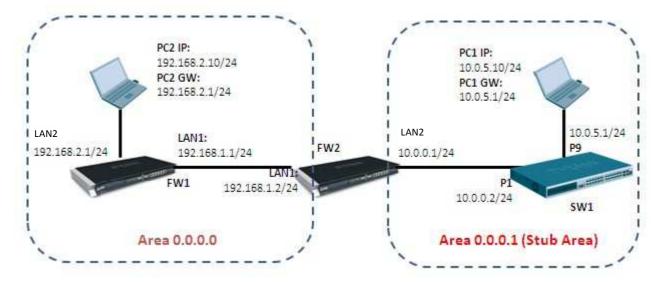
how to connect OSPF stub area and pass interface route

Before the scenario hands-on, we assume that the readers already along with following abilities:

- 1. Basic knowledge of OSPF.
- 2. Basic concept of IP routing.

Scenario summary:

DFL-210/800/1600/2500 f/w:v2.26 or later



Object:

Enable OSPF routing protocol in the scenario above and SW1 can learn FW1's LAN2 interface route from area 0.0.0.0.

FW1

Step1. Set the IP address for LAN and WAN respectively

DFL-1600:7> routes -all - Flags Network	-verbose Iface	Gateway	Local IP	Metric
$\begin{array}{c} 192.168.3.1\\ 192.168.2.1\\ 192.168.1.1\\ 172.17.100.254\\ 192.168.120.254\\ 192.168.150.254\\ 192.168.150.0/24\\ 192.168.150.0/24\\ 192.168.120.0/24\\ 192.168.120.0/24\\ 192.168.1.0/24\\ 192.168.2.0/24\\ 192.168.2.0/24\\ 192.168.3.0/24\\ 224.0.0.0/24\\ \end{array}$	core core core core core core core wan1 wan2 dmz lan1 lan2 lan3 core	(Iface IP) (Iface IP) (Iface IP) (Iface IP) (Iface IP) (Iface IP) (Shared IP)		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Step2. Create an OSPF process as the screenshot.

b ospf-100	r Process defines a group of	routers exchanging	g routing information h	ria the Open Shortes
General De	bug Authentication	Advanced	Log Settings]
釣 General				
Name:	ospf-100			
Router ID:	lan1_ip 🗸 🗸			
Private Router ID:	(None) 🗸			
Reference Bandwidth:	1	Gbps	~	
RFC 1583 Compa	atibility Mode			

Step3. Create an OSPF area, 0.0.0.0.

DFL-1600	An OSPF area is a sub-domain within the OSPF process v
System System Objects Subset Rules Routing Routing Tables Souting Rules Souting Rul	General General Image: area0 Area ID: 0.0.0.0 Area is Stub Area Image: Become a default router for stub area ("Summarize")
OSPF Interfaces	Metric: Met

Step4. Add interface lan1 and lan2 in area 0.0.0.0.

DFL-1600	Ian1	define the properties of a	n inte	erface that should be made a men
E Gosten E Gobiects	General	Authentication	Adv	anced
E - Special E - Special E - Special Interfaces	🛃 General	_		
Routing	Interface:	lani	~	
Generating Tables	Network:	(None)	~ I	f no network is specified, the inter
	Interface Type:	Auto	~	
	Metric	10		
🚊 🏀 ospf-100	O Bandwidth:	1		Gbps 🗸
₩DFL-1600			-	interface that should be made a
🗄 🖓 Objects	General	Authentication	A	dvanced
Ē.⊷ <mark>Ga</mark> Rules Ē.⊷ <mark>M</mark> interfaces	🔬 General			
E Routing	Interface:	lan2	~	•
⊕ Routing Tables	Network:	(None)	~	If no network is specified, the
	Interface Type:	Auto	~	•
	Metric	13		
⊡	O Bandwidth	n:		Mbps
⊟- 🌏 area0	0			
	S Commo	nte		

Step8. Create a Dynamic Routing Rules to allow the routes are learnt by OSPF to inject in main routing table.

