IBM Cloud for vmware Infrastructure design

for Nationale Nederlanden

VMUG
VMWARE USER GROUP
Nederlandse VMUG

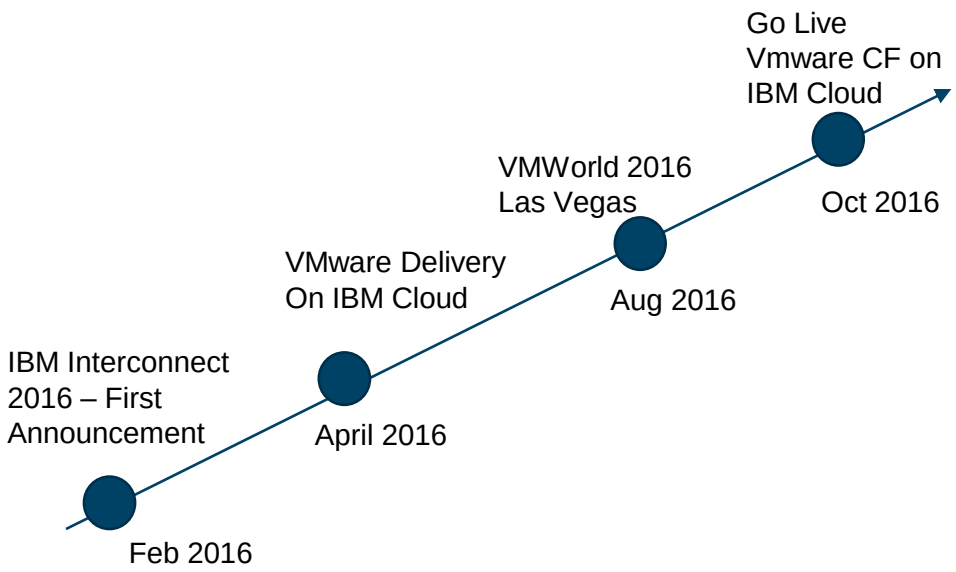
IBM

Bluemix Infrastructure (Softlayer)

Introduction

IBM and Vmware Partnership

A deeper, global partnership that enables customers to accelerate enterprise hybrid cloud adoption by extending their existing workloads as they are from on-premises data centers to IBM Cloud.



IBM Cloud provides customers the ability to more easily and securely move VMware workloads to the cloud seamlessly, through a common platform for management, networking, and security.

