

配置在连结的LISP多跳跃移动性

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简介

本文描述配置，并且的IP设备验证在数据中心(DC)间的移动在定位器身份分离协议(LISP)启用网络，不用需要更改它是IP地址。

先决条件

要求

Cisco建议您有LISP基础知识。

使用的组件

本文档不限于特定的软件和硬件版本。

本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原始（默认）配置。如果您使用的是真实网络，请确保您已经了解所有命令的潜在影响。

背景信息

在LISP环境里，此设备被调用Dynamic端点标识符(EID)。LISP多跳跃移动性支持允许另外DCs有相同子网反过来允许虚拟机的子网扩展模式(VMs)保持他们的指定的IP地址，当他们移植到另一个DC时。

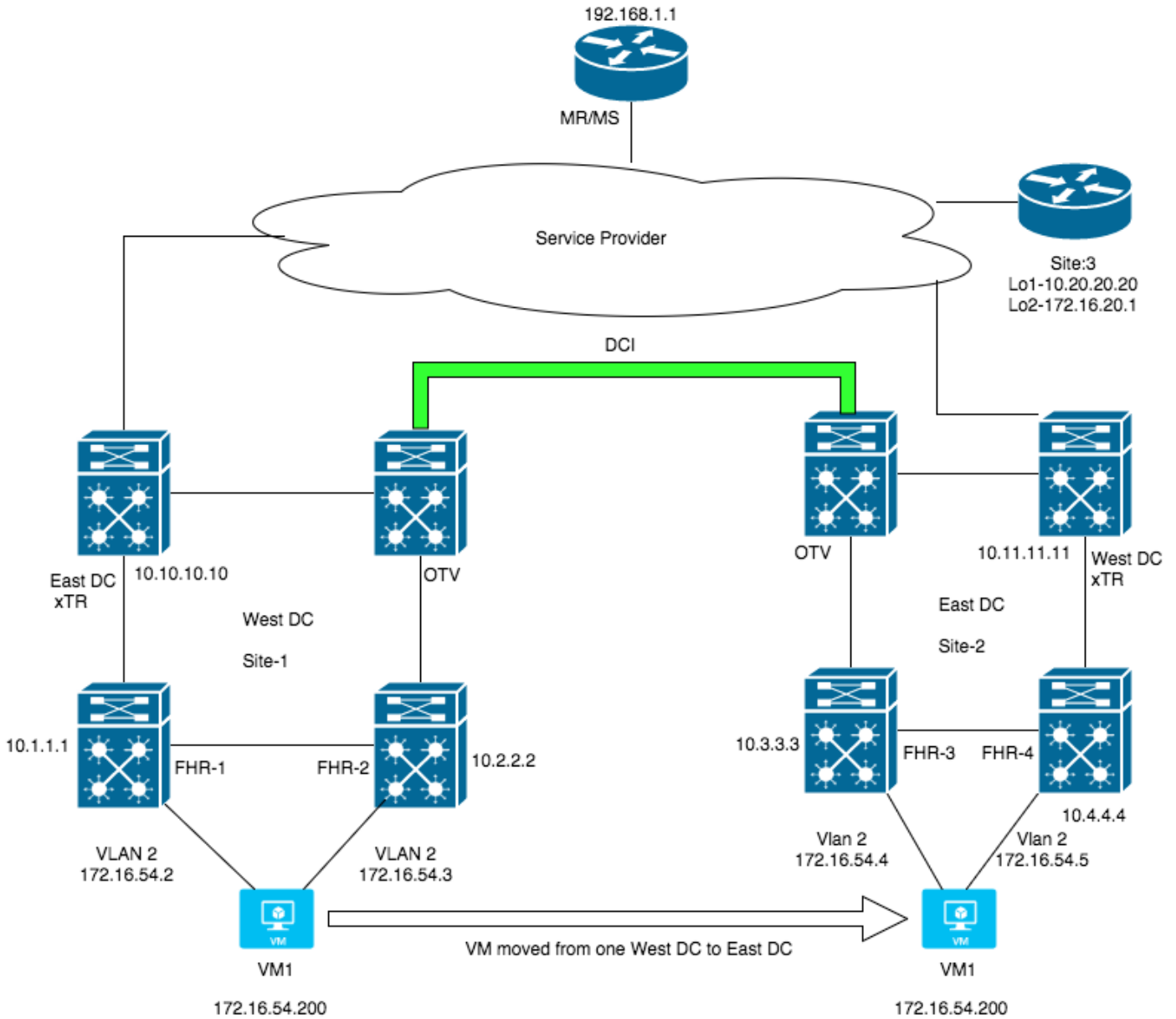
第一跳跃路由器(FHR)发现动态EID出现并且通知同样对网关通过EID通知消息的xTR边。xTRs注册动态EID为了映射服务器并且执行LISP穿过LISP域的数据流的封装和皮膜剥脱术功能。

