



IPv6 deployment at Colruyt Group

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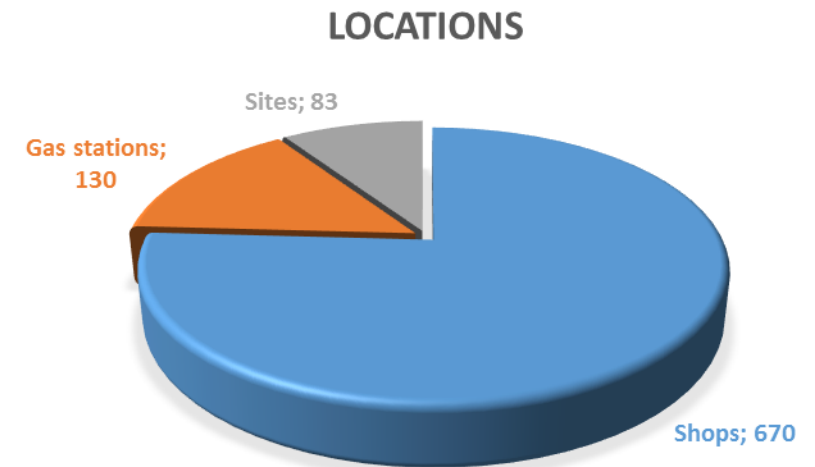
Anindya Mitra

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About Colruyt Group

Colruyt, a family company from Lembeek in Flemish Brabant, first appeared about 80 years ago. Today, we've grown from a small company into a whole family of companies: Colruyt Group. We offer numerous retail chains, own brands and activities, and we're flourishing in three countries: Belgium, Luxembourg and France.

Colruyt Group consists of over forty brands for individuals and businesses. We're most famous for our food retailing, but we're also active in non-food and fuel, wholesale and foodservice.



Goal of this presentation



1

Share experience of deployment of IPv6 @ Colruyt Group

2

Obtain a feedback on our approach, if any.

The agenda

1. Our main drivers towards migration to IPv6
2. Our core principles towards IPv6 migration
3. The IPv6 journey of Colruyt, so far
4. Our mindset towards the IPv6 migration
5. Our realizations, learning and experiences

1

Our main drivers



Our main drivers behind migration to IPv6

1

To continue to provide IP addresses internally

2

Stay supported at the infrastructure level

3

Remain reachable and continue to reach the internet

4

To be able to support business projects in the future

2

Our core principles towards IPv6



Core principles of IPv6 migration at Colruyt



Cost is the most important constraint



No big-bang, take advantage of time and make progress



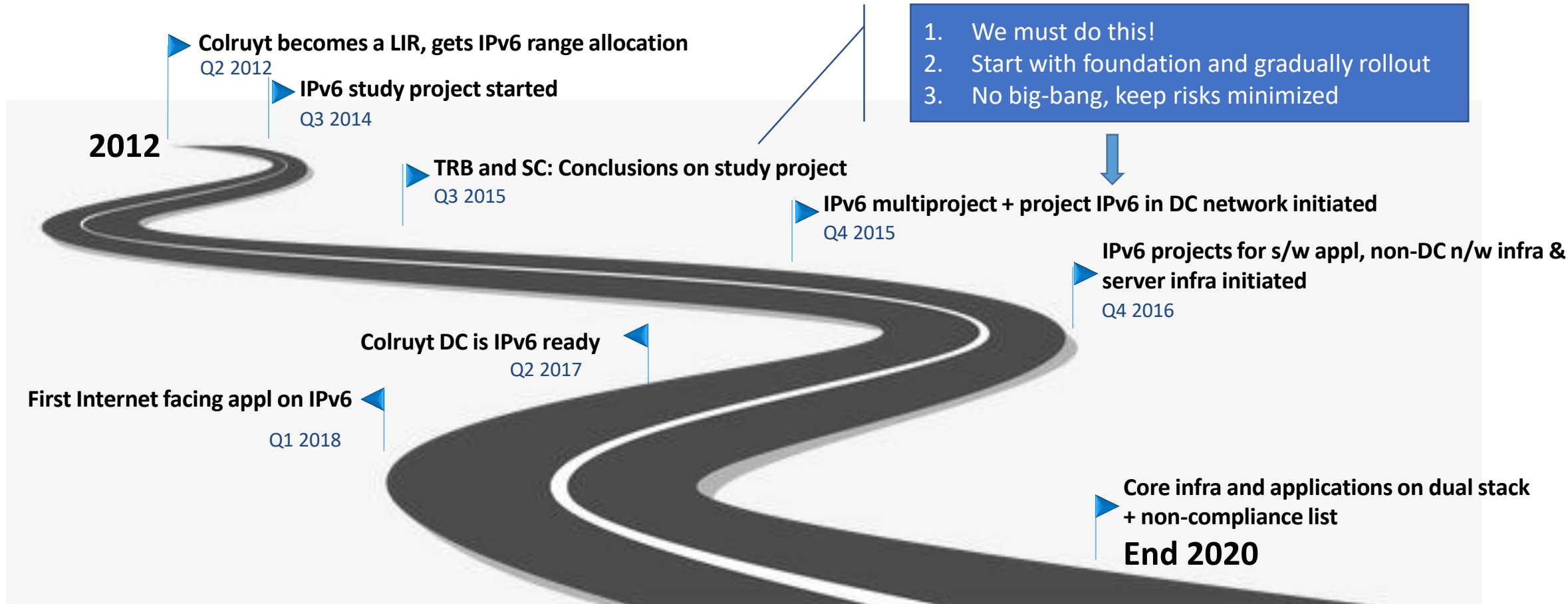
As much as possible, together with connected projects

