



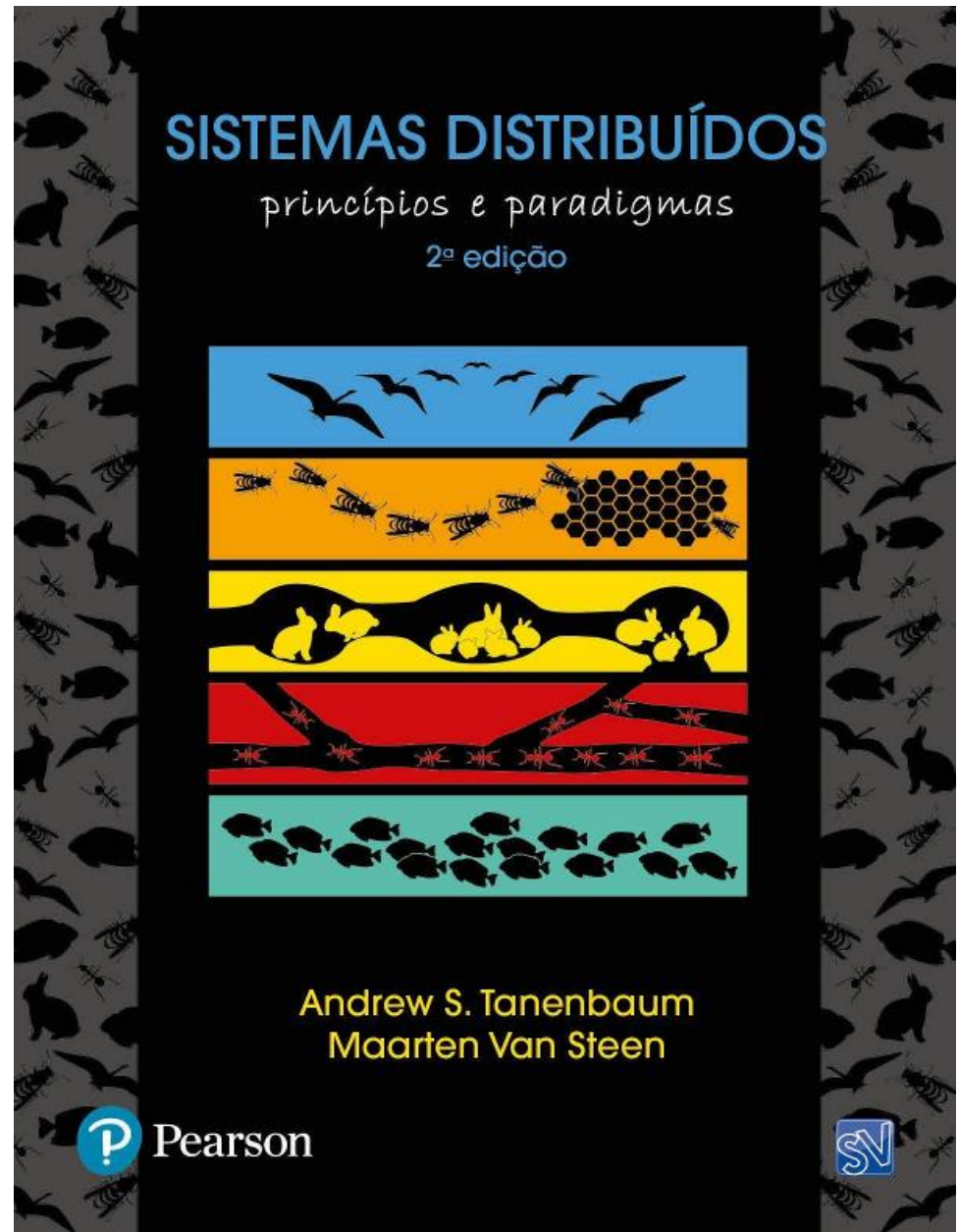
Universidade Federal do ABC

# Sistemas Distribuídos

## Apresentação da Disciplina

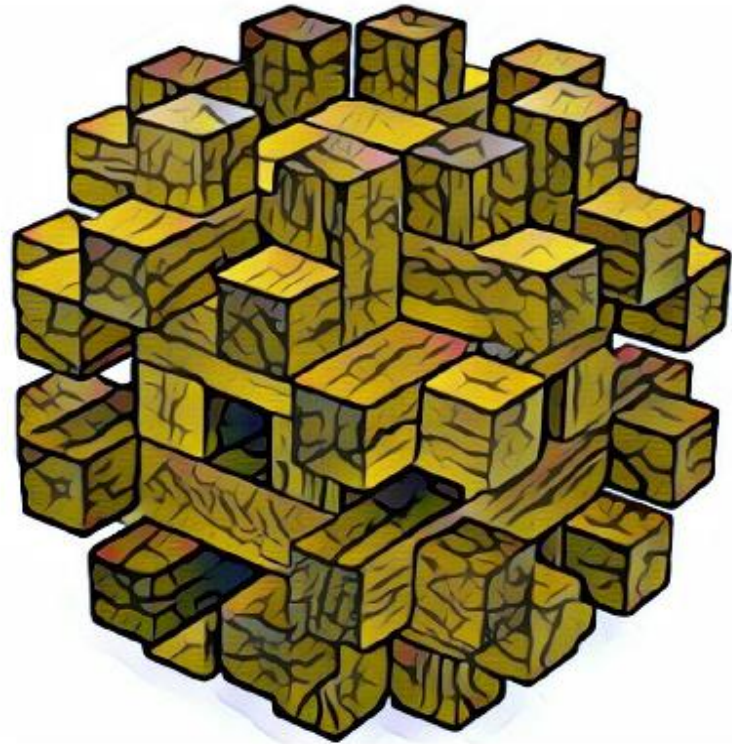
Vladimir Rocha (Vladi)  
vladimir.rocha@ufabc.edu.br

