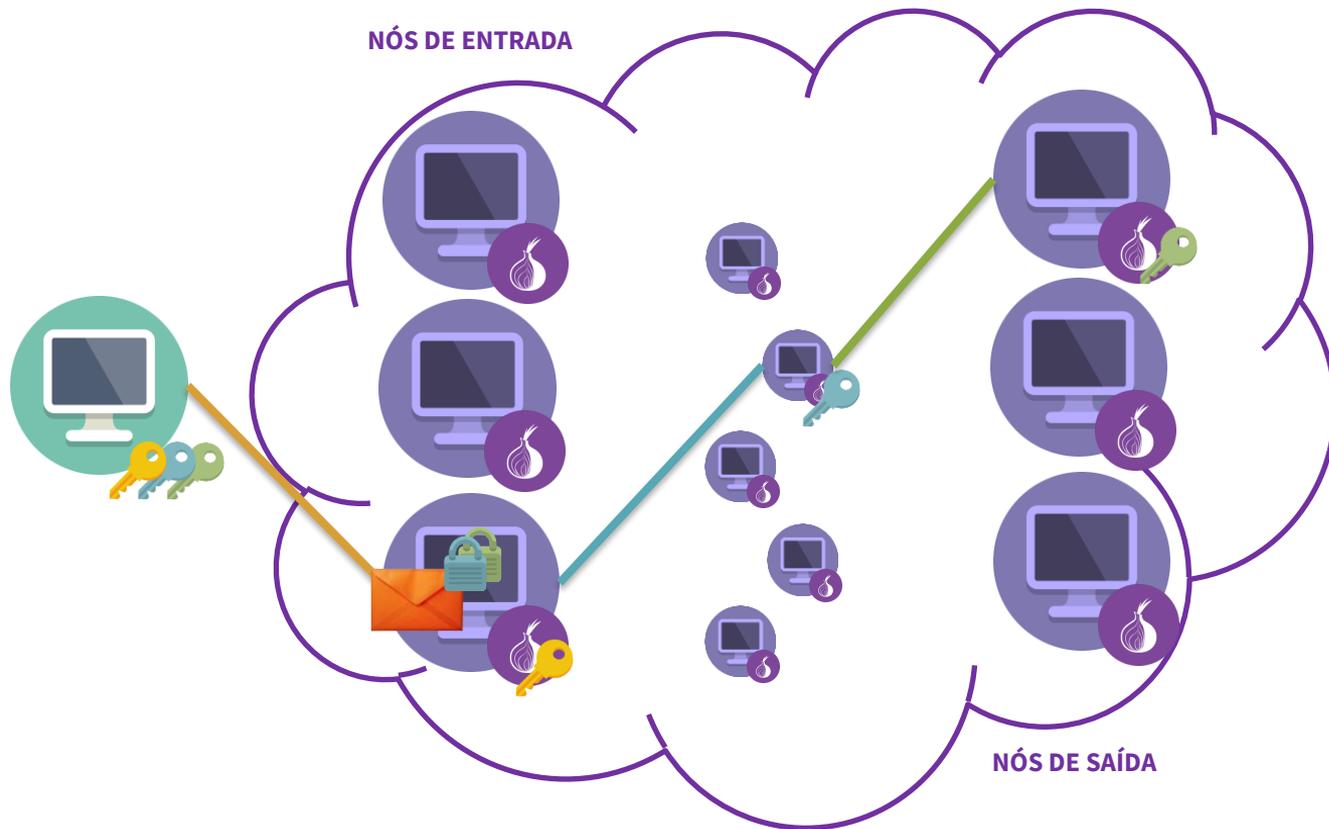
# TOR



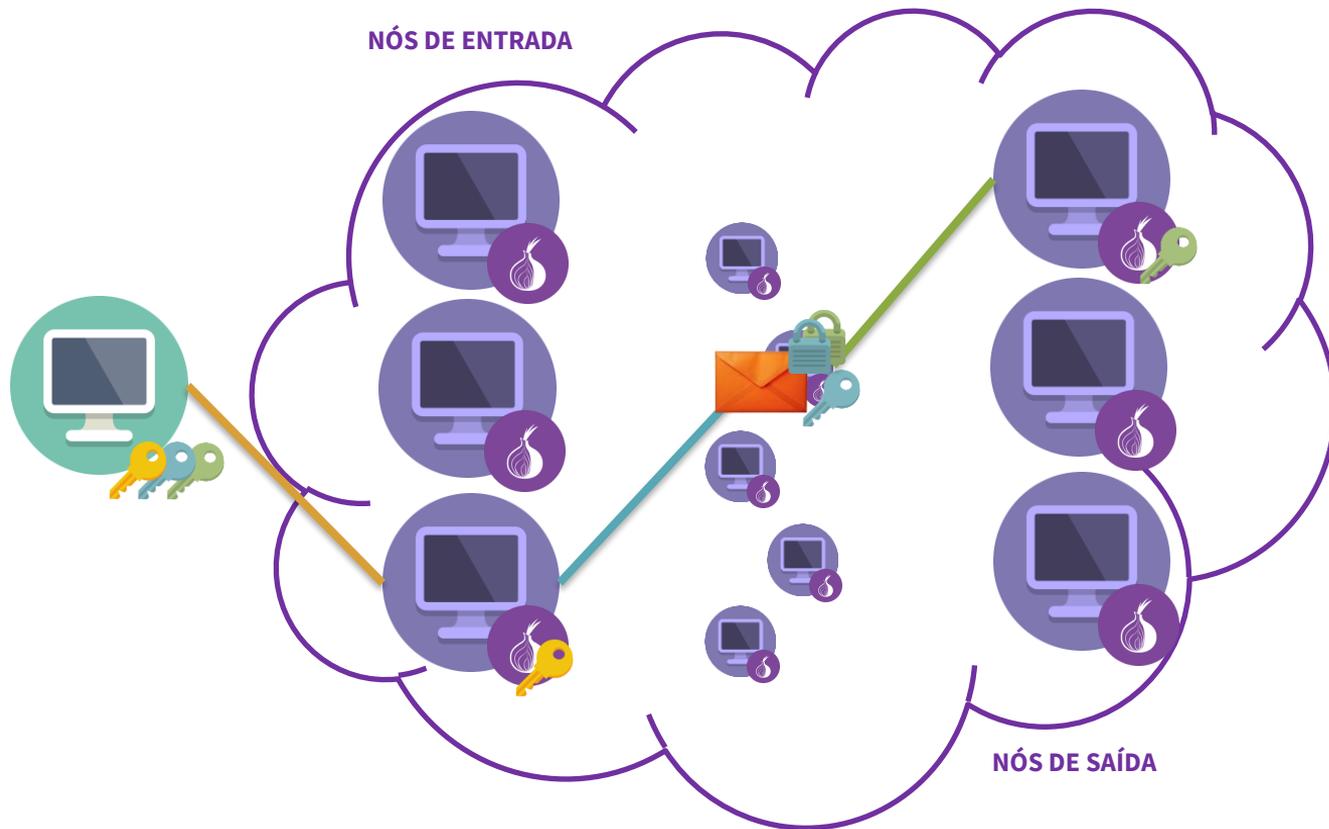
# TOR



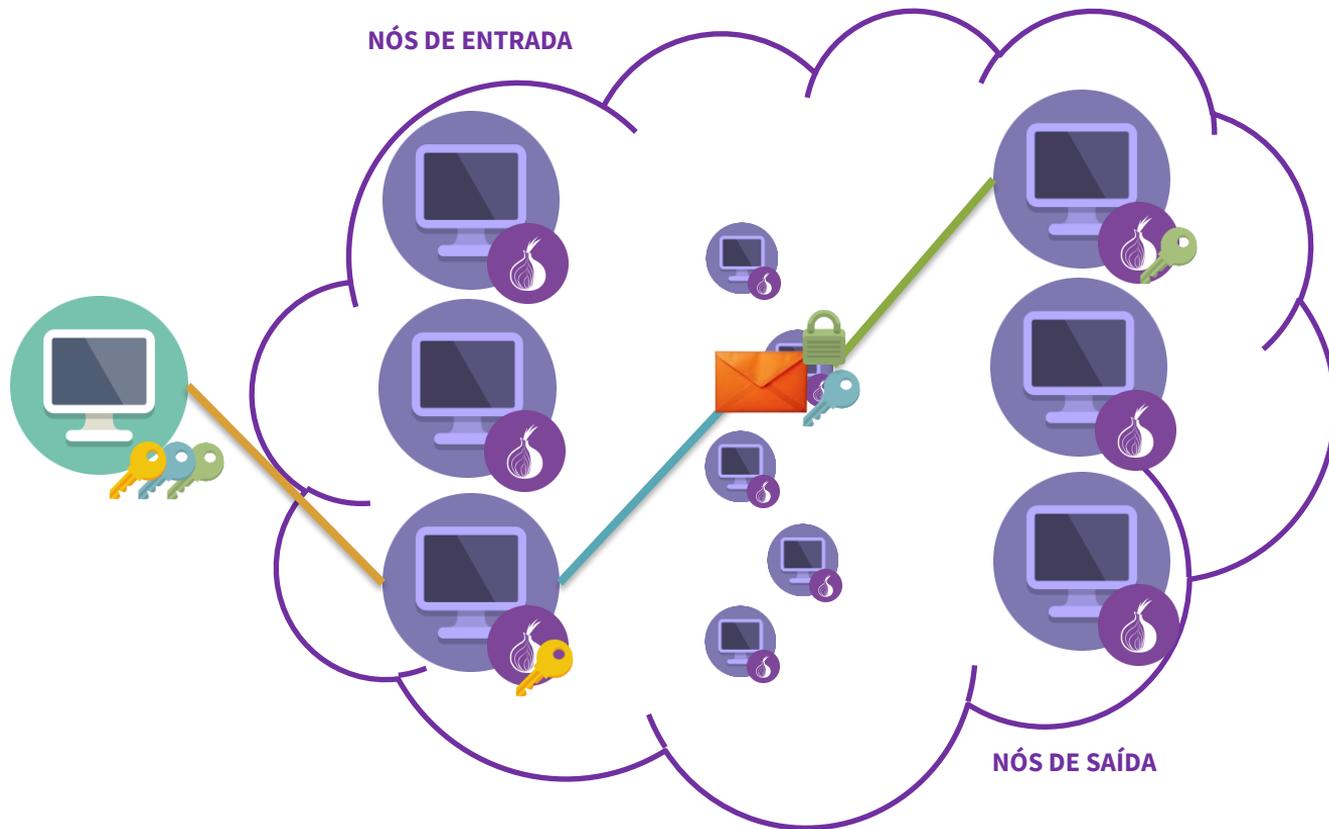
# TOR



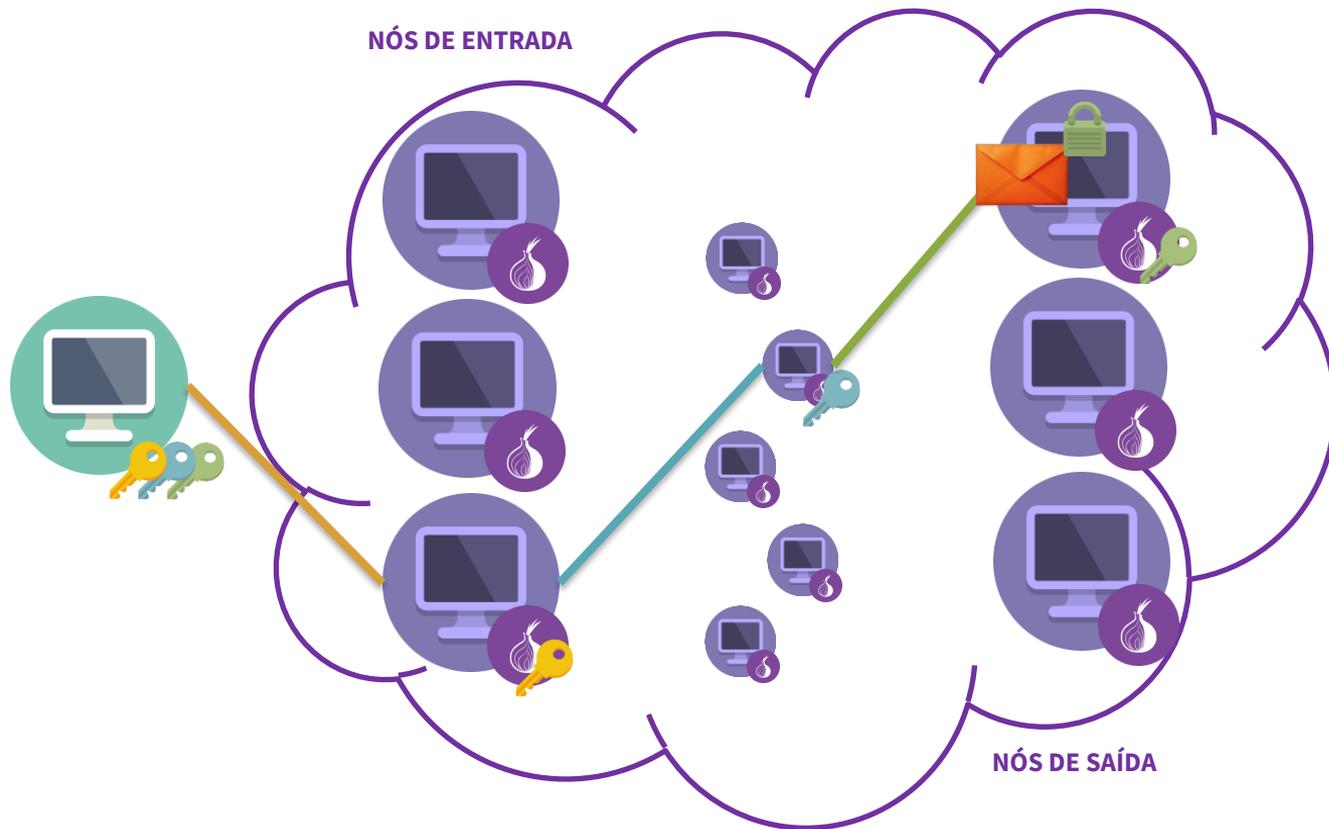
# TOR



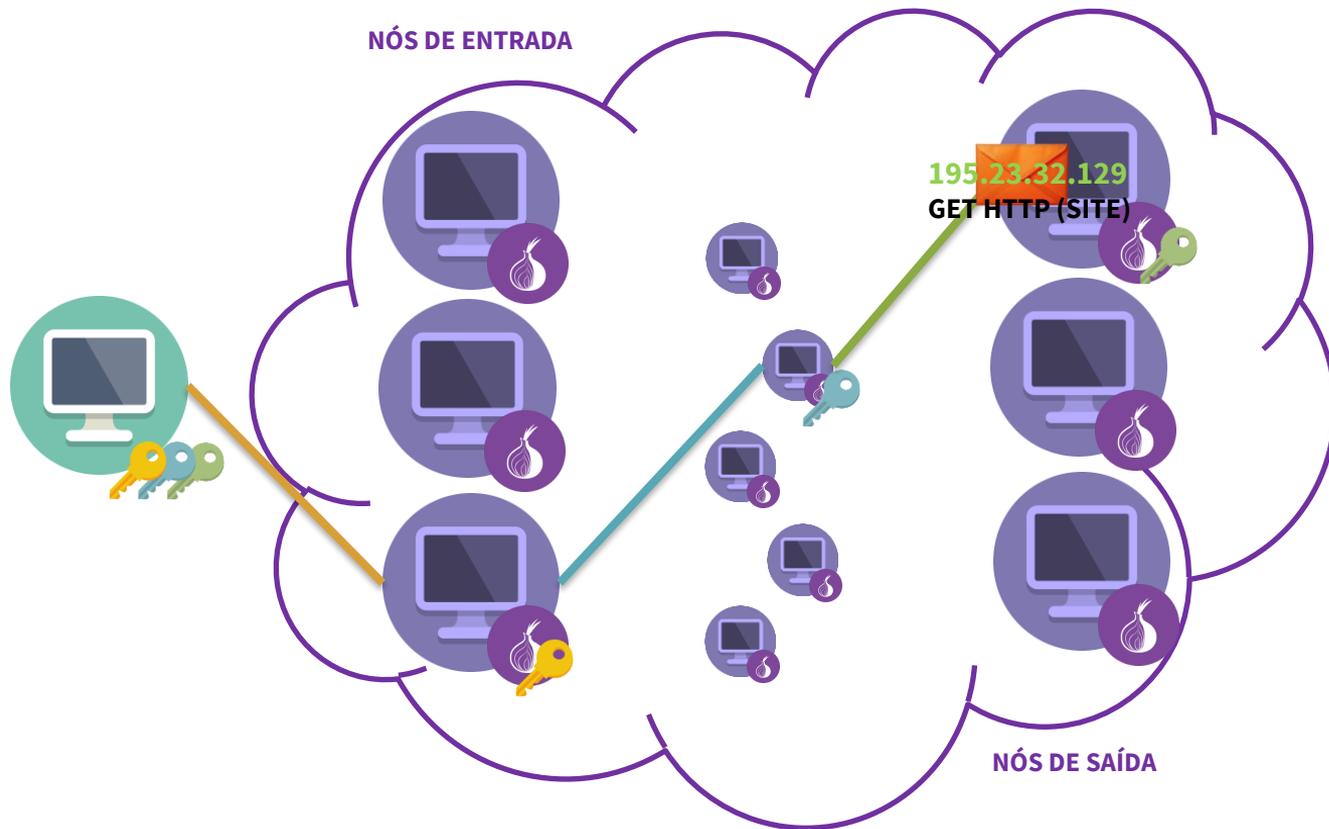
# TOR



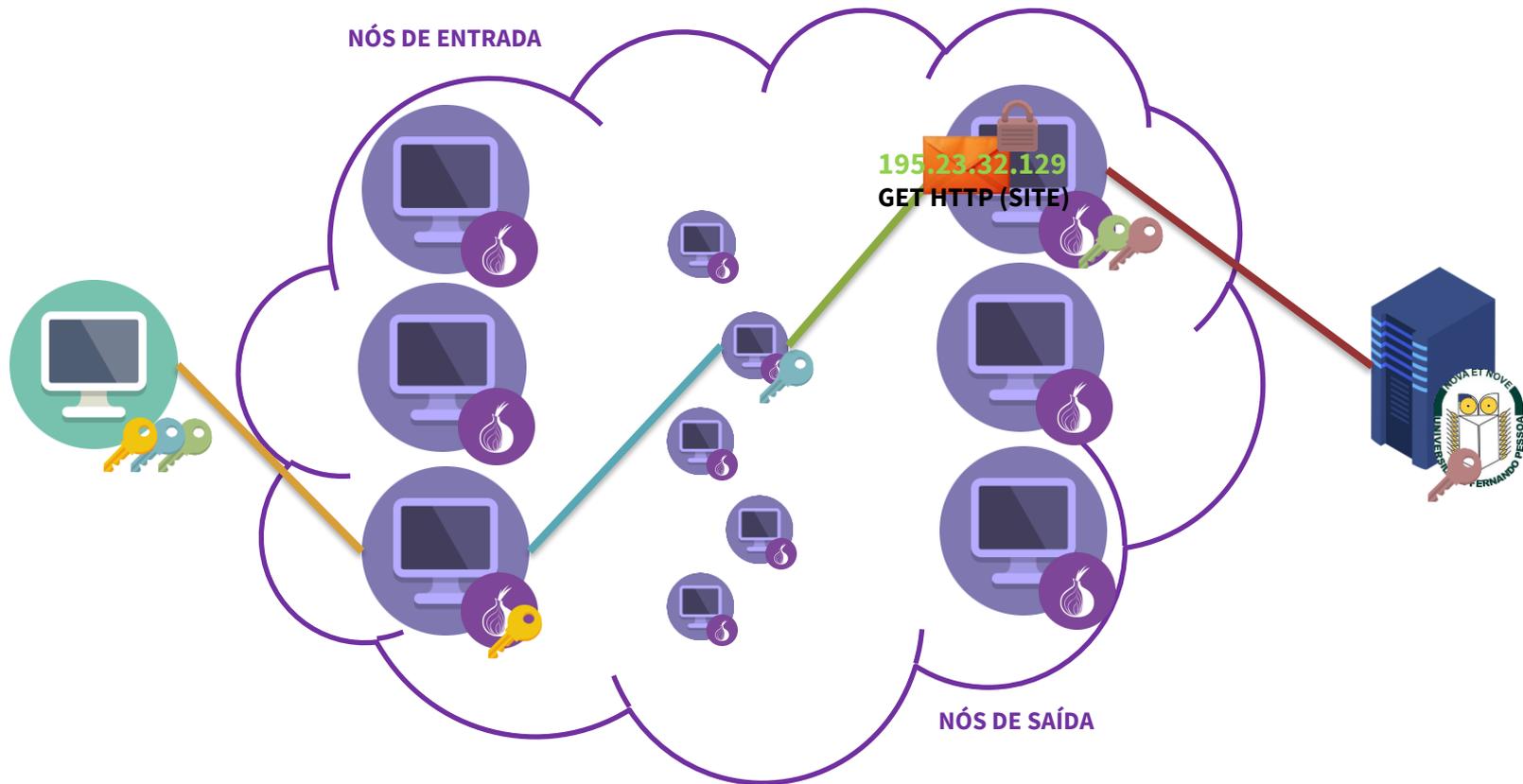
# TOR



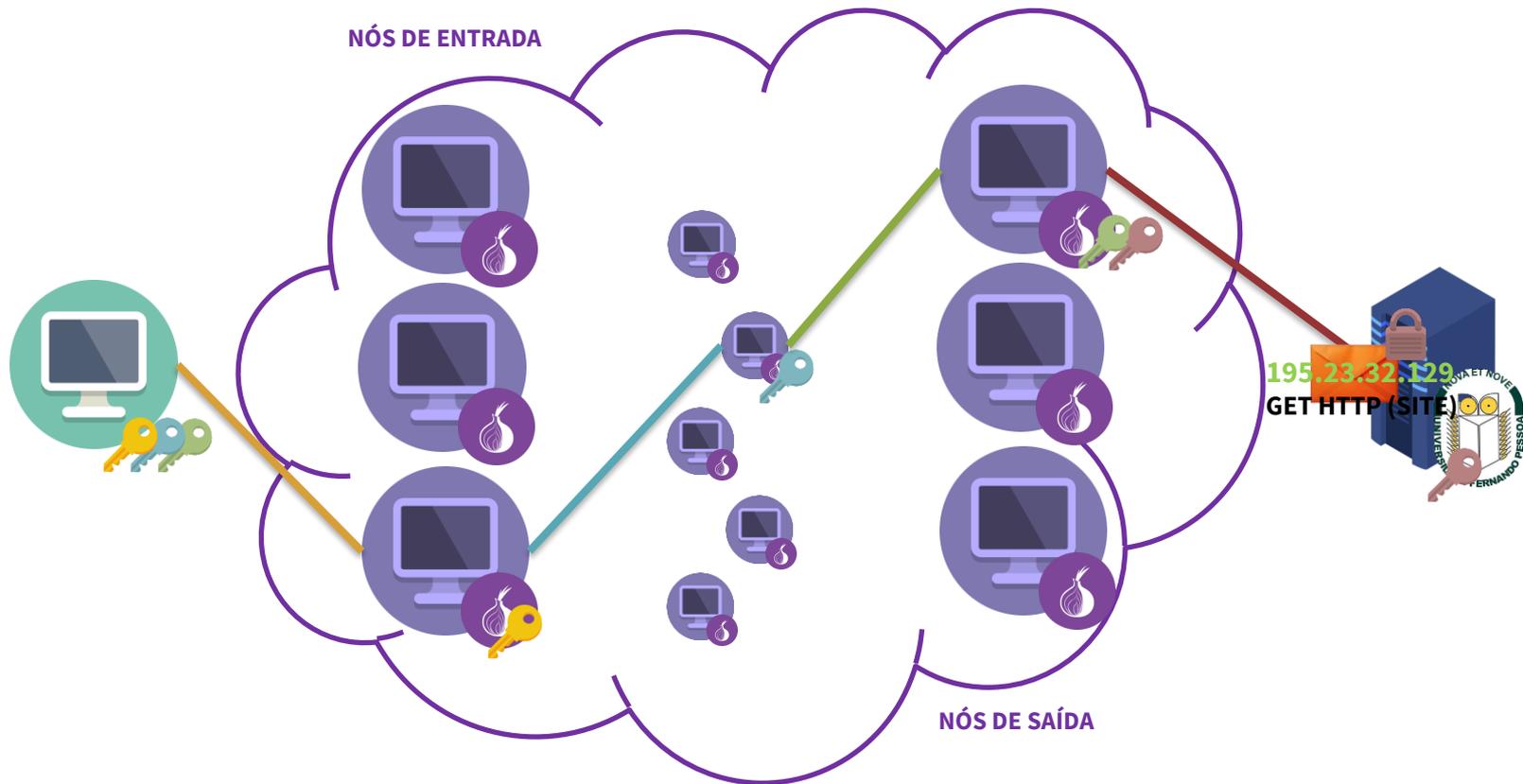
# TOR



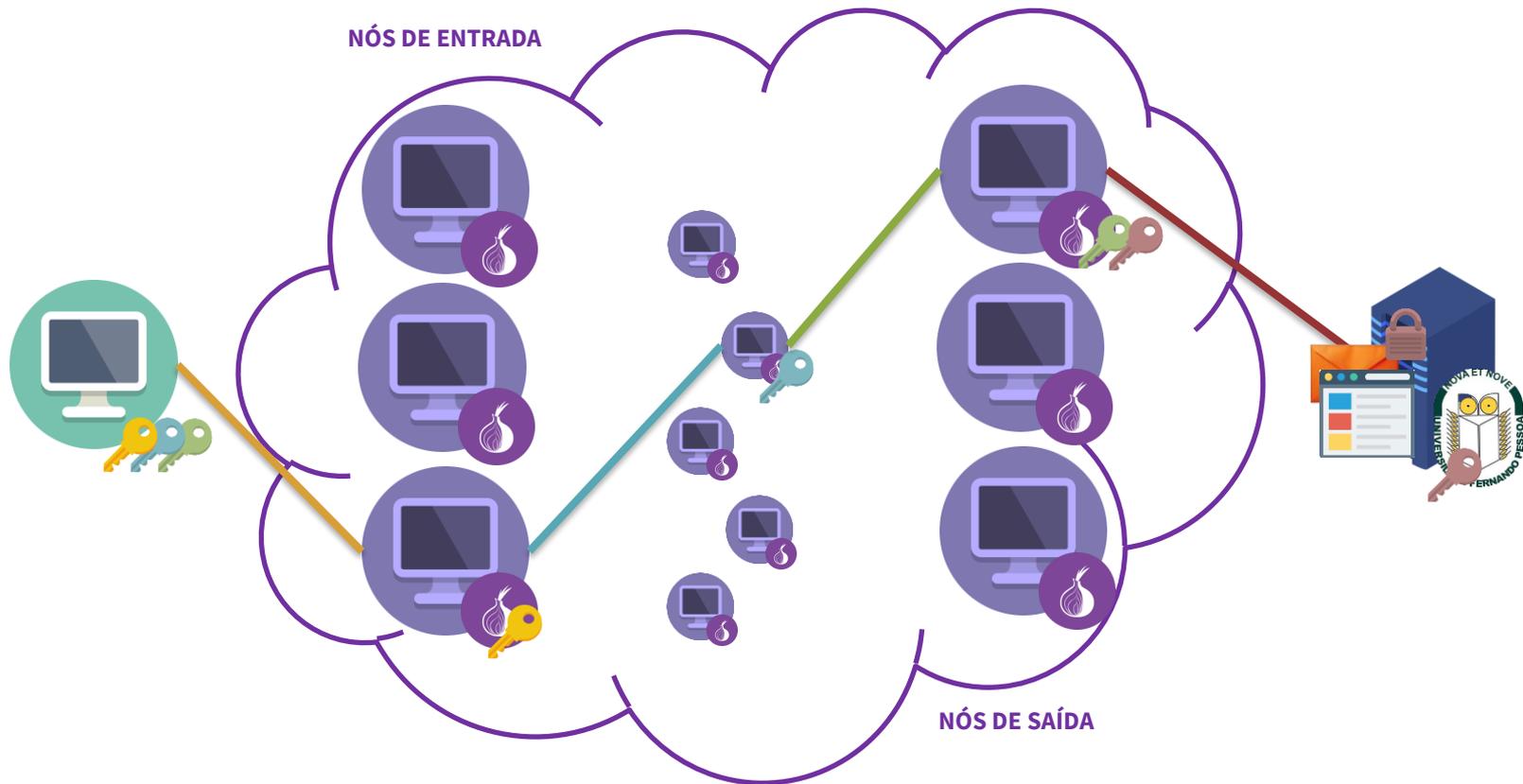
# TOR



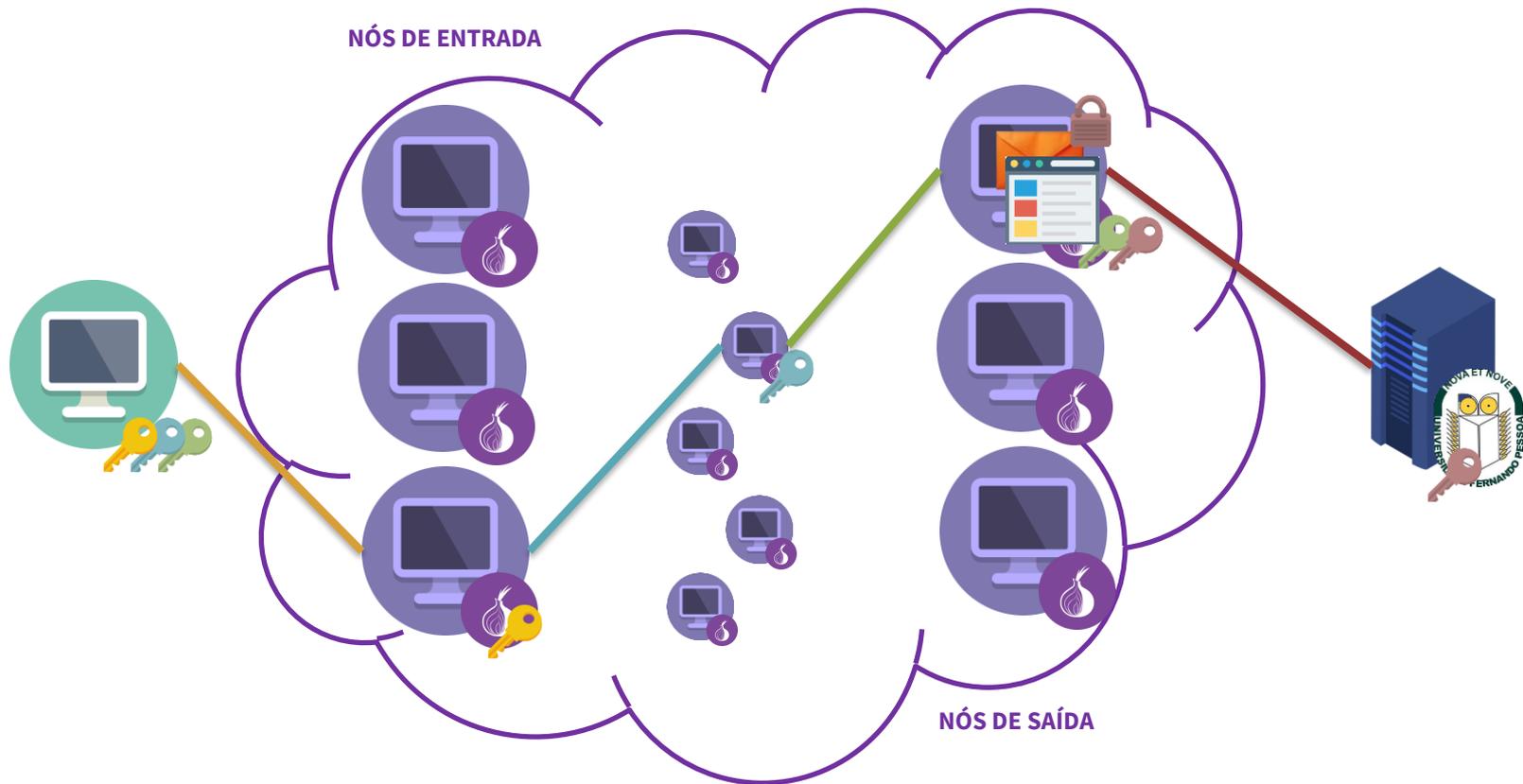
# TOR



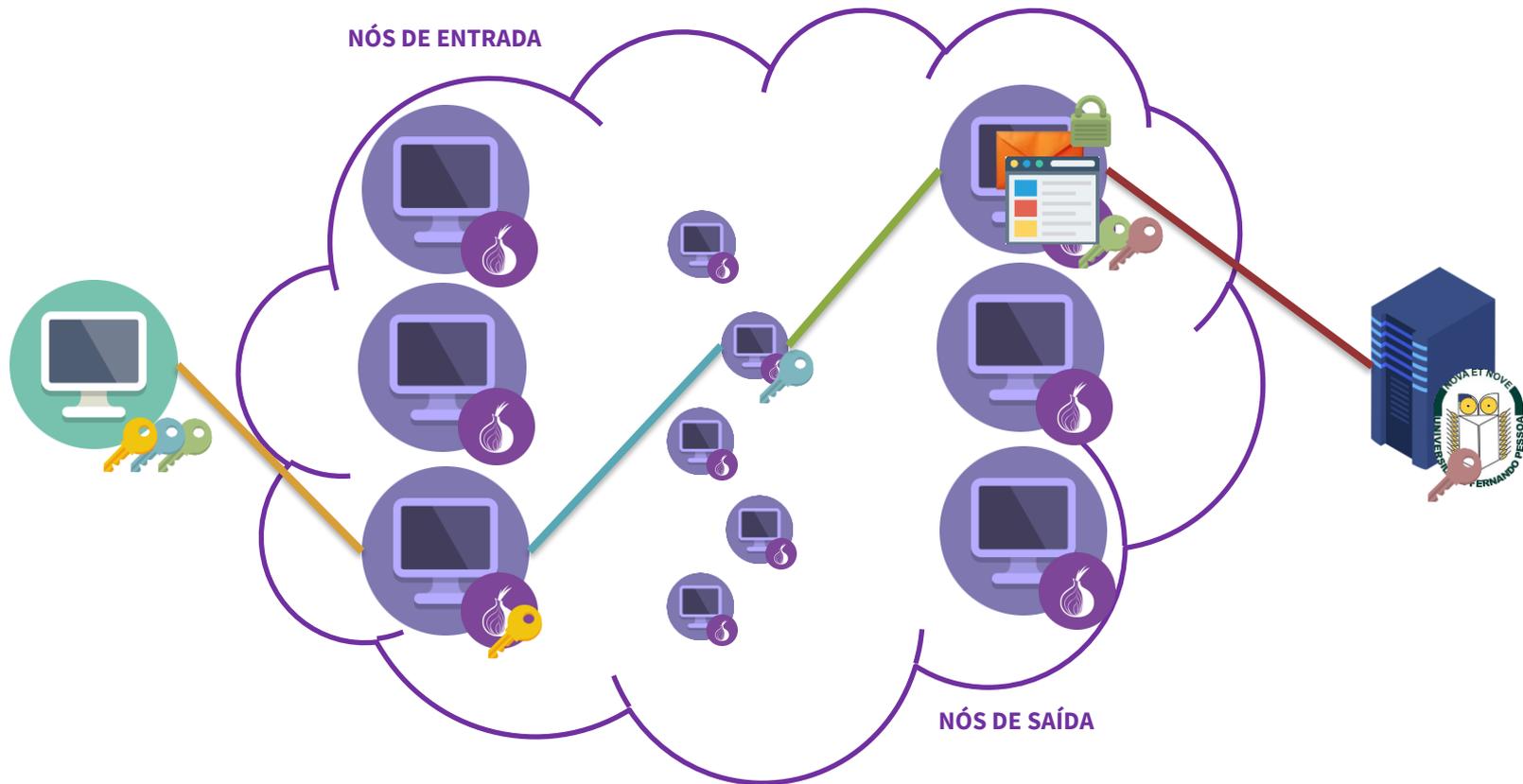
# TOR



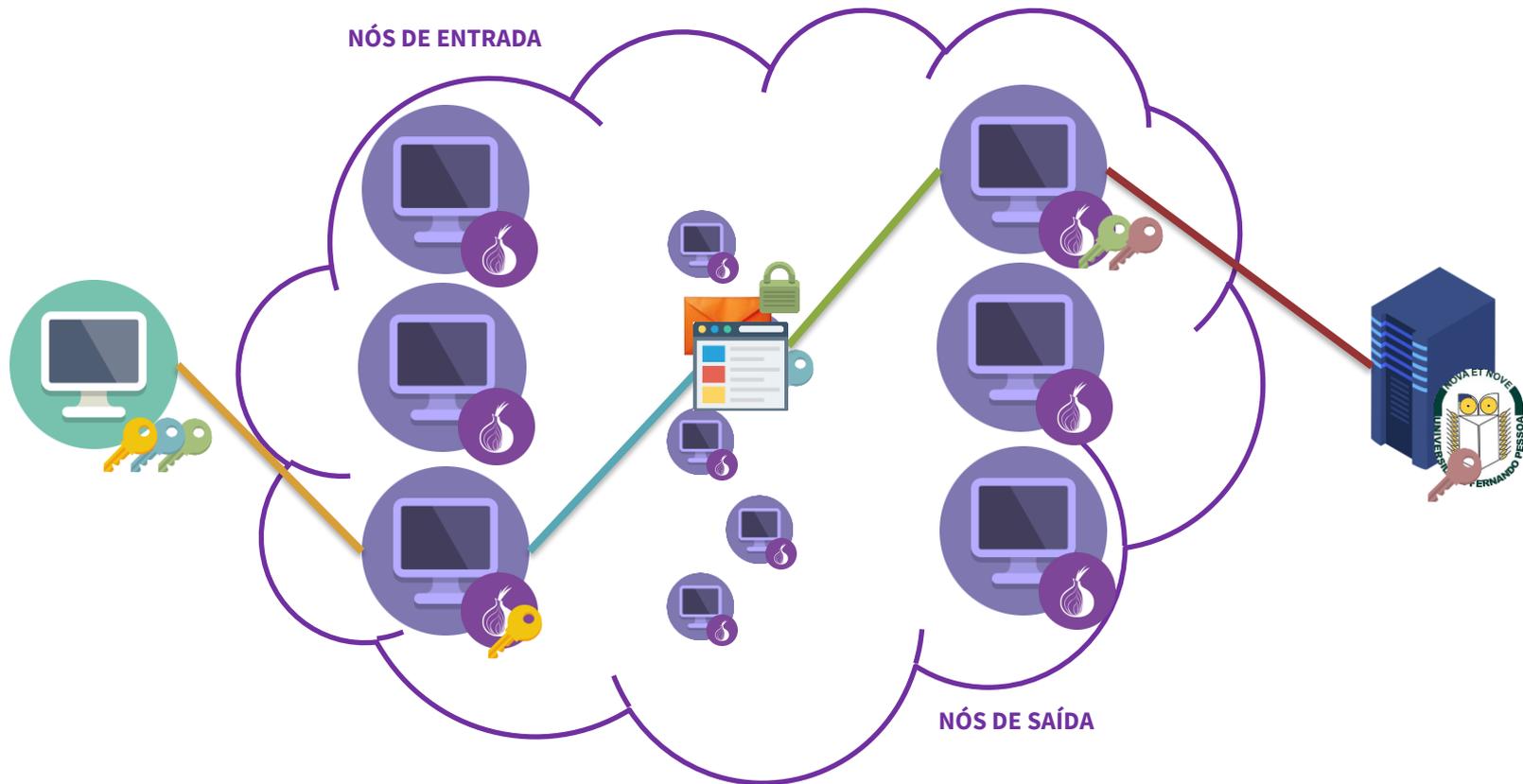
# TOR



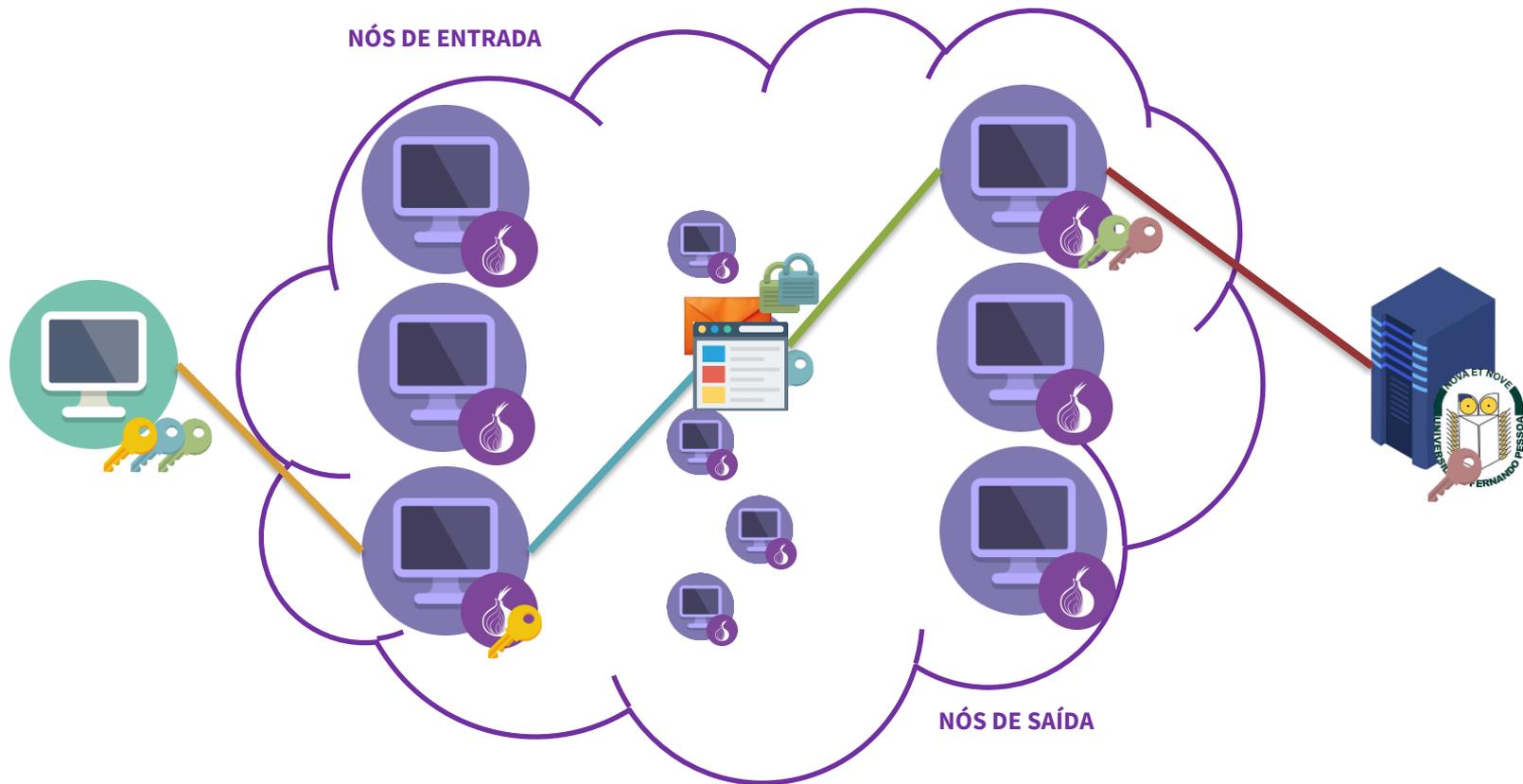
# TOR



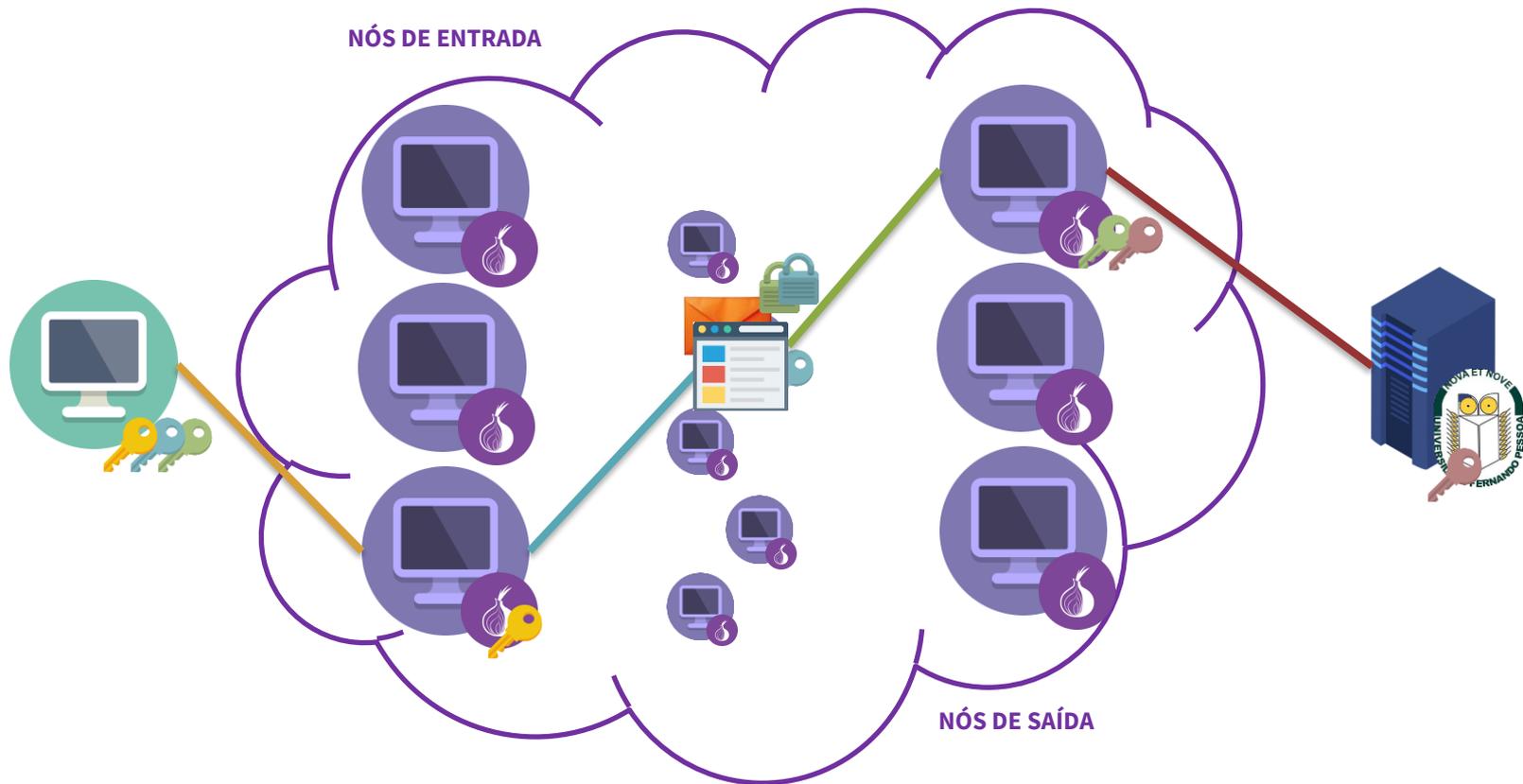
# TOR



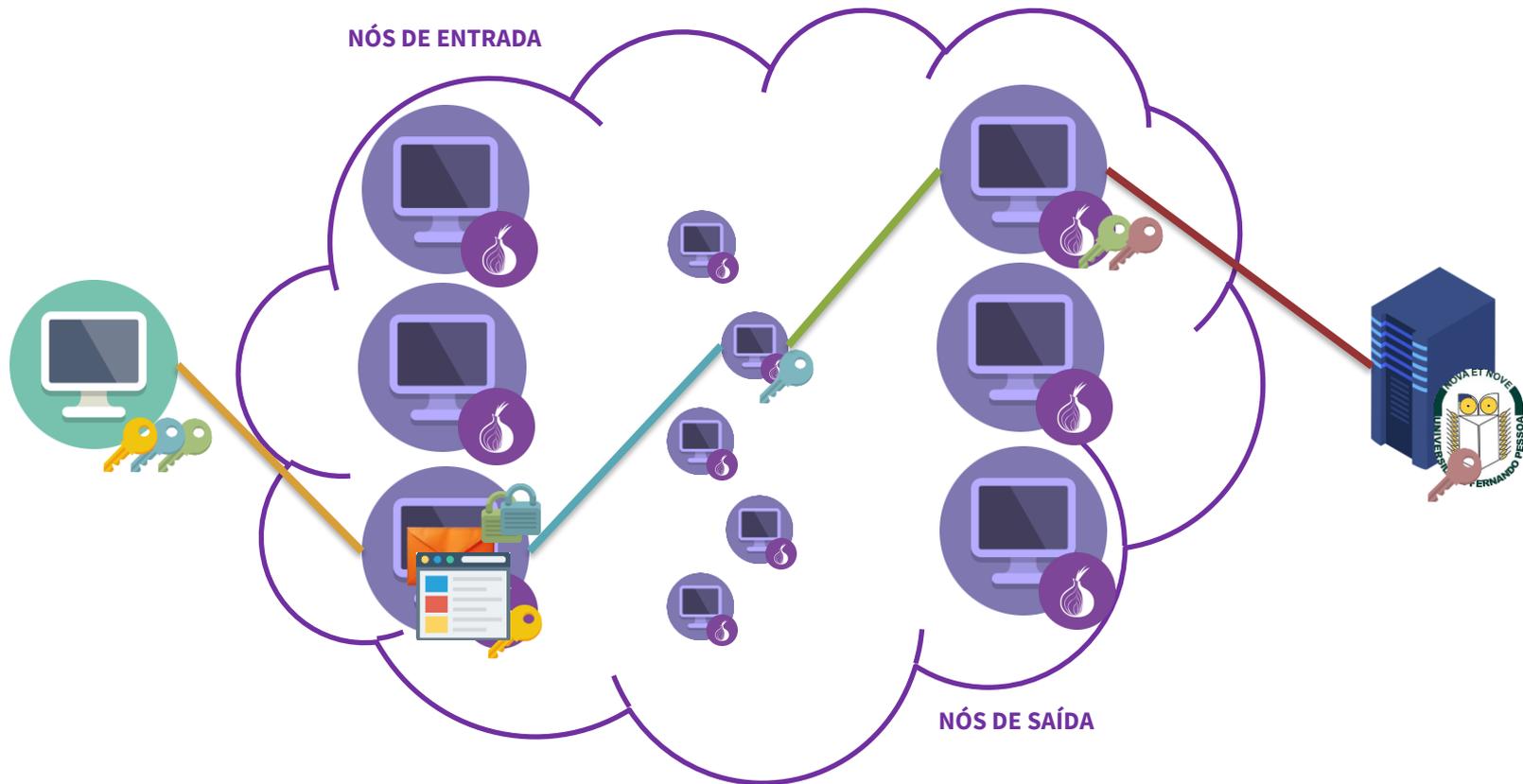
# TOR



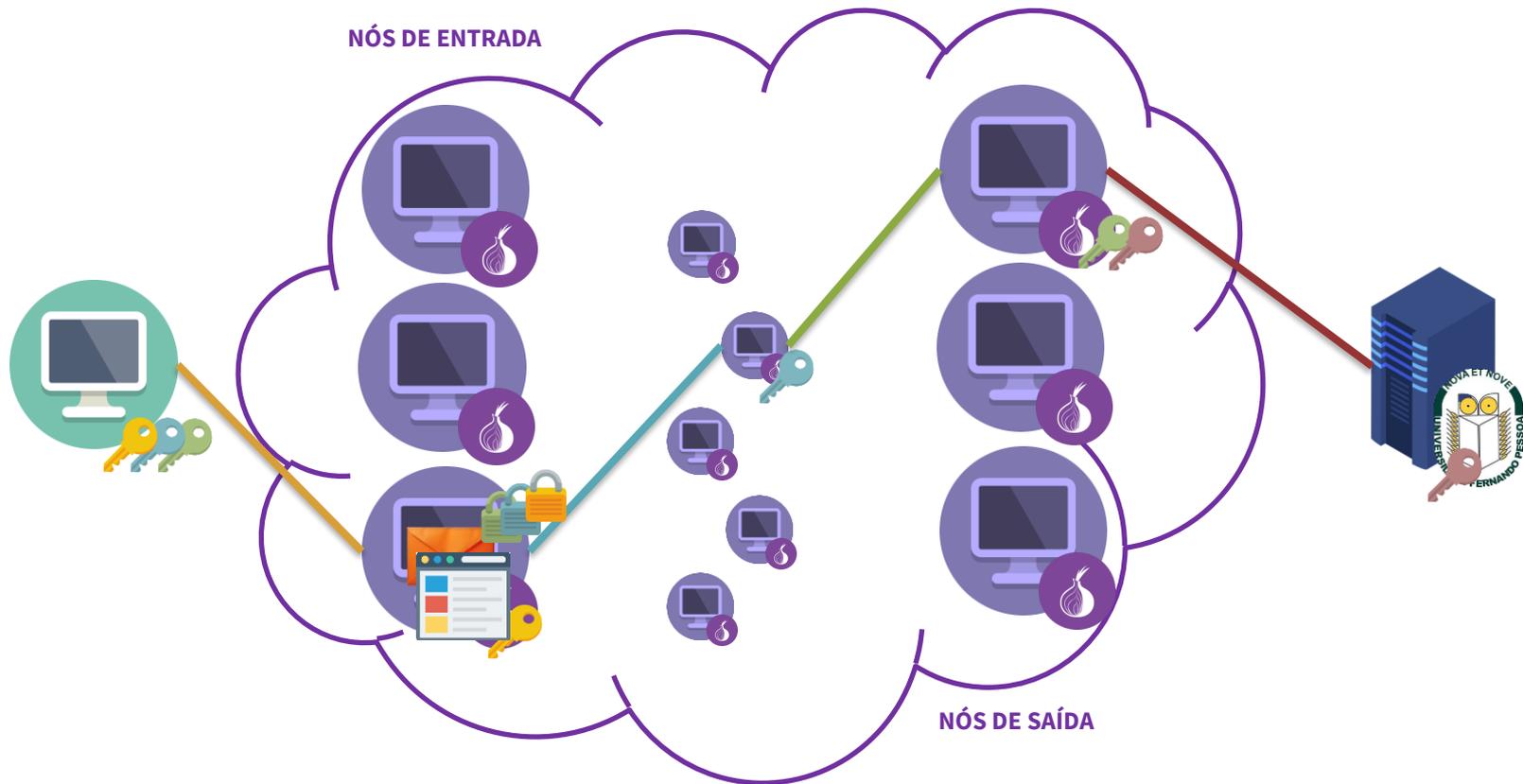
# TOR



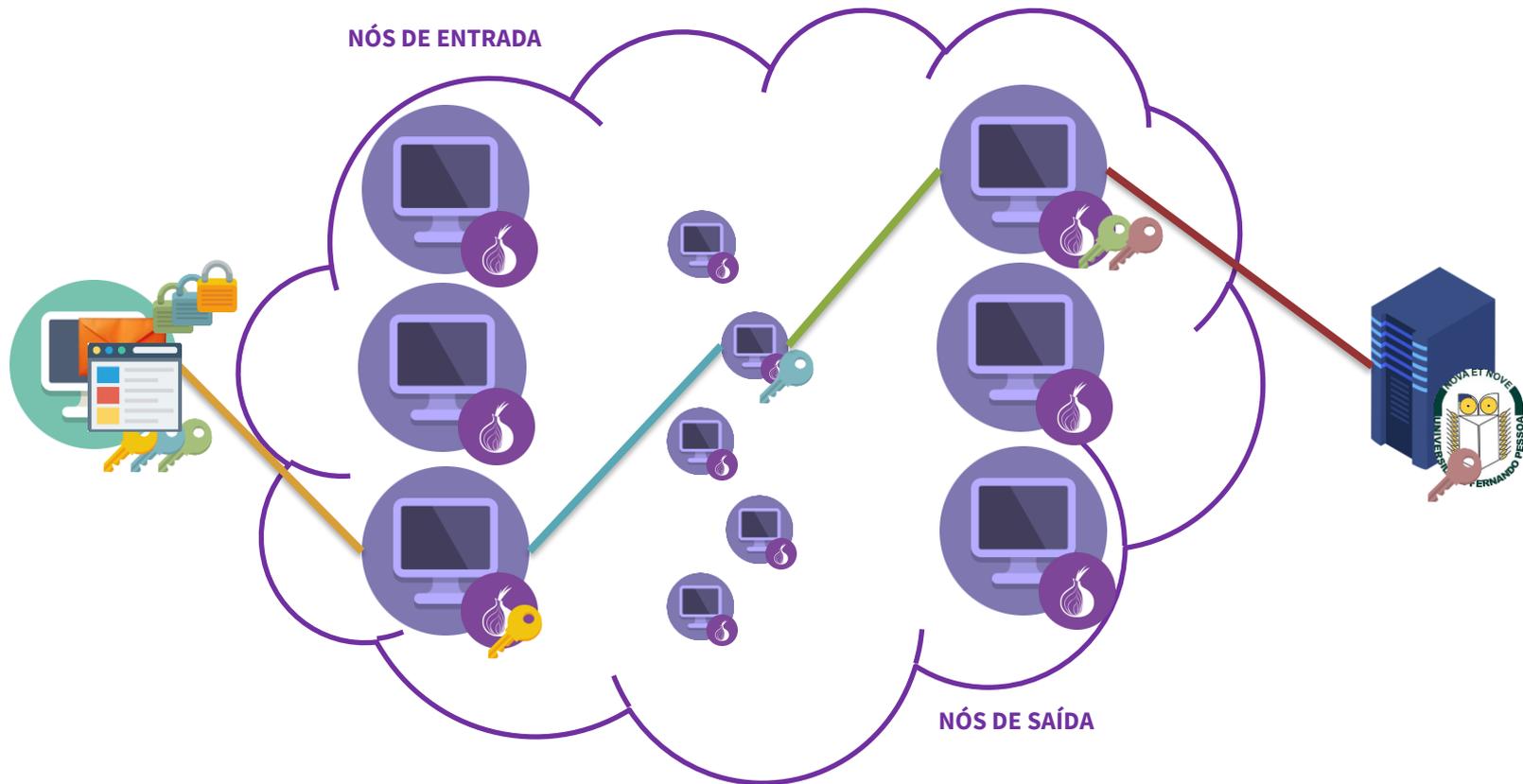
# TOR



# TOR

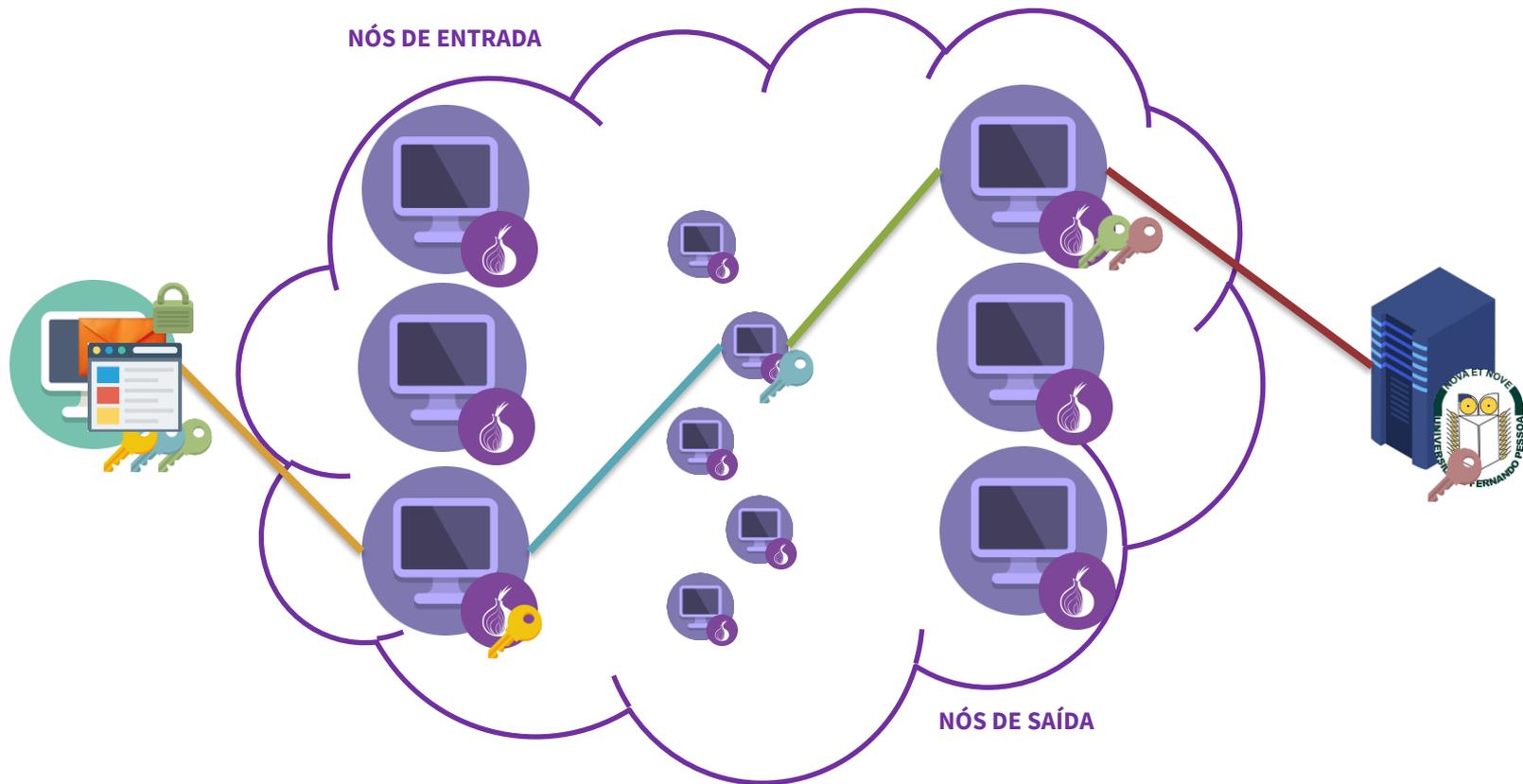


# TOR



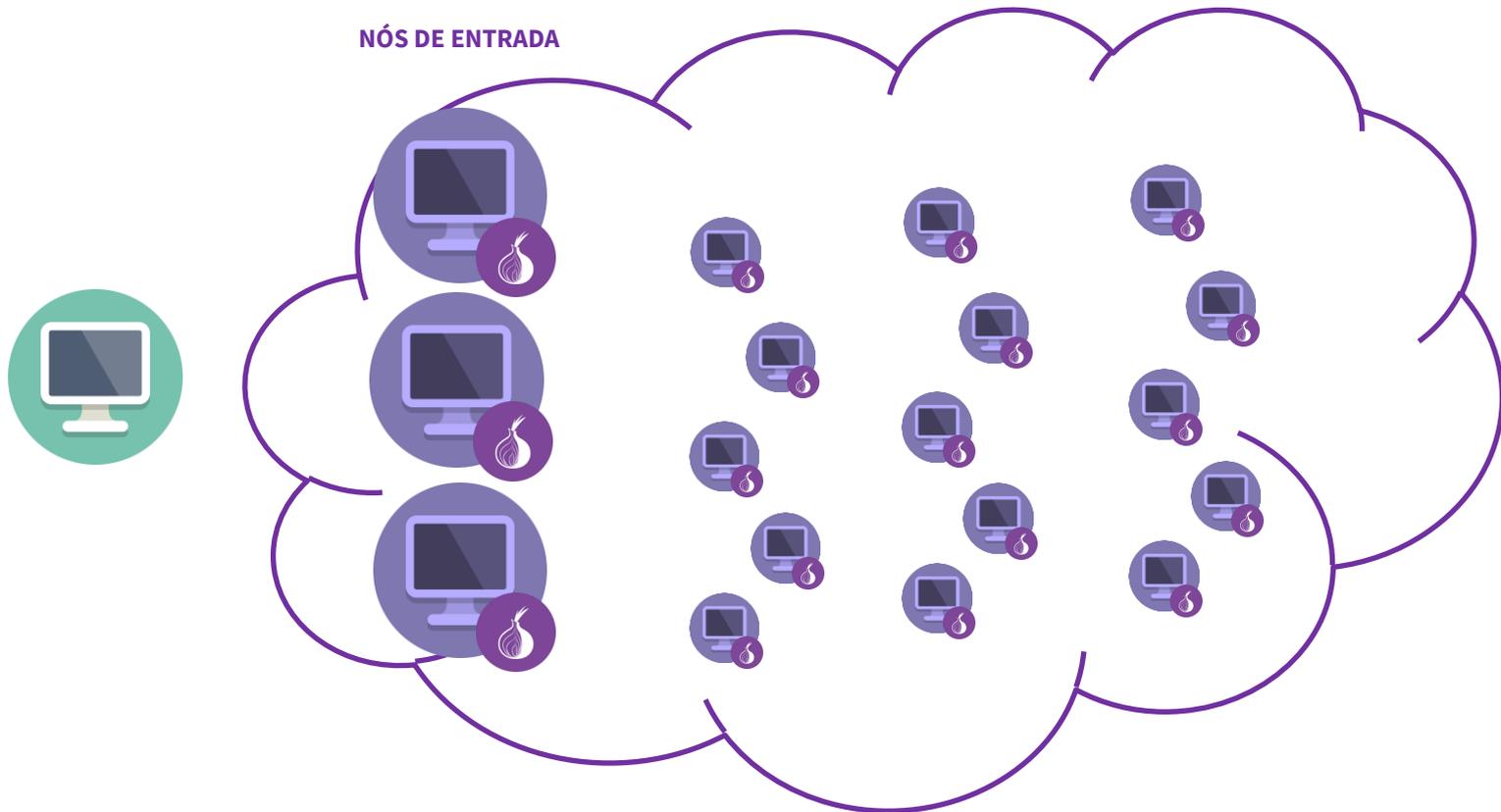


# TOR

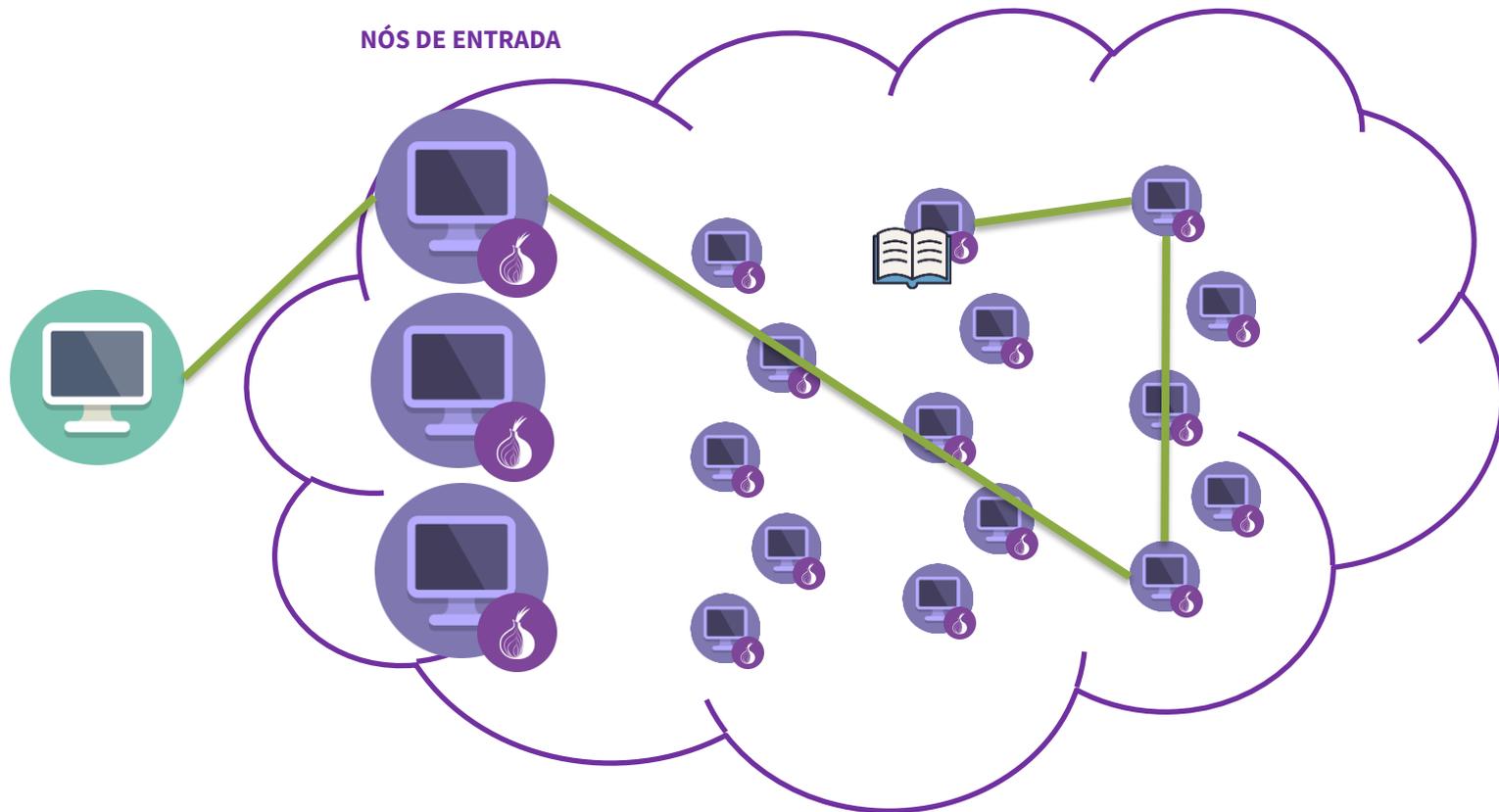




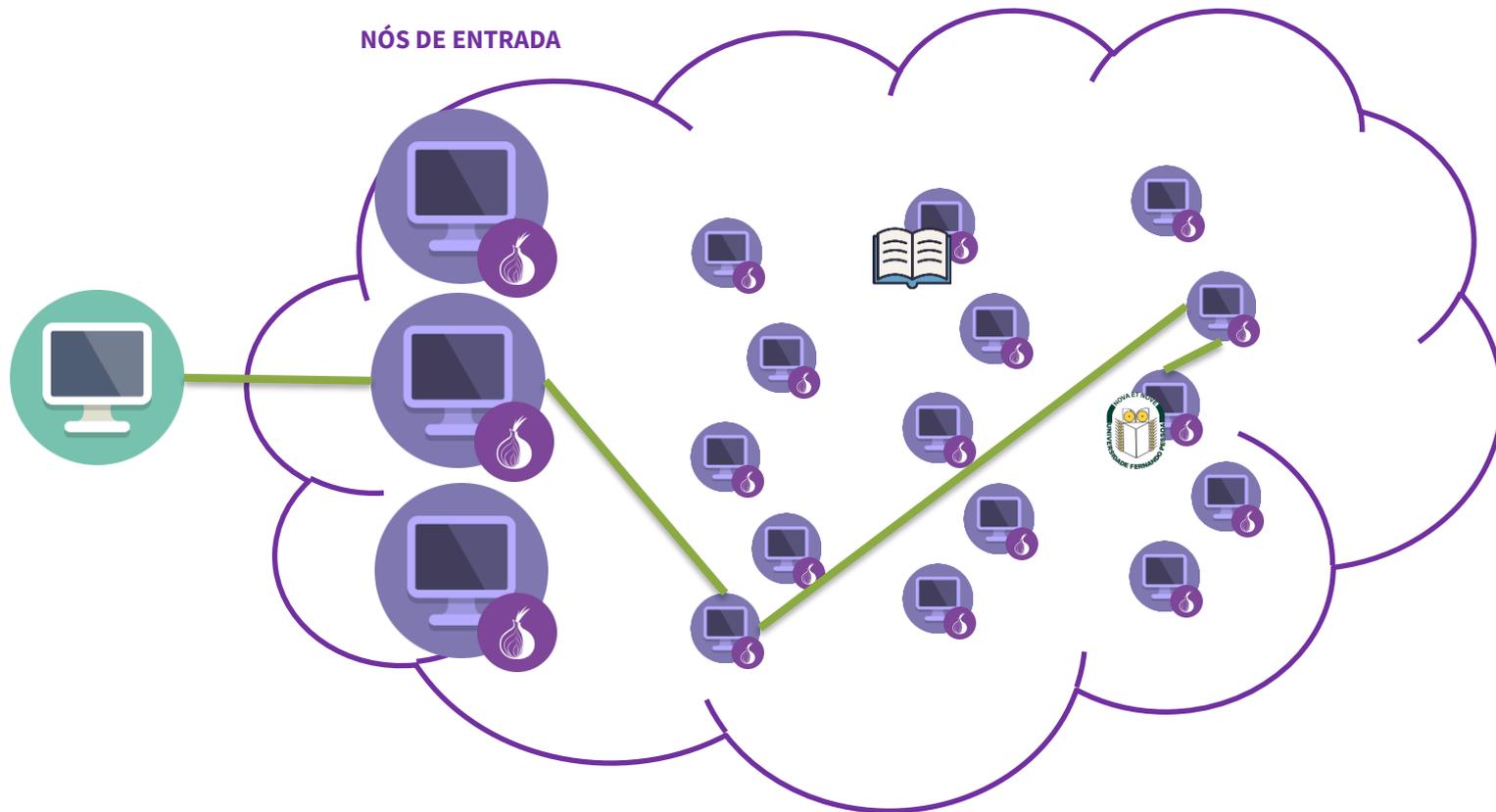
# TOR



# TOR

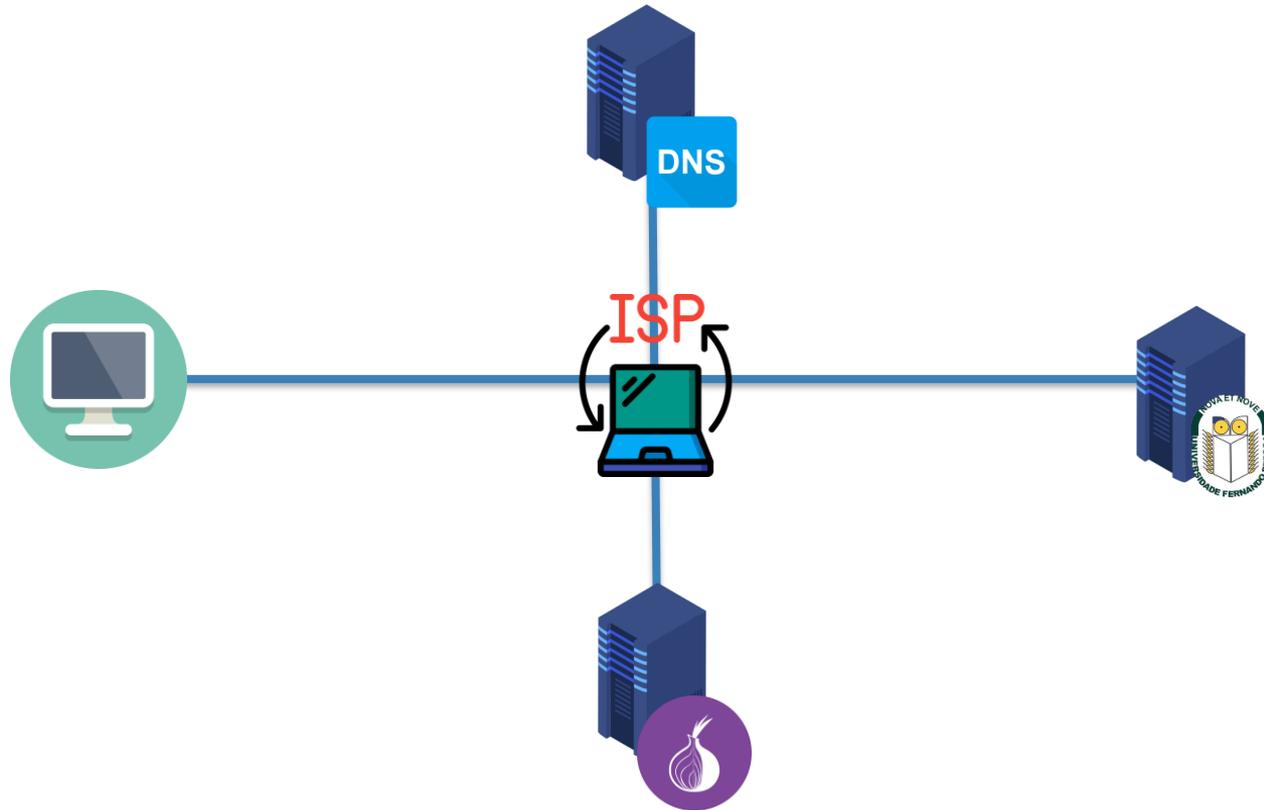


# TOR

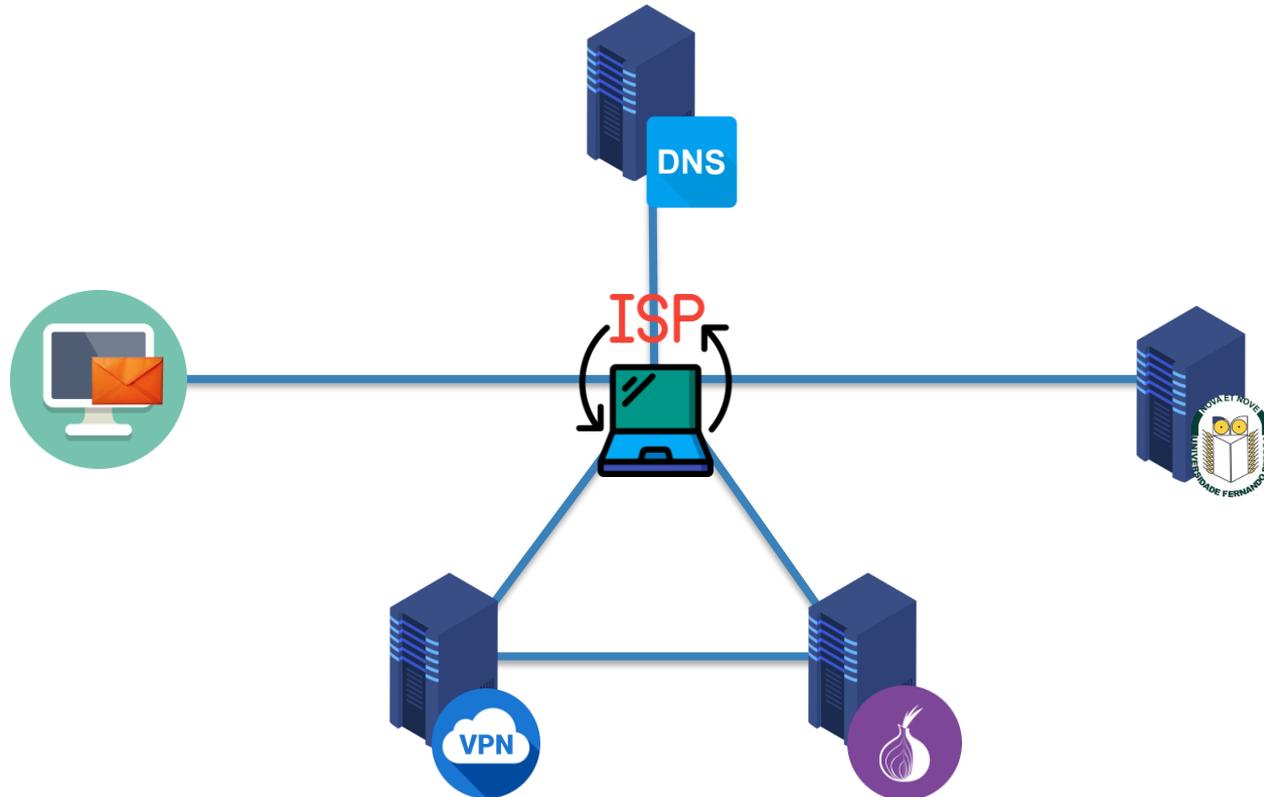




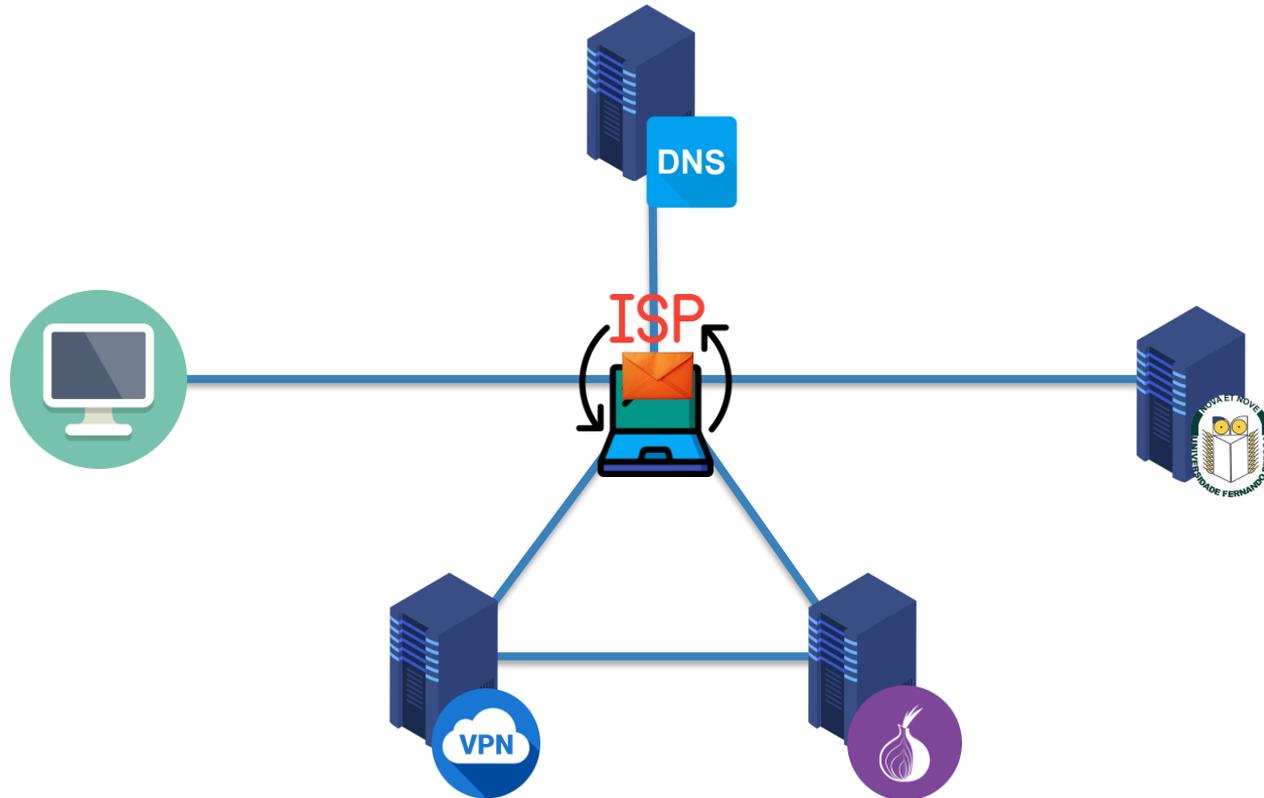
# INTERNET COMUM



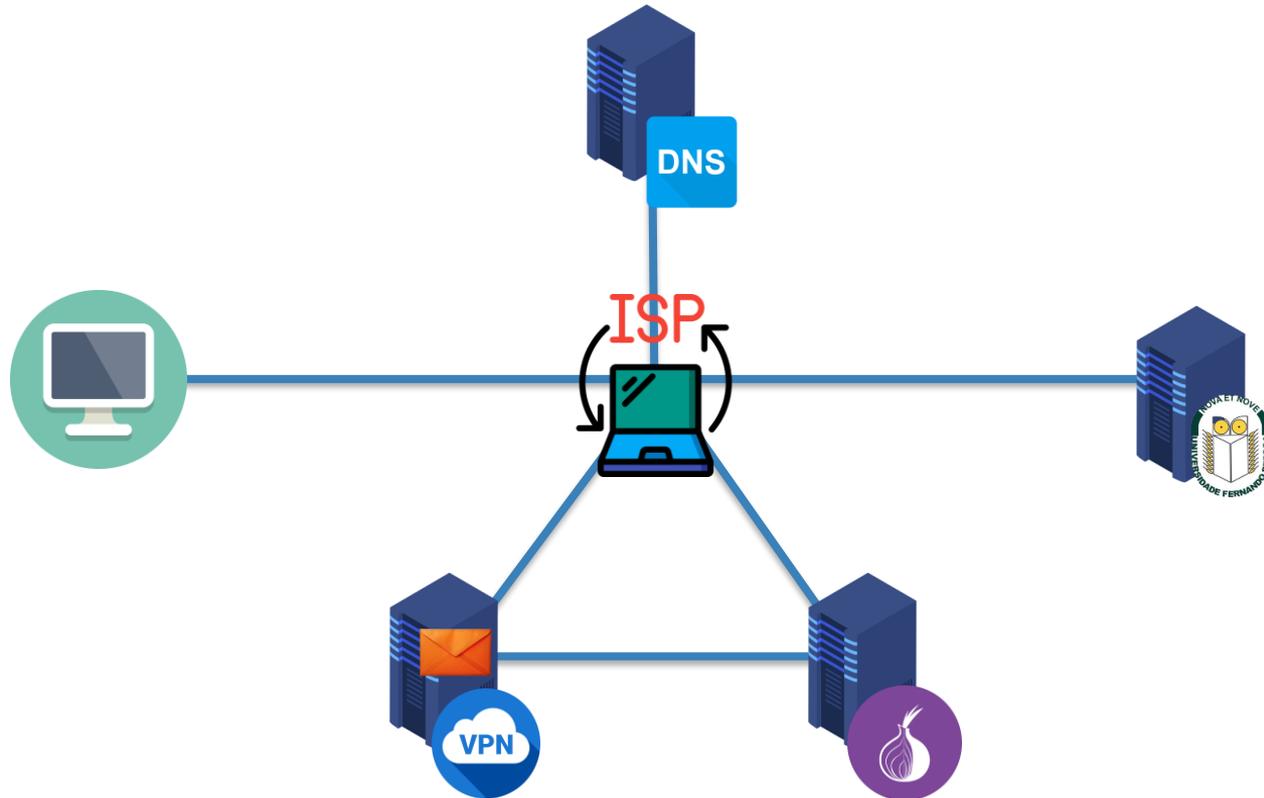
# INTERNET COMUM



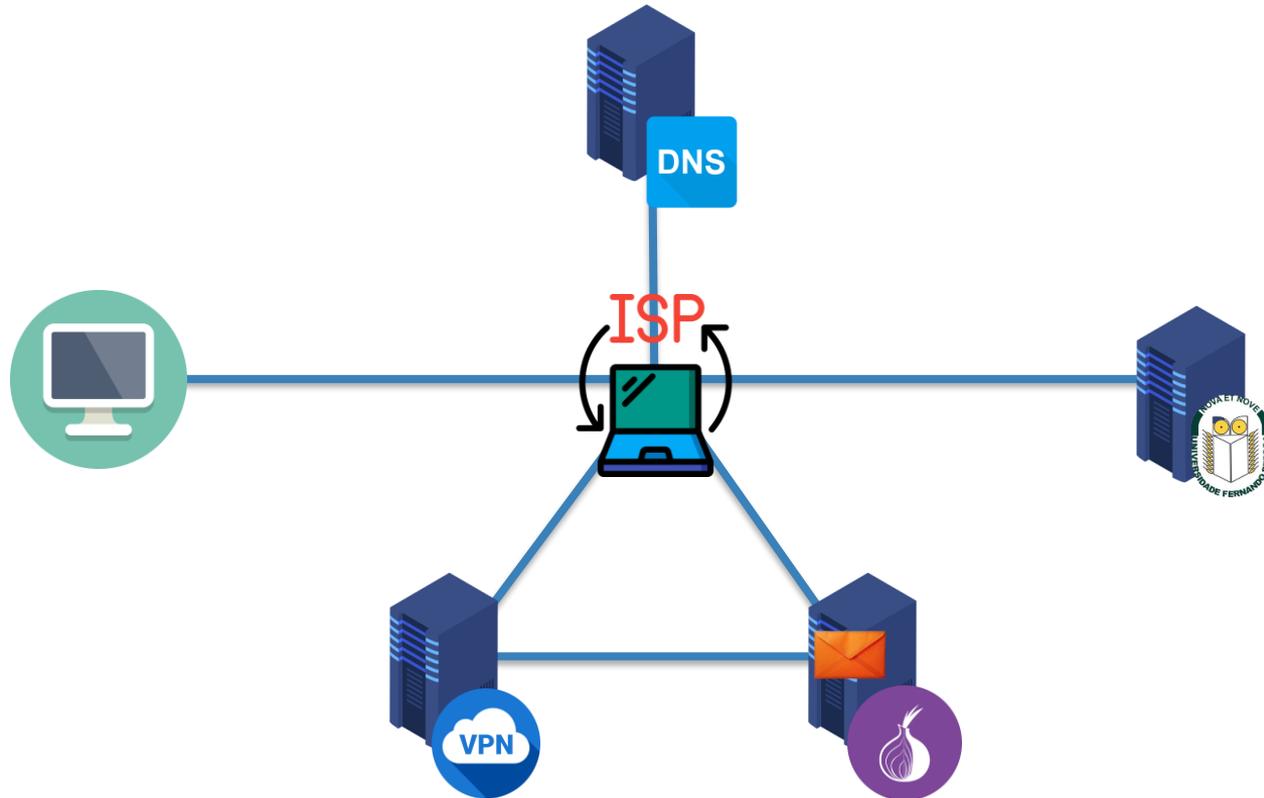
# INTERNET COMUM



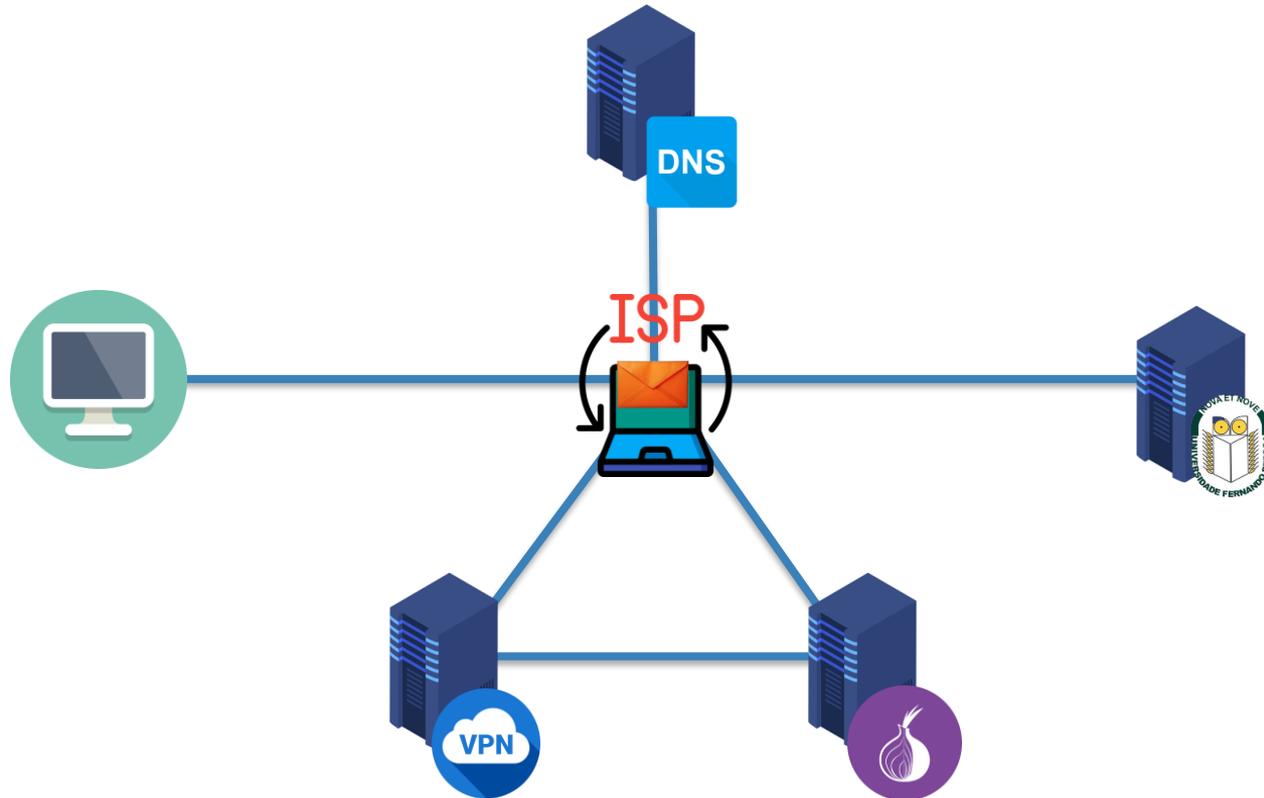
# INTERNET COMUM



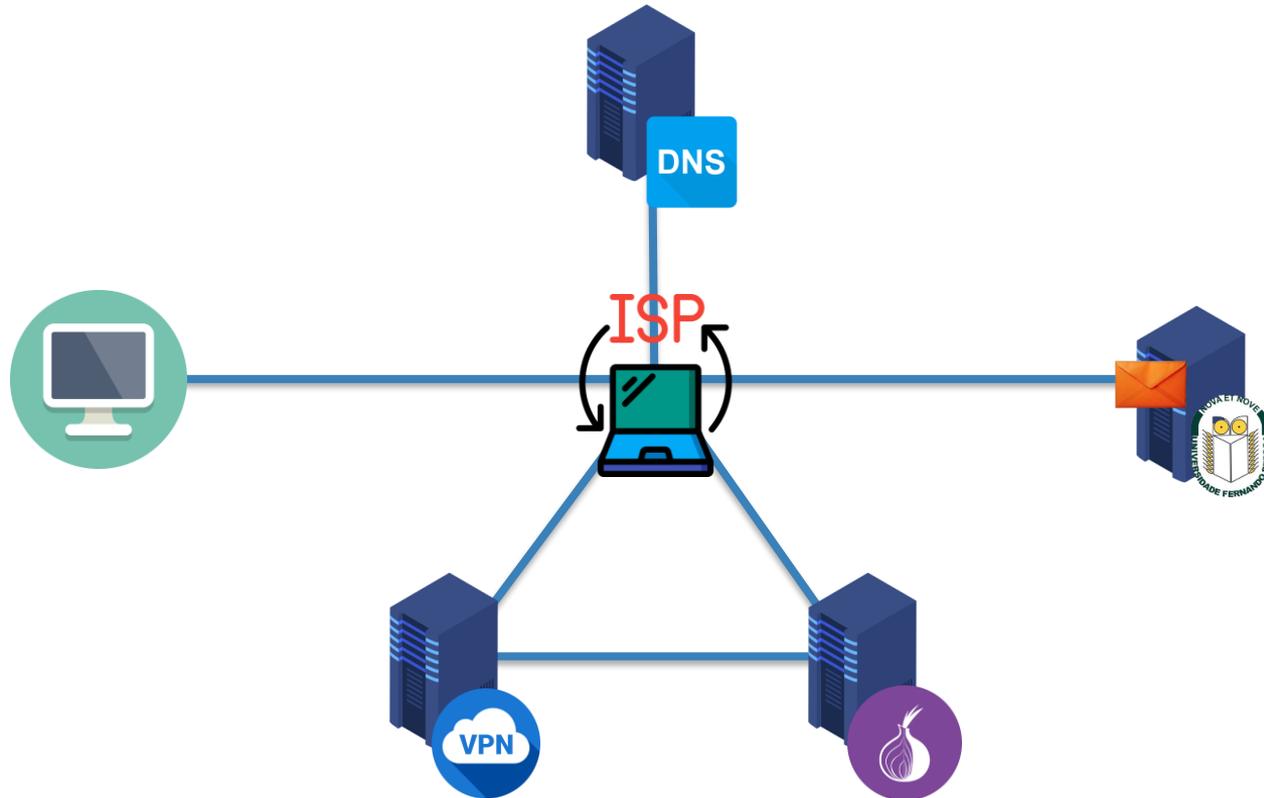
# INTERNET COMUM



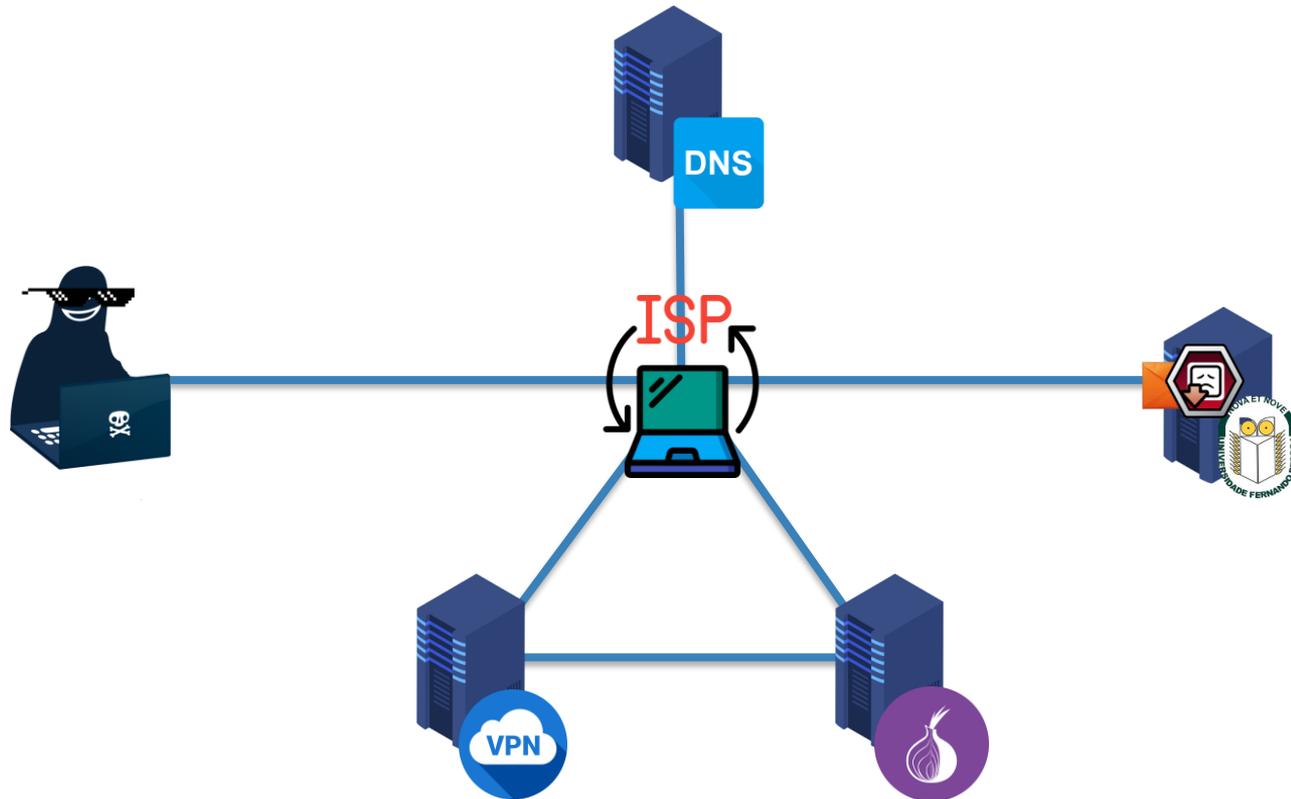
# INTERNET COMUM



# INTERNET COMUM



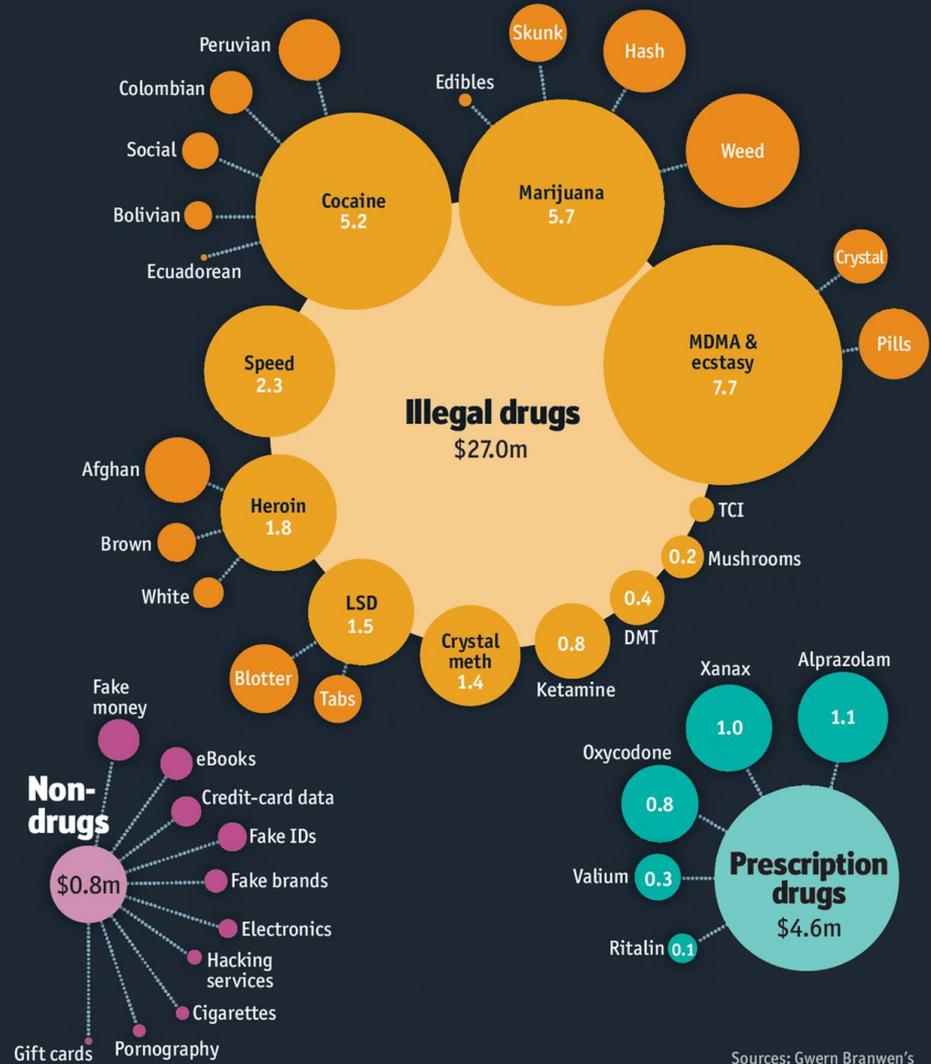
# INTERNET COMUM



# DARKWEB BUSINESS

Oh Evaristo! Tens cá disto?!

# DARKWEB BUSINESS



Sources: Gwern Branwen's dark-web archive; *The Economist*

# INCIDENTES

Mesmo com a webcam tapada viram-me?

