2. VMware AVI Global Server Load-Balancer

This is possibly one of the most undocumented integrations in our Horizon Stack. And we look forward to sharing this exciting lab with you.

Part 1 Setting up Global DNS

Adding DNS Entries. In this section, we will create DNS Entries for both Site1 and Site2. These DNS Entries will be used as VIP in AVI GSLB Configurations later.

Part 1: Section 1: Setting up DNS Entries

Corp DNS Eritres	Entity Description	IP Address
dns-a.euc-livefire.com	Corp DNS for Site1	172.16.20.101
dns-b.euc-livefire.com	Corp DNS for Site2	172.16.50.101



1. On your ControlCenter server

- From the desktop Shortcut or TaskBar,
 - Launch DNS
 - From the DNS Manager
 - Expand Forward Lookup Zones on the left hand side of DNS Menu
 - Expand euc-livefire.com



- 2. In the DNS Manager Window
 - Right Click on euc-livefire.com
 - Select New Host (A or AAAA)...

dns-a Pro	perties					?	\times
Host (A)	Security						
Host (us	es parent (domain if le	eft blank):				
dns-a							
Fully qu	alified dom	ain name (FQDN):				
dns-a.e	uc-livefire.	moc					
IP addre	555:						
172.16	20.101						
🔽 Upd	ate associa	ted pointe	r (PTR) reco	brd			
			OK		Cancel	Ac	ply

- 3. In the New Host Window
 - In the **Name**
 - Type dns-a
 - In the IP address:
 - Type **172.16.20.101**
 - Click Add Host

New Host	×
Name (uses parent domain name if blank):	
dns-b	
Fully qualified domain name (FQDN):	
dns-b.euc-livefire.com.	
IP address:	
172.16.50.101	
Create associated pointer (PTR) record	
Allow any authenticated user to update D same owner name	NS records with the
Add Hos	st Cancel

- 4. Repeat the steps to add **Worker Node** for **Site-1** in the DNS Record
 - In the New Host Window
 - In the Name
 - Type dns-b

- In the IP address:
 - Type 172.16.50.101
 - Click Add Host
 - Close the new host window.

dns-a	Host (A)	172.16.20.101	
dns-b	Host (A)	172.16.50.101	

- 5. In the DNS Manager Console
 - Verify the following
 - That all entries are added in the DNS record as shown in the image above.
 - That your entries are created in the **euc-livefire.com** Forward Lookup Zones

Creating Delegation. In this section, we will create Delegation using the DNS created in Section 1 for Site1 and Site2

Part 1: Section 2: Setting up Zone Delegation



- 1. In the DNS Manager Window
 - Right Click on euc-livefire.com
 - Select New Delegation...



- 2. In the New Delegation Wizard
 - Click Next

Ne	w Delegation Wizard	×
	Delegated Domain Name Authority for the DNS domain you supply will be delegated to a different zone.	
	Specify the name of the DNS domain you want to delegate.	
	Delegated domain:	
2	corp	
	Fully qualified domain name (FQDN):	
	corp.euc-livefire.com	
	< Back Next >	Cancel

3. In the **New Delegation Wizard**

- Under Delegated domain
 - Туре
 - corp
 - Fully qualified domain name (FQDN), should show:
 - corp.euc-livefire.com
 - Click Next

New Delegation Wizard	×						
Name Servers You can select one or more name servers to host the delegated zone.							
Specify the names and IP addresses of the DNS servers you want to have host the delegated zone.							
Server Fully Qualified Domain Name (FQDN) IP Address							
Add Edit Remove							
< Back Next > Ca	ncel						

4. In the Name Servers

Click Add

erver fully qualified domain nam	e (FQDN):	
dns-a.euc-livefire.com		Resolve
Addresses of this NS record:		
IP Address	Validated	Delete
<click ad<="" add="" an="" here="" ip="" td="" to=""><td>dress></td><td></td></click>	dress>	
3 172.16.20.101	A timeout occurred during validation.	Up
		Down

- 5. In Server fully qualified domain name (FQDN):
 - Type
 - dns-a.euc-livefire.com
 - Click Resolve
 - Note: It will NOT resolve unless we create the GSLB
 - Click OK

New Name Server Record		×
Enter the name of a DNS server	that is authoritative for this zone.	
Server fully qualified domain nam	e (FQDN):	
dns-b.euc-livefire.com		Resolve
IP Addresses of this NS record:		
IP Address	Validated	Delete
<click ad<="" add="" an="" here="" ip="" td="" to=""><td>dress></td><td></td></click>	dress>	
2 172.16.50.101	A timeout occurred during validation.	Up
		Down
	ОК	Cancel

6. In the Name Servers

Click Add Again

- In Server fully qualified domain name (FQDN):
 - Type
 - dns-b.euc-livefire.com
 - Note: It will NOT resolve unless we create the GSLB
 - Click Resolve
 - Click OK