DFL-1600 - 🧑 System	more routing ta		atch statically configured or OSPF lear	neo routes, me matche
∃- <mark>)</mark> Objects	General M	ore Parameters 🛛 Log Settin	gs	
- s Rules				
- Interfaces	🔬 General			
	Name:	route-rule2		
E Routing Tables	Marine.	Tode Tale2		
Routing Rules		OSPF process		
Dynamic Routing Rules		Available	Selected	
⊞- 🎲 route-rule2			ospf-100	14
DSPF				
🚊 🚑 IGMP	G From OSPF Pro	cess:	>>	
🗄 💑 Route Load Balancing	77.1		<	
Kouting Settings				
- 💽 IDP / IPS				
- 🤂 User Authentication			*	7
- 🐻 Traffic Management		Routing table		
- 👩 ZoneDefense		Available	Selected	
		main	×.	A

Step9. In the rule created above, add a Routing Actions as the screenshot. Select "main" routing table to be the Destination Routing table.

PDFL-1600	DynamicRoutingRuleAddRoute Arouting action is used to manipulate and insert new or changed routes to one or more loca
 System Objects Rules Interfaces 	General Proxy ARP
Routing Routing Tables Routing Rules Souting Rules Souting Rules Souting Rules Souting Rules Souting Rules Souting Actions Routing Actions	Destination routing table Available Selected Main
GOSPF G	Offset Metric:

Step10. Add two IPrules for the PC1 and PC2

•	Rules rules are used to filter IP-based ne	twork traffic. In addition	n, they provide means	s for address translation as well as Se	rver Load Balancing.		
Pdd	<u>•</u>						
#	Name	Action	Src If	Src Net	Dest If	Dest Net	Service
1	💈 lan1-to-lan2	🕋 Allow	🛐 lan1	😔 10.0.0/24	🛐 lan2	5 192.168.2.0/24	🔞 all_services
2	🚦 lan2-to-lan1	👬 Allow	🛐 lan2	92.168.2.0/24	🛐 lan1	9 10.0.0/24	o all_services

FW2

Step1. Set the I	P address for 1	LAN and WAI	V respectively
------------------	-----------------	-------------	----------------

DFL-1600:/> routes main Flags Network	-all -verbose Iface	Gateway	Local IP	Metric
$\begin{array}{c} \hline \\ 10.0.4.1 \\ 10.0.0.1 \\ 192.168.1.2 \\ 10.0.3.1 \\ 10.0.2.1 \\ 10.0.1.1 \\ 127.0.0.1 \\ 10.0.1.0/24 \\ 10.0.2.0/24 \\ 10.0.3.0/24 \\ 192.168.1.0/24 \\ 10.0.0.0/24 \\ 10.0.0.0/24 \end{array}$	core core core core core core wan1 wan2 dmz lan1 lan2	(Iface IP) (Iface IP) (Iface IP) (Iface IP) (Iface IP) (Iface IP) (Shared IP)		0 0 0 0 0 0 100 100 100 100 100 100
10.0.4.0/24 224.0.0.0/4	lan3 core	(Iface IP)		100 0

Step2. Create an OSPF process as the screenshot.

b ospf-100	r Process defines a group of	routers exchanging	; routing information v	ia the Open Shorte
General De	bug Authentication	Advanced	Log Settings	
赺 General				
Name:	ospf-100			
Router ID:	lan1_ip 🗸 🗸			
Private Router ID:	(None) 🗸			
Reference Bandwidth:	1	Gbps	*	
RFC 1583 Comp	atibility Mode			

Step3. Create an OSPF area, 0.0.0.0.