必须通过数据中心互连(DCI)技术连接在另外DCs配置的xTRs类似重叠传输虚拟化(OTV)。在连接，OTV支持组播模式。

配置

网络图

此镜像使用作为拓扑示例本文的其余。



- xTR : LISP路由器可以是取决于通信流向的ITR或ETR。如果数据流出去LISP路由器，它成为该流的ITR，并且接收端LISP路由器成为该路由器的ETR。
- ITR : 入口隧道路由器
- ETR : 出口隧道路由器
- 映射解析器(MR) : MAP解析器是LISP站点ITRs发送LISP Map请求查询的LISP基础设施设备，当您解决EID对RLOC映射时。

- 映射服务器(MS) : MAP服务器是LISP站点ETRs向他们的EID登记加前缀的LISP基础设施设备。MAP服务器为注册的EID前缀通告集合体对LISP制图系统。所有LISP站点使用LISP制图系统为了解决EID对RLOC映射。
- EID地址 : EID地址包括识别终端的IP地址和前缀。在LISP站点间的EID可达性通过解决达到EID对RLOC映射。
- 路由定位器(RLOC)地址 : RLOC地址包括识别IP网络的另外路由器的IP地址和前缀。在RLOC空间内的可达性用传统路由路由选择法达到。
- SMR : 请求MAP请求;控制层面消息曾经告诉远程xTRs为了更新他们缓存了的映射。
- ASM : 在子网模式间;允许在LISP站点之间的EID移动性如果不到位第2层扩展名。
- MAP通知 : 在关于该发现的同一个LISP站点发现一个EID为了更新其他xTRs的xTR使用的LISP消息。MAP服务器也用于它确认MAP寄存器被接受了并且被处理了。
- MAP寄存器 : xTR用于的LISP消息为了注册一个EID用MAP服务器。

在此条款讨论的示例中，数据流从VM (172.16.54.200)不断流到Site-3 (172.16.20.1)。

西部DC

第一跳跃路由器(FHR-1) :

```
!
feature lisp
!
ip lisp etr
!
lisp dynamic-eid VM
  database-mapping 172.16.54.0/24 10.1.1.1 priority 10 weight 50
  database-mapping 172.16.54.0/24 10.2.2.2 priority 10 weight 50
  eid-notify 10.10.10.10 key 3 9125d59c18a9b015
  map-notify-group 225.1.1.1
!
interface loopback0
  ip address 10.1.1.1/32
  ip router ospf 1 area 0.0.0.0
!
interface Vlan2
  no shutdown
  lisp mobility VM
  lisp extended-subnet-mode
  ip address 172.16.54.3/24
  ip ospf passive-interface
  ip router ospf 1 area 0.0.0.0
  ip pim sparse-mode
  no ip arp gratuitous request
  hsrp 1
    preempt
    priority 120
    ip 172.16.54.1
!
```