Name Servers		~ 1	
You can select one or m	ore name servers to host the d	elegated zone.	9
Specify the names and I delegated zone.	P addresses of the DNS server	s you want to have host the	
Name servers:			
Server Fully Qualified [Jomain Name (FQDN)	IP Address	
dns-a.euc-livefire.com		[172, 16, 20, 101]	
dns-b.euc-livefire.com		[172.16.50.101]	
	< Bade	Next 1 Cancel	
ew Delegation Wizard	Completion the New Delega	tion Witzerd	>
aw Delegation Wizard	Completing the New Delega	tion Wizard	>
ew Delegation Wizard	Completing the New Delega You have successfully comp Wizard.	tion Wizard leted the New Delegation	>
ew Delegation Wizard	Completing the New Delega You have successfully comp Wizard. You specified the following s	tion Wizard leted the New Delegation bettings:	>
ew Delegation Wizard	Completing the New Delega You have successfully comp Wizard. You specified the following i Name: corp.euc-livefire.	tion Wizard leted the New Delegation bettings: com	>
ew Delegation Wizard	Completing the New Delega You have successfully comp Wizard. You specified the following i Name: corp.euc-livefire. To close this wizard and cre	tion Wizard letted the New Delegation settings: com ate the delegation, click Finish.	>
ew Delegation Wizard	Completing the New Delega You have successfully comp Witard. You specified the following i Name: corp.auc.itvefire. To close this witard and cre	tion Wizard letted the New Delegation settings: com ate the delegation, click Finish.	>
ew Delegation Wizard	Completing the New Delegar You have successfully comp Wizard. You specified the following in Name: corp.euc-livefire. To close this wizard and cre	tion Wizard leted the New Delegation settings: com ate the delegation, click Finish.	>
ew Delegation Wizard	Completing the New Delega You have successfully comp Witard. You specified the following is Name: corp.eu.elvefire. To dose this wizard and cre	tion Wizerd leted the New Delegation settings: com ate the delegation, click Finish.	>
ew Delegation Wizard	Completing the New Delega You have successfully comp Witard. You specified the following i Name: corp.euc.4vefire. To close this wizard and cre	tion Wizard leted the New Delegation wettings: com ate the delegation, click Finish.	>
ew Delegation Wizard	Completing the New Delega You have successfully comp Witard. You specified the following in Name: corp.euc.ivefire. To close this wizard and cre	tion Wizerd leted the New Delegation settings: com ate the delegation, click Finish.	>
ew Delegation Wizard	Completing the New Delega You have successfully comp Witard. You specified the following in Name: corp.euc-livefire. To close this wizard and cre	tion Wizard leted the New Delegation bettings: com ate the delegation, click Finish.	>

- 7. In New Delegation Wizard
 - Click Next
 - Click Finish



8. The **Corp Delegation** should look like shown in the picture above

Part 2 Setting Up AVI GSLB

Site Configuration. In this section, we do Site Configuration in AVI

Part 2: Section 1: Site Configuration on AVI Controller



- 1. On your ControlCenter Server
 - Open your Chrome Browser for Site-1
 - In the **Address bar**, Enter or browse from the bookmark
 - To https://avicontroller.euc-livefire.com
 - Under Username, enter admin and VMware1!VMware1! as the password
 - Click Login

 Clouds Cloud Resources GSLB GSLB 	Applications Operations Te	emplates Infrastructure	administration
GSLB: Off 3 GSLB: Off 3 GSLB 3 GSLB √	*		
 Clouds ⊘ Cloud Resources > ⊗ GSLB × 	② Dashboard	GSLB: Off	
⊘ Cloud Resources > ⊗ GSLB ∨	Clouds		3
© GSLB ✓	⊘ Cloud Resources >		0
	⊗ GSLB ∨		

- 2. In the NSX-ALB Console
 - Navigate to Infrastructure > GSLB > Site Configuration
 - Click on the Pen symbol on the right to enable GSLB

w GSLB Configuration		
Name* 💿		
gslb	🗹 Active Member 😡	
Username* 💿	Password* 😡	
admin		
Replication Mode		
Continuous Adaptive		
IP Address*	Port* 😡	
192.168.210.71	443	
+ Add IP Address		
C D C La contra D		
GSLB Subdomain @		
euc-iivenre.com		
+ Add GSLB Subdomain		
Advanced Settings		
Client Group IP Address Type 💿	Health Monitor Proxy 💿	
D.H.L.	+ Health Monitor Proxy	

- 4. In the New GSLB Configuration Window
 - Name: GSLB
 - Username: admin
 - Password: VMware1!VMware1!
 - IP Address: 192.168.210.71 (Default)
 - Port: 443 (Default)
 - GSLB Subdomain: euc-livefire.com
 - Client Group Ip Address Type : Public (Default)

Click Save

Applications Operations T	emplates	infrastructure	Administration								
×										Add New Ste	Add Third party Site
 Dashboard Clouds Cloud Resources 		Subdomains euc-livefire.com	delegated to GSLB:								18
© GSLB v Site Configuration	Ac	tive Memb	ers (Continuous I	Replication)							
Upload Geo Files	Displ	aying titlem									
Federation Checkpoints		Name	Туре	IP Address	Port	Usemame	DNS VSes	Site Status	SW Version	Replication	
		gslo	Leader (current)	192,168,210,71	443	admin		•	2113	Sync Not Applicable	1

5. The **Site Configuration** should look as shown in the pic above.

Configure Geo Profile. Since our Multi-Site lab is in same physical location, we need to update the AVI GEO DB with a custom configuration file so that client request coming from Site1 should be denoted as Bangalore and client request coming from Site 2 as Seattle.