DFL-1600	An OS	AV SPF area is a sub-c	domain within the	OSPF process v
 ⊕ System ⊕ Objects ⊕ Signature ⊕ Signature ⊕ Gibbook 	Genera			
Routing	Name:	area0		
Routing Tables Souting Rules Dynamic Routing Rules	Area ID:	0.0.0.0	~	
OSPF OSPF OSPF OSPF Interfaces OSPF Neighbors OSPF Aggregates	Metric	s Stub Area ne a default router s: 1 Filters	for stub area ("Si	ummarize")
BOSPF VLinks	External:	(None)	~	
⊡ @area1 ⊕ GMP	Interarea:	(None)	~	

Step4. Add interface lan1 in area 0.0.0.0.

BDFL-1600	an1	define the proper	ties of an i	interface that sh	ould be made a mer
	General	Authenticatio	n A	dvanced	
E Rules	🔬 General				
Routing	Interface:	lan1	~		
Routing Tables	Network:	(None)	~	lf no network is	specified, the inter
Routing Rules Dynamic Routing Rules	Interface Type:	Auto	*		
🖨 💑 OSPF	Metric	10]	
Ė 🏀 ospf-100 Ė 🎲 area0	C Bandwidth:	1		Gbps	~
OSPF Interfaces	Ormen	ts			

Step5. Create another OSPF area, 0.0.0.1 for stub area. Note if enable the option, "Become a default router for stub area ("Summarize")", this router only send default route to neighbor in the stub area instead of each routing entries which is learnt by OSPF process.

🖓 DFL-1600 🔔 ⊕ 🧑 System	An OSPF area is a sub-domain within the OSPF process which collects
⊡ Gystein ⊡-)⊃ Objects	General
	🛃 General
	Name: area1
E	Area ID: 0.0.0.1
⊕- ③ Dynamic Routing Rules	and the in the last
Eresio OSPF Eresio OSPF	Area is Stub Area
🕀 🍎 area0	Become a default router for stub area ("Summarize") Metric:
.⊟- ⊘area1	
	🔊 Import Filters
	External: (None)

Step7. Add interface lan2 in area 0.0.0.1.

DFL-1600 DFL-1600 DFL-36 System Dipects Dipects Dipects Dipects Dipects Dipects Dipects Dipects Dipects Dipects Dipects	Ian2 Select and define the properties of an interface that should be made a model General Authentication Advanced Oral				
Routing Routing Tables Routing Rules Dynamic Routing Rules SOSPF	Interface: Network: Interface Type: C Metric	lan2 (None) Auto 10	> > >	lf no network i	is specified, the int
i⊟	Bandwidth: D Commen	1.2		Gbps	*

Step8. Create a Dynamic Routing Rules to allow the routes are learnt by OSPF to inject in main routing

table.

DFL-1600	A Dynamic Routin more routing tables	g Policy rule creates a filter to catch statica	Illy configured or OSPF learned routes. The matched
Objects	General More	Parameters Log Settings	
🗄 🧣 Rules			
Interfaces	🔬 General		
B- B Routing	Name:	route-rule2	
E		J.	
Routing Rules		OSPF process	
Dynamic Routing Rules		Available	Selected
			ospf-100
D OSPF			
🕀 🙀 IGMP	From OSPF Proces	s:	>>
E Route Load Balancing	22.0		44
Kouting Settings			
E IDP / IPS			
E-User Authentication			·
Traffic Management		Routing table	
E ZoneDefense		Available	Selected
		main	<u></u>
	C From Routing Table	:	>>

Step9. In the rule created above, add a Routing Actions as the screenshot. Select "main" routing table to be the Destination Routing table.

