

Anycast proximity deployment

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## 1. Use case introduction

Rapid changes of modern network technologies, multicloud strategy and security stack transformation accelerate business and keeps market agile in delivering more secure and reliable experience to the end customers. Versa Secure SDWAN solution being an essensial part of SASE architecture framework provides unified connectivity and security for end users, offices, Data Centers, Cloud Native Integration at the same time without limiting technological flexibility demanded in the comprehensive deployment scenario.

Lets consider a use case for the business critical service like internal DNS. The requirement is to have this service distributed across multiple Data Centers or Cloud instances and leverage IPv4 anycast address for simplified end host configuration. To improve user experience consuming this service, the goal of a network administrator is to ensure optimal proximity between offices and hosting locations while keeping geographical redundancy in case of disaster.

## 2. Topology overview

Below topology shows ACME organization that uses Versa Secure SDWAN solution. Company has a Global Data Center acting as a HUB location. For optimal routing and performance ACME uses Spoke-to-Spoke direct topology that allows direct data plane flows between Branches. For the important services ACME has also Local Data Centers in different regions. In the example topology below, Branch-1 and Anycast-DC1 is part of the Orange region while Branch-2 and Anycast-DC2 is part of the Purple region. In all Data Centers which are HUB-DC, Anycast-DC1 and Anycast-DC2 company hosting DNS Anycast servers with IP 192.168.100.10/24.

System Administrator has a requirement to deliver Anycast DNS service to the Branches based on the regional Local Data Center proximity. In case of disaster in the Local Data Center, Branches should failover to the Global Data Center. Important caution is that Branches should never failover to other regional Local Data Centers as the compute resources of the hosted services there are not sized to support extra load outside of its own region.







## 3. Configuration steps

As a first step lets verify the default Spoke-to-Spoke direct implementation and in particular the data flow from Branch-1 and Branch-2 to the Anycast service. To check the routing table of any Branch, from Versa Director UI navigate to Administration -> Appliances and click on any appliance hostname. Next go to Monitor -> Services -> Routes and select LAN routing table for unicast IPv4 prefixes.

			1152	100	2000 - 2000
Dest Prefix 🕈	Interface Name	Protocol	Age	Туре	Next Hop
+0.0.0.0/0	Indirect	BGP	00:25:48	N/A	10.255.0.4
192.168.10.0/24	Indirect	BGP	00:25:48	N/A	10.255.0.4
+192.168.10.0/24	Indirect	BGP	00:25:48	N/A	10.255.0.6
+192.168.11.0/24	vni-0/2.0	conn	00:26:02	N/A	192.168.11.1
+192.168.11.1/32	directly connected	local	00:26:02	N/A	0.0.0.0
192.168.20.0/24	Indirect	BGP	00:25:48	N/A	10.255.0.4
+192.168.20.0/24	Indirect	BGP	00:25:48	N/A	10.255.0.8
192.168.21.0/24	Indirect	BGP	00:25:27	N/A	10.255.0.4
+192.168.21.0/24	Indirect	BGP	00:25:27	N/A	10.255.0.12
+192.168.30.0/24	Indirect	BGP	00:25:48	N/A	10.255.0.4
192.168.100.0/24	Indirect	BGP	00:25:48	N/A	10.255.0.4
+192.168.100.0/24	Indirect	BGP	00:25:48	N/A	10.255.0.6
+192.168.100.0/24	Indirect	BGP	00:25:48	N/A	10.255.0.8





Picture 2 displays output of the LAN routing table at the Branch device. It has 2 active equal path to anycast destination subnet 192.168.100.0/24 with the next hop pointing to Anycast-DC1 and Anycast-DC2. Anycast destination with next hop of the HUB-DC installed as well, but it is not marked as an active route. Lets verify why?

