



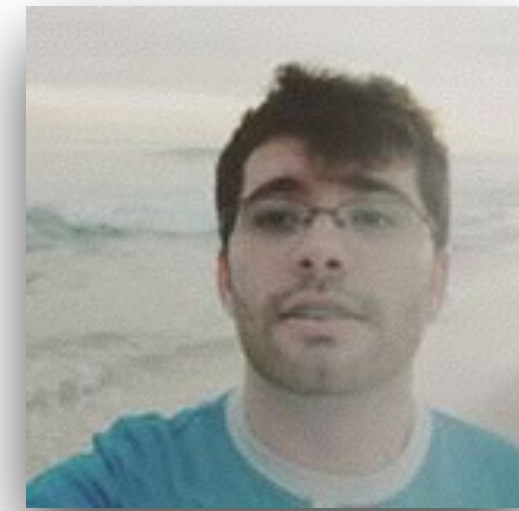
# Data Center Grupo Globo: Desafios e Resultados

Laura Panzariello

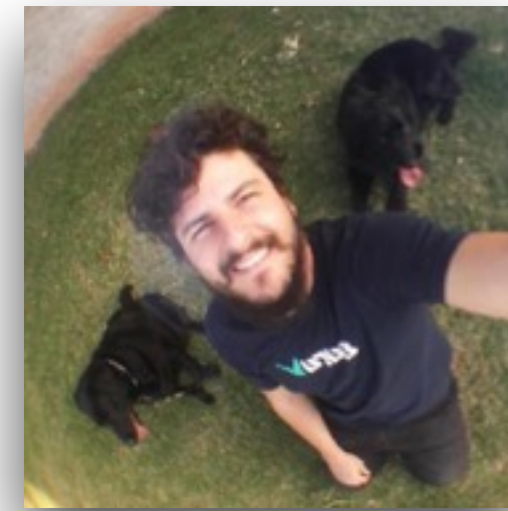
# Suporte Telecom



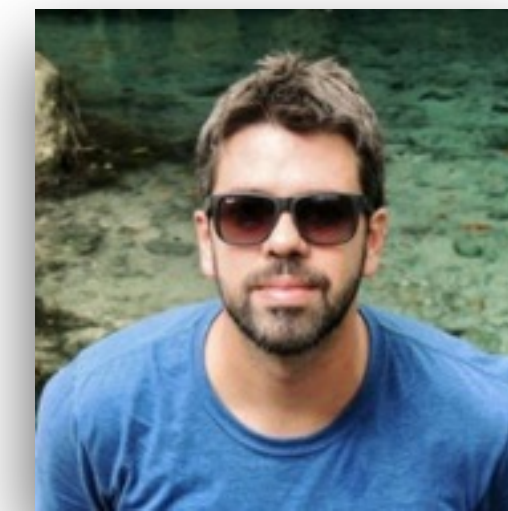
Claudiney



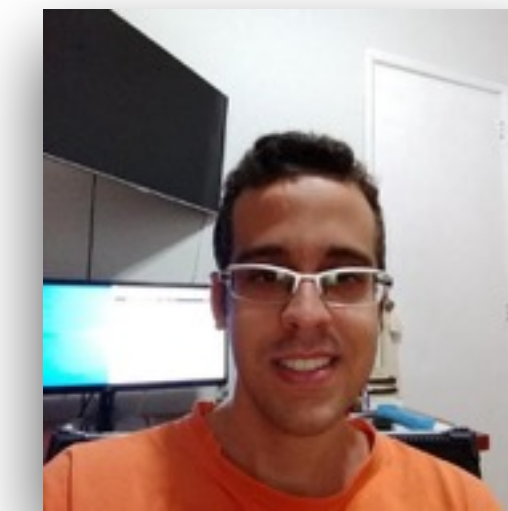
Ederson



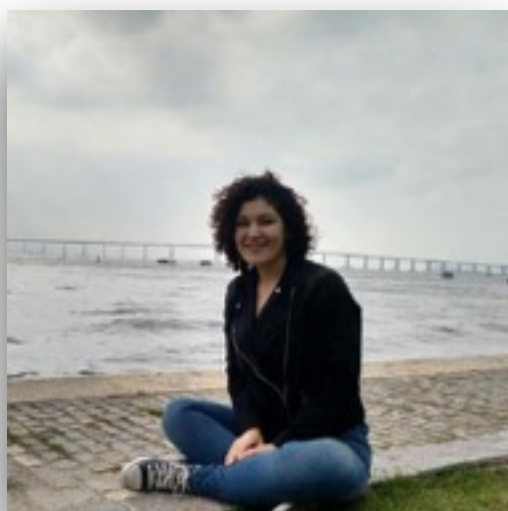
Gustavo



Henrique



Juan



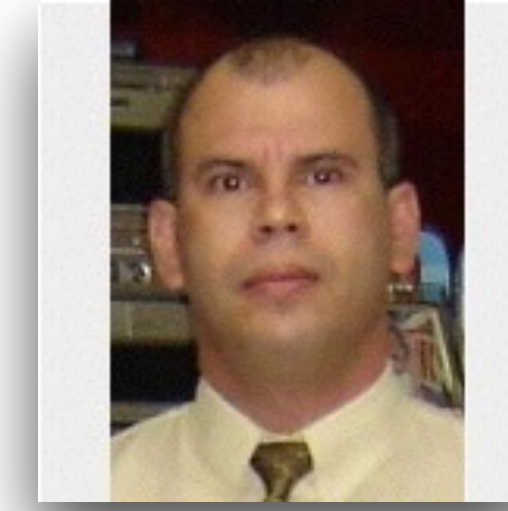
Laura



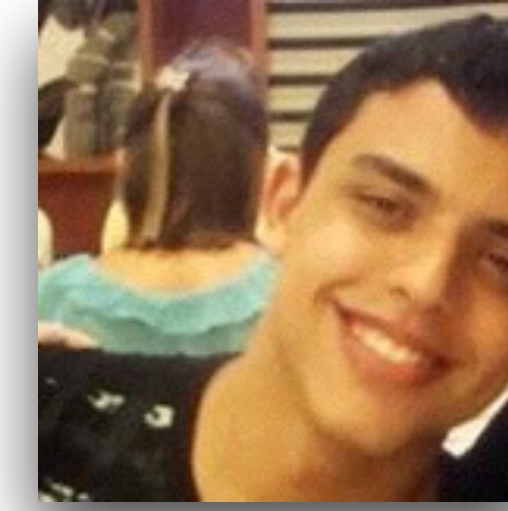
Mauricio



Marcus



Valdeci



Vinicius

globo  
.com

CartolaFC®

GLOBO  PLAY



Gshow

ge



# Motivações

- 1. Limitação física.**
2. Conexão com outros ASs.
3. Arquitetura.

