Roglit 25

Kako preoblikovati kaos v nadzor

Dinamično omrežje s Cisco SD-WAN

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Zavezništvo za močnejši IT ekosistem – Building a Stronger IT Ecosystem

ACTUAL I.T.   UNISTAR PRO   ITELIS   astec   ACTUAL I.T. GROUP A DBA Group Company

Cisco SD-WAN

Kaj je in kaj ponuja

- **Varno in fleksibilno povezovanje**
  - Omogoča varno povezovanje vseh lokacij , podatkovnih cetrov in oblakov z uporabo različnih povezav (MPLS, LTE , Cable,..)

- **Centralizirano upravljanje**
  - Poenostavlja upravljanje omrežij z intuitivno platformo, ki omogoča nadzor in optimizacijo v realnem času.

- **Zmogljivost in učinkovitost**
  - Pospešuje delovanje ključnih aplikacij, zmanjšuje zamude in optimizira uporabo razpoložljive pasovne širine.

- **Napredna analitika in vpogled**
  - Zagotavlja podatkovne vpoglede in spremljanje omrežja za učinkovito odpravljanje težav in izboljšanje zmogljivosti.

Gradniki omrežja

- **vManage (Catalyst SD-WAN Manage)**
  - vManage NMS je centraliziran sistem za upravljanje omrežij, ki omogoča konfiguracijo in upravljanje celotnega overlay omrežja prek preprostega grafičnega vmesnika

- **vSmart (Cisco Catalyst Controller)**
  - centraliziran usmerjevalni in politični mehanizem SD-WAN-a , ki nadzoruje pretok podatkovnega prometa v celotnem omrežju.

- **vBond (Catalyst SD-WAN Validator)**
  - samodejno orkestrira povezljivost med robnimi usmerjevalniki in vSmart krmilniki.

- **vEdge**
  - Usmerjevalnik v omrežju
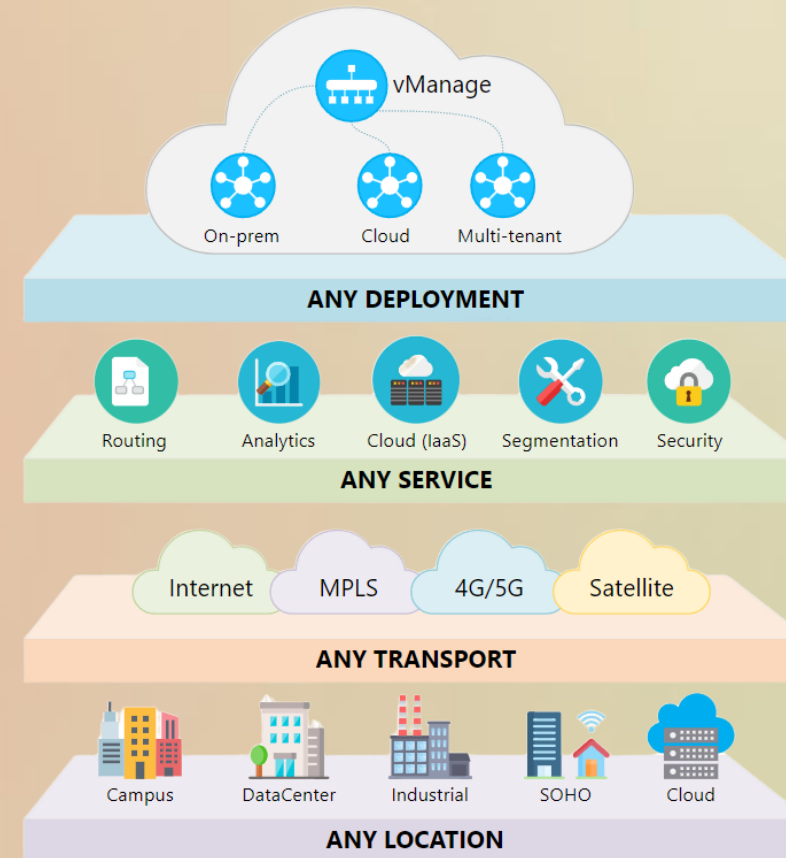
Načini impementacije

ANY DEPLOYMENT
- On prem
- Cloud multi-tenat

ANY SERVICE
- Routing
- Analytics
- Cloud infrastcutre as a service
- Segmentation
- Security

