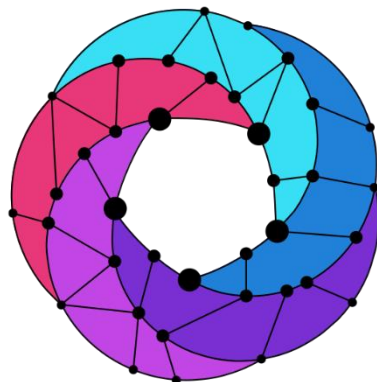




Open Source MANO



CANONICAL



MWC 2016 OPEN SOURCE MANO (OSM) E2E ORCHESTRATION DEMO

OSM Kick-off meeting (OSM#1)
April 2016



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MANO

DEMONSTRATION: L3 VPN SERVICE WITH VALUE ADDED SERVICES

Putting OSM in practice



CANONICAL

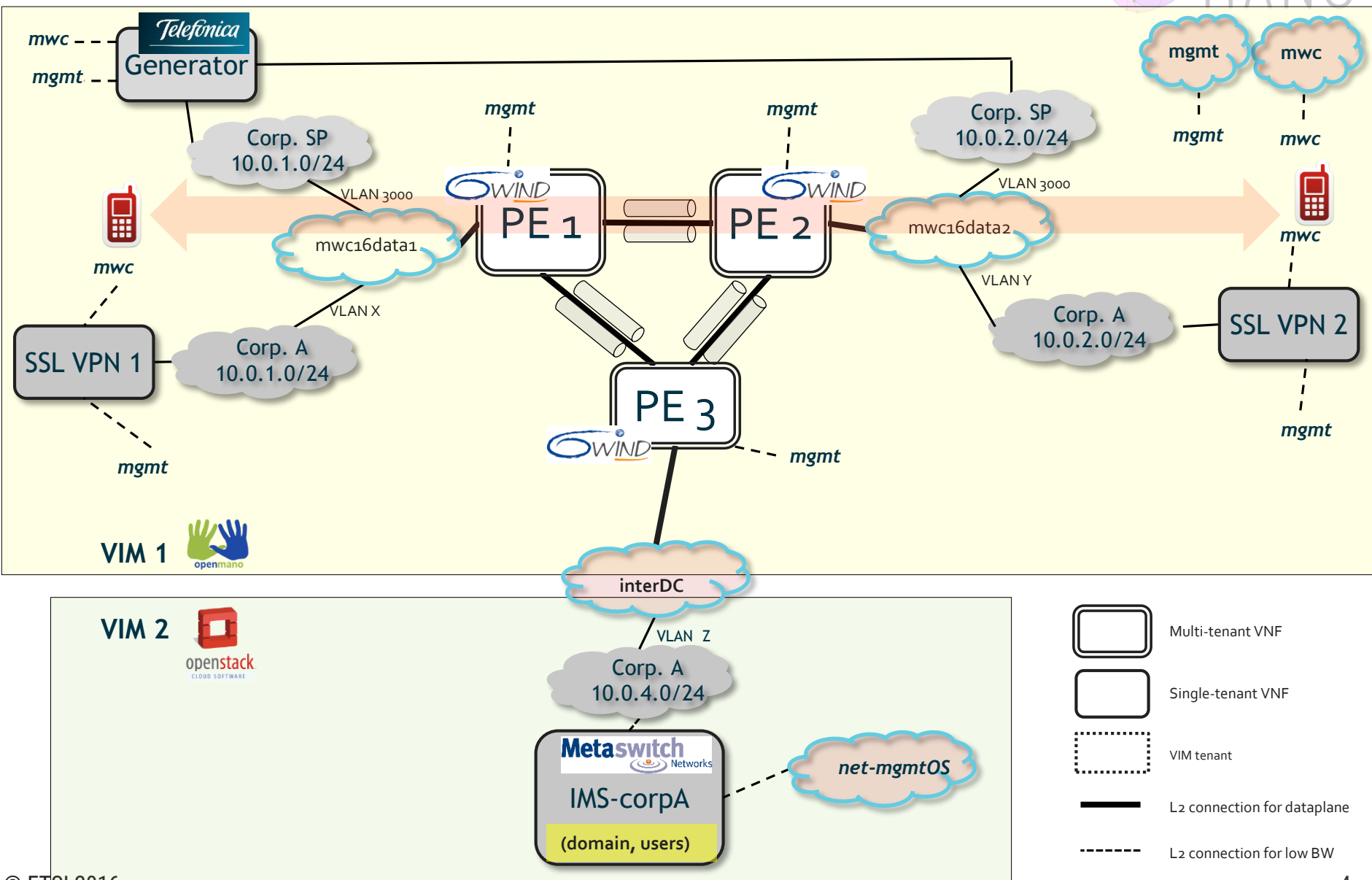
Metaswitch
Networks

Telefonica



- OBJECTIVE: Demonstrate the feasibility of the concepts, starting with existing code seeds
- As realistic as possible, with commercial VNFs
- Proof of main concepts of OSM:
 - E2E automation
 - EPA & underlay control – SLA can be guaranteed
 - Multi-Site
 - Multi-VIM
 - Combination of multi-tenant and single-tenant VNFs
 - Connection to external physical lines
- Useful for next stages of the project
 - Enabler for further code development
 - Room for further evolution/complexity