Picture 3 displays output of the SDWAN Control-VR for Anycast destination. As we can see the Anycast subnet has been received from HUB-DC with BGP local preference 101 while from both Local Data Centers it has equal BGP local preference 110. ACME uses spoke-to-spoke direct topology and as a result Branch-1 in Orange region treat the Anycast destination subnet being equal from Anycast-DC1 and Anycast-DC2, but less preferred to the HUB Data Center.

```
admin@Branch-1-cli> show route table 13vpn.ipv4.unicast routing-
instance Versa-Control-VR receive-protocol bgp 192.168.100.0/24
exact
Routes for Routing instance : Versa-Control-VR AFI: ipv4 SAFI:
unicast
Routing entry for 192.168.100.0/24
  Peer Address : 10.255.0.0
  Route Distinguisher: 2L:102
  Next-hop : 10.255.0.6
  VPN Label
                  : 24704
  Local Preference : 110
                  : N/A
  AS Path
            : Igp
  Origin
  MED
                  : 0
  Community : 8000:1 8001:101 8009:8009 8010:1000
  Extended community : target:2L:2
  Preference : Default
  Weight
                  : 0
Routing entry for 192.168.100.0/24
  Peer Address : 10.255.0.0
  Route Distinguisher: 2L:103
  Next-hop : 10.255.0.8
  VPN Label
                  : 24704
  Local Preference : 110
  AS Path
                  : N/A
            : Igp
  Origin
                  : 0
  MED
  Community : 8000:1 8001:101 8009:8009 8010:1000
  Extended community : target:2L:2
  Preference : Default
                 : 0
  Weight
```



Routing entry for 192.3 Peer Address	168.100.0/24 : 10.255.0.0
Route Distinguisher	: 8002L:101
Next-hop	: 10.255.0.4
VPN Label	: 24704
Local Preference	: 101
AS Path	: N/A
Origin	: Igp
MED	: 0
Community	: 8009:8009 8009:8010 8012:101
Extended community	: target:2L:2 target:8002L:101
Preference	: Default
Weight	: 0
[ok][2021-10-15 05:24:0	00]
admin@Branch-1-cli>	

Picture 3.

Based on the default implementation using WorkFlow configuration wizard, DNS requests will be load balanced between the Local Data Centers. In case of disaster in all of them, failover will happen to the Global HUB Data Center.

To accomplish the target business requirement, network administrator can create prefix filters and manipulate BGP attributes at every Branch like it was in any legacy network. However, what elevation of complexity it brings when ACME has multiple regions with number of Local Data Centers and hundreds of Branches. Scalability and operations support will become even worse when we consider adding additional services with similar requirements as ACME has for Anycast DNS service. Lets get started and review alternative implementation approach using Versa Secure SDWAN solution.

First we start with Local Data Centers configuration where Anycast DNS service hosted. In this task we will modify Device Temlate that has been created from the Workflow wizard. From Director UI navigate to Configuration -> Templates -> Device Templates and open Anycast-DC template.



Ν	Ionitor	Configuration	Workflows	Administration	Analytics
Temp	lates 🝷 Devi	ces 🔻 Objects 🝷			
Q s	earch				
	Name			Organizations	
	<u>Anycast-DC</u>			Versa	
	<u>Branch</u>			Versa	
	HUB			Versa	

Picture 4.

Under Networking -> Virtual Routers, click on Versa-LAN-VR (Local Area Network organizations Virtual Router). Open Prefix Lists tab and create a new prefix list that will be located centrally in Local Data Centers configuration.

Edit Versa-LAN-VR				×
Virtual Router Details Static Routing	Prefix List Prefix List Prefix List Prefix List Name	🔁   🖂   🖿	示   ↑   ↓   ⊻   Ⅲ Sequence Number	▼   < 1 ) >   25
OSPF		Add	FIX LIST ADDED	
BGP PIM				_
IGMP Router Advertisement				
Prefix Lists Redistribution Policies				
Instance Import Policies				OK Cancel

Picture 5.

Set the name and permit Local Data Center Services subnets. In this example we match Anycast DNS subnet. Please note, the subnet ranges can be parameterized (gear icon) if required for other services. As a result the same configuration can be reused and scaled across multimple Local Data Centers with unique variables set for different services subnets. Click OK.