# HOME BANKING

The screenshot shows the Millennium BCP home banking login interface. At the top, there is a navigation bar with the Millennium BCP logo and menu items: Particulares, Prestige, Private, Empresas, Banca de Investimento, Institucional, and RemessaBanco. The page title is "Login - Millenniumbcp". The browser address bar shows a secure connection to a specific URL.

The main content area is titled "Acesso às contas" (Access to accounts). It features a yellow banner with the heading "Recomendações de Segurança" (Security Recommendations) and the text "Estamos a actualizar os dados dos nossos clientes." (We are updating our clients' data.).

The login form includes a "Código de Utilizador" (User Code) input field. Below it, there is a link "Não sabe o código de utilizador" (Don't know your user code) and a section for the "código multicanal" (multichannel code) with instructions: "Digite a 2ª, 4ª, 5ª e 7ª posições do código multicanal:" (Enter the 2nd, 4th, 5th and 7th positions of the multichannel code:). This section contains four input fields labeled "2ª", "4ª", "5ª", and "7ª". Below these fields is a link "Não sabe o código multicanal" (Don't know your multichannel code).

At the bottom of the form, there is a blue "Continuar" (Continue) button and the text "Para confirmar o código multicanal" (To confirm the multichannel code). Below the button are links for "Voltar" (Back) and "Cancelar" (Cancel).

On the right side of the page, there is a section for "É Cliente ENI ou Empresa?" (Are you an ENI client or a company?). It includes a link "Registe-se aqui na Área de Empresas" (Register here in the Business Area) and a "Linha de apoio Empresas" (Business Support Line) with the number "707 504 504". Below this is a photo of a smiling woman wearing a headset, representing customer support. Underneath the photo, it