# Introdução



# Introdução

## DISTRIBUTED SYSTEMS



Maarten van Steen  
Andrew S. Tanenbaum

THIRD EDITION - VERSION 01

De graça no link <https://www.distributed-systems.net/index.php/books/ds3/>

# Introdução





# Introdução



<http://techbakbak.com/wp-content/uploads/2014/08/smartphone-apps.jpg>

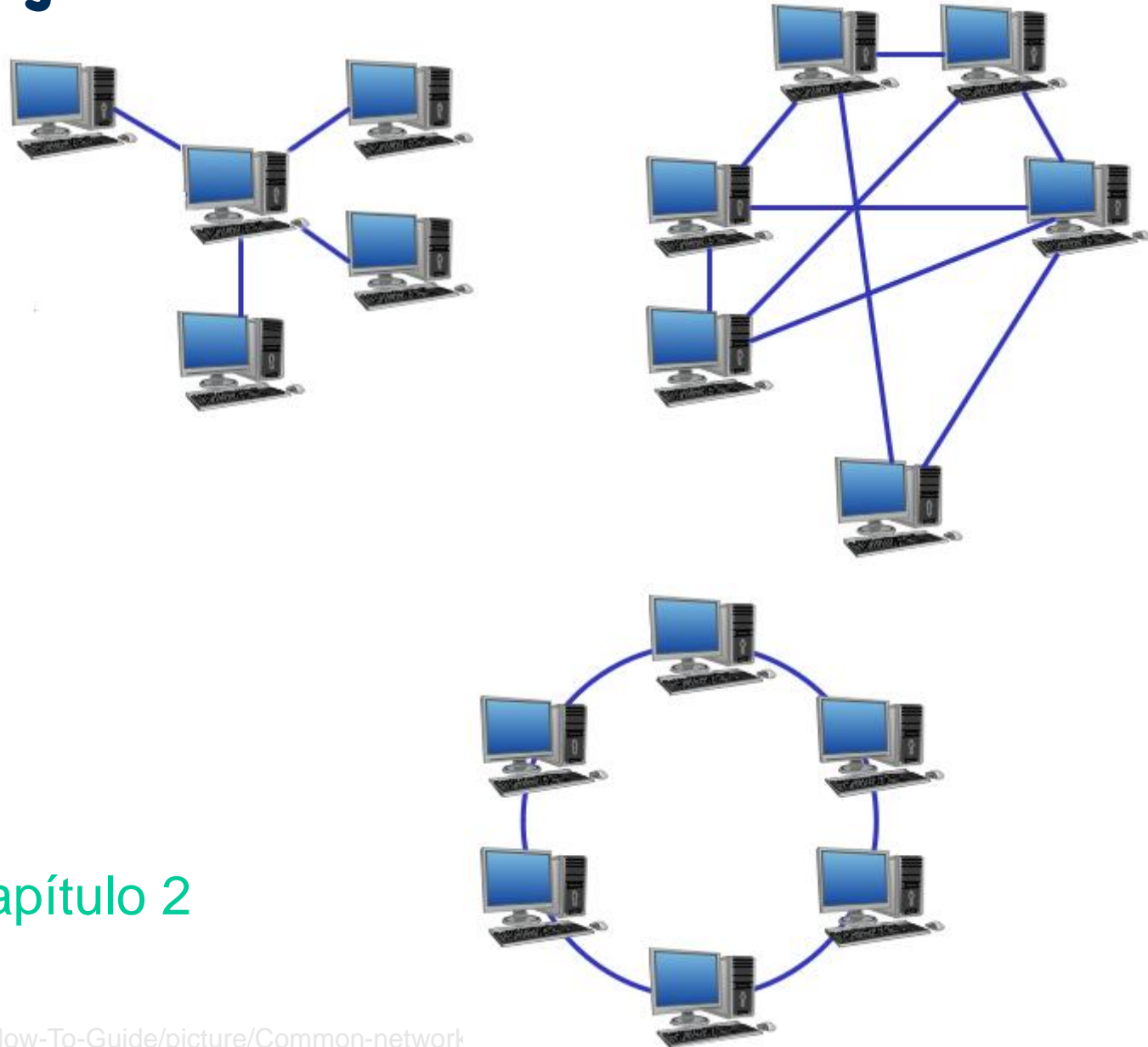
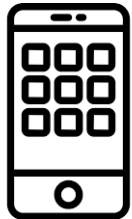
# Introdução



