



ỨNG DỤNG IPv6 VÀO CLOUD VÀ CÁC DỊCH VỤ NỘI DUNG SỐ TẠI VCCORP

NỘI DUNG

- ① Sơ lược về VCCorp và BizFly Cloud - đơn vị hạ tầng cốt lõi của VCCorp
- ② Lộ trình triển khai IPv6 tại VCCorp
- ③ Thực tế triển khai IPv6 tại VCCorp
- ④ Demo sản phẩm IPv6



1

Báo điện tử - Nội dung

2

Thương mại điện tử - Zamba

3

VOD, Video Streaming, Game - Soha

4

Quảng cáo - Admicro

5

Hạ tầng – BizFly Cloud





Link hay



Mua chung



SohaPay



Sàn nhạc



Mua rẻ



SohaGame



SoLo



Admicro



AutoPro



CafeF



F139



Én bạc



Rồng bay



Kênh14



Afamily



Biz



GameK



GenK



Ming



Sốc nhí



Soha News



Soha TV

VẬN HÀNH BỞI

VCCORP

› Xây dựng Private Cloud từ năm 2012

- Phục vụ nội bộ công ty
- Quy mô
 - ~ 5000 cloud server
 - ~ 4000 Physical CPU Core
 - ~ 40000 TB RAM
 - ~ 5000 TB DATA

› Ra mắt Public Cloud từ tháng 6/2014

› Ra mắt dịch vụ CDN từ 2015 và có hệ thống đặt tại tất cả các datacenter lớn tại Việt Nam

› Ra mắt thêm nhiều dịch vụ khác trên nền tảng Cloud như:

LoadBalancer, Simple Storage, VPN site to site, Business Email trong năm 2018 và đầu 2019

› Bài toán tại VCCorp:

- Là 1 trong những nhà cung cấp Cloud hàng đầu Việt Nam, BizFly Cloud cần đáp ứng kịp thời nhu cầu sử dụng IPv6 của khách hàng
- Các dịch vụ nội dung số của VCCorp cần đến việc sử dụng IPv6 cho các giao tiếp với Apple, Google, Facebook...
- Các dịch vụ hỗ trợ cho các site nội dung số: như cân tải, filter DDoS, CDN... cần hỗ trợ IPv6 để đảm bảo hoạt động của các site đã support IPv6 do VCCorp vận hành.



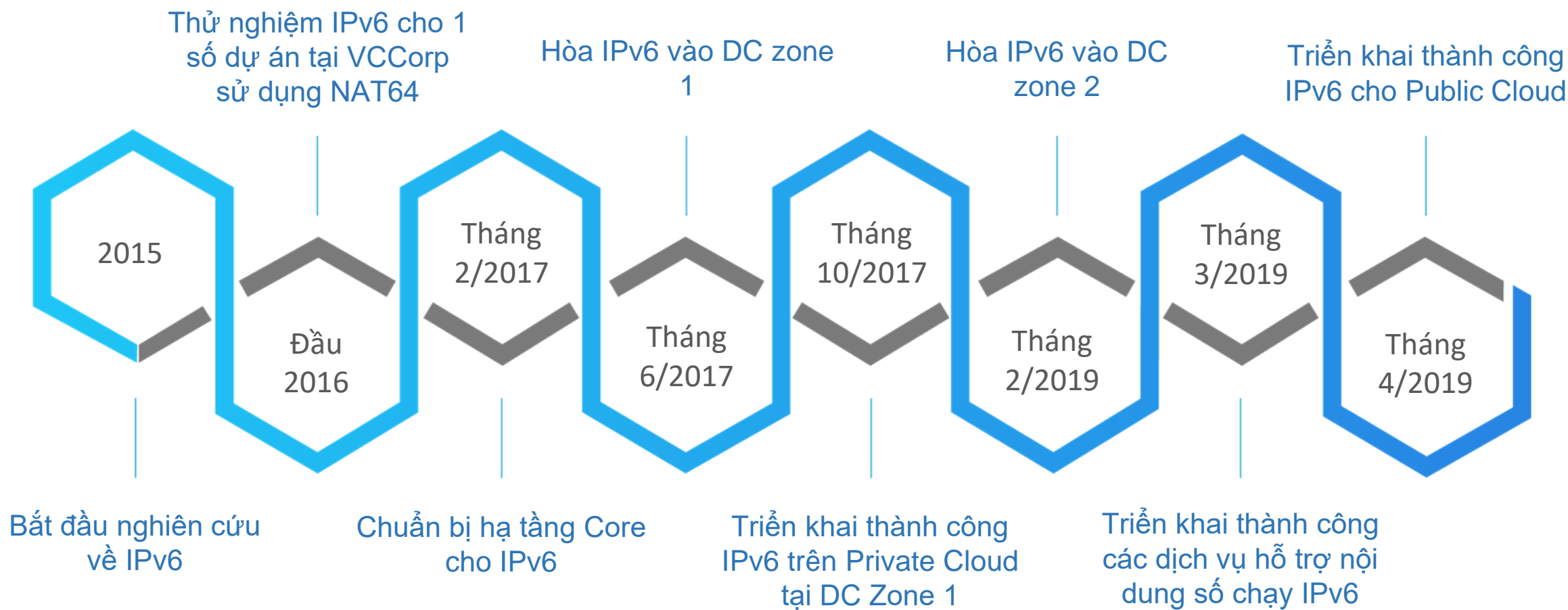
Chuyển đổi từng lớp thành phần trong hệ thống:

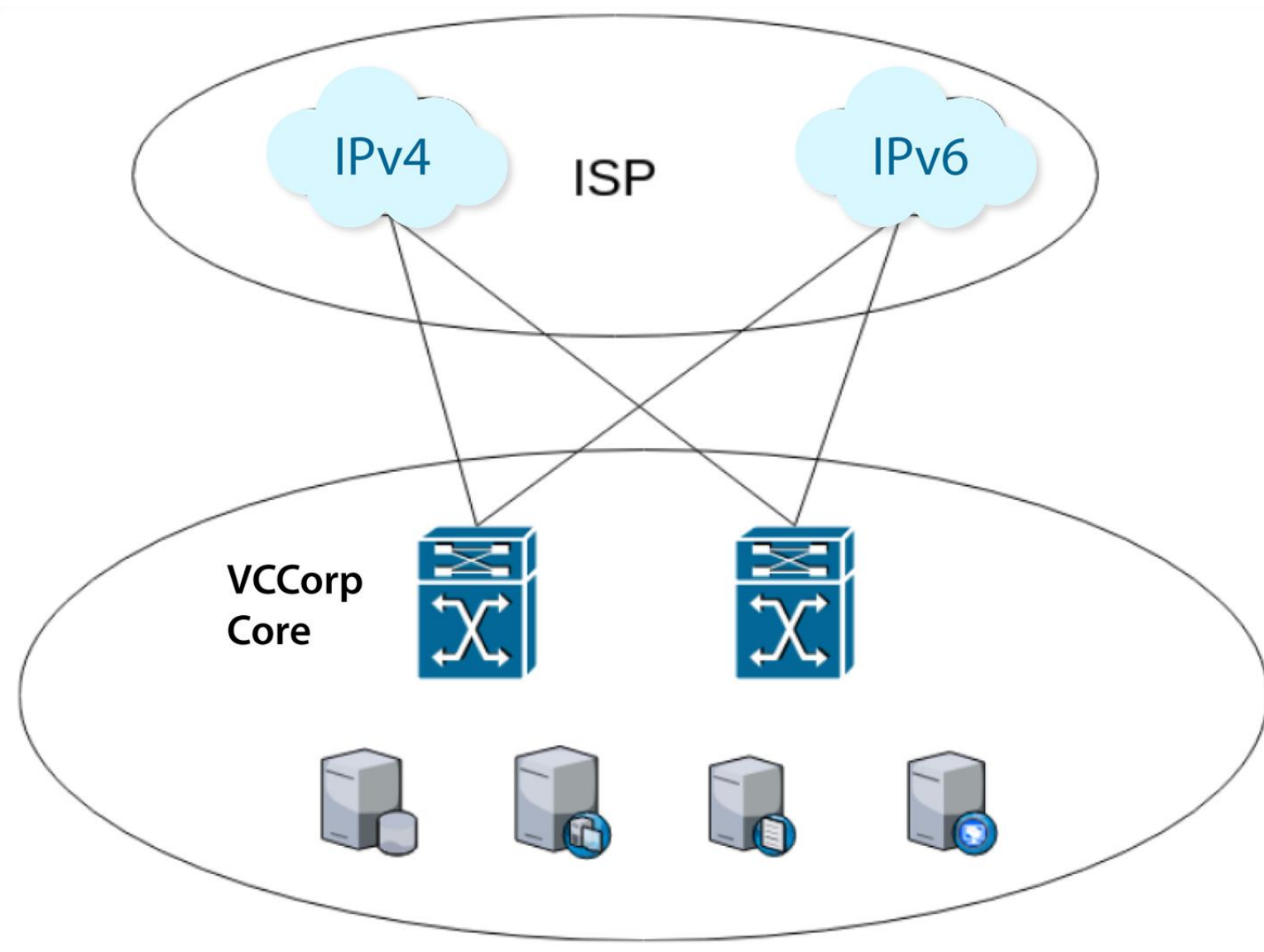
DNS, proxy Cache, CDN, DDoS Filter

BizFly LoadBalancer, BizFly VPN,
Simple Storage

Public & Private Cloud

Hạ tầng Core Vật lý



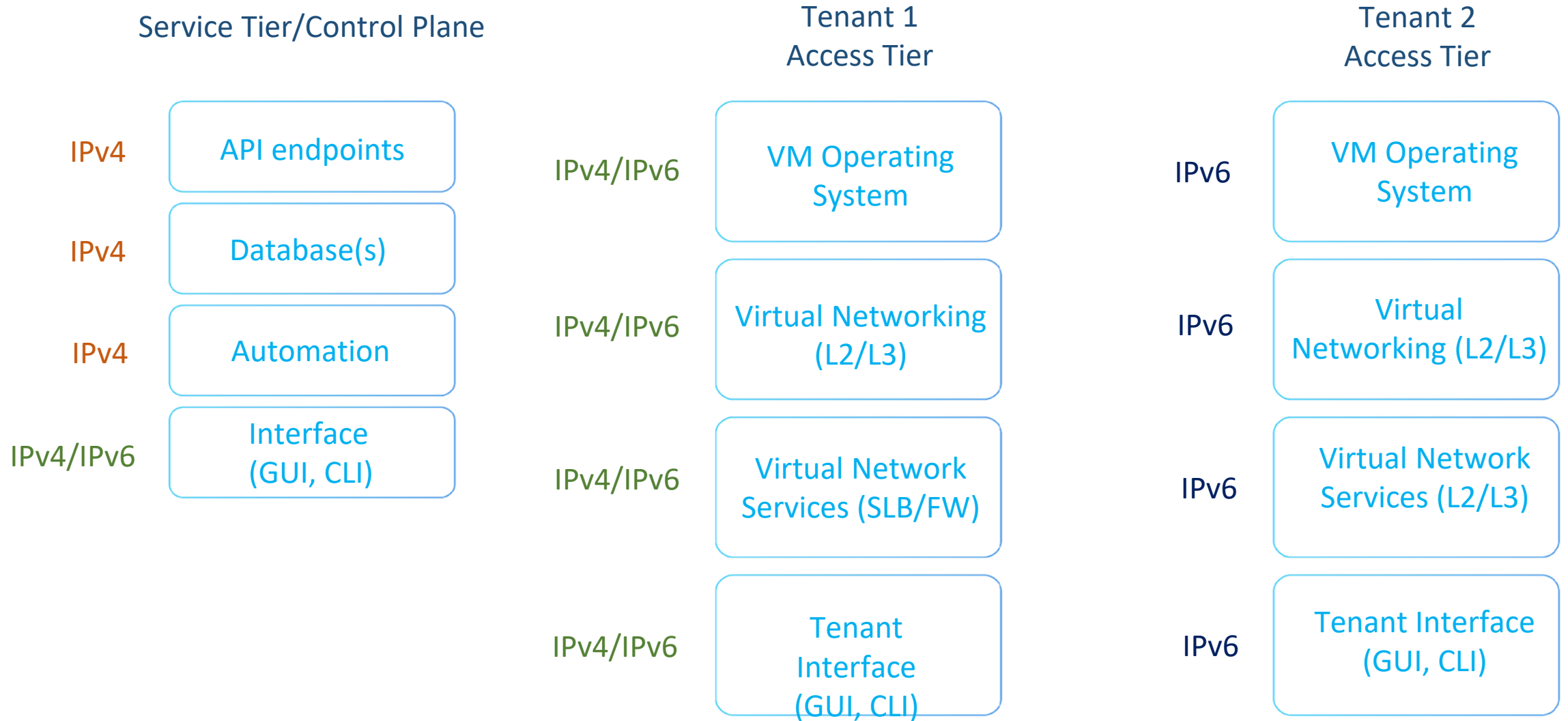


› BizFly Cloud Build 100% based-on Openstack

- Cloud server
- Loadbalancer
- VPN

› Openstack ready support for IPv6?





```
root@staging-controller:~# neutron subnet-show 1593d12f-4f66-47ce-8cb3-7d5df20c9d4f
neutron CLI is deprecated and will be removed in the future. Use openstack CLI instead.
```

Field	Value
allocation_pools	{"start": "2001:ee0:301:5::10", "end": "2001:ee0:301:5:ffff:ffff:ffff:ffff"}
cidr	2001:ee0:301:5::/64
created_at	2019-04-23T03:56:36Z
description	
dns_nameservers	2001:4860:4860::8888
enable_dhcp	True
gateway_ip	2001:ee0:301:5::1
host_routes	
id	1593d12f-4f66-47ce-8cb3-7d5df20c9d4f
ip_version	6
ipv6_address_mode	dhcpv6-stateful
ipv6_ra_mode	
name	EXTERNAL_IPV6
network_id	468dbb1d-83e2-469c-b69e-1f6e7015ccd1
project_id	14fe80d3b6d94138b5bb542b0b742b46
revision_number	0
service_types	
subnetpool_id	
tags	
tenant_id	14fe80d3b6d94138b5bb542b0b742b46
updated_at	2019-04-23T03:56:36Z

```
root@staging-controller:~# █
```

```
root@staging-controller:~# openstack server list
```