Part 2: Section 2: Geo Profile configuration on AVI

vmw NSX-ALB		
Applications Ope	rations Temp	lates Infrastructure Administration
	«	
② Dashboard		Please select the Geo file to upload.
Clouds		newgeo.tar.gz Select File Avi V Upload File
⊘ Cloud Resources	> -	
GSLB	~	
Site Configuration		
Geo Profile		3
Upload Geo Files	2	
Federation Checks	points	

- 1. In the AVI admin page
 - Go to
 - Infrastructure > Upload Geo Files
 - Under Please select the Geo files to upload
 - Click Select Files
 - Navigate to Desktop > Software >AVI

- Select newgeo.tar.gz file
- Click **Open** to upload the file
- From the **dropdown** menu
- Select AVI as a format as shown in the Button 4
- Click Upload File

vmw NSX-ALB							
Applications Operations	Templates	Infrastructure	Administration				
<	×						
② Dashboard		Please select the	Geo file to upload.				
Clouds		newgeo.tar.gz	Select File	Avi	~	Upload File	
⊖ Cloud Resources	>	Upload Complete					
⊘ GSLB	/		100	0%			
Site Configuration							
Geo Profile							
Upload Geo Files							
Federation Checkpoints							

- 2. Once the upload is complete
 - It should denote as Upload Complete 100%

V mj ipanemenuovip	
vmw NSX-ALB	
Applications Operations	Templates Infrastructure Ad
 ② Dashboard △ Clouds ② Cloud Resources > ○ Cloud Resources 	Geo Profile CREATE Name
Site Configuration Geo Profile Upload Geo Files Federation Checkpoints	

- 3. Under Infrastructure
 - Navigate to Geo Profile
 - In the **Geo Profile** tab
 - Click CREATE

New Geo Profile: NewGeo			
General Entries			
General			
Name [®] () NewGeo			
Entries			
GeoDB Entries (1)			
File Name	Priority	Format	
newgeo.tar.gz ~	10	Avi	~
		ltems per page	10 ~

4. In New Geo Profile window

- Under General
 - Name : NewGeo
- Under Entries
 - From File Name Dropdown
 - Select newgeo.tar.gz file which we uploaded in Part 2: Section 2: Step 1
 - Priority : 10 (Default)
 - Format: AVI (Default)
 - Click SAVE

vmw NSX-ALB		adi	min 🗸 🗄 🛎
Applications Operations	Templates Infrastructure Administra	ation	
«	Q		CREATE
② Dashboard	□∨ Name ▲	Entries (priority)	۲
Clouds	NewGeo	newgeo.tar.gz(10)	1
⊖ Cloud Resources >			
© GSLB ∨			
Site Configuration			
Geo Profile			
Upload Geo Files			
Federation Checkpoints			

5. Once the Geo Profile is saved

• It should look as shown in the Pic Above

Create VIP using the IPs we configured in Part 1 for Site 1 and Site 2

Part 2: Section 3: Creating VIPs for GSLB



- 1. In the AVI Admin Page
 - Go to Application > VS VIPs
 - Click CREATE to create DNS VIP for Site1

Create VS VIP: DNS1-VIP1	e
General RBAC	
General	
Name* () DNS1-VIP1	
Cloud Default-Cloud	
VRF Context (1) global	
VIPs (0) 0	
ADD	

- 2. In the **Create VS VIP** Page
 - Under **General** type
 - Name : DNS1-VIP1
 - Click ADD

Edit VIP: 1	(
General	
General	
Z Enable ViP 🕕	
Private IP ()	
IPv4 Address® 0 172.16.20.101	
IPv6 Address ()	

- 3. In Edit VIP: 1
 - Under General
 - validate Enable VIP checkbox is checked
 - Private IP : 172.16.20.101
 - Click SAVE

• Click SAVE again in the Create VS VIP Page

Applications Operations Te	nplates Infrastructure Administration			
«	Show All VIPs V			CREATE
② Dashboard	□ ✓ Name *	Address	# Virtual Services	۲
Virtual Services	DNSI-VIP1	⊙ 172.16.20.101	0	/+
Pools	vip-Horizon-UAG-L7-Site2	③ 172.16 50.100	2	/ +
III Pool Groups	VIP-Horizon-UAG-Site-1	(*) 172.16.20.100	2	/ +

4. In the VS VIPs, page

Click **CREATE** to create DNS VIP for Site2

Create VS VIP: DNS2-VIP1
General RBAC
General
Name* () DNS2-VIP1
Cloud
Default-Cloud
VRF Context () global
VIPs (0)* ()
ADD

5. In the **Create VS VIP** Page

- Under General type
 - Name : DNS2-VIP1
- Click ADD

Edit VIP: 1	\otimes
General	
General	
Enable VIP ()	
Private IP ④	
IPv4 Address* ④ 172.16.50.101	
IPv6 Address ① Enter IPv6 Address	
CANCEL	SAVE

- 6. In Edit VIP: 1
 - Under General
 - Enable VIP checkbox
 - Private IP : 172.16.50.101
 - Click SAVE
 - Click SAVE again in the Create VS VIP Page

Applications Operations Ter	mplates Infrastructure Administration	
~	Show All VIPs V	
② Dashboard	□∨ Name *	Address
Virtual Services	DNS1-VIP1	⊙ 172.16.20.101
	DNS2-VIP1	⊙ 172.16.50.101
III Pool Groups	vip-Horizon-UAG-L7-Site2	(†) 172.16.50.100
GSLB Services	VIP-Horizon-UAG-Site-1	172.16.20.100

