

VLAN

(Introdução)

Prof. Dr. Luiz Arthur Feitosa dos Santos



luiz.arthur.feitosa.santos@gmail.com

<https://luisantos.github.io/>



VLAN

Modelo TCP/IP

Aplicação

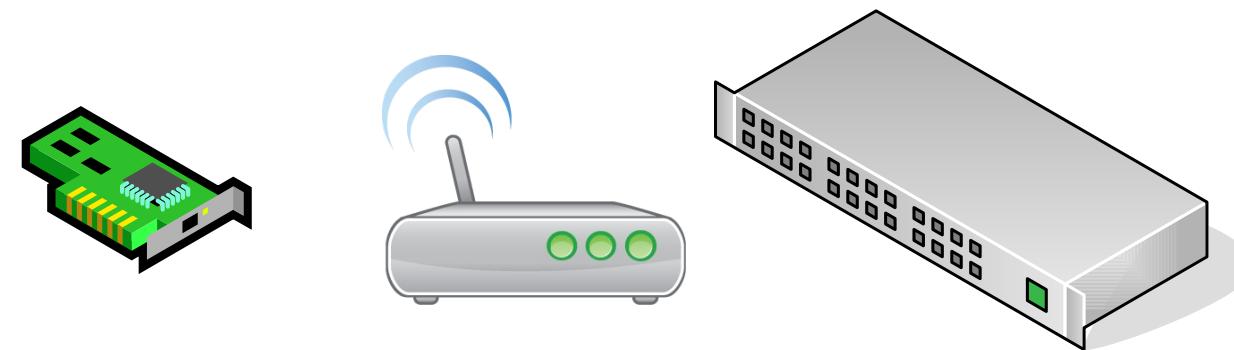
Transporte

Inter-rede

Enlace

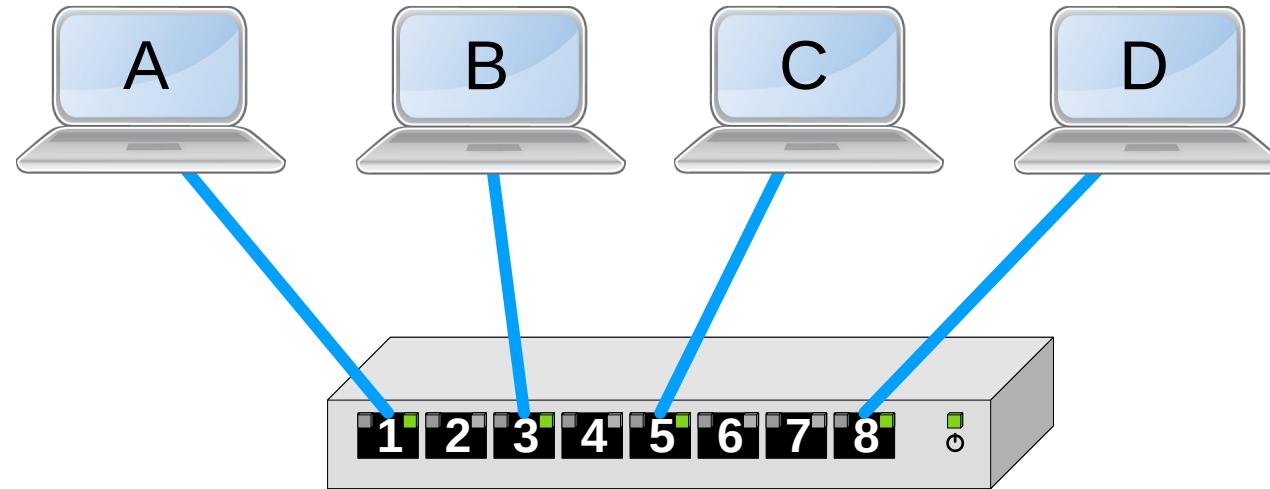
Física

- Detecção de erros;
- Controle de acesso ao meio;
- Endereçamento físico;
- Impedir que *hosts* mais rápidos inundem de informações *hosts* mais lentos.



VLAN

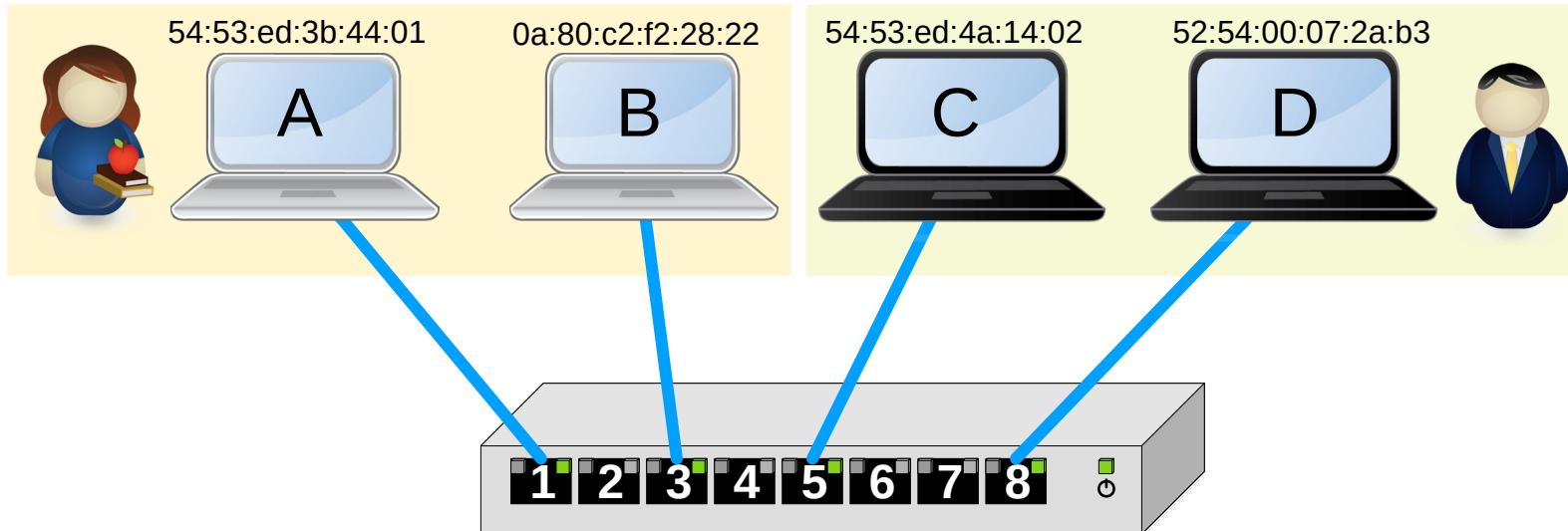
A técnica de VLAN surge da necessidade proporcionar às LANs melhor: segurança, melhorar organização, facilitar o gerenciamento e diminuir *overhead*.



A técnica de VLAN está muito ligada ao conceito de *switching*.

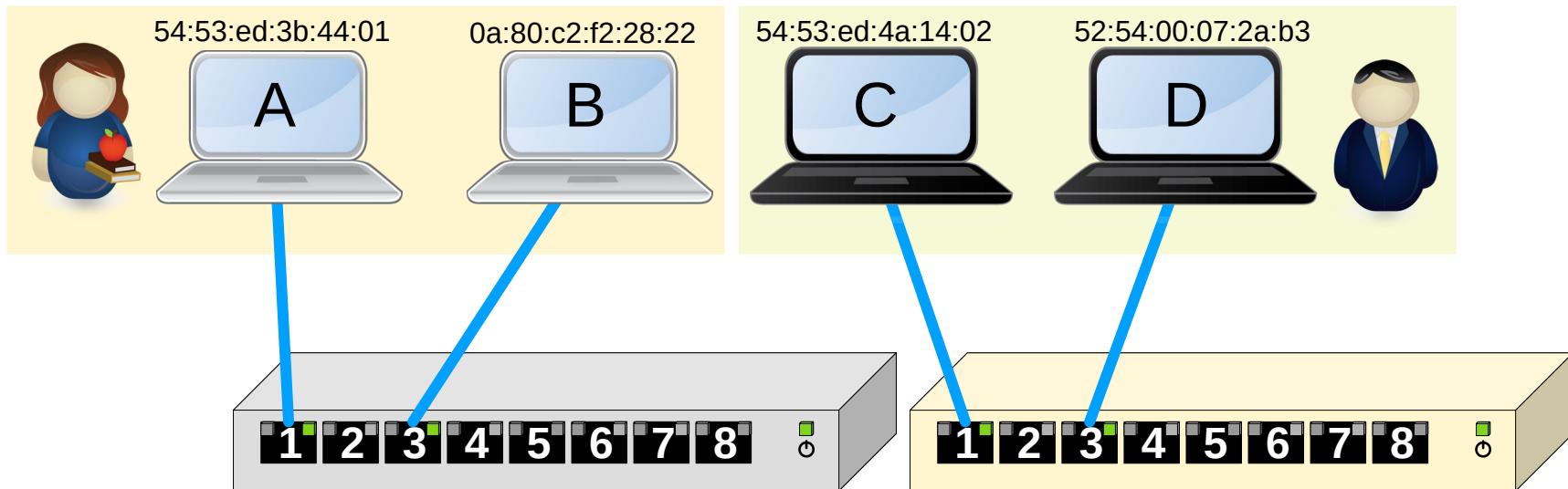
VLAN

Como dividir essa rede em duas: rede administrativa e rede acadêmica?



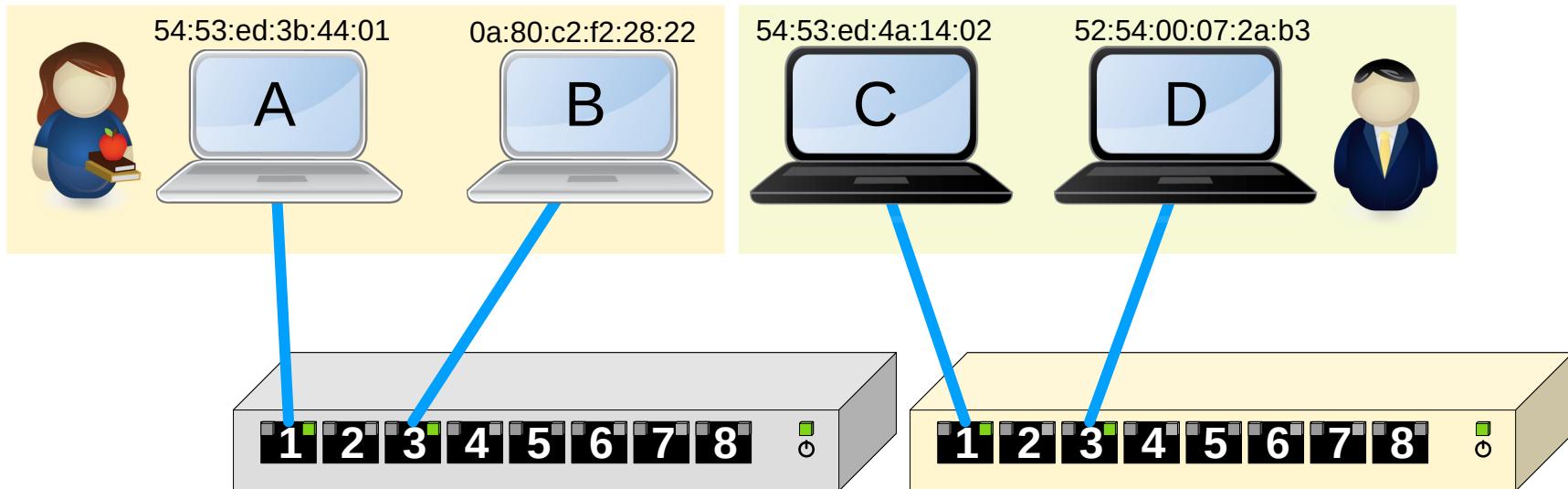
VLAN

Solução 1: Colocar em redes físicas isoladas



VLAN

Solução 1: Colocar em redes físicas isoladas

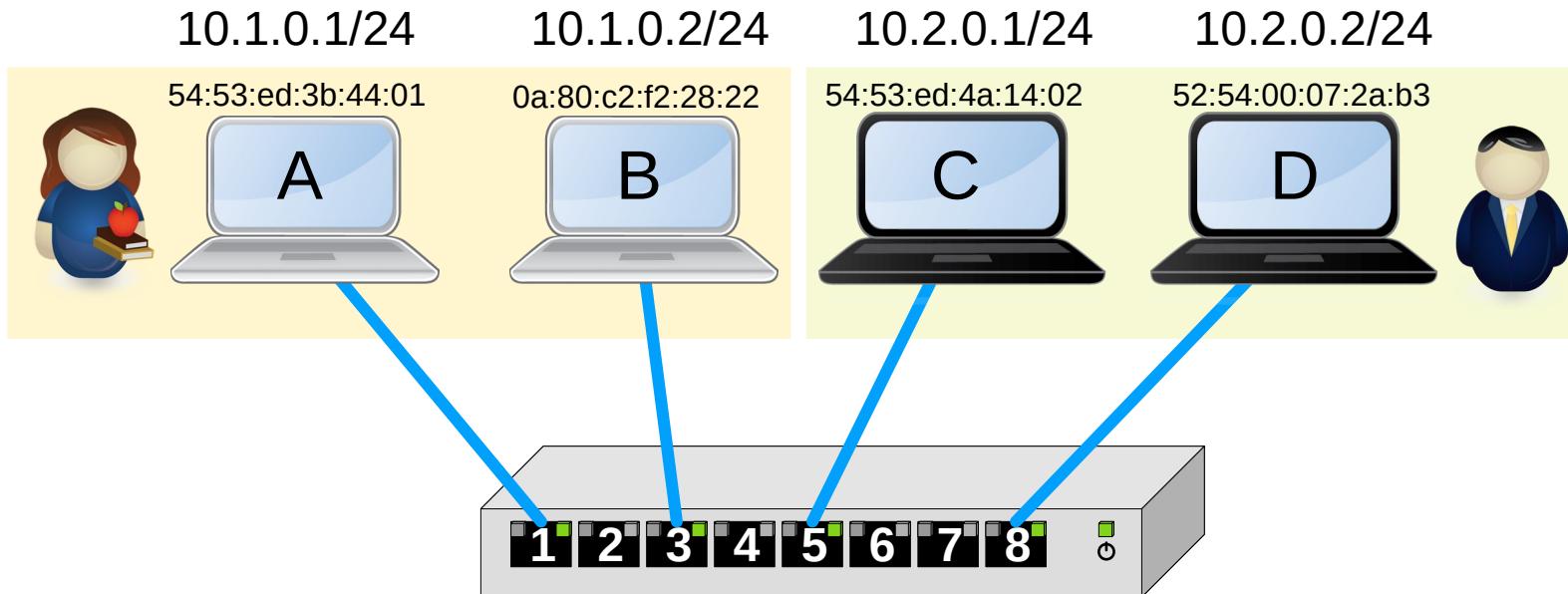


É a solução mais segura e mais cara!



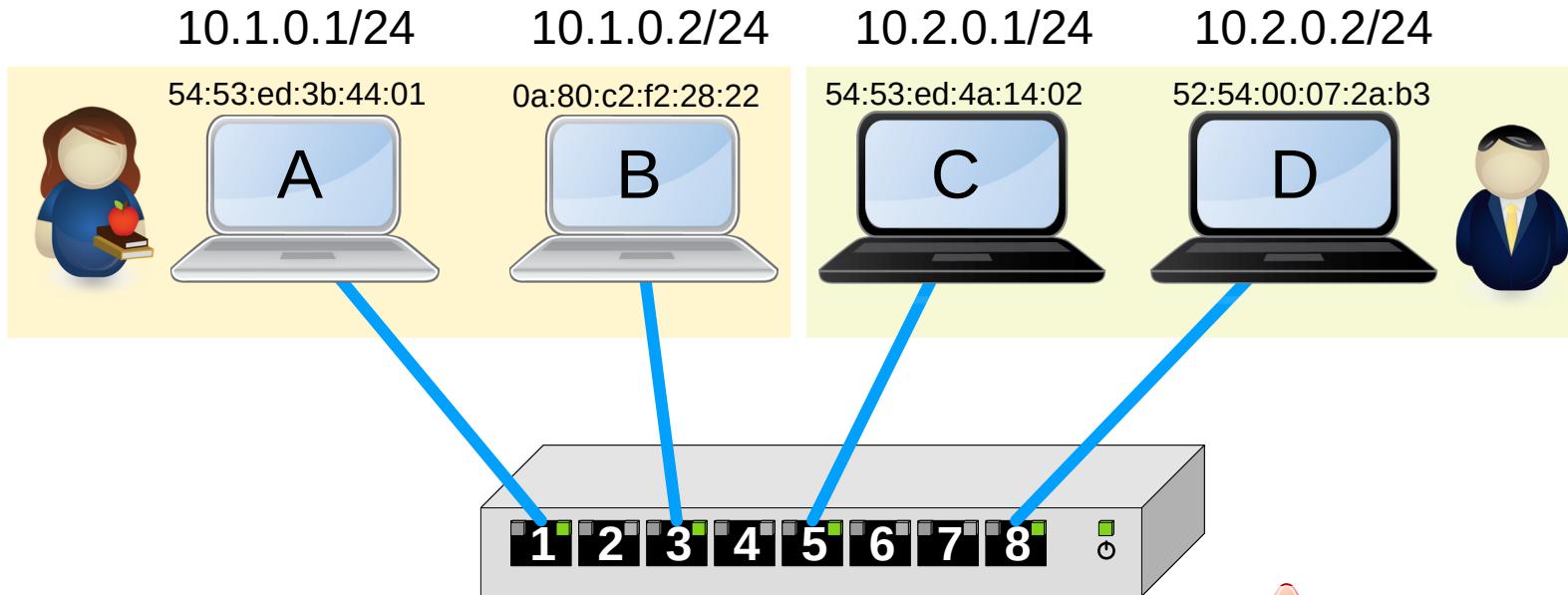
VLAN

Solução 2: Utilizando endereçamento IP (Camada de Rede)



VLAN

Solução 2: Utilizando endereçamento IP (Camada de Rede)

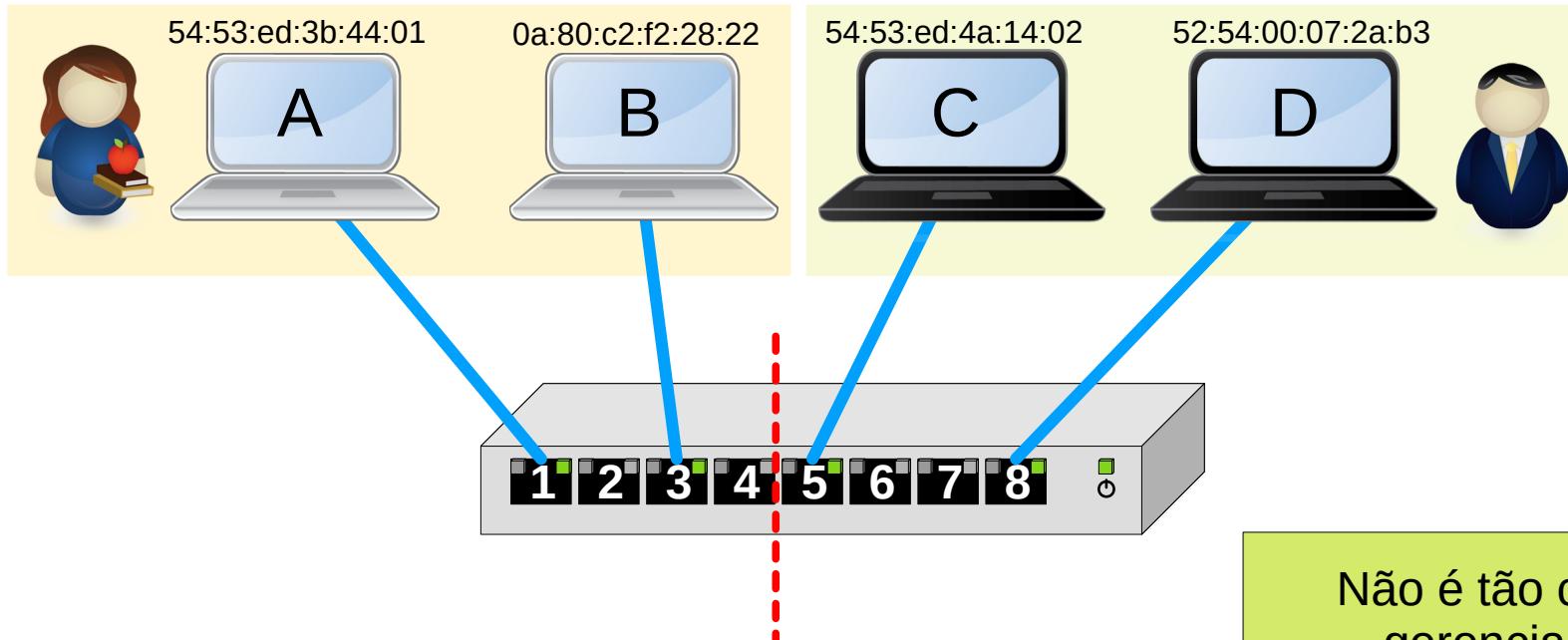


É a solução mais barata, mas muito
insegura!



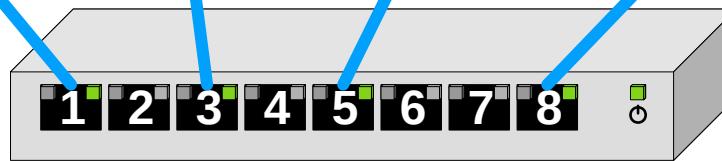
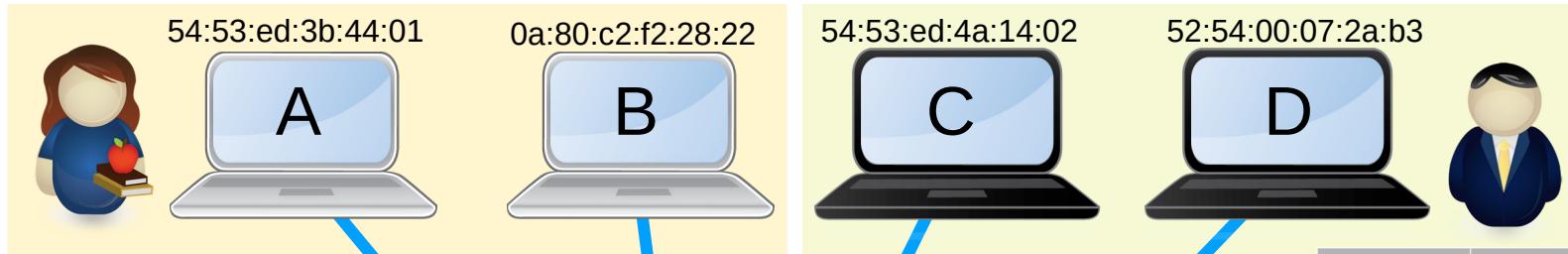
VLAN

Solução 3: Utilizando redes locais virtuais (VLANs)



Não é tão cara, fácil de gerenciar e segura

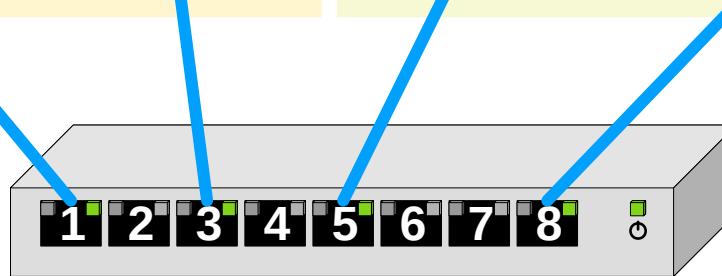
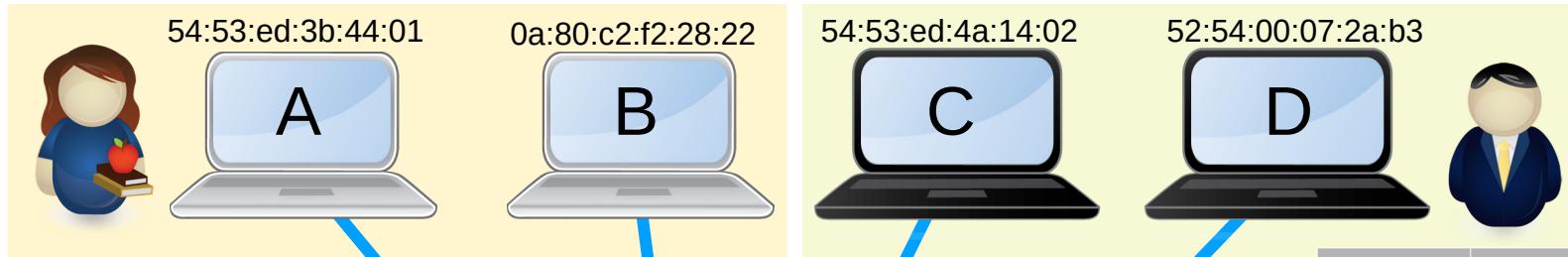
VLAN



Sem configuração de VLAN todas as portas do *switch* estão em uma única VLAN.

Porta	VLAN	Hosts
1	1	
2	1	
3	1	
4	1	
5	1	
6	1	
7	1	
8	1	

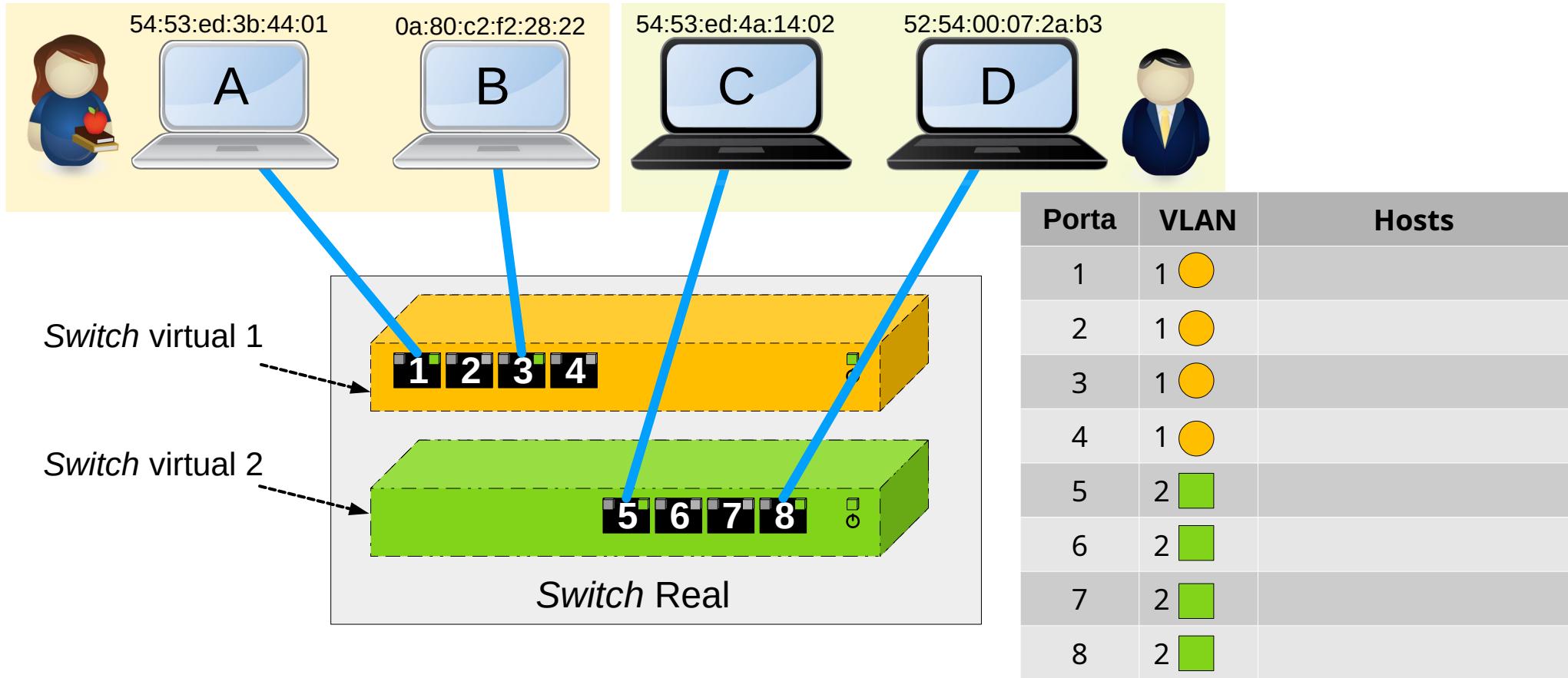
VLAN



Porta	VLAN	Hosts
1	1	
2	1	
3	1	
4	1	
5	2	
6	2	
7	2	
8	2	

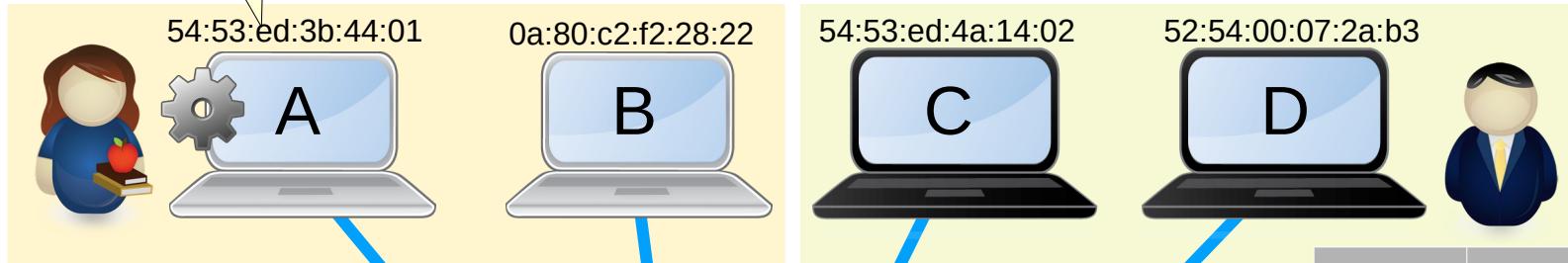
A configuração da VLAN consiste em colocar portas ou máquinas em VLANS distintas.