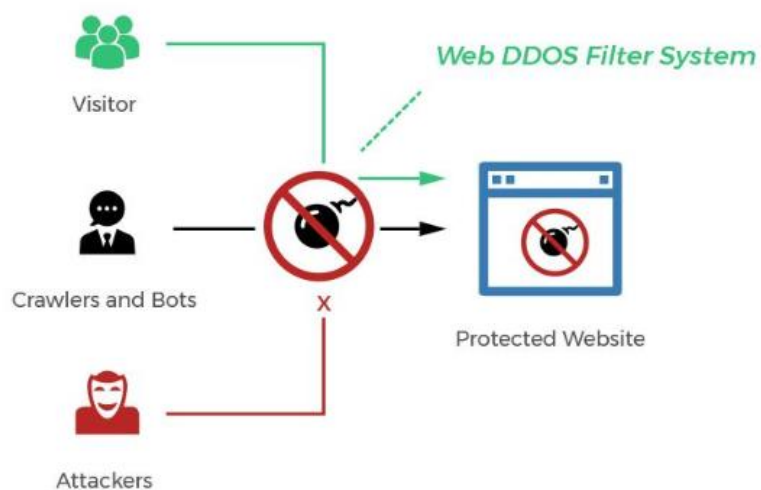
ID	Name	Status	Networks	Image	Flavor
1b08adde-b211-4f0b-98dc-cff3d7b25fa4	w2016-1	ACTIVE	EXT_DIRECTNET_2=10.3.251.47; EXT_DIRECTNET_3=10.3.252.6; EXTERNAL_IPV6=2001:ee0:301:5::15		2c_2g_basic
6a054464-f821-4b59-8b18-04a2943d741e	w2016	ACTIVE	EXT_DIRECTNET_2=10.3.251.22; EXT_DIRECTNET_3=10.3.252.3; EXTERNAL_IPV6=2001:ee0:301:5::11		2c_2g_basic
315271ae-b4b3-47c8-8c5c-9da3fa2186eb	w2016-2	ACTIVE	EXT_DIRECTNET_2=10.3.251.20; EXT_DIRECTNET_3=10.3.252.14; EXTERNAL_IPV6=2001:ee0:301:5::22		2c_2g_basic
582f68dc-e7e6-4a50-9d6c-7b4aadbaadd4	w2008	ACTIVE	EXT_DIRECTNET_2=10.3.251.23; EXTERNAL_IPV6=2001:ee0:301:5::23		2c_2g_basic
abb776ee-2676-4469-99da-91905105ee2f	w2012	ACTIVE	EXT_DIRECTNET_2=10.3.251.28; EXTERNAL_IPV6=2001:ee0:301:5::12		2c_2g_basic
8974d29c-3f65-4d86-9379-5aaa55ca1990	cent7	ACTIVE	EXT_DIRECTNET_2=10.3.251.25; EXTERNAL_IPV6=2001:ee0:301:5::1a		2c_2g_basic
5ee7767d-69f4-44e3-bb9d-925b1ac9b628	cent6	ACTIVE	EXT_DIRECTNET_2=10.3.251.24; EXTERNAL_IPV6=2001:ee0:301:5::2a		2c_2g_basic
a4a0f6b5-c004-4a11-ba3a-da5882c53c91	u16	ACTIVE	EXT_DIRECTNET_2=10.3.251.12; EXTERNAL_IPV6=2001:ee0:301:5::25		2c_2g_basic
12db18a1-f664-465b-b409-01e2d1dc7056	u18	ACTIVE	EXT_DIRECTNET_2=10.3.251.26; EXTERNAL_IPV6=2001:ee0:301:5::14		2c_2g_basic

```
root@staging-controller:~#
```

