

Configurar o PPPoE sobre o BDI em Series Router ASR1k

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Introdução

Este documento descreve como configurar o server do Point-to-Point Protocol sobre Ethernet (PPPoE) com a relação do domínio de Bridge (BDI) e VLAN-escala.

Pré-requisitos

Requisitos

A Cisco recomenda que você tenha conhecimento destes tópicos:

- A Conectividade fim-a-fim do Layer 1 é muito bem
- Os princípios do PPP e do PPPoE são compreendidos bem

Componentes Utilizados

As informações neste documento são baseadas nestas versões de software e hardware:

- HOST-1 - CISCO887G
- HOST-2 - CISCO887
- INTERRUPTOR - WS-C3560-24TS-S
- Servidor PPPoE - ASR1001-X

As informações neste documento foram criadas a partir de dispositivos em um ambiente de laboratório específico. Todos os dispositivos utilizados neste documento foram iniciados com uma configuração (padrão) inicial. Se a sua rede estiver ativa, certifique-se de que entende o impacto potencial de qualquer comando.

Configurar

Nota: Use a [Command Lookup Tool](#) ([somente clientes registrados](#)) para obter mais informações sobre os comandos usados nesta seção.

HOST-1

```
!  
interface FastEthernet0  
  switchport access vlan 100  
  no ip address  
end  
  
!  
  
interface Vlan100  
  no ip address  
  pppoe enable group global  
  pppoe-client dial-pool-number 1  
end  
  
!  
  
interface Dialer1  
  ip address negotiated  
  encapsulation ppp  
  dialer pool 1  
  ppp chap hostname dsl  
  ppp chap password 0 dsl  
end
```

HOST-2

```
!  
  
interface FastEthernet0  
  switchport access vlan 200  
  no ip address  
end  
  
!  
  
!  
interface Vlan200  
  no ip address  
  pppoe enable group global  
  pppoe-client dial-pool-number 1  
end  
  
!  
  
!  
interface Dialer1  
  ip address negotiated  
  encapsulation ppp  
  dialer pool 1  
  ppp chap hostname dsl  
  ppp chap password 0 dsl  
end
```

SWITCH

```
SWITCH#sh cdp neighbors
```

```
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge  
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,  
D - Remote, C - CVTA, M - Two-port Mac Relay
```

Device ID	Local Intrfce	Holdtme	Capability	Platform	Port ID
SERVER	Gig 0/1	130	R I	ASR1001-X	Gig 0/0/0
HOST-1	Fas 0/2	141	R B S I	887G	Fas 0
HOST-2	Fas 0/1	167	R B S I	887	Fas 0

```
!  
interface FastEthernet0/2  
  switchport access vlan 100  
end
```

```
!  
interface FastEthernet0/1  
  switchport access vlan 200  
end
```

```
!  
!  
interface GigabitEthernet0/1  
  switchport trunk encapsulation dot1q  
  switchport trunk allowed vlan 100,200  
  switchport mode trunk  
end
```

! Servidor PPPoE

```
!  
username dsl password 0 dsl  
  
!  
bba-group pppoe global  
  virtual-template 1  
!  
interface GigabitEthernet0/0/0  
  no ip address  
  negotiation auto  
  cdp enable  
  service instance 100 ethernet  
    encapsulation dot1q 100 etype pppoe-all  
    rewrite ingress tag pop 1 symmetric  
    bridge-domain 100  
!  
  service instance 200 ethernet  
    encapsulation dot1q 200 etype pppoe-all  
    rewrite ingress tag pop 1 symmetric  
    bridge-domain 200  
!  
!  
interface Virtual-Templat1  
  ip unnumbered Loopback0  
  peer default ip address pool POOL  
  ppp authentication chap
```

```

!
interface BDI100
  no ip address
  pppoe enable group global
!
interface BDI200
  no ip address
  pppoe enable group global
!
interface Loopback0
  ip address 192.168.10.1 255.255.255.255
end

