

# FabricPath : 映射FTag的多目的地树

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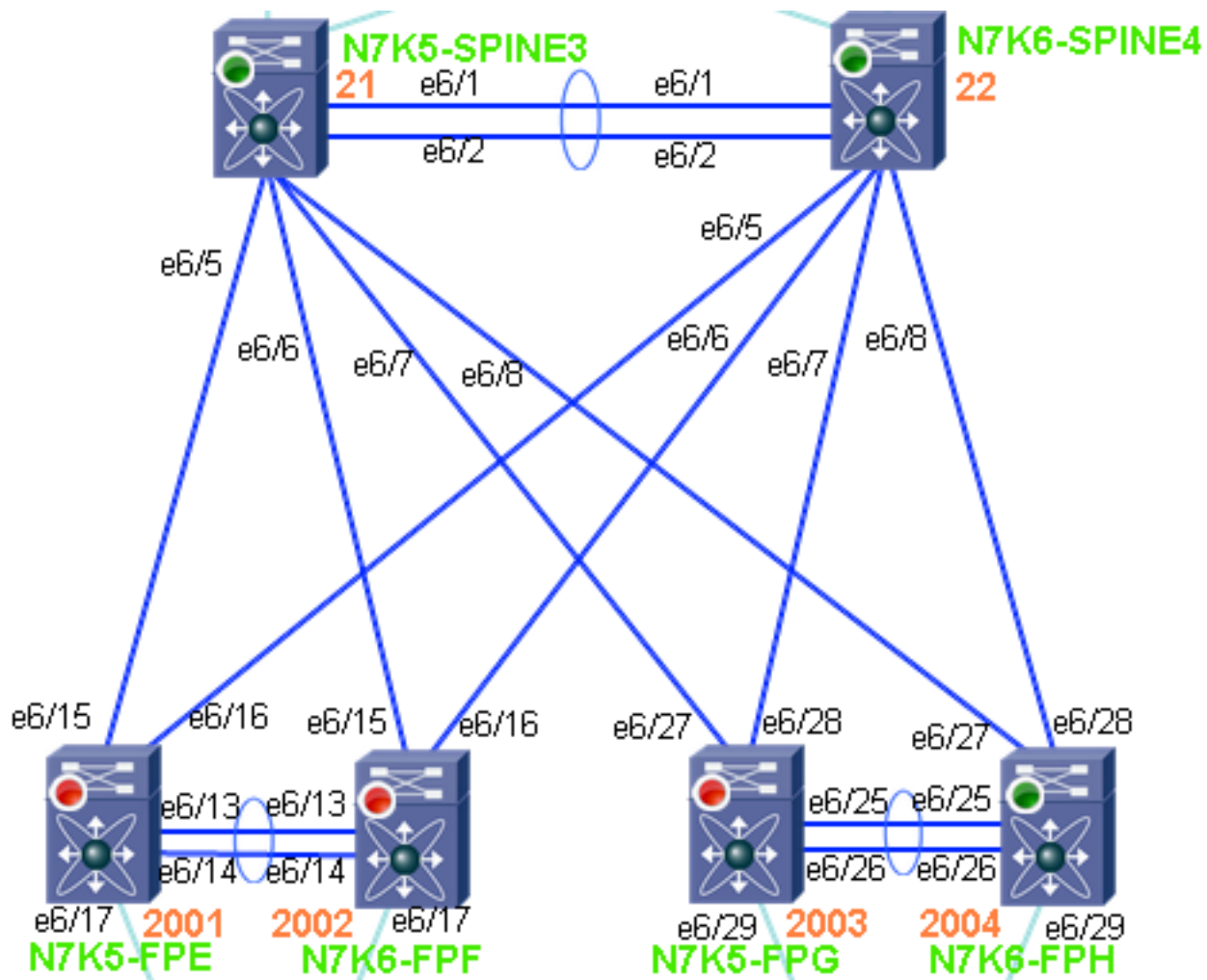
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## Introduction

本文在FabricPath拓扑里描述如何映射一个特定转发的标记的(FTag)多目的地树。这允许您跟随一个多目的地信息包的期望的流特定FTag的。在本例中，您从FabricPath边界交换机N7K5-FPE开始，并且您映射FTag 1棵树。充分的FabricPath域拓扑在此图表中显示。



## Prerequisites

## Requirements

There are no specific requirements for this document.