7. The **VS VIPs** Page should look as shown in the pic above

In this section we create Virtual Service for Site1

Part 2: Section 4: Creating Virtual Service for Site 1

Applications Operations	Temp	plates I	nfrastructure A	dministrati	on								
<	<	Displayi	ing Past 6 Hours	× [Average	Values	~	Q			CREATE	VIRTUAL SERVI	ICE 🗸
Dashboard			Name 🔶	He	Ad	Ap	Se	Po	то	RPS	CPS Op.) Setup
 Ø VS VIPs 			Horizon-UAG	100	172	N/A	44	Hor	1	1	0.07se 0	0.0 bp	/
Pools			Horizon-UAG	100	172	N/A	44	Hor	1		0.0 /sc 0	0.0 bp	/
Pool Groups GSLB Services			Horizon-UAG	100	172	N/A	44	Hor	1	0.0 /se	0.0 /se 0	0.0 bp	/
			Horizon-UAG	100	172	N/A	44	Hor	1	0.0 /se	0.0 /se 0	0.0 bp	1

- 1. In the NSX-ALB Console
 - Navigate to Applications > Virtual Services
 - In the Virtual Services area
 - To the top right, select **CREATE VIRTUAL SERVICE**
 - Select Advanced Setup.

New Virtual Service: DNS1	
Step 1: Settings	Step 2: Policies
Name [*] © DNS1	Enabled @
	• VIP Address •
VS VIP* 🔞	
Select VS VIP	~
Search	Q
VIP-Horizon-UAG-Site-1	
vip-Horizon-UAG-L7-Site2	
DNS1-VIP1 DNS2-VDNS1-VIP1	
	Create VS VIP

- 2. In the New Virtual Service wizard
 - Step 1: Settings area
 - Enter the following under:
 - Name*
 - type DNS1

• Se	P * lect the dropdown , Select DNS1-VIP1		
	TCP/UDP Profile*	• Profiles •	
	System-UDP-Per-Pkt		~ /
	System-DNS		~ /
vanced		• Pool •	

- 3. To the **Right** of VIP Address
 - Under **Profile**

•

- Application Profile : System-DNS
- Note:
 - You will notice, TCP/UDP Profile automatically changes to System-UDP-Per-pkt

	Service Port	Switch to Advanced
Services 💿		
53		
+ Add Port		

- 4. Under Service Port
 - Confirm Services is set to 53

New Virtual Service: DNSI						
Carlos Contrago	Stary 2 Palace	ing they in the splits.	Constant Con	> 🕘 Ling & Statis DMI Browsk		
Now may want to variant a post.						
Laura and the	Real Products					
@ hep-trice [0:0		Gen Dill	0			
Select P República (14		0 10				
0 Q						
INTO DAME AND	antoind stud		A2104			
		NO-REFE TRANS.				
		- Role-Based Access Contr	of (RBAC) +			
ABD						
		Teleco				
		We couldn't find any o	tijectal			
0				laws at an	e 16 1	
Canod				+ Paul	Not 1	
						UNIN .

- 5. In the Virtual Service
 - The warning message shows as
 - You may want to select pool
 - Ignore the message and proceed forward.

• P	• 100
Pool Oroup	
Pool 😡	
Select a Pool	~
Ignore network reachability constraints for the server pool	P
	-
	Next

- 6. Leave the **Pool** Drop Down as Blank
 - Click Next
 - Under Step 2: Polices
 - Leave it **default** and **Click Next**
 - Under Step 3 : Analytics
 Leave it **default** and **Click Next**
 - Under Step 4: Advanced

- Leave it **default** and **Click** Next
- Under Step 5 : DNS Records
 - Leave it **default** and **Click SAVE**

In this section we create Virtual Service for Site 2

Part 2: Section 5 : Creating Virtual Service for Site 2

Applications Operations Ten	nplates Ir	nfrastructure Administrat	ion									
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Displayi	ng Past 6 Hours 🛛 🗸	Average Vali	ues 🗸 🔍						CREA	TE VIRTUAL SERVIC	e v
② Dashboard	$\square$	Name 🔺	Health	Address A	Servi	Pools	Total	RPS	CPS	Open	The Basic Setup	
🔀 Virtual Services		DNS1	100	172.16.20.1 N/A	53		1		0.0 /sec		0.0 bps	sup
Ø VS VIPs												
Pools		Horizon-UAG-L4-Site-1	100	172.16.20.1 N/A	443, 8	Horizo	1		0.0 /sec	0	0.0 bps	/
Pool Groups     GSLB Services		Horizon-UAG-L4-Site-2	100	172.16.50.1 N/A	443, 8	Horizo	1		0.0 /sec	0	0.0 bps	1
		Horizon-UAG-L7-Site-1	100	172.16.20.1 N/A	443 (S	Horizo	1	0.0 /sec	0.0 /sec	0	0.0 bps	1
		Horizon-UAG-L7-Site2	100	172.16.50.1 N/A.	443 (S	Horizo	1	0.0 /sec	0.0 /sec	0	0.0 bps	/

- 1. In the **NSX-ALB** Console
  - Navigate to Applications > Virtual Services
  - In the Virtual Services area
  - To the top right, select **CREATE VIRTUAL SERVICE**
  - Select Advanced Setup.