FHR-2 :

```
!  
feature lisp  
!  
ip lisp etr  
!  
lisp dynamic-eid VM  
  database-mapping 172.16.54.0/24 10.1.1.1 priority 10 weight 50  
  database-mapping 172.16.54.0/24 10.2.2.2 priority 10 weight 50  
  eid-notify 10.10.10.10 key 3 9125d59c18a9b015  
  map-notify-group 225.1.1.1  
!  
interface Vlan2  
  no shutdown  
  lisp mobility VM  
    lisp extended-subnet-mode  
  ip address 172.16.54.2/24  
  ip ospf passive-interface  
ip pim sparse-mode  
no ip arp gratuitous request  
hsrp 1  
  preempt  
  priority 90  
  ip 172.16.54.1  
!  
interface loopback0  
  ip address 10.2.2.2/32  
  ip router ospf 1 area 0.0.0.0
```

xTR :

```
!  
feature lisp  
!  
ip lisp etr  
!  
lisp dynamic-eid VM  
  database-mapping 172.16.54.0/24 10.1.1.1 priority 10 weight 50  
  database-mapping 172.16.54.0/24 10.2.2.2 priority 10 weight 50  
  eid-notify 10.10.10.10 key 3 9125d59c18a9b015  
  map-notify-group 225.1.1.1  
!  
interface Vlan2  
  no shutdown  
  lisp mobility VM  
    lisp extended-subnet-mode  
  ip address 172.16.54.2/24  
  ip ospf passive-interface  
ip pim sparse-mode  
no ip arp gratuitous request  
hsrp 1  
  preempt  
  priority 90  
  ip 172.16.54.1  
!  
interface loopback0  
  ip address 10.2.2.2/32  
  ip router ospf 1 area 0.0.0.0
```

东部DC

FHR-3 :

```
!  
feature lisp  
!  
ip lisp etr  
!  
lisp dynamic-eid VM  
  database-mapping 172.16.54.0/24 10.3.3.3 priority 10 weight 50  
  database-mapping 172.16.54.0/24 10.4.4.4 priority 10 weight 50  
  eid-notify 10.11.11.11 key 3 9125d59c18a9b015  
  map-notify-group 225.1.1.1  
!  
interface Vlan2  
  no shutdown  
  lisp mobility VM  
    lisp extended-subnet-mode  
  ip address 172.16.54.4/24  
  ip ospf passive-interface  
  ip router ospf 1 area 0.0.0.0  
  ip pim sparse-mode  
  no ip arp gratuitous request  
  hsrp 1  
    preempt  
    priority 110  
    ip 172.16.54.1  
!  
interface loopback0  
  ip address 10.3.3.3/32  
  ip router ospf 1 area 0.0.0.0
```

FHR-4 :

```
!  
feature lisp  
!  
ip lisp etr  
!  
lisp dynamic-eid VM  
  database-mapping 172.16.54.0/24 10.3.3.3 priority 10 weight 50  
  database-mapping 172.16.54.0/24 10.4.4.4 priority 10 weight 50  
  eid-notify 10.11.11.11 key 3 9125d59c18a9b015  
  map-notify-group 225.1.1.1  
!  
interface Vlan2  
  no shutdown  
  lisp mobility VM  
    lisp extended-subnet-mode  
  ip pim sparse-mode  
ip ospf passive-interface  
  ip address 172.16.54.5/24  
  hsrp 1  
    preempt  
    priority 90  
    ip 172.16.54.1  
!  
interface loopback0  
  ip address 10.4.4.4/32  
  ip router ospf 1 area 0.0.0.0
```

xTR :

```
!  
feature lisp  
!  
ip lisp etr  
!  
lisp dynamic-eid VM  
  database-mapping 172.16.54.0/24 10.3.3.3 priority 10 weight 50  
  database-mapping 172.16.54.0/24 10.4.4.4 priority 10 weight 50  
  eid-notify 10.11.11.11 key 3 9125d59c18a9b015  
  map-notify-group 225.1.1.1  
!  
interface Vlan2  
  no shutdown  
  lisp mobility VM  
  lisp extended-subnet-mode  
  ip pim sparse-mode  
ip ospf passive-interface  
ip address 172.16.54.5/24  
hsrp 1  
  preempt  
  priority 90  
  ip 172.16.54.1  
!  
interface loopback0  
ip address 10.4.4.4/32  
ip router ospf 1 area 0.0.0.0
```