VLAN



VLAN

Vou falar
com B

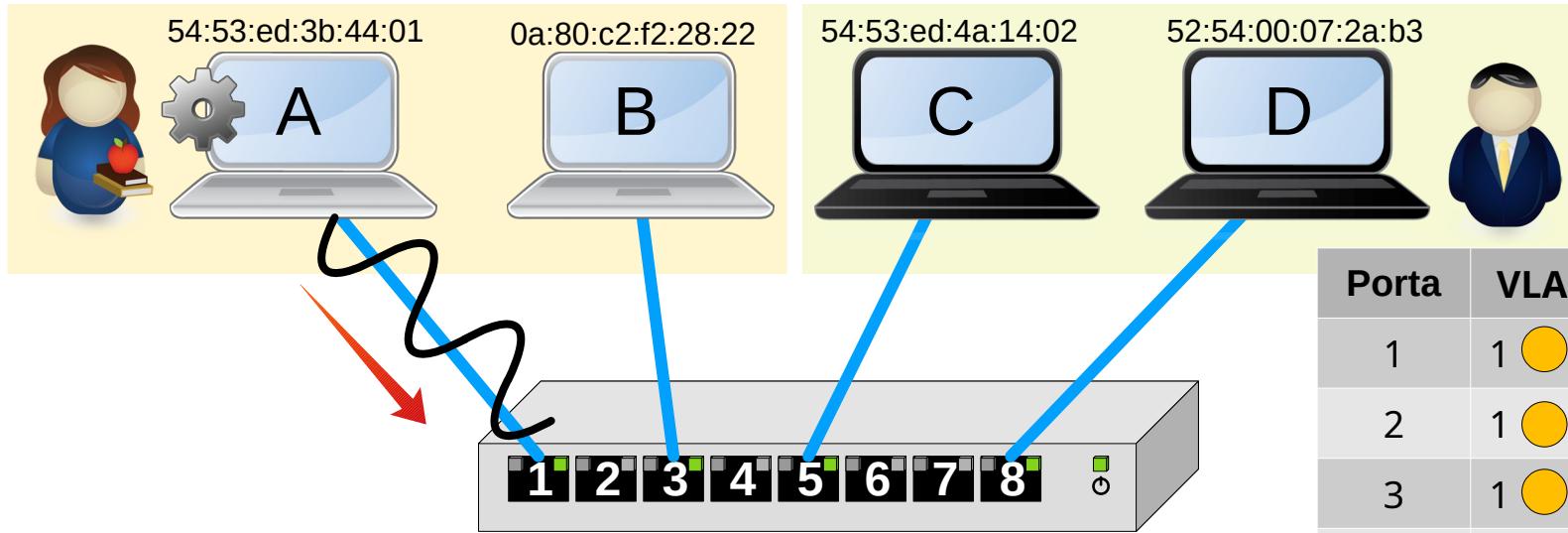


Preamble	Destination	Source	Type	Data	Checksum
----------	-------------	--------	------	------	----------

10101010..<u>11</u>	0a:80:c2: f2:28:22	54:53:ed: 3b:44:01	IP	Olá	0xaf81
				//	

Porta	VLAN	Hosts
1	1	
2	1	
3	1	
4	1	
5	2	
6	2	
7	2	
8	2	

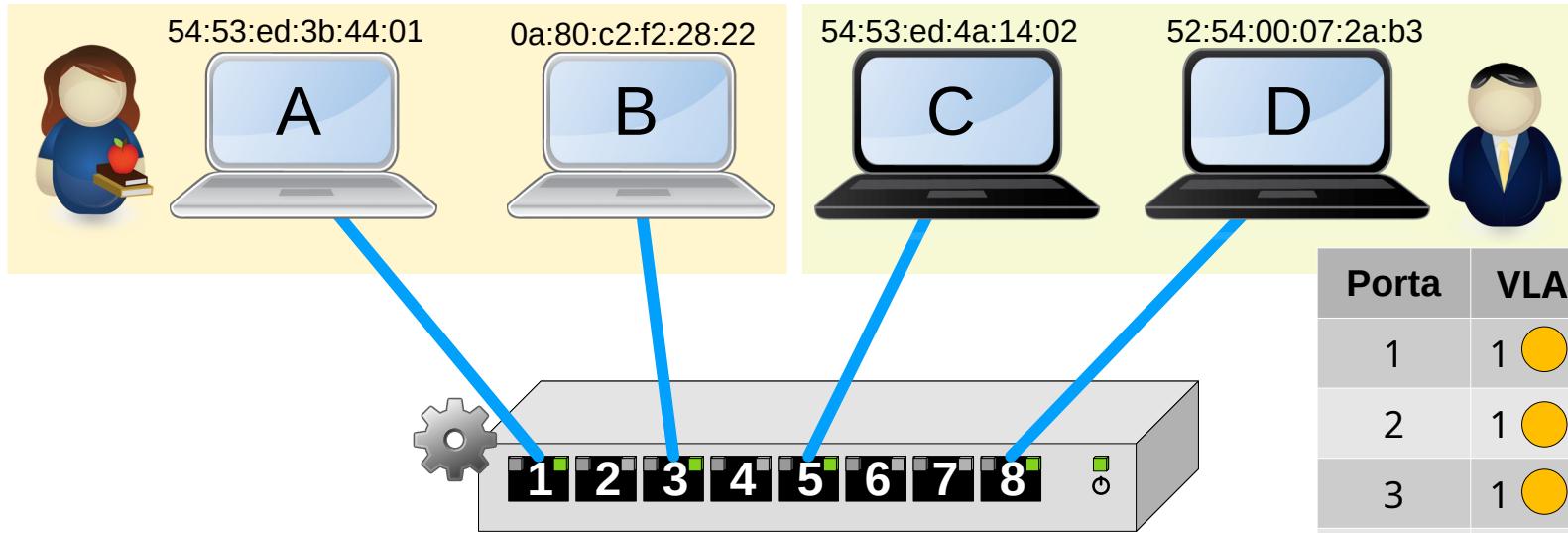
VLAN



Preamble	Destination	Source	Type	Data //	Checksum
10101010.. <u>11</u>	0a:80:c2: f2:28:22	54:53:ed: 3b:44:01	IP	Olá //	0xaf81

Porta	VLAN	Hosts
1	1	
2	1	
3	1	
4	1	
5	2	
6	2	
7	2	
8	2	

VLAN

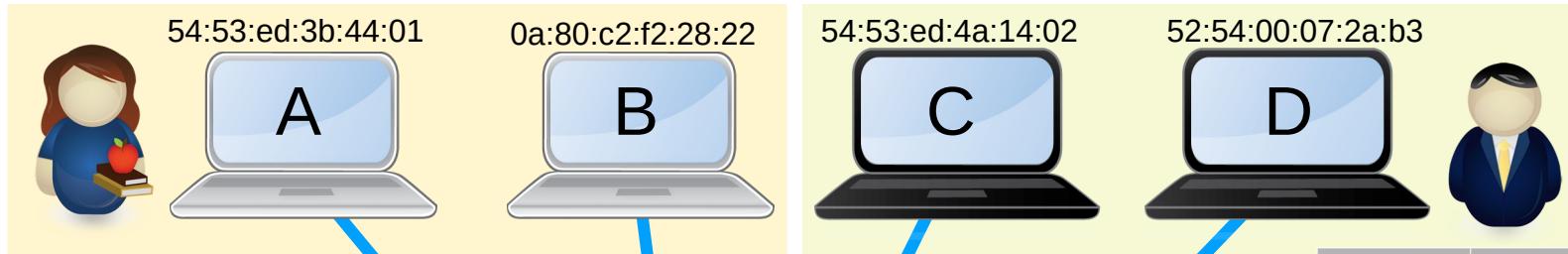


Preamble	Destination	Source	Type	Data	Checksum
10101010.. <u>11</u> 0a:80:c2: f2:28:22 54:53:ed: 3b:44:01 IP Olá 0xaf81					
10101010.. <u>11</u>	0a:80:c2: f2:28:22	54:53:ed: 3b:44:01	IP	Olá	0xaf81



Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	1	
3	1	
4	1	
5	2	
6	2	
7	2	
8	2	

VLAN



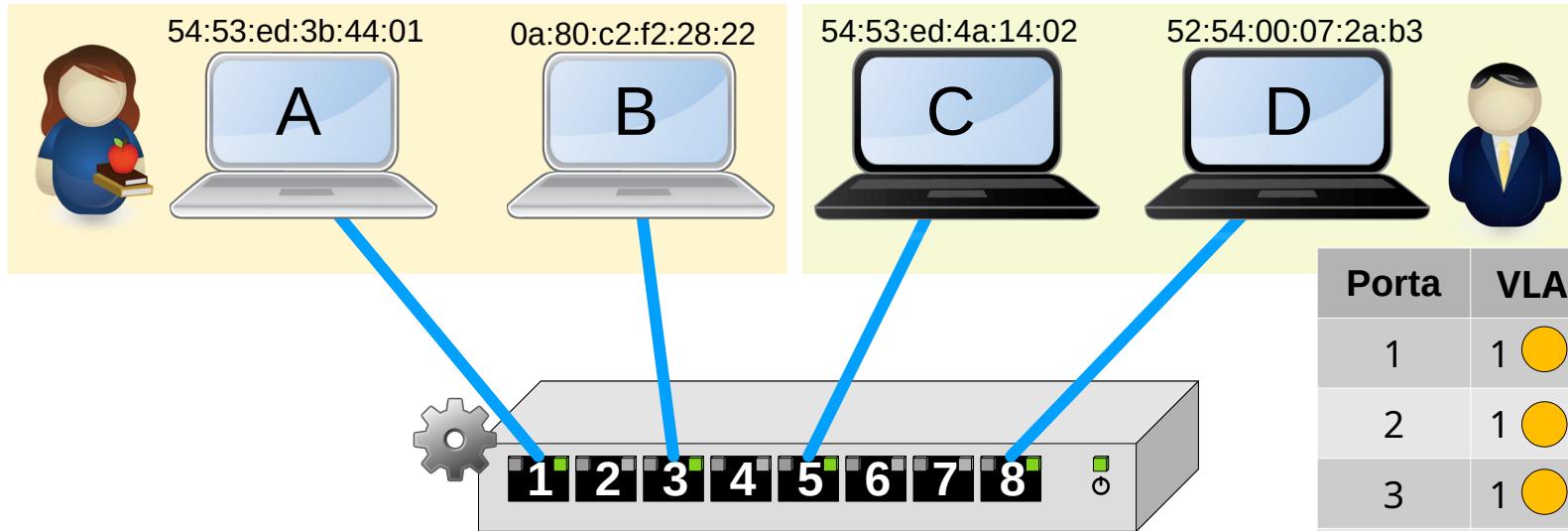
Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	1	
3	1	
4	1	
5	2	
6	2	
7	2	
8	2	

A red question mark is placed next to the VLAN 2 row.

Preamble	Destination	Source	Type	Data	Checksum
10101010.. <u>11</u>	0a:80:c2: f2:28:22	54:53:ed: 3b:44:01	IP	Olá	0xaf81



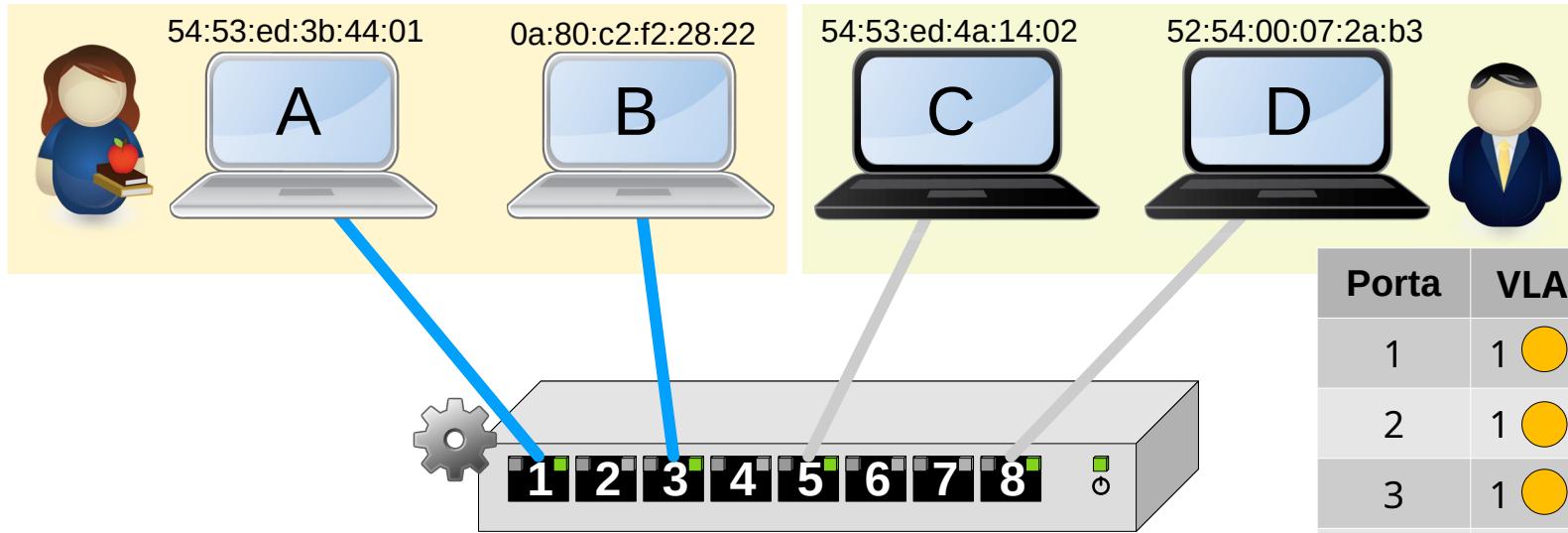
VLAN



Preamble	Destination	Source	Type	Data //	Checksum
10101010.. <u>11</u>	0a:80:c2: f2:28:22	54:53:ed: 3b:44:01	IP	Olá //	0xaf81

Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	1	Enviar...
3	1	Enviar...
4	1	Enviar...
5	2	
6	2	
7	2	
8	2	

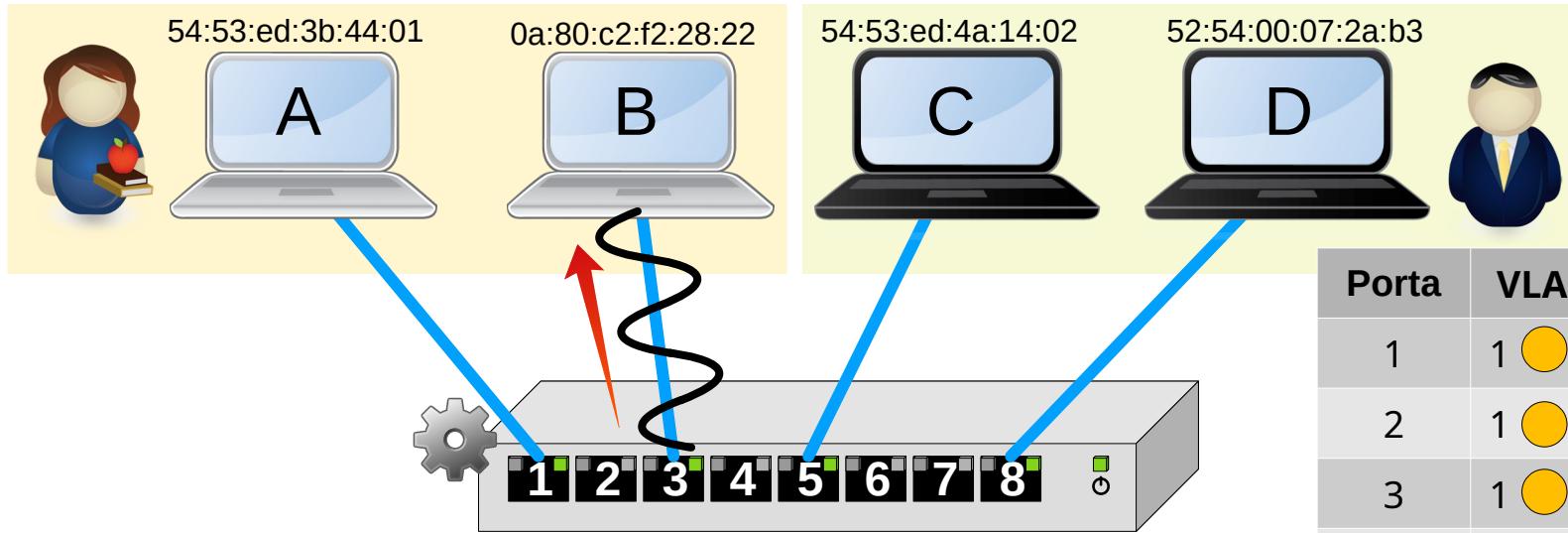
VLAN



Preamble	Destination	Source	Type	Data	Checksum
10101010.. <u>11</u>	0a:80:c2: f2:28:22	54:53:ed: 3b:44:01	IP	Olá	0xaf81

Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	1	Enviar...
3	1	Enviar...
4	1	Enviar...
5	2	Hand
6	2	Hand
7	2	Hand
8	2	Hand

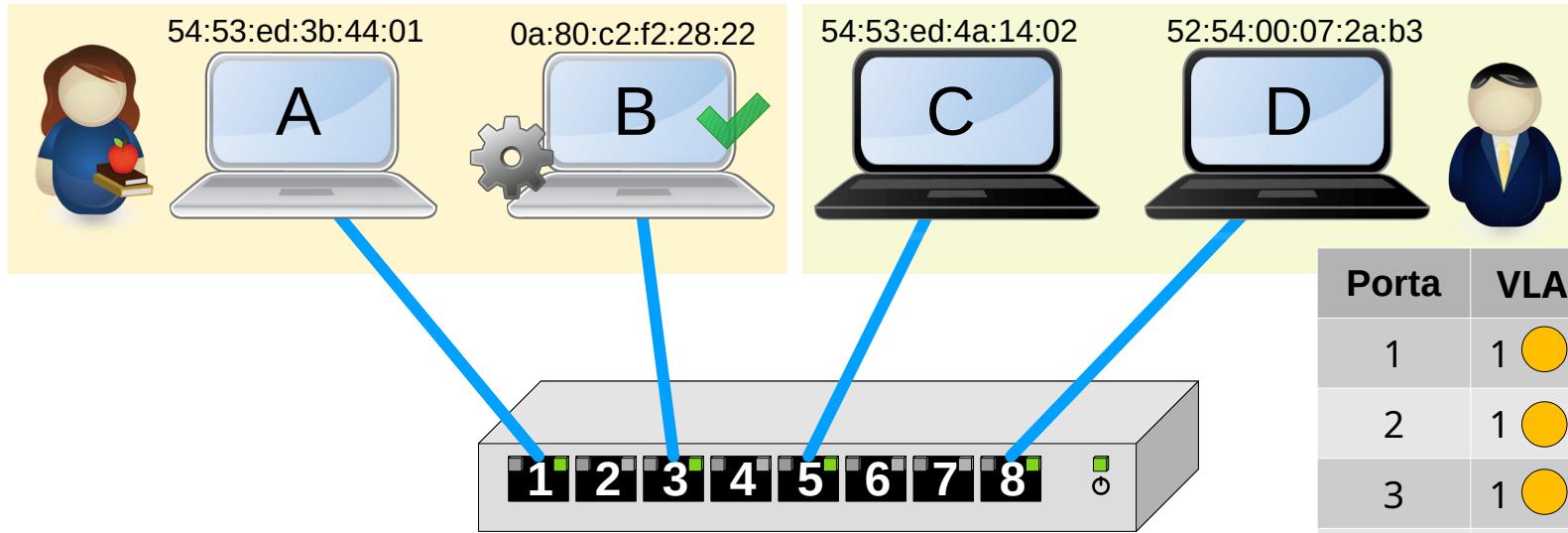
VLAN



Preamble	Destination	Source	Type	Data	Checksum
//					
10101010.. <u>11</u>	0a:80:c2: f2:28:22	54:53:ed: 3b:44:01	IP	Olá	0xaf81

Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	1	Enviar...
3	1	Enviar...
4	1	Enviar...
5	2	
6	2	
7	2	
8	2	

VLAN

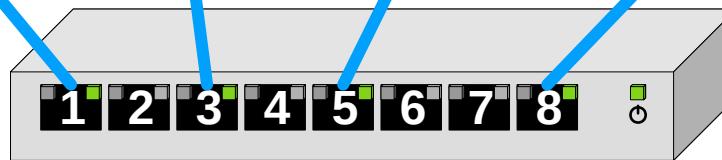
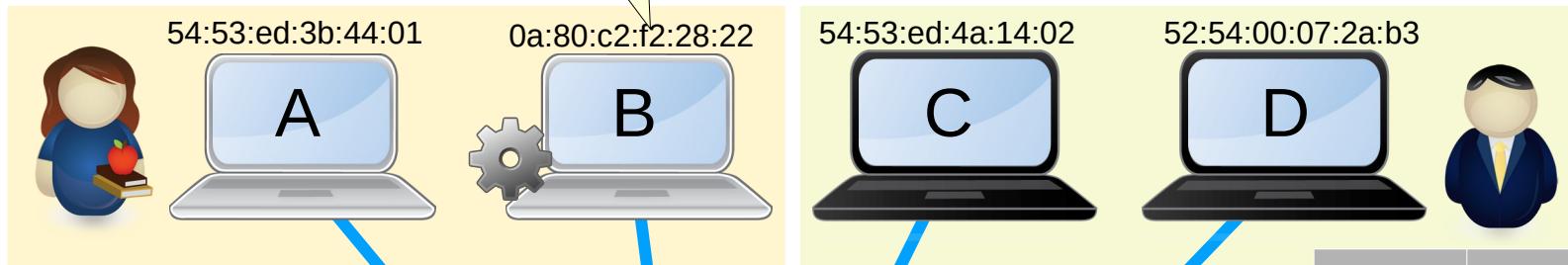


Preamble	Destination	Source	Type	Data	Checksum
10101010.. <u>11</u>	0a:80:c2: f2:28:22	54:53:ed: 3b:44:01	IP	Olá //	0xaf81

Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	1	Enviar...
3	1	Enviar...
4	1	Enviar...
5	2	Stop
6	2	Stop
7	2	Stop
8	2	Stop

You
responder...

VLAN

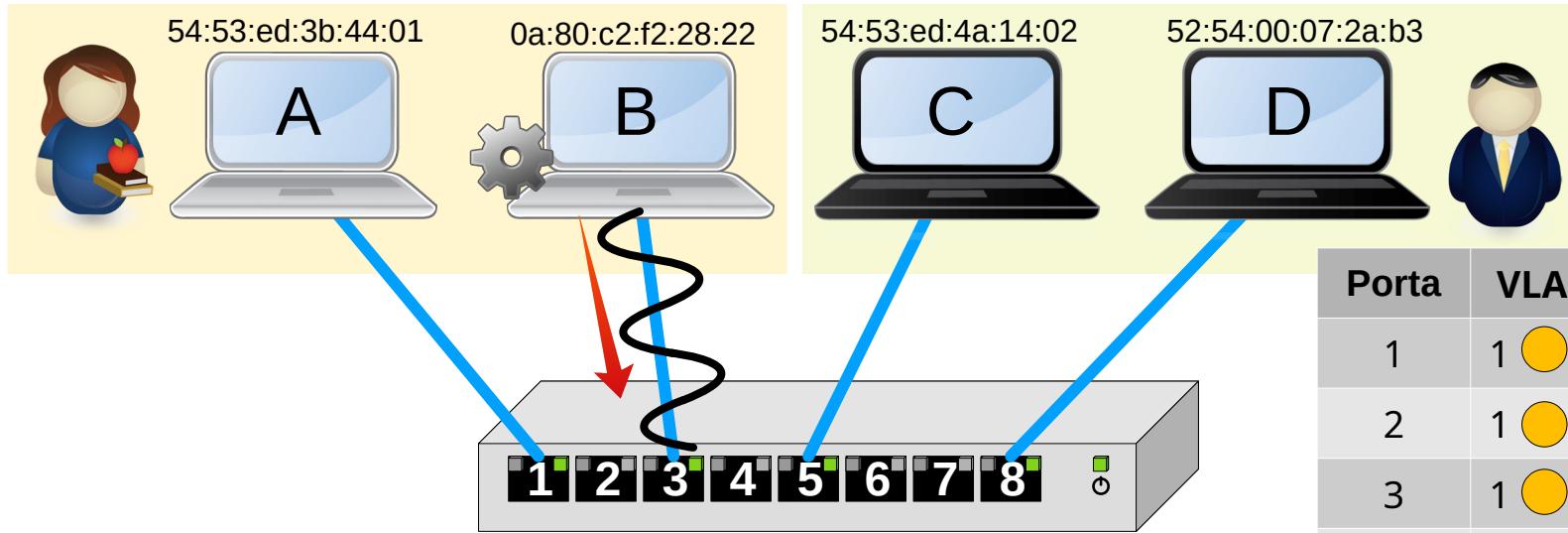


Preamble Destination Source Type Data Checksum

10101010..11	54:53:ed: 3b:44:01	0a:80:c2: f2:28:22	IP	Olá	0xaf81
				//	

Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	1	
3	1	
4	1	
5	2	
6	2	
7	2	
8	2	

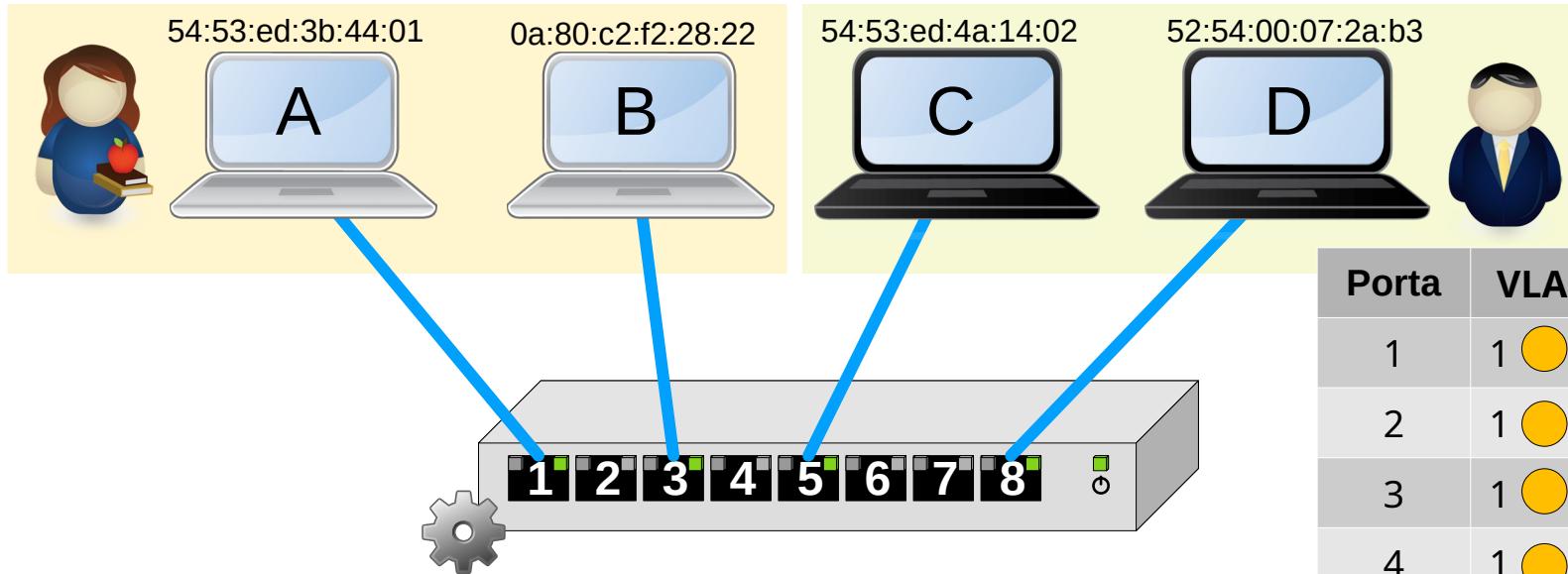
VLAN



Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	1	
3	1	
4	1	
5	2	
6	2	
7	2	
8	2	

Preamble	Destination	Source	Type	Data	Checksum
10101010.. <u>11</u>	54:53:ed: 3b:44:01	0a:80:c2: f2:28:22	IP	Olá	0xaf81

VLAN

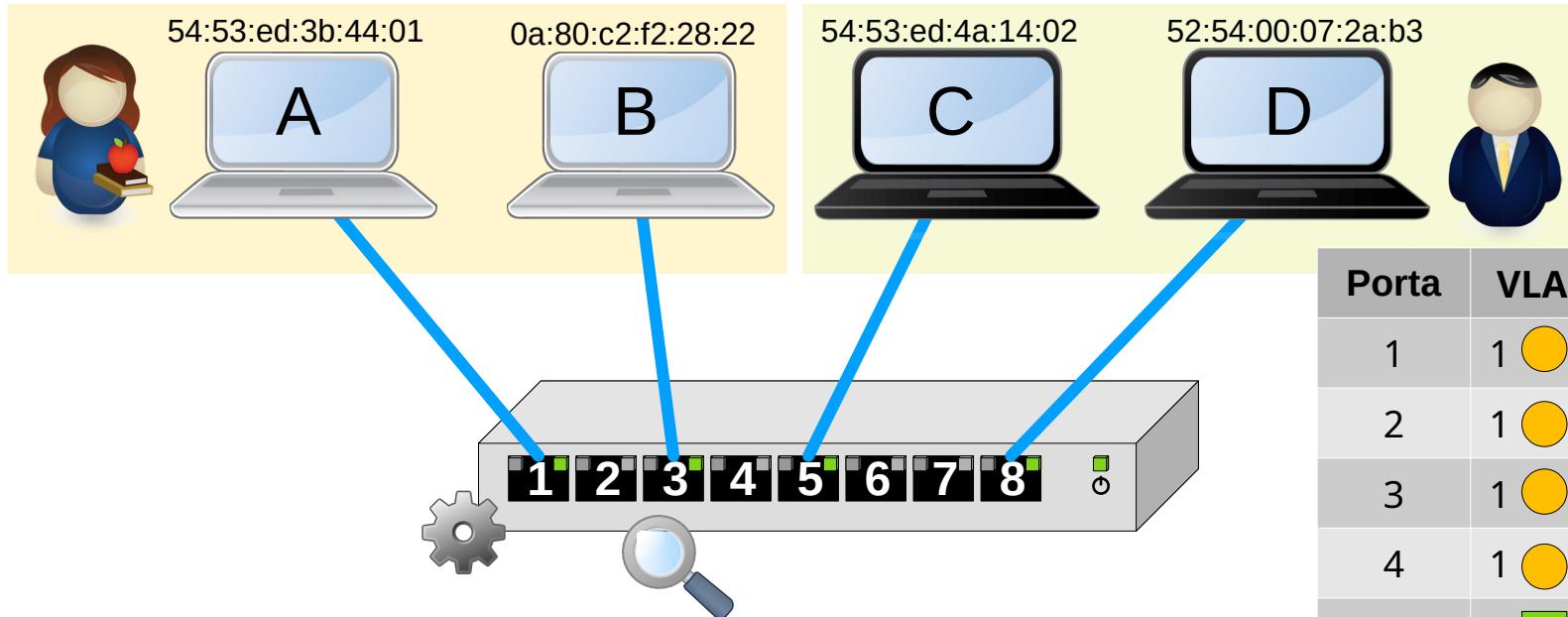


Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	1	
3	1	0a:80:c2:f2:28:22
4	1	
5	2	
6	2	
7	2	
8	2	