New Virtual Service: DNS	2
Step 1: Settings	Step 2; Policies
Name* @	Enabled @
DNS2	
	VIP Address
VS VIP* ©	
Select VS VIP	~
Search	Q
VIP-Horizon-UAG-Site-1	
vip-Horizon-UAG-L7-Site2	
DNS1-VIP1	
DNS2-VIP1	Create VS VIP

- 2. In the New Virtual Service wizard
  - Step 1: Settings area

- Enter the following under:
  - Name*
    - type DNS2
  - VS VIP *
    - Select the dropdown,
      - Select DNS2-VIP1

	Profiles •		
TCP/UDP Profile* 🐵			
System-UDP-Per-Pkt		$\sim$	1
Application Profile* 🛞			
System-DNS		~	1

- 3. To the **Right** of VIP Address
  - Under **Profile** 
    - Application Profile : System-DNS
    - Note:
      - You will notice, TCP/UDP Profile automatically changes to System-UDP-Per-pkt

	Service Port	Switch to Advanced
Services 🚱		
53		
+ Add Port		

### 4. Under Service Port

• Confirm Services is set to 53

• Pool •					
Pool O Pool Group					
Select a Pool	~				
Ignore network reachability constraints for the server pool 💿					

- 5. Leave the **Pool** Drop Down as Blank
  - Click Next
  - Under Step 2: Polices
    - Leave it **default** and **Click** Next
  - Under Step 3 : Analytics
    - Leave it **default** and **Click** Next
  - Under Step 4: Advanced
    Leave it default and Click Next
  - Under Step 5 : DNS Records
    - Leave it **default** and **Click SAVE**

Displaying P	ast 6 Hours 🔍 🗸 Average Values	~ Q							
	Name *	Health	Address	App	Service P	Pools	Total Serv	RPS	•
	DNS1	100	172.16.20.101	N/A	53		1		(
	DNS2	100	172.16.50.101	N/A	53		1		
	Horizon-UAG-L4-Site-1	100	(9) 172.16.20.100	N/A	443, 8443,	Horizon-L4	1		(
	Horizon-UAG-L4-Site-2	100	172.16.50.100	N/A	443, 8443,	Horizon-L4	1		(
	Horizon-UAG-L7-Site-1	100	172.16.20.100	N/A	443 (SSL)	Horizon-L7	1	0.0 /sec	0
	Horizon-UAG-L7-Site2	100	172.16.50.100	N/A	443 (SSL)	Horizon-L7	1	0.0 /sec	(

- 6. Once both **DNS1** and **DNS2** are configured
  - The Virtual Services Should look as shown in the Pic above

# Part 2: Section 6: Integrating Virtual Service with GSLB Site

«								Add	New Site Add Third-part	ty Site
Dashboard     Clouds     Cloud Resources	Subdoma euc-livefre.c	ins delegated to	GSLB:						18	
© GSLB v Site Configuration Geo Profile	Active Mem	bers (Contir	nuous Replic	cation)						
Unioad Cao Eller	Displaying 1 item									
obean each said			In Address	Doct	Username	DNS VSes	Site Status	SW Version	Replication	
Federation Checkpoints	Name	Type	P Address	Port	Continente	0.110 1.010				

- 1. In the AVI-ALB Console
  - Go to Infrastructure > expand
    - select Site Configuration
  - Under Active Members (Continuous Replication)
    - Next to **gslb** we created earlier section
      - Click on **Pen Icon** to edit the **GSLB**

it GSLB Site		
Name* 😡		
gslb	Cartive Member	
Username* 💿	Password	
admin		
ID Address # 0	Port* 😡	
192.168.210.71	443	
+ Add IP Address		
Advanced Settings		
Health Monitor Proxy 💿		
+ Health Monitor Proxy		
Geo Location Source 💮		
Select Geo Location Source	~	
Sav	e Save and Set DNS Virtual Services	

#### 2. In the Edit GSLB Site Page

- Click on Save and Set DNS Virtual Services
- It will redirect you to Edit GSLB Site to link DNS Virtual Service to Subdomains

← Edit GSLB Site			×
DNS Virtual Service		Subdamilar 0	
DNSI	~ /	euc-livefire.com X	✓ ĝ
+ Add DNS VS			
Health Monitor Sharding 💿			

- 3. In the **Edit GSLB Site** Page
  - DNS Virtual Service : DNS1
  - Subdomains : euc-livefire.com
  - Click + Add DNS VS to add Site2 DNS

← Edit GSLB Site			,
DNS Virtual Service*		Subdomains 💿	<b>A</b>
DNSI	~ /	euc-iivenre.com X	~ 0
DNS Virtual Service*		Subdomains 💿	
DN52	~ /	euc-livefire.com X	~ 自
+ Add DNS VS			
Health Monitor Sharding			
C Heart Manual Starting C			
		Sava	
		241.44	

#### 4. In the Edit GSLB Site Page

- DNS Virtual Service : DNS2
- Subdomains : euc-livefire.com
- Click Save

In this section we create GSLB Services

# Part 2: Section 7: Creating GSLB Services

Applications Operations Ter	mplates Infrastructure Administration	
×	Displaying Past 6 Hours V	CREATE ~
<ul> <li>Dashboard</li> <li>Virtual Services</li> <li>VS VIPs</li> <li>Pools</li> </ul>	□ ∨ Name	Basic Setup Advanced Setup
Pool Groups     GSLB Services		

- 1. In the **NSX-ALB** Console
  - Navigate to Applications > GSLB Services
  - In the **GSLB Services** area
  - To the top right, select **CREATE**
  - Select Advanced Setup.