MS/MR

```
!  
feature lisp  
!  
ip lisp etr  
!  
lisp dynamic-eid VM  
  database-mapping 172.16.54.0/24 10.3.3.3 priority 10 weight 50  
  database-mapping 172.16.54.0/24 10.4.4.4 priority 10 weight 50  
  eid-notify 10.11.11.11 key 3 9125d59c18a9b015  
  map-notify-group 225.1.1.1  
!  
interface Vlan2  
  no shutdown  
  lisp mobility VM  
  lisp extended-subnet-mode  
  ip pim sparse-mode  
ip ospf passive-interface  
ip address 172.16.54.5/24  
hsrp 1  
  preempt  
  priority 90  
  ip 172.16.54.1  
!  
interface loopback0  
ip address 10.4.4.4/32  
ip router ospf 1 area 0.0.0.0
```

Site-3

```
!  
feature lisp
```

```

!
ip lisp etr
!
lisp dynamic-eid VM
  database-mapping 172.16.54.0/24 10.3.3.3 priority 10 weight 50
  database-mapping 172.16.54.0/24 10.4.4.4 priority 10 weight 50
  eid-notify 10.11.11.11 key 3 9125d59c18a9b015
  map-notify-group 225.1.1.1
!
interface Vlan2
  no shutdown
  lisp mobility VM
  lisp extended-subnet-mode
  ip pim sparse-mode
ip ospf passive-interface
ip address 172.16.54.5/24
hsrp 1
  preempt
  priority 90
  ip 172.16.54.1
!
interface loopback0
  ip address 10.4.4.4/32
  ip router ospf 1 area 0.0.0.0

```

运算顺序

步骤1. VM启动。

即VM通电了和开始发送数据流到远程站点Site-3。FHR-1接收此流并且创建动态EID：

```
N7K-358-West-FHR1# show lisp dynamic-eid summary
```

```
LISP Dynamic EID Summary for VRF "default"
```

```
* = Dyn-EID learned by site-based Map-Notify
```

```
! = Dyn-EID learned by routing protocol
```

```
^ = Dyn-EID learned by EID-Notify
```

Dyn-EID Name	Dynamic-EID	Interface	Uptime	Last Packet	Pending Ping Count
VM	172.16.54.200	Vlan2	06:50:21	00:12:12	0

```
N7K-358-West-FHR1# show lisp dynamic-eid detail
```

```
LISP Dynamic EID Information for VRF "default"
```

```
Dynamic-EID name: VM
```

```
Database-mapping [0] EID-prefix: 172.16.54.0/24, LSBs: 0x00000003
```

```
Locator: 10.1.1.1, priority: 10, weight: 50
```

```
Uptime: 06:51:34, state: up, local
```

```
Locator: 10.2.2.2, priority: 10, weight: 50
```

```
Uptime: 06:50:10, state: up
```

```
Registering more-specific dynamic-EIDs
```

```
Registering routes: disabled
```

```
Map-Server(s): none configured, use global Map-Server
```

```
Site-based multicast Map-Notify group: 225.1.1.1
```

```
Extended Subnet Mode configured on 1 interfaces
```

```
Number of roaming dynamic-EIDs discovered: 3
```

```
Last dynamic-EID discovered: 172.16.54.1, 00:00:04 ago
```

```
Roaming dynamic-EIDs:
```

```
172.16.54.200, Vlan2, uptime: 06:50:31, last activity: 00:12:22
```

```
Discovered by: packet reception
```

