

Tech Week

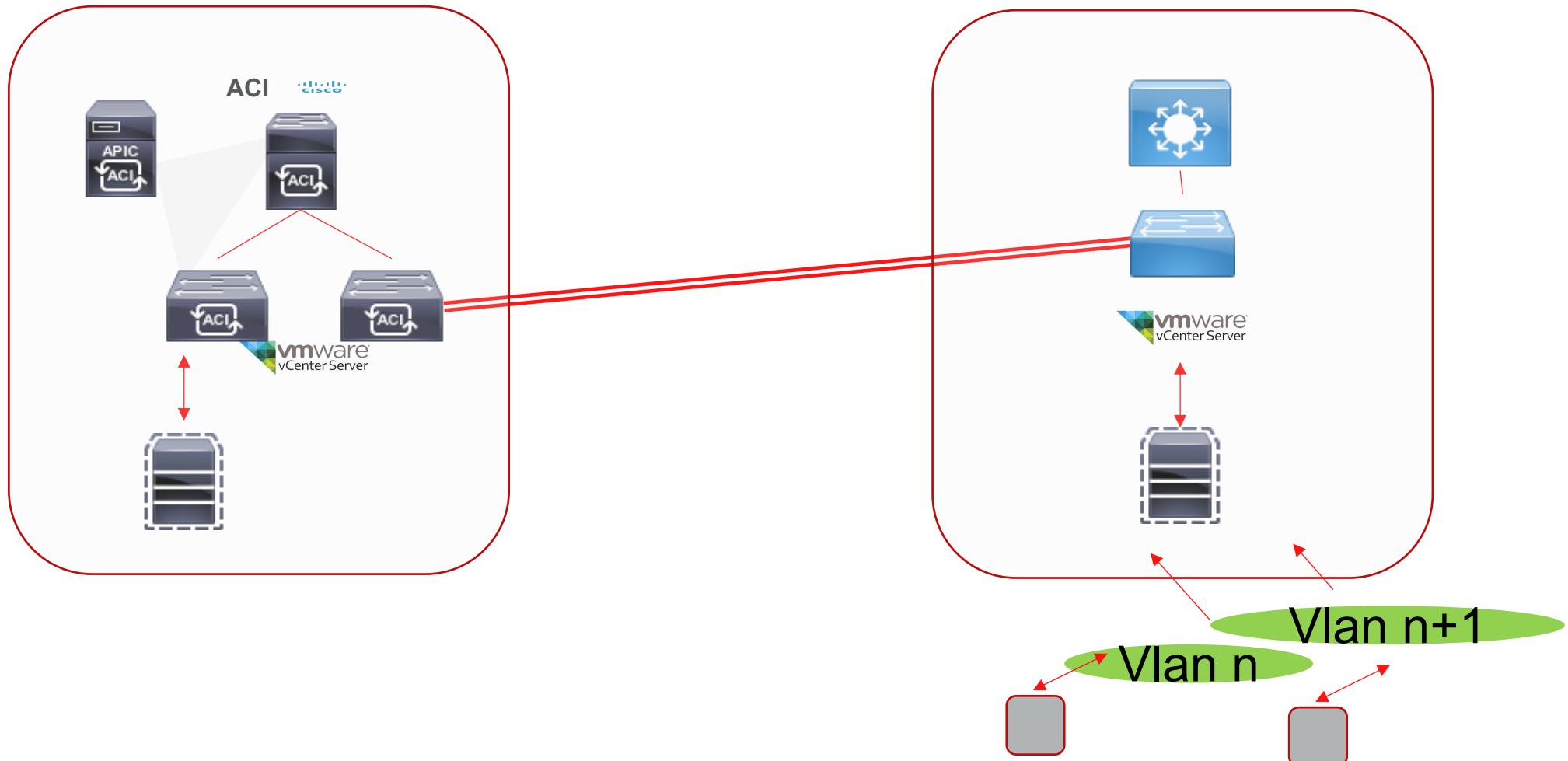
SDN Automation

NEP@L & Cisco ACI

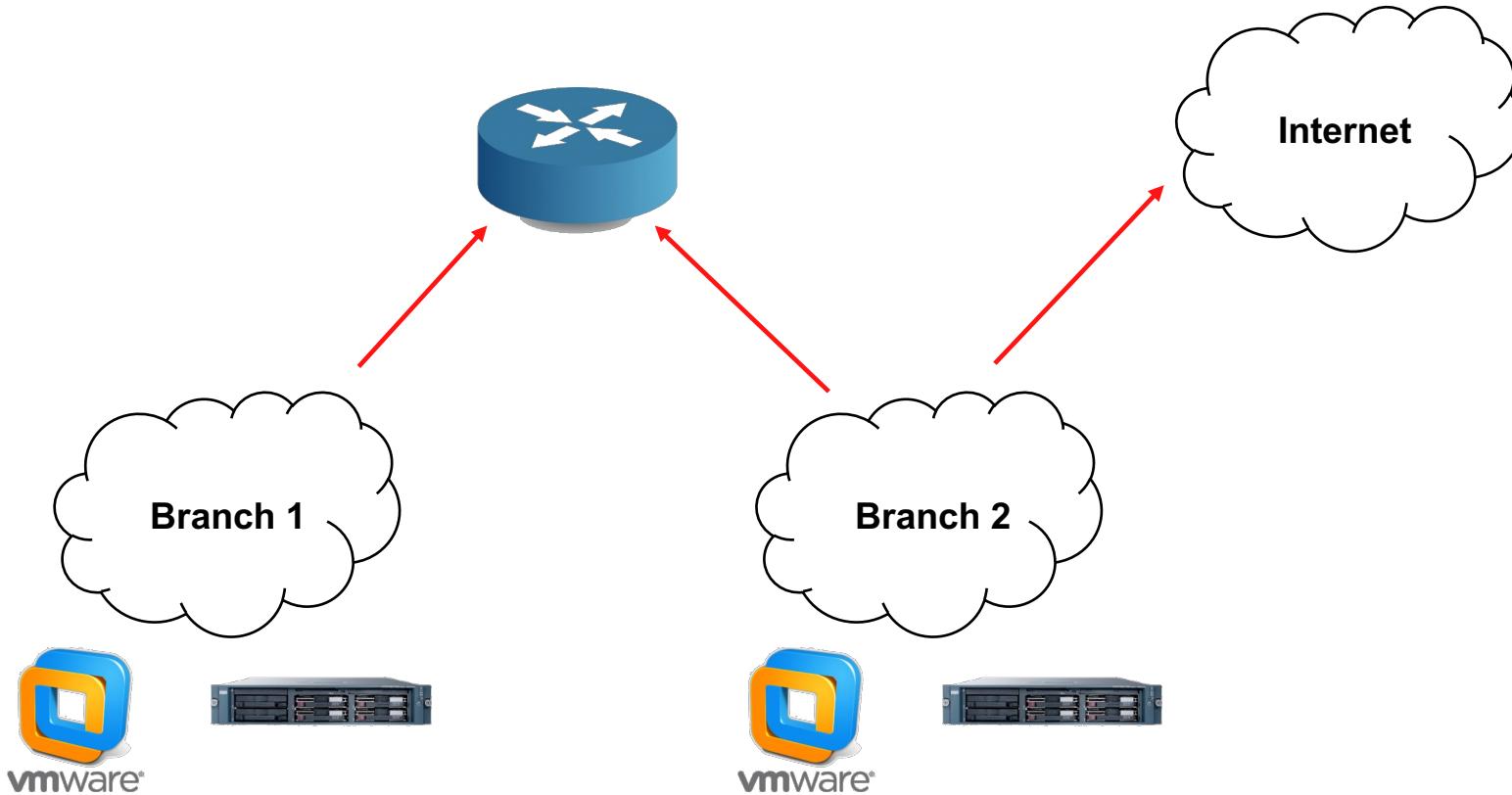
Presented by Ed Scrimaglia
NEP@L Mentor



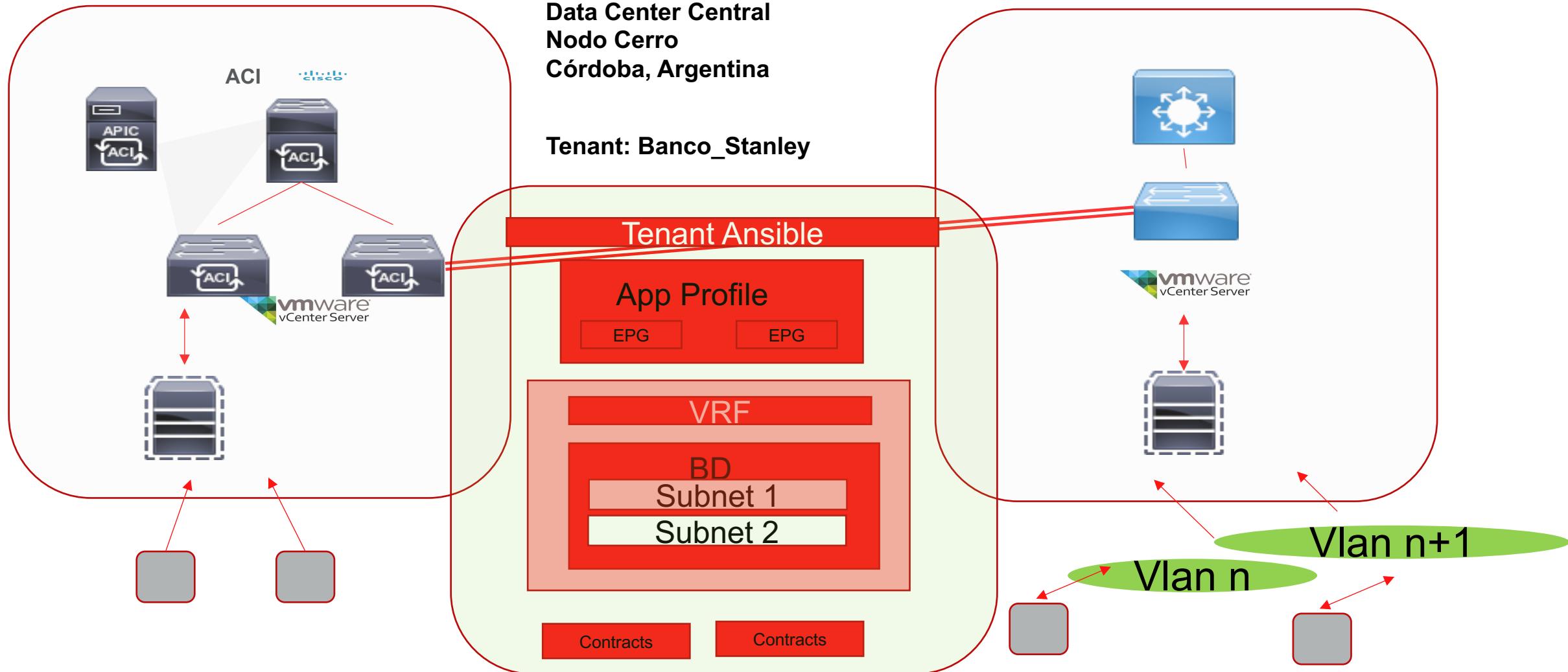
NEP@L Topology Base – Data Center