Preamble	Destination	Source	Type	Data	Checksum
10101010.. <u>11</u>	54:53:ed: 3b:44:01	0a:80:c2: f2:28:22	IP	Olá	0xaf81



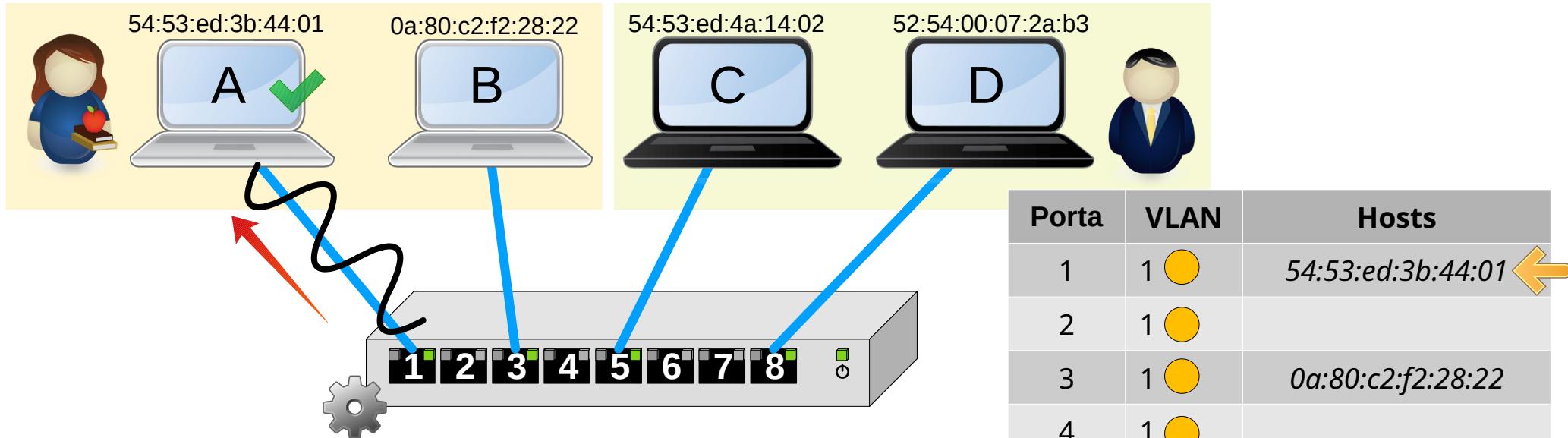
VLAN



Preamble	Destination	Source	Type	Data	Checksum
10101010.. <u>11</u>	54:53:ed: 3b:44:01	0a:80:c2: f2:28:22	IP	Olá	0xaf81

Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	1	
3	1	0a:80:c2:f2:28:22
4	1	
5	2	
6	2	
7	2	
8	2	

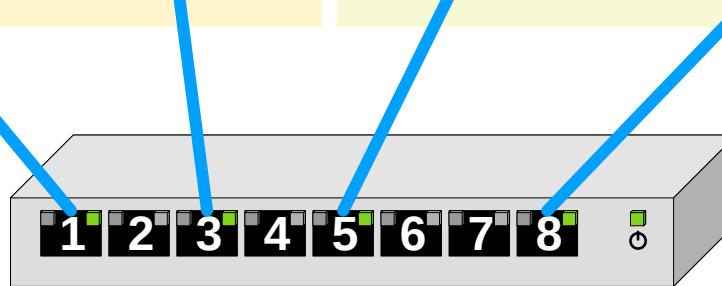
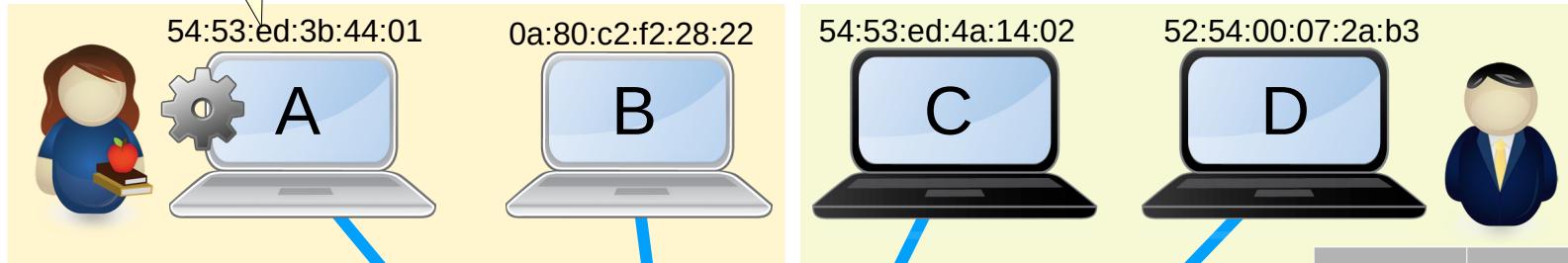
VLAN



Preamble	Destination	Source	Type	Data	Checksum
10101010.. <u>11</u>	54:53:ed: 3b:44:01	0a:80:c2: f2:28:22	IP	Olá	0xaf81

VLAN

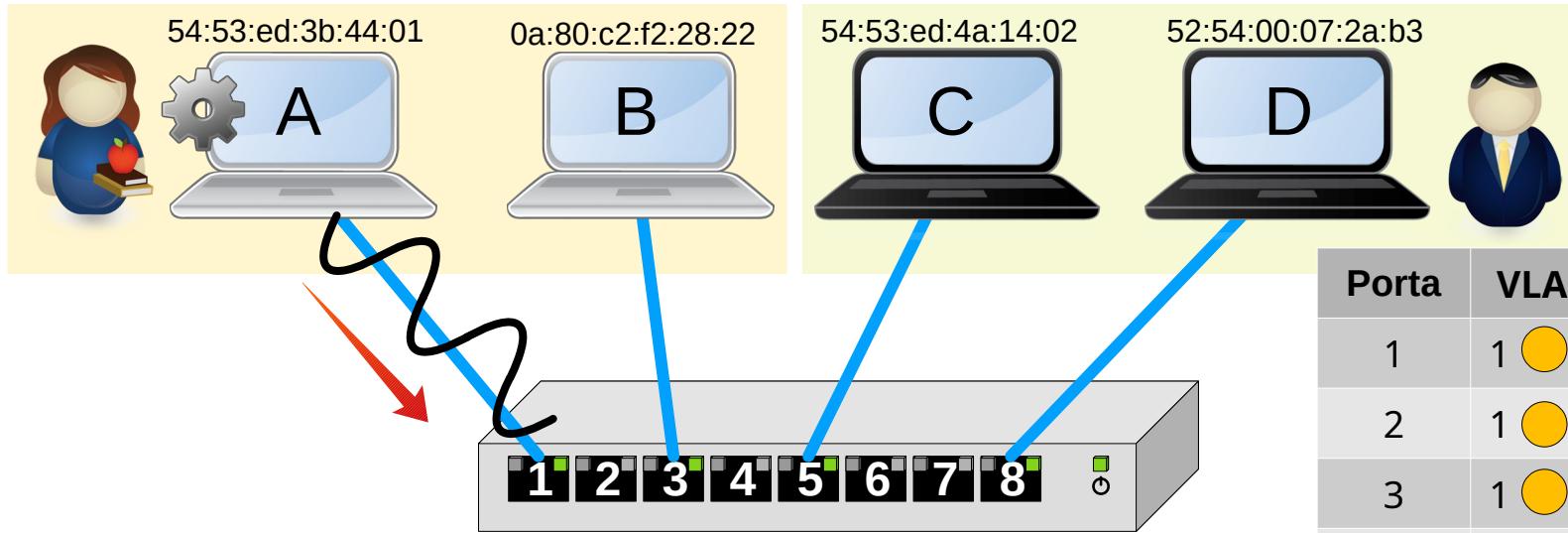
Vou falar
com C



Porta	VLAN	Hosts
1	1	
2	1	
3	1	
4	1	
5	2	
6	2	
7	2	
8	2	

Preamble	Destination	Source	Type	Data	Checksum
10101010.. <u>11</u>	54:53:ed: 4a:14:02	54:53:ed: 3b:44:01	IP	Olá	0xaf81

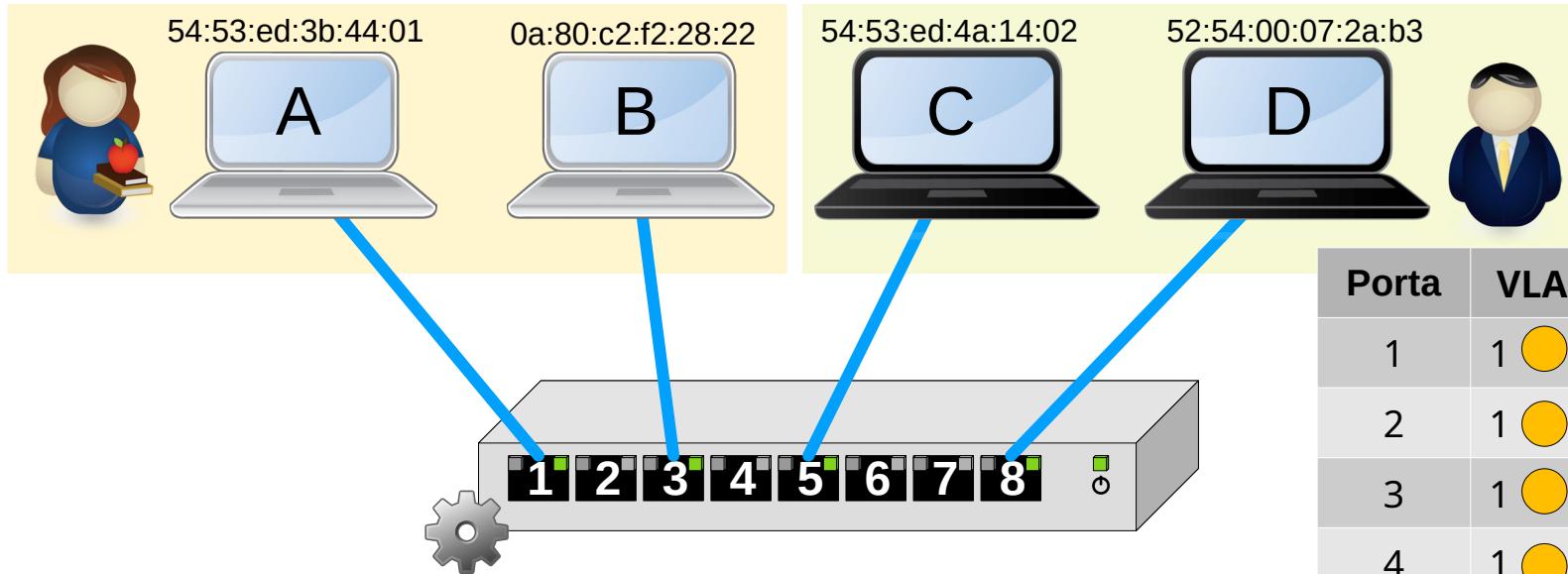
VLAN



Porta	VLAN	Hosts
1	1	
2	1	
3	1	
4	1	
5	2	
6	2	
7	2	
8	2	

Preamble	Destination	Source	Type	Data	Checksum
10101010.. <u>11</u>	54:53:ed: 4a:14:02	54:53:ed: 3b:44:01	IP	Olá	0xaf81

VLAN

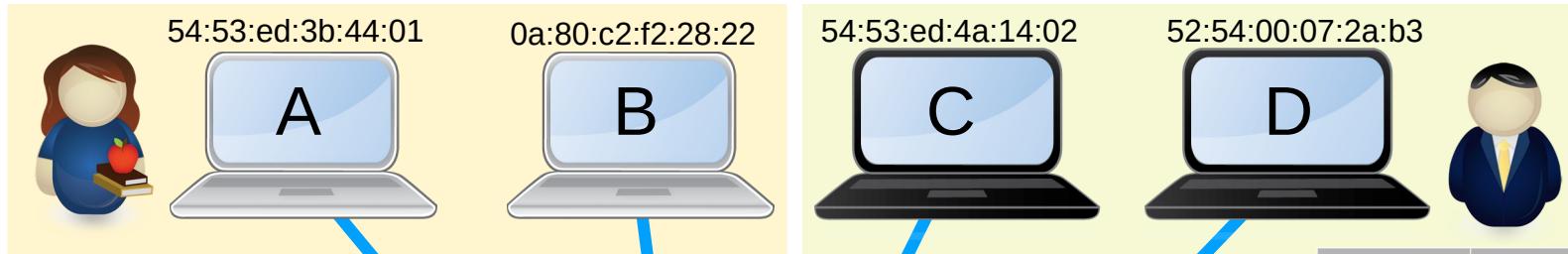


Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	1	
3	1	
4	1	
5	2	
6	2	
7	2	
8	2	

Preamble	Destination	Source	Type	Data	Checksum
10101010.. <u>11</u>	54:53:ed: 4a:14:02	54:53:ed: 3b:44:01	IP	Olá	0xaf81



VLAN



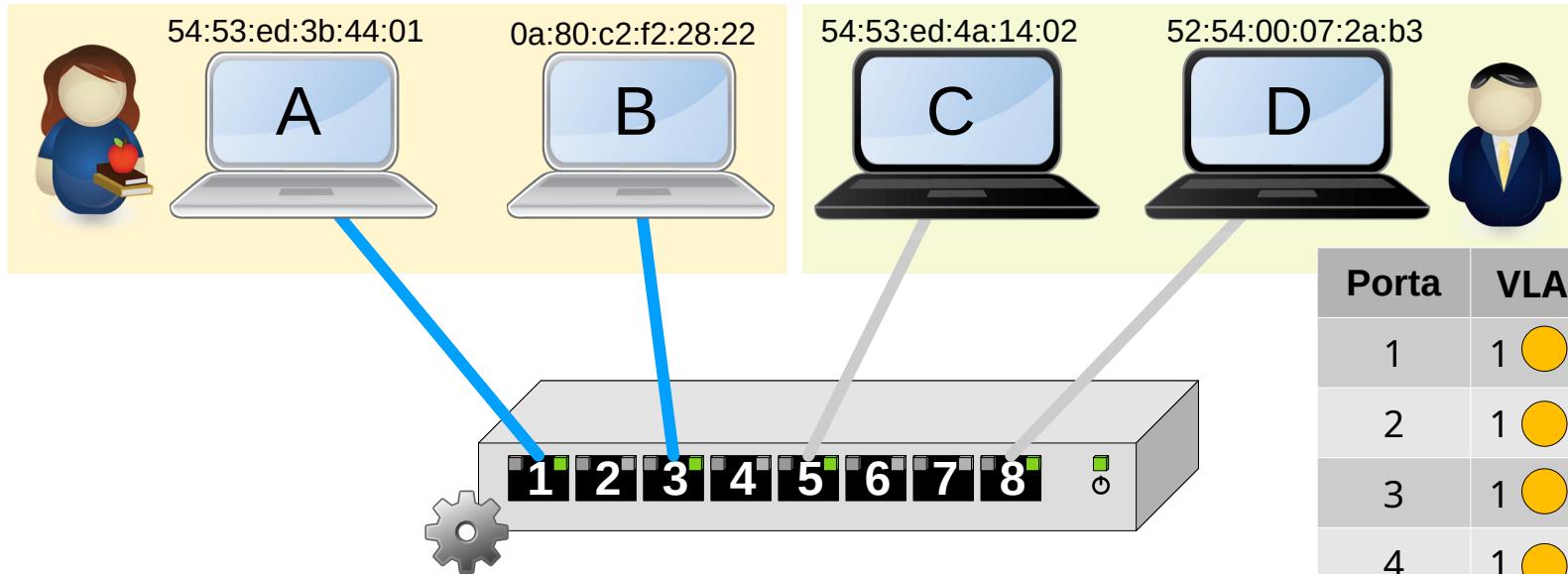
Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	1	
3	1	
4	1	
5	2	
6	2	
7	2	
8	2	

A large red question mark is placed next to the VLAN 2 row.

Preamble	Destination	Source	Type	Data	Checksum
10101010.. <u>11</u>	54:53:ed: 4a:14:02	54:53:ed: 3b:44:01	IP	Olá	0xaf81



VLAN

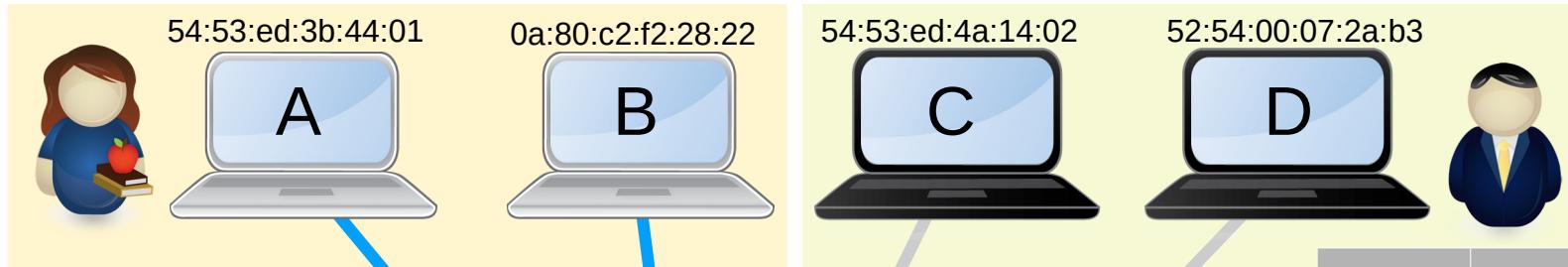


Preamble	Destination	Source	Type	Data //	Checksum
10101010.. <u>11</u>	54:53:ed: 4a:14:02	54:53:ed: 3b:44:01	IP	Olá	0xaf81

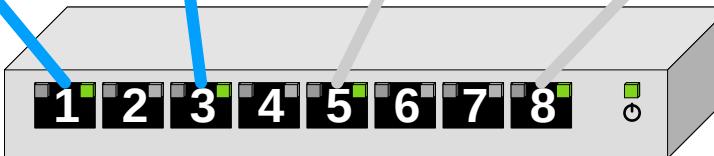


Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	1	Enviar...
3	1	Enviar...
4	1	Enviar...
5	2	Hand icon
6	2	Hand icon
7	2	Hand icon
8	2	Hand icon

VLAN



Graças a VLAN,
não é possível
entregar esse
quadro...

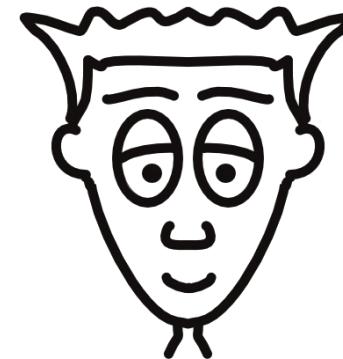


Preamble	destination	Source	Type	Data	Checksum
				//	
10101010.. <u>11</u>	54:53:ed: 4a:14:02	54:53:ed: 3b:44:01	IP	Olá	0xaf81

Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	1	Enviar...
3	1	Enviar...
4	1	Enviar...
5	2	Hand icon
6	2	Hand icon
7	2	Hand icon
8	2	Hand icon

VLAN

Entendi... VLANs ajudam a dividir as redes, mesmo que elas estejam conectadas no mesmo switch! Muito legal...



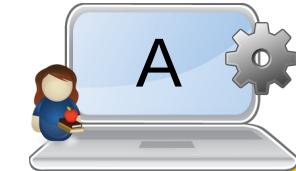
VLAN

Entendi... VLANs ajudam a dividir as redes, mesmo que elas estejam conectadas no mesmo switch! Muito legal...

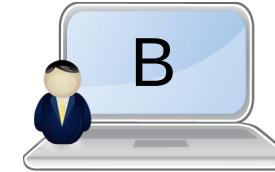


Mas há uma
complicação!

54:53:ed:3b:44:01



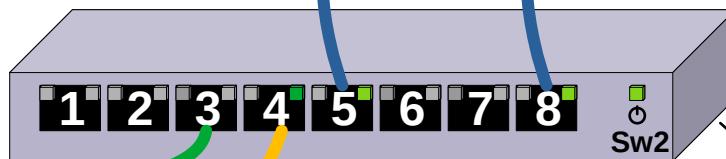
0a:80:c2:f2:28:22



54:53:ed:4a:14:02



52:54:00:07:2a:b3

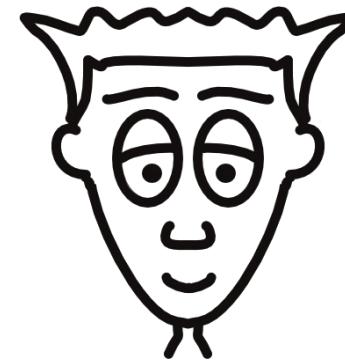


Porta	VLAN	Hosts
1	1	
2	2	
3	1	
4	1	
5	1	
6	2	
7	2	
8	2	

Porta	VLAN	Hosts
1	1	
2	1	
3	1	
4	1	
5	1	
6	1	
7	1	
8	1	

VLAN

Tem um *loop* nesta rede!!!



VLAN

Tem um *loop* nesta rede!!!

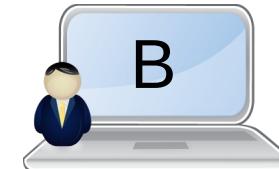


Na verdade não!

54:53:ed:3b:44:01



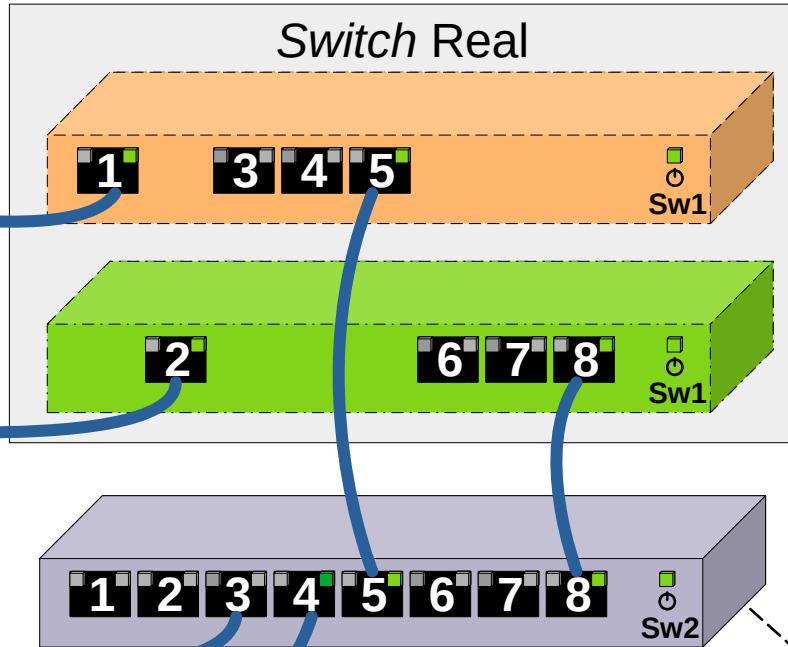
0a:80:c2:f2:28:22



54:53:ed:4a:14:02

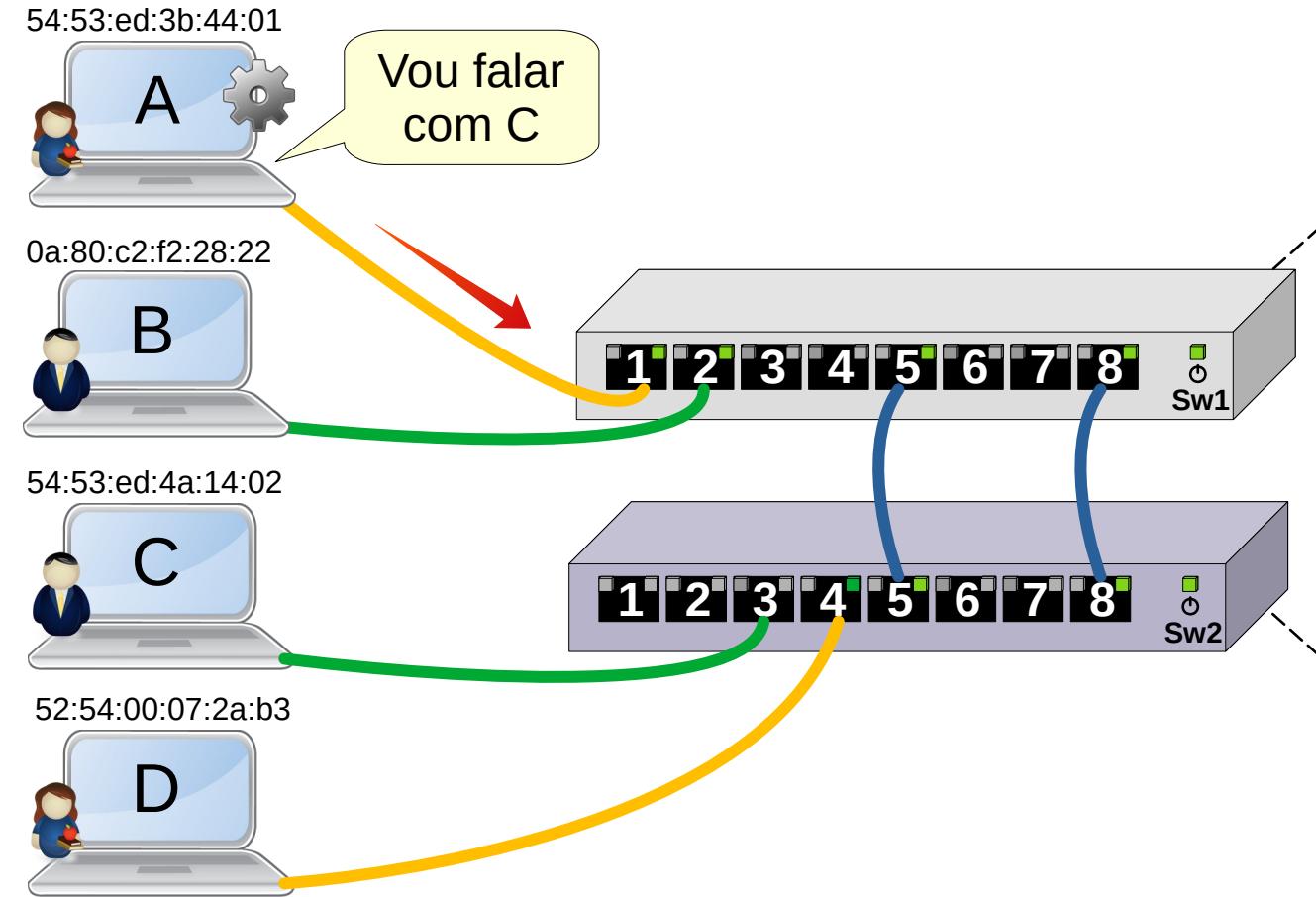


52:54:00:07:2a:b3



Porta	VLAN	Hosts
1	1	
2	2	
3	1	
4	1	
5	1	
6	2	
7	2	
8	2	

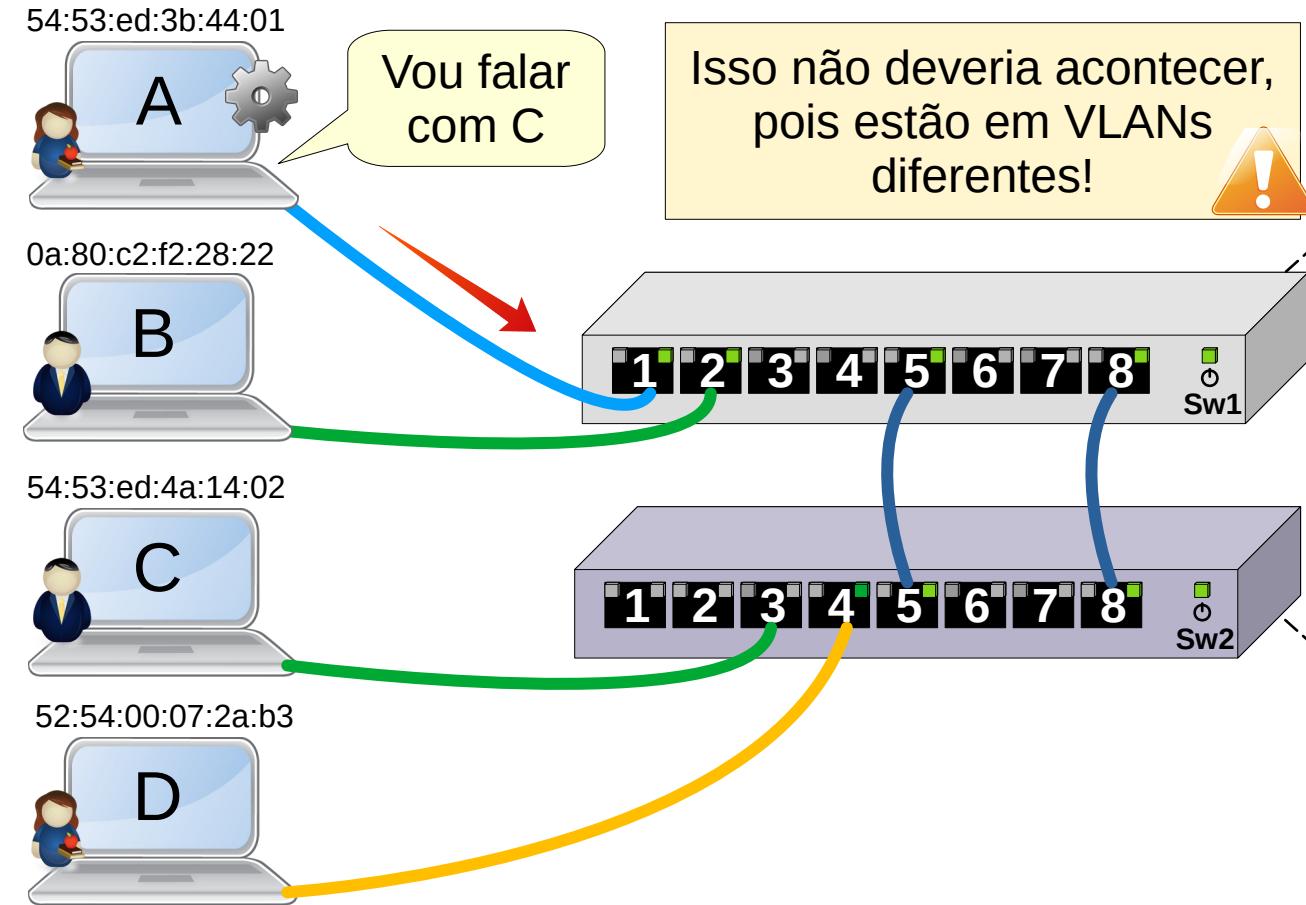
Porta	VLAN	Hosts
1	1	
2	1	
3	1	
4	1	
5	1	
6	1	
7	1	
8	1	