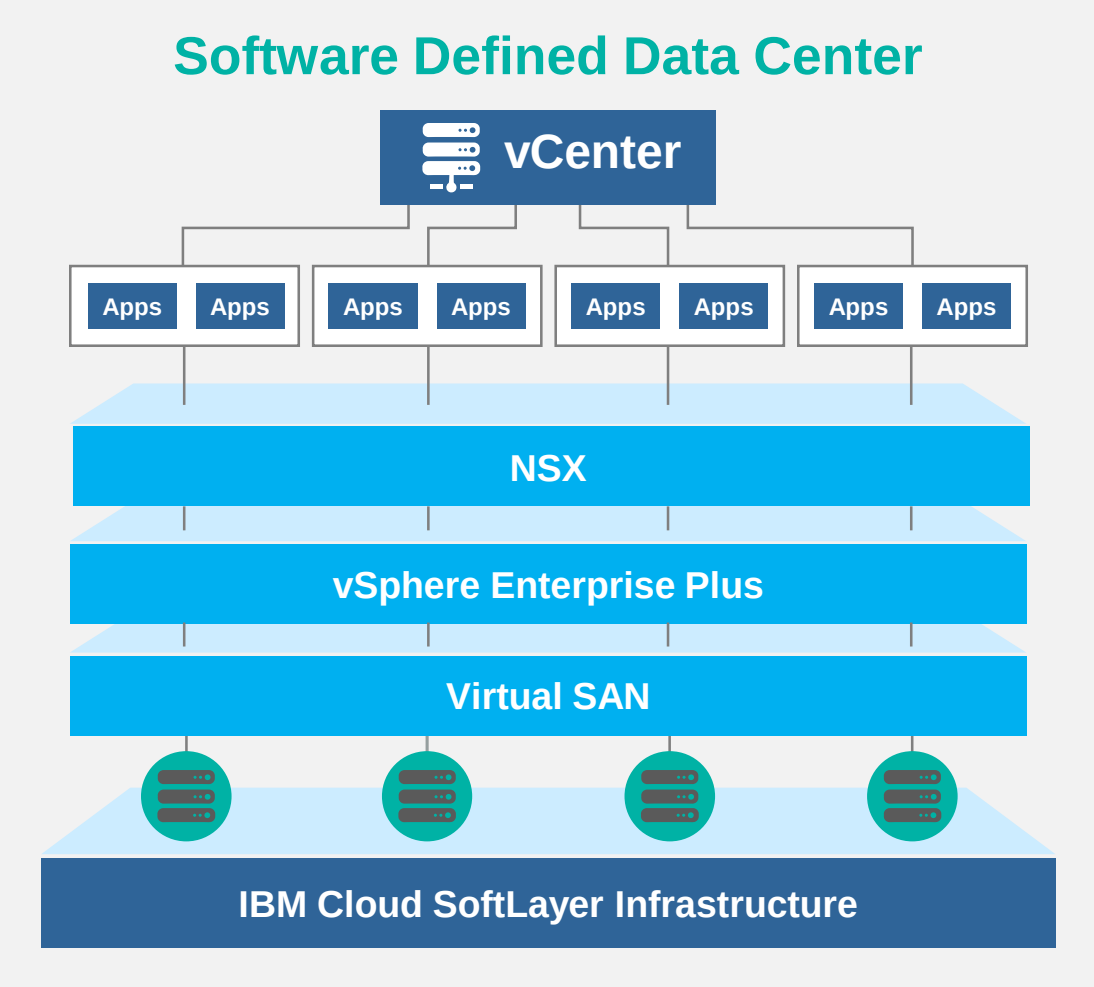
Key components

- IBM Cloud (bare metal)
- vSphere, VSAN, and VMware NSX
- Automated deployment and life cycle management

Key benefits

- Flexible consumption model (OPEX spend, month-to-month rental)
- Dedicated client environment, full control of the whole stack
- Optimized and validated cloud platform design for SoftLayer
- Global footprint of 30+ data centers worldwide with an interconnected network infrastructure. Private network traffic, in between all resources and all DC's globally, is free of charge