## Components Used

本文档中的信息基于以下软件和硬件版本：

- 与版本的连结7000 6.1(2)
- F2系列线卡

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

## 背景信息

用户应该熟悉FabricPath概念与术语。使用的简要说明在FabricPath报头的FTag (转发标记)参数在此部分报道。

FTag的功能由帧的种类发现。特别地，如果帧是单播或多目的地。一旦单播帧，FTag识别并且选择特定帧应该横断的FabricPath拓扑。单个拓扑用值为"1"支持分配到它。

一旦多目的地帧，接受的入口交换帧需要识别哪棵多目的地转发树特定帧横断。

当多目的地数据流输入FabricPath域时，入口交换使用Hash算法为了决定编程的哪FTag在FabricPath报头。每FabricPath拓扑有两多目的地树、FTag 1和FTag 2棵树。每FTag有被计算的类似于生成树根的一台根交换机。选择根据FabricPath优先级和系统标识。有最高优先级或者的系统标识交换机，当优先级被默认时，成为FTag的1根，并且亚军是FTag的2.根。

一旦FTag由入口FabricPath边界交换机选择，FabricPath核心的其余转发根据该FTag的多目的地信息包。多目的地信息包包括所有广播、组播或者未知单播信息包。每台交换机转发根据最便宜的信息包对根。一旦根收到信息包，转发它到在该FTag的所有交换机除了被接受的交换机。

## 映射FTag的多目的地树

1. 确认本地交换机ID。 **Note:**当FabricPath交换机是vPC+域时的成员，有非模拟的(独立)交换机id和模拟的(vPC+)交换机id。在输出示例中，请注意此system-id (6c9c.ed4f.28c4)两次显示得。一旦非模拟的交换机id和一次模拟的交换机id的。

```
N7K5-FPE# show fabricpath switch-id
```

```
FABRICPATH SWITCH-ID TABLE
```

```
Legend: '*' - this system
```

```
=====
```

SWITCH-ID	SYSTEM-ID	FLAGS	STATE	STATIC	EMULATED
21	6c9c.ed4f.28c3	Primary	Confirmed	Yes	No
22	6c9c.ed4d.d943	Primary	Confirmed	Yes	No
201	6c9c.ed4f.28c4	Primary	Confirmed	No	Yes
201	6c9c.ed4d.d944	Primary	Confirmed	No	Yes
202	6c9c.ed4f.28c5	Primary	Confirmed	No	Yes
202	6c9c.ed4d.d945	Primary	Confirmed	No	Yes
*2001	6c9c.ed4f.28c4	Primary	Confirmed	Yes	No
2002	6c9c.ed4d.d944	Primary	Confirmed	Yes	No
2003	6c9c.ed4f.28c5	Primary	Confirmed	Yes	No
2004	6c9c.ed4d.d945	Primary	Confirmed	Yes	No

```
Total Switch-ids: 10
```

## 2. 识别FTag值的根。如输出示例所显示，FTag的1根是交换机id 21。

```
N7K5-FPE# show fabricpath isis topology summ
Fabricpath IS-IS domain: default FabricPath IS-IS Topology Summary
MT-0
  Configured interfaces:  Ethernet6/15  Ethernet6/16  port-channel1
  Number of trees: 2
    Tree id: 1, ftag: 1 [transit-traffic-only], root system: 6c9c.ed4f.28c3, 21
    Tree id: 2, ftag: 2, root system: 6c9c.ed4d.d943, 22
```

## 3. 确定FabricPath路由为了到达交换机id 21。

```
N7K5-FPE# show fabricpath route switchid 21
FabricPath Unicast Route Table
'a/b/c' denotes ftag/switch-id/subswitch-id
'[x/y]' denotes [admin distance/metric]
ftag 0 is local ftag
subswitch-id 0 is default subswitch-id
```

```
FabricPath Unicast Route Table for Topology-Default
1/21/0, number of next-hops: 1
via Eth6/15, [115/40], 10 day/s 20:49:54, isis_fabricpath-default
```