ANY TRANSPORT
- Internet
- Mpls
- 4G/5G
- ANY LOCATION

Ideja

Tradicionalno omrežje

- Kompleksno upravljanje
- Dolgotrajna uvedba sprememb in novih lokacij
- Ročno upravljanje QoS

SD- WAN

- Enotno upravljanje
- Hitre spremembe s pomočjo templetov in avtomatizacije
- Samodejen optimalizacija poti za zagotavljanje kakovosti storitev

Prednosti po prehodu

Zero-Touch Provosioning

- Samodejno odkrivanje, avtentikacija in prenos vnaprej pripravljene konfiguracije
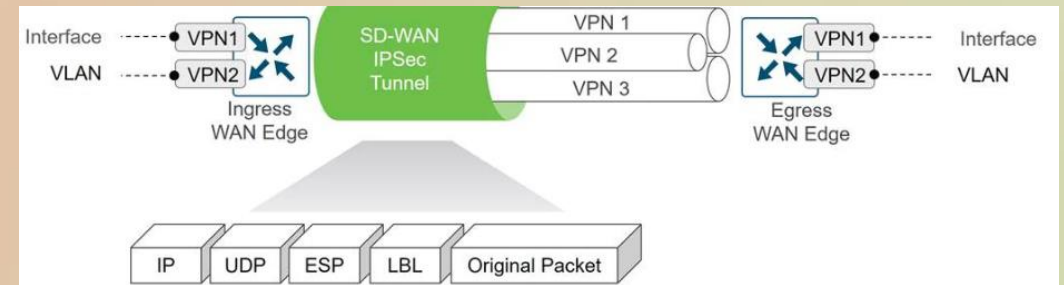
Povečanje posanovne širine

- Razporejanje prometa po WAN poteh v aktivno/aktivnem načinu

VPN Segmentacija

- Izolacija prometa za izboljšano varnost z namenskim VPN

Cetralizirano uporabljanje

- Poenostavlja operacije z univerzalnimi politikami in predlogami
- Skrajšuje čas uvajanja in zmanjšuje kompleksnost upravljanja
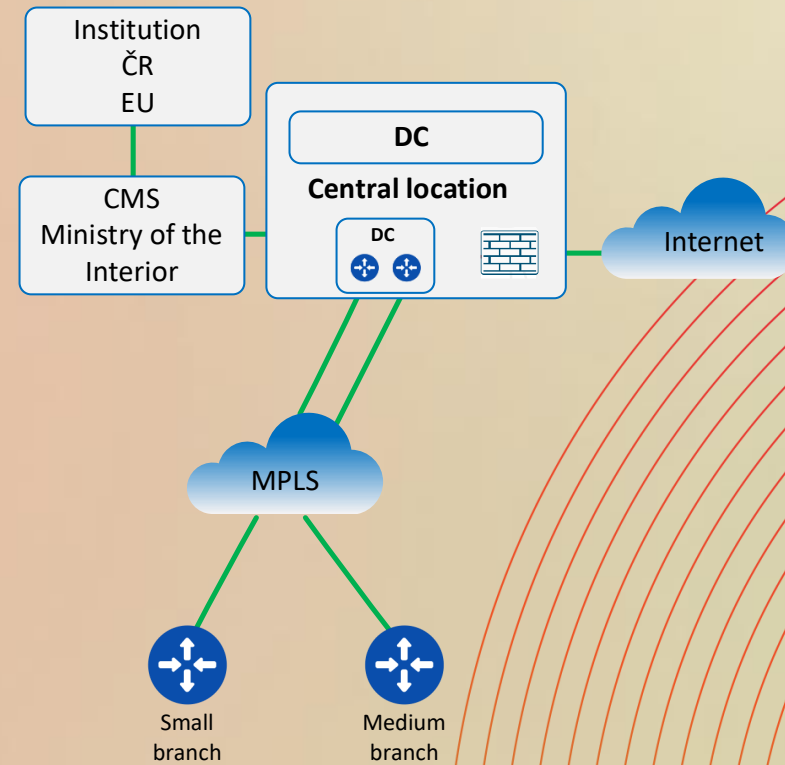
ALEF SD-WAN real world use cases