7 Add Prefix List X Prefix List Name\* Services Sequence Add Prefix List Add Sequence X Sequence Number\* Action 10 Permit Address Family IPv4 IP Address Max Prefix Length 🏼 🌻 IP Address/Mask 🏼 🏚 Min Prefix Length 🌼 192.168.100.0/24 Cancel

Picture 6.

Navigate to Redistribution Policies and create a new Policy. Set the Policy name and click + to create a new Term. Set the Term name and match Prefix Filter that has been created to identify Local Data Center Services subnets. Default action permit should be selected under the action tab.



				8
Edit Versa-LAN-Vi	Add Redistribution Policy			x x
Virtual Router D	Name*			
Static Routing	Terms (	<u>.</u> ∃ ⊡ @ ⊼ ^ ↓	<u>↓</u>   III   ▼   < 10 >   25	1 > 25
OSPF			Match	1
RIP	Add Redistribution Policy Add Term	ı		×
	Term Name*			
BGP	T1_Services_SDWAN			
PIM	Match Action			
IGMP	Protocol 🔅	Route Type	Address 🏚	
Router Advertise	Select 🗸	Select	IPv4 Or IPv6 Address/Prefix	
Drefix Lists	Area	OSPF Tag	Static Tag	
Ficily Lists				
Redistribution P	Well Known Community	Community 🌣	Extended Community 🌣	
Instance Import P	Prefix Filter	Nextbop Filter	Next Hop 🏚	
	Services V	Select	IPv4 Or IPv6 Address/Prefix	
	Ameritar Manitar Craun			Cancel
	Monitor	Monitor Group	State	
	Select V	Select	Select	
			OK	

Picture 7.

Click OK until Versa-LAN-VR menu. Next open Default-Policy-To-BGP under redistribution policies and create a new Term there. Set the Term name and match Prefix Filter that has been created to identify Local Data Center Services subnets.



9

Edit Redistribution Policy		×
Name* Default-Policy-To-BGP Terms Term Name Protocol		↓ ↓ 业 │ Ⅲ │ ▼ │ ◀ 1 ) ► │ 25 t Match Well Known Community
Add Redistribution Policy Add Term Name* TO-Block-Services Match Action		×
Protocol 🌣 Select	Route Type	Address 🌣 IPv4 Or IPv6 Address/Prefix
Area	OSPF Tag	Static Tag
Well Known Community 🌣	Community 🌣	Extended Community 🌣
Prefix Filter Services	Nexthop FilterSelect	Next Hop 🌣 V IPv4 Or IPv6 Address/Prefix
O Monitor O Monitor Group		
Monitor Select	Monitor Group	State Select
		OK Cancel

Picture 8.

Under the action tab set action as reject and click OK.





Picture 9.

Move the newly created Term on top and click OK to save all changes for the Versa-LAN-VR.



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										11
Edit Versa-LAN-VR									>	×
Virtual Router De	Edit R	edistribution l	Policy					×		
Static Routing	Name	*							1 > 25	
OSPF	Defa	ult-Policy-To-BC	ĞΡ							
סוס	Terms			$\bullet \mid \bullet \mid$	╚   不	↑   ↓	∓   Ⅲ   .	▼   < 1	L.	
RIP		Taura Maraa			May	Tan	Match			
BGP		Term Name	Protocol	Address	MOVE	Top		Well Known Community	N	
PIM		T0-Block-S								
IGMP		T1-Paired-T	direct	169.254.0.0/16						
IGINIF		T2-DIRECT	direct							١.
Router Advertiser		T4-BGP	bgp							
Prefix Lists				1						
Redistribution Po		_	_							
Instance Import F								OK Cancel		
								ОК	Cancel	

Picture 10.

Under Networking -> Virtual Routers create a new DC-Services-Export virtual routing instance.