Name* 🗐		
gslb-service		
Application Name* 💿	Subdomain* 🐵	
corp	.euc-livefire.com	~
Health Monitor 💿		
Health Monitor		~
Health Monitor Health Monitor Scope All Members Only Non Avi Members	Controller Health Status 💿	~
Health Monitor © Health Monitor Scope © Only Non Avi Members Groups Load Balancing Algorithm	Controller Health Status 💿	~
Health Monitor @ Health Monitor Scope @	Controller Health Status 🛛	~
Health Monitor © Health Monitor Scope © All Members Only Non Avi Members Groups Load Balancing Algorithm © Geo location-based Site Persistence ©	Controller Health Status 💿	~
Health Monitor © Health Monitor Scope © All Members Only Non Avi Members Groups Load Balancing Algorithm © Geo location-based Site Persistence © Minimum number of Servers ©	Controller Health Status	~

- 2. In the New GSLB Service area configure
  - Name : gslb-service
  - Application Name : corp
  - Subdomain : .euc-livefire.com (default)

Groups Load Balancing Algorithm : Geo location-based

GSLB pools •	Add Pool 🔰

- 3. In the New GSLB Service Page
  - Scroll down to GSLB Pools
  - To the right
    - Click Add Pool >
      - It opens New GSLB Pool window

Name* 😡		
GSLb-Service-Pool	-	
Priority 😡	Pool Members Load Balancing Algorithm* 💿	
10	Geo	~
	Pool Members Fallback Load Balancing Algorithm 💿	
	Consistent Hash	~
	Pool Members Fallback Load Balancing Algorithm Mask 🛞	
Min. Health Monitors to consider server 'up' 💿		
Description		

- 4. In the New GSLB Pool Window
  - Enter the follow
    - Name : GSLb-Service-Pool
    - Priority : 10 (default)
    - Pool Members Load Balancing Algorithm : Geo
    - Pool Members Fallback Load Balancing Algorithm : Consistent Hash
    - Leave everything else as **default**
  - · scroll down to Pool Member

New GSLB Pool			
	1		
Pool Members			
IP Address ( Virtual Service			<b>6</b>
Ste Cluster Controller*		Virtual Service*	<u> </u>
asib	~	Horizon-UAG-L7-Site-1	~
Public IP(v4/v6) Address			
Patia [®] ©			
1		Enabled 💿	
Geo Location Source 🖗		_	
User Configured	<b>x</b> ~		
Name 💮		Tag 💿	
Bangalore		Tag	
Latitude 💿		Longitude 💿	
12		77	
Description			
Con Location Source			
User Configured			
Name 🛛			
Bangalore			
Latitude 😡			
12			
Description			

- 5. In the **New GSLB Pool** Window
  - Under Pool Member
    - Ensure Virtual Service radio button is selected
    - Site Cluster Controller : gslb
    - Virtual Service : Horizon-UAG-L7-Site-1
    - Ratio: 1 (default)
    - Geo Location Source : User Configured
    - Name : Bangalore
    - Latitude 12
    - Longitude : 77
      - Leave everything else as Default
      - Ensure the settings matches as per screenshot above
  - To add Site2
    - Click Add GSLB Pool Member

1		🔽 Enabled 😡
Geo Location Source 🛞		
User Configured	<b>x</b> ~	
Name 💿		Tag 💿
Seattle		Tag
Latitude 💿		Longitude 💿
47		-122
Description		

- 6. In the **New GSLB Pool** Window
  - Under Pool Member
    - Ensure Virtual Service checkbox is selected
    - Site Cluster Controller : gslb
    - Virtual Service : Horizon-UAG-L7-Site-2
    - Ratio: 1 (default)
    - Geo Location Source : User Configured
    - Name : Seattle
    - Latitude : 47
    - Longitude : -122
    - Leave everything else as **Default**
    - Ensure the settings matches as per screenshot above
    - Click Done

lame*				
aslb-service				
orp		subdomain * U		~
<ul> <li>Add Application Name</li> </ul>	e -			
ealth Monitor 💿				
				~
ealth Monitor Scope  All Members	nly Non Avi Members	Controller I	Health Status 🖗	
roups Load Balancing Algo	rithm 🔍			
Geo location-based		~		
Site Persistence 🛛				
Site Persistence 🛛	: 0			
Site Persistence inimum number of Server:	s © '			
Site Persistence  inimum number of Server	• 0			Add Pool 3
Site Persistence  Site Persistence  Sinimum number of Serven SSLB pool *	• 0			Add Pool 3
Site Persistence  inimum number of Serven SSLB pool	• 0			Add Pool
Site Persistence  ininimum number of Serven SSLB pool * Cisplaying I item Name	e O O Priority O	- Algorithm	Description	Add Pool

7. Ensure All the settings matches as per the screenshot aboveClick Save

Applications Operations Te	mpletes infrastructure Administration			
00	Displaying Past 6 Hours V			
Deshboard	□~ Name	App Domain Name	Enable State	Status
Virtual Services     VS VIPs	gsib-service	corp.euc-livefire.com	Enabled	•
🖂 Pools				
III Pool Groups				
GSLB Services				

- 8. Settings should match as per the screenshot above
  - To Show the status as **Green**, it would take 2 to 3 minutes

# Part 3 Testing the GSLB

Validate the configurations by enabling advance logging in AVI

# Part 3: Section 1: Enabling advance logging in AVI

Avi Vantage Controller × +	
C      A Not secure   https://avicontroller.euc-livefire.com/#	
my-ip.livefire.lab/ip 🧱 Horizon®Site 1 🦉 UAG-HZN-01a 💆 UAG-HZN-01b	👖 Avi Vantage Control 🛁 HZN Cloud 🥱 vcenter-01a 🔘 UEM 🔮 We
VMware NSX ALB (Avi)	
admin	
LOG IN	

- 1. If required login to NSX-ALB Console
  - On your ControlCenter Server
    - Open your Chrome Browser for Site-1
      - In the Address bar, Enter or browse from the bookmark
        - To https://avicontroller.euc-livefire.com
          - Under Username, enter admin and VMware1!VMware1! as the password
            Click Login

vmw NSX-ALB							
Applications Operations Te	mplates Infrastruc	ture Administration					
~	DELETE						•
<ul> <li>Dashboard</li> </ul>		Na	PPS	CDS	Open Coppe	Throughput	4
	U *		111-5	CFS	open comis	Throughput	
Virtual Services     2		DUCI	Nr V	0.0	opencomis	ot	
Virtual Services VS VIPs		DNS1		0.0 /sec	0	0.1 bps	

- 2. In the NSX-ALB Console
  - Navigate to Applications > Virtual Services
    - To the left of **DNS1**, select the **checkbox**.
      - On the right hand side of **DNS1**.
        - Click the **pencil** icon to edit the **DNS1**.