## 4. 这是选择对第3步。请使用一第二种方法为了确定FabricPath路由到达交换机id 21。

```
N7K5-FPE# show fabricpath isis trees multidestination 1
Fabricpath IS-IS domain: default
Note: The metric mentioned for multidestination tree is from the root of that tree to that
switch-id
```

```
MT-0
Topology 0, Tree 1, Swid routing table
21, L1
  via Ethernet6/15, metric 0
22, L1
  via Ethernet6/15, metric 20
201, L1
  via Ethernet6/15, metric 40
202, L1
  via Ethernet6/15, metric 40
2002, L1
  via Ethernet6/15, metric 40
2003, L1
  via Ethernet6/15, metric 40
2004, L1
  via Ethernet6/15, metric 40
```

## 5. 查看Ethernet6/15相邻的设备，并且远程登录到该设备。

```
N7K5-FPE# show cdp neighbors int e6/15 detail
-----
Device ID:N7K5-SPINE3 (JAF1620ABAB)
System Name: N7K5-SPINE3
Interface address(es):
IPv4 Address: 14.2.36.51
Platform: N7K-C7009, Capabilities: Router Switch IGMP Filtering Supports-STP-Dispute
Interface: Ethernet6/15, Port ID (outgoing port): Ethernet6/5
Holdtime: 149 sec
Version:
Cisco Nexus Operating System (NX-OS) Software, Version 6.1(1)
Advertisement Version: 2
Native VLAN: 1
Duplex: full
MTU: 1500
Mgmt address(es):
IPv4 Address: 14.2.36.51
```

## 6. 验证N7K5-SPINE3对谁达成协议有FTag的1根。

```
N7K5-SPINE3# show fabricpath isis topology summary
Fabricpath IS-IS domain: default FabricPath IS-IS Topology Summary
```

MT-0

Configured interfaces: Ethernet6/5 Ethernet6/6 Ethernet6/7 Ethernet6/8 port-channel1

Number of trees: 2

Tree id: 1, ftag: 1, root system: 6c9c.ed4f.28c3, 21

Tree id: 2, ftag: 2, root system: 6c9c.ed4d.d943, 22

7. 检查本地交换机id为了确定是否是根，或者是否需要移动朝根。输出示例表示，此系统是交换机id 21。您从第2步和第6步认识此。它是FTag的1.根。

N7K5-SPINE3# **show fabricpath switch-id**

FABRICPATH SWITCH-ID TABLE

Legend: '\*' - this system

```
=====
SWITCH-ID      SYSTEM-ID      FLAGS          STATE          STATIC          EMULATED
-----+-----+-----+-----+-----+-----
*21            6c9c.ed4f.28c3 Primary        Confirmed      Yes             No
22            6c9c.ed4d.d943 Primary        Confirmed      Yes             No
201           6c9c.ed4f.28c4 Primary        Confirmed      No              Yes
201           6c9c.ed4d.d944 Primary        Confirmed      No              Yes
202           6c9c.ed4f.28c5 Primary        Confirmed      No              Yes
202           6c9c.ed4d.d945 Primary        Confirmed      No              Yes
2001          6c9c.ed4f.28c4 Primary        Confirmed      Yes             No
2002          6c9c.ed4d.d944 Primary        Confirmed      Yes             No
2003          6c9c.ed4f.28c5 Primary        Confirmed      Yes             No
2004          6c9c.ed4d.d945 Primary        Confirmed      Yes             No
=====
```

Total Switch-ids: 10

8. 因为您知道N7K5-SPINE3是根，您需要发现如何传送带着FTag被接收的多目的地帧1.根据此输出，N7K5-SPINE3传送与FTag 1的一个多目的地帧到Eth6/5 - Eth6/8和Port-channel1。

N7K5-SPINE3# **show fabricpath isis trees multideestination 1**

Fabricpath IS-IS domain: default

Note: The metric mentioned for multideestination tree is from the root of that tree to that switch-id