VERSA															🔎 🗐 🛈 Administrator 🗸
* NETWORKS	Monitor Configuration Workflows Administration Analytics								Commit Template						
Home Anycast-DC		× )												Configu	ration > Versa > Device Templates 🔿
* 🗘 🔅 🗞		Search											]	<b>e</b>   (	1 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1
Interfaces		Name	View	Interfaces	Networks	Static Routes	OSPF	OSPF v3	BGP	PIM	IGMP	RIP	Router Advertisement	Add	Redistribution Policies
@ WLAN		INET-Transport-VR	0	tvi-0/602.0	INET				3001						ST-Policy
T1/E1 Auth		MPLS-Transport-VR	0		MPLS	0.0.0.0/0									
S Virtual Wires Global Routers		Versa-Control-VR	0	ptvi513 tvi-0/2.0 tvi-0/3.0					1						Control-VR-Policy
<ul> <li>Virtual Routers</li> <li>Virtual Switches</li> </ul>		Versa-LAN-VR	0	tvi-0/603.0	Anycast-LAN Versa-LAN				3014						Default-Policy-To-BGP
IP-SLA >															

Picture 11.

Under Virtual Router Details configure instance name, set Instance type as Virtual routing forwarding instance, set custom Global VRF ID, parametarized Route Distinguisher value and assign VRF Export Target as shown at Picture 12.



				12
Configure Virtual Router				×
Virtual Router Details	Instance Name* 🌣			
Static Routing	Description			
OSPF				
RIP	Instance type Virtual routing forwarding inst 🗸	Global VRF ID 🌣 18001	Interfaces/Networks	+-
BGP	MPLS transport routing instance 🔅	Route Distinguisher 🔅		_
PIM	Versa-Control-VR	18001L:{\$v_Site_IdsiteSiteID}		_
IGMP	VRF Import Target 🌣	VRF Export Target 💠 target:18001L:{\$v_Site_IdsiteSiteIE		- 1
Router Advertisement	VRF Both Target 🌣	1		
Prefix Lists				
Redistribution Policies				
Instance Import Policies				
			ОК	Cancel

Picture 12.

Next open Redistribution Policies and create a new Policy.

Configure Virtual Router				×
Virtual Router Details	General Redistribute T	ō		
Static Routing	Redistribution Policies		⊼   ↑   ↓   <u>↓</u>   Ⅲ   ▼   •	( 1 ) ▶ 25
OSPF	Name	Add	Term	_
RIP		NO REDISTRIBUTION	N POLICY ADDED	
BGP				
PIM				
IGMP				
Router Advertisement				
Prefix Lists				
Redistribution Policies				
Instance Import Policies				
			OI	Cancel

Picture 13.



Configure Virtual	Add Redistribution Policy	×	×
Virtual Router D	Name* T1-Services-Policy		
Static Routing	Terms	25	1 ) 25
OSPF	Term Name Add Match		
RIP	Protocol Ad	munity	
BGP	NO TERM ADDED		
PIM			
IGMP			
Router Advertise		- 1	
Prefix Lists			
Redistribution P	ОК Са	ncel	
Instance Import F	Policies		
			Cancel

Set Redistribution Policy name and click + to create a new term.

Picture 14.

Set a term name, action accept and assign Local Preference 110. Match criteria leave as default (match any).





Picture 15.

Click OK until Virtual router menu appear. Navigate to "Redistribute to" tab and create a new redistribution for IPv4 unicast, Destination BGP and newly created Policy Name.



								15
Configure Virtual	Add Redistribute	То				×		×
Virtual Router D Static Routing	From RIB* inet-unicast-rib	~	Destination* bgp	~	Policy Name* T1-Services-Policy	$\sim$	■1■ ▶	25
OSPF					ОК	Cancel	ame	
RIP				NO RECO	ORDS ADDED			
BGP								
PIM								
IGMP								
Router Advertise	ment							
Prefix Lists								
Redistribution Po	olicies							
Instance Import	Policies							

Picture 16.

Click OK and go to Instance Import Policies. Click + to create a new instance import policy. Select import from the Versa-LAN-VR IPv4 address family and previously created Policy Name inside Versa-LAN-VR.

