

配置名为Mode的EIGRP

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简介

本文描述已命名增强的内部网关路由选择协议(EIGRP)模式功能并且在相关配置帮助下讨论传统和已命名模式之间的差异。

先决条件

要求

思科建议您有IP路由和EIGRP协议基础知识。

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

传统方式配置EIGRP要求将配置的多种参数在接口和EIGRP配置模式下。为了配置EIGRP IPV4和IPv6,它要求配置独立的EIGRP实例。传统EIGRP不支持虚拟路由和转发(VRF)在IPv6 EIGRP实施。

使用已命名mode EIGRP,一切在EIGRP配置下的单个地方配置,并且没有限制如以前被提及。

配置

网络图

此镜像是本文的其余的一拓扑示例。



不同于传统方法，当这在路由器时，配置EIGRP实例没有创建也没有开始：

```
R1(config)#router eigrp TEST
```

实例将创建，当address-family和自治系统编号配置，例如：

```
R1(config-router)#address-family ipv4 unicast autonomous-system 1
```

使用此已命名模式，EIGRP仅单个实例需要创建。它可以用于所有地址家族类型。它由可用系统资源也仅支持多个VRFs limited。知道一件事关于已命名模式是address-family的配置不启用路由作为IPv4 EIGRP的一传统配置的IPv4。‘no shut’要求为了开始进程：

```
R1(config-router)#address-family ipv4 unicast autonomous-system 1
```

已命名EIGRP有下配置大多数完成的三个模式在。即：

- address-family配置模式- (设置路由器AF) #
- address-family接口配置模式- (设置路由器AF接口) #
- address-family拓扑配置模式- (设置路由器AF拓扑) #

Address-family配置模式

您输入此模式用此命令：

```
R1(config-router)#address-family ipv4 unicast autonomous-system 1
```

```
R1(config-router-af)#?
```

Address Family configuration commands:

af-interface	Enter Address Family interface configuration
default	Set a command to its defaults
eigrp	EIGRP Address Family specific commands
exit-address-family	Exit Address Family configuration mode
help	Description of the interactive help system
maximum-prefix	Maximum number of prefixes acceptable in aggregate
metric	Modify metrics and parameters for advertisement
neighbor	Specify an IPv4 neighbor router
network	Enable routing on an IP network
no	Negate a command or set its defaults
shutdown	Shutdown address family

```
timers Adjust peering based timers
topology Topology configuration mode
```

在此模式，这些参数可以配置：网络、EIGRP邻居和Eigrp router-id。已命名EIGRP另外两个配置模式从此模式访问。

传统配置

```
R1(config-router)#address-family ipv4 unicast autonomous-system 1
R1(config-router-af)#?
Address Family configuration commands:
af-interface Enter Address Family interface configuration
default Set a command to its defaults
eigrp EIGRP Address Family specific commands
exit-address-family Exit Address Family configuration mode
help Description of the interactive help system
maximum-prefix Maximum number of prefixes acceptable in aggregate
metric Modify metrics and parameters for advertisement
neighbor Specify an IPv4 neighbor router
network Enable routing on an IP network
no Negate a command or set its defaults
shutdown Shutdown address family
timers Adjust peering based timers
topology Topology configuration mode
```

已命名Configuration

```
R1(config-router)#address-family ipv4 unicast autonomous-system 1
R1(config-router-af)#?
Address Family configuration commands:
af-interface Enter Address Family interface configuration
default Set a command to its defaults
eigrp EIGRP Address Family specific commands
exit-address-family Exit Address Family configuration mode
help Description of the interactive help system
maximum-prefix Maximum number of prefixes acceptable in aggregate
metric Modify metrics and parameters for advertisement
neighbor Specify an IPv4 neighbor router
network Enable routing on an IP network
no Negate a command or set its defaults
shutdown Shutdown address family
timers Adjust peering based timers
topology Topology configuration mode
```

Address-family接口配置模式

此模式采取在一个实际接口以前配置的所有界面特殊化的命令(逻辑或物理)。EIGRP身份验证、水平分割和摘要地址配置是当前配置此处而不是在实际接口的某些选项：

```
R1(config-router-af)#af-interface g0/0
R1(config-router-af-interface)#?
Address Family Interfaces configuration commands:
authentication authentication subcommands
bandwidth-percent Set percentage of bandwidth percentage limit
bfd Enable Bidirectional Forwarding Detection
dampening-change Percent interface metric must change to cause update
dampening-interval Time in seconds to check interface metrics
default Set a command to its defaults
exit-af-interface Exit from Address Family Interface configuration
hello-interval Configures hello interval
```

hold-time	Configures hold time
next-hop-self	Configures EIGRP next-hop-self
no	Negate a command or set its defaults
passive-interface	Suppress address updates on an interface
shutdown	Disable Address-Family on interface
split-horizon	Perform split horizon
summary-address	Perform address summarization