Preamble	Destination	Source	Type	Data //	Checksum
10101010.. <u>11</u>	54:53:ed: 4a:14:02	54:53:ed: 3b:44:01	IP	Olá //	0xaf81

Porta	VLAN	Hosts
1	1	
2	2	
3	1	
4	1	
5	1	
6	2	
7	2	
8	2	

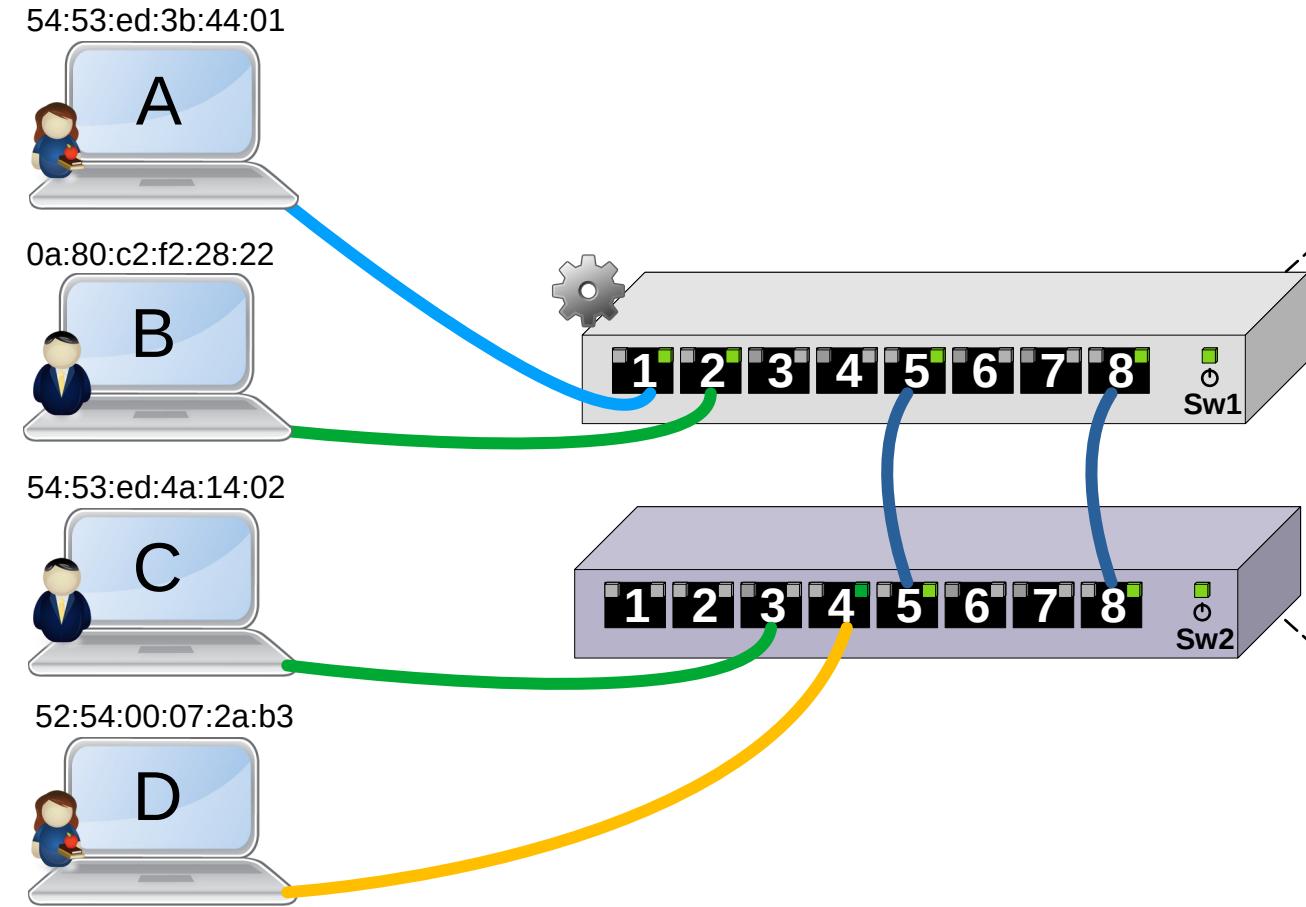
Porta	VLAN	Hosts
1	1	
2	1	
3	1	
4	1	
5	1	
6	1	
7	1	
8	1	



Porta	VLAN	Hosts
1	1	
2	2	
3	1	
4	1	
5	1	
6	2	
7	2	
8	2	

Porta	VLAN	Hosts
1	1	
2	1	
3	1	
4	1	
5	1	
6	1	
7	1	
8	1	

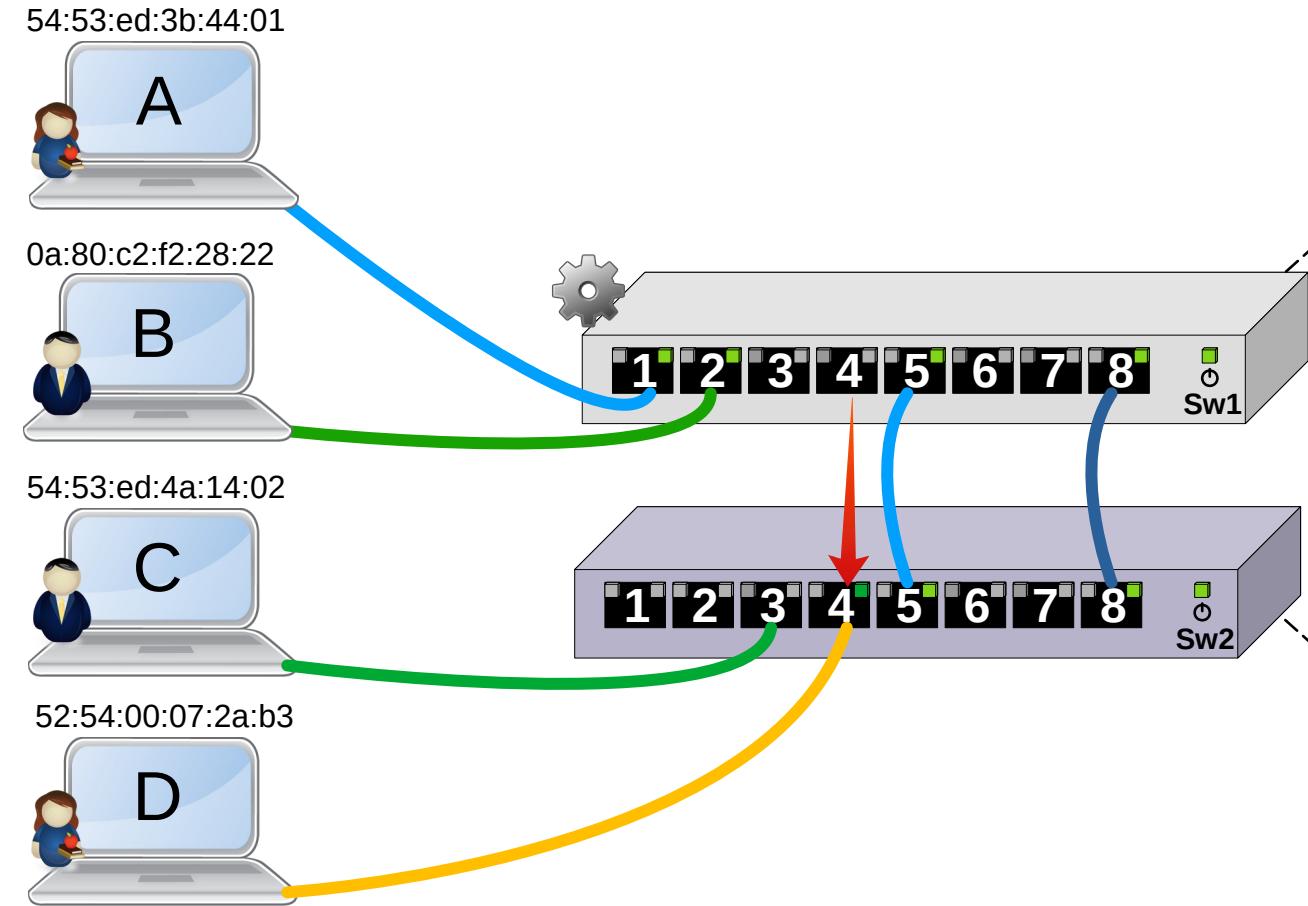
Preamble	Destination	Source	Type	Data	Checksum
10101010.. <u>11</u>	54:53:ed: 4a:14:02	54:53:ed: 3b:44:01	IP	Olá //	0xaf81



Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	2	
3	1	
4	1	
5	1	
6	2	
7	2	
8	2	

Porta	VLAN	Hosts
1	1	
2	1	
3	1	
4	1	
5	1	
6	1	
7	1	
8	1	

Preamble	Destination	Source	Type	Data	Checksum
10101010.. <u>11</u>	54:53:ed: 4a:14:02	54:53:ed: 3b:44:01	IP	Olá //	0xaf81



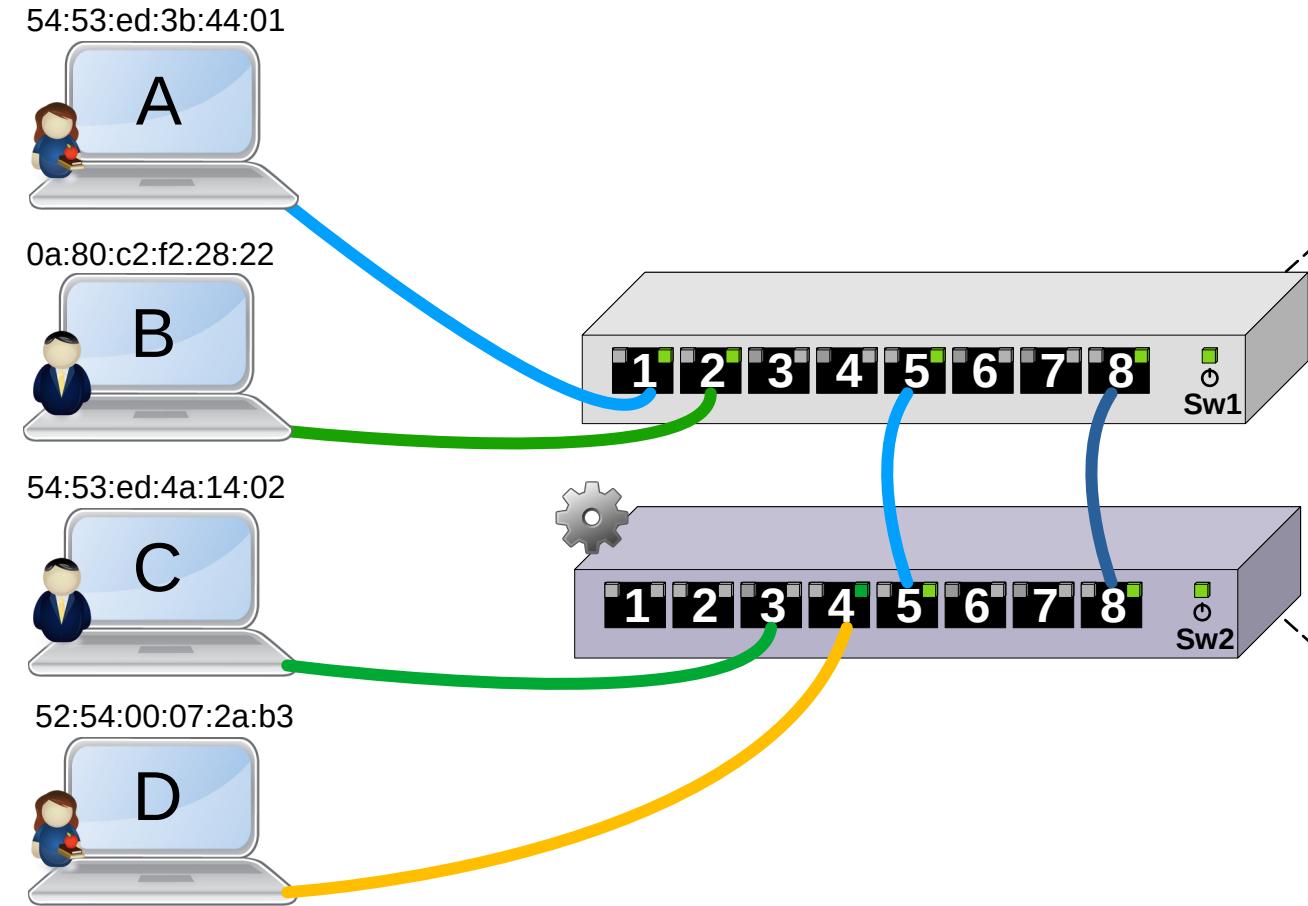
Preamble Destination Source Type Data Checksum

10101010.. <u>11</u>	54:53:ed: 4a:14:02	54:53:ed: 3b:44:01	IP	Olá //	0xaf81
----------------------	-----------------------	-----------------------	----	-----------	--------



Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	2	
3	1	Enviar...
4	1	Enviar...
5	1	Enviar...
6	2	
7	2	
8	2	

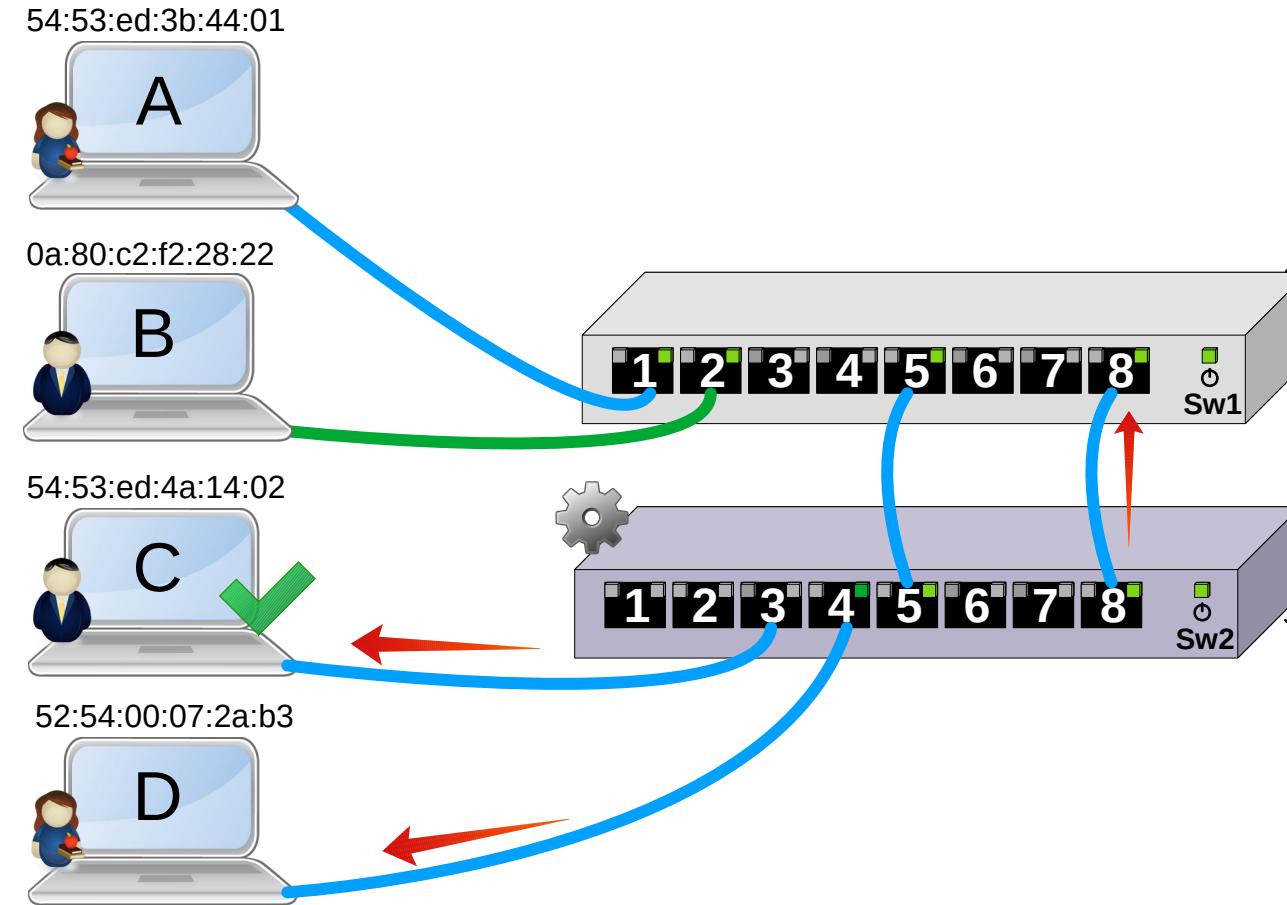
Porta	VLAN	Hosts
1	1	
2	1	
3	1	
4	1	
5	1	
6	1	
7	1	
8	1	



Preamble	Destination	Source	Type	Data	Checksum
10101010.. <u>11</u>	54:53:ed: 4a:14:02	54:53:ed: 3b:44:01	IP	Olá //	0xaf81

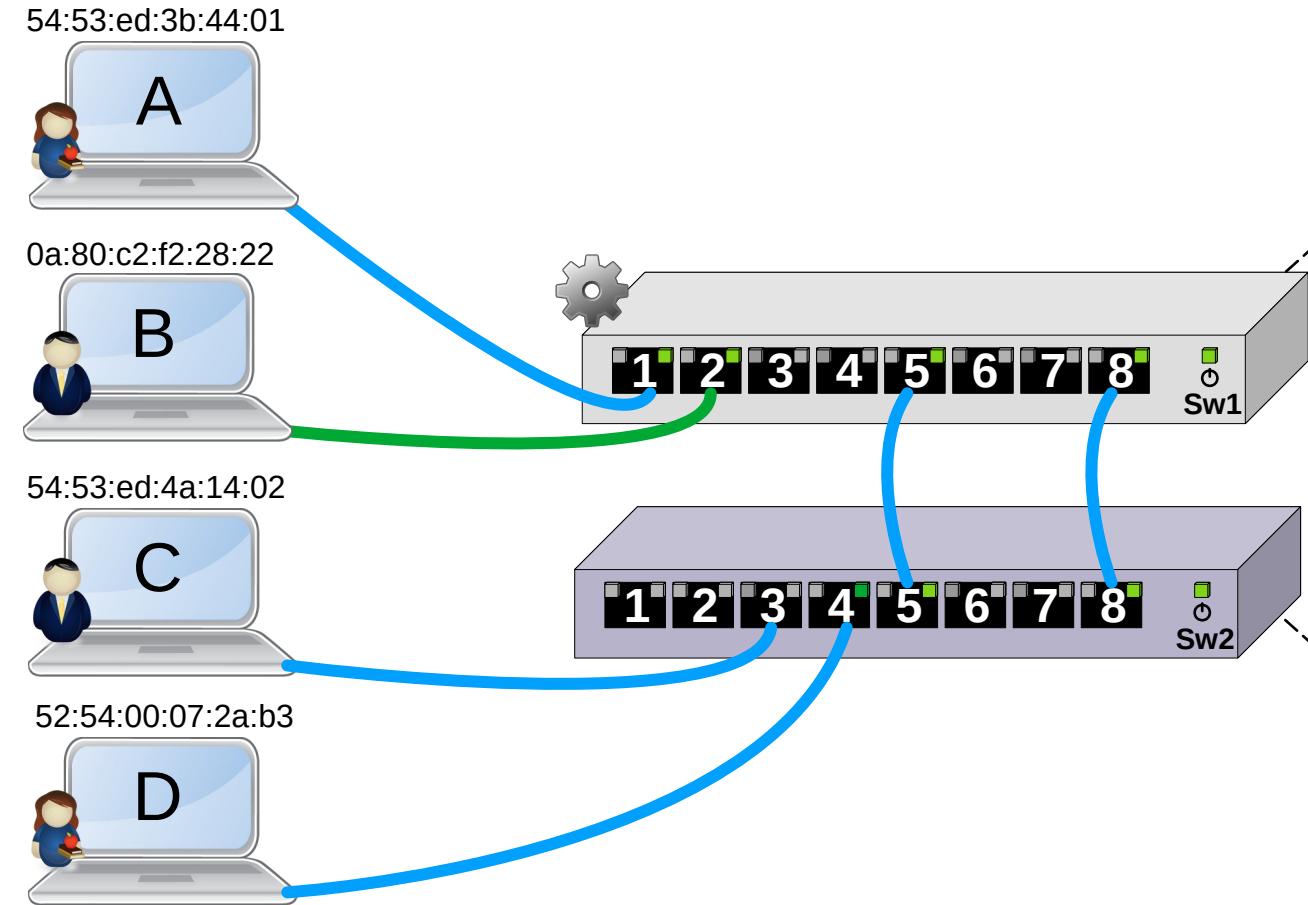
Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	2	
3	1	
4	1	
5	1	
6	2	
7	2	
8	2	

Porta	VLAN	Hosts
1	1	
2	1	
3	1	
4	1	
5	1	54:53:ed:3b:44:01
6	1	
7	1	
8	1	



Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	2	
3	1	
4	1	
5	1	
6	2	
7	2	
8	2	

Porta	VLAN	Hosts
1	1	Enviar...
2	1	Enviar...
3	1	Enviar...
4	1	Enviar...
5	1	54:53:ed:3b:44:01
6	1	Enviar...
7	1	Enviar...
8	1	Enviar...



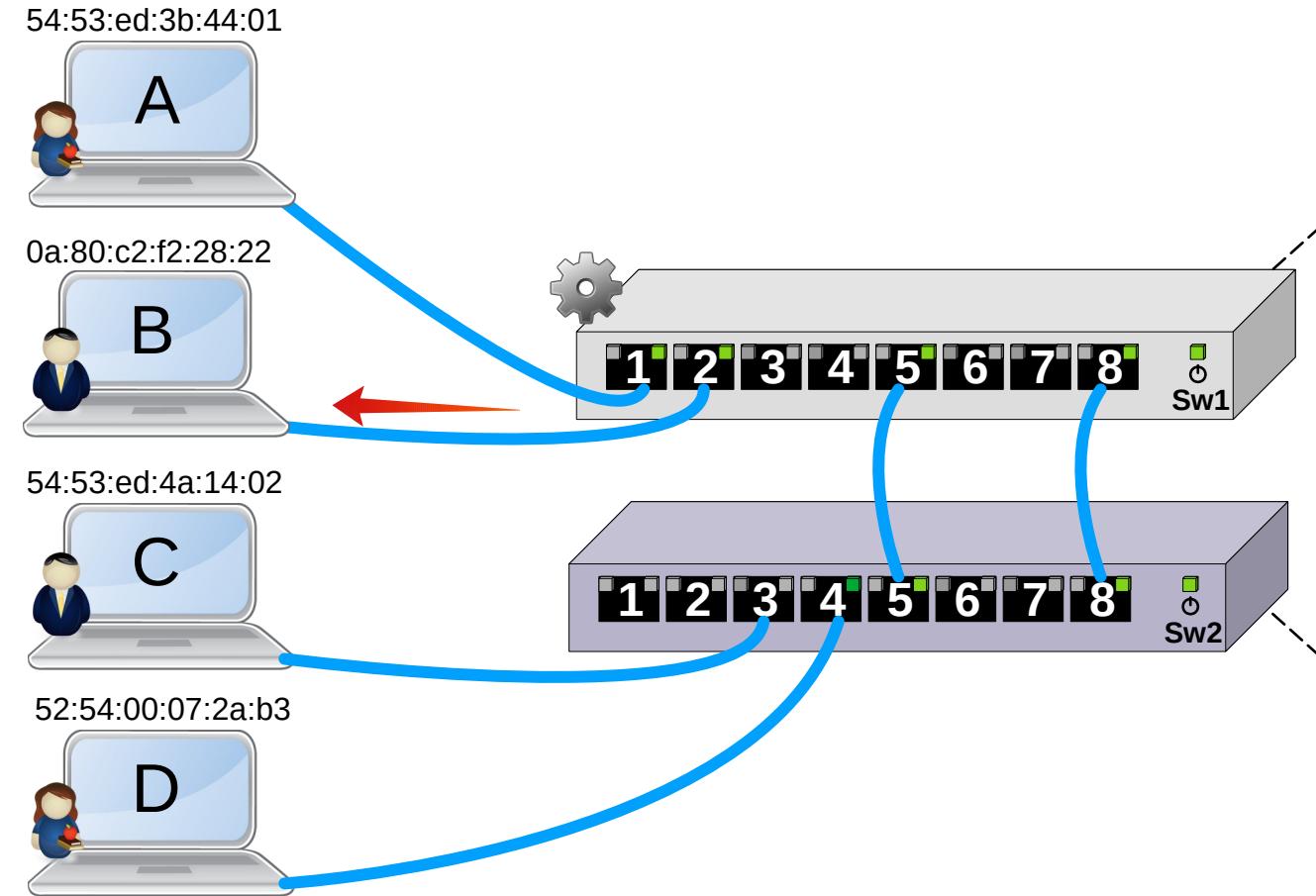
Preamble Destination Source Type Data Checksum

10101010.. <u>11</u>	54:53:ed: 4a:14:02	54:53:ed: 3b:44:01	IP	Olá //	0xaf81
----------------------	-------------------------------	-------------------------------	----	------------------	---------------



Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	2	
3	1	
4	1	
5	1	
6	2	
7	2	
8	2	54:53:ed:3b:44:01

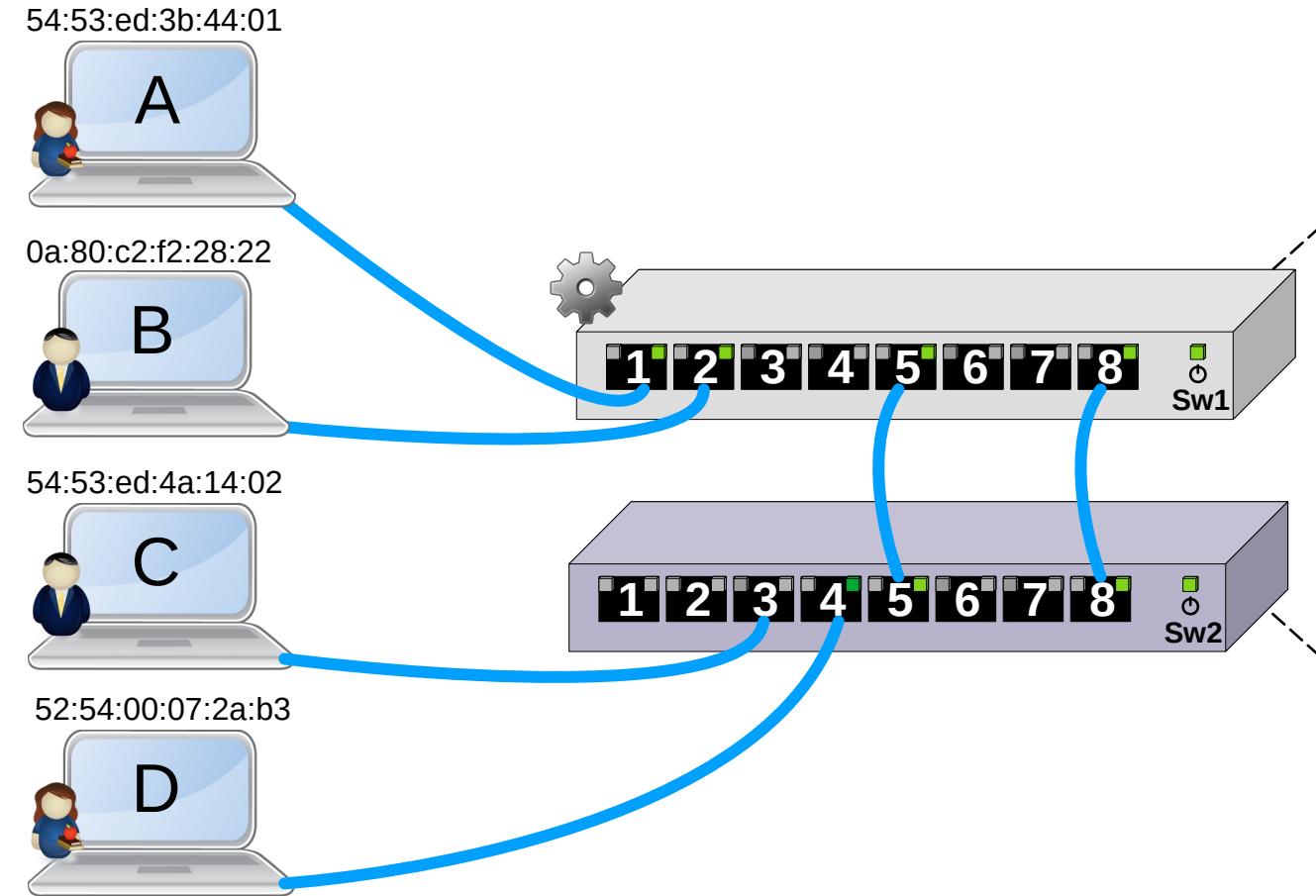
Porta	VLAN	Hosts
1	1	
2	1	
3	1	
4	1	
5	1	
6	1	
7	1	
8	1	54:53:ed:3b:44:01



Preamble	Destination	Source	Type	Data	Checksum
10101010.. <u>11</u>	54:53:ed: 4a:14:02	54:53:ed: 3b:44:01	IP	Olá //	0xaf81

Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	2	Enviar...
3	1	
4	1	
5	1	
6	2	Enviar...
7	2	Enviar...
8	2	54:53:ed:3b:44:01

Porta	VLAN	Hosts
1	1	
2	1	
3	1	
4	1	
5	1	54:53:ed:3b:44:01
6	1	
7	1	
8	1	



Preamble	Destination	Source	Type	Data	Checksum
10101010.. <u>11</u>	54:53:ed: 4a:14:02	54:53:ed: 3b:44:01	IP	Olá //	0xaf81

Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	2	Enviar...
3	1	
4	1	
5	1	
6	2	Enviar...
7	2	Enviar...
8	2	54:53:ed:3b:44:01

Porta	VLAN	Hosts
1	1	
2	1	
3	1	
4	1	
5	1	54:53:ed:3b:44:01
6	1	
7	1	
8	1	

VLAN

Ué, os pacotes foram entregues para todas VLANs!