Edit DC-Services-Export			×
Virtual Router Details	From Instance View	Family   Policy Name   From	III   ▼   < 1 >   25 n safi To safi
Add Import Policies			×
From Instance* Versa-LAN-VR From safi unicast	Family inet To safi Vunicast	Policy Name To-DC-Sevices-Exp	oort 🗸
			OK Cancel
Prefix Lists Redistribution Policies Instance Import Policies			
			OK Cancel

Picture 17.

Lastly go to Others -> Oraganization -> Limits and edit your organization limits to add newly created routing instance.



											16
Home Anycast-DC			~								
* • •	\$∂	Q s	earch								
Organization	$\sim$		Ormaniana Marra	Angliance Orman	Farmanian Managa	Comisso		Canadas Nada Casura	Comine Nede Com	un Clus	QoS
⊖+ ALG			Organization Name	Appliance Owner	Enterprise Names	Services		Service Node Groups	Service Node Gro	Peak Rate (pps)	Peak Rate (Kbps)
Profiles	>					cgnat					
U Limits	_		Versa	True		nextgen-firev	vall	default-sng			
Messaging Service						Suvvari					
Radius Servers											
C Authentication Pro	file						Edit Organi	ization Limit - Versa			×
itti dot1x	>										
🛄 System	>						General	Traffic Identification	Resources Serv	vices Qo5	
ooo Elasticity	>						🗌 Availab	le Routing Instances		Owned Routing Instances	+-
🚓 Service Nodes	>						🗌 Versa-C	Control-VR		Versa-Control-VR	
Syslog Server							🗌 Versa-L	AN-VR		Versa-LAN-VR	
Alarms							DC-Serv	vices-Export		DC-Services-Export	
VINFS VINFS	>						Please sel	lect newly added Routing Instan	ce from Available Routin	g Instance before selecting in Own	ed Routing Instance
Config Snapshots							🗌 Availab	le Provider Organizations	+-	Available Networks	+-
										INET	
									0	MPLS	
										Versa-LAN	
											OK Cancel

Picture 18.

Finally commit the above changes to all Local Data Centers. As a result of this configuration, Local Data Centers Services subnets will be advertised with unique Extended Community to SDWAN network. Unique value for Extended Community will be set by Versa Director automatically from the second part of its value which is dependent on the site id 18001L:{**\$v\_Site\_Id\_\_siteSiteID**}.

In the second part of this design implementation we will leverage Service Templates. The goal of the Branch configuration is to import Anycast DNS service subnet from its own Regional Local Data Center.

To create a new service template navigate to Configuration -> Templates -> Service Templates from the Director UI. Click + to add a new template. Set the template type as general, select your organization and provide a name.

Monitor Config	uration Workflows	Administration	Analytics					
Templates * Devices * O	bjects *							
Organization Service Temp	lates Shared Service Template	5						_
Q Search								
Name	0	rganizations		Snapshots	View	c	ategory	Lock Scope
						NO SERVICE TEMPLATE ADDED		
				Add Service Tem	plate		×	
				Name*	Policy	Organization*		
				Туре	roncy	Dunamic Tenant Config		
				General				
						ок	Cancel	

Picture 19.

Click OK to create a new Service Template. Open template and go to Networking -> Virtual Routers. Click + to add a new virtual router.



Configure Virtual Router			×
Virtual Router Details	Instance Name* 🌣 Versa-LAN-VR		· · · · · · · · · · · · · · · · · · ·
Static Routing	Description		
OSPF			
RIP	Instance type Virtual routing forwarding inst 🗸	Global VRF ID 🌣	Interfaces/Networks + =
BGP	MPLS transport routing instance 🔅	Route Distinguisher 🏼 🌣	
PIM	VRF Import Target 💠	VRF Export Target 🔹	
IGMP	{\$v_Versa-LAN-VR_vrf_Import_target		
Router Advertisement	VRF Both Target 🏼 🌣		
Prefix Lists			
Redistribution Policies			
Instance Import Policies			
			OK Cancel

Picture 20.