1. Limitação física.
- 2. Conexão com outros ASs.**
3. Arquitetura.

1. Limitação física.
2. Conexão com outros ASs.
- 3. Arquitetura.**

**Projeto**



**1. Localização.**

2. Projeto.

1. Arquitetura Spine-Leaf ECMP L3

2. Escalabilidade e Alta disponibilidade

3. Segregação física e lógica de ambientes

4. Protocolo BGP

1. Localização.

**2. Projeto.**

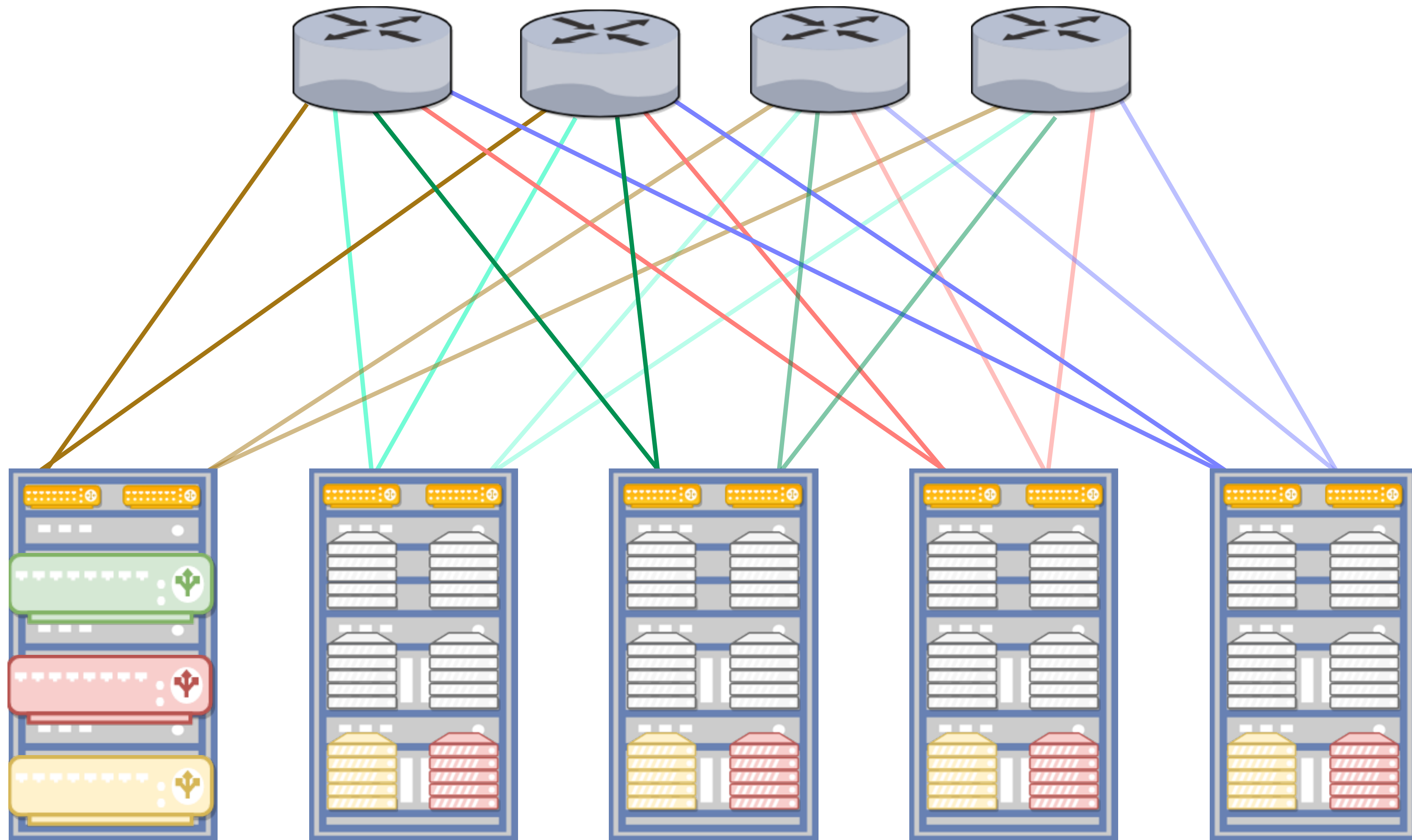
**1. Arquitetura Spine-Leaf ECMP L3**

2. Escalabilidade e Alta disponibilidade

3. Segregação física e lógica de ambientes

4. Protocolo BGP

# I. Arquitetura spine and leaf ECMP L3



1. Localização.

**2. Projeto.**

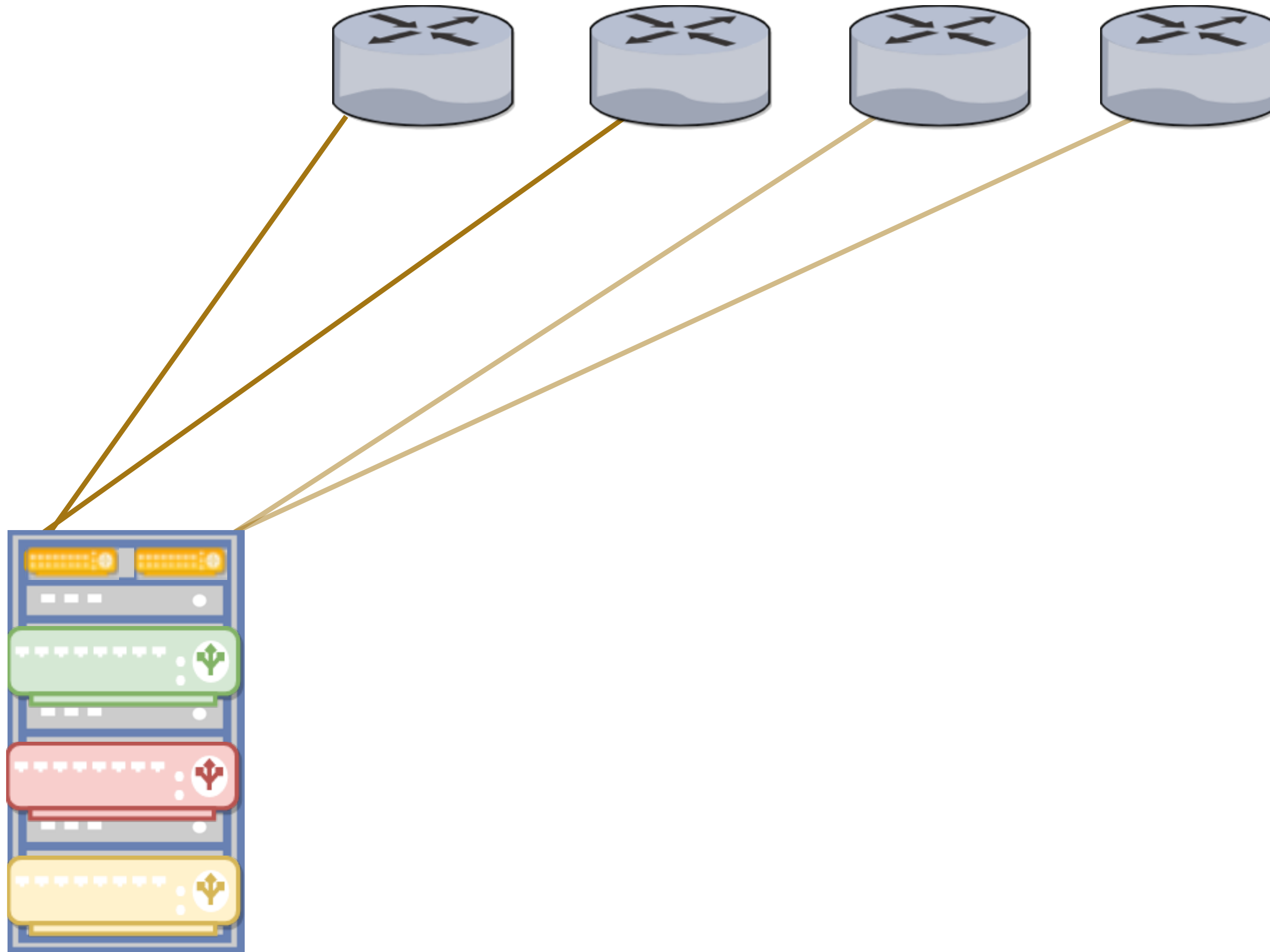
1. Arquitetura Spine-Leaf ECMP L3

**2. Escalabilidade e Alta disponibilidade**

3. Segregação física e lógica de ambientes