# Introdução



# Introdução



Arquiteturas: capítulo 2

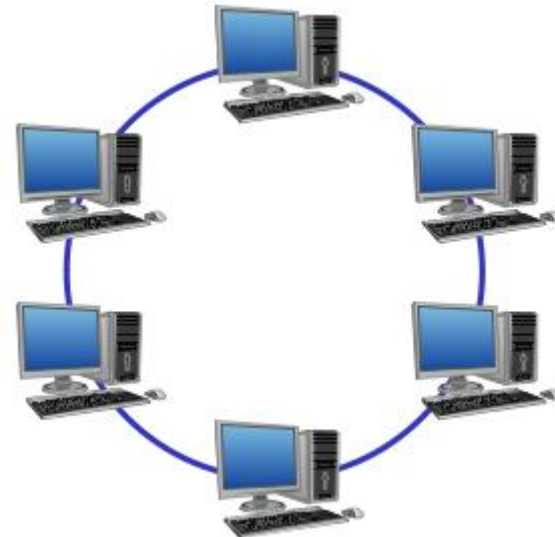
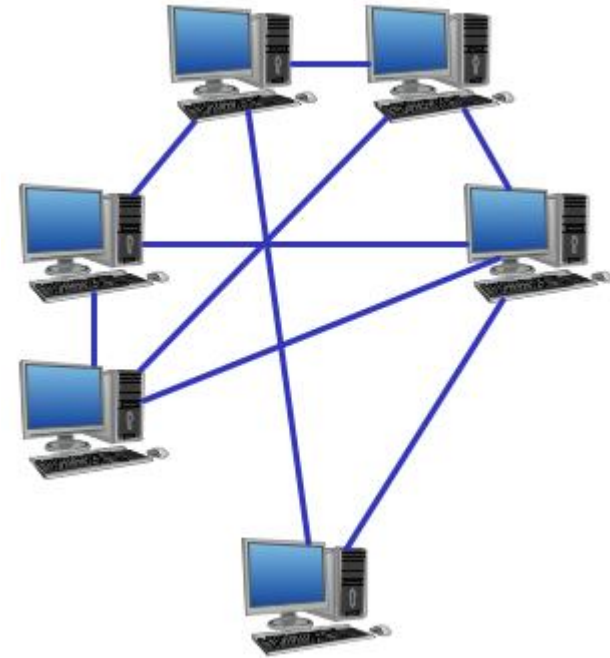


# Introdução

**Servidor**

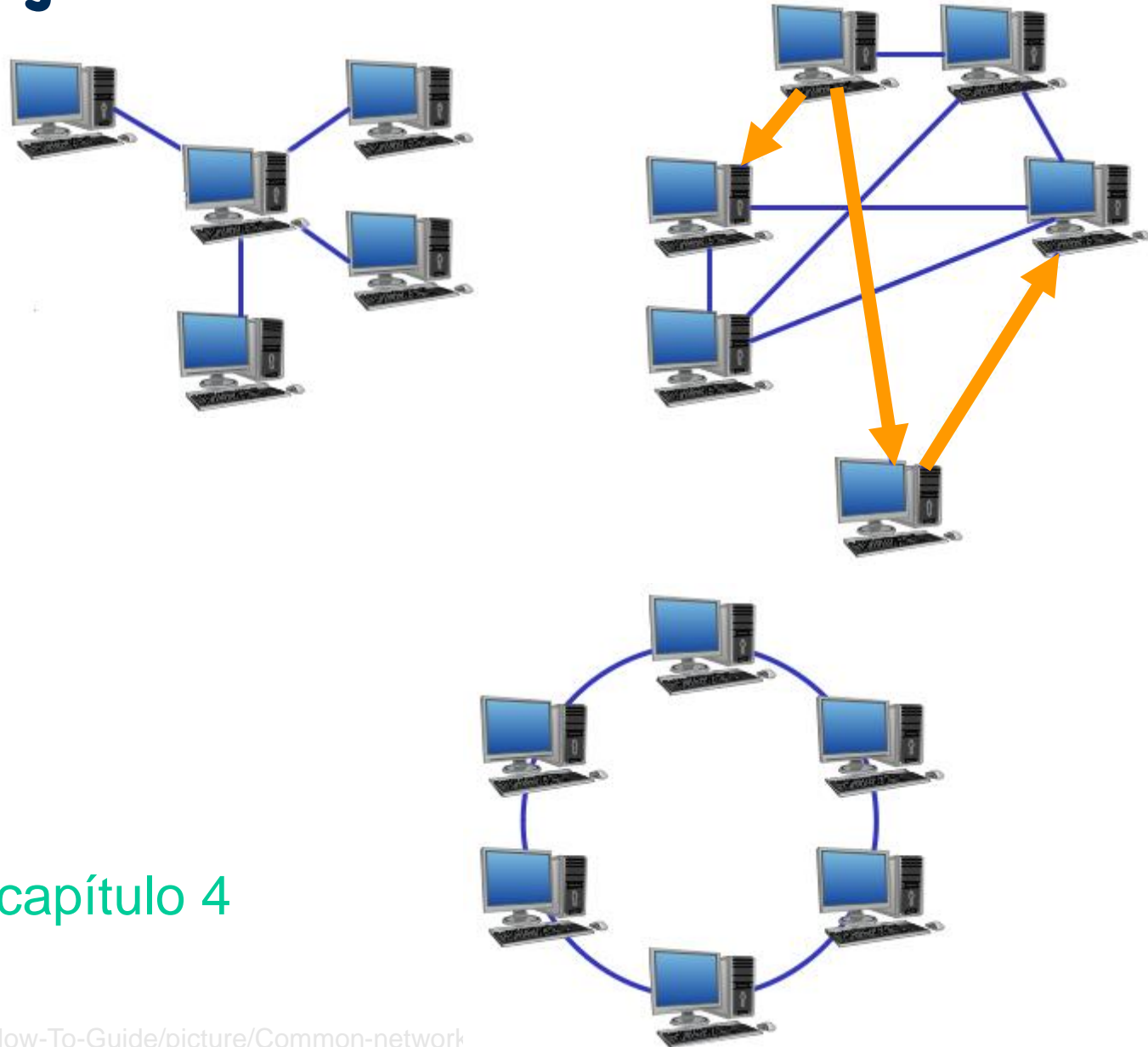
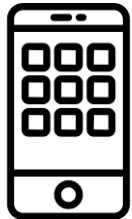