Set the Instance name. It should match to your LAN Virtual Router instance name used in Branches. Select Instance type as a Virtual routing forwarding instance. Click on the gear icon to parameterize VRF Import Target value. This will set a variable to VRF Import Target value that will be used in the device Bind Data. Parameterizing it will give a flexibility to reuse Anycast Service Template across Branches in different Regions. Click OK.

To allow usage of the created Virtual Router in a Service Template, we need to set organization-specific limits. Navigate to Others -> Organization -> Limits and open your Organization by clicking on its name. In the pop up window open Resources and add new LAN-VR to Available and Owned routing instances. Click OK. Service Template for Local Data Center Services is ready to use at ACME Branches.



		м	onitor	tion Workflows	Administration	Analytics				
		IVI	officor Configura	WOI KHOWS	Auministration	Analytics				
Home Anycast_Bran	ich_Pol	icy								
* 🗘 🔹	<del>\$</del> }	Q Se	sarch							
Organization	$\sim$		Ourse land an Name	handling of the second	European Married	and the	and the block of the second			Q
()+ ALG			Organization Name	Appliance Owner	Enterprise Names	Services	Service Node Groups	Service Node Group Clus	Peak Rate (pps)	Peak Rate (Kb
C Profiles	>		<u>Versa</u>	True		sdwan				
Limits										
Settings										
Messaging Service										
Radius Servers	ile									_
dot1x	ile l					Edit Organizatio	n Limit - Versa			×
System						General Tr	affic Identification Reso	urces Services OoS		
- Flasticity	(									
a Senvice Nodes	(					Available Ro	uting Instances	+ Owned Rout	ing Instances	+-
Surlog Server	1					Versa-LAN-V	R	Versa-LAN-V	R	
Alarms										_
NNFs	>									_
						Please select ne	wly added Routing Instance from	Available Routing Instance before	selecting in Owned Routing Inst	ance
Config Snapshots						Available Pro	ovider Organizations	+ - Available Ne	tworks	+-
										_
									ок	Cancel

Picture 21.

To apply a new Service Template to our Branches navigate to Configuration -> Devices -> Device Groups. In this setup ACME uses a single device group for Branches in all Regions. If your Organization uses multiple Device Groups repeat the steps below for all of them.

	Monitor	Configuration	Workflows	Administration	Analytics
Search	Templates 🔻 D	evices 🔻 Objects 🔻			
- A Versa	Q Search				
	Name			Organizations	
	Anycast-D	G		Versa	
	Branch-DO	<u>i</u>		Versa	
	HUB-DG			Versa	

Picture 22.

In the Device Group configuration click on Device Service Templates Association button.



							19
Edit Device Group							×
Name*			Post Staging Template Asso	ociation(2) Devices(2)			
Branch-DG					₽		
Description			Tenant	Category	Te	emplate	
Tags			Versa	DataStore	V	ersa-DataStore	
			Versa	Main	В	ranch	_
Organization * Versa Staging Template Select Contact Information Email	<ul> <li>Enable Two Factor Auth</li> <li>Post Staging Template</li> <li>Branch</li> <li>Phone</li> </ul>	CA In Data Center General Select					l
<ul> <li>URL Based ZTP</li> <li>Pre Staging</li> <li>Staging</li> </ul>	Controller	VPN Profile					l
One Time Password							- 8
File Upload BW Limit (Kbps)	File Upload	'imeout (Min)					
						ОК Сан	ncel

Picture 23.

New window will pop up. Click on + to add a new service template association. Select your template and click OK.

	Versa	Add Post Staging Template Association		×
	Versa	Tenant* Categor	7* Template*	
Edit P	ost Staging Te	Versa 🗸 Genera	Anycast_Branch_Policy	×
To an	range the orde		ок	Cancel □ □   示   ↑   ↓   ½   Ⅲ   ▼   < □>   25
	Tenant		Category	Template
	Versa		DataStore	Versa-DataStore
	Versa		Main	Branch
				OK

Picture 24.