4. Protocolo BGP

## 2. Escalabilidade e alta disponibilidade



1. Localização.

**2. Projeto.**

1. Arquitetura Spine-Leaf ECMP L3

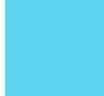




2. Escalabilidade e Alta disponibilidade

**3. Segregação física e lógica de ambientes**

4. Protocolo BGP

### 3. Segregação física e lógica de ambientes



-  vrf Borda
-  vrf Backend
-  vrf Frontend
-  vrf default
-  vrf management

1. Localização.

2. Projeto.

1. Arquitetura Spine-Leaf ECMP L3

2. Escalabilidade e Alta disponibilidade

3. Segregação física e lógica de ambientes

**4. Protocolo BGP**



Migração

**1. Automação.**

2. Projeto.

3. Desafios.

# I. Automação

9

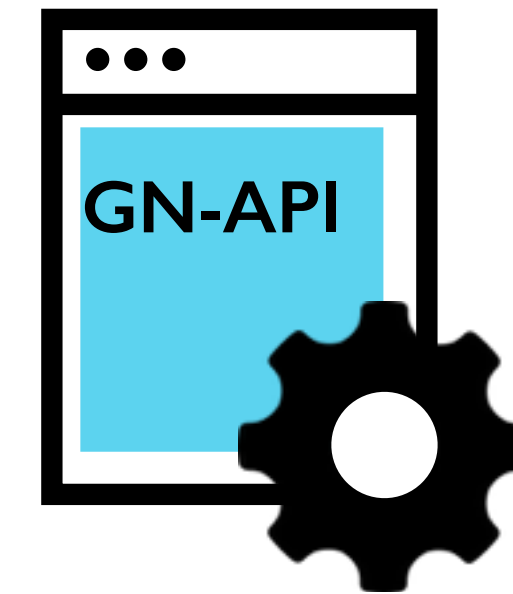
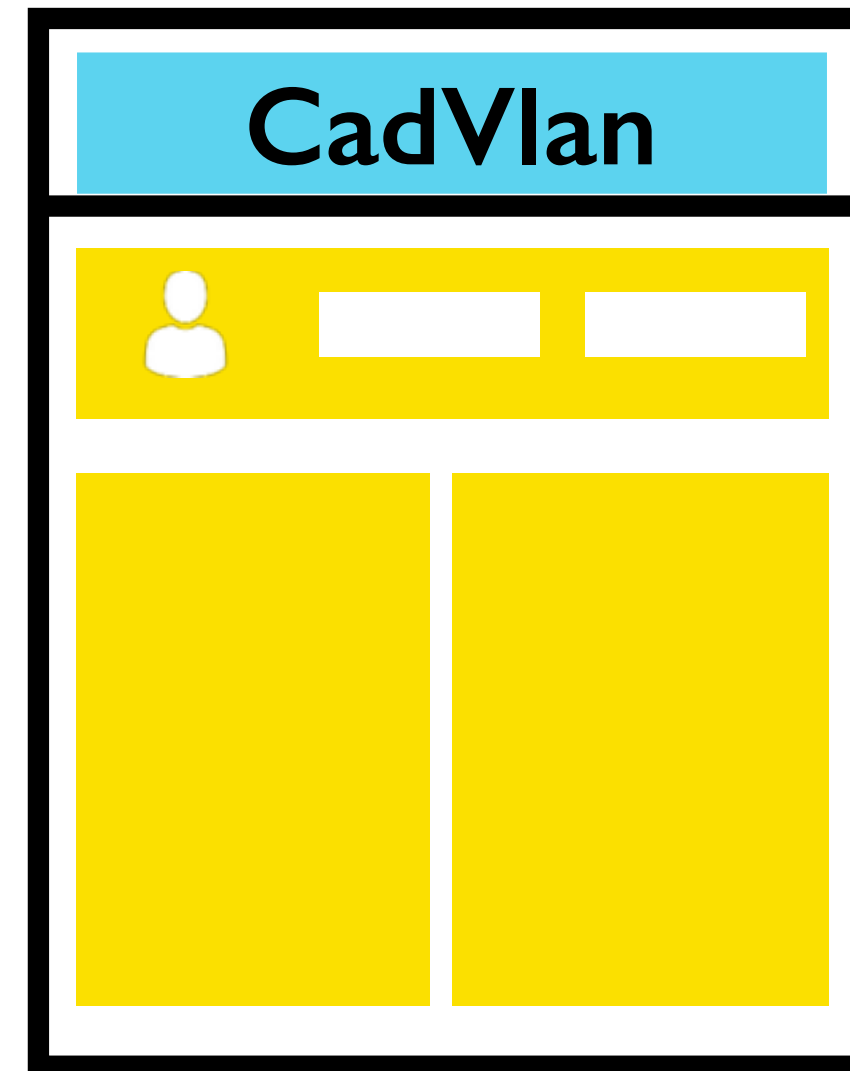
Switches