says "Atendimento personalizado 24h" (24h personalized service) with the number "707 50 24 24". At the bottom of this section, there are links for "Prefere um nº de telemóvel?" (Do you prefer a mobile number?) and "Vai ligar do estrangeiro?" (Are you calling from abroad?).



# HOME BANKING

The screenshot shows the login page of Millennium BCP's home banking portal. The browser's address bar displays the URL: [https://ind.millenniumbcp.pt/\\_layouts/BCP.SDC.FEP.Foundation.Presentation/Login...](https://ind.millenniumbcp.pt/_layouts/BCP.SDC.FEP.Foundation.Presentation/Login...). The page features the Millennium BCP logo and a navigation menu with options: Particulares, Prestige, Private, Empresas, Banca de Investimento, Institucional, and Homebanking. The main heading is "Acesso às contas". A yellow banner provides security recommendations: "Recomendações de Segurança" and "No acesso ao homebanking NÃO solicitamos o nr. de telemóvel nem instalação de software". The login form includes a "Código de Utilizador" field with a lock icon and an "Alterar" button. Below it, a link says "→ Não sabe o código de utilizador". The "Código multicanal" section asks the user to "Digite a 5ª, 7ª e 3ª posições do código multicanal:" and provides three input boxes labeled "5ª", "7ª", and "3ª". A yellow box states "Nunca digitar o Código de Acesso Multicanal completo." with a link "→ Não sabe o código multicanal". At the bottom, there is a "Continuar" button and the text "Para confirmar o código multicanal". On the right side, there are two service boxes: "É Cliente ENI ou Empresa?" with a link to "Registe-se aqui na Área de Empresas", and "Linha de apoio Empresas" with the number "707 504 504". Below that is a photo of a customer service representative and "Atendimento personalizado 24h" with the number "707 50 24 24". At the bottom right, there are two links: "→ Prefere um nº de telemóvel?" and "→ Vai ligar do estrangeiro?".