IBM / Vmware Validated design

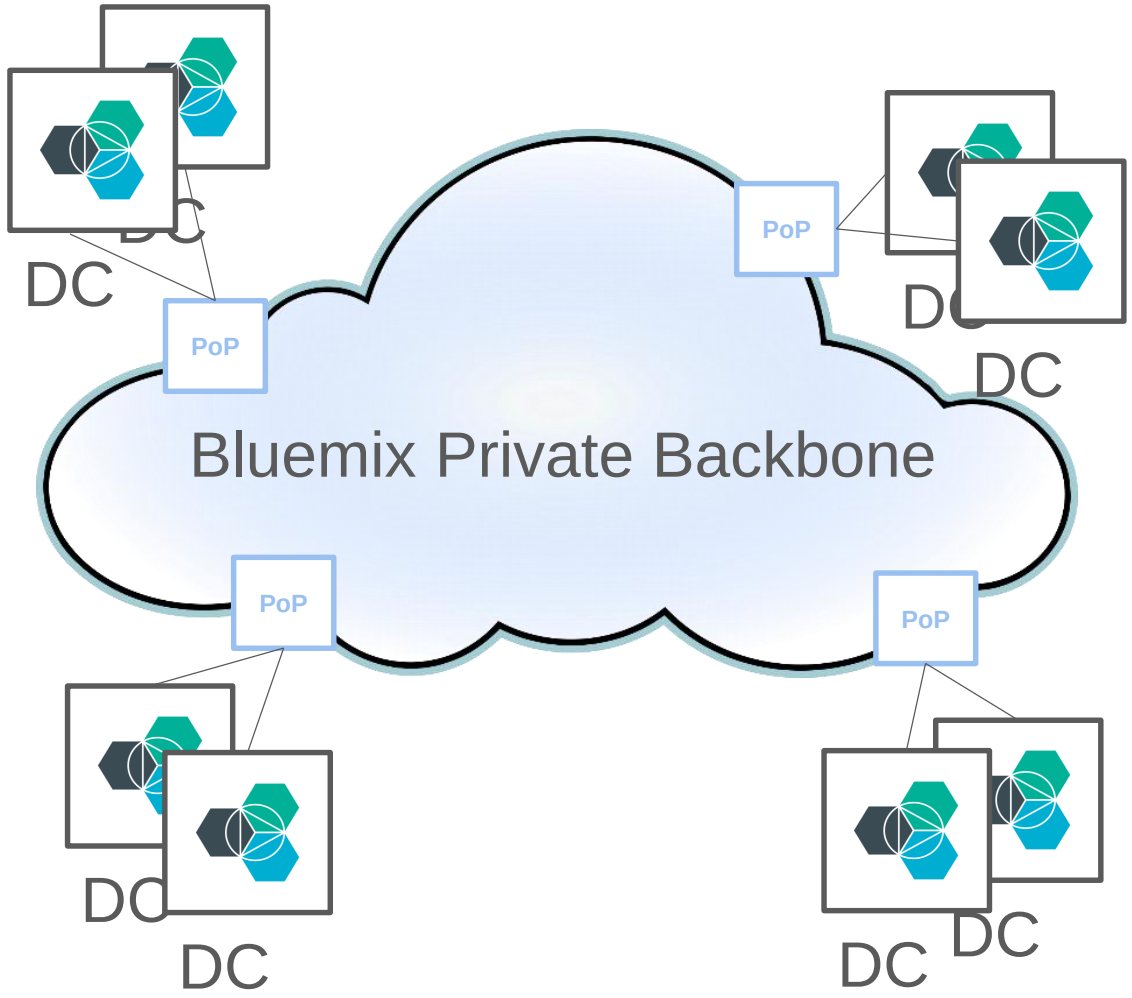


- Streamlines and facilitates VMware deployments from days to hours
- Designed and validated in conjunction with VMware experts
  - Well defined change control process with IBM and VMware participation
- Repeatable and easier to scale and manage using existing VMware tools
- Cloud service experience for initial deployment and day-2 operations

Reference architecture:
http://wpc.c320.edgecastcdn.net/00C320/VMware%20SDDC%20on%20IBM%20Cloud%20-%20Advanced%20v1.1.pdf