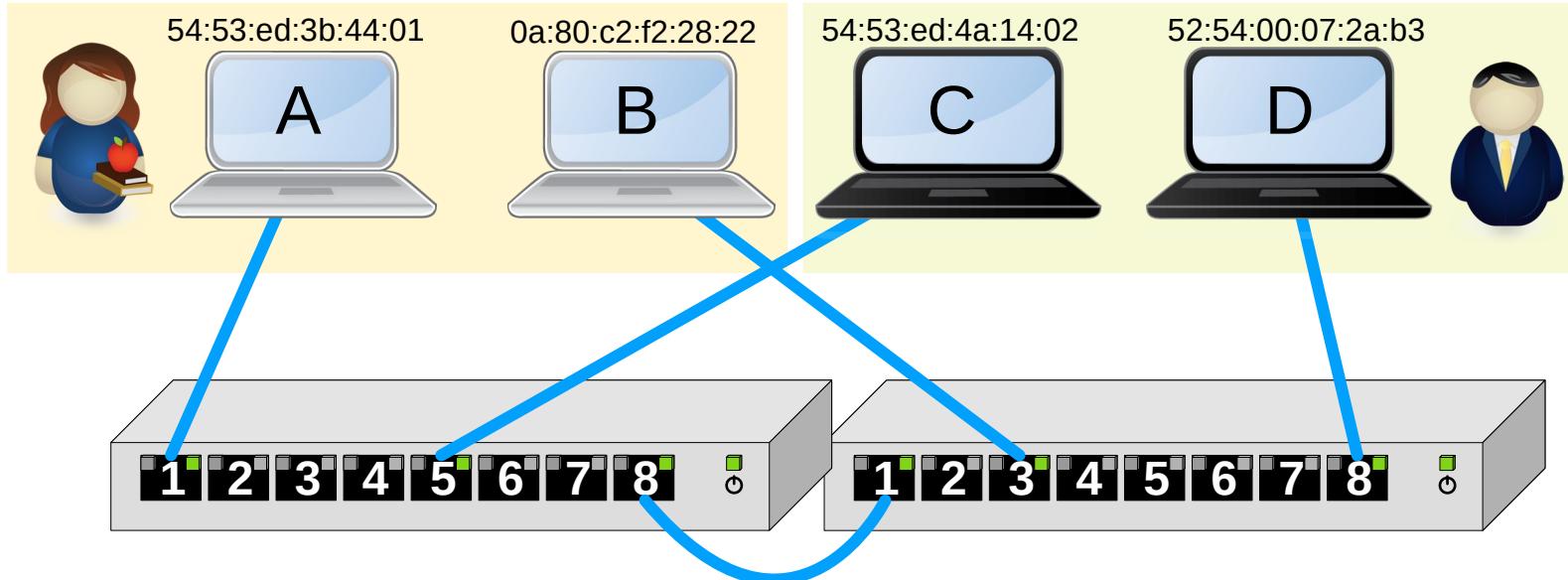
Não erá para acontecer isso, certo? Como resolver isso?



VLAN

Há basicamente duas formas de melhorar a gerencia de VLANs entre switches:

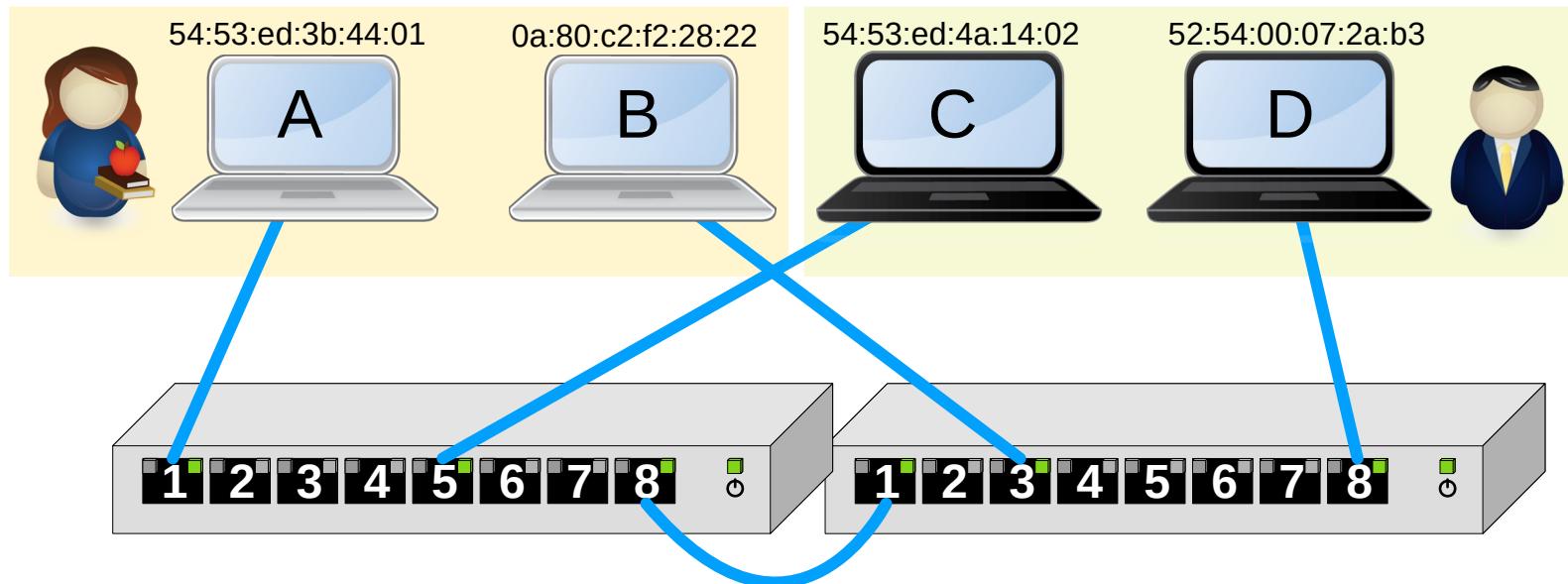
- Alterando o quadro Ethernet (ex. 802.1q);
- Colocando o quadro Ethernet dentro de um novo quadro que suporta VLANs (ex. ISL).



VLAN

Há basicamente duas formas de melhorar a gerencia de VLANs entre switches:

- **Alterando o quadro Ethernet;** Vamos ver esse primeiro!
- Colocando o quadro Ethernet dentro de um frame.



54:53:ed:3b:44:01



A

0a:80:c2:f2:28:22



B

54:53:ed:4a:14:02

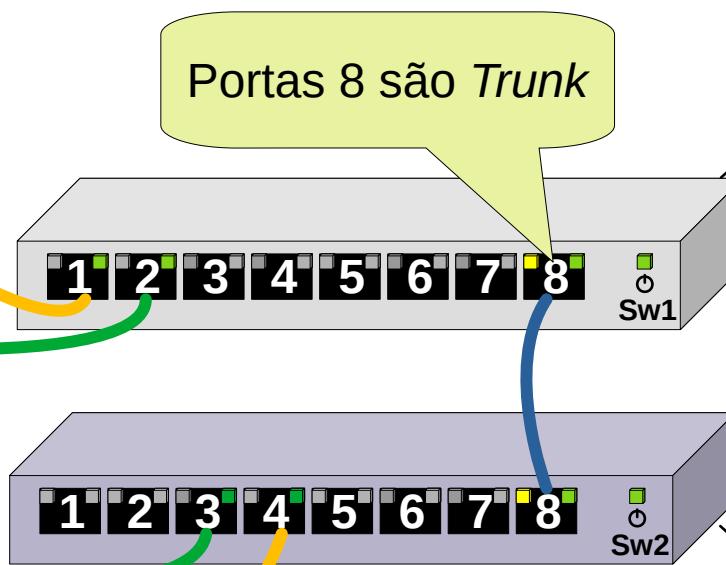


C

52:54:00:07:2a:b3



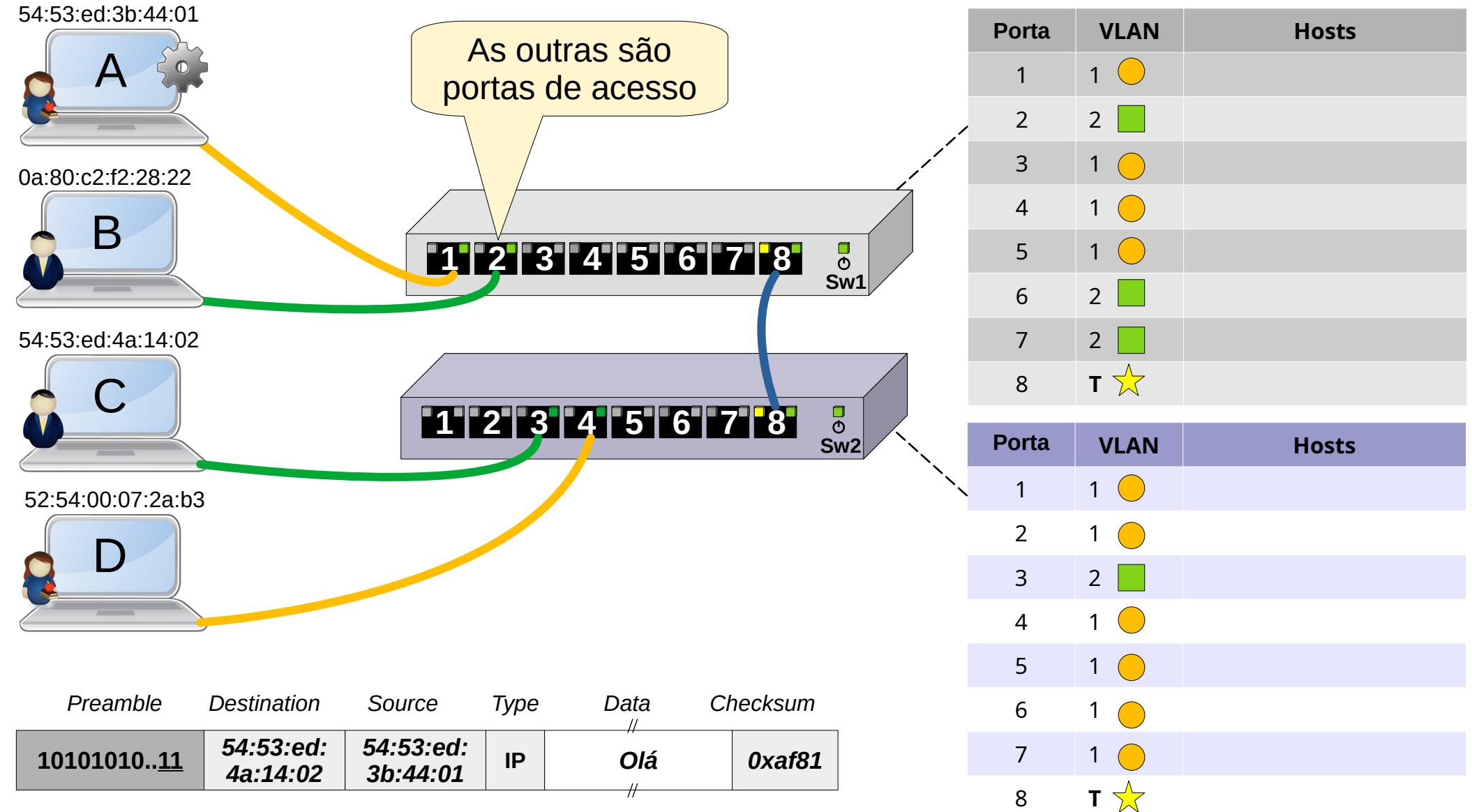
D

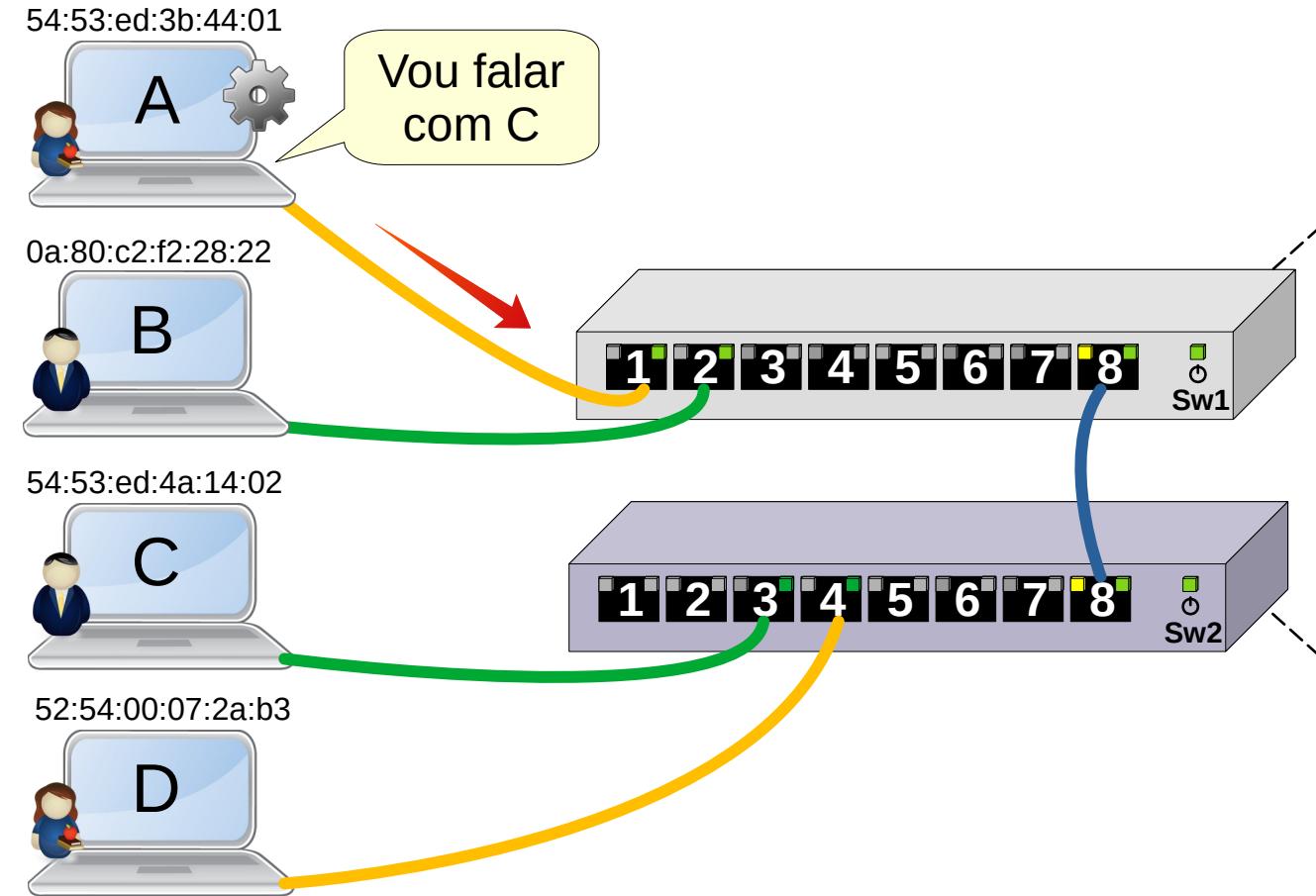


Porta	VLAN	Hosts
1	1	
2	2	
3	1	
4	1	
5	1	
6	2	
7	2	
8	T *	

Porta	VLAN	Hosts
1	1	
2	1	
3	2	
4	1	
5	1	
6	1	
7	1	
8	T *	

Preamble	Destination	Source	Type	Data //	Checksum
10101010..11	54:53:ed: 4a:14:02	54:53:ed: 3b:44:01	IP	Olá //	0xaf81

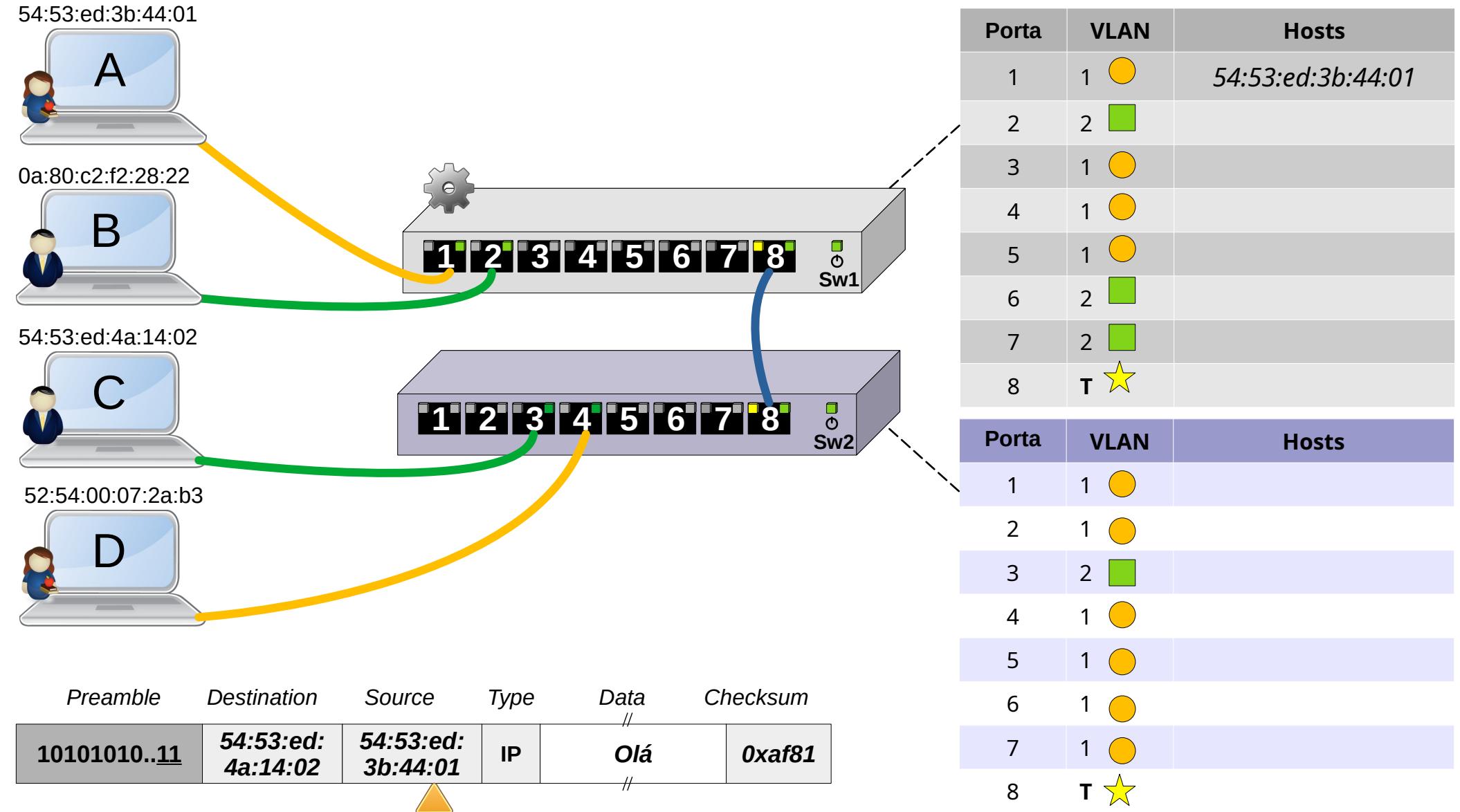


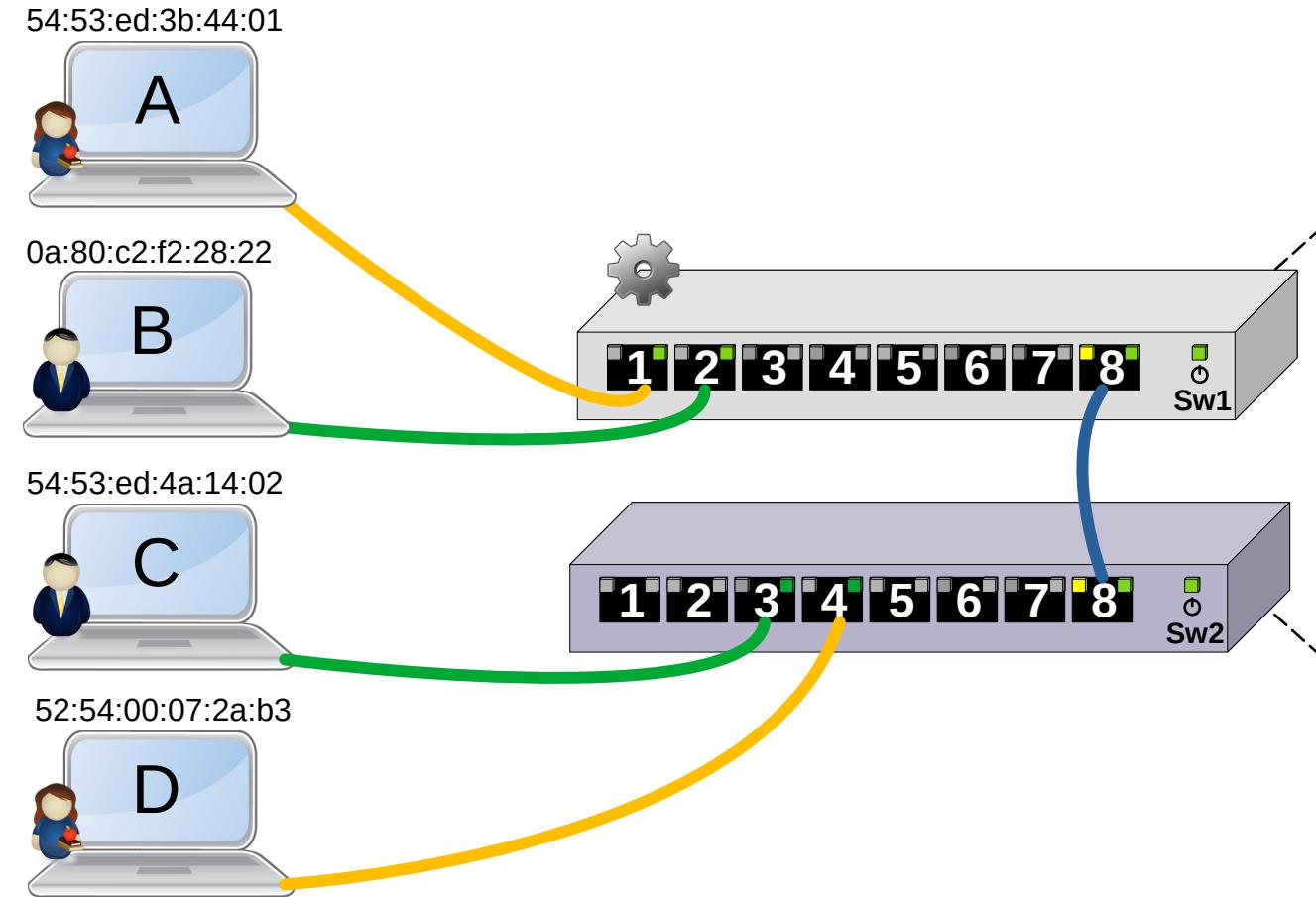


Preamble	Destination	Source	Type	Data //	Checksum
10101010..11	54:53:ed: 4a:14:02	54:53:ed: 3b:44:01	IP	Olá //	0xaf81

Porta	VLAN	Hosts
1	1	
2	2	
3	1	
4	1	
5	1	
6	2	
7	2	
8	T	

Porta	VLAN	Hosts
1	1	
2	1	
3	2	
4	1	
5	1	
6	1	
7	1	
8	T	

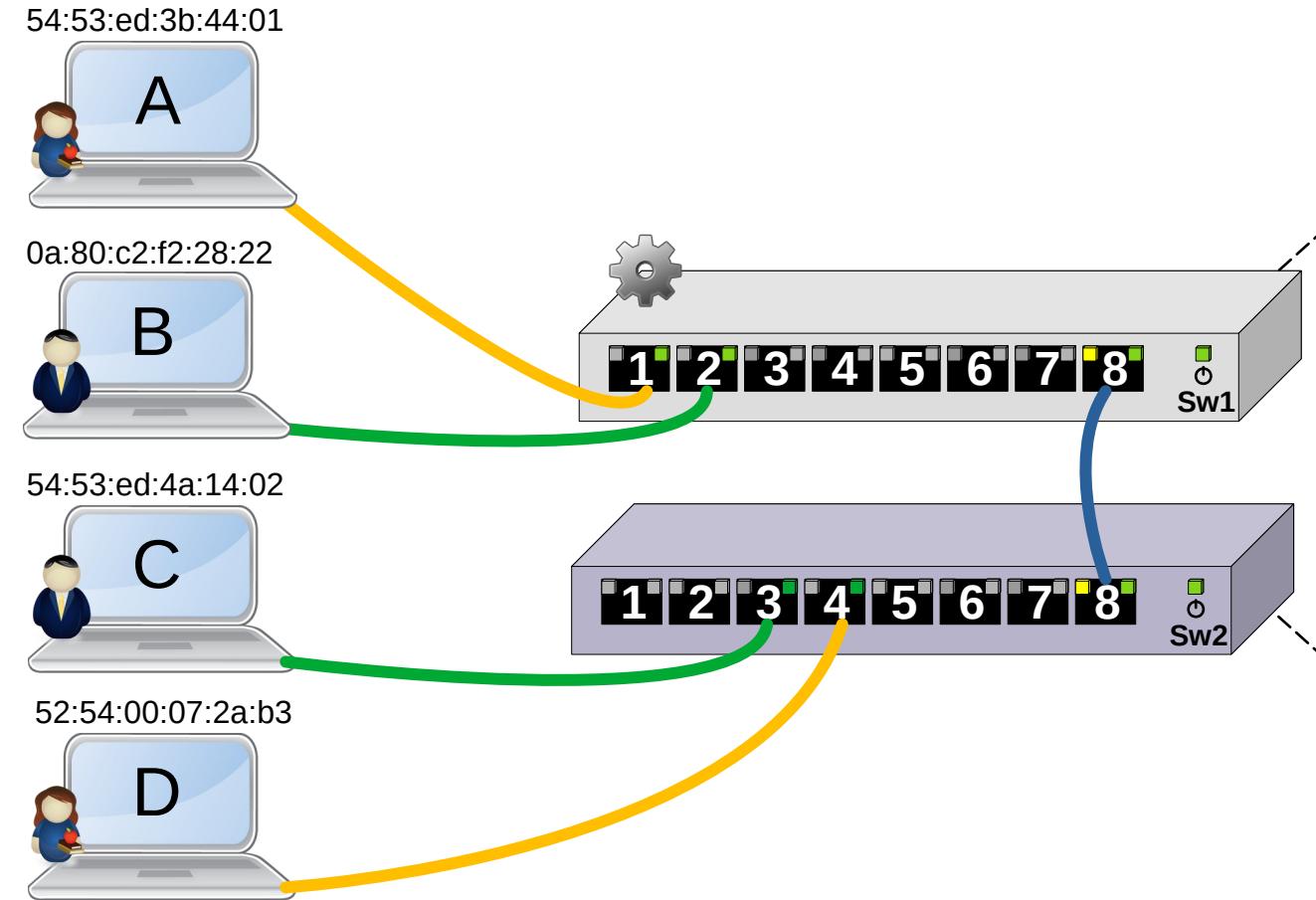




Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	2	Enviar...
3	1	Enviar...
4	1	Enviar...
5	1	Enviar...
6	2	Enviar...
7	2	Enviar...
8	T *	Enviar...

Porta	VLAN	Hosts
1	1	
2	1	
3	2	
4	1	
5	1	
6	1	
7	1	
8	T *	

Preamble	Destination	Source	Type	Data	Checksum
10101010..11	54:53:ed:4a:14:02	54:53:ed:3b:44:01	IP	Olá	0xaf81

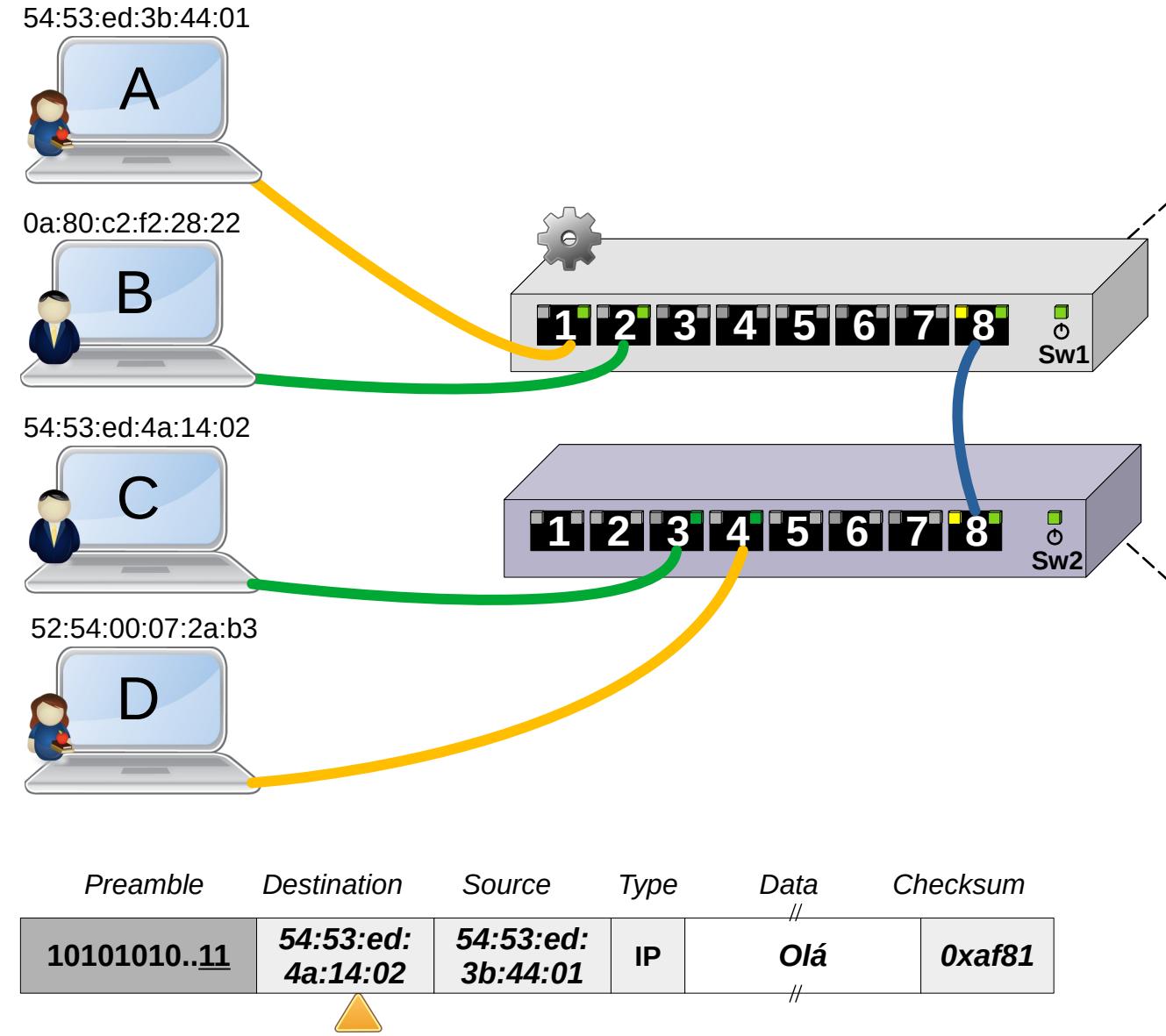


Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	2	(Hand icon)
3	1	Enviar...
4	1	Enviar...
5	1	Enviar...
6	2	(Hand icon)
7	2	(Hand icon)
8	T	Enviar...