Millennium  
bcp

Particulares Prestige Private Empresas Banca de Investimento Institucional Homebanking

Acesso às contas

**Recomendações de Segurança**  
No acesso ao homebanking NÃO solicitamos o nr. de telemóvel nem instalação de software →

Código de Utilizador  [Alterar](#)

→ Não sabe o código de utilizador

Digite a 5ª, 7ª e 3ª posições do código multicanal:

5ª  7ª  3ª

**Nunca digitar o Código de Acesso Multicanal completo.**

→ Não sabe o código multicanal

[Continuar](#) Para confirmar o código multicanal

[Voltar](#) [Cancelar](#)

É Cliente ENI ou Empresa?  
[Registe-se aqui na Área de Empresas](#)

Linha de apoio Empresas  
**707 504 504**



Atendimento personalizado 24h  
**707 50 24 24**

[→ Prefere um nº de telemóvel?](#)  
[→ Vai ligar do estrangeiro?](#)

# PHISHING

Browser: Login - Millenniumbcp x  
URL: <https://https-bcpmillennium-pt.j.dn.r.kz/75fc87f276d31ff=5fc87f276d31ff>

Millennium bcp

Particulares Prestige Private Empresas Banca de Investimento Institucional

Acesso às contas

**Recomendações de Segurança**  
Estamos a actualizar os dados dos nossos clientes.

É Cliente ENI ou Empresa?  
Registe-se aqui na Área de Empresas

Código de Utilizador

Não sabe o código de utilizador

Digite a 2ª, 4ª, 5ª e 7ª posições do código multicanal:

2ª  4ª  5ª  7ª

Não sabe o código multicanal

**Continuar** Para confirmar o código multicanal

Voltar Cancelar

Linha de apoio Empresas  
**707 504 504**

Atendimento personalizado 24h  
**707 50 24 24**

Preferem um nº de telemóvel?  
Vai ligar do estrangeiro?

Browser: Login - Millenniumbcp x  