After adding the Service Template click OK to finish Device Group Configuration. Final step is to configure a Bind Data for the Branch devices and commit. Navigate to Workflows -> Devices -> Devices and add a Bind Data to your Branches.

For the Branch-1 use VRF Export Target assigned in the LAN-VR-Export from the Global Data Center HUB configuration as well as VRF Export Target assigned in the DC-Services-Export at the Local Data Center from Orange Region. For the Branch-2 use VRF Export Target assigned in the LAN-VR-Export from the the Global Data Center HUB as well as VRF Export Target assigned in the DC-Services-Export at the Local Data Center from Purple Region. Click Redeploy to deply your devices with a new LAN-VR import target values.

Add Device - Branch-1	Add Device - Branch-1 X									
Basic Location Infor	mation Device Service T	emplate Bind Data								
User Input Auto-Generated										
Post Staging Template - Branch										
Davies News	Carriel Number	Interfa	ices with Mask							
Device Name	Serial Number	MPLS_IPv4staticaddress	Versa-LAN_IPv4staticaddress	Versa_LAN-POOL-Versa-LAN_						
Branch-1	Branch-1	172.16.0.135/24	192.168.11.1/24	192.168.11.10						
Service Template Variable	2	Template : Branch		Device Group : Branch-DG						
Service Templates :	nycast_Branch_Policy	$\sim$								
User Input Auto-Genera	ited Clone Clear									
			Default Gate	way						
Device Name	Serial Nu	mber	Versa-LAN-VR_vrf_Import_targetvrlm	portTarget						
Branch-1	Branch-1 Branch-1		target:16002L:101 target:18001L:102							
		L								
Back			Cancel	Save Redeploy						



Add Device - Branch-2	Add Device - Branch-2 x									
Basic Location Infor	mation Device	e Service Te	mplate	Bind Data						
User Input Auto-Generated										
Post Staging Template - Branch										
				Interfa	ces with Mask					
Device Name	Serial Number		MPLS_IP	/4staticaddress	Versa-LAN_IPv4staticaddress	Versa_LAN-POOL-Versa-LAN				
Branch-2	Branch-2		172.16.0	0.136/24	192.168.21.1/24	192.168.21.10				
Service Template Variable	2			Template : Branch		Device Group : Branch-DG				
Service Templates :	nycast_Branch_Po	olicy	$\sim$							
User Input Auto-Genera	ted Clone	Clear								
					Default G					
Device Name		Serial Num	nber	, North Contraction (1997)	/ersa-LAN-VR vrf Import target v	rImportTarget				
Branch-2	Branch-2 Branch-2				target:16002L:101 target:18001L:1	03				
Back	Back Cancel Save Redeploy									
				Picture 25.						

Commit new changes to your devices.



Comm	nit Template to Devid	ces					×		
Organization* Versa Select Devices By ? Template O Service Template Select Template* Anycast_Branch_Policy				Schedule Commit ? YYYY/MM/DD HH:mm:ss III Retry on Device Unreachable Auto Merge Overwrite ? Reboot ?					
	Devices	Device Type	Template State	Appliance State	Device Modified	Differences	Association		
□ 🔽	Branch-DG								
	Branch-1	Branch	OUT_OF_SYNC	IN_SYNC	<b>S</b>	0	Li .		
	Branch-2	Branch	OUT_OF_SYNC	IN_SYNC	<b>S</b>	0	6		
							Cancel		

Picture 26.

Lets verify. From Director UI navigate to the Monitor -> Devices -> Branch-1. As per output below, Branch-1 has primary route via Anycast-DC1 and backup route via HUB-DC while route via Anycast-DC2 in Purple Region is not installed. Branch-2 has primary route via Anycast-DC2 and backup route via HUB-DC while route via Anycast-DC1 in Orange Region is not installed.