Case #1 Government
Case #2 Banking

Case #1 Government

Customer´s current design

- 100 branches

- One central location

- MPLS as a transport technology

- No redundancy of connection at the branch

- No QoS implemented

Customer´s requirements

Secure and flexible solution for shared services in the new DC

Centralized Management with RBAC

Migration of MPLS to two internet lines

Direct Internet Access from branches

Scalable QoS (QoS per application)

Simple implementation on customer site

Separate VPN/VRF traffic

Security features (FW) at the central and branch locations

Delivered solution
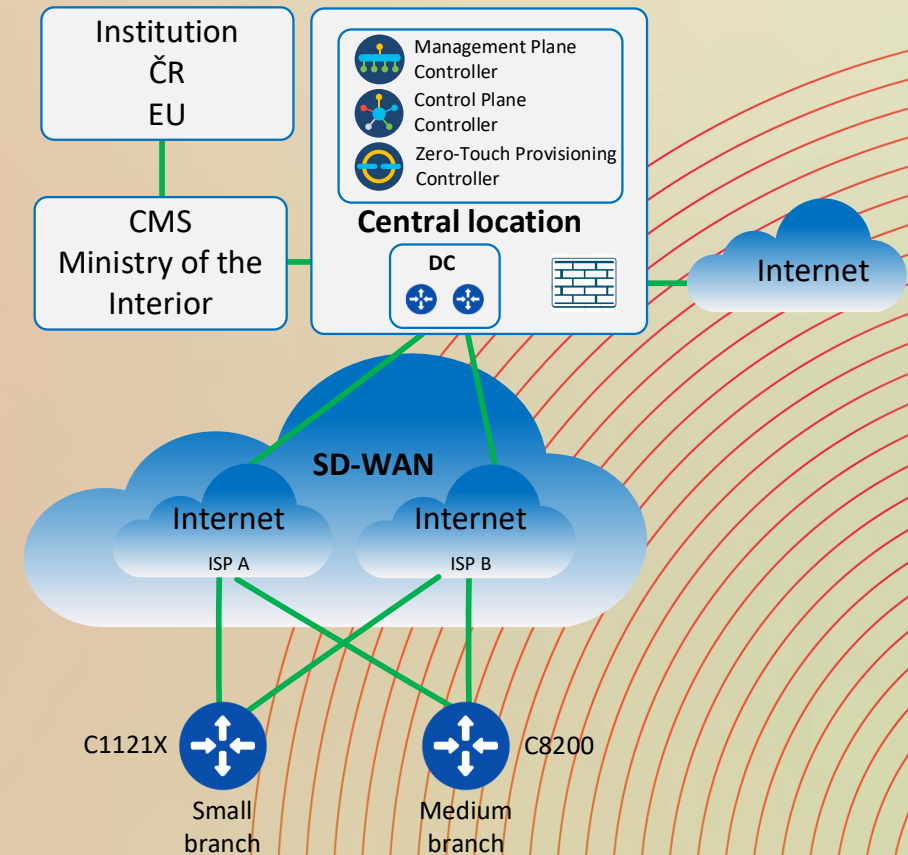
Cisco SD-WAN Technology

On-prem SD-WAN controllers

Two routers Calalyst 8500L at HQ

Two branch sizes

Cisco 1121X and Cisco 8200 routers

Primary fixed internet and the secondary 5G internet

Small or Medium customer?

The customer can decide what type of connection require

Small installation type provides:

- Single device for connection
- Replacement of the current device with the SD-WAN router
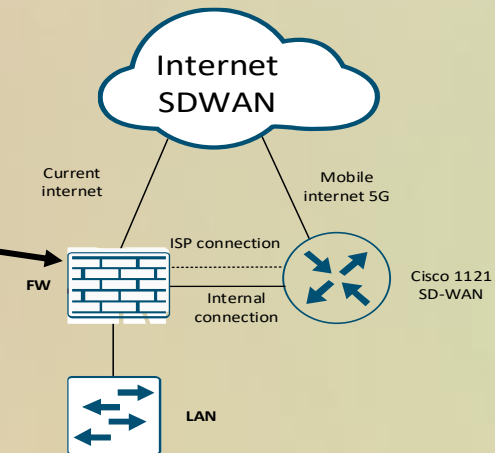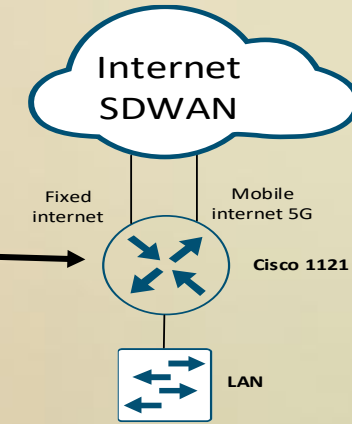- Customer with the smaller network
- Provide direct internet access