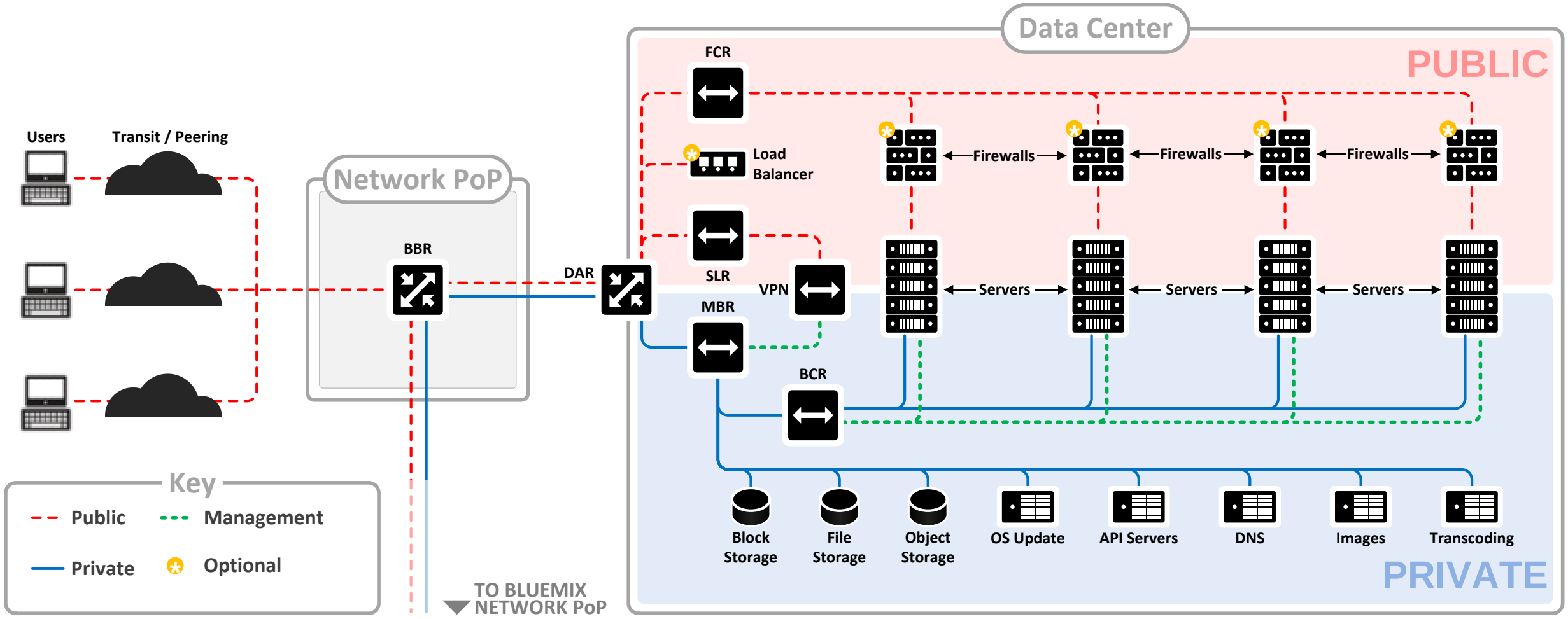
Bluemix Infrastructure - Global Backbone

Bluemix Infrastructure – Network of Networks



- A Point of Presence (PoP) is a network junction between one or more datacenters and the Bluemix Private Backbone.
- The Bluemix Private Backbone connects all the Bluemix PoP's into one Globe spanning network. Of Networks. Enabling customers to move workloads and data between all our datacenters without additional cost.
- The PoPs also provide network edge functionality allowing Nationale Nederlanden to privately connect its network to the Bluemix datacenters and the Private Backbone.
- The PoPs also provide local Internet Break-out through multiple Peering and Transit partners.
- The PoPs are spread around the globe to ensure Public and Private connectivity from anywhere with a minimum amount of hops.