33

Vlans alocadas

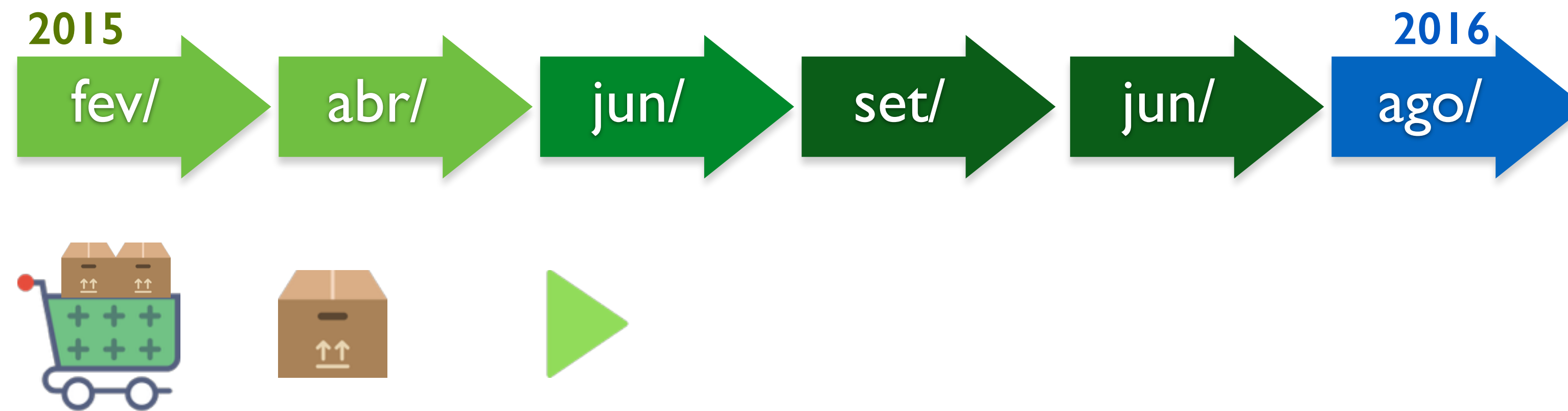
30

Neighbors BGP

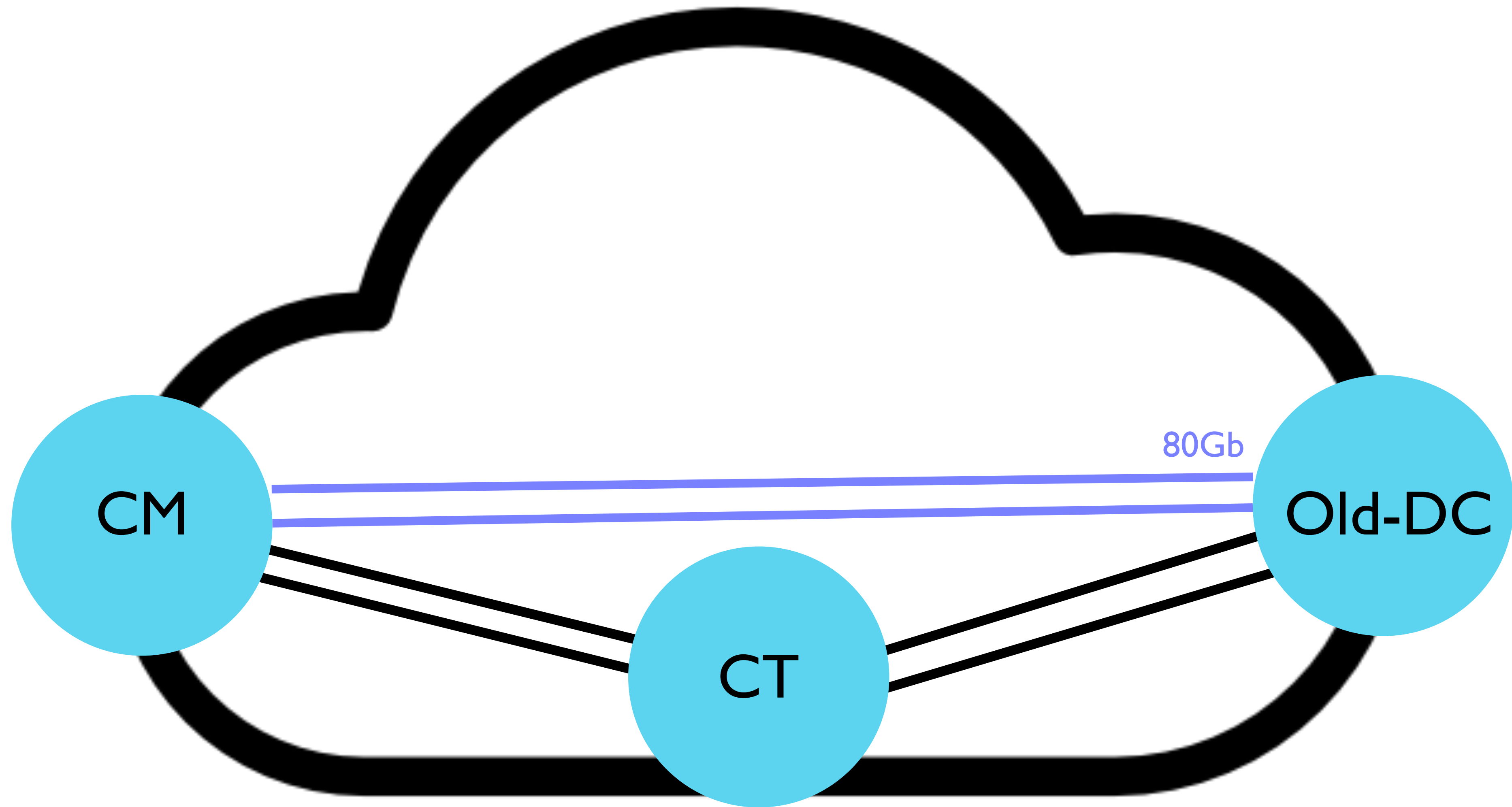


1. Automação.
- 2. Projeto.**
3. Desafios.

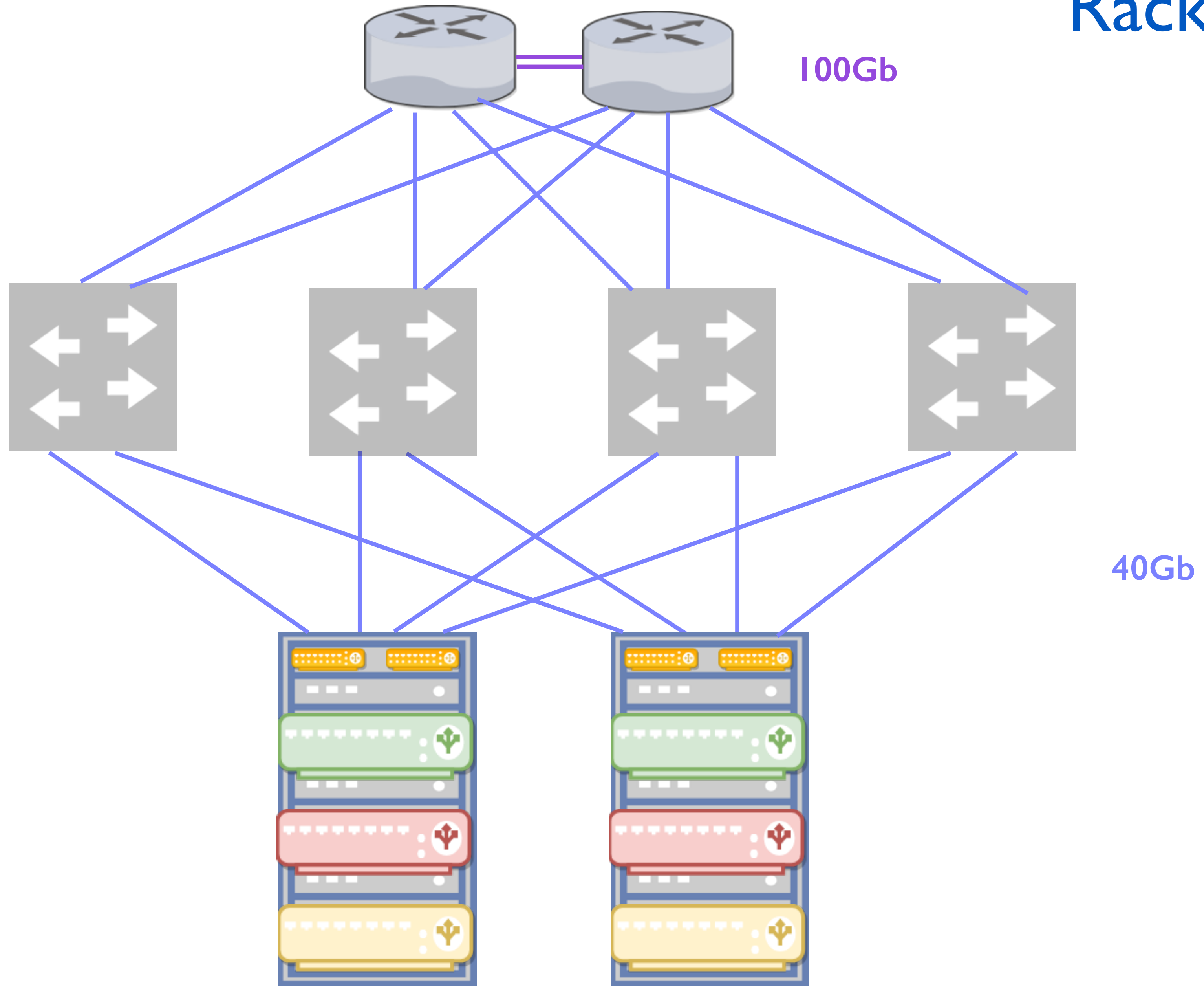
# Cronograma Inicial



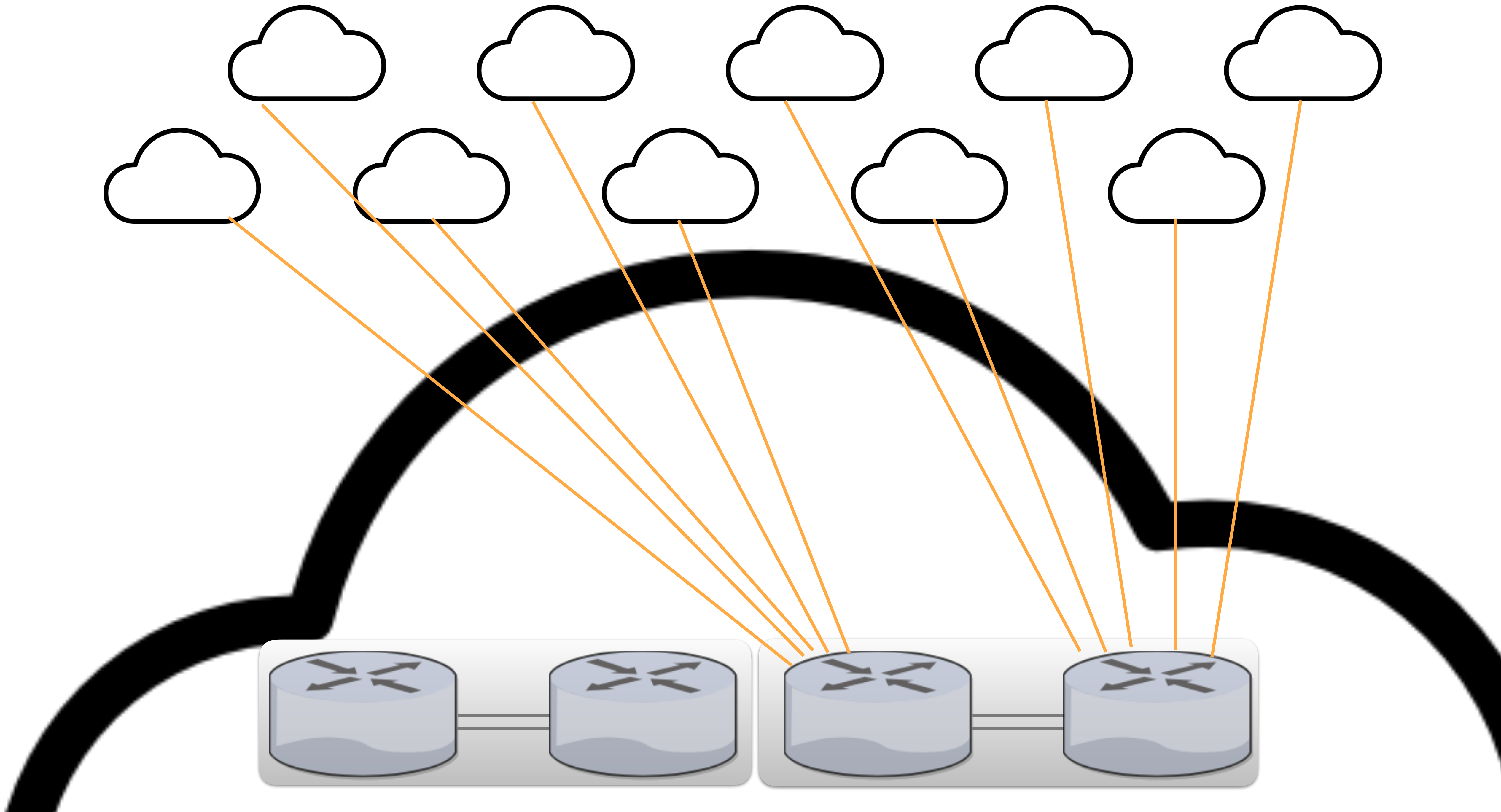
# Link Interno

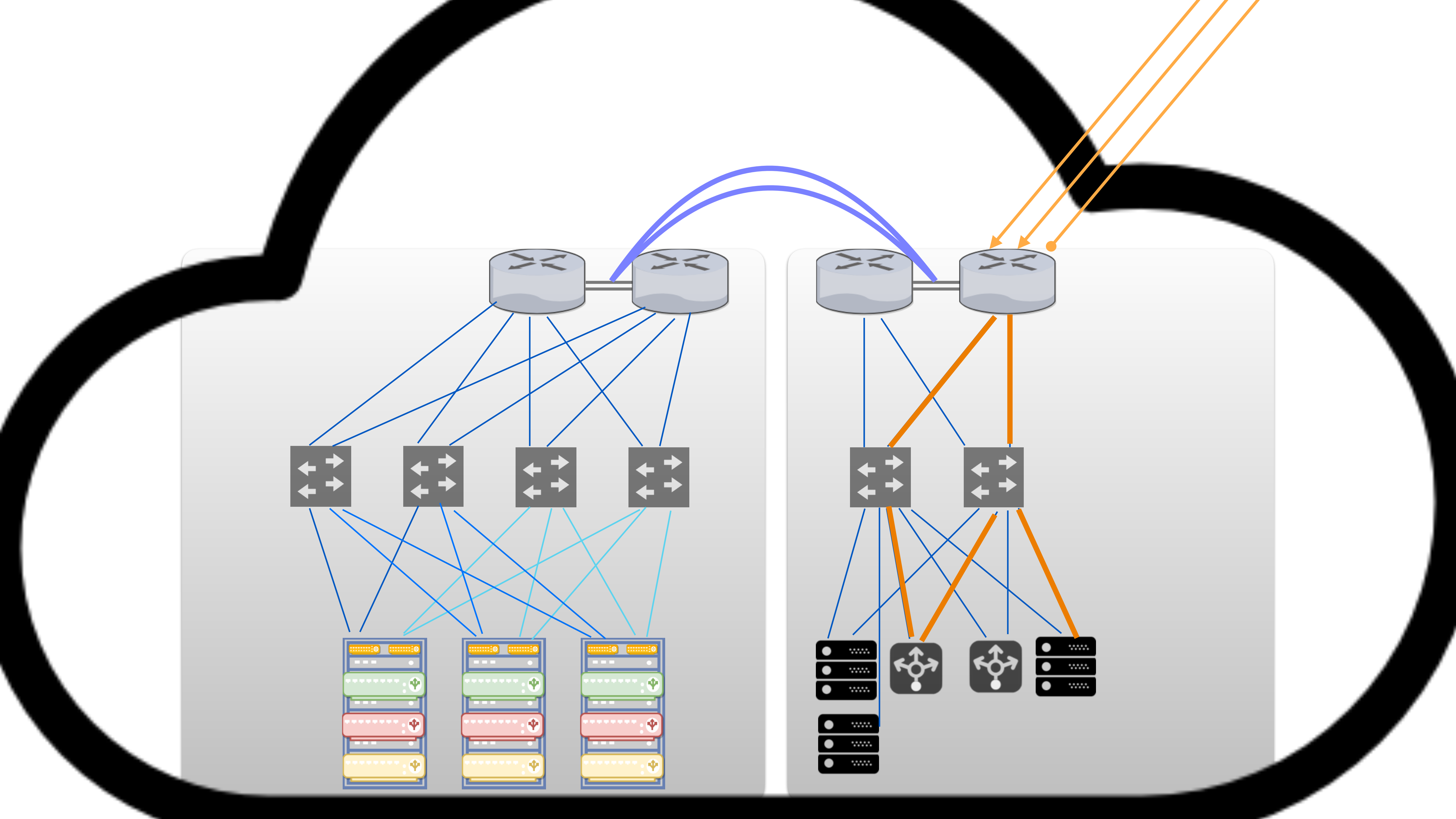


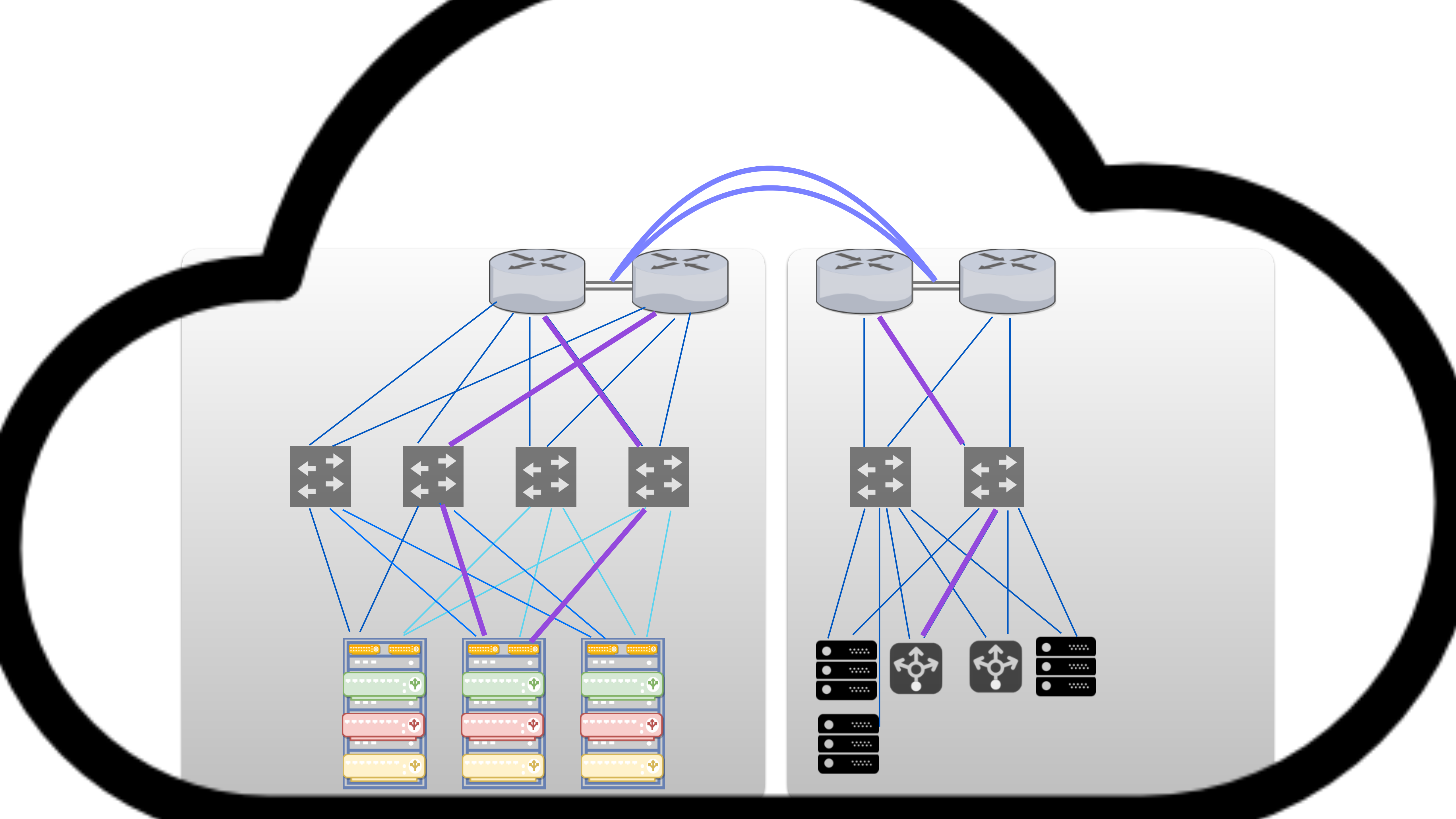
# Racks

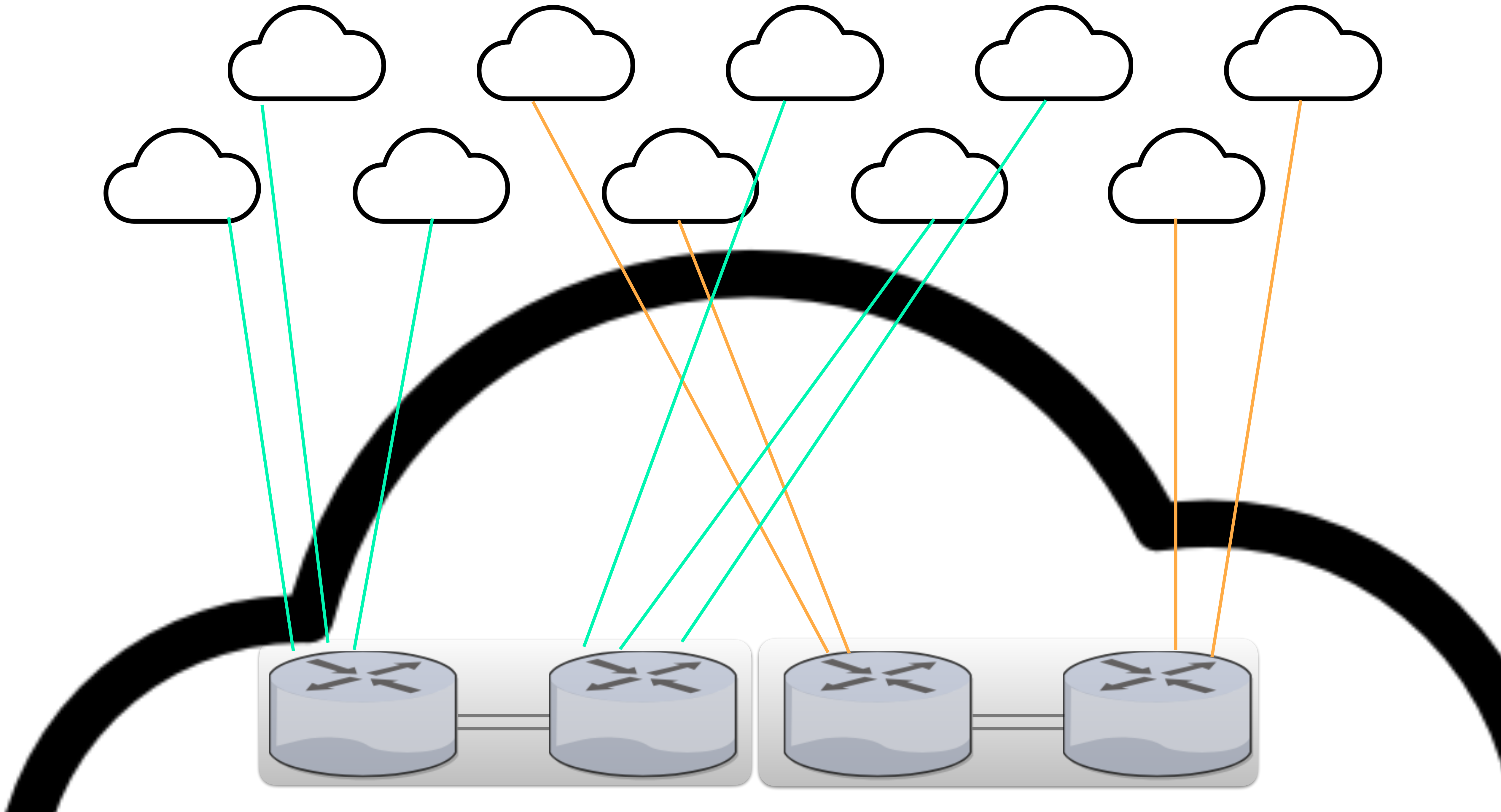




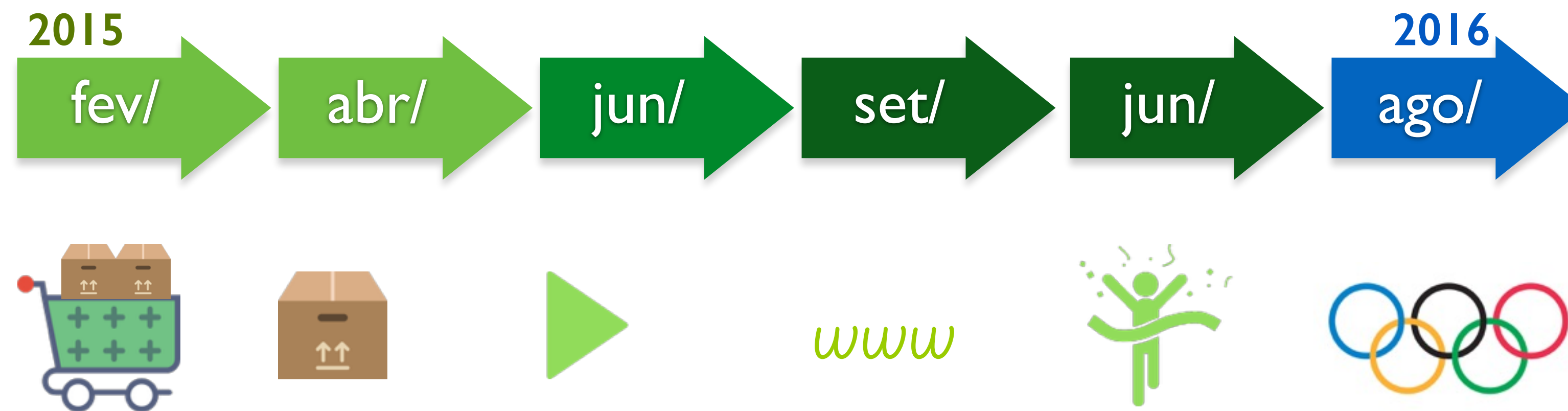






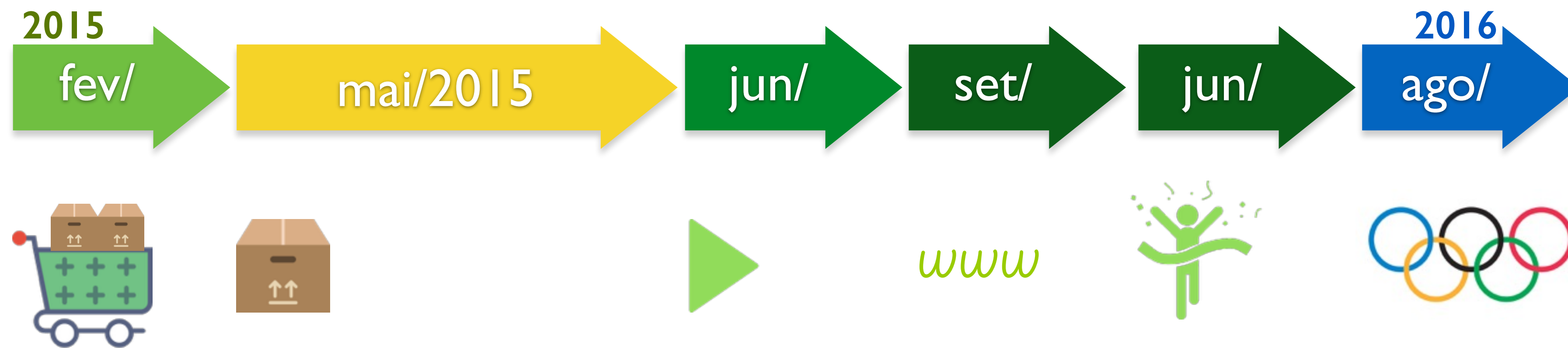


# Cronograma Inicial

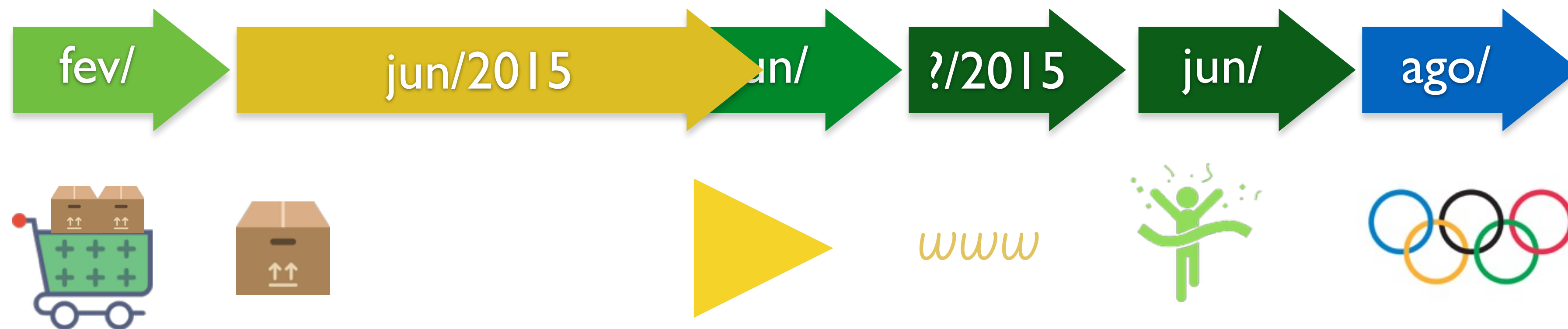


1. Automação.
2. Projeto.
- 3. Desafios.**

# Atraso Fabricante



# Atraso Fabricante

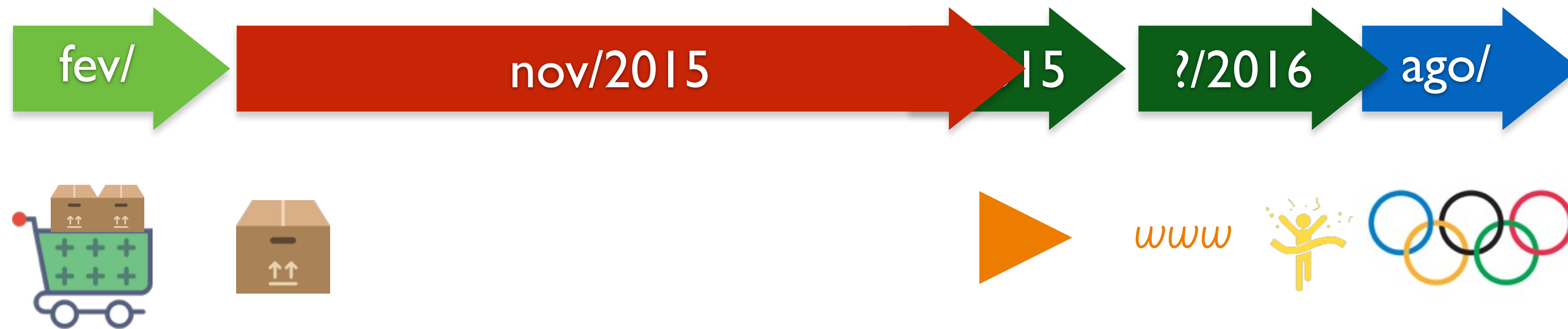




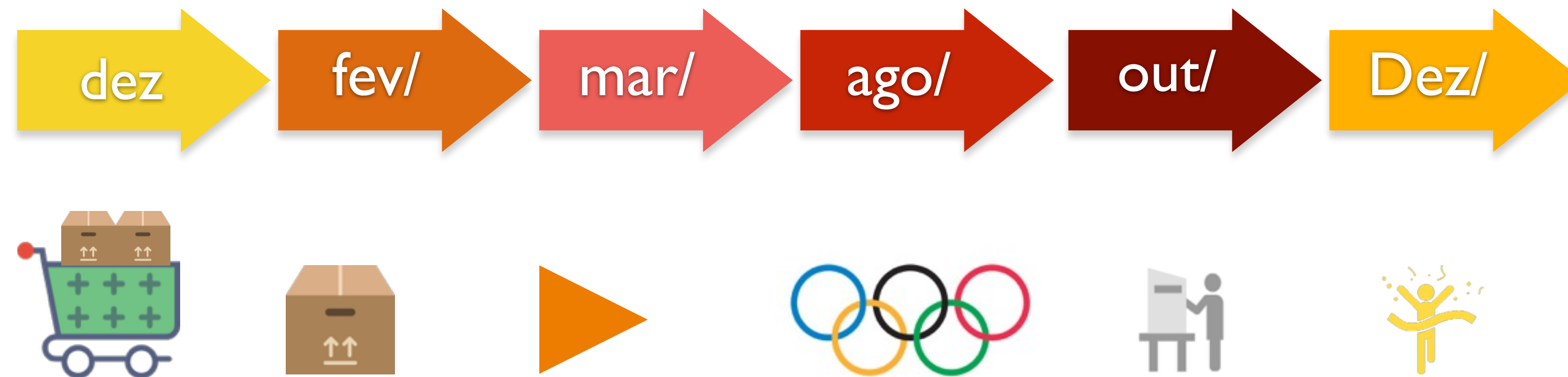