3

The IPv6 journey @ Colruyt



The IPv6 journey @ Colruyt so far ... at a glance

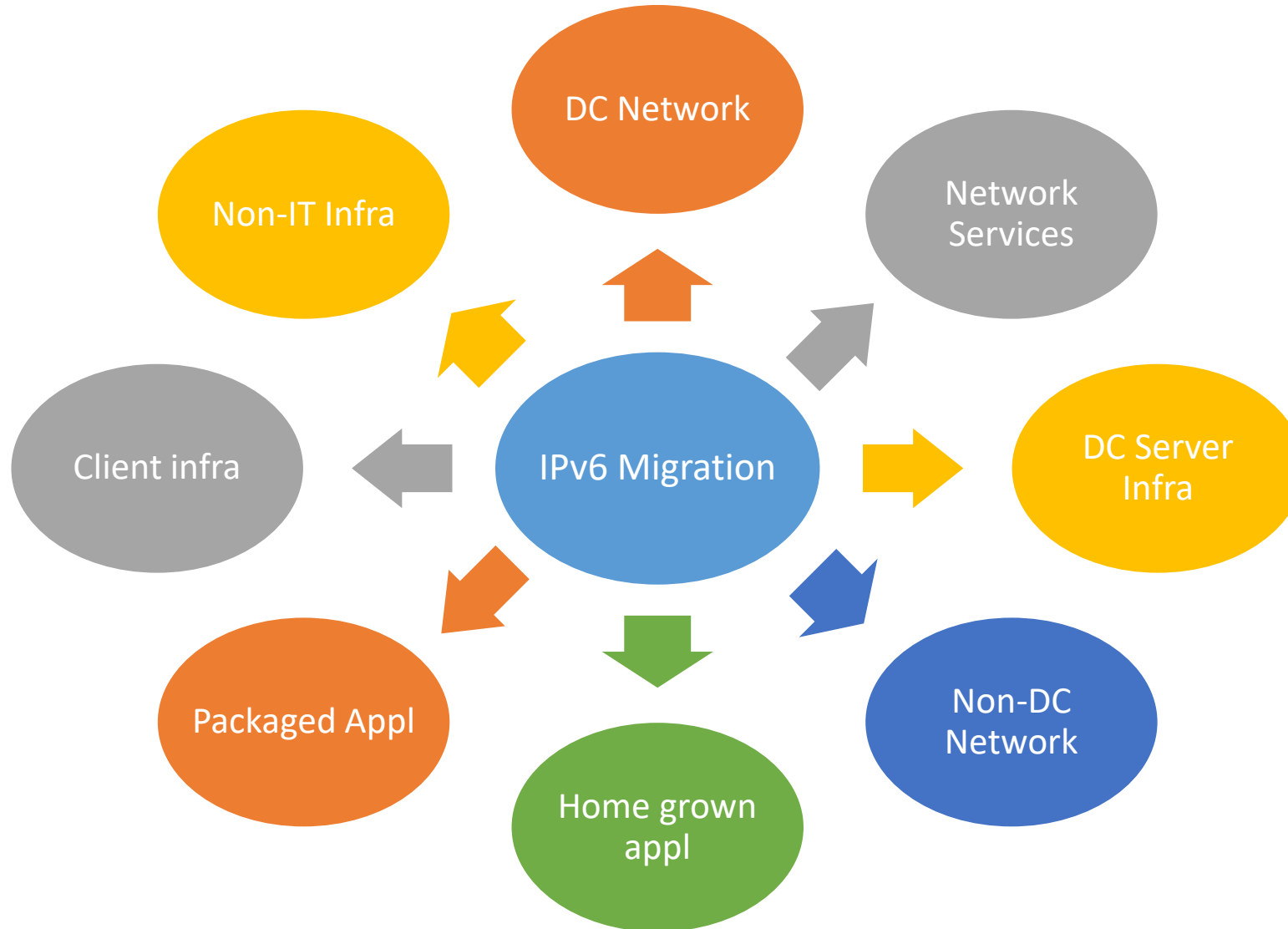


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Our mindset towards IPv6 migration