DEMO SCENARIO



- Multitenant VNF (PE) connection to single tenant VNFs (Gateways and Traffic generator):
 - PE VNF needs to set the vlan tags (per corporation) directly. This is configured from SO.
 - This requires giving the interface to the VNF with passthrough
 - VNFs in a specific corporate network are attached to the specific VLAN tag for that corporation in each PE. This is configured from RO.
 - The PE passthrough interfaces connect to these corporate networks by using point to multipoint networks
- Inter data center connection
 - Physical connection between the data plane switch (where the PEs are deployed) and the management switch (where Openstack compute nodes are connected)
 - Openstack provider networks with VLAN segmentation are used to connect the IMS VNF deployed in Openstack to the Openvim interDC external network where PE3 is connected

REAL OPERATION IS MULTI-LAYERED BY NATURE, SO MANO NEEDS TO EMBRACE IT TO HAVE REAL OPERATIONAL IMPACT



	NETWORK CREATION	FULFILLMENT	ASSURANCE
(L3) SERVICE OPERATION (Chaining of VAS & self-care portal)		• Add users to VPN • Add and chain VAS to VPN (self-care)	QoE monitoring
(L2) SERVICE MANAGER (VPN service)	VPN service design	VPN deployment	VPN service monitoring
(L1) NETWORK DEPARTMENT (Network core)	Network scenario creation & deployment (PE per site)	Network scenario provisioning	Network scenario monitoring
(Lo) NFVI OPERATOR	Installation of switches & servers	• Tenant creation. • Allocation of tenant quotes.	• Monitoring of usage of resources by tenants. • Monitoring of NFVI infrastructure

REAL OPERATION IS MULTI-LAYERED BY NATURE, BUT CURRENT MANO APPROACHES ARE PARTIAL



	NETWORK CREATION	FULFILLMENT	ASSURANCE
(L3) SERVICE OPERATION (Chaining of VAS & self-care portal)		- Add users to VPN - Add and chain VAS to VPN self-care	QoE monitoring
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SCOPE OF CURRENT MANO APPROACHES

STATIC / TRADITIONAL OPERATION

CLOUD OPERATION

REAL OPERATION IS MULTI-LAYERED BY NATURE, BUT CURRENT MANO APPROACHES ARE PARTIAL



	NETWORK CREATION	FULFILLMENT	ASSURANCE
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<i>STATIC / TRADITIONAL OPERATION</i>			
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<i>SCOPE OF CURRENT MANO APPROACHES</i>			
(L1) NETWORK DEPARTMENT (Network core)	Network scenario creation & deployment (PE perspective)	Network scenario provisioning	Network scenario monitoring
<i>STATIC / TRADITIONAL OPERATION</i>			
(Lo) NFVI OPERATOR	Installation of switches & servers	- Tenant creation. - Allocation of tenant resources.	- Monitoring of usage of resources by tenants. - Monitoring of NFVI infrastructure
<i>CLOUD OPERATION</i>			