Porta	VLAN
1	1
2	1
3	2
4	1
5	1
6	1
7	1
8	T

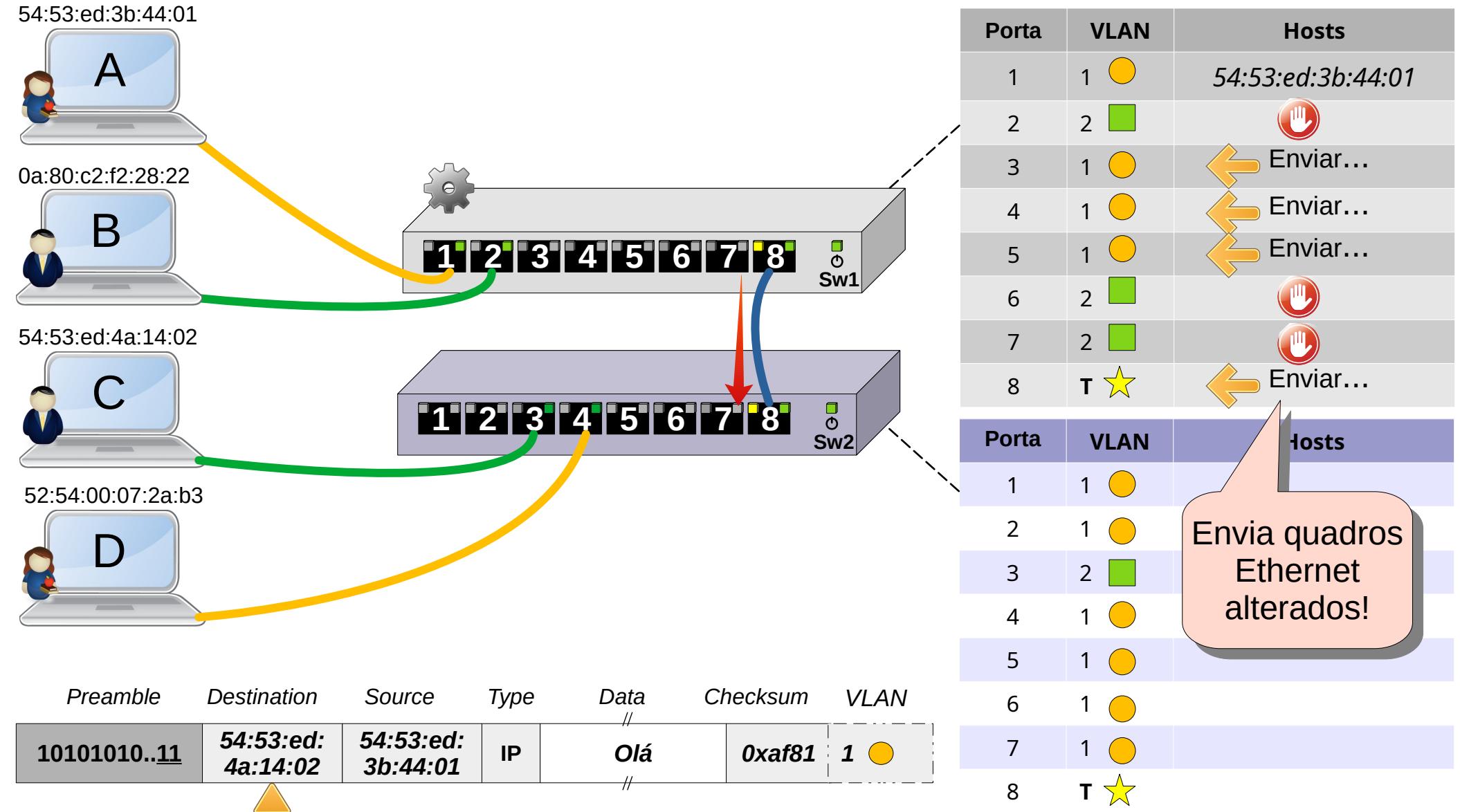
Envia quadros Ethernet normais...

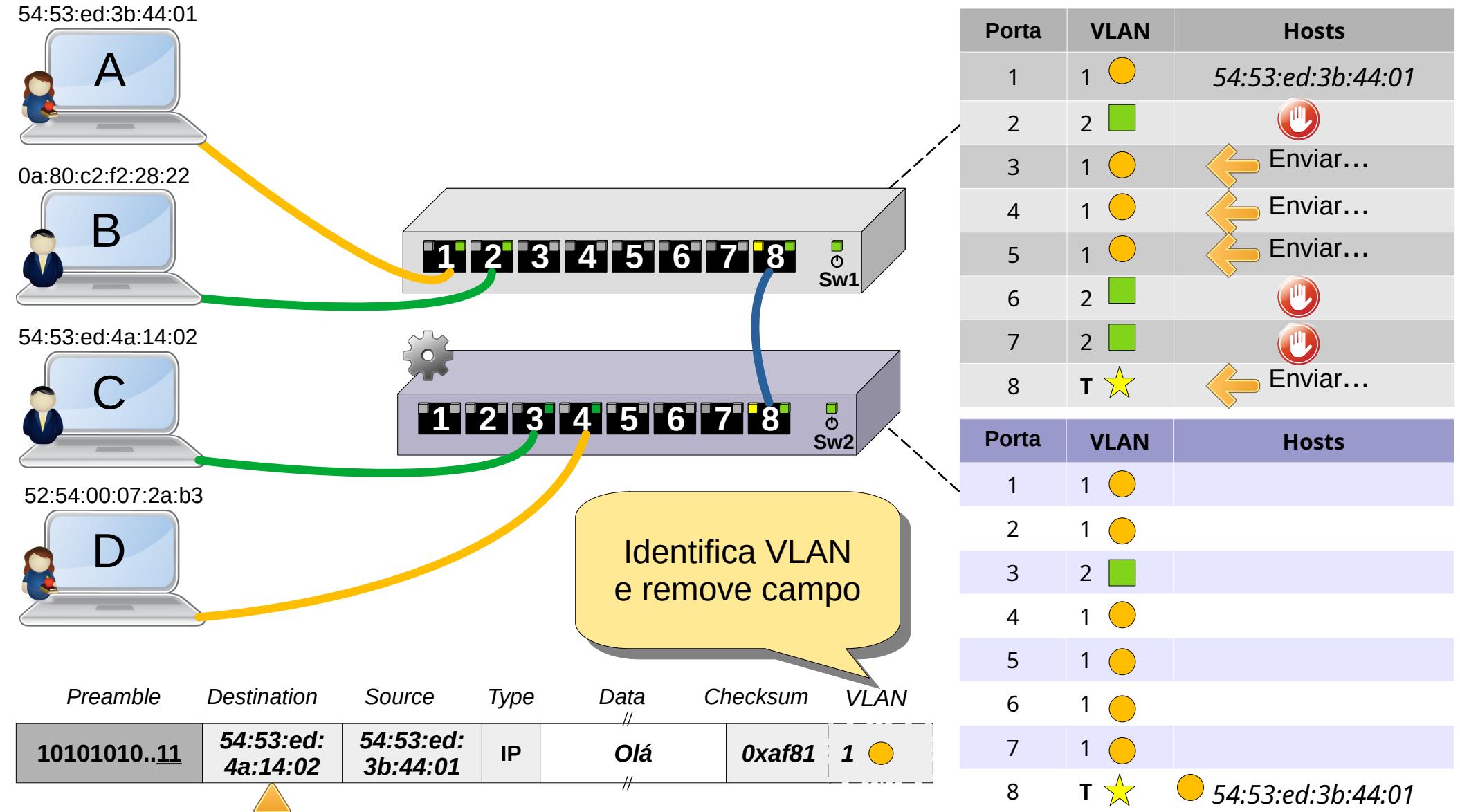
Preamble	Destination	Source	Type	Data	Checksum
10101010..11	54:53:ed:4a:14:02	54:53:ed:3b:44:01	IP	Olá	0xaf81

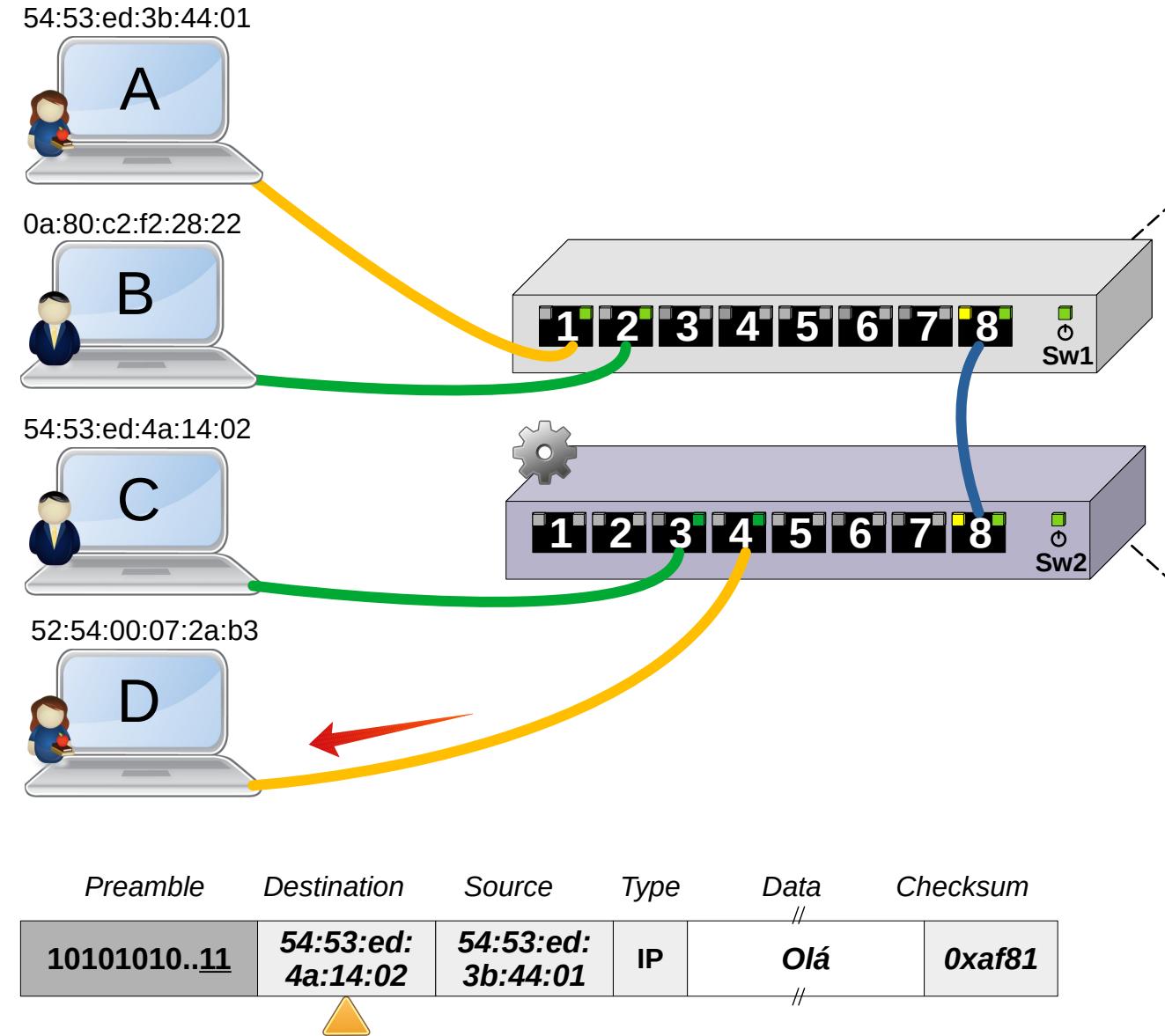


Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	2	
3	1	
4	1	
5	1	
6	2	
7	2	
8	T *	

Porta	VLAN	Hosts
1	1	
2	1	
3	2	
4	1	
5	1	
6	1	
7	1	
8	T *	







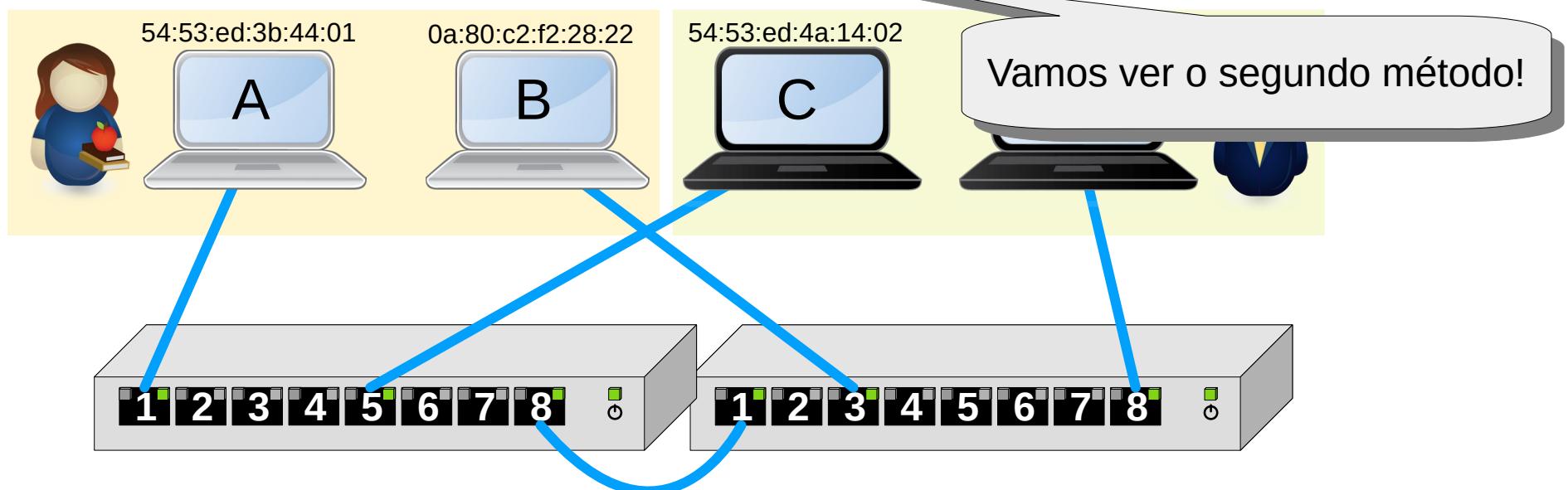
Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	2	(Hand icon)
3	1	Enviar...
4	1	Enviar...
5	1	Enviar...
6	2	(Hand icon)
7	2	(Hand icon)
8	T	Enviar...

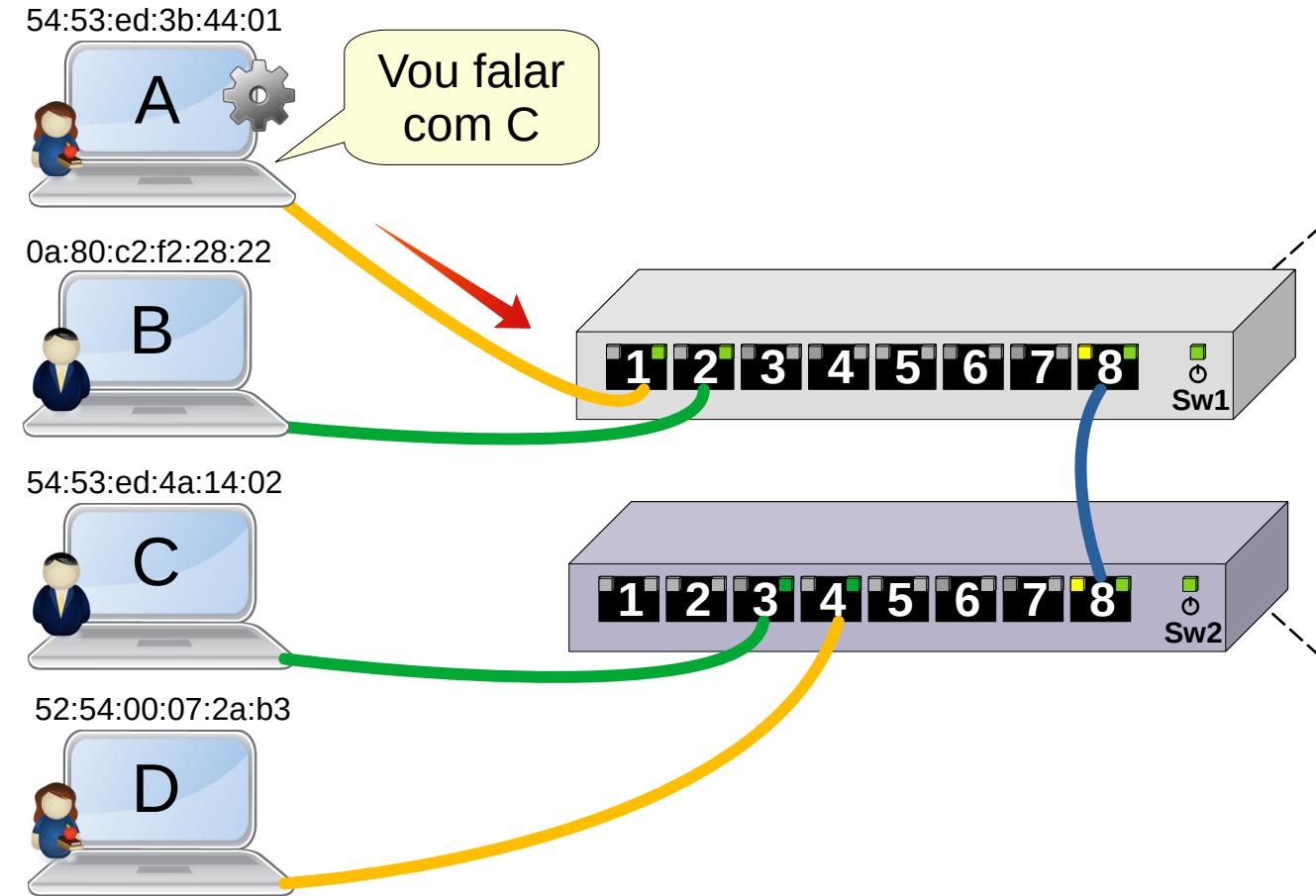
Porta	VLAN	Hosts
1	1	Enviar...
2	1	Enviar...
3	2	(Hand icon)
4	1	Enviar...
5	1	Enviar...
6	1	Enviar...
7	1	Enviar...
8	T	Enviar...

VLAN

Há basicamente duas formas de melhorar a gerencia de VLANs entre switches:

- Alterando o quadro Ethernet;
- **Colocando o quadro Ethernet dentro de um novo quadro que suporta VLANs.**

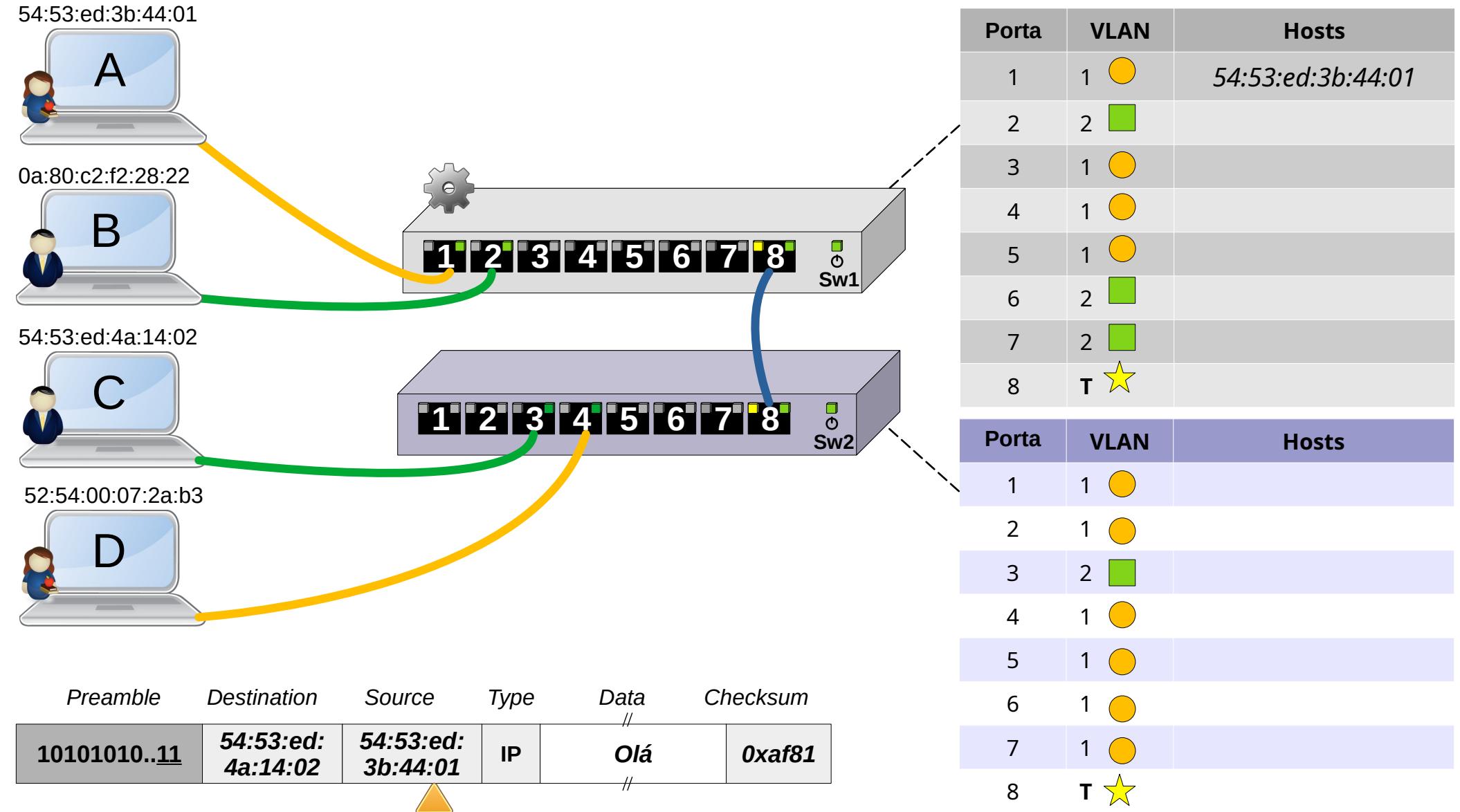


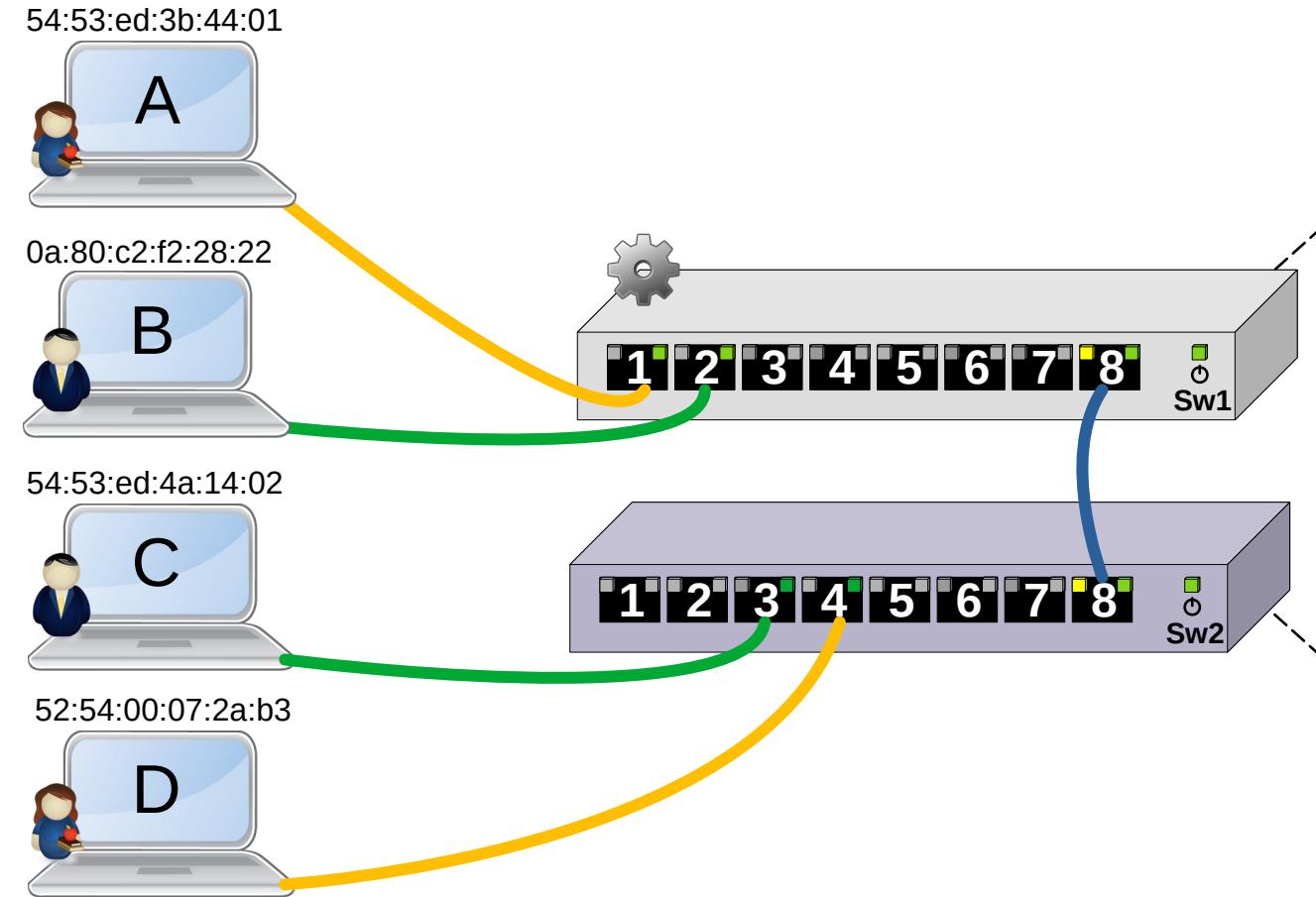


Porta	VLAN	Hosts
1	1	
2	2	
3	1	
4	1	
5	1	
6	2	
7	2	
8	T	

Porta	VLAN	Hosts
1	1	
2	1	
3	2	
4	1	
5	1	
6	1	
7	1	
8	T	

Preamble	Destination	Source	Type	Data	Checksum
10101010..11	54:53:ed:4a:14:02	54:53:ed:3b:44:01	IP	Olá	0xaf81

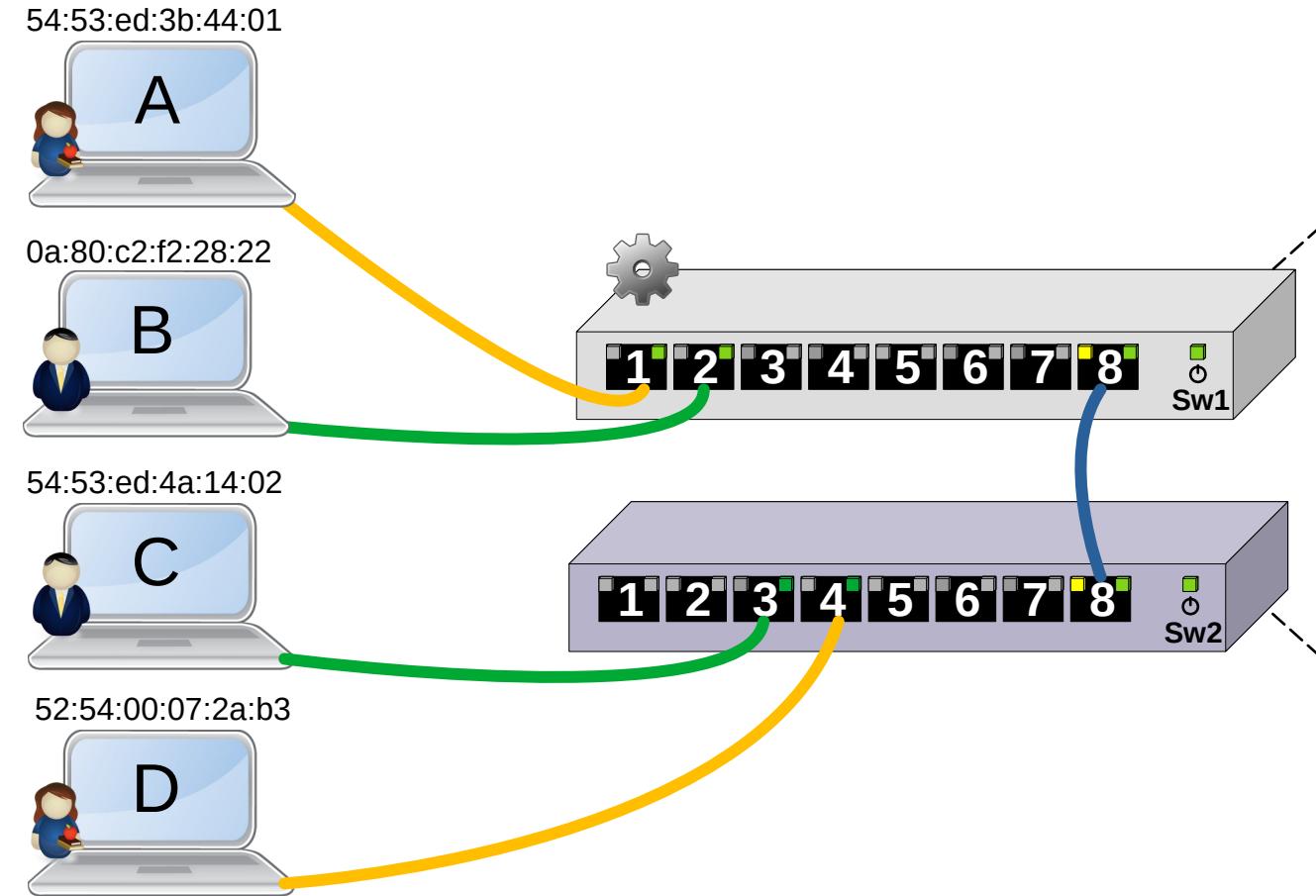




Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	2	Enviar...
3	1	Enviar...
4	1	Enviar...
5	1	Enviar...
6	2	Enviar...
7	2	Enviar...
8	T *	Enviar...