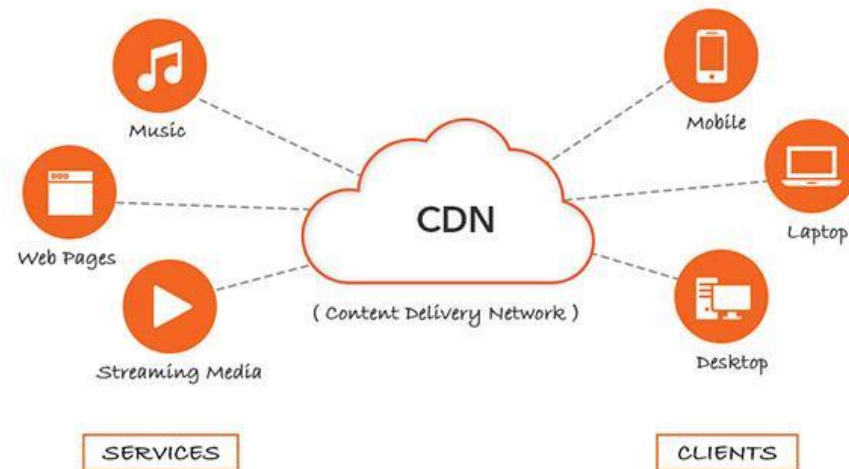
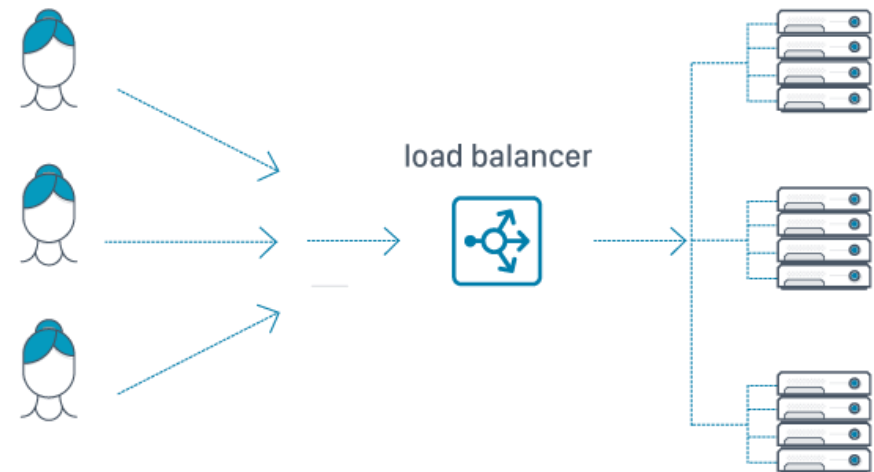
```
[root@test-ipv6 ~]# ip -6 a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 state UNKNOWN qlen 1000
   inet6 ::1/128 scope host
       valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 state UP qlen 1000
   inet6 2001:ee0:301:5::1d/128 scope global noprefixroute dynamic
       valid_lft 4589sec preferred_lft 4289sec
   inet6 2001:ee0:301:5:f816:3eff:fea8:b8a6/64 scope global noprefixroute dynamic
       valid_lft 2591674sec preferred_lft 604474sec
   inet6 fe80::f816:3eff:fea8:b8a6/64 scope link noprefixroute
       valid_lft forever preferred_lft forever
3: eth1: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 state UP qlen 1000
   inet6 fe80::f816:3eff:fe87:4b6e/64 scope link
       valid_lft forever preferred_lft forever
[root@test-ipv6 ~]# ip -6 r s
2001:ee0:301:5::1d dev eth0 proto kernel metric 102 pref medium
2001:ee0:301:5::/64 dev eth0 proto ra metric 102 pref medium
fe80::/64 dev eth0 proto kernel metric 102 pref medium
fe80::/64 dev eth1 proto kernel metric 256 pref medium
fe80::/64 dev eth0 proto kernel metric 256 pref medium
default via fe80::5:73ff:fea0:15 dev eth0 proto ra metric 102 pref medium
[root@test-ipv6 ~]# ping6 google.com