Note: 您能使用defaultAF

Address-family拓扑配置模式

此模式提供起作用EIGRP拓扑表的几个配置选项。事类似再分配，距离，偏移量列表，差异等等可以配置在此模式下。您能输入从address-family配置模式的此模式。

R1(config-router-af)#**topology base**

R1(config-router-af-topology)#?

Address Family Topology configuration commands:

auto-summary	Enable automatic network number summarization
default	Set a command to its defaults
default-information	Control distribution of default information
default-metric	Set metric of redistributed routes
distance	Define an administrative distance
distribute-list	Filter entries in eigrp updates
eigrp	EIGRP specific commands
exit-af-topology	Exit from Address Family Topology configuration
maximum-paths	Forward packets over multiple paths
metric	Modify metrics and parameters for advertisement
no	Negate a command or set its defaults
offset-list	Add or subtract offset from EIGRP metrics
redistribute	Redistribute IPv4 routes from another routing proto
summary-metric	Specify summary to apply metric/filtering
timers	Adjust topology specific timers
traffic-share	How to compute traffic share over alternate paths
variance	Control load balancing variance

比较

在讨论的两个配置模式之间的一个比较显示此处：

Traditional EIGRP configuration

```
Interface Ethernet0/0
ip address 10.10.10.1
ip hello eigrp 1 30
ipv6 enable
ipv6 enable eigrp 1
ipv6 bandwidth-percent eigrp 1 40
```

```
router eigrp 1
network 10.0.0.0 255.0.0.0
```

```
address-family ipv4 vrf savage
autonomous-system 65534
network 192.168.0.0
```

```
ipv6 router eigrp 1
no shutdown
```

*no support for ipv6 vrf

EIGRP Named mode configuration

```
Interface Ethernet0/0
ip address 10.10.10.1
ipv6 enable
|
|
```

```
router eigrp TEST
address-family ipv4 autonomous-system 1
network 10.0.0.0 255.0.0.0
af-interface Ethernet0/0
hello 30
exit-af-interface
```

```
address-family ipv4 vrf savage autonomous-system 65534
network 192.168.0.0
```

```
address-family ipv6 autonomous-system 1
af-interface Ethernet0/0
no shutdown
bandwidth-percent 40
exit-af-interface
```

```
address-family ipv6 vrf TEST autonomous-system 1
af-interface Ethernet0/0
no shutdown
exit-af-interface
```

可用性

名为配置的EIGRP从这些Cisco IOS版本是可得到：

- 15.0(1)M
- 12.2(33)SRE
- 12.2(33)XNE
- Cisco IOS XE版本2.5

自动转换命名了EIGRP

有转换从传统方式的配置的一个自动方法到新方法。在EIGRP进程里面，命令

eigrp升级CLI <EIGRP虚拟实例Name>需要被输入。这自动地转换配置对已命名模式，不用影响对已建立EIGRP并列：

Traditional Configuration

```
router eigrp 1
network 10.10.10.1 0.0.0.0
!
interface Ethernet0/0
ip address 10.10.10.1 255.255.255.0
ip hello-interval eigrp 1 100
```

Configuration

```
R1(config)#router eigrp 1
```

```
R1(config-router)#eigrp upgrade-cli TEST
```

```
Configuration will be converted from router eigrp 1 to router eigrp TEST.
```

```
Are you sure you want to proceed? ? [yes/no]: yes
```

```
*Oct 10 14:14:40.684: EIGRP: Conversion of router eigrp 1 to router eigrp TEST -  
Completed.
```

Converted Named Configuration

```
router eigrp TEST  
!  
address-family ipv4 unicast autonomous-system 1  
!  
af-interface Ethernet0/0  
hello-interval 100  
exit-af-interface  
!  
topology base  
exit-af-topology  
network 10.10.10.1 0.0.0.0  
exit-address-family
```

[验证](#)

当前没有可用于此配置的验证过程。

[故障排除](#)

目前没有针对此配置的故障排除信息。