Porta	VLAN	Hosts
1	1	
2	1	
3	2	
4	1	
5	1	
6	1	
7	1	
8	T *	

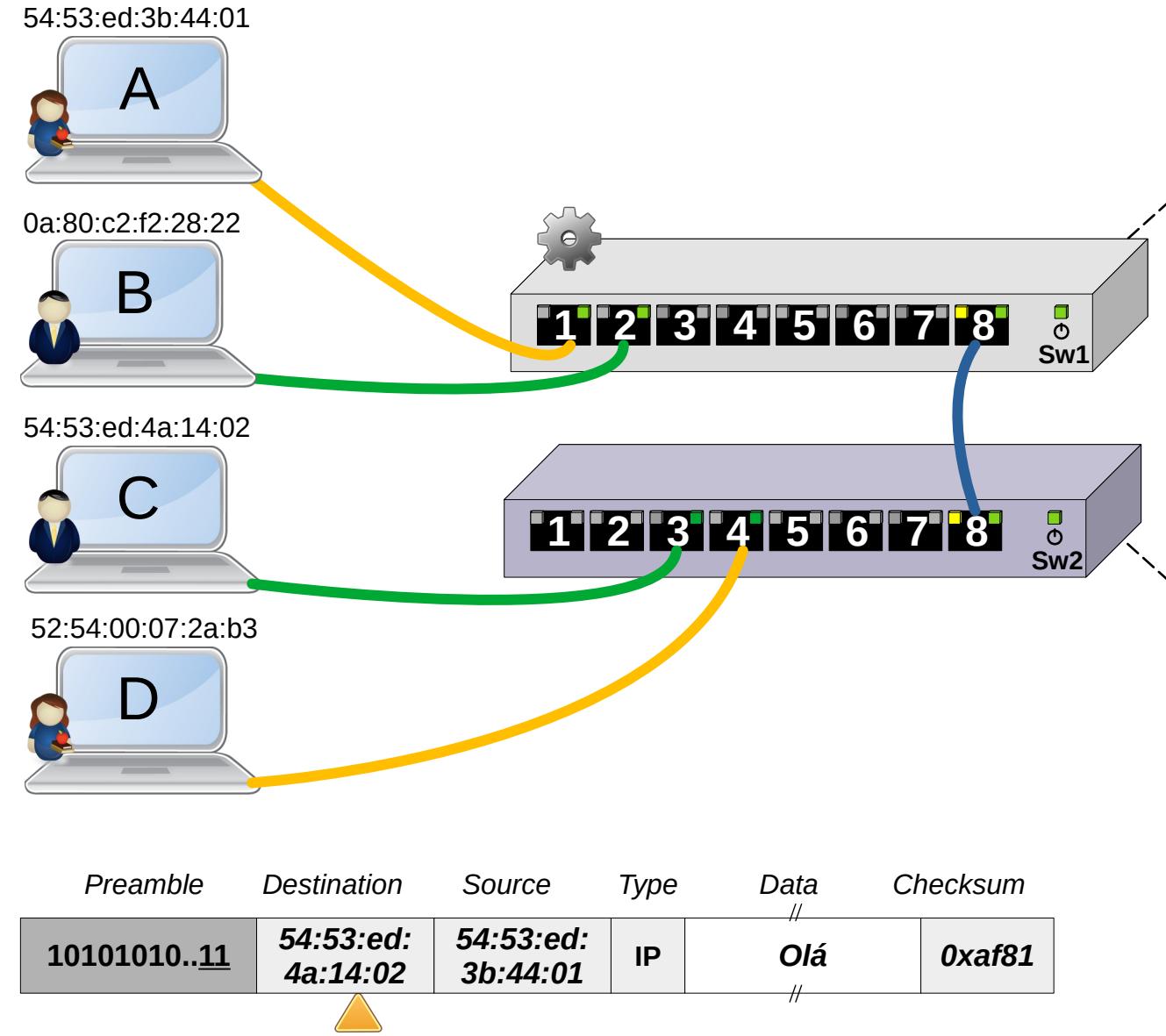
Preamble	Destination	Source	Type	Data	Checksum
10101010..11	54:53:ed:4a:14:02	54:53:ed:3b:44:01	IP	Olá	0xaf81



Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	2	
3	1	
4	1	
5	1	
6	2	
7	2	
8	T	
Porta	VLAN	
1	1	
2	1	
3	2	
4	1	
5	1	
6	1	
7	1	
8	T	

Envia quadros Ethernet normais...

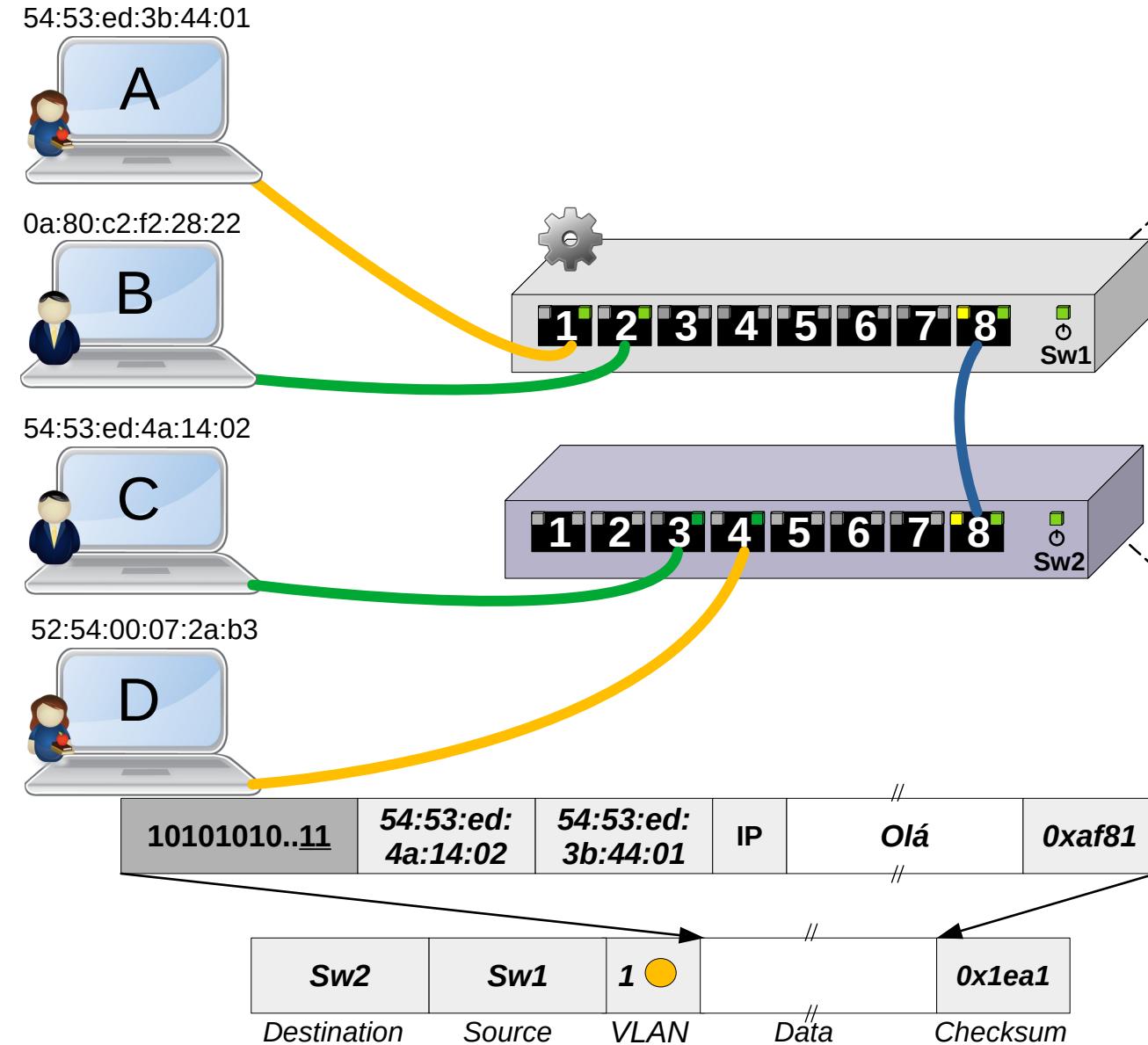
Preamble	Destination	Source	Type	Data	Checksum
10101010..11	54:53:ed:4a:14:02	54:53:ed:3b:44:01	IP	Olá	0xaf81



Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	2	(Hand)
3	1	Enviar...
4	1	Enviar...
5	1	Enviar...
6	2	(Hand)
7	2	(Hand)
8	T *	Enviar...

Porta	VLAN	Hosts
1	1	
2	1	
3	2	
4	1	
5	1	
6	1	
7	1	
8	T *	Enviar...

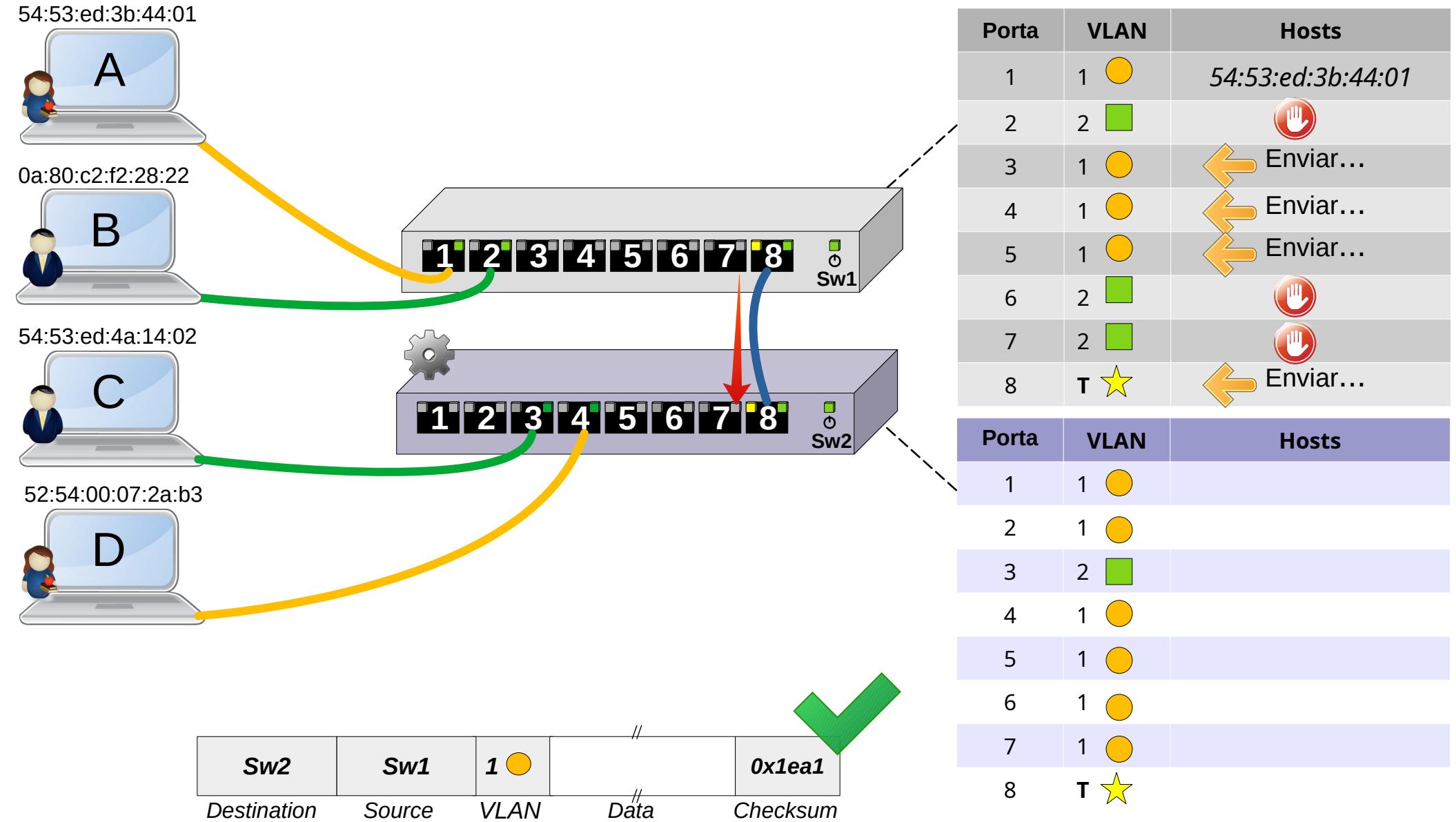
Encapsula
o quadro
em um novo
quadro

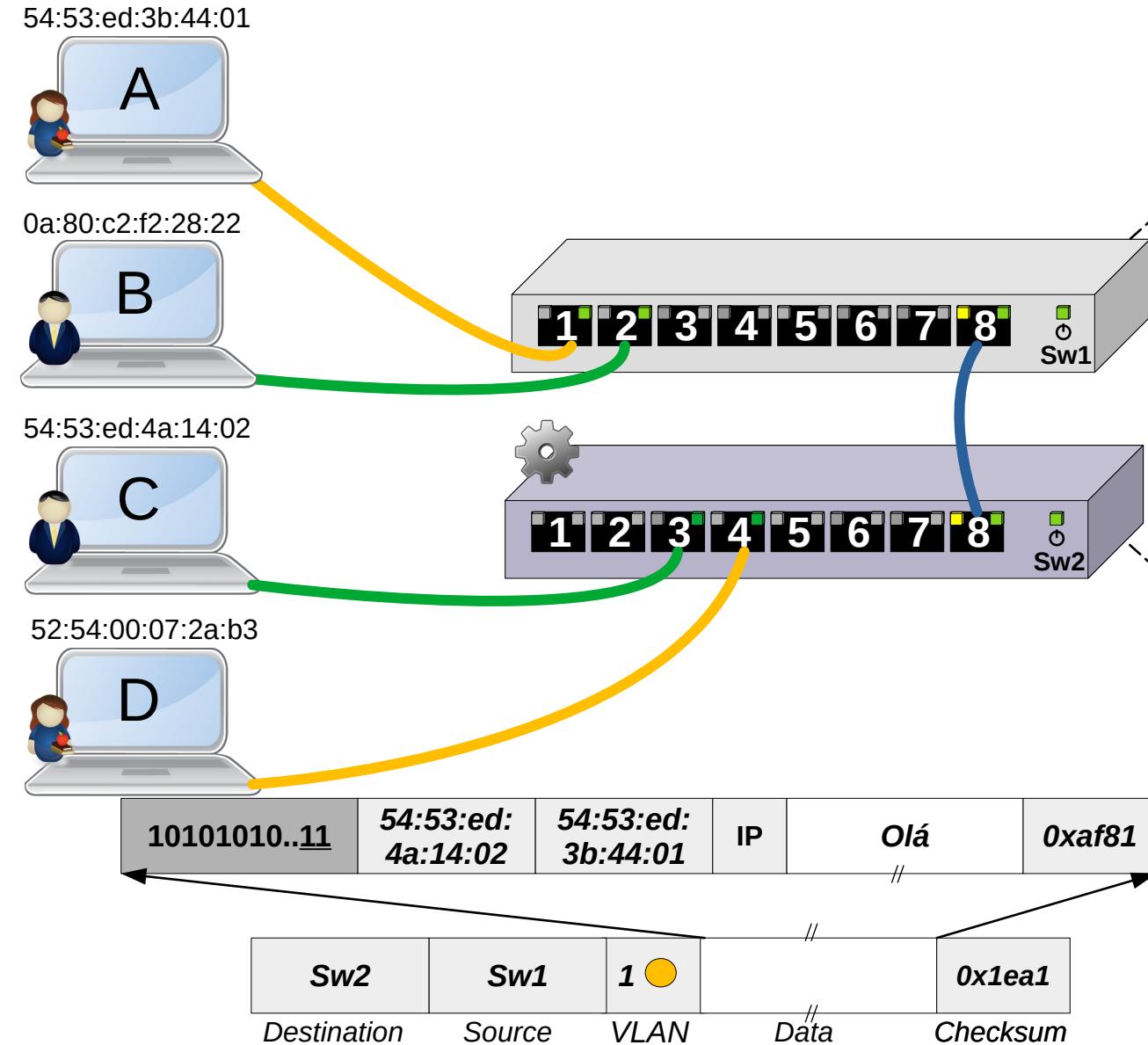


Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	2	(Hand icon)
3	1	Enviar...
4	1	Enviar...
5	1	Enviar...
6	2	(Hand icon)
7	2	(Hand icon)
8	T ★	Enviar...

Porta	VLAN	Hosts
1	1	
2	1	
3	2	
4	1	
5	1	
6	1	
7	1	
8	T ★	

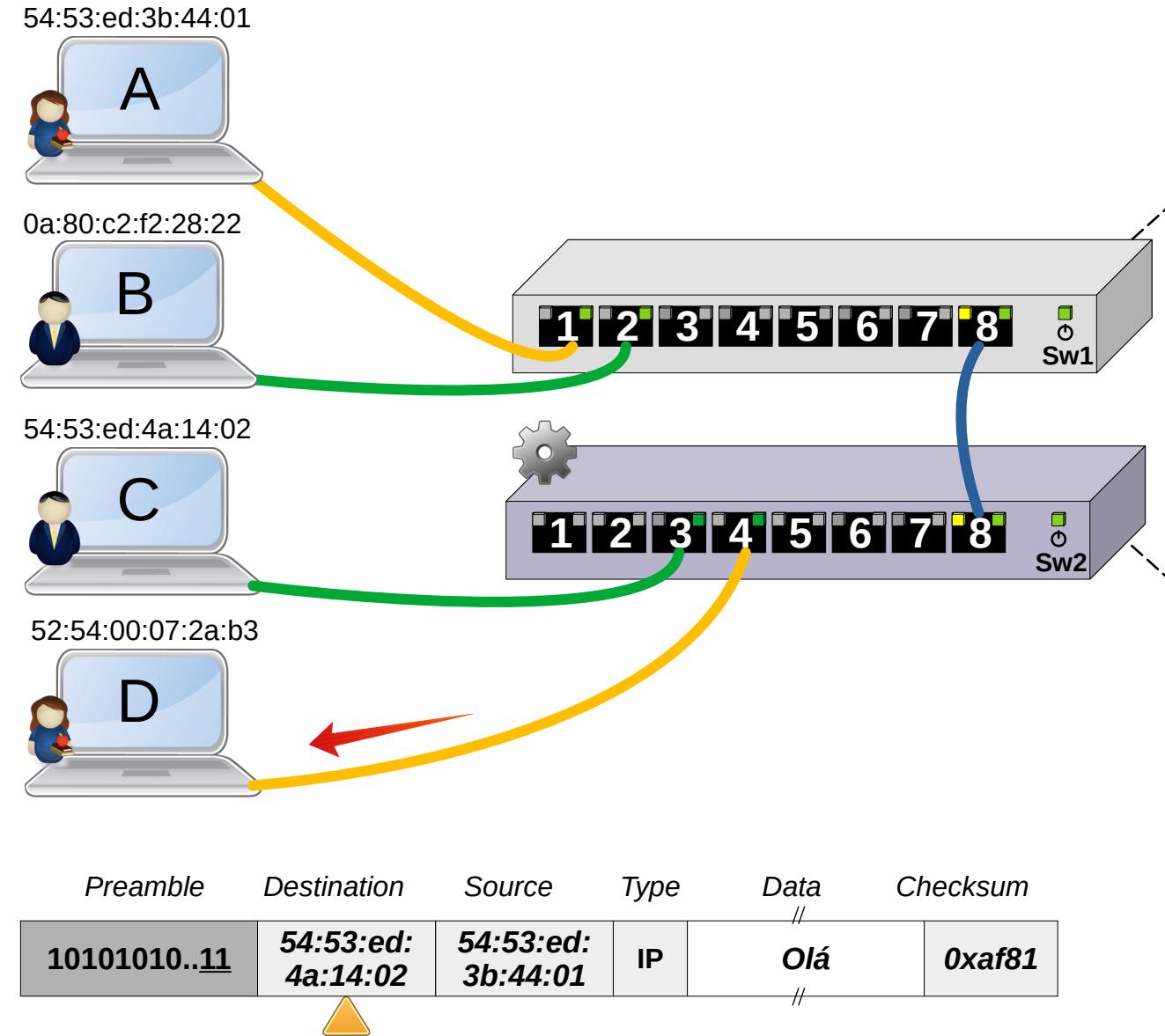
Encapsula o quadro em um novo quadro





Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	2	
3	1	
4	1	
5	1	
6	2	
7	2	
8	T *	

Porta	VLAN	Hosts
1	1	
2	1	
3	2	
4	1	
5	1	
6	1	
7	1	
8	T *	Enviar...

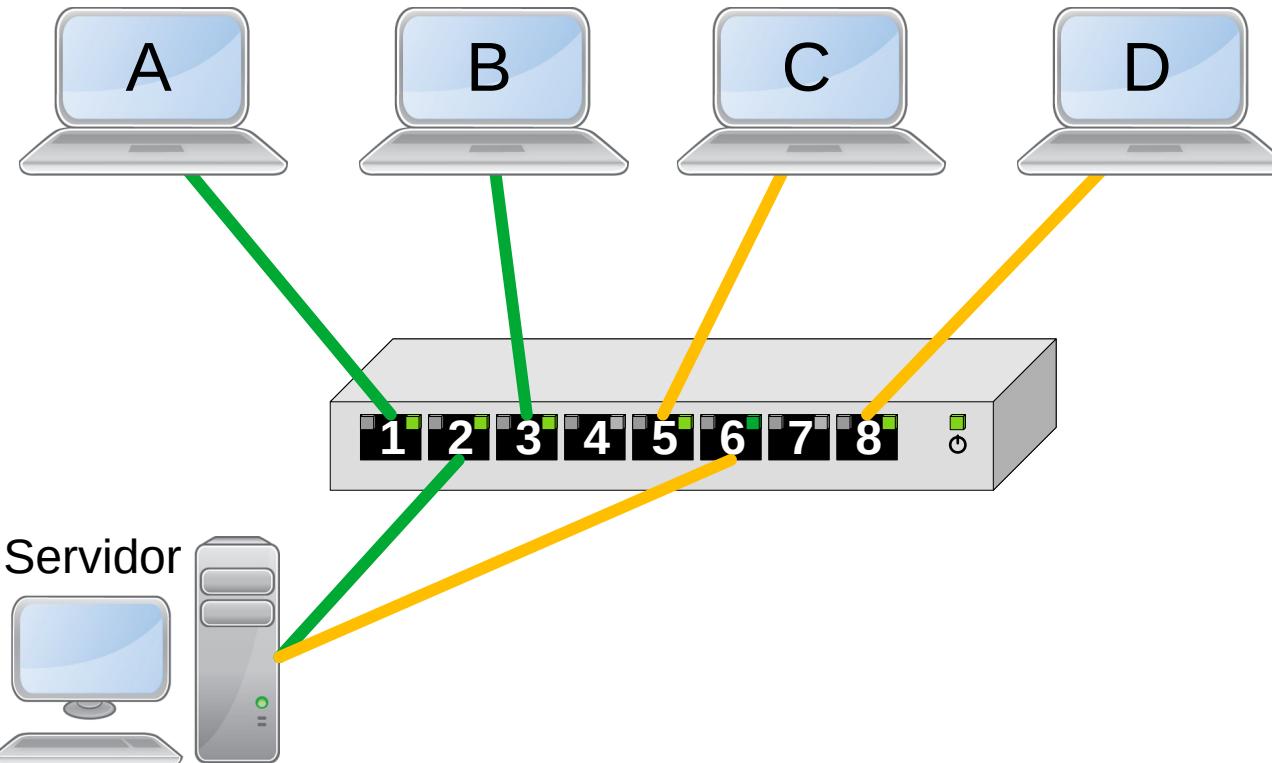


Porta	VLAN	Hosts
1	1	54:53:ed:3b:44:01
2	2	(Hand)
3	1	Enviar...
4	1	Enviar...
5	1	Enviar...
6	2	(Hand)
7	2	(Hand)
8	T *	Enviar...

Porta	VLAN	Hosts
1	1	Enviar...
2	1	Enviar...
3	2	(Hand)
4	1	Enviar...
5	1	Enviar...
6	1	Enviar...
7	1	Enviar...
8	T *	Enviar...

VLAN

Há outros cenários onde a porta *Trunk* pode ser utilizada:



Porta	VLAN	Hosts
1	2	
2	2	
3	2	
4	2	
5	1	
6	1	
7	1	
8	1	

VLAN

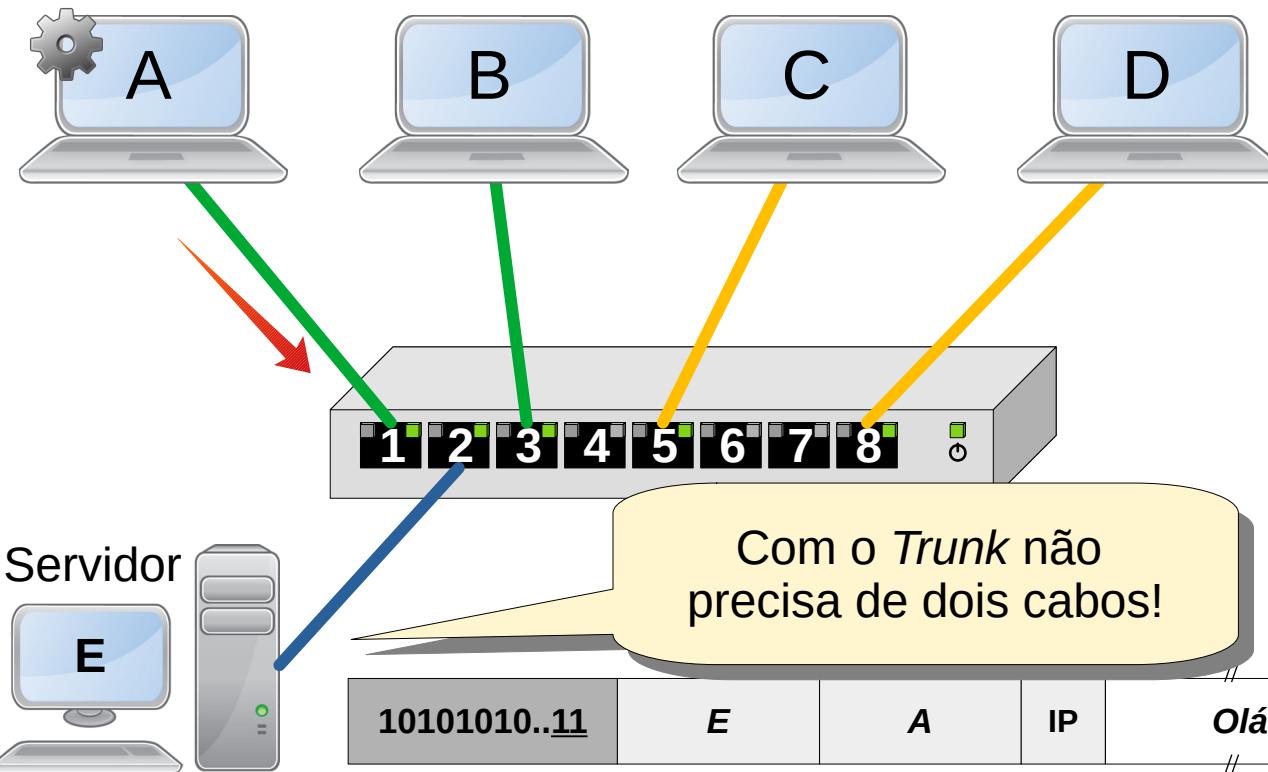
Uma máquina em duas redes?

Como o *Trunk* pode ajudar?