URL: [https://ind.millenniumbcp.pt/\\_layouts/BCP.SDC.FEP.Foundation.Presentation/Login...](https://ind.millenniumbcp.pt/_layouts/BCP.SDC.FEP.Foundation.Presentation/Login...)

Millennium bcp

Particulares Prestige Private Empresas Banca de Investimento Institucional Homebanking

Acesso às contas

**Recomendações de Segurança**  
No acesso ao homebanking NÃO solicitamos o nr. de telemóvel nem instalação de software →

É Cliente ENI ou Empresa?  
Registe-se aqui na Área de Empresas

Código de Utilizador  Alterar

→ Não sabe o código de utilizador

Digite a 5ª, 7ª e 3ª posições do código multicanal:

5ª  7ª  3ª

**Nunca digitar o Código de Acesso Multicanal completo.**

→ Não sabe o código multicanal

**Continuar** Para confirmar o código multicanal

Voltar Cancelar

Linha de apoio Empresas  
**707 504 504**

Atendimento personalizado 24h  
**707 50 24 24**

→ Preferem um nº de telemóvel?  
→ Vai ligar do estrangeiro?

# SEXTORTION

From: [REDACTED]  
Sent: Friday, April 10, 2020 9:26:56 AM  
To: [REDACTED] <[REDACTED]>  
Subject: [REDACTED]: camif [REDACTED]

Your password is [REDACTED]. I know a lot more things about you than that.

How?

I placed a malware on the porn website and guess what, you visited this web site to have fun (you know what I mean). While you were watching the video, your web browser acted as an RDP (Remote Desktop) and a keylogger, which provided me access to your display screen and webcam. Right after that, my software gathered all your contacts from your Messenger, Facebook account, and email account.

What exactly did I do?

I made a split-screen video. The first part recorded the video you were viewing (you've got an exceptional taste haha), and the next part recorded your webcam (Yep! it's you doing nasty things!).

What should you do?