REAL OPERATION IS MULTI-LAYERED BY NATURE, SO MANO NEEDS TO EMBRACE IT TO HAVE REAL OPERATIONAL IMPACT

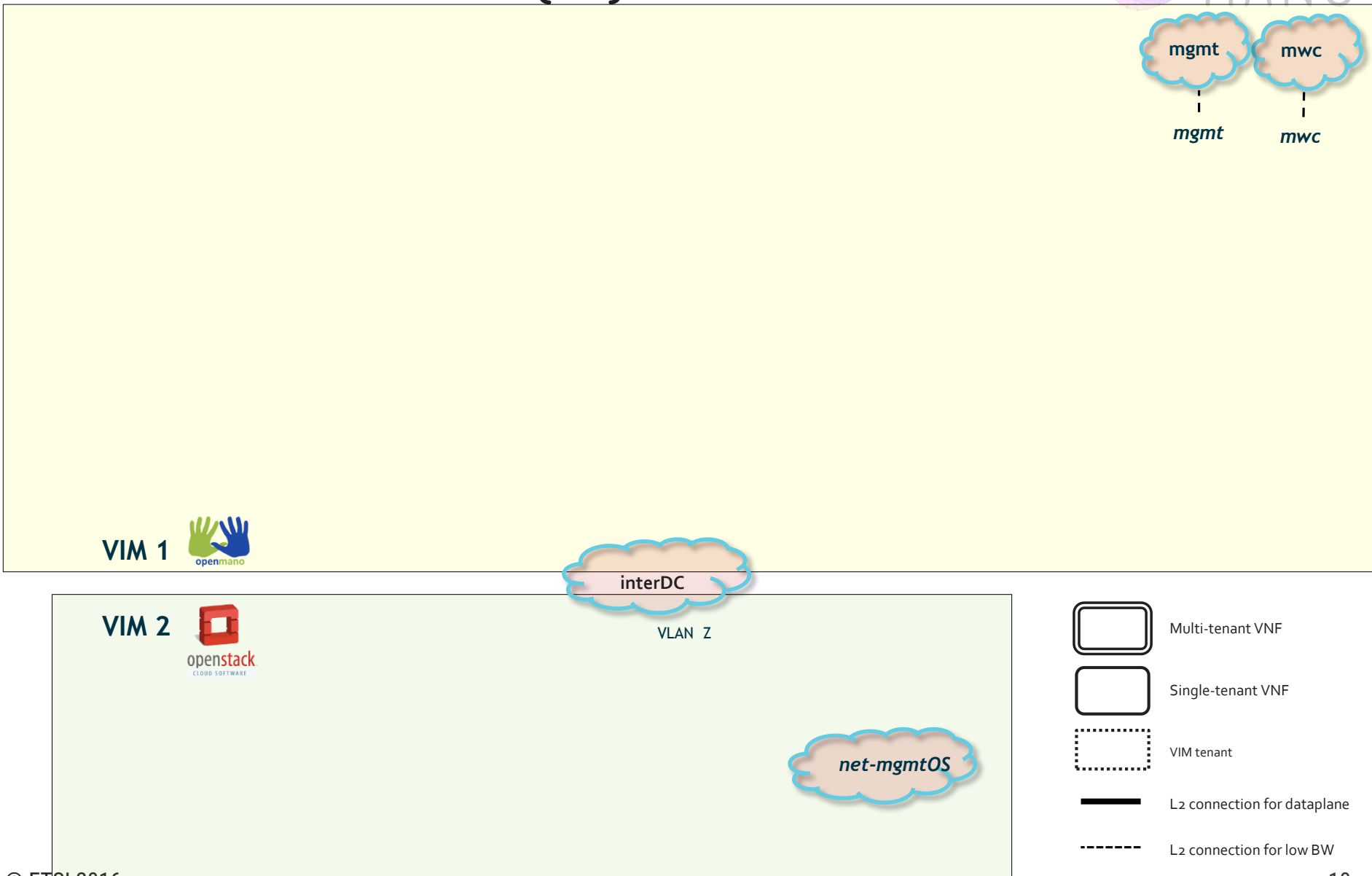


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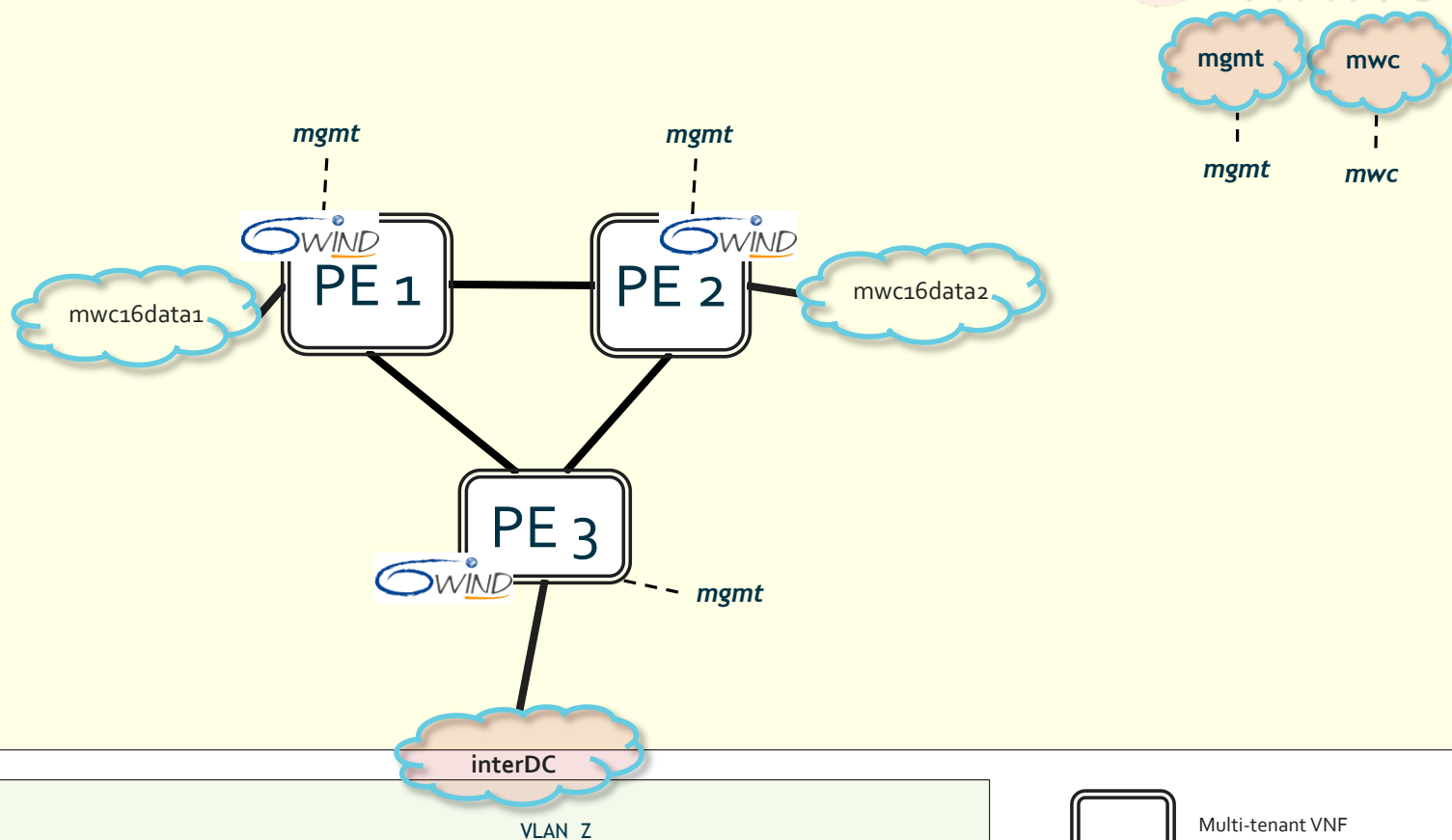
SCOPE OF OSM

CLOUD OPERATION

STEP 0: NFVI+VIM ARE AVAILABLE AT DIFFERENT LOCATIONS (LO)

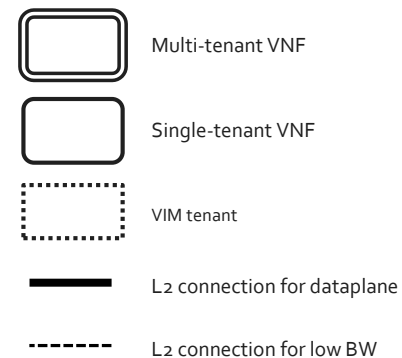


STEP 1: PE CORE IS DEPLOYED AND CONFIGURED (L1)