步骤2. FHR安装LISP路由。

如在Step1中看到，当从VM时，收到信息包FHR创建一个动态EID条目。它在路由信息库(RIB)上然后安装一个a/32路由：

```
N7K-358-FHR1-West-DC# show ip route 172.16.54.200
IP Route Table for VRF "default"
'*' denotes best ucast next-hop
'***' denotes best mcast next-hop
'[x/y]' denotes [preference/metric]
'%<string>' in via output denotes VRF <string>

172.16.54.200/32, ubest/mbest: 1/0, attached
  *via 172.16.54.200, Vlan2, [240/0], 06:58:08, lisp, dyn-eid
  via 172.16.54.200, Vlan2, [250/0], 06:58:45, am
```

步骤3. FHR通知关于此动态EID的其他FHRs。

此FHR发送MAP通知消息对其他FHRs哪些包括那个在本地站点以及在所有远程站点。在我们的示例中，FHR-1发送MAP通知关于172.16.54.200到在本地DC以及FHR-3和FHR-4的FHR-2在东方DC。

但是仅本地站点FHR能在其RIB上安装该EID的路由如显示这里：

```
N7K-358-FHR2-West-DC# show lisp dynamic-eid detail
LISP Dynamic EID Information for VRF "default"
Dynamic-EID name: VM
Database-mapping [0] EID-prefix: 172.16.54.0/24, LSBs: 0x00000003
Locator: 10.1.1.1, priority: 10, weight: 50
Uptime: 00:01:04, state: up
Locator: 10.2.2.2, priority: 10, weight: 50
Uptime: 00:01:53, state: up, local
Registering more-specific dynamic-EIDs
Registering routes: disabled
Map-Server(s): none configured, use global Map-Server
Site-based multicast Map-Notify group: 225.1.1.1
Extended Subnet Mode configured on 1 interfaces
Number of roaming dynamic-EIDs discovered: 1
Last dynamic-EID discovered: 172.16.54.200, 00:01:04 ago
Roaming dynamic-EIDs:
172.16.54.200, Vlan2, uptime: 00:01:04, last activity: 00:00:42
  Discovered by: site-based Map-Notify
Secure-handoff pending for sources: none
```

```
N7K-358-FHR2-West-DC#sh ip route 172.16.54.200
IP Route Table for VRF "default"
'*' denotes best ucast next-hop
'***' denotes best mcast next-hop
'[x/y]' denotes [preference/metric]
'%<string>' in via output denotes VRF <string>

172.16.54.200/32, ubest/mbest: 1/0, attached
  *via 172.16.54.200, Vlan2, [240/0], 00:00:08, lisp, dyn-eid
  via 172.16.54.200, Vlan2, [250/0], 00:01:53, am
```

步骤4. FHR更新此EID对本地xTR。

一旦，当FHR的两个站点知道关于EID，它通知他们的关于此EID的本地站点的xTR哪些用途EID通知消息。

东部DC xTR路由器也安装此前缀的一个null0路由，而西方DC xTR添加在RIB的此前缀。

```
N7K-FA8-East_xTR#show ip route 172.16.54.200
```

```
IP Route Table for VRF "default"
'*' denotes best ucast next-hop
***' denotes best mcast next-hop
'[x/y]' denotes [preference/metric]
'%<string>' in via output denotes VRF <string>

172.16.54.200/32, ubest/mbest: 1/0, attached
  *via 172.16.54.200, Null0, [241/0], 00:00:32, lisp, dyn-eid
```

```
N7K-358-West_xTR#show lisp dynamic-eid detail
```

```
LISP Dynamic EID Information for VRF "default"
Dynamic-EID name: VM
Database-mapping [0] EID-prefix: 172.16.54.0/24, LSBs: 0x00000001
Locator: 10.10.10.10, priority: 10, weight: 50
Uptime: 00:02:37, state: up, local
Registering more-specific dynamic-EIDs
Registering routes: disabled
Map-Server(s): none configured, use global Map-Server
Site-based multicast Map-Notify group: none configured
Number of roaming dynamic-EIDs discovered: 1
Last dynamic-EID discovered: 172.16.54.1, 00:00:06 ago
Roaming dynamic-EIDs:
172.16.54.200, (null), uptime: 00:00:28, last activity: 00:00:06
Discovered by: EID-Notify
EID-Notify Locators:
10.1.1.1
10.2.2.2
```

```
N7K-358-West_xTR#sh ip route 172.16.54.200
```

```
IP Route Table for VRF "default"
'*' denotes best ucast next-hop
***' denotes best mcast next-hop
'[x/y]' denotes [preference/metric]
'%<string>' in via output denotes VRF <string>

172.16.54.0/24, ubest/mbest: 1/0
via 10.10.13.3, Eth3/2, [110/44], 00:01:00, ospf-1, intra
```