**Cliente**



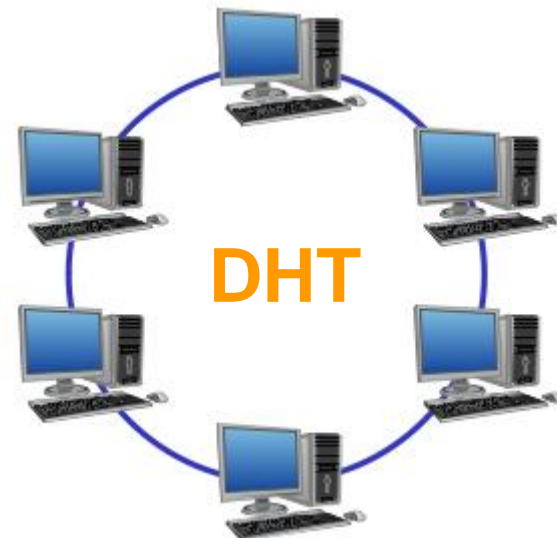
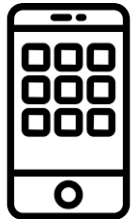
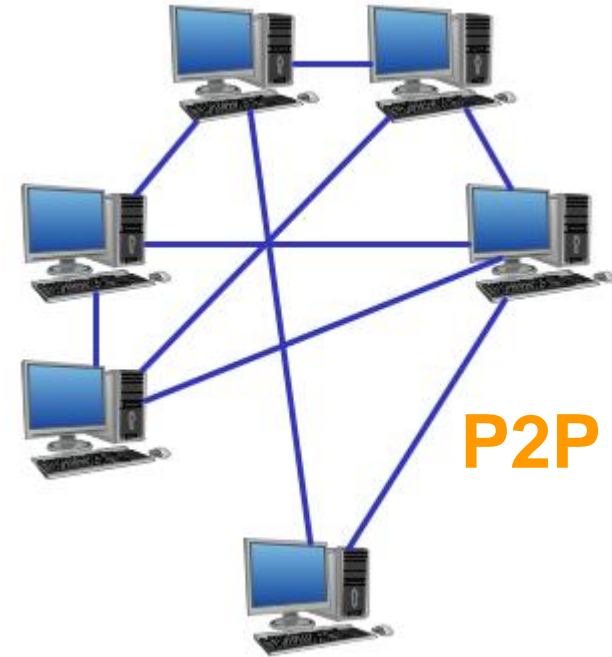
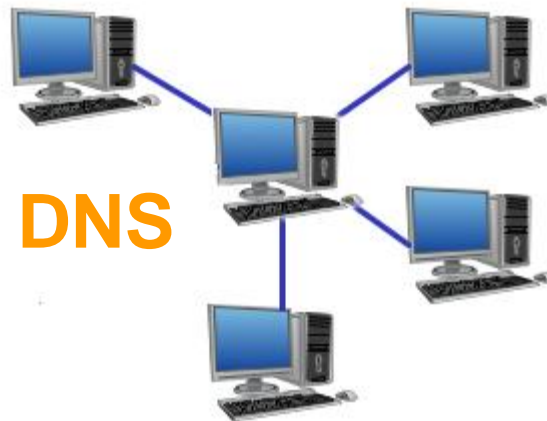
Clientes e Servidores: capítulo 3

# Introdução



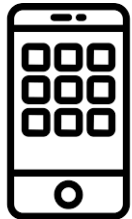
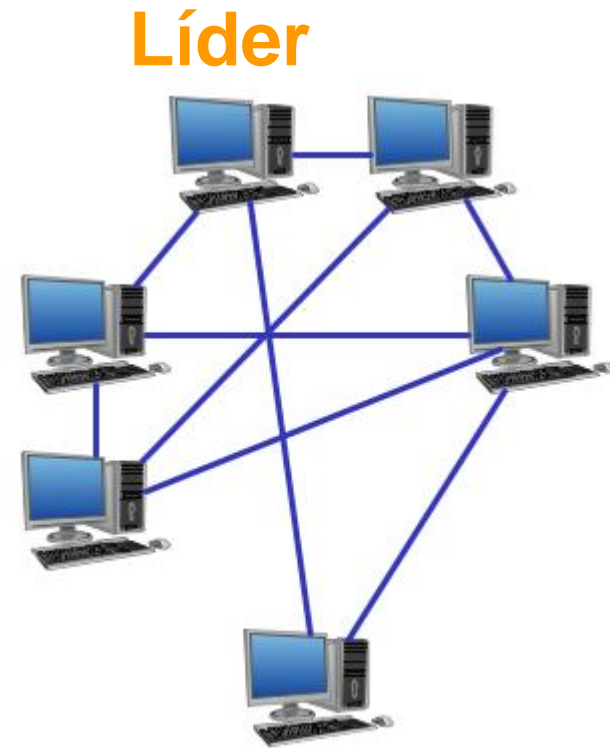
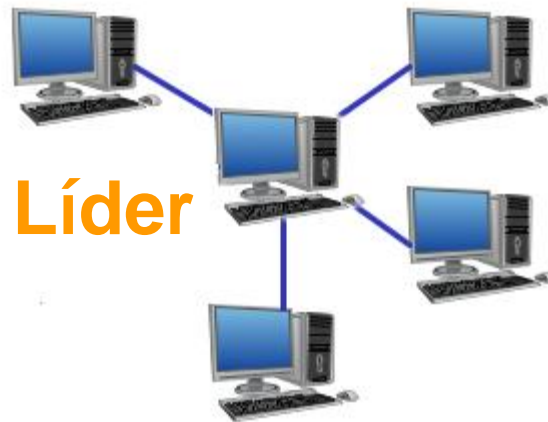
Comunicação: capítulo 4