ACI Service Requirement – DC Tenant Provisioning

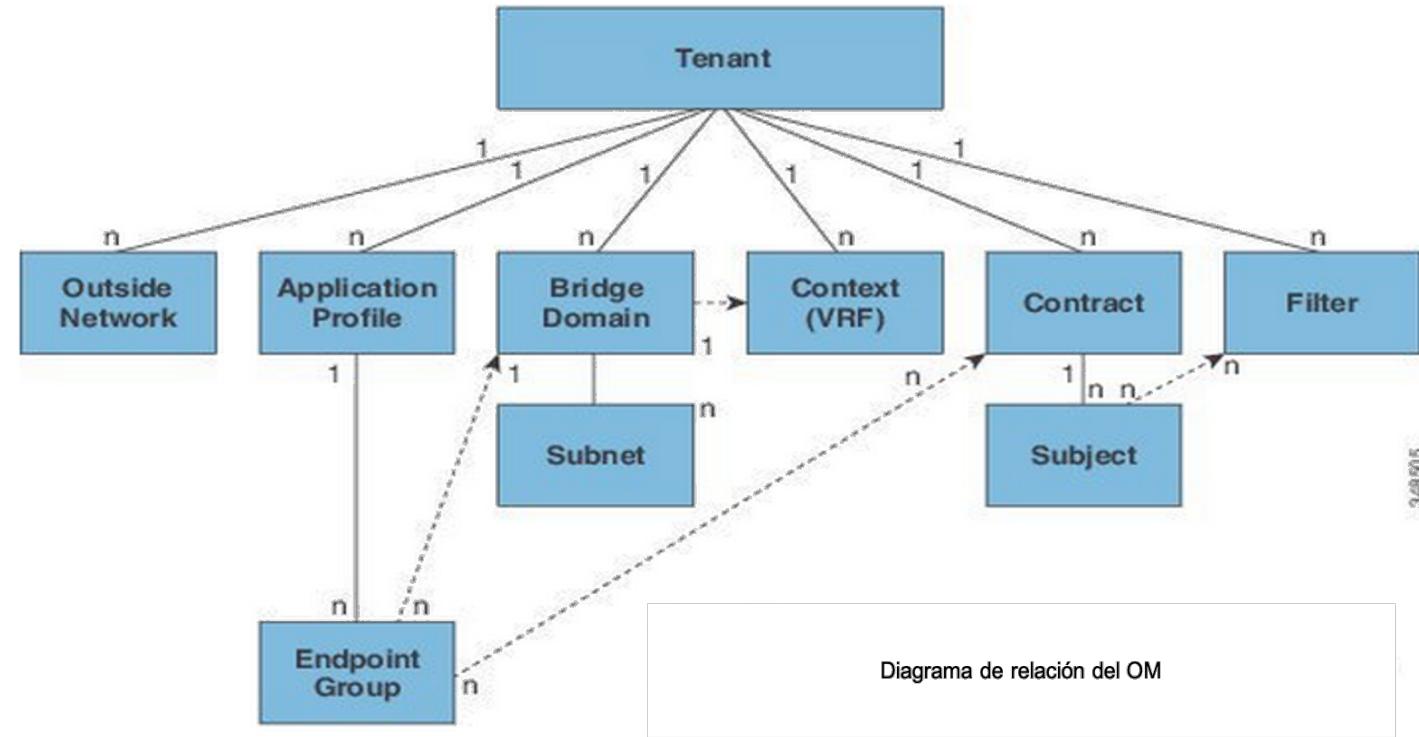


What things NEP@L will Automate



Use Case definition – ACI Model Object Tree

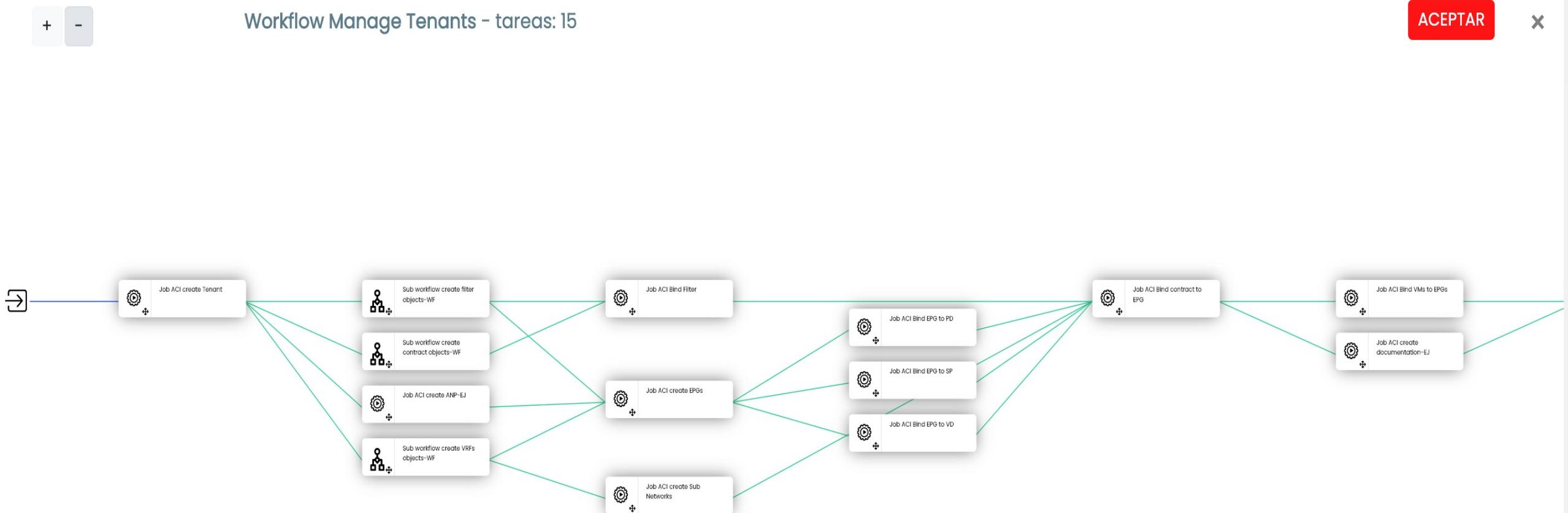
- Create a Tenant
- Create ANP
 - Create End Point Groups
 - EPG2_Ansible_interior
 - EPG1_Ansible_salidaExterior
- Create Contract
 - Create Subject Contract
- Create Filters
 - Create Entry Filters
 - TCP (21,22,80,8088,443)
 - ICMP
- Create VRF
 - VRF1
 - VRF2
- Create Bridge Domains
 - BD Vlan310
 - BD Vlan311
- Create Subnets
 - 192.168.70.1
 - 192.168.71.1
- Bind EPG to VD
- Bind EPG to PD
- Bind EPG to SP
 - EPG2 - Vlan 310
 - EPG1 - Vlan 311
- Bind Contract to EPG
- Bind VMs to EPG