本地xTR注册与MR/MS的EID：

东部DC xTR也传送MAP寄存器信息到MR/MS并且注册与他们的此最新发现EID。这也是可靠对于Site-3路由器。

```
MS_MR#show lisp site 172.16.54.200/32
```

```
LISP Site Registration Information

Site name: 1
Allowed configured locators: any
Requested EID-prefix:
  EID-prefix: 172.16.54.200/32
    First registered:      07:11:28
    Routing table tag:    0
    Origin:                Dynamic, more specific of 172.16.54.0/24
    Merge active:         No
    Proxy reply:          No
    TTL:                  00:03:00
    State:                 complete
Registration errors:
  Authentication failures: 0
```

```

Allowed locators mismatch: 0
ETR 10.10.90.1, last registered 00:00:07, no proxy-reply, map-notify
    TTL 00:03:00, no merge, hash-function sha1, nonce 0x00000000-0x00000000
    state complete, no security-capability
    xTR-ID N/A
    site-ID N/A
Locator      Local State      Pri/Wgt  Scope
10.10.10.10 yes      up        10/50   IPv4 none

```

MS_MR#sh lisp site 172.16.20.0/24

```

LISP Site Registration Information
Site name: 2
Allowed configured locators: any
Requested EID-prefix:
EID-prefix: 172.16.20.0/24
First registered: 06:30:48
Routing table tag: 0
Origin: Configuration, accepting more specifics
Merge active: No
Proxy reply: No
TTL: 1d00h
State: complete
Registration errors:
Authentication failures: 0
Allowed locators mismatch: 0
ETR 10.10.67.7, last registered 00:00:23, no proxy-reply, map-notify
    TTL 1d00h, no merge, hash-function sha1, nonce 0xEE339164-0xC3199AF1
    state complete, no security-capability
    xTR-ID 0x7C6C7CF6-0x2AE64A0C-0xDCBC62DA-0x79762795
    site-ID unspecified
Locator Local State Pri/Wgt Scope
10.20.20.20 yes up 10/50 IPv4 none

```

步骤5.验证在站点1和站点3 xTRs的通信流：

N7K-358-West_xTR# show ip lisp map-cache

```

LISP IP Mapping Cache for VRF "default" (iid 0), 3 entries
* = Locator data counters are cumulative across all EID-prefixes

0.0.0.0/1, uptime: 00:13:28, expires: 00:01:31, via map-reply
    Negative cache entry, action: forward-native

128.0.0.0/3, uptime: 00:13:28, expires: 00:01:31, via map-reply
    Negative cache entry, action: forward-native

172.16.20.0/24, uptime: 00:00:26, expires: 23:59:33, via map-reply, auth
Locator      Uptime      State      Priority/  Data      Control      MTU
              State      Weight    in/out    in/out
10.20.20.20  00:00:26   up         10/50     0/0*     0/0         1500

```

站点3 LISP映射缓存条目：

Site-3#show ip lisp map-cache

```

LISP IPv4 Mapping Cache for EID-table default (IID 0), 2 entries

0.0.0.0/0, uptime: 01:53:04, expires: never, via static send map-request
    Negative cache entry, action: send-map-request
172.16.54.200/32, uptime: 01:50:02, expires: 22:09:57, via map-reply, complete
Locator      Uptime      State      Pri/Wgt
10.10.10.10 01:50:02   up         10/50