# Atraso Fabricante



# Atraso Fabricante



# Novo Cronograma



JOB ID	IP	Usuário	Ambiente	Vlan	Tipo	Criação	Início	Fim	Status	Ações
395039	ipv4	aclapi_queue_app	1066	24	DIFF	2017-11-28 08:56:14	2017-11-28 08:56:15	2017-11-28 08:56:21	SUCCESS	
395038	ipv4	aclapi_queue_app	1098	266	DIFF	2017-11-28 08:55:34			PENDING	SCRIPT EXECUTAR
395037	ipv4	aclapi_queue_app	1199	266	UPDATE	2017-11-28 08:55:34			PENDING	SCRIPT EXECUTAR
395036	ipv4	aclapi_queue_app	142	907	DIFF	2017-11-28 08:53:59	2017-11-28 08:54:00	2017-11-28 08:54:04	SUCCESS	
395035	ipv4	felipe.lisboa	2281	-1	UPDATE	2017-11-28 08:53:38	2017-11-28 08:53:53	2017-11-28 08:54:04	SUCCESS	
395034	ipv4	felipe.lisboa	2280	-1	UPDATE	2017-11-28 08:53:14	2017-11-28 08:53:25	2017-11-28 08:53:42	SUCCESS	
395033	ipv4	aclapi_queue_app	1832	14	DIFF	2017-11-28 08:51:15			PENDING	SCRIPT EXECUTAR
395031	ipv4	aclapi_queue_app	1199	16	DIFF	2017-11-28 08:50:35			PENDING	SCRIPT EXECUTAR
395032	ipv4	aclapi_queue_app	1095	11	DIFF	2017-11-28 08:50:35			PENDING	SCRIPT EXECUTAR
395030	ipv4	aclapi_queue_app	1707	149	UPDATE	2017-11-28 08:50:23	2017-11-28 08:50:24	2017-11-28 08:50:33	SUCCESS	
395029	ipv4	aclapi_queue_app	2144	1147	DIFF	2017-11-28 08:49:55	2017-11-28 08:49:56	2017-11-28 08:49:56	SUCCESS	
395027	ipv4	aclapi_queue_app	2144	1147	DIFF	2017-11-28 08:49:54	2017-11-28 08:49:54	2017-11-28 08:49:54	SUCCESS	
395028	ipv4	aclapi_queue_app	2144	1147	DIFF	2017-11-28 08:49:53	2017-11-28 08:49:54	2017-11-28 08:49:54	SUCCESS	
395026	ipv4	aclapi_queue_app	1711	301	UPDATE	2017-11-28 08:49:36	2017-11-28 08:49:37	2017-11-28 08:49:46	SUCCESS	
395025	ipv4	aclapi_queue_app	1807	143	DIFF	2017-11-28 08:49:20	2017-11-28 08:49:21	2017-11-28 08:49:29	SUCCESS	
395024	ipv4	aclapi_queue_app	1096	138	DIFF	2017-11-28 08:48:15			PENDING	SCRIPT EXECUTAR
395023	ipv4	aclapi_queue_app	1836	303	DIFF	2017-11-28 08:48:15			PENDING	SCRIPT EXECUTAR
395022	ipv4	felipe.lisboa	2282	-1	UPDATE	2017-11-28 08:47:51	2017-11-28 08:48:01	2017-11-28 08:48:11	SUCCESS	
395021	ipv4	aclapi_queue_app	139	264	DIFF	2017-11-28 08:47:40			PENDING	SCRIPT EXECUTAR
395020	ipv4	aclapi_queue_app	1833	200	UPDATE	2017-11-28 08:47:35			PENDING	SCRIPT EXECUTAR

Segurança

FWS. BGP.  
Publicação.  
Libera.