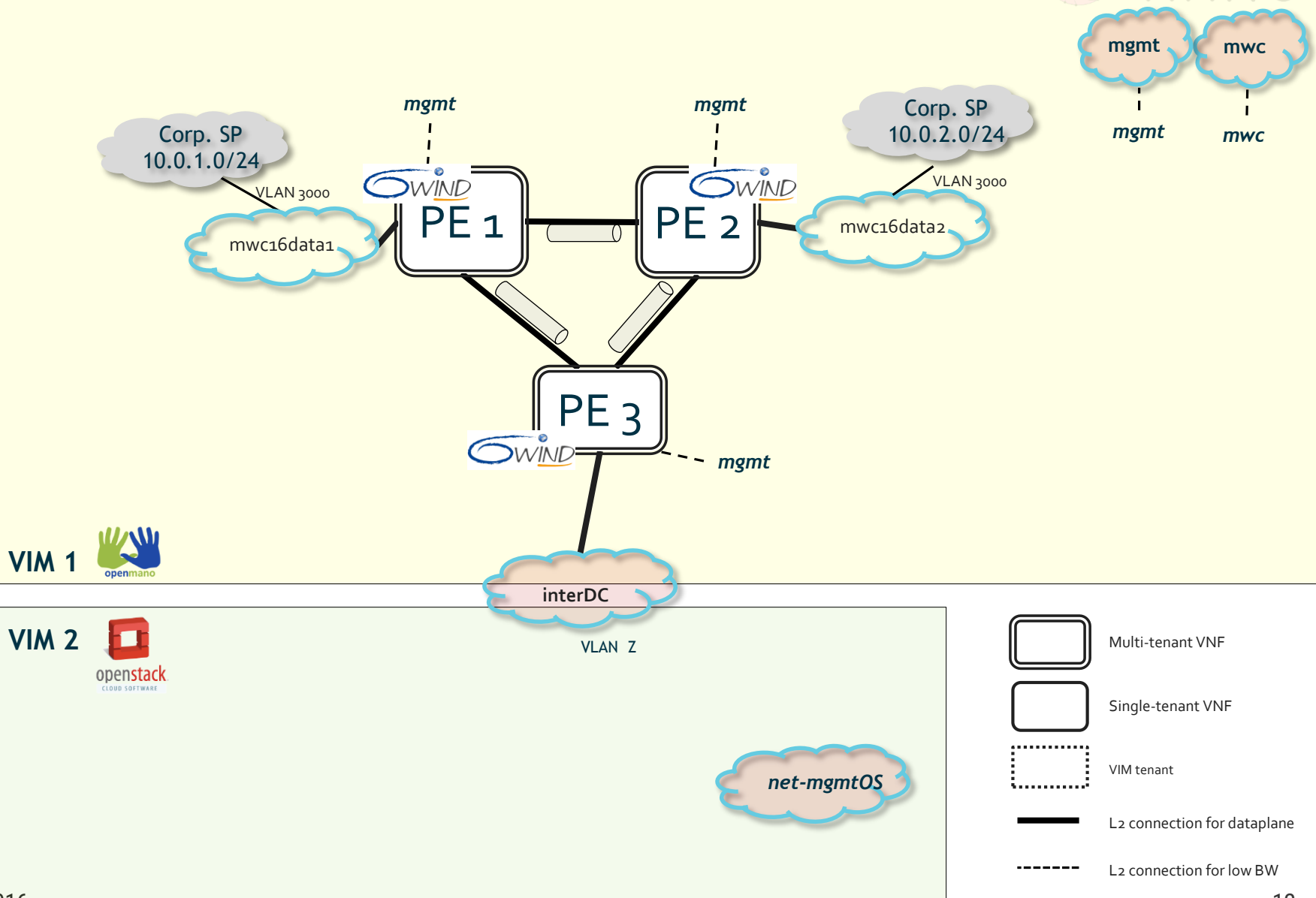
VIM 1
openmano

VIM 2
openstack
CLOUD SOFTWARE

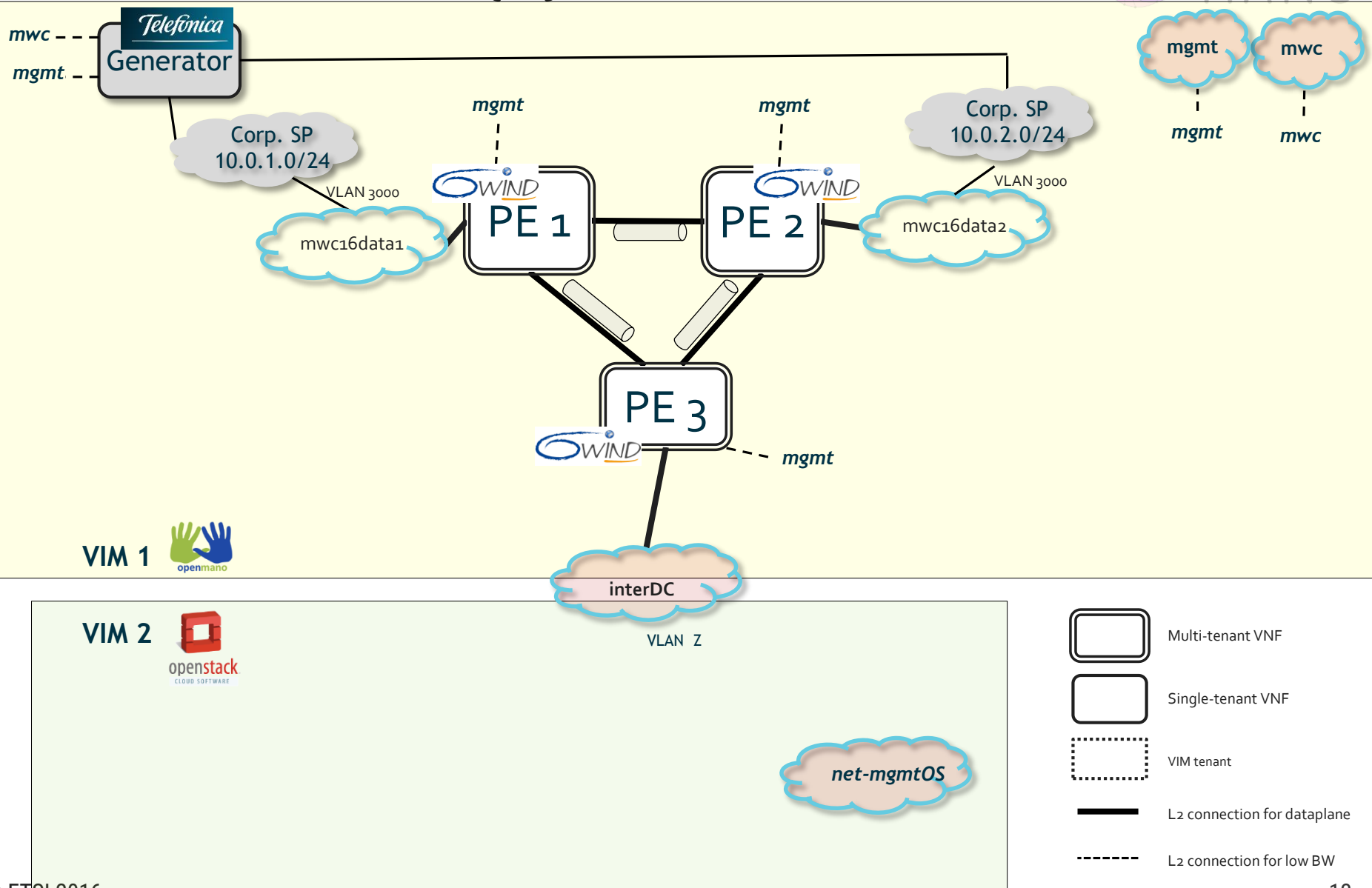