# Introdução



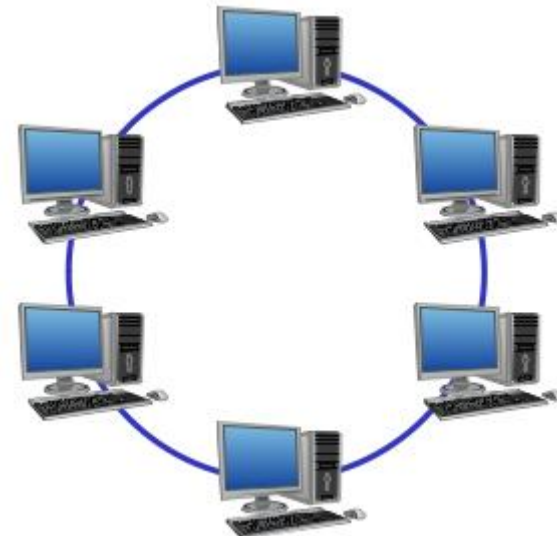
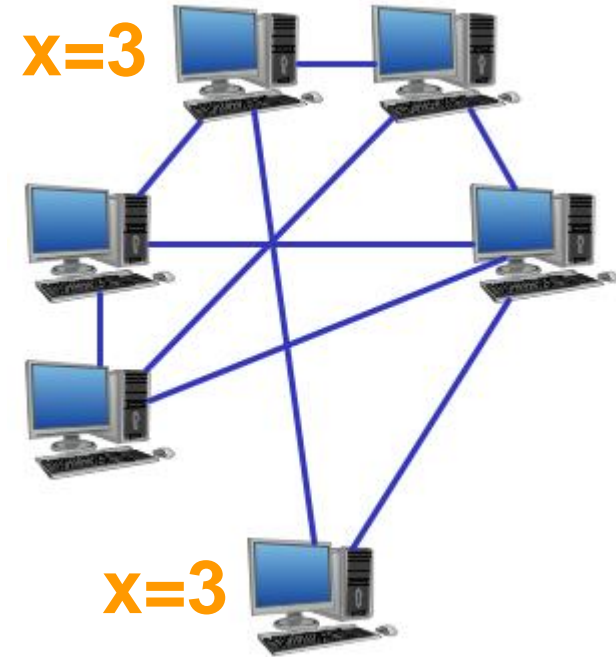
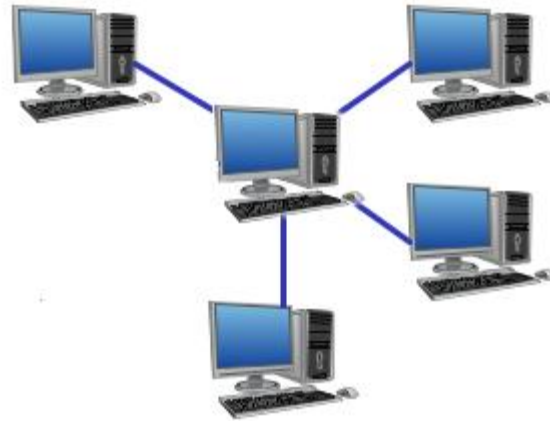
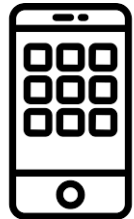
Nomeação: capítulo 5