FL-1600	Arouting action is used to manipulate and insert new or changed routes to one or more l
⊕ System ⊕ Objects	General Proxy ARP
⊞- <mark>Gs</mark> Rules	
🗄 🚰 Interfaces	🛃 General
Routing	Destination routing table
	Awailable Selected
	E main
🗄 🏐 Dynamic Routing Rules	
🖻 🍓 route-rule2	>>
	**
🕀 💑 OSPF	T
🗄 🗄 IGMP	Offset Metric:
🗄 🤯 Route Load Balancing	
	Offset Metric Type2:
E IDP / IPS	Limit Metric Range To:
User Authentication	Allow Override of Static Routes
Traffic Management	□ III IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII
🗄 😡 ZoneDefense	

Step10. Add two IPrules for the PC1 and PC2 $\,$

; IF	^o Rules						
IP rules are used to filter IP-based network traffic. In addition, they provide means for address translation as well as Server Load Balancing.							
Add [•						
#	Name	Action	Src If	Src Net	Dest If	Dest Net	Service
1	💈 lan2-to-lan1	👚 Allow	🛐 lan2	5 10.0.0/24	🔝 lan1	5 192.168.2.0/24	👩 all_services
1 2	🖁 lan2-to-lan1 💈 lan1-to-lan2	🟦 Allow 🟦 Allow	🔝 lan2 🔝 lan1	9 10.0.0.0/24 9 192.168.2.0/24	🔝 lan1 🔝 lan2	9 192.168.2.0/24 9 10.0.0.0/24	all_services all_services
1 2 3	•						

SW1: config vlan default del 9-16 create vlan v10 tag 10 config vlan v10 add untagged 9-16 advertisement disable

config ipif System ipaddress 10.0.0.2/24 vlan default create ipif v10 10.0.5.1/24 v10 state enable

create ospf area 0.0.0.1 type stub stub_summary enabled metric 1 config ospf ipif System area 0.0.0.1 priority 1 hello_interval 10 dead_interval 40 config ospf ipif System authentication none metric 1 state enable config ospf ipif v10 area 0.0.0.1 priority 1 hello_interval 10 dead_interval 40 config ospf ipif v10 authentication none metric 1 state enable config ospf ipif v10 authentication none metric 1 state enable config ospf router_id 10.0.0.2 enable ospf

Show the routing table on the SW1

Routing Table IP Address/Netmask Gateway Interface Cost Protocol 10.0.0.0/24 0.0.0.0 System 1 Local 10.0.5.0/24 0.0.0.0 v10 1 Local 192.168.1.0/24 10.0.0.1 System 11 OSPF	DGS-3627G:admin#show iproute Command: show iproute					
10.0.0.0/24 0.0.0.0 System 1 Local 10.0.5.0/24 0.0.0.0 v10 1 Local 192.168.1.0/24 10.0.0.1 System 11 OSPF	Routing Table					
10.0.0.0/24 0.0.0.0 System 1 Local 10.0.5.0/24 0.0.0.0 v10 1 Local 192.168.1.0/24 10.0.0.1 System 11 OSPF	· ·	2 · · · · · · · · · · · · · · · · · · ·				
	10.0.0.0/24 10.0.5.0/24	0.0.0.0 0.0.0.0	System v10	1 1	Local Local	

Show the routing table on the FW1

	L600:/> routes -al 5 Network	l -verbose Iface	e Gateway	Local IP	Metric
	192.168.3.1	core	(Iface IP)		0
	192.168.2.1	core	(Iface IP)		0
	192.168.1.1	cone	(Iface IP)		0
	172.17.100.254	core	(Iface IP)		0
	192.168.120.254	core	(Iface IP)		0
	192.168.150.254	core	(Iface IP)		0
	127.0.0.1	core	(Shared IP)		0
0	10.0.0.0/24	lan1	192.168.1.2		2
	Originator: OSPF				
0	10.0.5.0/24	lan1	192.168.1.2		3
	Originator: OSPF	process	"ospt-100"		
	192.168.150.0/24	wani			100
	192.168.120.0/24	wan2			100
	172.17.100.0/24	dmz			100
	192.168.1.0/24	lan1			100
	192.168.2.0/24	lan2			100
	192.168.3.0/24	lan3	(TEACA TO)		100
DEL 1	224.0.0.0/4	core	(Iface IP)		0
DEC-1	L600:/>				