VLAN

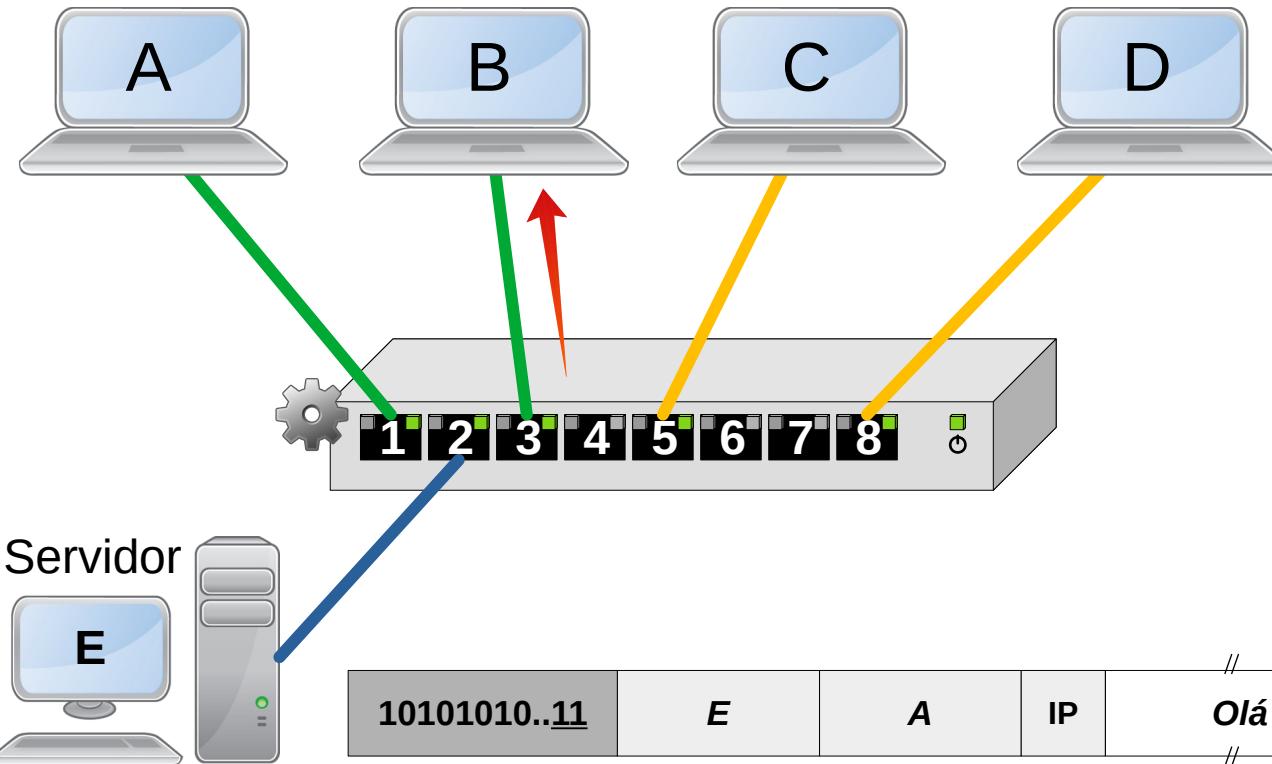
Há outros cenários onde a porta *Trunk* pode ser utilizada:



Porta	VLAN	Hosts
1	2	
2	T	
3	2	
4	2	
5	1	
6	1	
7	1	
8	1	

VLAN

Há outros cenários onde a porta *Trunk* pode ser utilizada:



Porta	VLAN	Hosts
1	2	A
2	T	
3	2	
4	2	
5	1	
6	1	
7	1	
8	1	

10101010..11*E**A*

IP

Olá

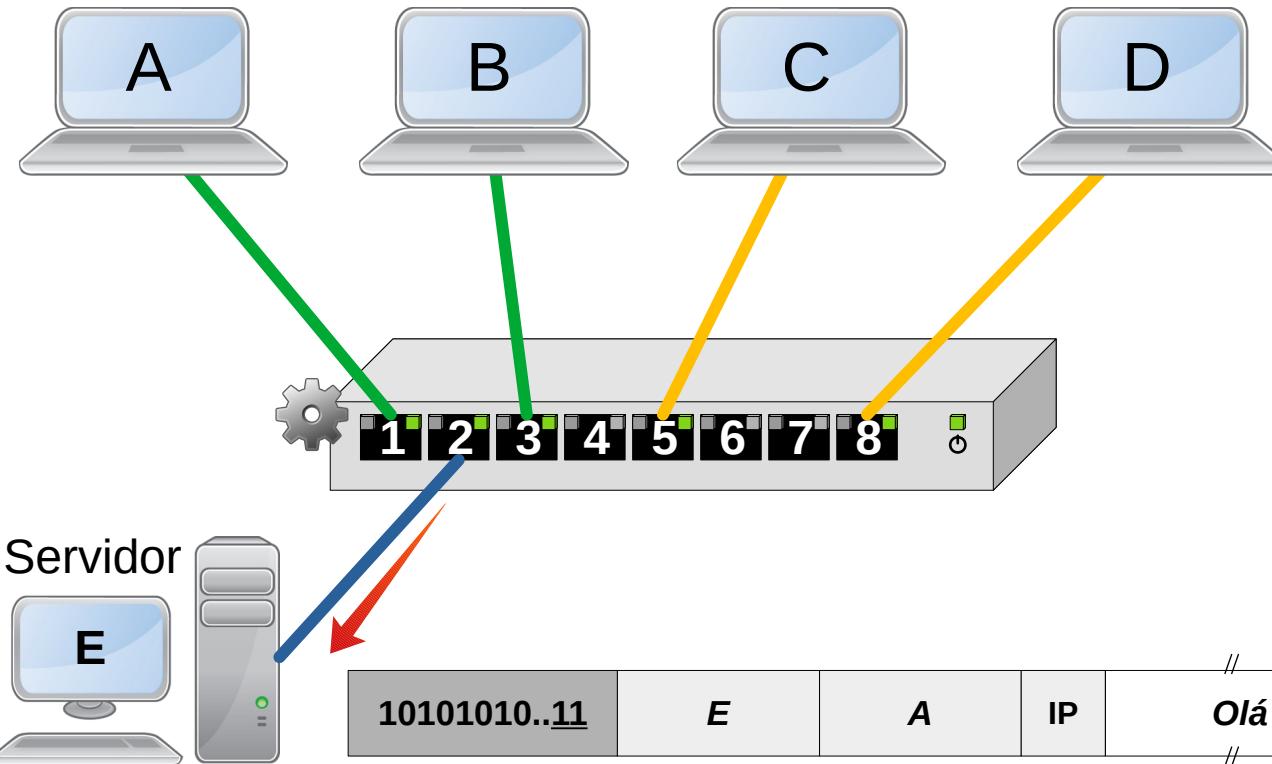
0xa181

//

//

VLAN

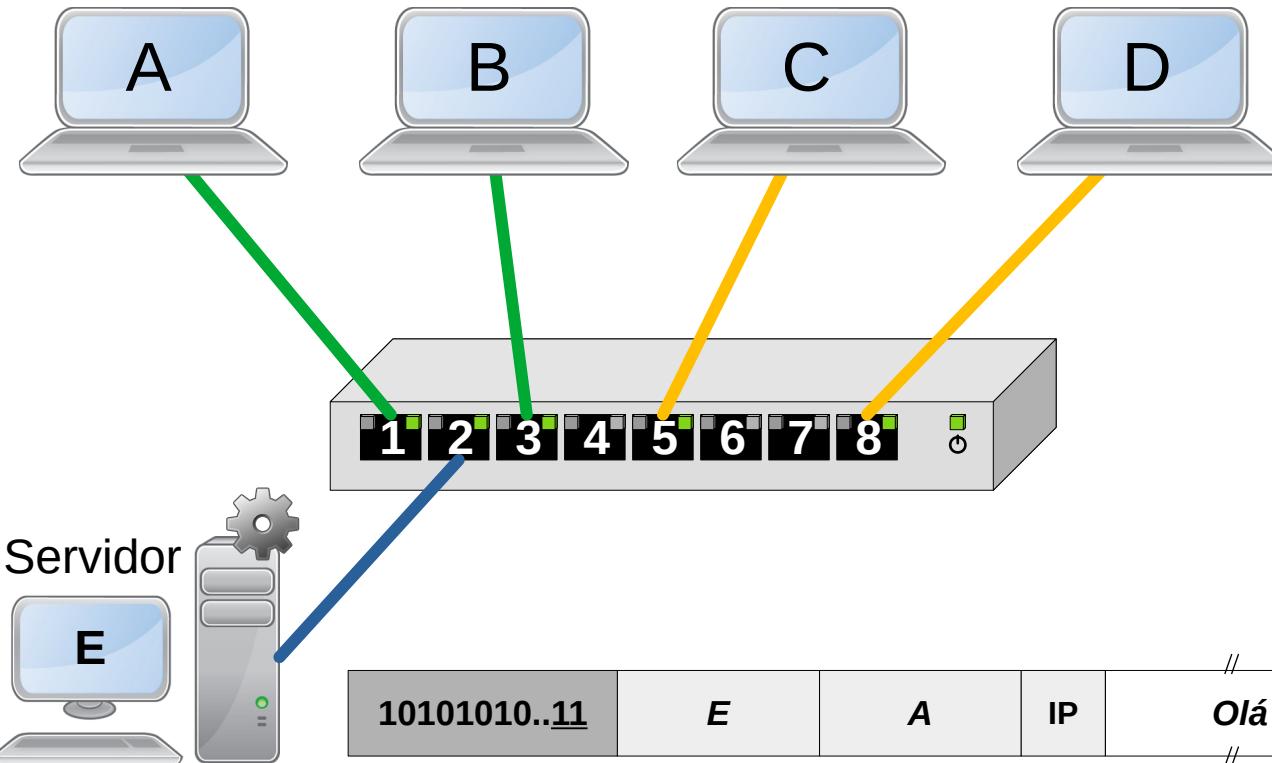
Há outros cenários onde a porta *Trunk* pode ser utilizada:



Porta	VLAN	Hosts
1	2	
2	T	Enviar...
3	2	
4	2	
5	1	
6	1	
7	1	
8	1	

VLAN

Há outros cenários onde a porta *Trunk* pode ser utilizada:

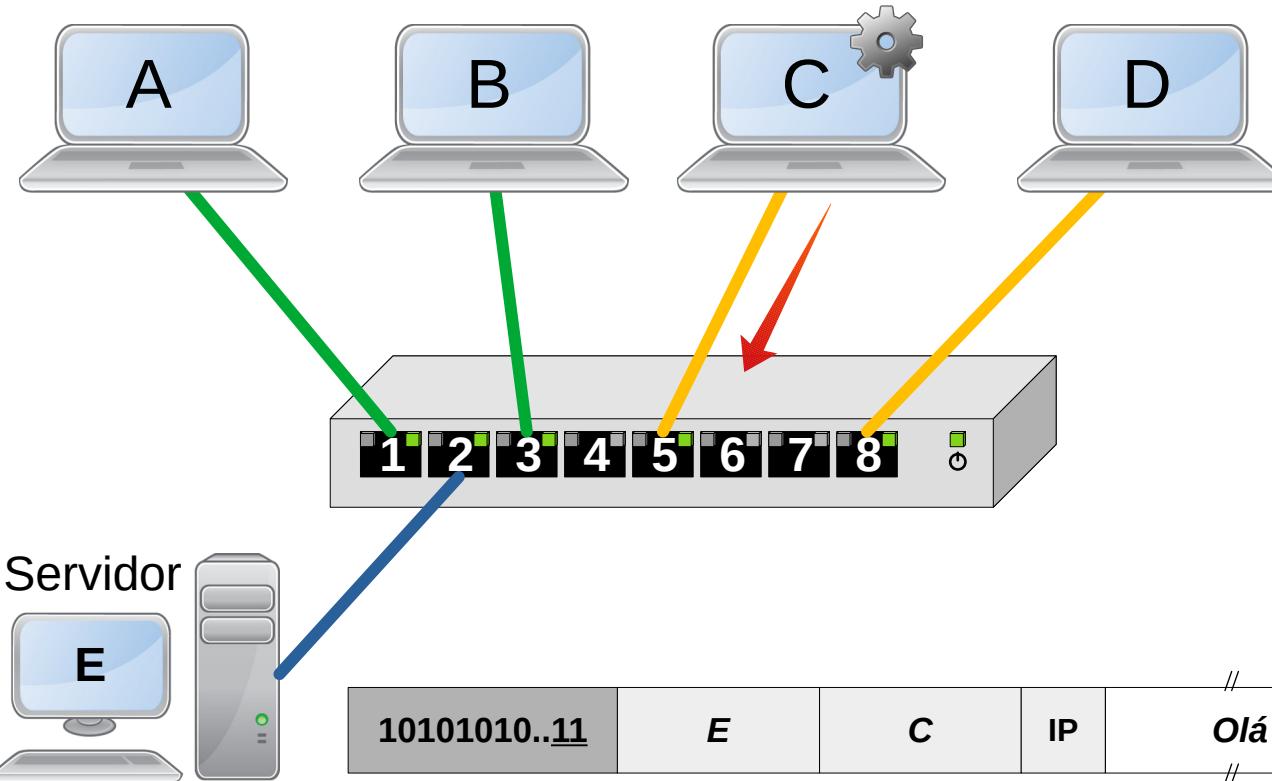


Porta	VLAN	Hosts
1	2	
2	T	Enviar...
3	2	
4	2	
5	1	
6	1	
7	1	
8	1	



VLAN

Há outros cenários onde a porta *Trunk* pode ser utilizada:

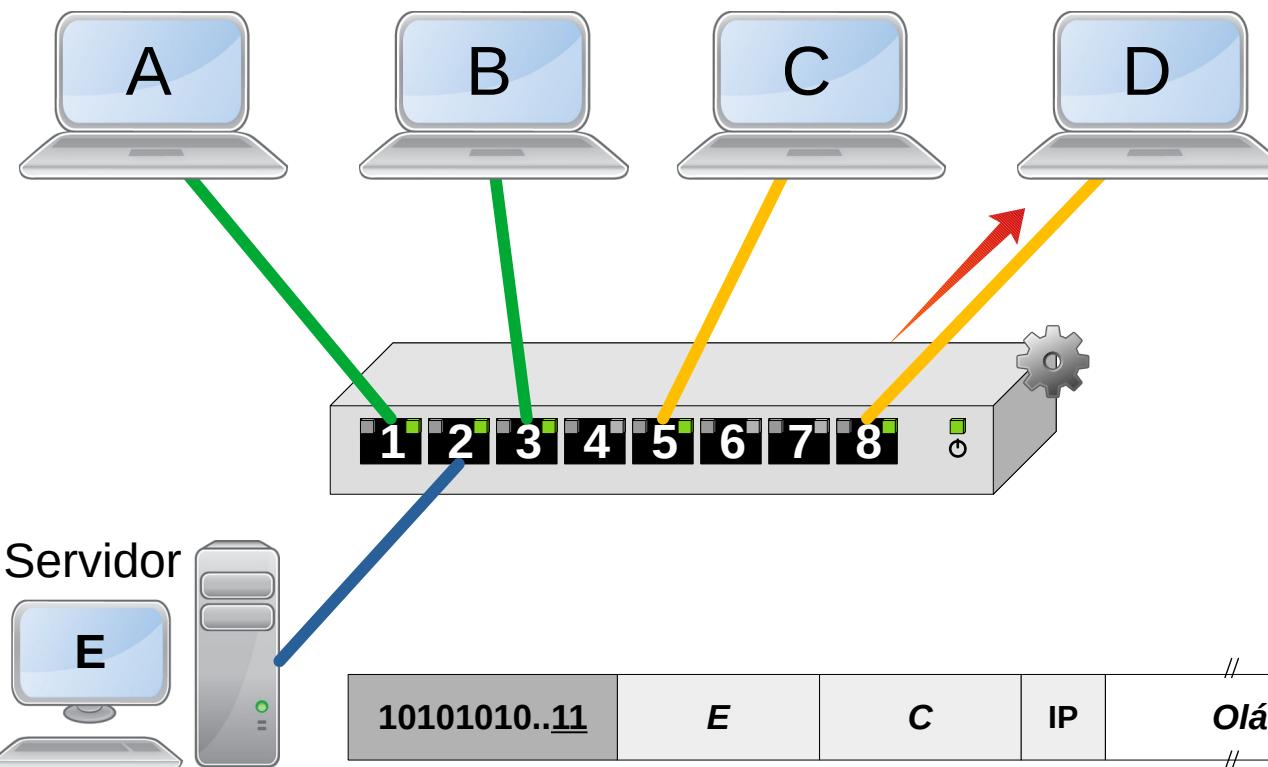


Porta	VLAN	Hosts
1	2	A
2	T *	
3	2	
4	2	
5	1	
6	1	
7	1	
8	1	

10101010.. <u>11</u>	E	C	IP	Olá	0xa181
			//	//	

VLAN

Há outros cenários onde a porta *Trunk* pode ser utilizada:

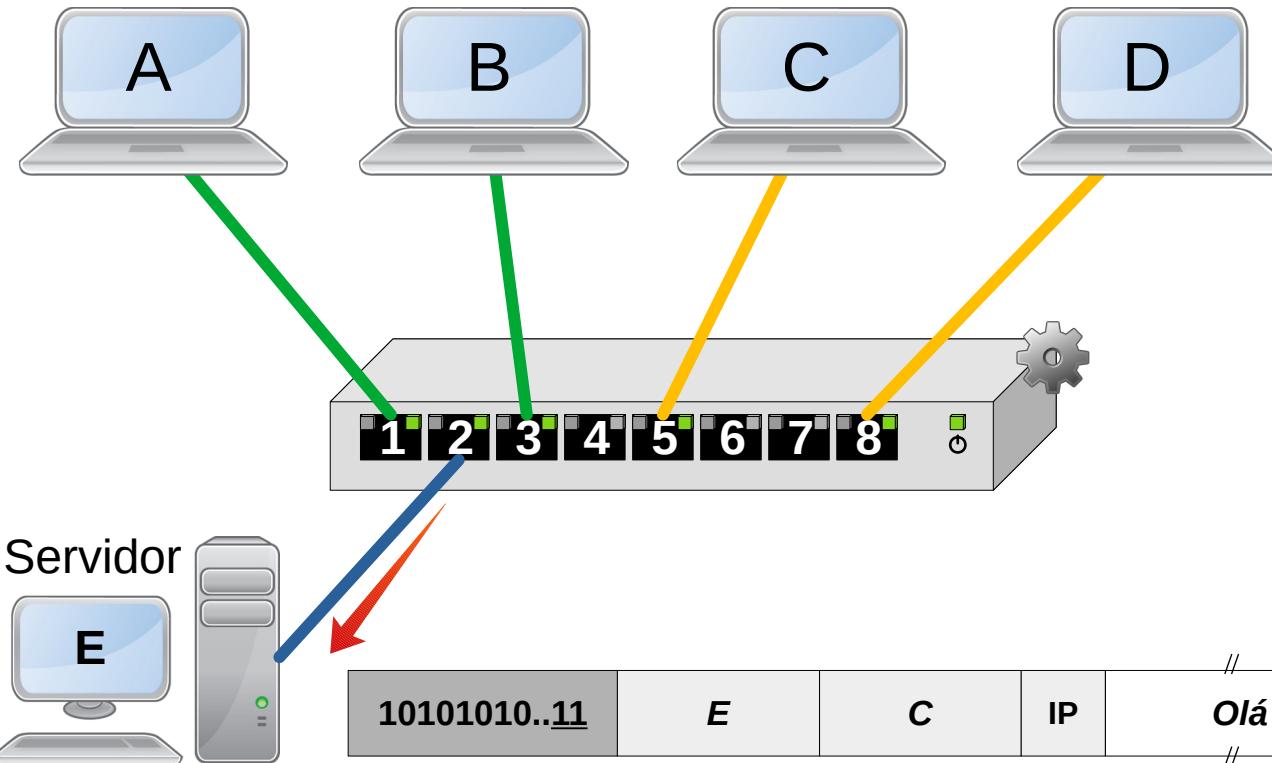


Porta	VLAN	Hosts
1	2	A
2	T	
3	2	
4	2	
5	1	C
6	1	
7	1	
8	1	

Enviar...
Enviar...
Enviar...

VLAN

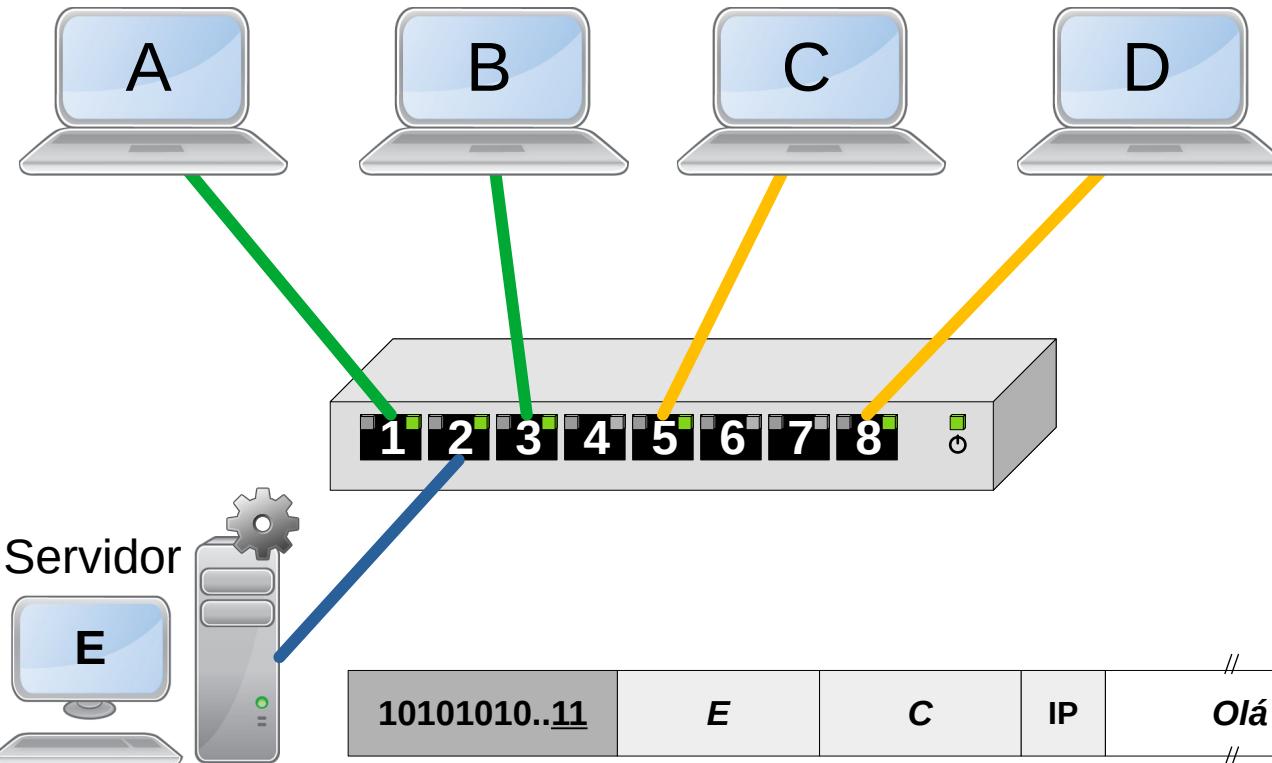
Há outros cenários onde a porta *Trunk* pode ser utilizada:



Porta	VLAN	Hosts
1	2	A
2	T *	Enviar...
3	2	
4	2	
5	1	C
6	1	
7	1	
8	1	

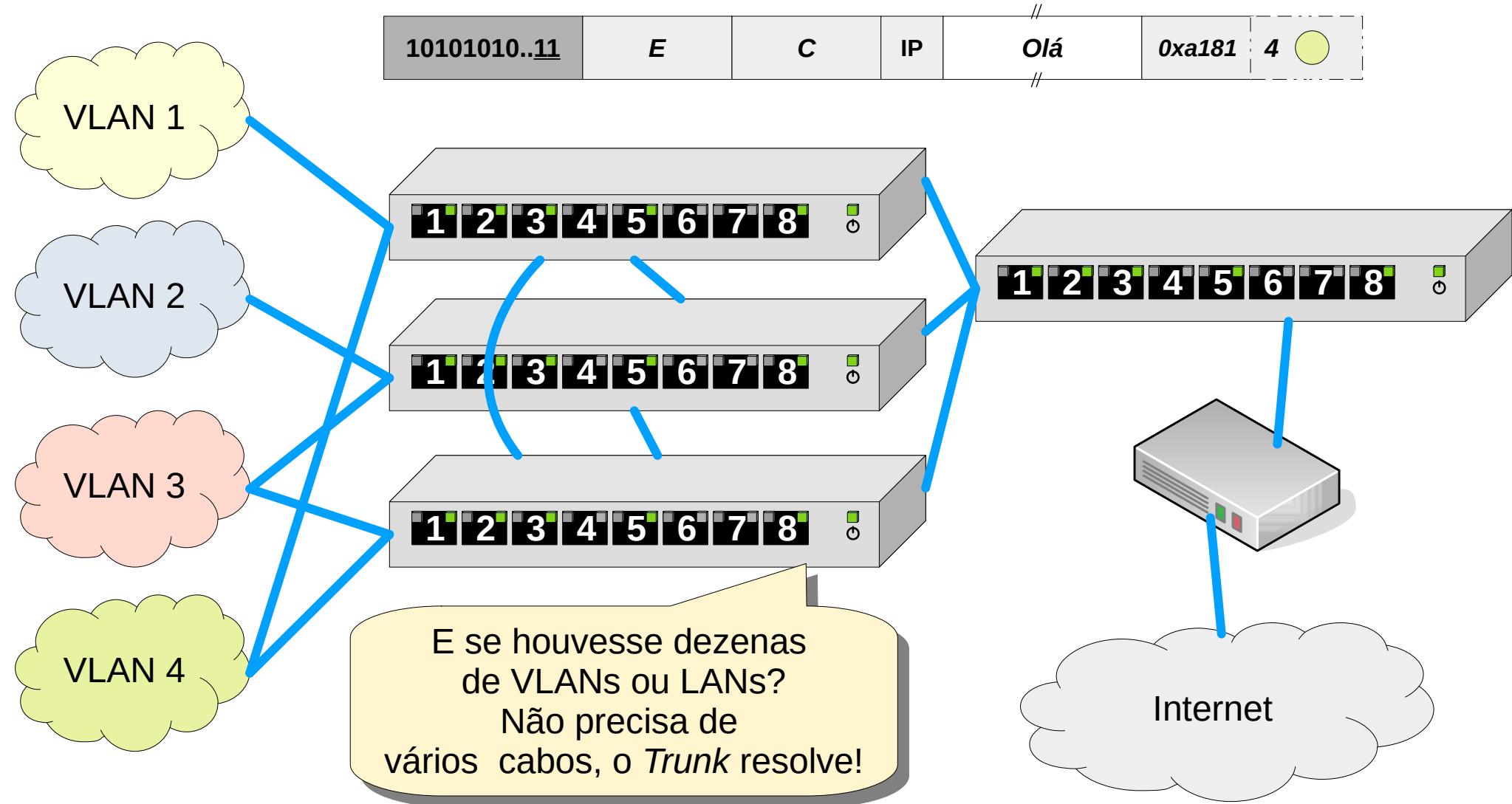
VLAN

Há outros cenários onde a porta *Trunk* pode ser utilizada:



Porta	VLAN	Hosts
1	2	A
2	T	Enviar...
3	2	
4	2	
5	1	C
6	1	
7	1	
8	1	





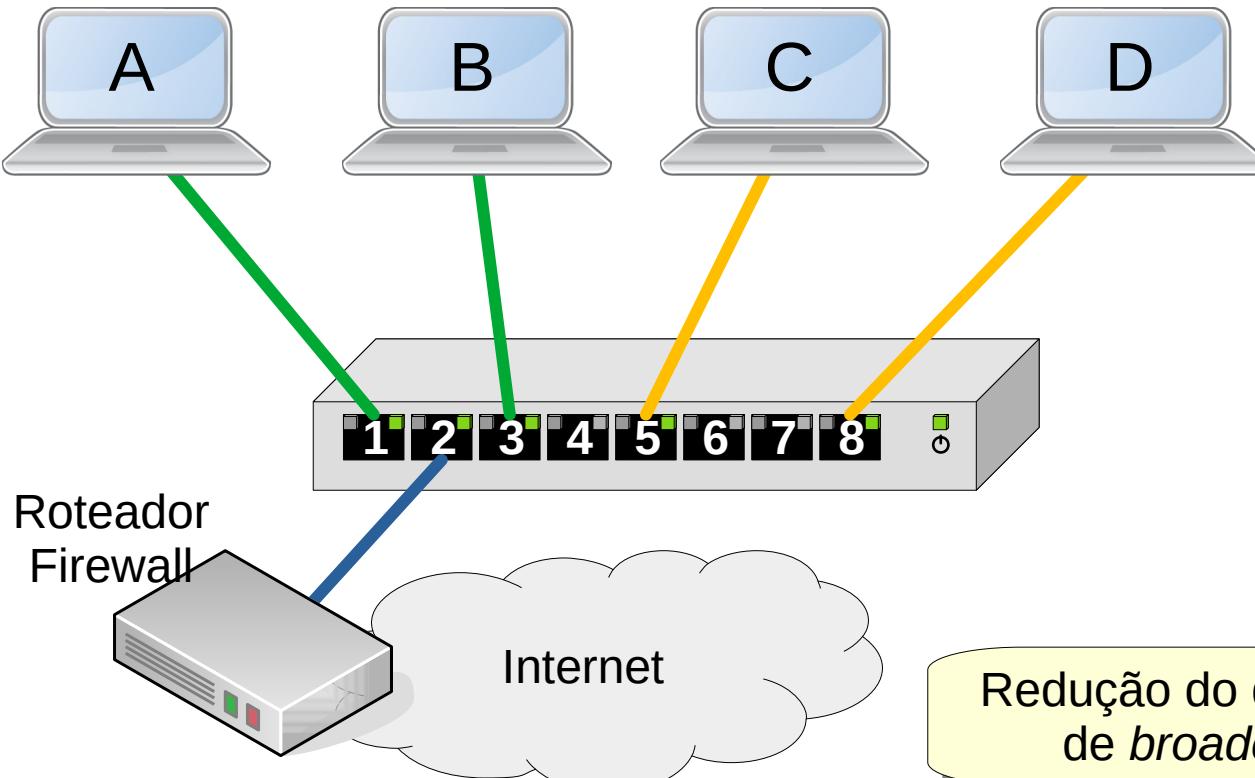
VLAN

Mas para que separar as redes por VLANs
para depois juntá-las com um roteador?



VLAN

Há outros cenários onde a porta *Trunk* pode ser utilizada:



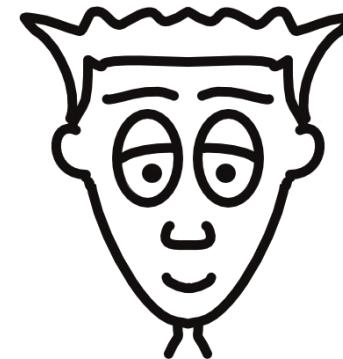
Porta	VLAN	Hosts
1	2	A
2	T	
3	2	B
4	2	
5	1	C
6	1	
7	1	
8	1	D

Redução do domínio de broadcast!

VLAN

Conclusão:

Legal, os *switches* modernos utilizam VLANs, que permitem melhor gerencia da rede, quebra do domínio de broadcast, além de aumentar muito a segurança.



Obrigado!!!

Prof. Dr. Luiz Arthur Feitosa dos Santos



luiz.arthur.feitosa.santos@gmail.com

<https://luizsantos.github.io/>

Links e referencias na descrição do vídeo