# Introdução



Sincronização: capítulo 6

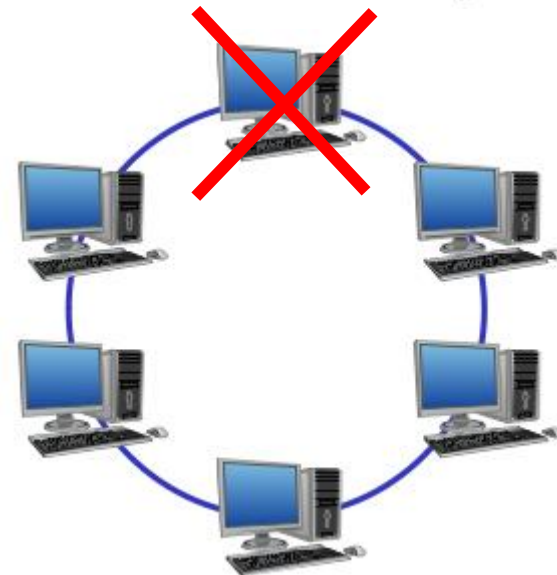
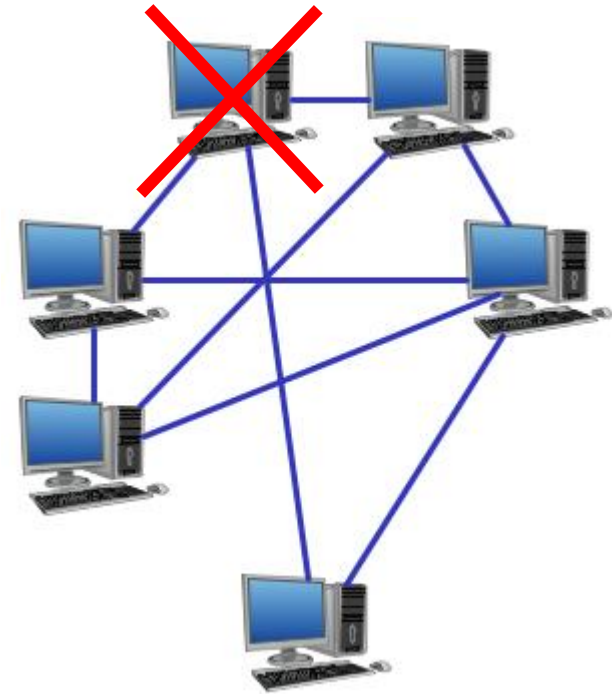
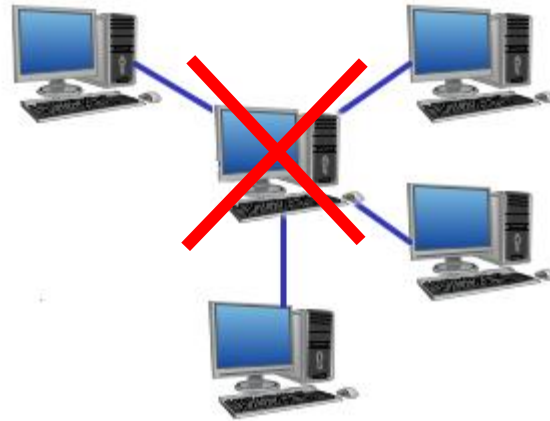
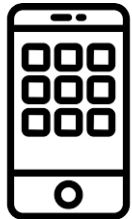
# Introdução



Consistência: capítulo 7



# Introdução



Falhas: capítulo 8

# Introdução



G3 Torrent v0.988

File Options Help

BT URL BT X Play Pause Stop Up Down Settings !

Filename: **Doom II in 1441.**

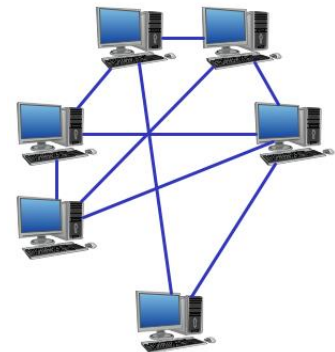
Status Details Graph Friends Messages About

51.25%

You can drag and drop .torrent files here

Peer IP Addresses	KB/s Dn	KB/s Up	%	Progress	Downloaded	Uploaded	Initiation	Client
12.116.92.111	11.1	6.2	12%	<div></div>	1296k	640k	Remote	BitTorr
2-223-108-51.client...		2.1	1%	<div></div>		416k	Remote	BitTorr
up77.neoplus.adsl.tp...			100%	<div></div>			Remote	BitTorr
ua126d56.elisa.omak...			62%	<div></div>	4144k	2272k	Local	BitTorr
ti500720a080-0004....	1.0		100%	<div></div>	1808k		Remote	BitTorr
syr-24-59-130-113.t...			100%	<div></div>			Remote	Azureu
static24-72-2-215.re...			100%	<div></div>	16k		Remote	BitTorr
spc1-wear1-4-0-cust...	4.6		64%	<div></div>	6096k	7664k	Remote	BitTorr
ppp132-112.lns1.adl...	0.4		0%	<div></div>	160k	544k	Remote	
pool-162-83-231-152...	2.4		100%	<div></div>	2224k		Local	
pd9ebe2c3.dip.t-diali...			100%	<div></div>	96k		Local	Azureu
p50832eaa.dip0.t-ip...			100%	<div></div>	160k	192k	Local	Shadow
p213.54.25.28.tisdip...			55%	<div></div>	160k	192k	Remote	Azureu
ol99-173.fibertel.co...			30%	<div></div>	80k	128k	Local	Azureu
ny-lackawannacadenn...			100%	<div></div>			Remote	Azureu
md-wmnsmd-cuda1-c...			17%	<div></div>	768k	2032k	Remote	Azureu