Bluemix Infrastructure – DC Networking



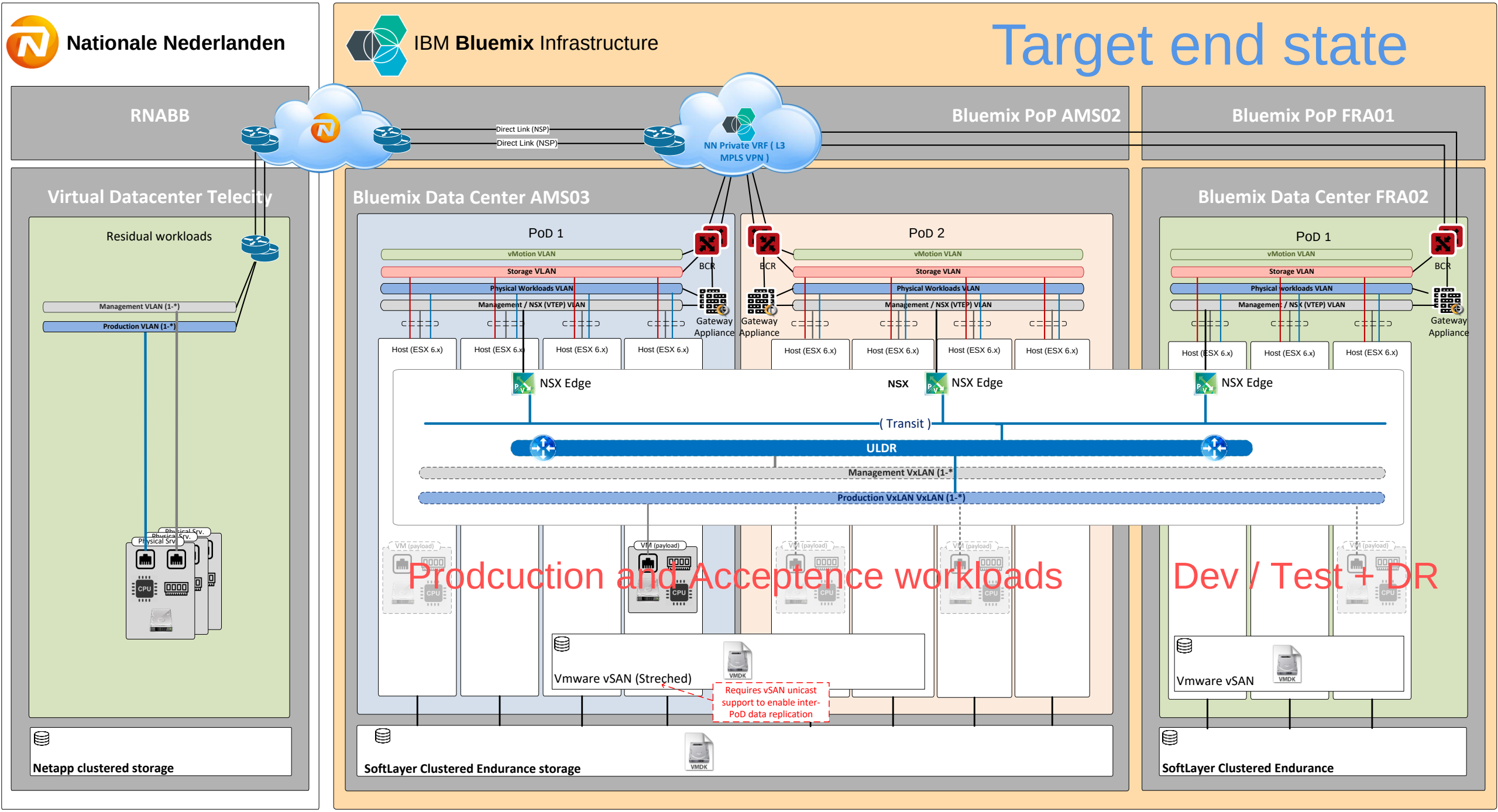
Nationale Nederlanden Vmware on Bluemix

NN Specific

Bluemix Infrastructure Design

Bluemix datacenter selection

- Bluemix Datacenter AMS03 in the Amsterdam region will be used for running Production and Acceptation workloads;
- Bluemix Datacenter FRA02 in Frankfurt will be used to run Development and Test Workloads and will double as Dissaster Recovery site.
- Datacenter connectivity between the two datacenters is handled by the Bluemix Private Backbone. Latency between the Amsterdam and Frankfurt PoPs is around 7ms.
- *Source: http://lg.softlayer.com/*


Nationale Nederlanden
IBM Bluemix Infrastructure
Target end state
RNABB
Bluemix PoP AMS02
Bluemix PoP FRA01
Direct Link (NSP)
Direct Link (NSP)
NN Private VRF (L3 MPLS VPN)
Virtual Datacenter Telecity
Residual workloads
Management VLAN (1-*)
Production VLAN (1-*)
Physical Srv.
CPU
Netapp clustered storage
Bluemix Data Center AMS03
PoD 1
PoD 2
vMotion VLAN
Storage VLAN
Physical Workloads VLAN
Management / NSX (VTEP) VLAN
BCR
Gateway Appliance
Host (ESX 6.x)
NSX Edge
NSX
(Transit)
ULDR
Management VxLAN (1-*
Production VxLAN VxLAN (1-*)
VM (payload)
Vmware vSAN (Streched)
VMDK
Requires vSAN unicast support to enable inter-PoD data replication
SoftLayer Clustered Endurance storage
Bluemix Data Center FRA02
Vmware vSAN
SoftLayer Clustered Endurance
Prodcuction and Acceptence workloads
Dev / Test + DR