net-mgmtOS

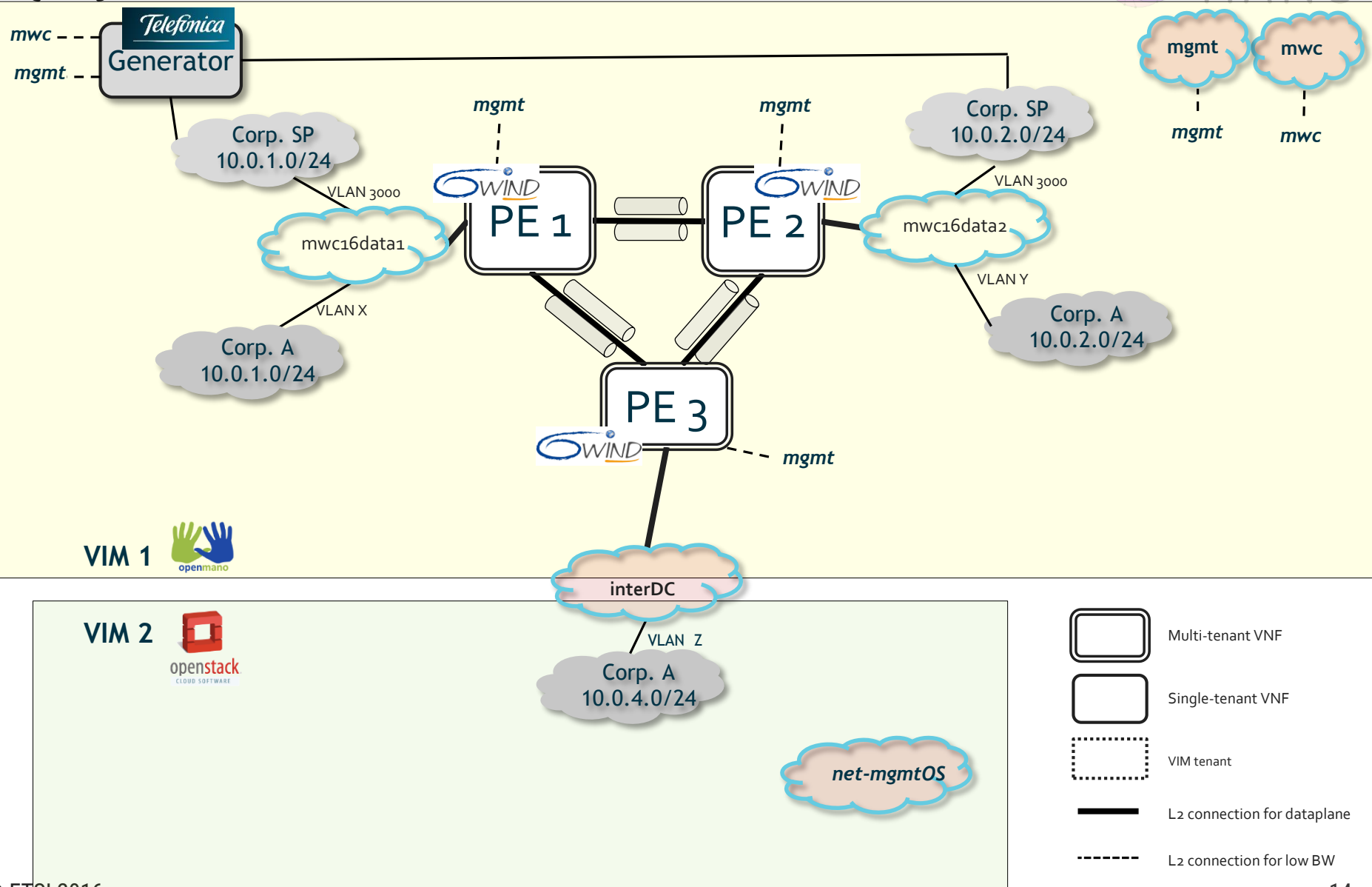
STEP 2: MONITORING VPN IS PROVISIONED (L1)