Total Up: 12.3 KB/s Total Down: 118.1 KB/s



Aplicações: BitTorrent

# Introdução



**bitcoin**



ethereum  
NFT

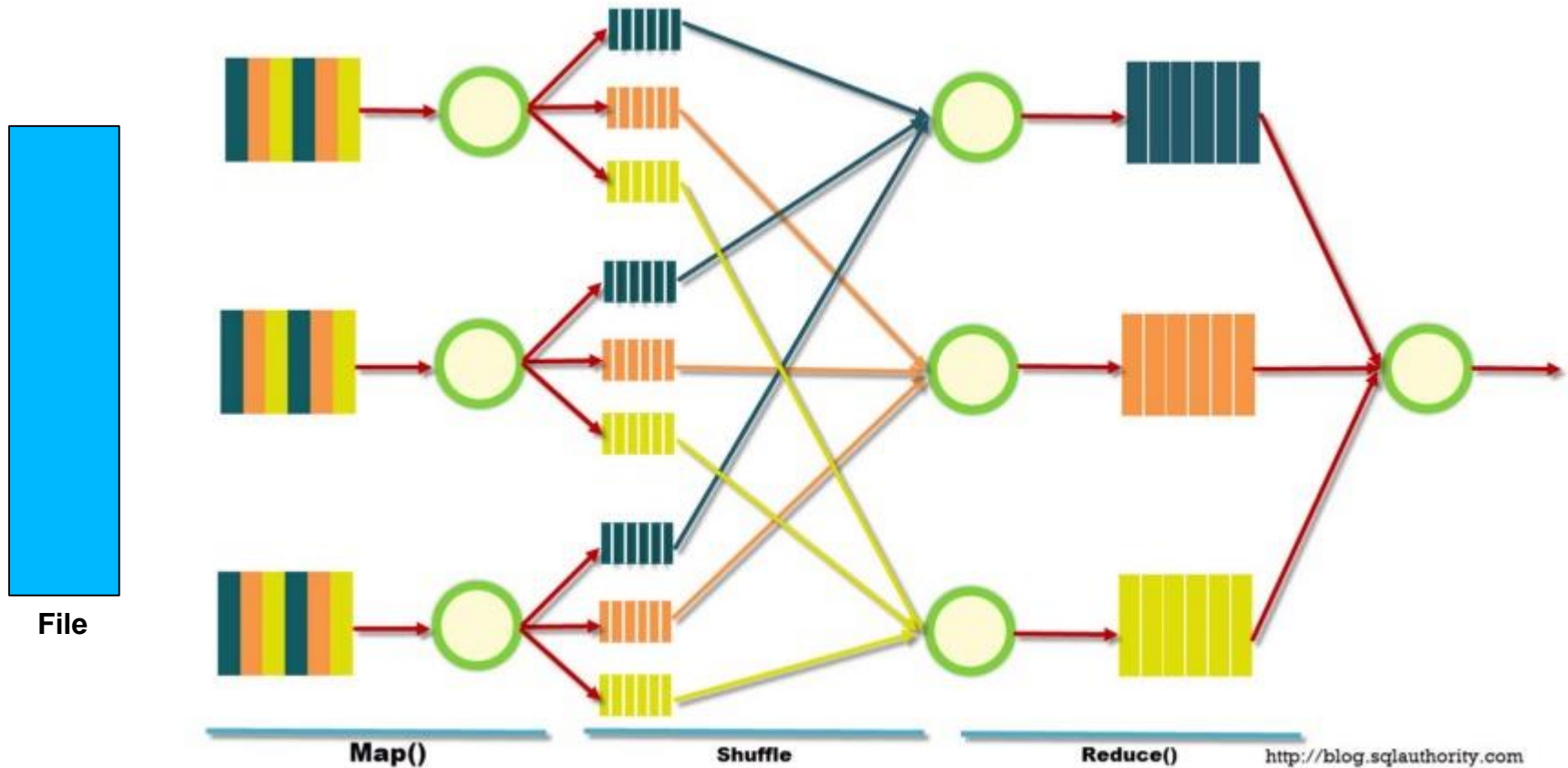


<https://www.allerin.com/blog/breaking-down-the-blockchain-architecture>



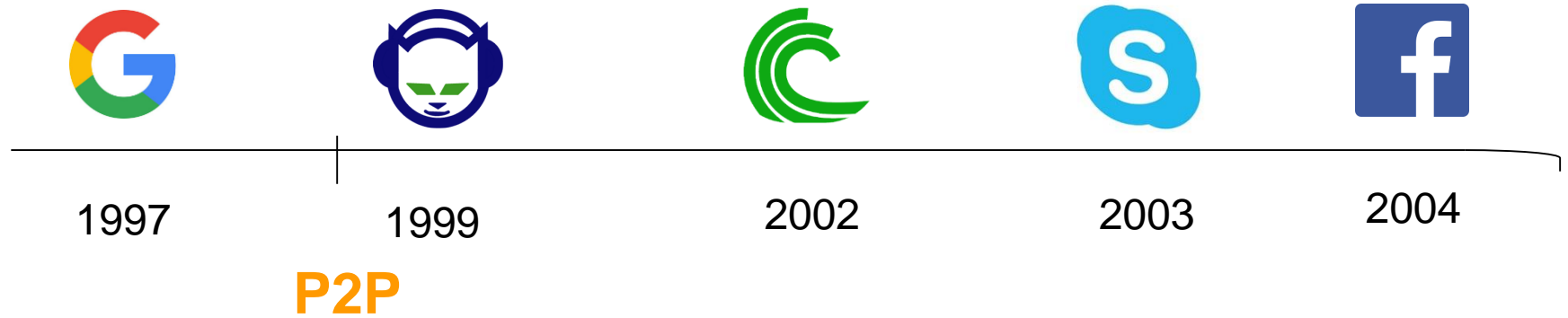
Aplicações: Blockchain

# Introdução



Aplicações: Hadoop Map-Reduce

# Relevância





# Relevância



1997



1999



2002



2003



2004



2009



2008

**NETFLIX**

2007



2006



2005



# Relevância



1997



1999



2002



2003



2004



2009



2008

NETFLIX

2007



2006



2005



2010



2012



2016



2017



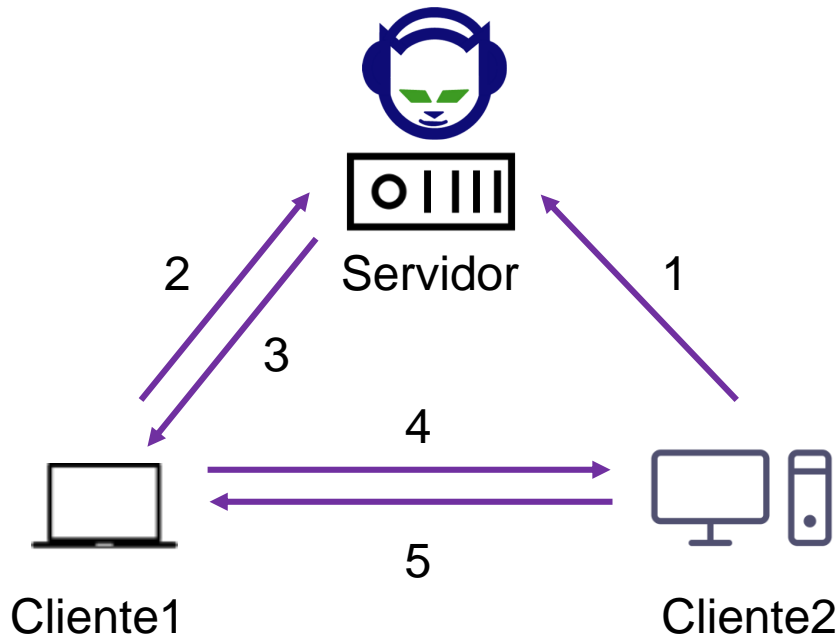
2022

# Recomendações da Disciplina

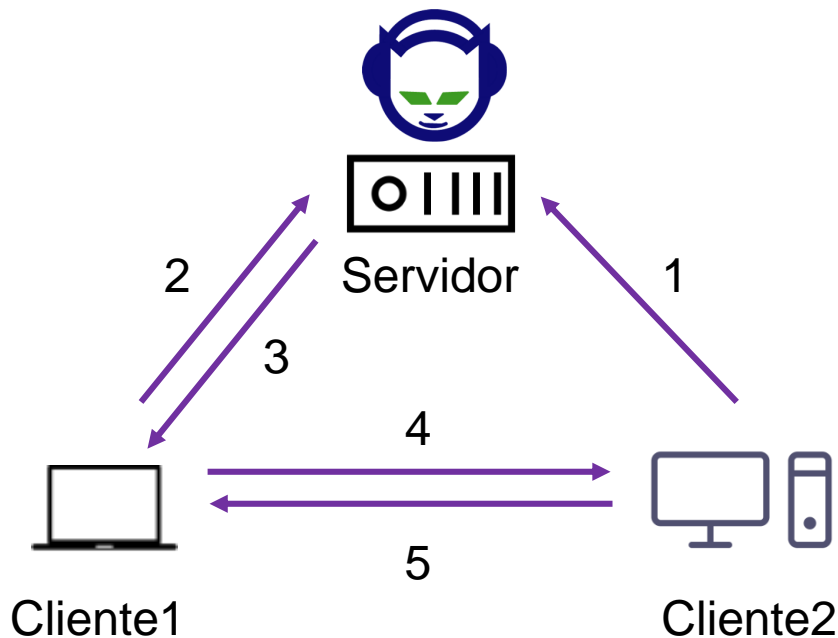
- Ter cursado redes de computadores
  - Comunicação TCP, UDP, IP (sockets)