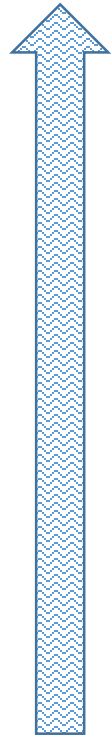


Impacted domains

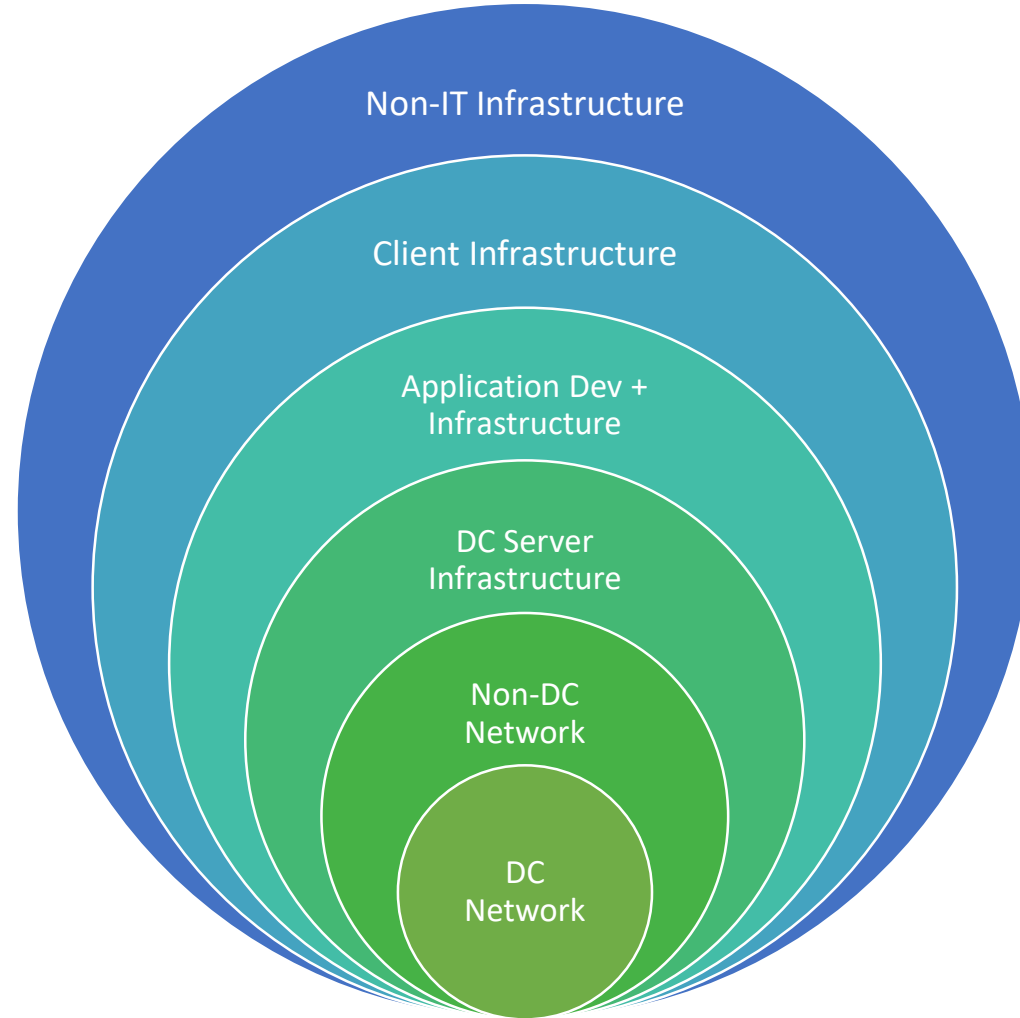


Our layered approach

Functional



Technical



IPv6 migration timelines (high level)