```

```

!
ip local pool POOL 192.168.1.1 192.168.1.100

```

Alternativley, você pode configurar a “VLAN-escala” como mostrado:

```

!
username dsl password 0 dsl

!
bba-group pppoe global
  virtual-template 1
!
interface GigabitEthernet0/0/0
  no ip address
  negotiation auto
  cdp enable
  service instance 100 ethernet
    encapsulation dot1q 100 etype pppoe-all
    rewrite ingress tag pop 1 symmetric
    bridge-domain 100
!
  service instance 200 ethernet
    encapsulation dot1q 200 etype pppoe-all
    rewrite ingress tag pop 1 symmetric
    bridge-domain 200
!
!

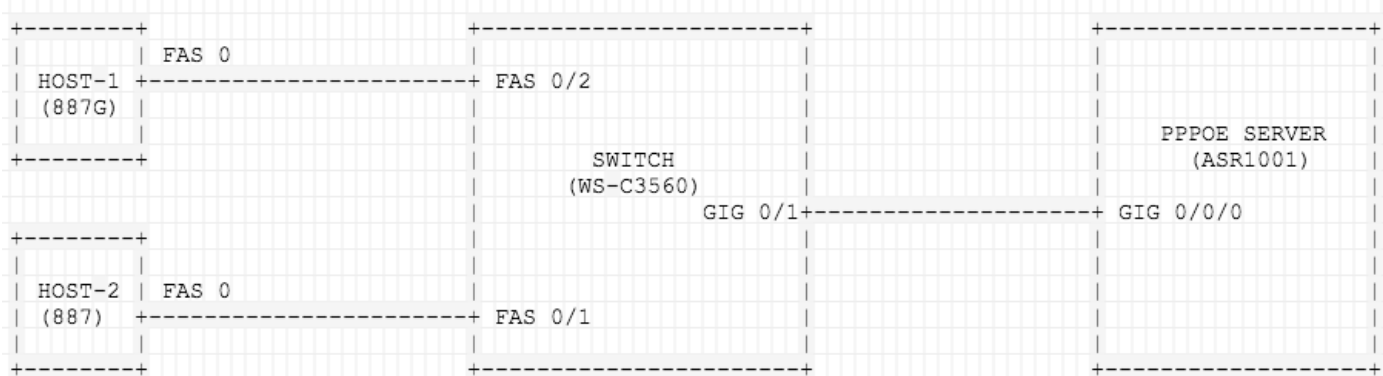
interface Virtual-Template1
  ip unnumbered Loopback0
  peer default ip address pool POOL
  ppp authentication chap
!
interface BDI100
  no ip address
  pppoe enable group global
!
interface BDI200
  no ip address
  pppoe enable group global
!
interface Loopback0
  ip address 192.168.10.1 255.255.255.255
end

!
ip local pool POOL 192.168.1.1 192.168.1.100

```

!

Diagrama de Rede



Verificar

Use esta seção para confirmar se a sua configuração funciona corretamente.

Em HOST-1

```
[HOST-1#show pppoe session
 1 client session
```

Uniq ID	PPPoE SID	RemMAC LocMAC	Port	VT	VA VA-st	State
N/A	5	00a2.eee6.663f c471.fe93.d112	Vl100	Di1	Vi2 UP	UP

!

```
username dsl password 0 dsl
```

!

```
bba-group pppoe global
 virtual-template 1
```

!

```
interface GigabitEthernet0/0/0
 no ip address
 negotiation auto
 cdp enable
 service instance 100 ethernet
 encapsulation dot1q 100 etype pppoe-all
 rewrite ingress tag pop 1 symmetric
 bridge-domain 100
```

!

```
service instance 200 ethernet
 encapsulation dot1q 200 etype pppoe-all
 rewrite ingress tag pop 1 symmetric
 bridge-domain 200
```

!

!

```
interface Virtual-Template1
 ip unnumbered Loopback0
 peer default ip address pool POOL
 ppp authentication chap
```

!

```

interface BDI100
  no ip address
  pppoe enable group global
!
interface BDI200
  no ip address
  pppoe enable group global
!
interface Loopback0
  ip address 192.168.10.1 255.255.255.255
end

!
ip local pool POOL 192.168.1.1 192.168.1.100

```

Em HOST-2

```

HOST-2#show pppoe session
  1 client session

```

Uniq ID	PPPoE SID	RemMAC LocMAC	Port	VT	VA VA-st	State Type
N/A	6	00a2.eee6.663f e8b7.4886.b8ea	Vl200	Di1	Vi2 UP	UP

```

!
username dsl password 0 dsl

!
bba-group pppoe global
  virtual-template 1
!
interface GigabitEthernet0/0/0
  no ip address
  negotiation auto
  cdp enable
  service instance 100 ethernet
    encapsulation dot1q 100 etype pppoe-all
    rewrite ingress tag pop 1 symmetric
    bridge-domain 100
!
  service instance 200 ethernet
    encapsulation dot1q 200 etype pppoe-all
    rewrite ingress tag pop 1 symmetric
    bridge-domain 200
!
!

interface Virtual-Template1
  ip unnumbered Loopback0
  peer default ip address pool POOL
  ppp authentication chap
!
interface BDI100
  no ip address
  pppoe enable group global
!
interface BDI200
  no ip address
  pppoe enable group global