Edit Virtual Service: DNS1			
Settings Policies Analytics Advanced St	atic DNS Records		
Analytics Profile @			
System-Analytics-Profile			~ /
			Client Lo
Significant log throttle			
10	logs/se		
User defined filters log throttle 💿			
10	logs/sec		
Non-Significant logs @			
Non-significant log throttle		Non-significant log duration @	
10	logs/sec	0	min
			Client L
Q			
Displaying 0 items			
Enabled			N
			14
			No ite
· · · · · · · · · · · · · · · · · · ·			

#### 3. In Edit Virtual Service: DNS1

- Go to Analytics
  - Enable Non-significant logs
  - Click Save

VITTIN NSX-ALB		admin 🗸	: 8
Applications Operations Ter	nplates Infrastructure Administration		
»		ATE VIRTUAL SERVIC	ε v
② Dashboard	V Name * Health address A., Serv., Pools Tota., RPS CPS Op	e bro	۲
Virtual Services		-	
VS VIPs	0.0/sec 0	0.1 bps	1
🖨 Pools	DNS2 (0) (72.16.5( N_ 53 1 - 0.0 /sec 0	0.1 bps	1

- 4. In the NSX-ALB Console
  - Navigate to Applications > Virtual Services
    - To the left of **DNS2**, select the **checkbox**.
      - On the right hand side of **DNS2**.
        - Click the **pencil** icon to edit the **DNS2**.

vmw NSX-ALB				
Applications Opera	Edit Virtual Service: DNS2			
	Settings Policies Analytic	s Advanced Sta	atic DNS Records	
<ul> <li>Dashboard</li> </ul>	Analytics Profile @			
I Virtual Services	System-Analytics-Profile			
E Pools				
E Pool Groups	Significant log throttle ©			
GSLB Services	10		logs/sec	
	User defined filters log throttle 🔘			
	10		logs/sec	
	✓ Non-significant logs ◎			
	Non-significant log throttle @			Non-significant log duration @
	10		logs/sec	0

- 5. In Edit Virtual Service: DNS2
  - Go to Analytics
    - Enable Non-significant logs
    - Click Save

In the lab environment you have two sites. Each site has 3 separate vlans. There is an Internal, DMZ and External VLAN for each site. In Site 1, Windows 11 Client Desktop are configured with 192.168.110.10 DNS server address.

# Part 3: Section 2: Testing GSLB



- 1. On your **ControlCenter server** 
  - On the Desktop
    - Open the Remote Desktops Folder
      - Open Site1
        - Launch W11Client-01a.rdp
        - Login as craig
          - With the password VMware1!

172.16.30.40 - Remote Desktop Connection



### 2. In W11Client-01a

### Open Command Prompt from desktop

- In the Command Prompt, type
  - ping corp.euc-livefire.com and press enter
    - You would notice the response from **172.16.20.100** 
      - The above IP is the VIP for Site-1
- Once the ping is complete, minimize **W11Client-01a** RDP Session
- Return to Control Center Desktop

			1	
a 🕘 a 🕒	📙   🛃 📕 🖛   C:\Us	ers\Administrato o	esktop\Remote Des	ktops\Site2
e1 Profile - Site 2 Profile Chrome - Chrome	File Home Si	hare View		
	*	Move	to - X Delete -	1
	Pin to Quick Copy Pas	ite 👝 🖸 Copy t	o • 🖃 Rename	New 1
otepad++ VMware	Cliphoard		Orminize	folder
Horiz		Remote Derktonr	b lite2	New
		A N	- nec	^
	📌 Quick access	Name	1	
Remote	📃 Desktop 🖃	DC-02a.	(Da RDP	
Desktops	👆 Downloads 🖈	B RDSH-02	RDP	
	📄 Documents 🖈	No. 102a	RDP	
1 1	Pictures 📌	TrueSSO	02a.RDP	
CA phole.msc	AVI	-> w10M	er-02a.RDP	
	hol Cite1	S w11EXT-	02a.RDP	
•	Site?			
Contraction of the local division of the loc	JALEZ	~ <		
DNS	8 items 1 item select	ted 2.32 KB		
Windows Security				$\times$
Your crede	ntials did not	work		
Your system ad credentials to lo because its ider credentials.	ministrator does no og on to the remot ntity is not fully ver	ot allow the us e computer 17 ified. Please er	e of saved '2.16.40.40 hter new	
w11client-02a\J	ackie			
Password				
The logon atten	npt failed			
More choices				
C	ок	Ca	ancel	

- 2. On your ControlCenter server
  - On the Desktop
    - Open the Remote Desktops Folder
      - Open Site2
        - Launch W11Client-02a.RDP
        - Login as Jackie
          - With the password VMware1!

```
N11Client-02a - 172.16.40.40 - Remote Desktop Connection
```