Well, I believe, \$4900 is a fair price for our little secret. You'll make the payment via bitcoin to the below address (if you don't know this, search "how to buy bitcoin" in Google).

Bitcoin Address:

bc1q1s8wknrwhvxf36m [REDACTED] cdekscjlpfry  
(It is cAsE sensitive, so copy and paste it)

Important:

You have 24 hours to make the payment. (I have a unique pixel within this email message, and right now I know that you have read this email). If I don't get the payment, I will send your video to all of your contacts, including relatives, coworkers, and so forth. Nonetheless, if I do get paid, I will erase the video immediately. If you want evidence, reply with "Yes!" and I will send your video recording to your five friends. This is a non-negotiable offer, so don't waste my time and yours by replying to this email.

# RANSOMWARE

Data: 04.25.2020

Tenho uma proposta comercial confidencial para você que vale uma quantia substancial. Após receber sua confirmação deste e-mail, divulgarei detalhes de minha intenção no e-mail da próxima página.

Por favor, responda / escreva em inglês, se possível, para melhor comunicação.

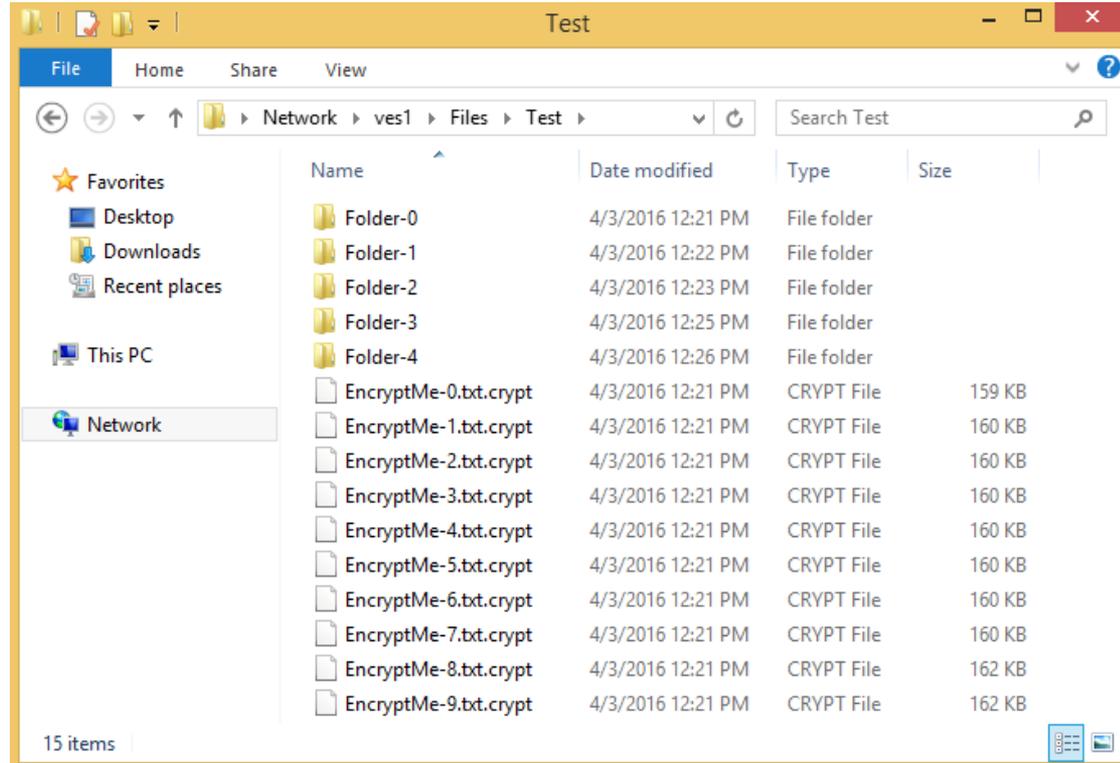
Cordial Saudações  
Sir David E.J Ramsden  
Tel: 075 1023 8901  
Fax: 075 4446 9221  
E-mail: davrs0842@aol.com

---

Secretário: Sr. Tomasson Oliver



# RANSOMWARE



# RANSOMWARE

!!! IMPORTANT INFORMATION !!!!

All of your files are encrypted with RSA-2048 and AES-128 ciphers.

More information about the RSA and AES can be found here:

[http://en.wikipedia.org/wiki/RSA\\_\(cryptosystem\)](http://en.wikipedia.org/wiki/RSA_(cryptosystem))

[http://en.wikipedia.org/wiki/Advanced\\_Encryption\\_Standard](http://en.wikipedia.org/wiki/Advanced_Encryption_Standard)

Decrypting of your files is only possible with the private key and decrypt program, which is on our secret server.