Medium installation type provides:

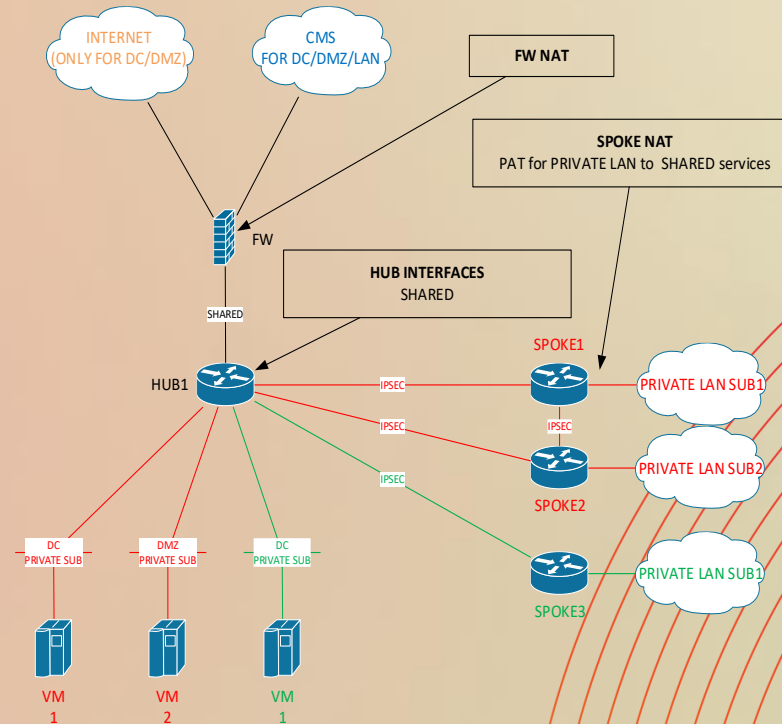- Customer with the larger network
- Current FW is used for connection to the internet
- SD-WAN router is used for access to the central services

Delivered solution

Dedicated VPN for every organization

Access to the private services

Access to the shared services

Centralized access to the government services

Benefits

Complete visibility from single pane of glass

Scalable solution

Higher resiliency against ISP outage

Direct Internet Access (DIA)

Direct Cloud Access (future)