PING google.com(hkg12s01-in-x0e.1e100.net (2404:6800:4005:801::200e)) 56 data bytes
64 bytes from hkg12s01-in-x0e.1e100.net (2404:6800:4005:801::200e): icmp_seq=1 ttl=56 time=28.5 ms
64 bytes from hkg12s01-in-x0e.1e100.net (2404:6800:4005:801::200e): icmp_seq=2 ttl=56 time=28.0 ms
64 bytes from hkg12s01-in-x0e.1e100.net (2404:6800:4005:801::200e): icmp_seq=3 ttl=56 time=27.9 ms
64 bytes from hkg12s01-in-x0e.1e100.net (2404:6800:4005:801::200e): icmp_seq=4 ttl=56 time=28.0 ms
^C
--- google.com ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3004ms
rtt min/avg/max/mdev = 27.964/28.174/28.550/0.223 ms
[root@test-ipv6 ~]# █
```



With Web DDOS Filter



Inbound Traffic



CÁC DỊCH VỤ HỖ TRỢ CÁC SITE NỘI DUNG SỐ TẠI VCCORP

The screenshot displays a web browser window with the address bar showing 'Kênh thông tin ô tô, xe hơi' and the URL 'http://ipv6.autopro.com.vn'. The website content includes a navigation menu with items like 'TIN TỨC', 'ĐÁNH GIÁ XE', 'VĂN HÓA XE', 'KỸ THUẬT VÀ TƯ VẤN', 'BẢNG GIÁ XE', 'XE MÁY', and 'VIDEO'. A main article features a red Audi R8 V10 Plus with the headline 'Audi R8 V10 Plus từng của Đông Nhi - Ông Cao Thắng được đại gia Sài Gòn mua lại, lên MXH'. Below the article is a KIA advertisement with the slogan 'The Power to Surprise' and 'XE CÓ SẴN GIAO NGAY'.