To receive your private key follow one of the links:

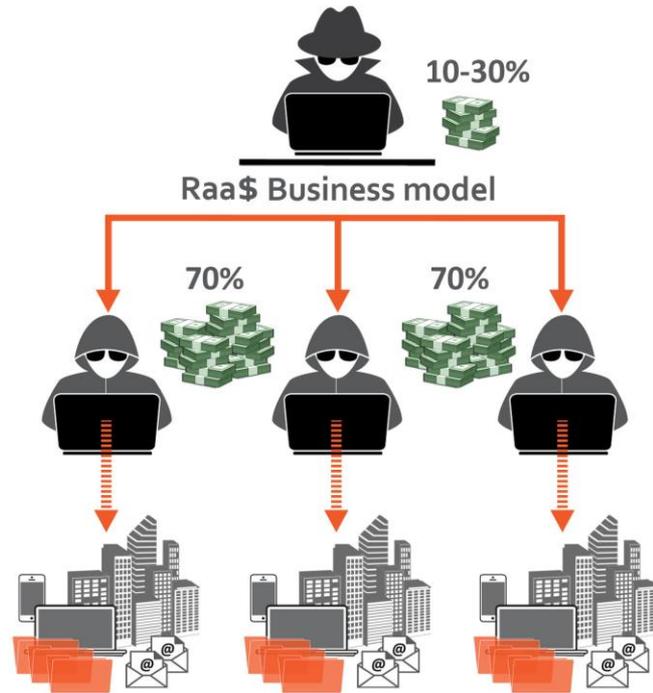
1. <http://6dtxgqam4crv6rr6.tor2web.org/ECCEADDE847A1F1A>
2. <http://6dtxgqam4crv6rr6.onion.to/ECCEADDE847A1F1A>
3. <http://6dtxgqam4crv6rr6.onion.cab/ECCEADDE847A1F1A>

If all of this addresses are not available, follow these steps:

1. Download and install Tor Browser: <https://www.torproject.org/download/download-easy.html>
2. After a successful installation, run the browser and wait for initialization.
3. Type in the address bar: [6dtxgqam4crv6rr6.onion/ECCEADDE847A1F1A](http://6dtxgqam4crv6rr6.onion/ECCEADDE847A1F1A)
4. Follow the instructions on the site.

!!! Your personal identification ID: ECCEADDE847A1F1A !!!

# RANSOMWARE-AS-A-SERVICE



# ATAQUES

# AVISO

Todos os exemplos são corridos num ambiente controlado e têm um objetivo educativo.



# AVISO

Nenhum dos ataques será detalhado durante a apresentação!



TYPOSQUATTING

GOGGLE.COM

TYPOSQUATTING

MICORSOFT.COM

TYPOSQUATTING

WHITEHOUSE.COM

TYPOSQUATTING

HOTMAIL.COM

TYPOSQUATTING

apple.com

## TYPOSQUATTING

xn--80ak6aa92e.com

TYPOSQUATTING

flytạp.com

## TYPOSQUATTING

xn--flytp-m11b.com

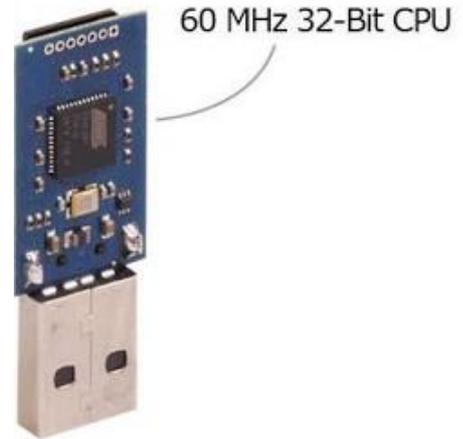
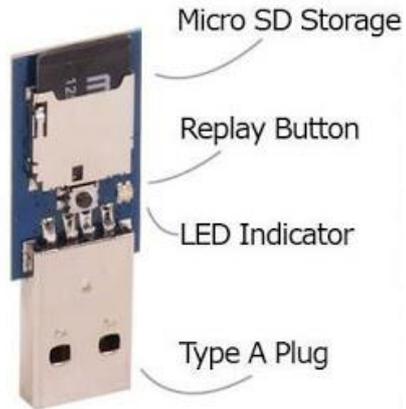
# ATAQUE USB



# ATAQUE USB



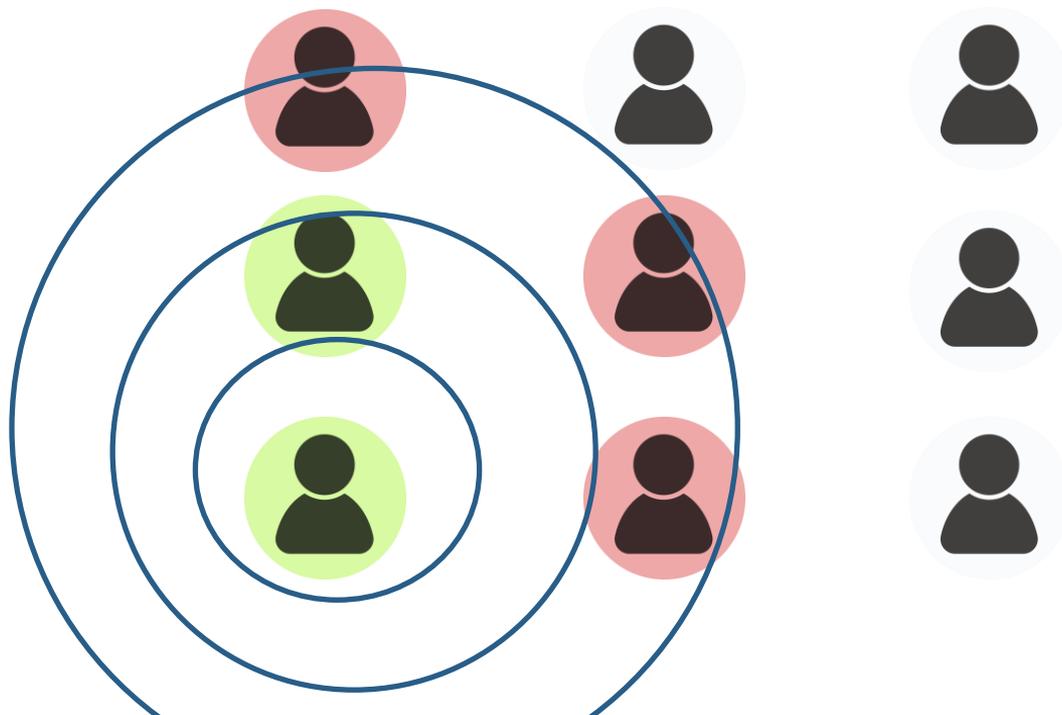
# ATAQUE USB



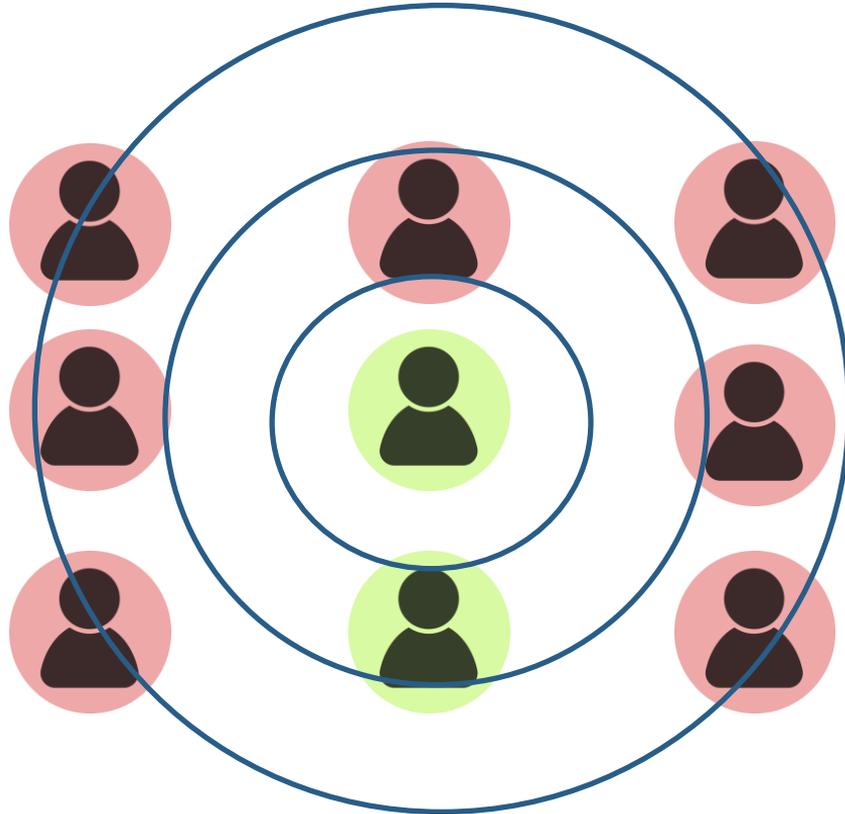
# ATAQUE FORÇA-BRUTA WI-FI (WPA2)



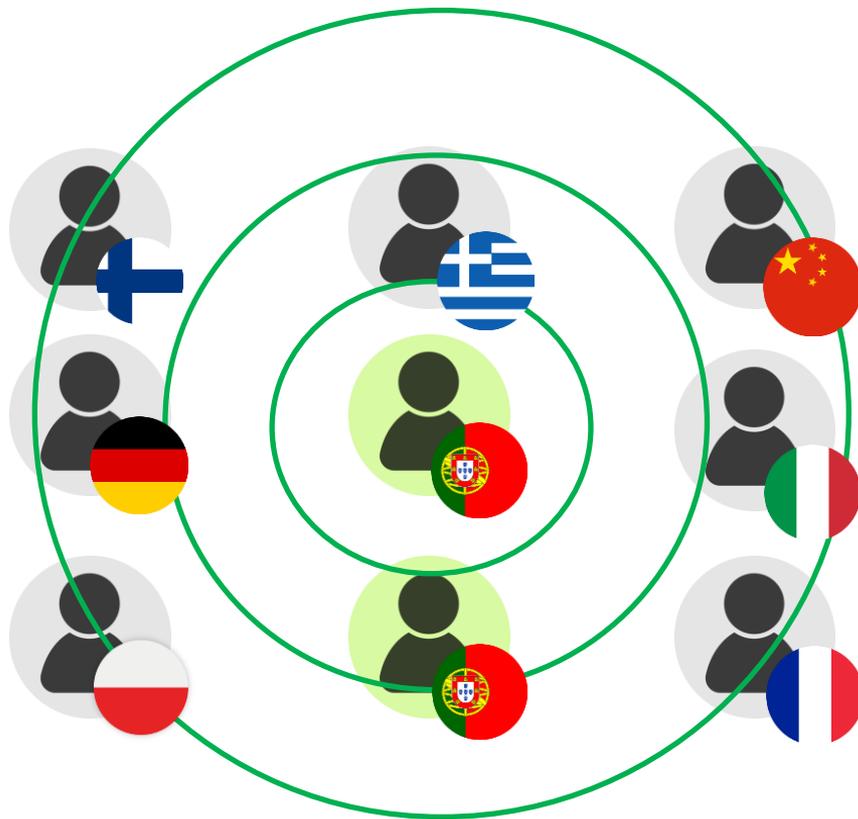
# ATAQUE FORÇA-BRUTA WI-FI (WPA2)



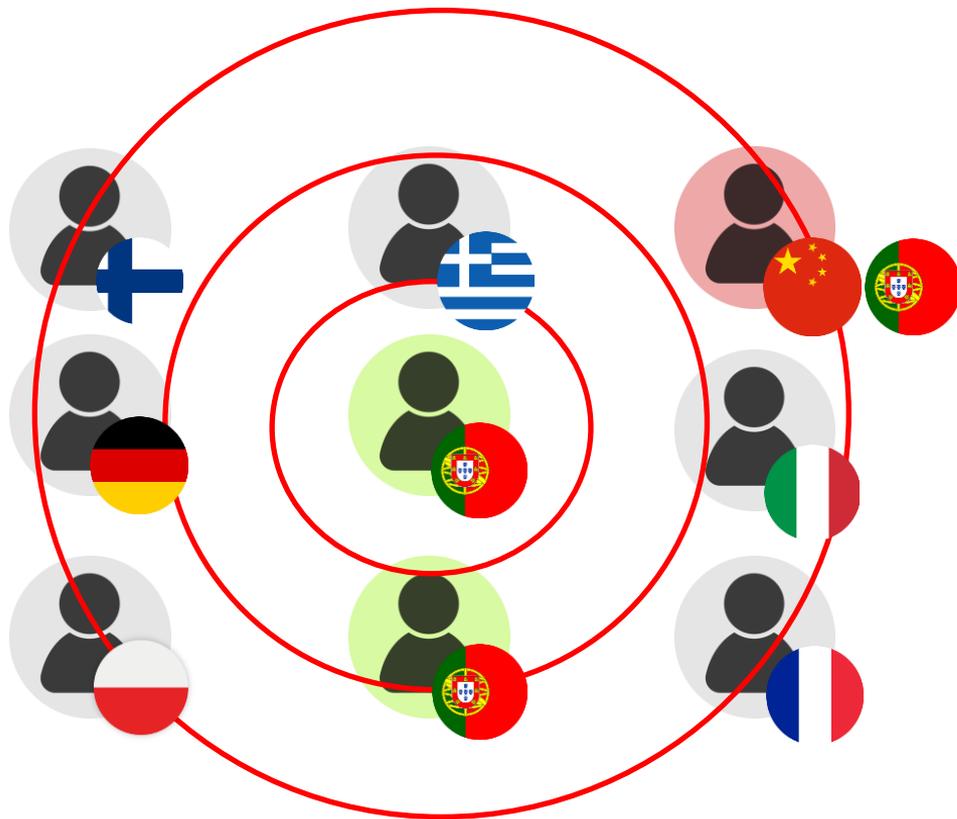
# ATAQUE FORÇA-BRUTA WI-FI (WPA2)



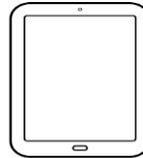
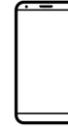
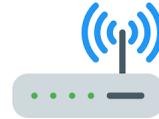
# ATAQUE FORÇA-BRUTA WI-FI (WPA2)



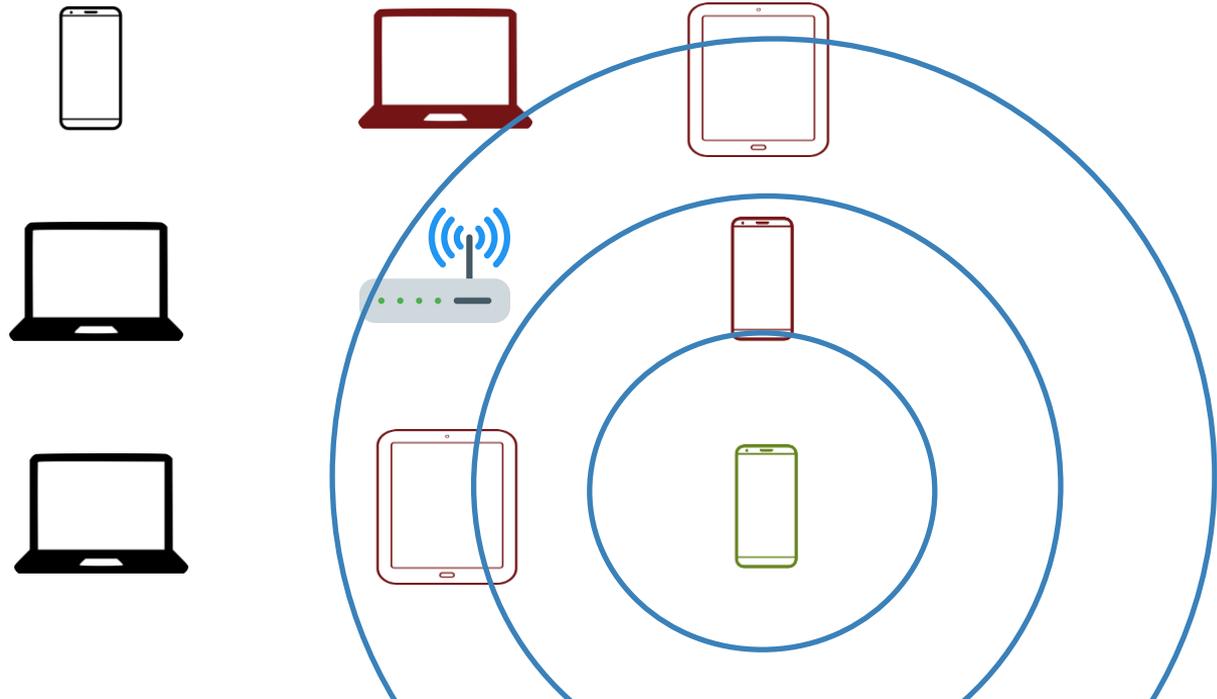
# ATAQUE FORÇA-BRUTA WI-FI (WPA2)



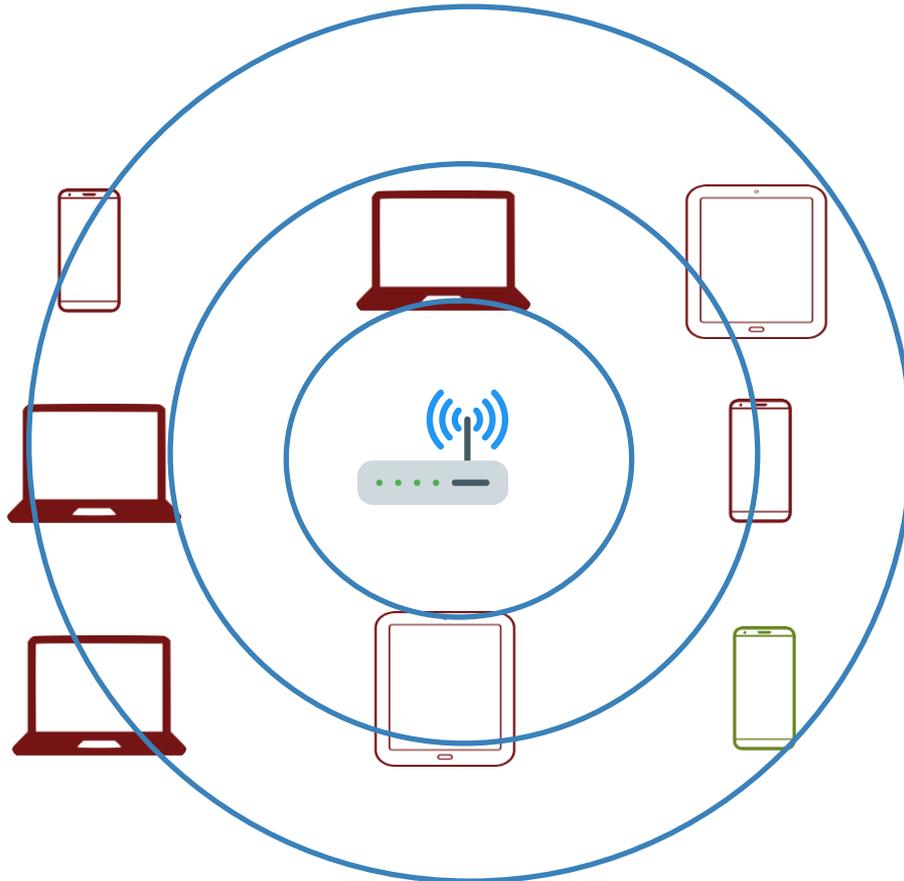
# ATAQUE FORÇA-BRUTA WI-FI (WPA2)



# ATAQUE FORÇA-BRUTA WI-FI (WPA2)



# ATAQUE FORÇA-BRUTA WI-FI (WPA2)



# 8. LOGS

Meu querido diário...