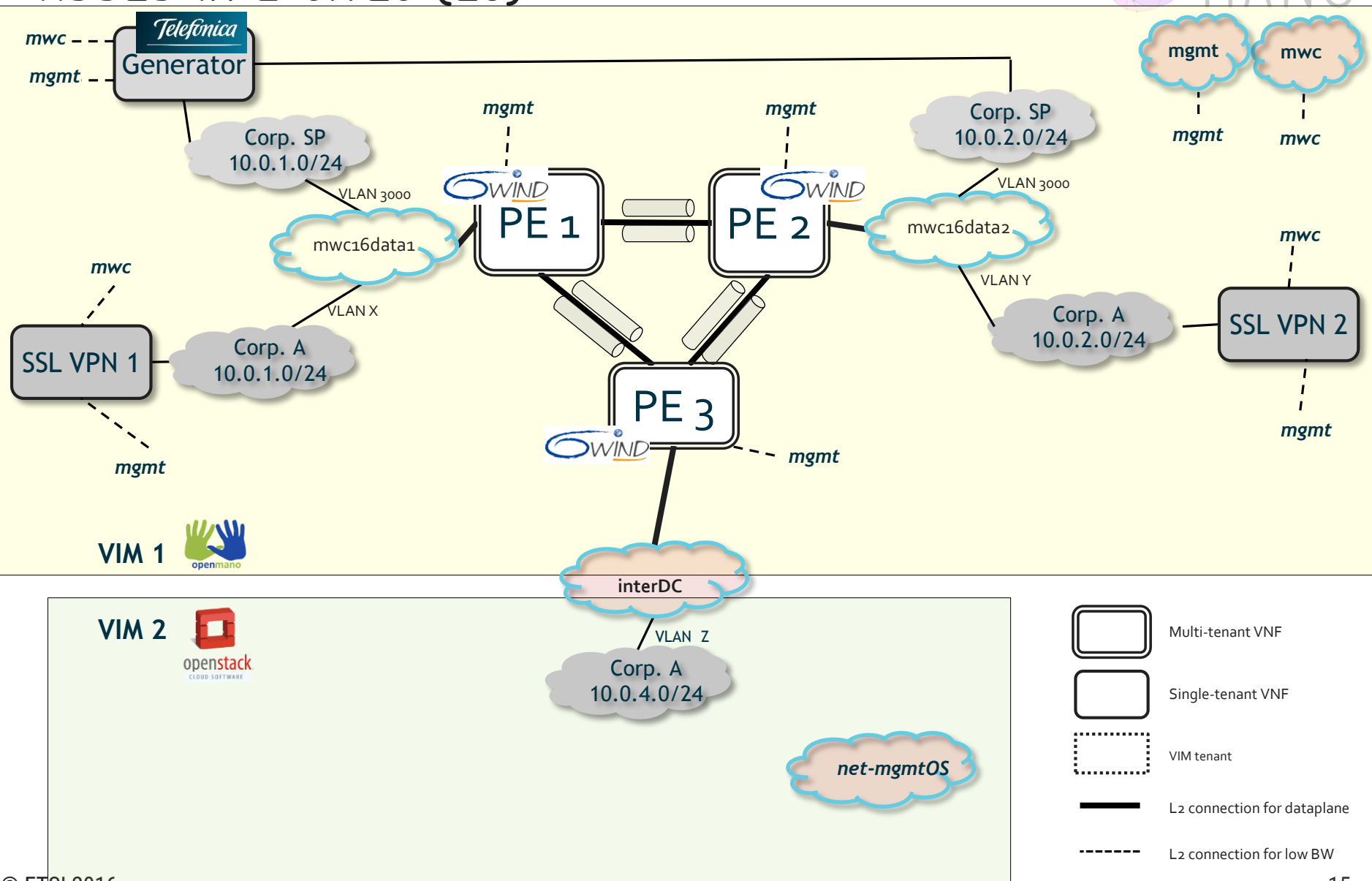
STEP 3: CONNECTIVITY IS VALIDATED WITH TRAFFIC GENERATOR (L1)