### 3. In **W11Client-02a**

- Open Command Prompt from desktop
  - In the Command Prompt, type
    - ping corp.euc-livefire.com and press enter
      - You would notice the response from **172.16.50.100** 
        - The above IP is the VIP for Site-2
- Once the ping is complete, minimize W11Client-02a RDP Session
- Return to Control Center Desktop

Avi Vantage Controller × +	
C O A Not secure   https://avicontroller.euc-livefire.com/#!/	
🕤 my-ipJivetireJab/ip 🔛 Horizon®Site I 🦉 UAG-HZN-UTa 🏧 UAG-HZN-UTb	Avi Vantage Control H2N Cloud S vcenter-Ula UEM UEW We
VMware NSX ALB (AVI)	
admin	
LUG IN	

- 4. If required, login to **NSX-ALB** Console
  - On your ControlCenter Server
    - Open your Chrome Browser for Site-1
      - In the **Address bar**, Enter or browse from the bookmark
        - To https://avicontroller.euc-livefire.com
          - Under Username, enter admin and VMware1!VMware1! as the password
            - Click Login

vmw NSX-ALB		
Applications Operations Tem	plates Infrastructure Administration	
*	Displaying Past 6 Hours V Average Values V	
② Dashboard	□ ∨ Name ▲ Health Address A Serv Pools Tota F	RPS
🔀 Virtual Services	DNS1 0172152(N 52 1	
VS VIPs		
Pools	DNS2 (100) (5) 172.16.5( N 53 1	

### 5. In the NSX-ALB Console

- Navigate to Applications > Virtual Services
  - Click on DNS1

~	← Virtual Service: DNS11
Dashboard	Analytics Logs Health Security Events Alerts DNS Records
Virtual Services	
VS VIPs	Search Q D Export
Pools	Total 1 (Log Throttling is Log ON) Mar 30, 2023 12:14 PM - Mar 30, 2023 6:14
Pool Groups	🕒 Non-Significant Lo 🔴 Significant Log
GSLB Services	
	12:30 01 PM 01:30 02 PM 02:30 03 PM 03:30 04 PM 04:30 05 PM 05:00 05 PM
	Timestamp - Client IP + Protocol + DNS Request T Domain Name Response
	03/30 1:59:01 PM 192.168.110.10 UDP A Corp.euc- Invefire.com 172.16.20.10_

- 6. In Virtual Service: DNS1 window
  - Go to Logs tab
    - Click on Non-Significant Logs as shows in 2
    - Note: If the logs are not seen, Click the refresh button as shown in 4
    - Verify the Client IP
    - It should match the DNS Server IP of Site 1
      - 192.168.110.10
      - Expand the + (Plus) Symbol as shown in 3

Timestamp 🚽	Client IP 🗦 🗦	Protocol		DNS Request Typ	pe 🗧	Domain Name	\$	Response –
03/30 1:59:01 PM	192.168.110.10	UDP		А		corp.euc-livefire.co	m	172.16.20.100 -
	Clie	nt				LE	+	
Client IP: 192.168.11 Location: India/Ba DNS Query Type: Domain Name: cor ID: 4923 RX Bytes: 92 B TX Bytes: 108 B Start time: 2023-0	0.10 : 55573 + naglore/- (12°N, 77' A p.euc-livefire.com 3-30, 1:59:01:85 pm	'E)		Virtual S GSLB Se GSLB Po Service Record Opcode Records Type: 30 Locati Respons	Service I ervice N ool Nam Engine: Source: : QUERY : A, IP Ad ion: BLR1 se Code:	P: 172.16.20.101 : 53 ame: gslb-service e: GSLb-Service-Poo 192-168-110-73 (vcpu GSLB r idress: 172.16.20.100 test (12°N, 77°E) : NOERROR	0) (gslb:F	Horizon-UAG-L7-Site-1) TTL:
				Truncat	ed: False	rue e		
				Recursio	on Availa	able: False ed: False		
				Questio	n Count	:1		
				Answer Namese	Record rver Rec	Count: 1 cords Count: 0		
				Addition	nal Reco	ords Count: 0		
				Query: F Wildcare	False d: False			
		Page:	1	of 1 Page S	ize: 20	-		

- 7. Notice the following:
  - Client IP
  - Location
  - Virtual Sevice IP
  - GSLB Pool Name
  - Service Engine

Applications Operations 1	femplates Infrastructur	e Administrat	ion			
Dashboard     Virtual Services	← Virtual S Analytics Logs F	ervice: E lealth Security	DNS1 y Events Alerts	DNS Records		
VS VIPs       Pools       Pool Groups       GSLB Services	Search Total 2 Logs (Log Th	rotting is ON)	/	/ `	Apr 3, 203	Q © Export 23 12:21 AM - Apr 3, 2023 6:21 A nificant Lo Significant Logs
	Timestamp	CESO	C2 C230	DNS Request Type	OG AM 04/80 05 84	CS3D C6 AM
	04/03 6:20:02 AM	192.168.210.10	UDP	A	corp.euc-livefire.com	172.16.50.100

- 8. Look the IP of DNS Server for Site2
  - 192.168.210.10
  - Note: If the logs are not seen, Click the **refresh** button.

• Expand the + (Plus) Symbol to the extreme right



- 9. Notice the following:
  - Client IP
  - Location
  - Virtual Sevice IP
  - GSLB Pool Name
  - Service Engine

This is the end of the GSLB Lab. Hope it helpful.