```

```
!  
interface Loopback0  
 ip address 192.168.10.1 255.255.255.255  
end
```

```
!  
ip local pool POOL 192.168.1.1 192.168.1.100
```

```
!  
No INTERRUPTOR
```

```
!  
username dsl password 0 dsl
```

```
!  
bba-group pppoe global  
 virtual-template 1
```

```
!  
interface GigabitEthernet0/0/0  
 no ip address  
 negotiation auto  
 cdp enable  
 service instance 100 ethernet  
 encapsulation dot1q 100 etype pppoe-all  
 rewrite ingress tag pop 1 symmetric  
 bridge-domain 100
```

```
!  
service instance 200 ethernet  
 encapsulation dot1q 200 etype pppoe-all  
 rewrite ingress tag pop 1 symmetric  
 bridge-domain 200
```

```
!  
!  
interface Virtual-Template1  
 ip unnumbered Loopback0  
 peer default ip address pool POOL  
 ppp authentication chap
```

```
!  
interface BDI100  
 no ip address  
 pppoe enable group global
```

```
!  
interface BDI200  
 no ip address  
 pppoe enable group global
```

```
!  
interface Loopback0  
 ip address 192.168.10.1 255.255.255.255  
end
```

```
!  
ip local pool POOL 192.168.1.1 192.168.1.100
```

```
!  
No servidor PPPoE
```

```
SERVER#show pppoe session
      2 sessions in LOCALLY_TERMINATED (PTA) State
      2 sessions total
```

Uniq ID	PPPoE SID	RemMAC LocMAC	Port	VT	VA VA-st	State Type
5	5	c471.fe93.d112 00a2.eee6.663f	BD100	1	Vi2.2 UP	PTA
6	6	e8b7.4886.b8ea 00a2.eee6.663f	BD200	1	Vi2.1 UP	PTA

!

```
username dsl password 0 dsl
```

!

```
bba-group pppoe global
  virtual-template 1
```

!

```
interface GigabitEthernet0/0/0
  no ip address
  negotiation auto
  cdp enable
  service instance 100 ethernet
  encapsulation dot1q 100 etype pppoe-all
  rewrite ingress tag pop 1 symmetric
  bridge-domain 100
```

!

```
service instance 200 ethernet
  encapsulation dot1q 200 etype pppoe-all
  rewrite ingress tag pop 1 symmetric
  bridge-domain 200
```

!

!

```
interface Virtual-Templat1
  ip unnumbered Loopback0
  peer default ip address pool POOL
  ppp authentication chap
```

!

```
interface BDI100
  no ip address
  pppoe enable group global
```

!

```
interface BDI200
  no ip address
  pppoe enable group global
```

!

```
interface Loopback0
  ip address 192.168.10.1 255.255.255.255
end
```

!

```
ip local pool POOL 192.168.1.1 192.168.1.100
```

!

Quando você usa a "VLAN-escala", observe a mudança na "porta":


```
SERVER#show pppoe session
      2 sessions in LOCALLY_TERMINATED (PTA) State
      2 sessions total
```

Uniq ID	PPPoE SID	RemMAC LocMAC	Port	VT	VA VA-st	State Type
7	7	c471.fe93.d112 00a2.eee6.663f	BD1 VLAN: 100	1	Vi2.1 UP	PTA
8	8	e8b7.4886.b8ea 00a2.eee6.663f	BD1 VLAN: 200	1	Vi2.2 UP	PTA

```
!
username dsl password 0 dsl
!
bba-group pppoe global
  virtual-template 1
!
interface GigabitEthernet0/0/0
  no ip address
  negotiation auto
  cdp enable
  service instance 100 ethernet
    encapsulation dot1q 100 etype pppoe-all
    rewrite ingress tag pop 1 symmetric
    bridge-domain 100
!
  service instance 200 ethernet
    encapsulation dot1q 200 etype pppoe-all
    rewrite ingress tag pop 1 symmetric
    bridge-domain 200
!
!
interface Virtual-Template1
  ip unnumbered Loopback0
  peer default ip address pool POOL
  ppp authentication chap
!
interface BDI100
  no ip address
  pppoe enable group global
!
interface BDI200
  no ip address
  pppoe enable group global
!
interface Loopback0
  ip address 192.168.10.1 255.255.255.255
end
!
ip local pool POOL 192.168.1.1 192.168.1.100
!
```

Troubleshooting

Esta seção fornece a informação que você pode se usar a fim pesquisar defeitos sua configuração.

Estes debugam serão úteis pesquisar defeitos PPP/PPPoE.

- debugar eventos do pppoe
- debugar erros PPPoE
- negociação de debug ppp

Informações Relacionadas

- [PPPoE sobre o BDI em CISCO CSR 1000V](#)
- [Erro do realce - Terminação de PPPoE no BDI e VLAN-escala em ASR1k](#)
- [Suporte Técnico e Documentação - Cisco Systems](#)