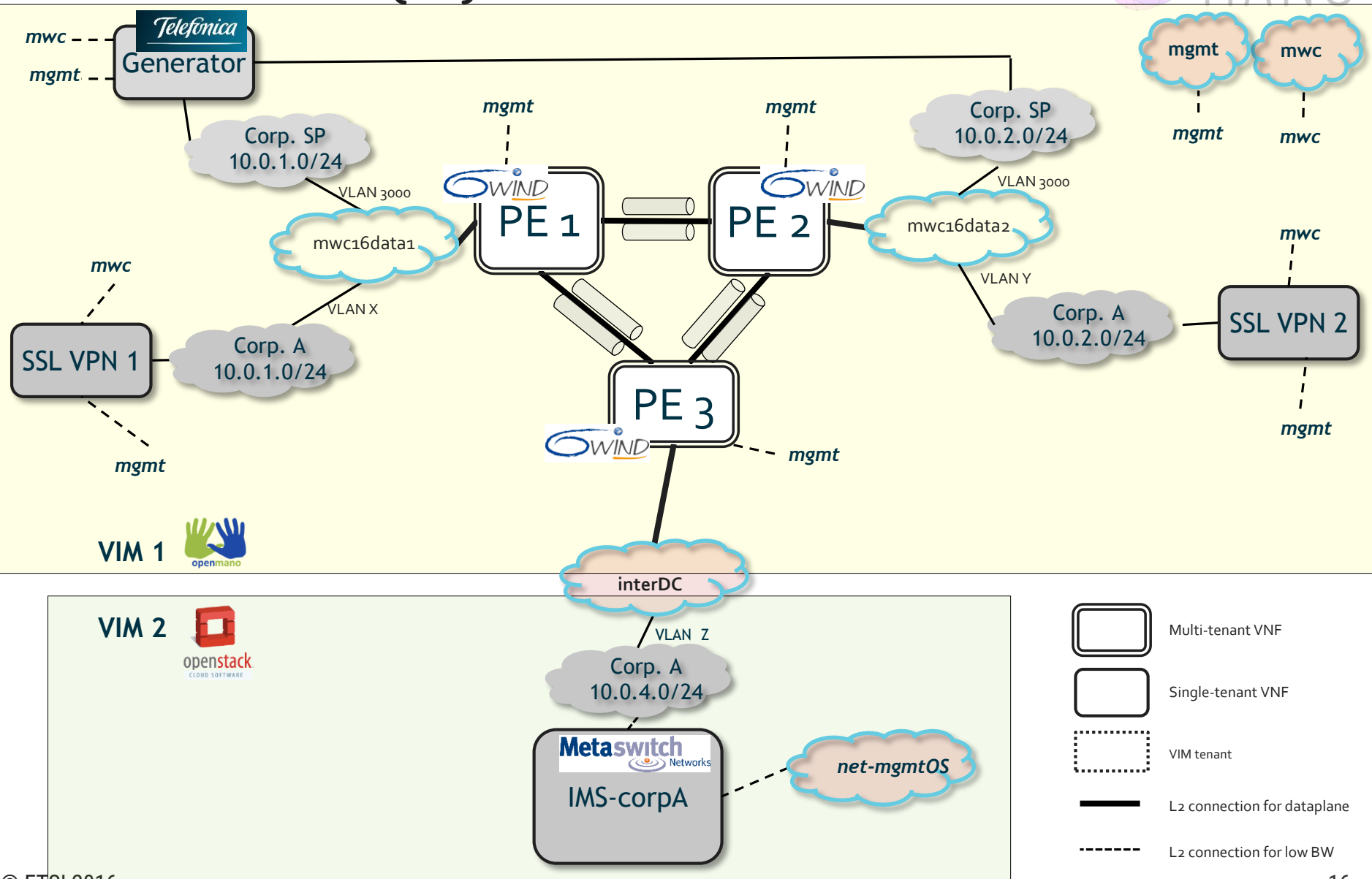
STEP 4: VPN FOR CORPORATION A IS CREATED (L2)



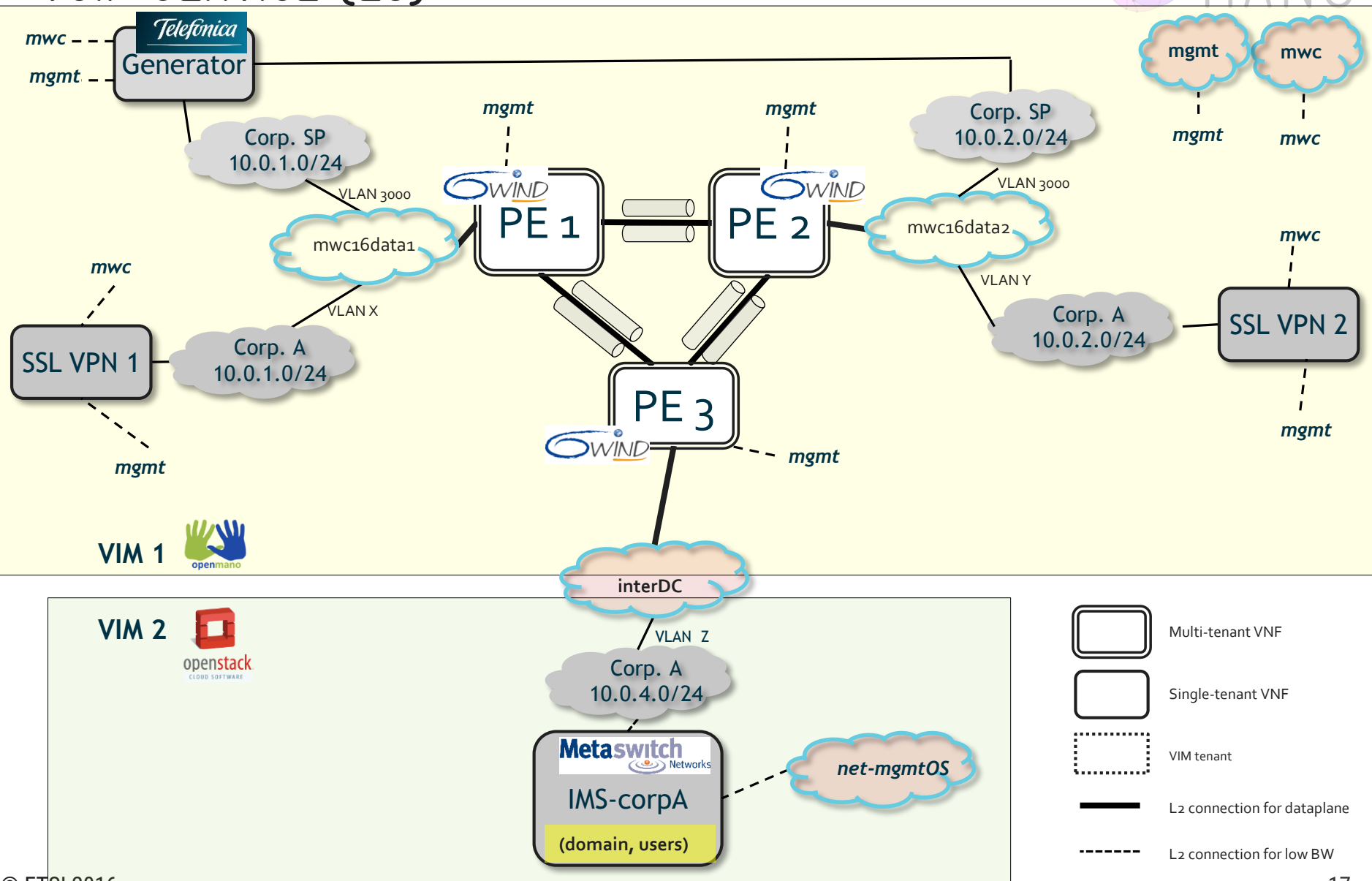
STEP 5: SSL ACCESS FOR CORPORATION A IS ADDED IN 2 SITES (L3)