Project: Manage IPv6 impact on software applications

Project: DC server infrastructure

2016 > 2018/9

Project: Non-DC network infrastructure

> 2019

Project: Manage impact on T&I



2018 > 2020

Project(s): Non DC clients & servers

- a. Sites
- b. Warehouses
- c. Shops

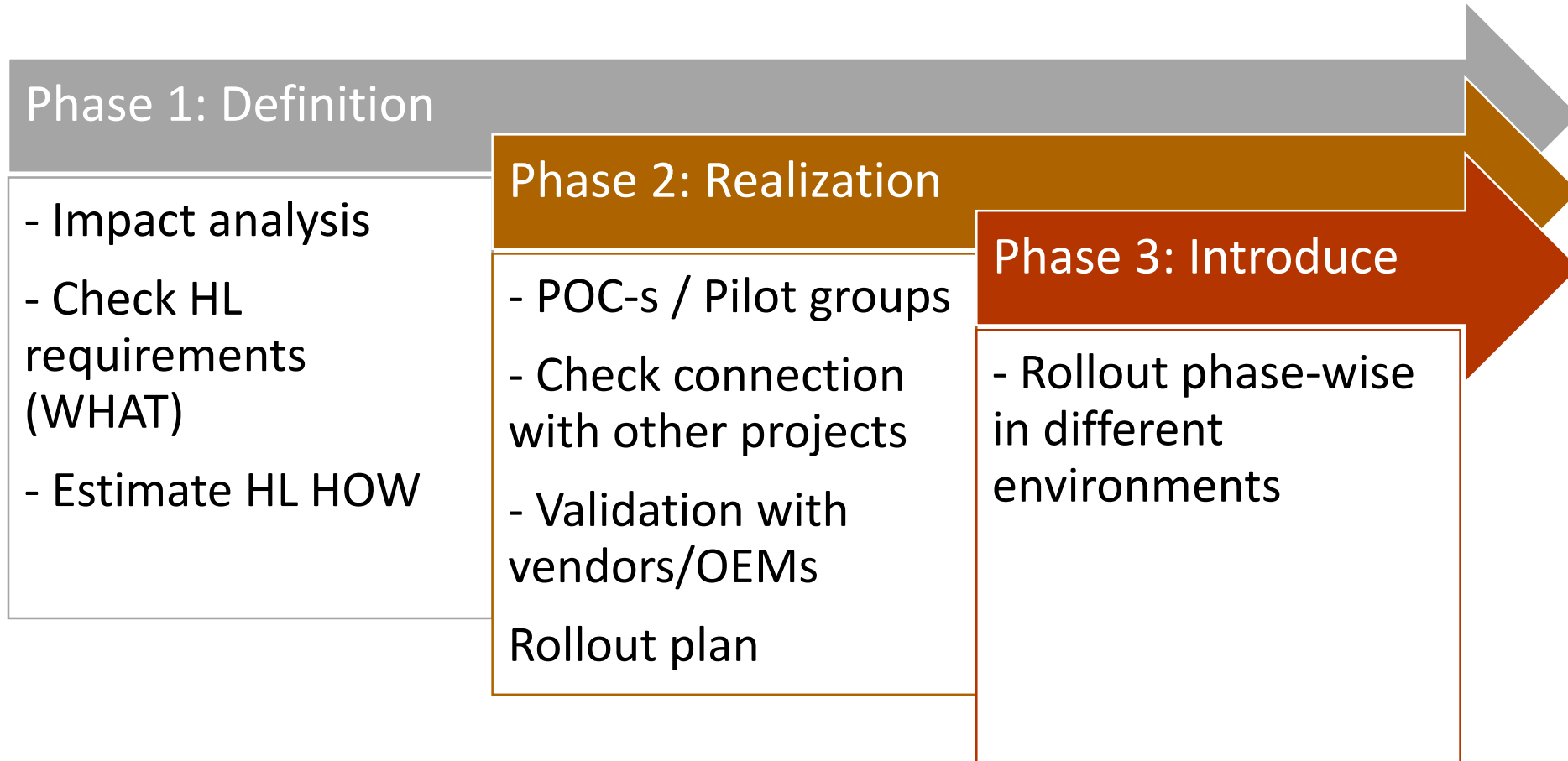


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Our realizations, learnings and experience