The browser's developer tools are open to the Network tab, showing a list of requests. The selected request is for 'http://ipv6.autopro.com.vn/'. The details pane shows the following information:

- General:**
 - Request URL: http://ipv6.autopro.com.vn/
 - Request Method: GET
 - Status Code: 200 OK
 - Remote Address: [2401:1cc0:0:5:aef:6bff:fe8a:d74f]:80
 - Referrer Policy: no-referrer-when-downgrade
- Response Headers:**
 - Cache-control: private
 - Connection: close
 - Content-Encoding: gzip

The network waterfall chart shows a total of 285 requests, with 5.9 MB transferred and a finish time of 41.99 seconds. The DOMContentLoaded event is also visible.

CÁC DỊCH VỤ HỖ TRỢ CÁC SITE NỘI DUNG SỐ TẠI VCCORP

The image shows a web browser window displaying the website ipv6.autopro.com.vn. The page features a navigation menu with categories like 'TIN TỨC', 'ĐÁNH GIÁ XE', 'VĂN HÓA XE', 'KỸ THUẬT VÀ TƯ VẤN', 'BẢNG GIÁ XE', 'XE MÁY', and 'VIDEO'. The main content area includes a sidebar with a red car image and a main article titled 'Audi R8 V10 Plus từng của Đông Nhi - Ông Cao Thắng được đại gia Sài Gòn mua lại, lên tron tháng 5'. To the right is a KIA advertisement with the slogan 'The Power to Surprise' and 'XE CÓ SẴN GIAO NGAY'.

The browser's developer tools are open to the Network tab, showing a list of requests. The selected request is for the image `5844293322997952800795058849161745491558400o-1556786123872`. The request details are as follows:

- Request URL:** `https://autopro56.mediacd.vn/zoom/160_100/2019/5/2/5844293322997952800795058849161745491558400o-15567861238721082832042-crop-155678754491594333247.jpg`
- Request Method:** GET
- Status Code:** 200 OK
- Remote Address:** [2401:lcc0:0:5:aelf:6bff:fe8a:d74f]:443
- Referrer Policy:** no-referrer-when-downgrade

The response headers include:

- Accept-Ranges:** bytes
- Access-Control-Allow-Headers:** Accept, Authorization, Cache-Control, Content-Length, Content-Type, DNT, If-Modified-Since, Keep-Alive, Key, Origin, Range, User-Agent, X-Request-Id

```
root@corent-Vostro-5468:/home/corent# dig AAAA ipv6.autopro.com.vn
; <<>> DiG 9.10.3-P4-Ubuntu <<>> AAAA ipv6.autopro.com.vn
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 52577
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;ipv6.autopro.com.vn.          IN      AAAA

;; ANSWER SECTION:
ipv6.autopro.com.vn.          909     IN      AAAA    2401:1cc0:0:5:ae1f:6bff:fe8a:d74f

;; Query time: 1 msec
;; SERVER: 127.0.0.53#53(127.0.0.53)
;; WHEN: Fri May 03 16:16:25 +07 2019
;; MSG SIZE rcvd: 76
```

```
root@corent-Vostro-5468:/home/corent# dig AAAA autopro56.mediacd.vn
; <<>> DiG 9.10.3-P4-Ubuntu <<>> AAAA autopro56.mediacd.vn
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 43289
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;autopro56.mediacd.vn.          IN      AAAA

;; ANSWER SECTION:
autopro56.mediacd.vn.  2118    IN      AAAA    2401:1cc0:0:5:ae1f:6bff:fe8a:d74f

;; Query time: 33 msec
;; SERVER: 127.0.0.53#53(127.0.0.53)
;; WHEN: Fri May 03 16:16:14 +07 2019
;; MSG SIZE rcvd: 78
```



THANK YOU