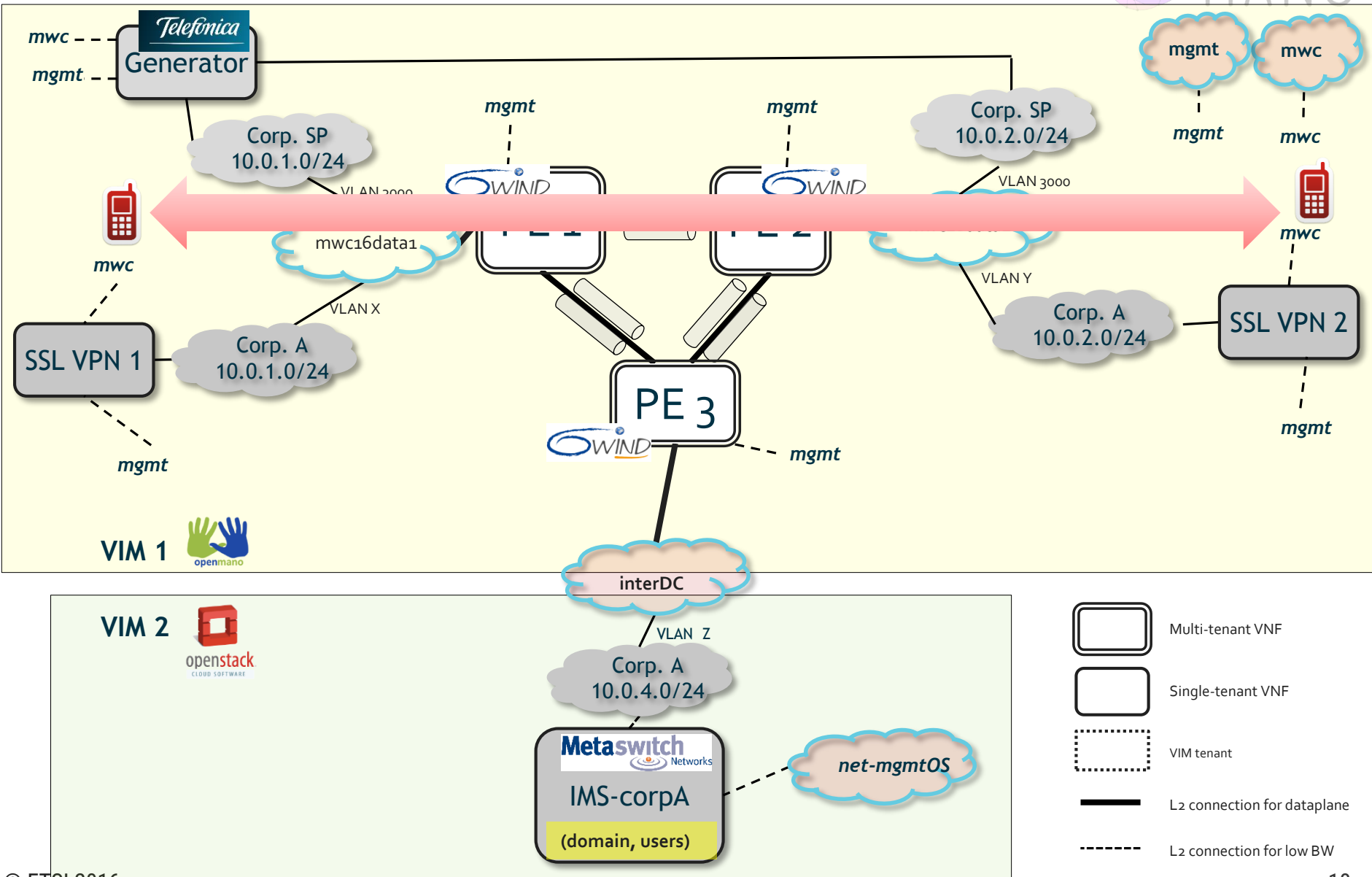
STEP 6: CORPORATE VOIP SERVICE ADDED TO CORPORATION A (L3)



STEP 7: USER IS PROVISIONED IN CORPORATE VOIP SERVICE (L3)



STEP 8: VOIP CALL IN CORPORATION A (L3)





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