MT-0

Topology 0, Tree 1, Swid routing table

22, L1

via port-channel1, metric 20

201, L1

via Ethernet6/6, metric 40

202, L1

via Ethernet6/8, metric 40

2001, L1

via Ethernet6/5, metric 40

2002, L1

via Ethernet6/6, metric 40

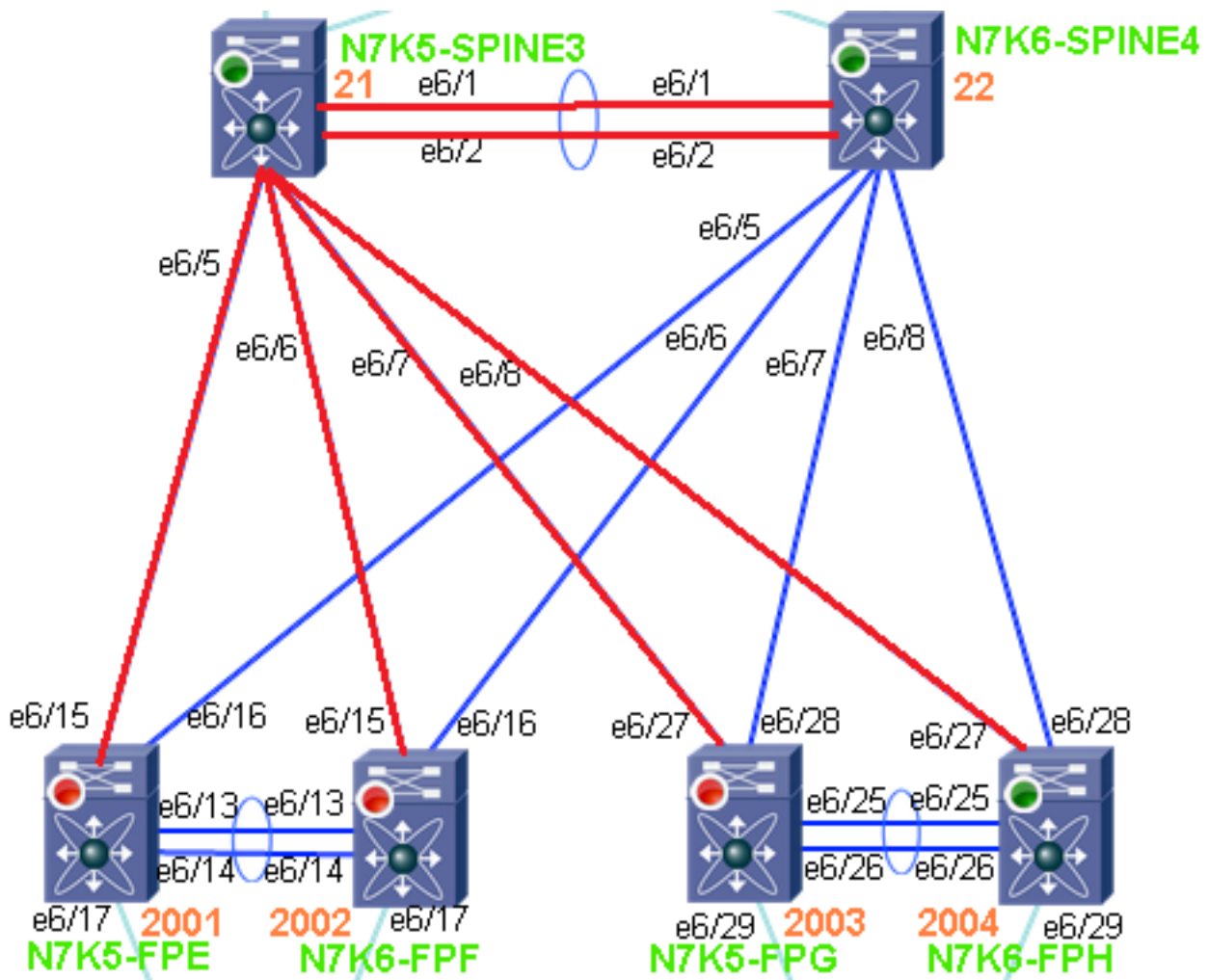
2003, L1

via Ethernet6/7, metric 40

2004, L1

via Ethernet6/8, metric 40

请使用您收集为了拟订FTag的1.多目的地树的信息。FTag的1多目的地树由RED链路突出显示在此拓扑方面。



### 命令参考：

```
N7K5-SPINE3# show fabricpath isis trees multidestination 1
Fabricpath IS-IS domain: default
Note: The metric mentioned for multidestination tree is from the root of that tree to that switch-id
```

```
MT-0
Topology 0, Tree 1, Swid routing table
22, L1
  via port-channel1, metric 20
201, L1
  via Ethernet6/6, metric 40
202, L1
  via Ethernet6/8, metric 40
2001, L1
  via Ethernet6/5, metric 40
2002, L1
  via Ethernet6/6, metric 40
2003, L1
  via Ethernet6/7, metric 40
2004, L1
  via Ethernet6/8, metric 40
```