Secure segmentation with VPN/VRF

Failover and loadbalancing of internet lines

Secure access to the central services and Ministry of interior

Case #2 Banking

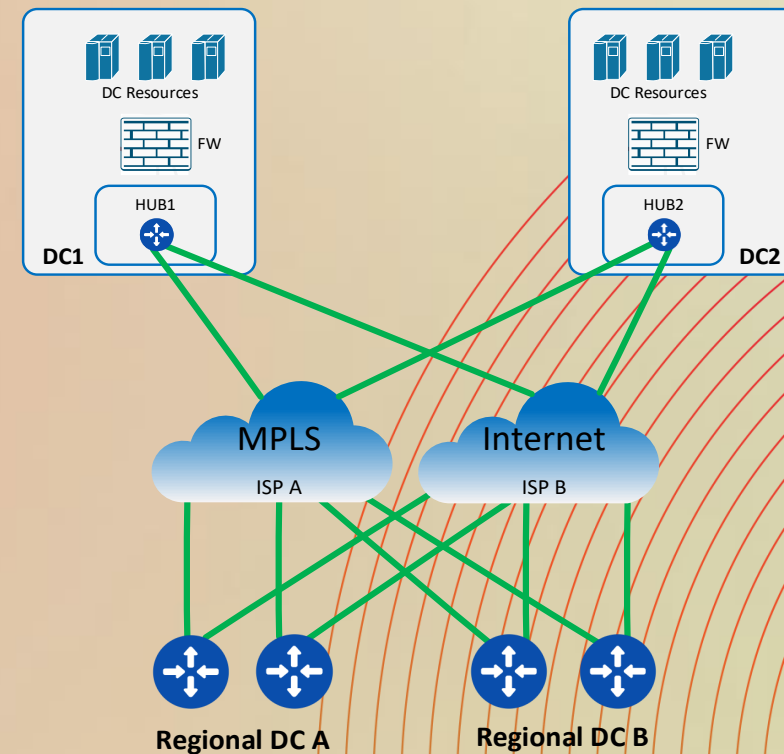# Customer´s current design

30 branches around the world

2 central locations

MPLS and internet as a transport technology

2 routers at every regional DC

DMVPN as encryption technology

Customer´s requirements

Centralized Management with full controll and troubleshooting

Separate sensitive traffic to dedicated VRF (Emp, IoT, Guest)

Migration from MPLS to internet (reduce cost)

Fast onboarding of a new devices using PnP

Per application QoS

Possibility to route traffic to specific WAN line

Monitor ISP lines and automatic switch traffic based on the tunnel health

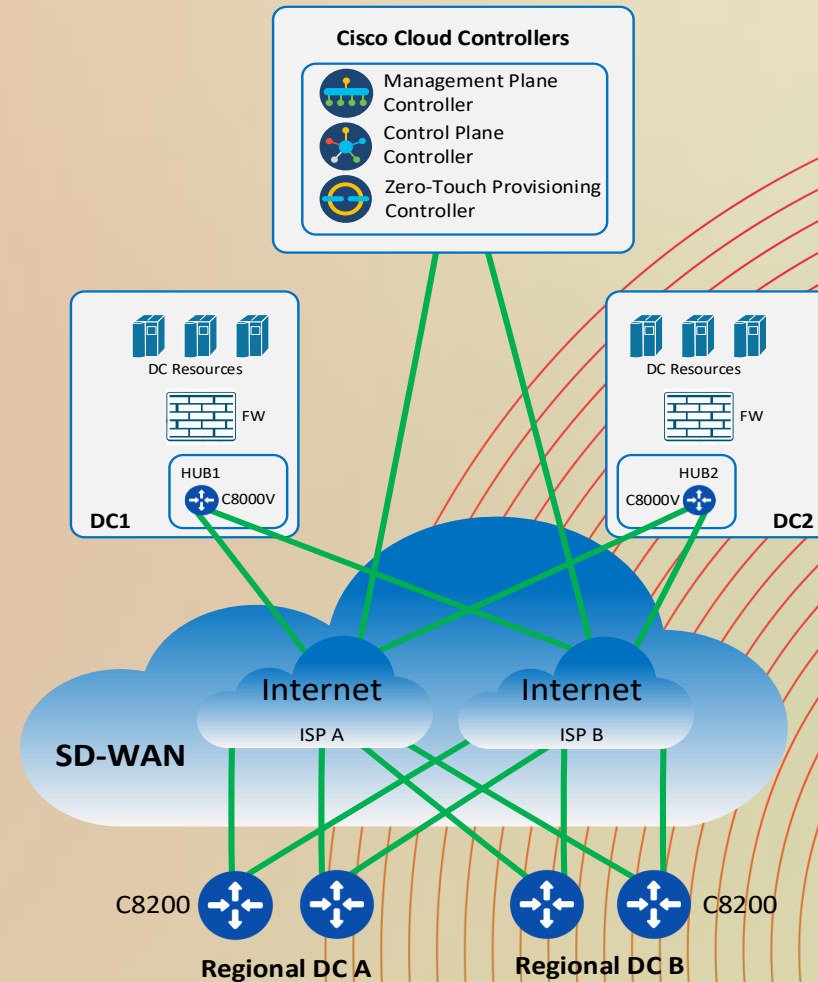Security features (FW) at the branch and central routers

Delivered solution

Cisco SD-WAN Technology

SD-WAN Cloud Controllers

Calalyst C8000V virtual router at DC1 and DC2

Two Cisco 8200 routers per Regional DC

Benefits

Project duration 2 months

Migration of 30 branches in one week

Complete visibility from single pane of glass

Operation and ISP cost saving

Higher resiliency against ISP outage

Load balancing and failover between ISP connections

Failover and loadbalancing of internet lines

Filtering and monitoring traffic between zones locally on branches

Zaključek

RoglIT is more than just another conference.