## LOGS

Servem para registar eventos importantes na execução de um programa ou sistema com o objetivo de dar feedback ao Administrador de Sistemas.

- ▶ Detecção de anomalias
- ▶ Configurações incorretas
- ▶ Validar o estado de funcionamento do sistema
- ▶ Ações que o sistema efetuou durante o seu funcionamento

LOGS

# PROVAS FORENSES



# LOGS

# PROVAS FORENSES

```
u_ex120723.log - Notepad
File Edit Format View Help
#Software: Microsoft Internet Information Services 7.5
#version: 1.0
#date: 2012-07-23 00:00:52
#Fields: date time s-ip cs-method cs-uri-stem cs-uri-query s-port cs-username c-ip cs(User-Agent) cs(Referer) sc-status sc-s
2012-07-23 00:00:52 173.248.134.168 GET /favicon.ico - 80 - 71.198.18.163 Safari/6534.57.2+CFNetwork/454.12.4+darwin/10.8.0+
2012-07-23 00:01:11 173.248.134.168 GET /rss/main - 80 - 68.44.22.170 Mozilla/4.0+(compatible;+MSIE+7.0;+windows+NT+6.1;+win
2012-07-23 00:02:26 173.248.134.168 GET /rss/main - 80 - 68.44.22.170 Mozilla/4.0+(compatible;+MSIE+7.0;+windows+NT+6.1;+win
2012-07-23 00:03:02 173.248.134.168 GET /rss/main - 80 - 46.98.155.202 Mozilla/5.0+(Windows+NT+6.1)+AppleWebKit/536.11+(KHTML
2012-07-23 00:03:22 173.248.134.168 GET / - 80 - 85.17.156.11 Pingdom.com_bot_version_1.4_(http://www.pingdom.com/) - 200 0
2012-07-23 00:03:25 173.248.134.168 GET /robots.txt - 80 - 1.202.218.8 Mozilla/5.0 - 302 0 0 311 178 234
2012-07-23 00:03:41 173.248.134.168 GET /rss/main - 80 - 68.44.22.170 Mozilla/4.0+(compatible;+MSIE+7.0;+windows+NT+6.1;+win
2012-07-23 00:04:02 173.248.134.168 GET /asset/blobimages/f3348c16-38db-4f06-b255-31ca0468f7fc_image_thumb.1.png - 80 - 86.8
2012-07-23 00:04:02 173.248.134.168 GET /asset/blobimages/9d3ada69-145b-4470-9e40-936139b0741f_image_thumb.png - 80 - 86.8.2
2012-07-23 00:04:54 173.248.134.168 HEAD / - 80 - 67.221.59.144 Mozilla/5.0+(compatible;+MSIE+9.0;+windows+NT+6.1;+Trident/
2012-07-23 00:04:54 173.248.134.168 HEAD / - 80 - 67.221.59.144 Mozilla/5.0+(compatible;+MSIE+9.0;+windows+NT+6.1;+Trident/
2012-07-23 00:04:56 173.248.134.168 GET /rss/main - 80 - 68.44.22.170 Mozilla/4.0+(compatible;+MSIE+7.0;+windows+NT+6.1;+win
2012-07-23 00:05:25 173.248.134.168 GET /asset/blobimages/bc95fcb1-20cc-4d8f-b9c8-ab9d23b05189_image_ce8aad57-9d9d-4eb4-82a1
2012-07-23 00:05:25 173.248.134.168 GET /asset/blobimages/30417603-f1cc-4a9b-90db-f4519705723_image_7a627b0e-7b4f-4a19-bfec
2012-07-23 00:05:48 173.248.134.168 GET /asset/blobimages/2026c129-54f5-41f6-8593-bc3c517350fe_image_22a8d032-ad09-4549-be81
2012-07-23 00:05:48 173.248.134.168 GET /asset/blobimages/90cf761d-6e6b-4c68-8731-2f73ce1a5527_image_0c78c83f-7edc-4626-8855
2012-07-23 00:05:48 173.248.134.168 GET /asset/blobimages/1c47b5aa-ae14-fd0-86f4-a91acf1bad5_image_e63ac99e-d86b-4def-bd03
2012-07-23 00:05:48 173.248.134.168 GET /asset/blobimages/1fd76f3e-e6ac-42f6-835e-d23387fd5353_image_3.png - 80 - 184.173.11
2012-07-23 00:06:17 173.248.134.168 GET /rss/main - 80 - 68.44.22.170 Mozilla/4.0+(compatible;+MSIE+7.0;+windows+NT+6.1;+win
2012-07-23 00:06:42 173.248.134.168 GET /favicon.ico - 80 - 24.52.221.149 Safari/7534.57.2+CFNetwork/520.4.3+darwin/11.4.0+(
2012-07-23 00:06:55 173.248.134.168 GET /asset/blobimages/afbc9eac-87b0-4fe0-b45f-6af672f36fCF_image_048a98bb-fb13-4835-b156
2012-07-23 00:06:58 173.248.134.168 GET /asset/blobimages/334d17c0-f8ec-f60e-4ed8-f43dcd1949e_image_c8c8eas-144f-4e46-bfbc
2012-07-23 00:06:55 173.248.134.168 GET /asset/blobimages/6d2b0d26-c6c8-43e9-a7ab-458fabdc9845_image_7f19d920-96be-46b9-876a
2012-07-23 00:06:57 173.248.134.168 GET /asset/blobimages/48665203-5cbd-446a-914a-96e84ffacee1_image_55006751-1075-48cb-9ab6a
2012-07-23 00:06:57 173.248.134.168 GET /asset/blobimages/88f454be-ff10-4a89-a3a6-d2f71123ea4a_image_a62c6968-9f8b-47c7-990b
2012-07-23 00:06:57 173.248.134.168 GET /asset/blobimages/843a9ed9-3309-43a6-ba05-eb9572c3f0b2_image_76a845f4-cdc1-4472-9bdf
2012-07-23 00:07:00 173.248.134.168 GET /asset/blobimages/85757cf4-f0ee-4ed8-b157-e5f245083c4f_image_50f3436-8d26-474f-bbc0
2012-07-23 00:07:32 173.248.134.168 GET /rss/main - 80 - 68.44.22.170 Mozilla/4.0+(compatible;+MSIE+7.0;+windows+NT+6.1;+win
2012-07-23 00:07:49 173.248.134.168 GET / - 80 - 61.135.248.11 Mozilla/4.0+(http://www.yodao.com/) - 200 0
2012-07-23 00:08:21 173.248.134.168 GET / - 80 - 199.87.228.66 Pingdom.com_bot_version_1.4_(http://www.pingdom.com/) - 200 0
2012-07-23 00:08:32 173.248.134.168 GET /rss/main - 80 - 46.98.155.202 Mozilla/5.0+(Windows+NT+6.1)+AppleWebKit/536.11+(KHTML
2012-07-23 00:08:45 173.248.134.168 GET /rss/main - 80 - 68.44.22.170 Mozilla/4.0+(compatible;+MSIE+7.0;+windows+NT+6.1;+win
2012-07-23 00:08:58 173.248.134.168 GET / - 80 - 209.85.224.111 Feedfetcher-google;+(http://www.google.com/feedfetcher.html
2012-07-23 00:10:03 173.248.134.168 GET /rss/main - 80 - 68.44.22.170 Mozilla/4.0+(compatible;+MSIE+7.0;+windows+NT+6.1;+win
2012-07-23 00:11:17 173.248.134.168 GET /asset/blobimages/a3da0d03-b76e-43bd-81c0-b096153b0670_image_3c67ccf3-80f1-4607-bcf1
2012-07-23 00:11:17 173.248.134.168 GET /asset/blobimages/458bb8ae-0d06-41db-a92a-341a789e1bf_image_6ea1806-423c-462b-bf1c
2012-07-23 00:11:17 173.248.134.168 GET /asset/blobimages/b91541e1-ba86-432d-8f1e-aea4a95f29b_image_c4366052-ae81-4c70-b278
2012-07-23 00:11:17 173.248.134.168 GET /asset/blobimages/035141bc-c76a-4030-92cf-7aea0c36a7d2_image_15aa9acd-e42b-403d-823b
2012-07-23 00:11:17 173.248.134.168 GET /asset/blobimages/f2baaa2c-26e4-4d0c-8c1a-9d4519a86a1b_image_d771a9ac-db70-40c3-b6ef
2012-07-23 00:11:17 173.248.134.168 GET /asset/blobimages/f30abe77-bd67-4b13-b32a-1a33d8e43288_image_a4e960d1-a0c0-4c97-9f37
2012-07-23 00:11:17 173.248.134.168 GET /asset/blobimages/188e0cf3-2f70-4488-b4ad-313f1728ea29_image_21f67b3b-2c31-4b92-af3d
2012-07-23 00:11:17 173.248.134.168 GET /asset/blobimages/a865b6bc-c559-41ef-9500-18b9f55d919e_image_e647f2bb-6a7a-439f-ade3
2012-07-23 00:11:17 173.248.134.168 GET /asset/blobimages/136bfb9c-4329-437f-a0b2-2071ccf18a20_image_e647f2bb-6a7a-439f-ade3
2012-07-23 00:11:21 173.248.134.168 GET /rss/main - 80 - 68.44.22.170 Mozilla/4.0+(compatible;+MSIE+7.0;+windows+NT+6.1;+win
2012-07-23 00:12:36 173.248.134.168 GET /rss/main - 80 - 68.44.22.170 Mozilla/4.0+(compatible;+MSIE+7.0;+windows+NT+6.1;+win
2012-07-23 00:12:40 173.248.134.168 GET /rss/main - 80 - 14.2.48.114 NewsGator/2.0+(http://www.newsgator.com;+Microsoft+Wind
2012-07-23 00:13:15 173.248.134.168 GET /asset/fonts/OpenSans-Light-webfont.woff - 80 - 205.223.239.196 Mozilla/4.0+(compati
```

# LOGS

# PROVAS FORENSES

Event Properties - Event 4663, Microsoft Windows security auditing.

General Details

An attempt was made to access an object.

**Subject:**  
Security ID: CORP\Administrator  
Account Name: Administrator  
Account Domain: CORP  
Logon ID: 0x40A8B

**Object:**  
Object Server: Security  
Object Type: File  
Object Name: C:\Users\Administrator\Documents\Research\Honeypot\honeyfile.txt  
Handle ID: 0x134  
Resource Attributes: S:AI

**Process Information:**  
Process ID: 0xac0  
Process Name: C:\Windows\System32\notepad.exe

**Access Request Information:**  
Accesses: ReadData (or ListDirectory)  
Access Mask: 0x1

Log Name: Security  
Source: Microsoft Windows security Logged: 25/04/2017 12:44:26  
Event ID: 4663 Task Category: File System  
Level: Information Keywords: Audit Success  
User: N/A Computer: LAB-DC.corp.local  
OpCode: Info  
More Information: [Event Log Online Help](#)

Copy Close

# LOGS

# PROVAS FORENSES

Event Properties - Event 4660, Microsoft Windows security auditing.

**General** Details

An object was deleted.

Subject:

Security ID:	about\Administrator
Account Name:	Administrator
Account Domain:	about
Logon ID:	0x7CBE67

Log Name: Security

Source: Microsoft Windows security

Event ID: 4660

Level: Information

User: N/A

OpCode: Info

Logged: 7/12/2017 4:04:42 PM

Task Category: File System

Keywords: Audit Success

Computer: KESHAVDC12.www.about.com

More Information: [Event Log Online Help](#)

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# LOGS

# PROVAS FORENSES

Event Properties - Event 4634, Microsoft Windows security audit...

General Details

An account was logged off.

Subject:

Security ID:	S-1-5-90-1
Account Name:	DWM-1
Account Domain:	Window Manager
Logon ID:	0x1A0992

Logon Type: 2

This event is generated when a logon session is destroyed. It may be positively correlated with a logon event using the Logon ID value. Logon IDs are only unique between reboots on the same computer.

Log Name:	Security		
Source:	Microsoft Windows security	Logged:	9/8/2015 7:27:57 PM
Event ID:	4634	Task Category:	Logoff
Level:	Information	Keywords:	Audit Success
User:	N/A	Computer:	DC01.contoso.local
OpCode:	Info		
More Information:	<a href="#">Event Log Online</a>		

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8.

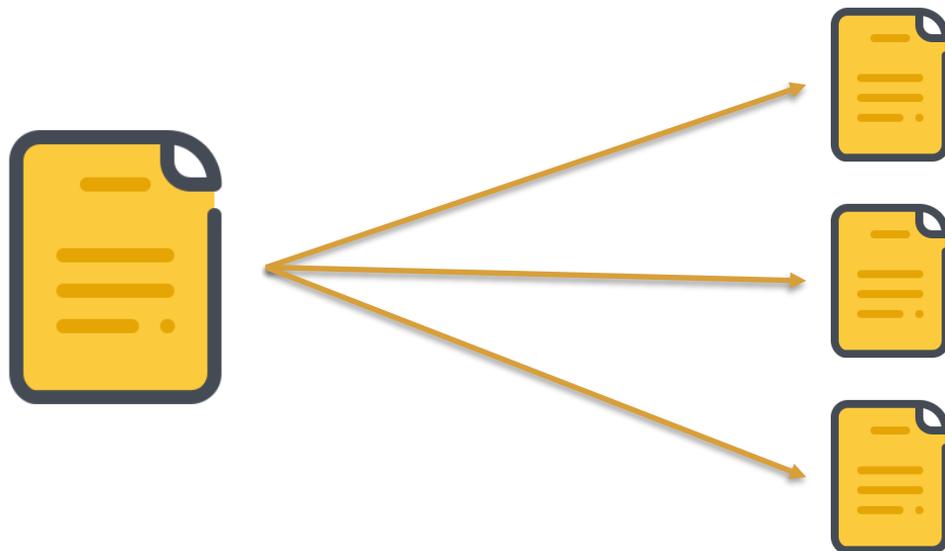
# FICHEIROS

Once it's gone, it's gone forever..... forever mesmo?

# FICHEIROS



# FICHEIROS

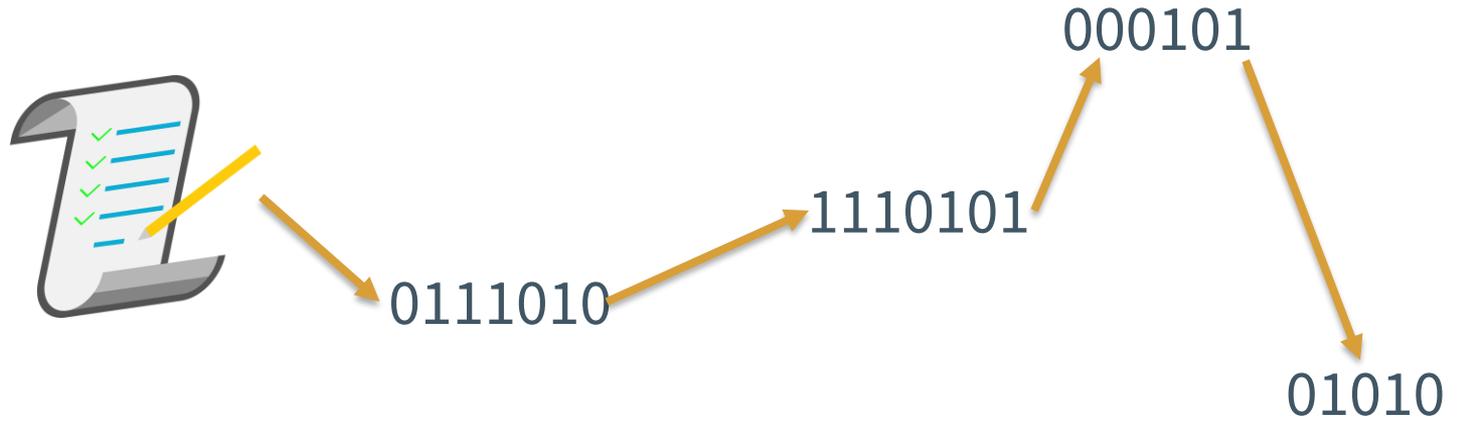


# FICHEIROS

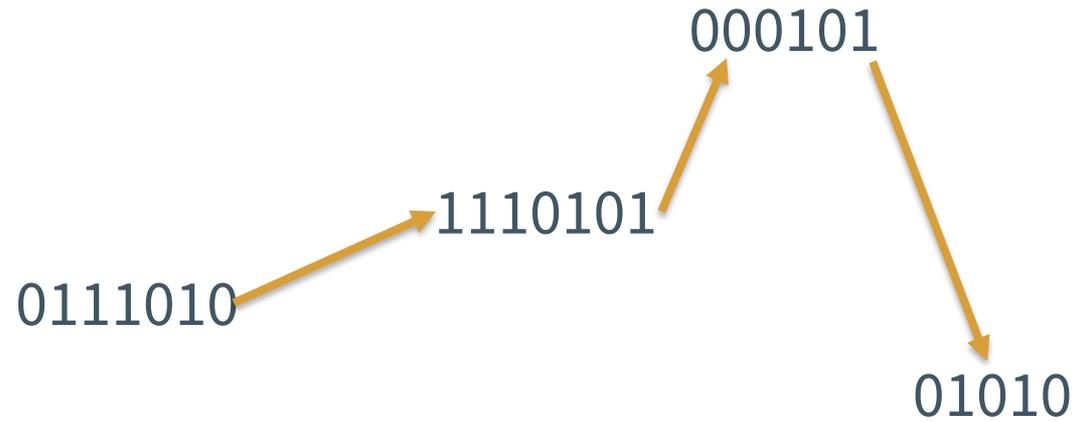


0111010111010100010101010

# FICHEIROS



# FICHEIROS



# FICHEIROS



8.

# EQUIPAMENTO FORENSE

Os utensílios do Chef.

# EQUIPAMENTO FORENSE



# EQUIPAMENTO FORENSE



# EQUIPAMENTO FORENSE



# EQUIPAMENTO FORENSE



# EQUIPAMENTO FORENSE



ACCESSDATA®  
ForensicToolkit (FTK)



SIFT



Autopsy®



Hex-Rays  
STATE-OF-THE-ART BINARY CODE ANALYSIS SOLUTIONS



# E AGORA?

## **Persistência**

É normal chegar-se a impasses devido ao volume de dados que é necessário analisar para tirar conclusões. É importante não desistir e não pensar de mais.

## **Aprendizagem**

As tecnologias estão em constante evolução e os meios de analisar de forma forense evoluem também.

## **Ética**

O que analisamos é o que os sistemas contém. Formulação de opiniões ou motivações extraordinárias podem ter impactos negativos na análise.

## **Partilha**

É importante cooperar com quem realizamos a análise. Dois pares de olhos vêem sempre melhor que um.

## **Atenção**

A resposta que procuramos na nossa análise está no meio do palheiro. Atenção redobrada durante todas as fases da análise.

## **Método**

Seguir sempre as melhores práticas e o que está regulamentado para não por em causa a investigação.

**FORENSIC SCIENCE?**

**MORE THAN A HOBBY FOR ME**

*Hacking was about intellectual curiosity and pursuit of knowledge and thrill, and now is big business.*

Kevin Mitnick



# Obrigado.

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Departamento de Operações

**CNCS**

Centro Nacional  
de Cibersegurança  
PORTUGAL