```

步骤6. VM从西方DC移动向东部DC。

这些步骤是在DC之间的VM迁移之前发生了。现在，VM从西方DC移动向东部DC，不用需要更改IP地址。当VM从西方DC移动向东部DC，在东部DC的FHR-3从VM收到信息包，并且添加它是IP地址对动态EID表。它然后发送MAP通知请求到所有FHR哪些包括西方DC和，一旦西方DC接受请MAP通知请求，它从动态EID表去除VM条目哪些被创建了，当VM是存在西方DC。在西方DC的xTR当前安装null0路由对VM的IP。

这是动态EID的状态在FHR-3的在东部DC：

```
N7K-FA8-East_FHR3# sh lisp dynamic-eid detail
LISP Dynamic EID Information for VRF "default"
Dynamic-EID name: VM
Database-mapping [0] EID-prefix: 172.16.54.0/24, LSBs: 0x00000003
Locator: 10.3.3.3, priority: 10, weight: 50
    Uptime: 02:04:48, state: up, local
Locator: 10.4.4.4, priority: 10, weight: 50
    Uptime: 02:03:27, state: up
Registering more-specific dynamic-EIDs
Registering routes: disabled
Map-Server(s): none configured, use global Map-Server
Site-based multicast Map-Notify group: 225.1.1.1
Extended Subnet Mode configured on 1 interfaces
Number of roaming dynamic-EIDs discovered: 1
Last dynamic-EID discovered: 172.16.54.1, 00:00:14 ago
Roaming dynamic-EIDs:
    172.16.54.200, Vlan2, uptime: 00:04:28, last activity: 00:03:11
    Discovered by: packet reception
```

```
N7K-FA8-East_FHR3# sh ip route 172.16.54.200
IP Route Table for VRF "default"
'*' denotes best ucast next-hop
 '**' denotes best mcast next-hop
 '[x/y]' denotes [preference/metric]
 '%<string>' in via output denotes VRF <string>

172.16.54.200/32, ubest/mbest: 1/0, attached
    *via 172.16.54.200, Vlan2, [240/0], 00:05:00, lisp, dyn-eid
    via 172.16.54.200, Vlan2, [250/0], 00:05:10, am
```

因此，西方FHR没有VM的i.e.172.16.54.200动态EID：

```
N7K-358-West-FHR1(config)# sh lisp dynamic-eid summary
LISP Dynamic EID Summary for VRF "default"
* = Dyn-EID learned by site-based Map-Notify
! = Dyn-EID learned by routing protocol
^ = Dyn-EID learned by EID-Notify
Dyn-EID Name    Dynamic-EID    Interface    Uptime    Last    Pending
                Packet        Ping Count
VM              172.16.54.2    Vlan2        00:33:30  00:00:07  0
```

在西方DC的第7步xTR在路由表里添加null0条目：

```
N7K-358-West_xTR# sh ip route 172.16.54.200
IP Route Table for VRF "default"
'*' denotes best ucast next-hop
 '**' denotes best mcast next-hop
 '[x/y]' denotes [preference/metric]
 '%<string>' in via output denotes VRF <string>
```

172.16.54.200/32, ubest/mbest: 1/0, attached

*via 172.16.54.200, Null0, [241/0], 00:00:05, lisp, dyn-eid

步骤8. FHR-3更新东部xTR通过EID通知，并且东部xTR然后发送一个MAP寄存器到与被移植的VM的前缀的MS：

N7K-FA8-East_xTR(config)# show lisp dynamic-eid Detail

LISP Dynamic EID Information for VRF "default"