Host Puppet Classes Interfaces Operating System Parameters Additional Information

SO

Included Config Groups

+ default-production

Available Config Groups

- + database-production Add
- + default-corp Add
- + default-homolog Add
- + default-qa2
- + default-production

Included Classes

cadun\_flow::be  
 puppet3::agent  
 puppet3::sudoers\_infra  
 supso::defaults\_cm  
 supso::ldap  
 supso::syslog  
 zabbix::agent

Available Classes

- Filter classes
- + accounts
  - + acl\_ap
  - + acl\_web
  - + agregador\_busca
  - + ajuda\_central\_servicos
  - + aliases
  - + ambiente\_datascience
  - + ambiente\_error
  - + anuncie
  - + api\_manager
  - + api\_semantica
  - + apis\_upload
  - + app\_corp
  - + intelie\_activemq
  - + interatividade
  - + interatividade\_notas
  - + intranet
  - + ispadminii
  - + ispassincrono
  - + ismailscheduler
  - + ismailws
  - + jenkinsvo
  - + jonny
  - + keystone
  - + kommandant
  - + kong
  - + kryptacme

# GloboDNS. Foreman.

JOB ID	IP	Usuário	Ambiente	Vlan	Tipo	Criação	Início	Fim	Status	Ações
395039	ipv4	aclapi_queue_app	1066	24	DIFF	2017-11-28 08:56:14	2017-11-28 08:56:15	2017-11-28 08:56:21	SUCCESS	
395038	ipv4	aclapi_queue_app	1098	266	DIFF	2017-11-28 08:55:34			PENDING	SCRIPT EXECUTA
395037	ipv4	aclapi_queue_app	1199	266	UPDATE	2017-11-28 08:54:50			PENDING	SCRIPT EXECUTA
395036	ipv4	aclapi_queue_app	142	907	DIFF	2017-11-28 08:53:59	2017-11-28 08:54:00	2017-11-28 08:54:04	SUCCESS	
395035	ipv4	felipe.lisboa	2281	-1	UPDATE	2017-11-28 08:53:38	2017-11-28 08:53:53	2017-11-28 08:54:04	SUCCESS	
395034	ipv4	felipe.lisboa	2280	-1	UPDATE	2017-11-28 08:53:14	2017-11-28 08:53:25	2017-11-28 08:53:42	SUCCESS	
395033	ipv4	aclapi_queue_app	1832	134	DIFF	2017-11-28 08:51:15			PENDING	SCRIPT EXECUTA
395031	ipv4	aclapi_queue_app	1199	266	DIFF	2017-11-28 08:50:35			PENDING	SCRIPT EXECUTA
395032	ipv4	aclapi_queue_app	1095	69	DIFF	2017-11-28 08:50:35			PENDING	SCRIPT EXECUTA
395030	ipv4	aclapi_queue_app	1707	149	UPDATE	2017-11-28 08:50:23	2017-11-28 08:50:24	2017-11-28 08:50:33	SUCCESS	
395029	ipv4	aclapi_queue_app	2144	1147	DIFF	2017-11-28 08:49:55	2017-11-28 08:49:56	2017-11-28 08:49:56	SUCCESS	
395027	ipv4	aclapi_queue_app	2144	1147	DIFF	2017-11-28 08:49:53	2017-11-28 08:49:54	2017-11-28 08:49:54	SUCCESS	
395028	ipv4	aclapi_queue_app	2144	47	DIFF	2017-11-28 08:49:53	2017-11-28 08:49:54	2017-11-28 08:49:54	SUCCESS	
395026	ipv4	aclapi_queue_app	1711	301	UPDATE	2017-11-28 08:49:36	2017-11-28 08:49:37	2017-11-28 08:49:46	SUCCESS	
395025	ipv4	aclapi_queue_app	1807	143	DIFF	2017-11-28 08:49:20	2017-11-28 08:49:21	2017-11-28 08:49:29	SUCCESS	
395024	ipv4	aclapi_queue_app	1096	138	DIFF	2017-11-28 08:48:42			PENDING	SCRIPT EXECUTA
395023	ipv4	aclapi_queue_app	1836	309	DIFF	2017-11-28 08:48:22			PENDING	SCRIPT EXECUTA
395022	ipv4	felipe.lisboa	2282	-1	UPDATE	2017-11-28 08:47:51	2017-11-28 08:48:01	2017-11-28 08:48:11	SUCCESS	
395021	ipv4	aclapi_queue_app	139	264	DIFF	2017-11-28 08:47:40			PENDING	SCRIPT EXECUTA
395020	ipv4	aclapi_queue_app	1833	200	UPDATE	2017-11-28 08:47:35			PENDING	SCRIPT EXECUTA

Banco de Dados

DBaaS.

Bare-metal.

A B C D E F G H

I J K L M N O P Q

R S U V W X Y Z

Telecom

Padronização.  
GNetworkAPI.  
Vendor Agnostic.



**Centro Metropolitano**

1. Números. Expansão.
2. PIX-Globo.

# I. Números

210/  
2500

KVA  
Capacidade Elétrica

2k/  
10k

Capacidade  
Servidores

500/  
1000

Gbps  
Banda Total DCs

# I. Expansão

46/  
118

Racks/sala

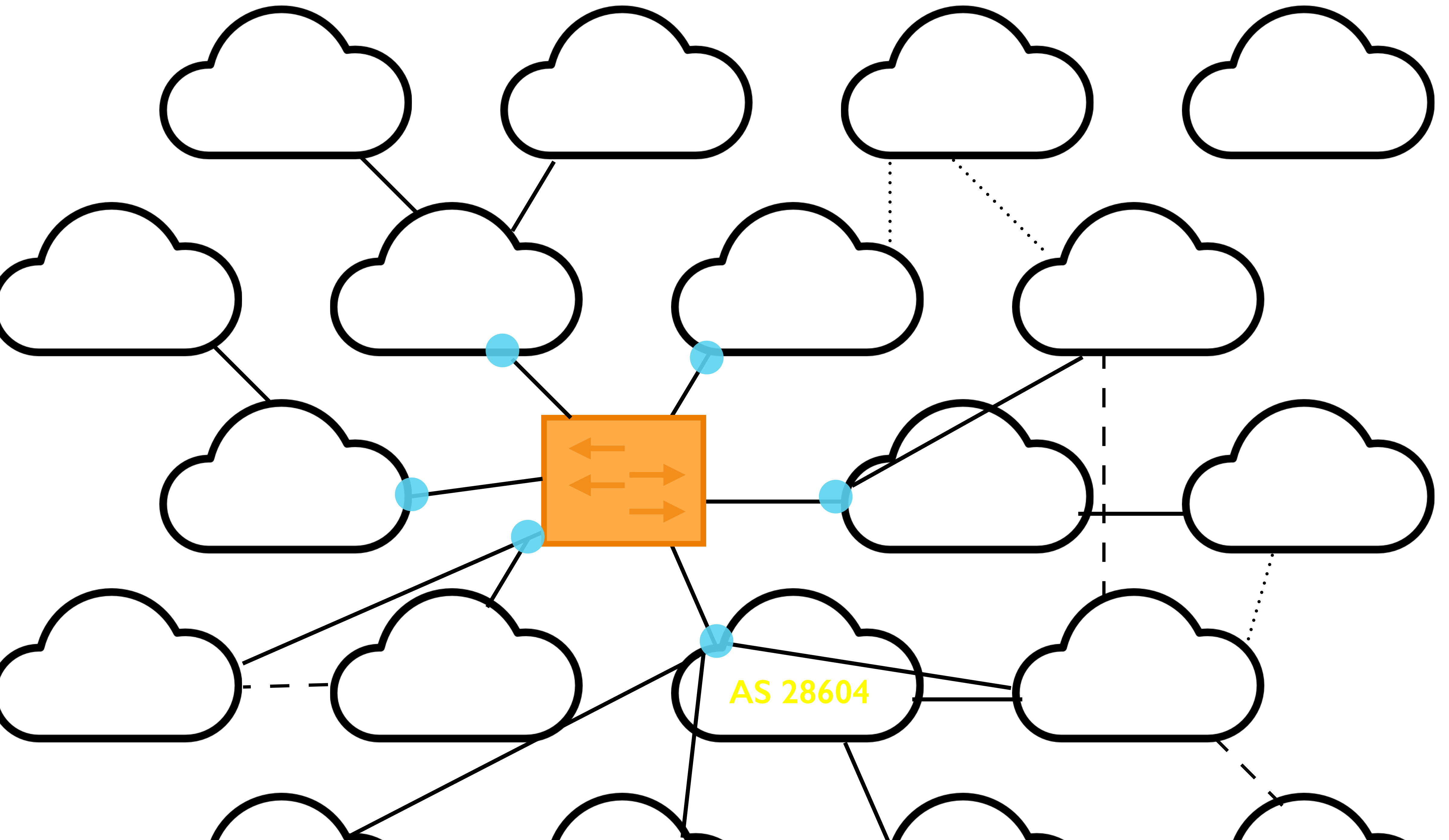
1.5k/  
10k

Equips/sala

1/  
2

Salas

1. Números. Expansão.
- 2. PIX-Globo.**



PIX Globo

Vistoria.  
Solicitação IX.br.  
~~Custos.~~

Aprendizado

Treinamento.  
Homologação.  
Automatização.  
Monitoração.



# Obrigada!

Laura Panzariello  
[bgp@corp.globo.com](mailto:bgp@corp.globo.com)  
[ptt-rj@corp.globo.com](mailto:ptt-rj@corp.globo.com)  
[github.com/globocom](https://github.com/globocom)