Use case definition: List of tasks



NEP@L offers a workflow manager to ACI automation



ACI Service Requirement – DC Tenant Provisioning

APIC

admin    

System **Tenants** Fabric Virtual Networking L4-L7 Services Admin Operations Apps Integrations

ALL TENANTS | Add Tenant | Tenant Search: name or descr | common | mgmt | infra | ACI_LAB_DEMO | prj_b3629288f2a8480e80c8028ff58c2403

All Tenants

Name	Alias	Description	Bridge Domains	VRFs	EPGs	Health Score
ACI_LAB_DEMO			17	1	18	98
common			4	7	2	99
infra			2	2	2	99
mgmt			1	2	0	100
prj_2ff6b7a6b36048ddbf894ec...	openshift	osp13	1	1	1	99
prj_399e729ccae2412aa1e17...	admin	osp13	4	2	5	100
prj_4da0ba888b864fdc97be30...	tenant2	osp13	1	0	1	99
prj_6b590d92269f44bd813ae...	test_sbc	osp13	18	0	18	100
prj_8aa8f19866f84ccf9fe244c...	tenant3	osp13	1	1	1	99
prj_b3629288f2a8480e80c802...	service	osp13	0	0	0	100

Page 1 Of 1 Objects Per Page: 15 Displaying Objects 1 - 10 Of 10

An ACI Tenant objects saved an inventory instance

netbox Organization ▾ Devices ▾ IPAM ▾ Virtualization ▾ Circuits ▾ Power ▾ Secrets ▾ Other ▾ Search admin ▾

Search All Objects Search

Organization

- Sites 0 Geographic locations
- Tenants 0 Customers or departments

DCIM

- Racks 0 Equipment racks, optionally organized by group
- Device Types 0 Physical hardware models by manufacturer
- Devices 0 Rack-mounted network equipment, servers, and other devices

Connections

- Cables 0
- Interfaces 0
- Console 0
- Power 0

IPAM

- VRFs 0 Virtual routing and forwarding tables
- Aggregates 0 Top-level IP allocations
- Prefixes 0 IPv4 and IPv6 network assignments
- IP Addresses 0 Individual IPv4 and IPv6 addresses
- VLANs 0 Layer two domains, identified by VLAN ID

Circuits

- Providers 0 Organizations which provide circuit connectivity
- Circuits 0 Communication links for Internet transit, peering, and other services

Reports

None found

Changelog

- Manufacturer Cisco admin - 2020-02-02 23:36
- Device Type IOSv admin - 2020-02-02 23:36
- Device Type CSR-1000v admin - 2020-02-02 23:36
- Device Type ASR-9000v admin - 2020-02-02 23:36
- Device Role Switch admin - 2020-02-02 23:36
- Device Role Router RR admin - 2020-02-02 23:36
- Device Role Router PE

NEP@L monitoring: sensing APIC resources



NEP@L monitoring: sensing ACI resources

System Health - Current Critical - Current Major - Current Minor - Current Warning - Current

97	1	14	106	69
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APIC Status

nodeName	addr	adminState	operState	apicMode	failoverStatus	health
apic1	10.0.0.1	in-service	available	active	idle	fully-fit

System Health

Node Health

Name	podid	role	UpTime	state	oobMgmtAddr	Health
LEAF1	1.00	leaf	466:00:15:48.000	in-service	10.54.153.82	98.00
LEAF2	1.00	leaf	465:22:55:02.000	in-service	10.54.153.83	98.00
SPINE1	1.00	spine	280:05:54:27.000	in-service	10.54.153.81	98.00
SPINE2	1.00	spine	29:17:34:54.000	in-service	10.54.153.249	98.00
apic1	1.00	controller	336:00:41:23.000	in-service	10.54.153.80	

Thank you

Contact details

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