- Ter conhecimento de estruturas de dados
  - Listas, Filas, Tabelas de Hash, Árvores
- Ter maturidade na programação
  - Programação com sockets
  - Uso das estruturas de dados

# Exercícios programáticos

- Porquê é necessário programar



# Exercícios programáticos

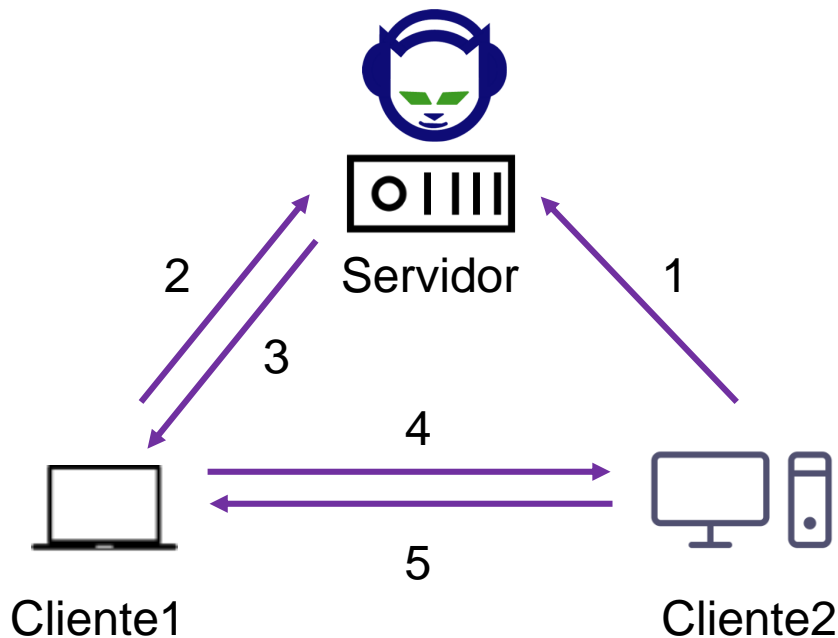


Do ponto de vista do Cliente1, que acontece se:

- Servidor não responde
- Arquivo é muito grande
- Cliente2 não pode enviar nesse momento
- Cliente2 apagou o arquivo
- Cliente2 saiu no meio da transferência



# Exercícios programáticos



Do ponto de vista do Servidor:

- Quantos clientes posso atender?
- Que informações devo armazenar?
- Cliente2 sai (como ficam os arquivos)
- Cliente2 morre (não avisou a saída)
  - Como estimar o tempo?
  - Eliminar arquivos? E se volta?