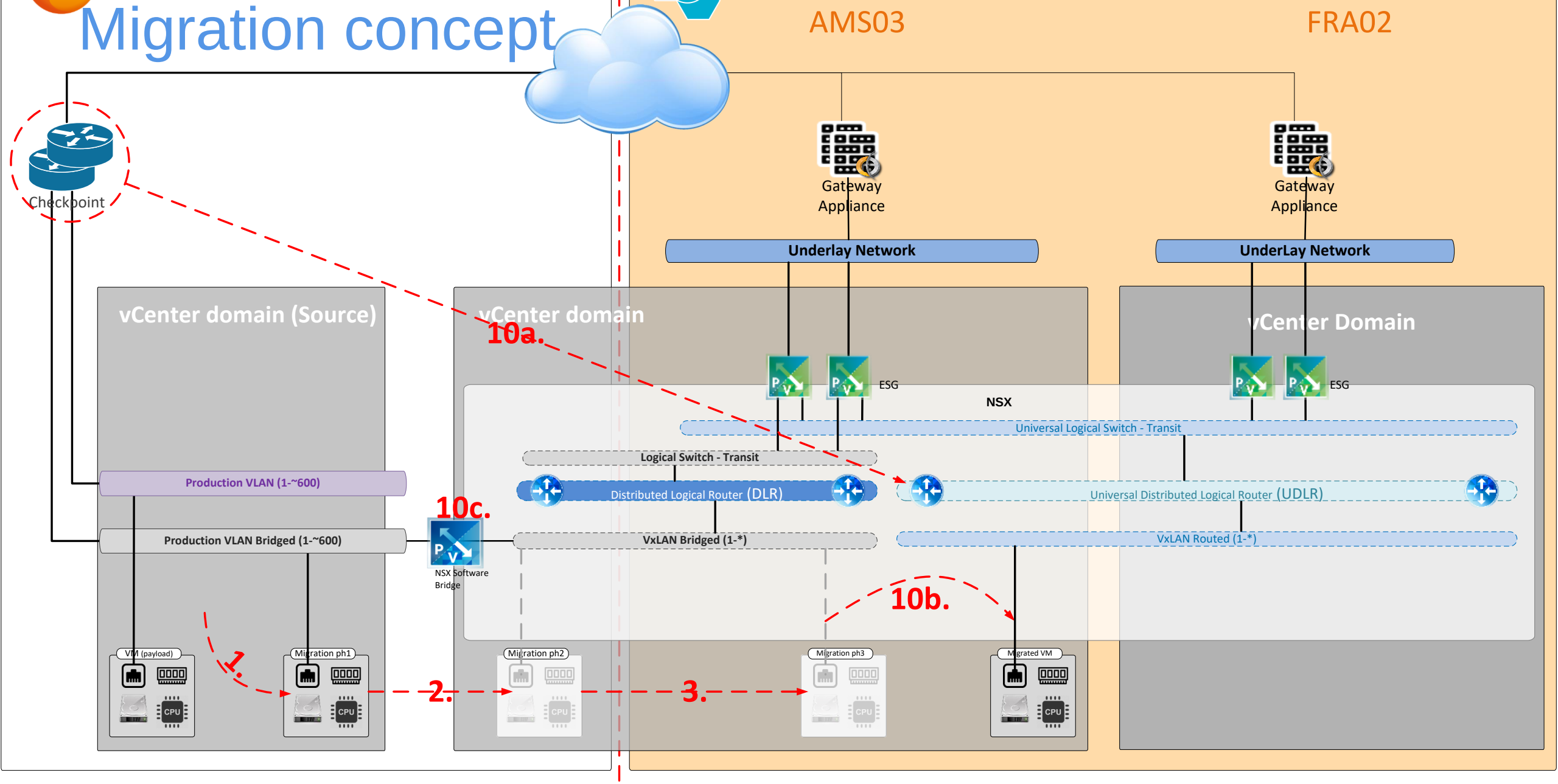
Nationale Nederlanden

Migration concept

IBM **Bluemix** Infrastructure

AMS03

FRA02



Thank you

Overlay network concept