Dynamic-EID name: VM

Database-mapping [0] EID-prefix: 172.16.54.0/24, LSBs: 0x00000001

Locator: 10.11.11.11, priority: 9, weight: 50

Uptime: 02:19:51, state: up, local

Registering more-specific dynamic-EIDs

Registering routes: disabled

Map-Server(s): none configured, use global Map-Server

Site-based multicast Map-Notify group: none configured

Number of roaming dynamic-EIDs discovered: 1

Last dynamic-EID discovered: 172.16.54.1, 00:00:58 ago

Roaming dynamic-EIDs:

172.16.54.200, (null), uptime: 00:17:50, last activity: 00:00:25

Discovered by: EID-Notify

EID-Notify Locators:

10.3.3.3

10.4.4.4

MS_MR#sh lisp site 172.16.54.200

LISP Site Registration Information

Site name: 1

Allowed configured locators: any

Requested EID-prefix:

EID-prefix: 172.16.54.200/32

First registered: 02:02:24

Routing table tag: 0

Origin: Dynamic, more specific of 172.16.54.0/24

Merge active: No

Proxy reply: No

TTL: 00:03:00

State: complete

Registration errors:

Authentication failures: 0

Allowed locators mismatch: 0

ETR 10.11.17.1, last registered 00:00:32, no proxy-reply, map-notify

TTL 00:03:00, no merge, hash-function sha1, nonce 0x00000000-0x00000000

state complete, no security-capability

xTR-ID N/A

site-ID N/A

Locator	Local	State	Pri/Wgt	Scope
---------	-------	-------	---------	-------

10.11.11.11	yes	up	9/50	IPv4 none
-------------	-----	----	------	-----------

第9步。两xTR能更新MAP高速缓冲存储器条目。

在VM迁移，为了Site-3之前VM的IP的RLOC是西方xTR (10.10.10.10)。VM的后移民对东部DC的，当西方xTR从Site-3收到数据流，它传送SMR信息到Site-3路由器为了更新东方xTR (10.11.11.11)的新的RLOC地址如被看到这里：

Site-3#sh ip lisp map-cache

LISP IPv4 Mapping Cache for EID-table default (IID 0), 2 entries

0.0.0.0/0, uptime: 02:03:23, expires: never, via static send map-request

Negative cache entry, action: send-map-request

172.16.54.200/32, uptime: 02:00:22, expires: 23:57:56, via map-reply, complete

Locator	Uptime	State	Pri/Wgt
10.11.11.11	00:02:03	up	9/50

N7K-FA8-East_xTR(config)# show ip lisp map-cache

LISP IP Mapping Cache for VRF "default" (iid 0), 1 entries

* = Locator data counters are cumulative across all EID-prefixes

172.16.20.0/24, uptime: 00:25:24, expires: 23:34:35, via map-reply, auth

Locator	Uptime	State	Priority/ Weight	Data in/out	Control in/out	MTU
10.20.20.20	00:25:24	up	10/50	0/0*	0/0	1500

验证

使用本部分可确认配置能否正常运行。

验证在运算顺序的第5步报道部分。

故障排除

本部分提供了可用于对配置进行故障排除的信息。

这些调试在受控环境里可以用于为了排除LISP故障。

Site-3#sh ip lisp map-cache

LISP IPv4 Mapping Cache for EID-table default (IID 0), 2 entries

0.0.0.0/0, uptime: 02:03:23, expires: never, via static send map-request

Negative cache entry, action: send-map-request

172.16.54.200/32, uptime: 02:00:22, expires: 23:57:56, via map-reply, complete

Locator	Uptime	State	Pri/Wgt
10.11.11.11	00:02:03	up	9/50

N7K-FA8-East_xTR(config)# show ip lisp map-cache

LISP IP Mapping Cache for VRF "default" (iid 0), 1 entries

* = Locator data counters are cumulative across all EID-prefixes

172.16.20.0/24, uptime: 00:25:24, expires: 23:34:35, via map-reply, auth

Locator	Uptime	State	Priority/ Weight	Data in/out	Control in/out	MTU
10.20.20.20	00:25:24	up	10/50	0/0*	0/0	1500