							23
Summary Services System Tools							Shell Config Status Upgrade Subscription
Branch-1 : 10.255.0.10	Location 💡 Poland						Reachable
Services	G Secure Access	Networking	BGP OSPF-3 BFD	9 0 000 000 000 000 000 000 000 000 000	2 t. S AR	P IP-SLA PIM IGMP	dot tx RIP Switching LLDP TWAMP
Versa-LAN-VR V Unicast V IPv4						Searc	ch III   ▼   < 1 >   25 √
Dest Prefix 🗢	Interface Name	Protocol	Age		Type		Next Hop
+0.0.0,0/0	Indirect	BGP	01:57:33		N/A		10.255.0.4
192.168.10.0/24	Indirect	BGP	01:57:33		N/A		10.255.0.4
+192.168.10.0/24	Indirect	BGP	01:57:33		N/A		10.255.0.6
+192.168.11.0/24	vni-0/2.0	conn	02:01:25		N/A		192.168.11.1
+192.168.11.1/32	directly connected	local	02:01:25		N/A		0.0.0.0
192.168.20.0/24	Indirect	BGP	00:27:43		N/A		10.255.0.4
+192.168.20.0/24	Indirect	BGP	00:27:44		N/A		10.255.0.8
192.168.21.0/24	Indirect	BGP	01:57:33		N/A		10.255.0.4
+192.168.21.0/24	Indirect	BGP	01:57:33		N/A		10.255.0.12
+192.168.30.0/24	Indirect	BGP	01:57:33		N/A		10.255.0.4
192.168.100.0/24	Indirect	BGP	01:57:33		N/A		10.255.0.4
+192.168.100.0/24	Indirect	BGP	00:00:19		N/A		10.255.0.6
nmary Services System Tools	THE SYS						Shell Config Status Upgrade Subscription
Branch-2 : 10.255.0.12	Location 💡 Germany						Reachable
Services		Networking					
8 <sup>4</sup> 9 <sup>4</sup> SDWAN     NGFW       CGNAT     SDLAN	Secure Access	Interfaces Rou	es BGP OSPF OSPFv3 BFD	OHCP     DNS Stats     CO	s ta s ARP	IP-SLA PIM IGMP	dot1x RIP Switching LLDP TWAMP
Versa-LAN-VR V Unicast V IPvd	<b></b>					Search	h III ▼ 4 1 > 25 ∨

VerseLANAR 🗸 (Incluse 🗸 1994 V) (Search III   🖞   4 💶 >   🕭 V					
Dest Prefix 🕏	Interface Name	Protocol	Age	Туре	Next Hop
+0.0.0.0/0	Indirect	BGP	03:45:02	N/A	10.255.0.4
192.168.10.0/24	Indirect	BGP	03:45:02	N/A	10.255.0.4
+192.168.10.0/24	Indirect	BGP	03:45:02	N/A	10.255.0.6
192.168.11.0/24	Indirect	BGP	03:45:02	N/A	10.255.0.4
+192.168.11.0/24	Indirect	BGP	03:45:02	N/A	10.255.0.10
192.168.20.0/24	Indirect	BGP	02:15:12	N/A	10.255.0.4
+192.168.20.0/24	Indirect	BGP	02:15:12	N/A	10.255.0.8
+192.168.21.0/24	vni-0/2.0	conn	03:48:53	N/A	192.168.21.1
+192.168.21.1/32	directly connected	local	03:48:53	N/A	0.0.0.0
+192.168.30.0/24	Indirect	BGP	03:45:02	N/A	10.255.0.4
192.168.100.0/24	Indirect	BGP	03:45:02	N/A	10.255.0.4
+192.168.100.0/24	Indirect	RGP	01:47:46	N/A	10.255.0.8

Picture 27.

## 4. Conclusions

Based on the custom Anycast proximity requirement we learned how Versa Secure SDWAN solution provides technological flexibility using Single Pain of Glass orchestration platform. Network administrator can customize data plane flows and influence globally predefined topology based on the custom needs in an automated way. Additionally, we saw an example how to scale heirarhical configuration across hundreds or thousands of WAN Edge devices with using Service Templates.