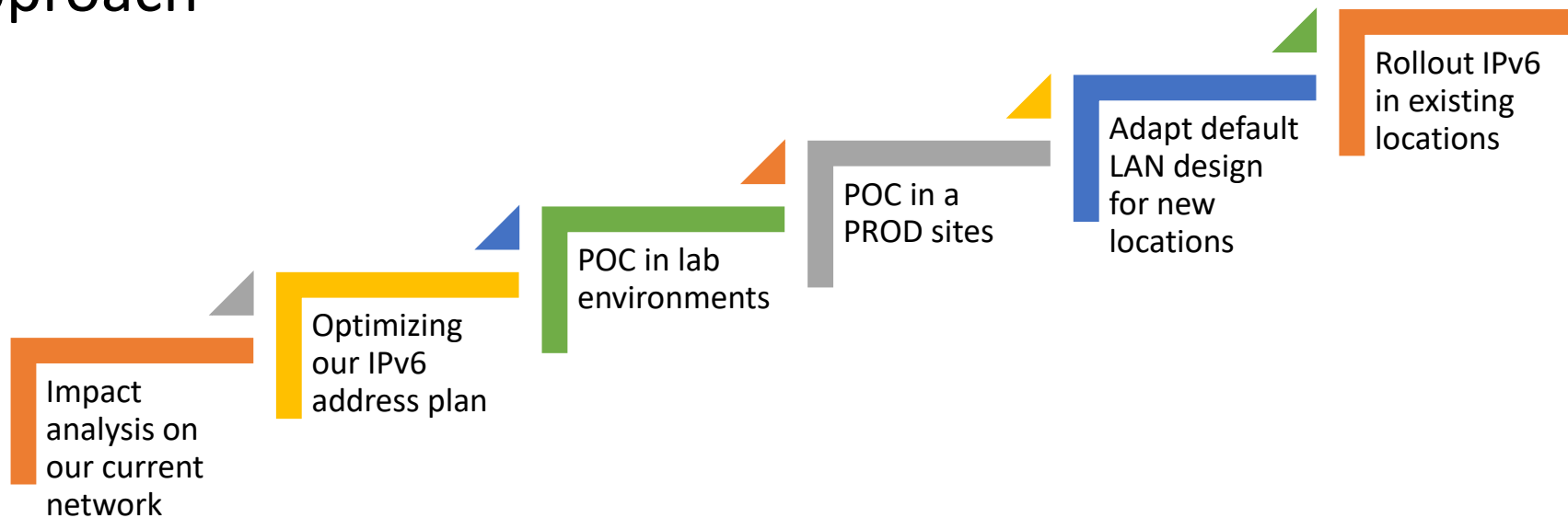


Phased approach in different IPv6 projects



Experience sharing of one IPv6 project

- Project: Rollout IPv6 in the non-DC network infrastructure
 - Goal: To make the networks in our shops, offices and distribution centers IPv6 ready
- Approach



Experience: Impact analysis non-DC project

Phase 1

WAN

Low readiness of providers OR not enough demand for IPv6 from other customers

No issues for L2 WAN links

POC with L3 WAN link planned Q4/2018

LAN

IPv6 security features (RAGuard, DHCPv6 snooping, ..) not supported on multiple platforms

WiFi

No issues with IPv6 client connectivity

No IPv6 support on current management platform (Aerohive Hivemanager Classic)

Others

Palo Alto: issues with identity based access if client is dual stack connected

Experience: Impact analysis non-DC project

Phase 2

Optimize address plan

Colruyt IPv6 range: /32

/36 reserved for datacenter

/36 reserved for access layer
(client networks)

/36 reserved for technical
networks (management, WAN, ..)

Test basic functionalities

DHCPv6

SLAAC

DNS

...

Test end-to-end connectivity

With both internal
services and external
websites

Experience: Impact analysis non-DC project

Phase 3: POC in PROD sites

- Created new dual stack PC vlan next to existing IPv4 only PC vlan (makes gradual migration possible)
- Testing end to end connectivity with both internal services and external websites
- Current status: waiting for Palo Alto solution

Future planning

- Phase 4: Adapting default LAN design for new locations
- Phase 5: Rollout IPv6 in existing locations

TO BE
CONTINUED...

